



NATIONAL HIGH SPEED RAIL CORPORATION LIMITED (NHSRCL)
(A Joint Sector Company of Govt. of India and Participating State Government)
2nd Floor, Asia Bhawan, Road No.205, Sector-9, Dwarka, New Delhi-110077, India

Addendum No. 02

Country: INDIA

Name of Work: *Design and Construction of Civil and Buildings Works including Testing and Commissioning on Design-Build Lump Sum Price basis for Double Line High Speed Railway for Mumbai Underground Station, Cut & Cover Tunnel and Shaft -I from MAHSR Km. -0.255 to Km. 0.775 at Bandra-Kurla Complex in the State of Maharashtra for the Project for Construction of Mumbai-Ahmedabad High Speed Rail*

Date: 13.03.2020

Loan Agreement No.: ID-P277 & ID-P279

IFB Number: Package No. MAHSR-C-1

Following are to be considered:

Item No.	Refer Para No.	Original/As Existing	Revised
1.	IFB, S. No. 5, 7, 8, Page 2 of 3	S. No. 5, 2 nd Para) The Bidding Documents shall be available for sale at NHSRCL's office as mentioned in Para. (4) above during 10:00 hrs to 17:00 hrs on all the working days from 26.11.2019 to 18.03.2020. S. No. 7) Bids must be delivered to the address above on or before 15:00 hrs on 19.03.2020 and must be accompanied by a Bid Security of INR 220 Million (Indian Rupees Two Hundred Twenty Million only).	S. No. 5, 2 nd Para) The Bidding Documents shall be available for sale at NHSRCL's office as mentioned in Para. (4) above during 10:00 hrs to 17:00 hrs on all the working days from 26.11.2019 to 11.05.2020. S. No. 7) Bids must be delivered to <i>General Manager (Contract) at the address as given in BDS ITB 24.1</i> on or before 15:00 hrs on 12.05.2020 and must be accompanied by a Bid Security of INR 220 Million (Indian Rupees Two Hundred Twenty Million only).



Item No.	Refer Para No.	Original/As Existing	Revised
		S. No. 8) Only the Technical Bid will be opened in the presence of Bidders' representatives who choose to attend at 15:30 hrs on 19.03.2020 at the office of:	S. No. 8) Only the Technical Bid will be opened in the presence of Bidders' representatives who choose to attend at 15:30 hrs on 12.05.2020 at the office of:
2.	Part 1, Section II, BDS, ITB 23.1, Page 6 of 34		<Add the following in the beginning of BDS ITB Sub-Clause 23.1> "Bidders shall submit their Bids by hand or by mail. Electronic Bid submission shall not be accepted. Procedures for submission, sealing and marking are as follows:"
3.	Part 1, Section II, BDS, ITB 24.1, Page 9 of 34	For Bid submission purposes only, the Employer's address is: Attention: <i>Managing Director, National High Speed Rail Corporation Limited</i> Street Address: Asia Bhawan, Road No.205, Sector-9, Dwarka, New Delhi, India Floor/Room number: 2nd Floor City: New Delhi Zip Code: 110077 Country: India The deadline for Bid submission is: Date : 19.03.2020 Time : 15:00 hrs	For Bid submission purposes only, the Employer's address is: Attention: <i>General Manager (Contract), National High Speed Rail Corporation Limited</i> Street Address: Asia Bhawan, Road No.205, Sector-9, Dwarka, New Delhi, India Floor/Room number: 2nd Floor/ <i>Room number: 201</i> City: New Delhi Zip Code: 110077 Country: India The deadline for Bid submission is: Date : 12.05.2020 Time : 15:00 hrs



Item No.	Refer Para No.	Original/As Existing	Revised
4.	Part 1, Section II, BDS, ITB 27.1, Page 9 of 34	ITB 27.1 The opening of the Technical Bid shall take place at: Date : 19.03.2020 Time : 15:30 hrs	ITB 27.1 The opening of the Technical Bid shall take place at: Date : 12.05.2020 Time : 15:30 hrs
5.	Part 1, Section III, Sub-Clause 3.2 (c) (iii), Column 3, Bankruptcy/Insolvency and Debt Restructuring, Page 22 of 34	2. The Bidder has obtained debt restructuring in the immediately preceding three (3) years from the date of deadline of submission of this Bid or has applied for it or are currently in the process of corporate debt restructuring (as on the date of deadline of submission of this Bid), the Bidder shall open a dedicated ‘Contract Specific Bank Account’ for credit of advances and all other payments received from the Employer under this Contract and for expenditures/ debits made/to-be-made for the purpose of execution of the Works pertaining to this Contract; and shall not divert the funds for the purpose(s) other than the intended purpose(s).	2. The Bidder has obtained debt restructuring in the immediately preceding three (3) years from the date of deadline of submission of this Bid or has applied for it or are currently in the process of corporate debt restructuring (as on the date of deadline of submission of this bid), the <i>successful</i> Bidder shall open a dedicated “Trust & Retention Account” (T & R Account) in consultation with the Employer. Contractor shall submit a certified list of vendors/suppliers/sub-contractors/ consultants, associated and engaged for the execution of the contract work. The payments by the Employer shall be made in the designated currency to Trust and Retention Account only. Bank will make payments on instruction of the Contractors to pre-certified vendors/suppliers/sub-contractors/consultants only. The Contractor shall not divert the funds for the purpose(s) other than the intended purpose(s).



Item No.	Refer Para No.	Original/As Existing	Revised
6.	Part 1, Section III, Sub-Clause 3.2 (d) (iii), Column 3, Construction Experience in Key Activities, Page 23 of 34	<p>For the above or other contracts completed and under implementation as prime contractor (single entity or JV/Consortium member) or management contractor or Subcontractor^(vi) between 1st January 2009 and Bid submission deadline, a minimum experience in the following key activities successfully completed:</p> <p>Key Activities:</p> <ul style="list-style-type: none"> a. Design and execution of MEP works for minimum 2 No. of underground stations of metro rail / railway. b. Design and execution of Architectural works for minimum 2 No. of underground stations of metro rail / railway. 	<p>For the above or other contracts completed and under implementation as prime contractor (single entity or JV/Consortium member) or management contractor or Subcontractor^(vi) between 1st January 2009 and Bid submission deadline, a minimum experience in the following key activities successfully completed:</p> <p>Key Activities:</p> <ul style="list-style-type: none"> a. <i>Execution</i> of MEP works for minimum 2 No. of underground stations of metro rail / railway. b. <i>Execution</i> of Architectural works for minimum 2 No. of underground stations of metro rail / railway. c. <i>Design</i> of MEP works for minimum 2 No. of underground stations of metro rail / railway. d. <i>Design</i> of Architectural works for minimum 2 No. of underground stations of metro rail / railway.



Item No.	Refer Para No.	Original/As Existing	Revised
7.	Part 1, Section IV - Bidding Forms, Form FIN-3, Item 2., Page 68 of 101	<p>2. We do hereby declare that we have obtained debt restructuring in the immediately preceding three (3) years from the date of deadline of submission of our Bid or have applied for it (as on the date of deadline of submission of Bids) or are currently in the process of corporate debt restructuring (strikethrough the clause which is not applicable). We do hereby undertake that we shall open a dedicated ‘Contract Specific Bank Account’ for credit of advances and all other payments received from the Employer under this Contract and for expenditures/debits made/to-be-made for the purpose of execