Addendum No. 1

"Output and Performance based Road Contract (OPRC) for Improvement, Rehabilitation, Resurfacing Works and Network Performance of Roads: Dhandhuka - Dholera, Dhandhuka – Paliyad and Limbdi - Dhandhuka"
for Second Gujarat State Highway Project (GSHP-II/ICB/02)

Sl. No.	Clause Reference	Original Provision	Amended Provision
1.	**Section-I ITB-6.1 Sections of Bidding Document**	The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8. **PART 1 Bidding Procedures** • Section I. Instructions to Bidders (ITB) • Section II. Bid Data Sheet (BDS) • Section III. Evaluation Criteria and Qualification Criteria • Section IV. Bidding Forms • Section V. Eligible Countries **PART 2 Specifications for Works and Services** • Section VI. Specifications for Works and Services **PART 3 Conditions of Contract and Contract Forms** • Section VII. General Conditions (GC) • Section VIII. Particular Conditions (PC) • Section IX. Annex to the Particular Conditions - Contract Forms	The Bidding Documents consist of Parts 1, 2, 3 and 4 which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8. **PART 1 Bidding Procedures** • Section I Instructions to Bidders (ITB) • Section II Bid Data Sheet (BDS) • Section III Evaluation Criteria and Qualification Criteria • Section IV Bidding Forms • Section V Eligible Countries **PART 2 Works and Services' Requirements** • Section VI Specifications ➢ **Section VI.A Specifications for OPRC** ➢ **Section VI.B Schedules – (I, II, III & IV)** ➢ **Section VI.C General and Additional Technical Specifications** ➢ **Section VI.D Environment and Social** **PART 3 Conditions of Contract and Contract Forms** • Section VII General Conditions (GC) • Section VIII Particular Conditions (PC) • Section IX Appendices to the Particular Conditions **PART 4 Drawings**
2.	**(Section II: BDS) ITB-19.8**	Replace 19.8 (b) (ii) as: 19.8 (b) (ii) furnish a Performance Security in accordance with ITB 41 and the Environmental, Social, Health and Safety (ESHS) Performance Security in accordance with ITB 41.	**ITB 19.8 (b) (ii) replacement stands deleted.**

Sl. No.	Clause Reference	Original Provision	Amended Provision
3.	**Section III Clause-2 Qualification** **Compliance Requirements Sub-Clause 3.2**	**Average Annual Construction Turnover** **Requirements:** Minimum average annual turnover of INR 3220 million* Calculated as total certified payments received for contracts in progress or completed, within the last 5 (five) years.	**Average Annual Construction Turnover** **Requirements:** Minimum average annual turnover of **INR 1920 million*** calculated as total certified payments received for contracts in progress or completed in the last 5 (five) years.
4.	**Section III Clause 2 Qualification** **Compliance Requirements Sub Clause 4.2 a Specific Construction & Contract Management Experience**	**Requirements:** (a) During last five (5) years: One Road Project of at least (INR 2900 Million*). The road project should be of similar nature (having rehabilitation / new construction / up gradation / overlay and Maintenance), and should be substantially completed.	**Requirements:** (a) During last five (5) years **ending last day of month previous to the one in which applications are expected**: • **<u>One (1) Road Project of at least (INR 1920 Million*), or</u>** • **<u>Two (2) Road Projects of at least (INR 1200 Million*), or</u>** • **<u>Three (3) Road Projects of at least (INR 960 Million)</u>** The road project should be of similar nature (having rehabilitation / new construction / up gradation / overlay and Maintenance), and should be substantially completed.
5.	**Section III Cl 2.1 Key Personnel**	2nd para: The Bidder shall provide details of the Key Personnel and such other key personnel that the Bidder considers appropriate, together with their academic qualifications and work experience. The Bidder shall complete the relevant Forms in Section IV, Bidding Forms. [Form PER-1 & PER-2].	2nd para: The Bidder shall provide details of the Key Personnel and such other key personnel that the Bidder considers appropriate, together with their academic qualifications and work experience. The Bidder shall complete the relevant Forms in Section IV, Bidding Forms. [Form PER-1 & PER-2]. **The Contractor shall endeavour to submit CV of key personnel as per bid document. In case, some CVs are unavailable with the Bidder at the time of bid submission, the Bidder shall furnish an Undertaking that he will deploy the key-personnel as per the requirements of the bid document, if he is awarded the project.**

<table>
<tr><th>Sl. No.</th><th>Clause Reference</th><th>Original Provision</th><th>Amended Provision</th></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td>6.</td><td>Section III
Cl 2.1 Key Personnel

<u>Role, Education and Experience of Bidder's personnel for key positions:</u>

A) During construction period

I. The Contractor's Component:</td><td>
<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td>1</td><td>Road Manager</td><td></td><td></td></tr>
<tr><td></td><td></td><td>Education</td><td>B.E or B. Tech or similar in Civil Engineering</td></tr>
<tr><td></td><td></td><td>Experience</td><td>Minimum 20 years of experience in project management and team leadership roles related to managing road and bridge construction, Rehabilitation and/or maintenance projects preferably under FIDIC/OPRC General Conditions or similar.</td></tr>
</table>
<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td>4</td><td>Site Engineer (Roads)</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Experience</td><td>Minimum 5 to 6 years as a Site Engineer for road works</td></tr>
</table>
<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td>5</td><td>Site Engineer (Bridges)</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Experience</td><td>Minimum 5 to 6 years as a Site Engineer</td></tr>
</table>
<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td>6</td><td>Maintenance Engineer (Roads &Bridges)</td><td></td><td></td></tr>
<tr><td></td><td></td><td>Education</td><td>B.E or B. Tech / Diploma or similar in Civil Engineering</td></tr>
</table>
</td><td>
<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td>1</td><td>Road Manager</td><td></td><td></td></tr>
<tr><td></td><td></td><td>Education</td><td>B.E or B. Tech or equivalent in Civil Engineering</td></tr>
<tr><td></td><td></td><td>Experience</td><td>Minimum 15 years of experience in project management and team leadership roles related to managing road and bridge construction, Rehabilitation and/or maintenance projects preferably under FIDIC/OPRC General Conditions or similar.</td></tr>
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<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td>4</td><td>Site Engineer (Roads)</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Experience</td><td>Minimum 5 years as a Site Engineer for road works</td></tr>
</table>
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<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td>5</td><td>Site Engineer (Bridges)</td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>Experience</td><td>Minimum 5 years as a Site Engineer</td></tr>
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<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td>6</td><td>Maintenance Engineer (Roads & Bridges)</td><td></td><td></td></tr>
<tr><td></td><td></td><td>Education</td><td>B.E or B. Tech / Diploma or equivalent in Civil Engineering</td></tr>
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<tr><td></td><td></td><td>
<table>
<tr><td></td><td></td><td>Experience</td><td>Minimum 10 years of experience for B.Sc. (or equivalent) and 15 years of experience for Diploma (or equivalent), in managing the on-site maintenance activities on road works. This experience must include the effective and efficient management of road maintenance crews and the delivery of the required service levels. This includes the integration of road sections post construction into the maintenance programme and the management/ coordination of Emergency Works and Incident Response.</td></tr>
<tr><td>Sl No.</td><td>Position</td><td colspan="2">Role, Education and Experience</td></tr>
<tr><td rowspan="2">11</td><td rowspan="2">Surveyor</td><td>Education</td><td>Diploma in Civil</td></tr>
<tr><td>Experience</td><td>Minimum 3 to 5 years of experience in road projects (works).</td></tr>
<tr><td>Sl No.</td><td>Position</td><td colspan="2">Role, Education and Experience</td></tr>
<tr><td rowspan="3">14</td><td rowspan="3">Road Safety Engineer</td><td></td><td></td></tr>
<tr><td>Education</td><td>B.Sc. or similar in Civil Engineering (Specializing in Road Safety Systems/Design).</td></tr>
<tr><td></td><td></td></tr>
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<table>
<tr><td></td><td></td><td>Experience</td><td>Minimum 10 years of experience for B.E./B. Tech or equivalent or 15 years of experience for Diploma in Civil Engineering (or equivalent), in managing the on-site maintenance activities on road works. This experience must include the effective and efficient management of road maintenance crews and the delivery of the required service levels. This includes the integration of road sections post construction into the maintenance programme and the management/ coordination of Emergency Works and Incident Response.</td></tr>
<tr><td>Sl No.</td><td>Position</td><td colspan="2">Role, Education and Experience</td></tr>
<tr><td rowspan="2">11</td><td rowspan="2">Surveyor</td><td>Education</td><td>Diploma in Civil Engineering</td></tr>
<tr><td>Experience</td><td>Minimum 3 years of experience in road projects (works).</td></tr>
<tr><td>Sl No.</td><td>Position</td><td colspan="2">Role, Education and Experience</td></tr>
<tr><td rowspan="3">14</td><td rowspan="3">Road Safety Engineer</td><td></td><td></td></tr>
<tr><td>Education</td><td>B.E./B. Tech or equivalent in Civil Engineering</td></tr>
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<tr><th>Sl. No.</th><th>Clause Reference</th><th>Original Provision</th><th>Amended Provision</th></tr>
<tr><td>7.</td><td>Section III
Cl 2.1 Key Personnel

II. The Professional Engineering Consultant's Component:</td><td>The Professional Engineering Consultancy Services shall be provided by an experienced Consultancy firm. The consulting experience may come from an in-house consulting team of the Bidder or through a sub-contract/JV with a Consulting firm.</td><td>The Professional Engineering Consultancy Services shall be provided by an experienced Consultancy firm. The consulting experience may come from an in-house consulting team of the Bidder or through a sub-contract / Association with a Consulting firm. The Contractor shall endeavor to demonstrate its sub-contract/association with the Consulting firm as per bid document. In case, sub-contract/association with consulting firm is unavailable with the Bidder at the time of bid submission, the Bidder shall furnish an Undertaking that he will have sub-contract / association with a Consulting firm as per the requirements of the bid document, if he is awarded the project.</td></tr>
<tr><td>8.</td><td>Section III
Cl 2.1 Key Personnel

<u>Role, Education and Experience of Bidder's personnel for key positions:</u>

A) During construction period

II. The Professional Engineering Consultant's Component:</td><td>
<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td rowspan="3">2</td><td rowspan="3">Systems / IT Manager</td><td></td><td></td></tr>
<tr><td>Education</td><td>B.Sc. in Computer science/System analyses or equivalent</td></tr>
<tr><td></td><td></td></tr>
</table>
<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td rowspan="3">4</td><td rowspan="3">Road Safety Engineer</td><td></td><td></td></tr>
<tr><td>Education</td><td>B.Sc. or similar in Civil Engineering (Specializing in Road Safety Systems/Design).</td></tr>
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<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td rowspan="3">7.</td><td rowspan="3">Inspector (Roads)</td><td></td><td></td></tr>
<tr><td>Education</td><td>Diploma in Civil</td></tr>
<tr><td>Experience</td><td>Minimum 3-5 years' experience</td></tr>
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<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td rowspan="3">2</td><td rowspan="3">Systems / IT Manager</td><td></td><td></td></tr>
<tr><td>Education</td><td>B.E./B.Tech. or equivalent in Computer science/System analyses or equivalent</td></tr>
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<tr><td rowspan="3">4</td><td rowspan="3">Road Safety Engineer</td><td></td><td></td></tr>
<tr><td>Education</td><td>B.E./B.Tech. or equivalent in Civil Engineering</td></tr>
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<tr><td>Education</td><td>Diploma in Civil Engineering</td></tr>
<tr><td>Experience</td><td>Minimum 3 years' experience</td></tr>
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<tr><th>Sl. No.</th><th>Clause Reference</th><th>Original Provision</th><th>Amended Provision</th></tr>
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<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td rowspan="3">8.</td><td rowspan="3">Inspector (Bridges)</td><td></td><td></td></tr>
<tr><td>Education</td><td>Diploma in Civil</td></tr>
<tr><td>Experience</td><td>Minimum 3-5 years' experience</td></tr>
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<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td rowspan="3">8.</td><td rowspan="3">Inspector (Bridges)</td><td></td><td></td></tr>
<tr><td>Education</td><td>Diploma in Civil Engineering</td></tr>
<tr><td>Experience</td><td>Minimum 3 years' experience</td></tr>
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<tr><td>9.</td><td>Section III Cl 2.1 Key Personnel

<u>Role, Education and Experience of Bidder's personnel for key positions:</u>

B) During operation period</td><td>
<table>
<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td rowspan="3">1</td><td rowspan="3">Road Manager</td><td></td><td></td></tr>
<tr><td>Education</td><td>B.E or B. Tech or similar in Civil Engineering</td></tr>
<tr><td>Experience</td><td>Minimum 20 years of experience in project management and team leadership roles related to managing road and bridge construction, Rehabilitation and/or maintenance projects preferably under FIDIC/OPRC General Conditions or similar.</td></tr>
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<tr><td rowspan="3">2</td><td rowspan="3">Maintenance Engineer</td><td></td><td></td></tr>
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<tr><td rowspan="3">1</td><td rowspan="3">Road Manager</td><td></td><td></td></tr>
<tr><td>Education</td><td>B.E or B. Tech or equivalent in Civil Engineering</td></tr>
<tr><td>Experience</td><td>Minimum 15 years of experience in project management and team leadership roles related to managing road and bridge construction, Rehabilitation and/or maintenance projects preferably under FIDIC/OPRC General Conditions or similar.</td></tr>
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<tr><th>Sl No.</th><th>Position</th><th colspan="2">Role, Education and Experience</th></tr>
<tr><td rowspan="3">2</td><td rowspan="3">Maintenance Engineer</td><td></td><td></td></tr>
<tr><td>Education</td><td>B.E or B. Tech / Diploma or equivalent in Civil Engineering</td></tr>
<tr><td>Experience</td><td>Minimum 10 years of experience for B.E./B. Tech (or equivalent) or 15 years of experience for Diploma in Civil Engineering (or equivalent), in managing the on-site maintenance activities</td></tr>
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</table>

Sl. No.	Clause Reference	Original Provision	Amended Provision
		effective and efficient management of road maintenance crews and the delivery of the required service levels. This includes the integration of road sections post construction into the maintenance programme and the management/ coordination of Emergency Works and Incident Response.	on road works. This experience must include the effective and efficient management of road maintenance crews and the delivery of the required service levels. This includes the integration of road sections post construction into the maintenance programme and the management/ coordination of Emergency Works and Incident Response.
10.	**Section IV:** **SCHEDULE O** **Dispute Review Board** **Form DRB-1**	**SCHEDULE O** **Dispute Review Board** **Form DRB-1** Proposed member by Employer (Sub-Clause 6.2.1 of Particular Conditions): _____ Acceptable to the Bidder _____ **(Yes/No)** Proposed member by Bidder Member Name: _____ CV of the member to be provided in a similar format as the one proposed by the Employer:	**SCHEDULE O** **Dispute Review Board** **Form DRB-1** Proposed member by Bidder Member Name: _____ CV of the proposed member (fulfilling the Contract Requirements and as per good industry practice):
11.	**Section VI A** **Clause 2.1.3** **Scheduling of Improvement Works**	Note: The Employer requires that the Contractor completes the Improvement Works as a Priority as per the table here above.	Note deleted.

Sl. No.	Clause Reference	Original Provision	Amended Provision
12.	**Section VI A Cl 6.2 Construction of Works and pavement failure conditions**	Construction of all works shall be carried out as per the relevant Construction methodologies specified in the MORT&H 'Specifications for Road and Bridge Works' **(latest edition)**, until & unless any deviation or new methodology is allowed by the Engineer. A pavement previously constructed or rehabilitated under this contract shall be considered as failed in the affected sections when either of the following conditions occurs: • There is rutting with or without cracking exceeding 20mm in depth in any wheel-path. • Any level of pavement deterioration that, in the opinion of the Engineer, i. Results in an unacceptable riding quality due to extensive potholes repairs/patching/ravelling/loss of surfacing material or likes or ii. Compromises with the safety of road users.	Construction of all works shall be carried out as per the relevant Construction methodologies specified in the MORT&H 'Specifications for Road and Bridge Works' **(5th revision) mutatis mutandis**, until & unless any deviation or new methodology is allowed by the Engineer. A pavement previously constructed or rehabilitated under this contract shall be considered as failed in the affected sections when either of the following conditions occurs: • There is rutting with or without cracking exceeding 20mm in depth in any wheel-path. • Any level of pavement deterioration that, in the opinion of the Engineer, i. Results in an unacceptable riding quality due to extensive potholes repairs/patching/ravelling/loss of surfacing material or likes or ii. Compromises with the safety of road users.
13.	**Section VI A Cl 17.3. Payments for Resurfacing Works – (g)**	g) The Employer reserves the right to increase or decrease the quantity of Rehabilitation works within ± 20% of the total contract quantity. Where the Employer increases or decreases the total contract quantity of Rehabilitation Works, the value of the Output Category shall be adjusted up or down by the respective weighted unit rate.	g) The Employer reserves the right to increase or decrease the quantity of **Resurfacing** works within ± 20% of the total contract quantity. Where the Employer increases or decreases the total contract quantity of **Resurfacing** Works, the value of the Output Category shall be adjusted up or down by the respective weighted unit rate.
14.	**Section VI B Schedule-II**	**5.4. Type of shoulders** Types of shoulders shall be as per applicable cross sections given at Clause 2.7 of Annexe I and Appendix I of Schedule II. While pavement layers shall continue upto paved shoulders and GSB course up to full formation width, earthen shoulders shall be hard shoulder and constructed with GSB material right from regular GSB layer of pavement upto the top surface.	**2.4. Type and Width of shoulders** **Types and width of shoulders** shall be as per applicable cross sections given at Clause 2.7 of Annexe I and Appendix I of Schedule II. While pavement layers shall continue upto paved shoulders and GSB course up to full formation width, earthen shoulders shall be hard shoulder and constructed with GSB material right from regular GSB layer of pavement upto the top surface.

Sl. No.	Clause Reference	Original Provision	Amended Provision
15.	**Section VI B Schedule-II - Scope of the Project**	**7.2.2 Design Traffic** **(i) Dhandhuka Dholera (SH-20)** *Para below the table:* Minimum pavement composition for new pavement shall be 40mm BC, 65mm DBM and required granular layer thickness in accordance with provision of IRC 37-2012 (The provision related to stabilized base and sub base will not apply to the Project and Contractor will not be allowed to use it). Minimum overlay thickness shall be as given in below table.	**7.2.2 Design Traffic** **(i) Dhandhuka Dholera (SH-20)** *Para below the table:* Minimum pavement composition for new pavement shall be 40mm BC, 65mm DBM and required granular layer thickness in accordance with provision of IRC 37-2012. Where desired utility of stabilized base/sub-base the contractor should establish design parameters through approval of the Engineer with all required necessary lab tests/tests on trial patch. Minimum overlay thickness shall be as given in below table.
16.	**Section VI B Schedule-II - Scope of the Project**	**7.2.2 Design Traffic** **(ii) Dhandhuka-Paliyad (SH-01)** *Para below the table:* Minimum pavement composition for new pavement shall be 40mm BC, 70mm DBM and required granular layer thickness in accordance with provision of IRC 37-2012 (The provision related to stabilized base and sub base will not apply to the Project and Contractor will not be allowed to use it). Minimum overlay thickness shall be as given in below table.	**7.2.2 Design Traffic** **(ii) Dhandhuka-Paliyad (SH-01)** *Para below the table:* Minimum pavement composition for new pavement shall be 40mm BC, 70mm DBM and required granular layer thickness in accordance with provision of IRC 37-2012. Where desired utility of stabilized base/sub-base the contractor should establish design parameters through approval of the Engineer with all required necessary lab tests/tests on trial patch. Minimum overlay thickness shall be as given in below table.
17.	**Section VI B Schedule-II - Scope of the Project**	**7.2.2 Design Traffic** **(iii) Limbdi Dhandhuka (SH-20)** *Para below the table:* Minimum pavement composition for new pavement shall be 40mm BC, 60mm DBM and required granular layer thickness in accordance with provision of IRC 37-2012 (The provision related to stabilized base and sub base will not apply to the Project and Contractor will not be allowed to use it). Minimum overlay thickness shall be as given in below table.	**7.2.2 Design Traffic** **(iii) Limbdi Dhandhuka (SH-20)** *Para below the table:* Minimum pavement composition for new pavement shall be 40mm BC, 60mm DBM and required granular layer thickness in accordance with provision of IRC 37-2012. Where desired utility of stabilized base/sub-base the contractor should establish design parameters through approval of the Engineer with all required necessary lab tests/tests on trial patch. Minimum overlay thickness shall be as given in below table.

Sl. No.	Clause Reference	Original Provision	Amended Provision
18.	**Section VI B. Annex-I of Schedule – II**		**Clause numbers to be read as:**
		4. WIDENING OF THE EXISTING HIGHWAY	1. WIDENING OF THE EXISTING HIGHWAY
		4.1. WIDTH OF CARRIAGEWAY	1.1. WIDTH OF CARRIAGEWAY
		5. GEOMETRIC DESIGN AND GENERAL FEATURES	2. GEOMETRIC DESIGN AND GENERAL FEATURES
		5.1. General	2.1. General
		5.2. Design Speed	2.2. Design Speed
		5.3. Improvement of the existing road geometrics	2.3. Improvement of the existing road geometrics
		5.4. Type of shoulders	2.4. Type of shoulders
		5.5. Lateral and vertical clearances at underpasses	2.5. Lateral and vertical clearances at underpasses
		5.6. Lateral and vertical clearances at overpasses	2.6. Lateral and vertical clearances at overpasses
		5.7. Typical cross-sections of the Project Highway	2.7. Typical cross-sections of the Project Highway
		5.7.1. Dhandhuka Dholera (SH-20)	2.7.1. Dhandhuka Dholera (SH-20)
		5.7.2. Dhandhuka Paliyad (SH-01)	2.7.2. Dhandhuka Paliyad (SH-01)
		5.7.3. Limbdi Dhandhuka (SH-20)	2.7.3. Limbdi Dhandhuka (SH-20)
		6. INTERSECTIONS/ JUNCTIONS	3. INTERSECTIONS/ JUNCTIONS
		6.1.1. Dhandhuka Dholera (SH-20)	3.1.1. Dhandhuka Dholera (SH-20)
		7. PAVEMENT DESIGN	4. PAVEMENT DESIGN
		7.1. Type of pavement	4.1. Type of pavement
		7.2. Design requirements	4.2. Design requirements
		7.2.1. Design Period and strategy	4.2.1. Design Period and strategy
		7.2.2. Design Traffic	4.2.2. Design Traffic
		8. ROAD EMBANKMENT AND CUT SECTION	5. ROAD EMBANKMENT AND CUT SECTION
		9. ROADSIDE DRAINAGE	6. ROADSIDE DRAINAGE
		9.1.1. Dhandhuka Dholera (SH-20)	6.1.1. Dhandhuka Dholera (SH-20)
		9.1.2. Dhandhuka Paliyad (SH-01)	6.1.2. Dhandhuka Paliyad (SH-01)
		9.1.3. Limbdi Dhandhuka (SH-20)	6.1.3. Limbdi Dhandhuka (SH-20)
		10. DESIGN OF STRUCTURES	7. DESIGN OF STRUCTURES
		10.1. General	7.1. General
		10.2. Culverts	7.2. Culverts
		10.2.1. Dhandhuka Dholera (SH-20)	7.2.1. Dhandhuka Dholera (SH-20)
		10.2.2. Dhandhuka Paliyad (SH-01)	7.2.2. Dhandhuka Paliyad (SH-01)
		10.2.3. Limbdi Dhandhuka (SH-20)	7.2.3. Limbdi Dhandhuka (SH-20)
		10.3. Bridges	7.3. Bridges
		10.3.1. Dhandhuka Dholera (SH-20)	7.3.1. Dhandhuka Dholera (SH-20)
		10.3.2. Dhandhuka Paliyad (SH-01)	7.3.2. Dhandhuka Paliyad (SH-01)

Sl. No.	Clause Reference	Original Provision	Amended Provision
		10.3.3 Limbdi Dhandhuka (SH-20)	7.3.3 Limbdi Dhandhuka (SH-20)
		11. Traffic control devices and road safety works	8. Traffic control devices and road safety works
		11.1 Traffic control devices and road safety works shall be provided in accordance with IRC SP 73-2015.	8.1 Traffic control devices and road safety works shall be provided in accordance with IRC SP 73-2015.
		11.2 Specifications of the reflecting sheeting shall be as per the IRC SP 73-2015 Two Lane manual of specifications and standards referred in Schedule IV.	8.2 Specifications of the reflecting sheeting shall be as per the IRC SP 73-2015 Two Lane manual of specifications and standards referred in Schedule IV.
		12. Roadside furniture	9. Roadside furniture
		12.1. Overhead traffic signs: location and size	9.1. Overhead traffic signs: location and size
		13. Metal Beam Crash Barrier (W Beam)	10. Metal Beam Crash Barrier (W Beam)
		14. Cattle Crossing Zones	11. Cattle Crossing Zones
		15. Utility Duct	12. Utility Duct
		16. Pre-Construction Activities	13. Pre-Construction Activities
		16.1. Land Acquisition (LA)	13.1. Land Acquisition (LA)
		16.2. Utility Shifting and Removal of Trees & Obstructions	13.2. Utility Shifting and Removal of Trees & Obstructions
		16.3. Permits to be Obtained	13.3. Permits to be Obtained
		16.4. Encroachment Removal	13.4. Encroachment Removal
		16.5. Compensatory Afforestation, Rehabilitation & Resettlement	13.5. Compensatory Afforestation, Rehabilitation & Resettlement
		16.6. Environment Management Plan (EMP)	13.6. Environment Management Plan (EMP)
		16.7. Safety	13.7. Safety
19.	**Section VI B Schedule-II 10.2 Culverts and 10.3 Bridges**	--	*"Repair" wherever mentioned under* ***Clause-7.2*** *(Culverts) and* ***Clause-7.3*** *(Bridges) of Schedule-II (Section VIB shall cover the following:* Material, type and extent of repair to be decided in concurrence with the Engineer and with approval of the Employer. All existing structures/ bridges and culverts which are proposed either for retaining or repair and widening shall be retained after carrying out necessary repairs and rehabilitation as required with the Engineer's concurrence. Such repairs shall include but not limited to general cleaning of structures/ bridges/ culverts and area around, restoration of slopes and protection works, repair/ relaying of existing wearing coat, required camber corrections, repair/ replacement of drainage spouts, restoration of crash barriers, repair

Sl. No.	Clause Reference	Original Provision	Amended Provision
			of expansion joints and bearings where required and repair to damaged concrete of any element etc. to complete satisfaction of the Engineer. All the repairs and rehabilitation works shall be carried out as per standards and specifications/ best engineering practice.
20.	**Section VIB. 10.2.1 (b) of Schedule-II**	10.2.1 Dhandhuka Dholera (SH-20) b)Widening of existing culverts	**7.2.1** Dhandhuka Dholera (SH-20) b) **Repair & Widening** of existing culverts
21.	**Section VIB. 10.2.1 (e) & 10.2.3 (e) of Schedule-II**	10.2.1 Dhandhuka Dholera (SH-20) & 10.2.3 Limbdi Dhandhuka (SH-20) e) Cross road culverts Apart from above mentioned locations, cross road culverts will be provided at following **excess** road locations:	**7.2.1** Dhandhuka Dholera (SH-20) & **7.2.3** Limbdi Dhandhuka (SH-20) e) Cross road culverts Apart from above mentioned locations, cross road culverts will be provided at following **access** road locations:
22.	**Section VIB. 10.2.2 (b) of Schedule-II**	10.2.2 Dhandhuka Paliyad (SH 01) b)Widening of existing culverts: Improvement Proposal Column – Retain and widen (for all 5 culverts)	**7.2.2** Dhandhuka Paliyad (SH 01) b) Widening of existing culvert; Improvement Proposal Column - **Repair & Widening** (for all 5 culverts)
23.	**Section VIB. 10.3.3 (f) of Schedule-II**	10.2.3 Limbdi - Dhandhuka (SH 20) f) Repair & Widening of major Bridges	**7.2.3** Limbdi - Dhandhuka (SH 20) f) Repair & Widening of **minor** Bridges
24.	**Section VIB.** **Schedule – II Appendix I – Typical Cross Sections**	--	*Add the following at the beginning of "**Appendix I – Typical Cross Sections" of Schedule – II:*** Thicknesses of pavement layers shown in typical cross sections at **Schedule – II. Appendix I – Typical Cross Sections** and **Part -4 Drawings** stand deleted, wherever appearing. For thickness of pavement layers, provisions of Cl 4 Pavement Design of Schedule – II shall apply.
25.	**Section VI B** **Schedule III, Project Facilities, Annex-I,** **Clause 2.2**	**2.2 Pedestrian facilities** A) Pedestrian Barriers shall be provided in all urban/ semi-urban, village locations and at bus shelters. The integrated plan shall be finalized in consultation with Engineer. Pedestrian Barriers locations are given below. For Bus Bay and Bus Shelter locations please refer clause 2.3 of Annexure I of Schedule II. B) Pedestrian Footpath with paver block of minimum thickness	**2.2 Pedestrian facilities** A) Pedestrian Barriers shall be provided at the identified locations indicated under sub-clauses 2.2.1, 2.2.2 & 2.2.3 and at bus shelter locations indicated under clause 2.3. B) Pedestrian Footpath with paver blocks of minimum thickness of 60 mm shall be provided at bus shelter locations. Footpath

Sl. No.	Clause Reference	Original Provision	Amended Provision
	Pedestrian facilities	of 60 mm and Footpath cum Drain shall be provided in all urban/semi-urban, village locations and bus shelters where side walk/foot path are provided. Tentative locations for pedestrian barrier are given below:	cum Drain shall be provided at locations dictated by Typical Cross Section types. The integrated plan (for footpaths/ footpath cum drain, barriers, bus shelter with/without bus bay) shall be finalized with concurrence of the Engineer. The minimum length of pedestrian barrier is fixed and tentative locations for pedestrian barrier are given below:
26.	**Section VIB.** **Schedule III Project Facilities Annex-I,** **Cl 2.5 Solar Street Lights and Light Mast**	The Solar Street light units so designed to provide not less than 30 lux illumination all through shall include foundation, erection of pole, installation of solar PV panel with battery and providing and fixing LED lights which shall be duly approved by the Engineer and satisfying Ministry of New and Renewable Energy (MNRE) standards.	The Solar Street light units so designed to provide **average 30 lux illumination all through** shall include foundation, erection of pole, installation of solar PV panel and providing and fixing LED lights which shall be duly approved by the Engineer and satisfying Ministry of New and Renewable Energy (MNRE) standards. **Contractor may be allowed to use alternate arrangements without making use of batteries (but invariably making use of solar energy) with the rider that all responsibilities regarding the arrangements and any one time or installation payment or regular energy bill payments shall rest with the Contractor.** **Light Mast:** Contractor may be allowed to use conventional arrangements with the rider that all responsibilities regarding the arrangements and any one time or installation payment or regular energy bill payments shall rest with the Contractor. The number of solar lights specified in the Schedules is indicative only.
27.	**Section VI B** **Clause 2.8 of Schedule III, Annex-I, Solid waste management**	**2.8 Solid Waste Management (SWM)** The Contractor shall implement SWM in the corridor. Waste collecting bins/ dust bins shall be provided on both side at start and end of the following locations or as directed by the Engineer.	**2.8 Solid Waste Management (SWM)** The Contractor shall implement SWM in the corridor. Waste collecting bins/ dust bins shall be provided on both side at start and end of the following locations or as directed by the Engineer. **The contractor shall be responsible for handling, installation, maintenance and security (including safeguarding from vandalism, theft, etc.) of the dust bins.**

Sl. No.	Clause Reference	Original Provision	Amended Provision
28.	**Section VIB.** **Schedule III Project Facilities Appendix I**	Bus bay with Bus Shelter Locations Along project road 17.Dhandhuka – Dholera 18.Dhandhuka –Paliyad 19.Limbdi Dhandhuka	*Clause/sub-clause numbers to be read as:* 1. Bus bay with Bus Shelter Locations Along project road 1.1. Dhandhuka – Dholera 1.2 Dhandhuka –Paliyad 1.3 Limbdi Dhandhuka
29.	**Section VI C Schedule-II**	Clause 406 WET MIX MACADAM SUB-BASE/BASE – Sub-Clause 406.1 Scope -Add the following at the end: The material retrieved by milling of existing Bituminous surface and WMM will be the property of contractor. Contractor may if he so desires use the retrieved material in fresh WMM course layer with proper grading under Table 400-13: Grading requirement of aggregate for WMM and give credit of the salvage value of the retrieved material in the Lump Sum amount quoted by him for the Improvement and Rehabilitation Works.	Clause 406 WET MIX MACADAM SUB-BASE/BASE – Sub-Clause 406.1 Scope -Add the following at the end: The material retrieved by milling of existing Bituminous surface and WMM will be the property of contractor. Contractor may if he so desires use the retrieved material in fresh course layer with proper grading under Table 400-13: Grading requirement of aggregate for WMM and give credit of the salvage value of the retrieved material in the Lump Sum amount quoted by him for the Improvement and Rehabilitation Works.
30.	**Section VI C Schedule-II**	**Clause 406** WET MIX MACADAM SUB-BASE/BASE - **Sub-Clause 406.2.1.1 Materials:** *First sentence of the para:* Coarse aggregates shall be crushed stone.	**Clause 406** WET MIX MACADAM SUB-BASE/BASE - **Sub-Clause 406.2.1.1 Materials:** *First sentence of the para:* Coarse aggregates shall be crushed stone/milled material from the existing bituminous surface provided that properties required for the material are met with. In milled material case the contractor should establish design parameters through approval of the Engineer with all required necessary lab tests/tests on trial patch.
31.	**Section VI C Schedule-II**	**Clause 401 GRANULAR SUB-BASE** **Sub-Clause 401.2 Materials:** *First sentence of the para:* The material to be used for the work shall be natural sand, crushed gravel, crushed stone, crushed slag, or combination thereof depending upon the grading required.	**Clause 401 GRANULAR SUB-BASE** **Sub-Clause 401.2 Materials:** *First sentence of the para:* The material to be used for the work shall be natural sand, crushed gravel, crushed stone, crushed slag, milled material from the existing bituminous surface provided that properties required for the material are met with or combination thereof depending upon the grading required. In milled material case the contractor should establish design parameters through approval of the Engineer with all required necessary lab tests/tests on trial patch.
32.	**Section VI C Schedule-II**	**Clause 505 DENSE BITUMINOUS MACADAM** **Clause 505.2 Materials**	**Clause 505 DENSE BITUMINOUS MACADAM** **Clause 505.2 Materials:** Apart from materials specified under clause 505.2.2 (Coarse aggregate) and 505.2.3 (Fine aggregate), milled material from the existing bituminous surface can be used provided that properties required for the material are met with. In milled material case the contractor should establish design

Sl. No.	Clause Reference	Original Provision	Amended Provision
			parameters through approval of the Engineer with all required necessary lab tests/tests on trial patch.
33.	**Section VIC.** **Sub-Clause 111.1 Last paragraph**	The Contractor's on-site establishment shall include an Environmental Cum Social Specialist and Road Safety Engineer with qualification & experience as mentioned in Section III: Evaluation and Qualification Criteria. They shall be available at all times, and shall be responsible for all environmental, social and safety matters associated with the works.	The Contractor's on-site establishment shall include an **Environmental Engineer** and **Road Safety Engineer** with qualification & experience as mentioned in Section III: Evaluation and Qualification Criteria. They shall be available at all times, and shall be responsible for all environmental, social and safety matters associated with the works.
34.	**Section VIC** **Sub-Clause 111.8.2 Air Quality**	*Add the following at the end of Sub-Clause 111.8.2:* Emissions from Construction Vehicles, Equipment and Machineries shall be in accordance with the Schedule-I: Standards for Emission suggested and prescribed by CPCB / GPCB. The Contractor shall have emission certificates as per the Emission standards of Bureau of Indian Standard (BIS) Bharat IV emission norms for all the construction vehicles and machinery. The Contractor shall maintain a separate file of Pollution Under Control (PUC) certificates for all vehicles/equipment/machinery used for the project. **Clause 501 (Protection of Environment)** - Section 3 Air Quality of MoRTH Specification shall be adopted by the Contractor for control of dust nuisance during the construction of the works. Air quality monitoring as per the *Environmental Monitoring Plan in Section VID (Specifications – Environment and Social),* shall be strictly followed by the Contractor. Based on the monitoring of results, the Engineer, if required, shall recommend any additional mitigation measures required to be implemented by the Contractor in controlling air pollution.	*Add the following at the end of Sub-Clause 111.8.2:* Emissions from Construction Vehicles, Equipment and Machineries shall be in accordance **with Schedule-I: Standards for Emission suggested and prescribed by CPCB / GPCB.** The Contractor shall have emission certificates as per the **applicable Emission standards of Bureau of Indian Standard (BIS) emission norms for all the construction vehicles and machinery.** The Contractor shall maintain a separate file of Pollution Under Control (PUC) certificates for all vehicles/ equipment/ machinery used for the project." **Clause 501 (Protection of Environment)** - Section 3 Air Quality of MoRTH Specification **- 5th revision, mutatis mutandis**, shall be adopted by the Contractor for control of dust nuisance during the construction of the works. Air quality monitoring as per the *Environmental Monitoring Plan in Section VID (Specifications – Environment and Social),* shall be strictly followed by the Contractor. Based on the monitoring of results, the Engineer, if required, shall recommend any additional mitigation measures required to be implemented by the Contractor in controlling air pollution.

<table>
<tr><th>Sl. No.</th><th>Clause Reference</th><th>Original Provision</th><th>Amended Provision</th></tr>
<tr><td>35.</td><td>Section III
Clause 2.2
Equipment</td><td>--</td><td>Add the following at the end of Clause ‘2.2 Equipment’ of Section-III:

The Contractor shall endeavor to demonstrate availability of key equipment as per bid document. In case, a few key equipment are unavailable with the Bidder at the time of bid submission, the Bidder shall furnish an Undertaking that he will purchase / deploy the key equipment as per the requirements of the bid document, if he is awarded the project.</td></tr>
<tr><td>36.</td><td>Part -4
Drawings</td><td>--</td><td>Add the following at the beginning in the Typical Cross Section Drawings given in Part -4:

Thicknesses of pavement layers shown in typical cross sections at <u>Part -4 Drawings</u> stand deleted, wherever appearing. For thickness of pavement layers, provisions of Cl 4 Pavement Design of Schedule – II shall apply</td></tr>
<tr><td>37.</td><td>Section-IV
Bidding Forms

Schedule E
Key Personnel</td><td>Form PER-1</td><td>Form PER-1
Key Personnel
<table>
<tr><th>Position</th><th>Name</th><th>Qualifications</th><th>Years of experience (Total)</th><th>Years of relevant experience</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>38.</td><td>Section-IV
Bidding Forms
Schedule E</td><td>Resume and Declaration
Key Personnel
Form PER-2</td><td>Resume and Declaration
Key Personnel
Form PER-2
As per standard industry practice.</td></tr>
<tr><td>39.</td><td>Section-VIII
(Particular Conditions)
Sub-clause 19.5</td><td>Add Sub-Clause 19.5 1st Para:
In case the Contractor fails to ensure availability of any of the key personnel as per 2.6.4 of ITB of Section III (Evaluation and Qualification criteria) for a continuous period over 30 days, he shall pay to the Employer following sums by way of deductions from payments otherwise due to the Contractor. If no payment is due, the recovery shall be made from the Bank Guarantee available with the Employer.</td><td>Add Sub-Clause 19.5 1st Para:
In case the Contractor fails to ensure availability of any of the key personnel as per Clause 2.1 (key personnel) of Section III (Evaluation and Qualification criteria) for a continuous period over 30 days, he shall pay to the Employer the following sums by way of deductions from payments otherwise due to the Contractor. If no payment is due, the recovery shall be made from the Bank Guarantee available with the Employer.</td></tr>
</table>

Sl. No.	Clause Reference	Original Provision	Amended Provision
40.	**Section III Clause 2 Qualification Compliance Requirements Sub Clause 4.1(a) General Construction Experience**	Experience under contracts in the role of contractor, subcontractor, or management contractor for at least the last 5 years prior to the applications submission deadline, and with activity in at least nine (9) months in each year.	Experience under contracts in the role of contractor, subcontractor, or management contractor for at least the last 5 years **ending last day of month previous to the one in which applications are expected**, and with activity in at least nine (9) months in each year.

(D.K.Solanki)
Superintending Engineer,
Project Implementation Unit,
Gandhinagar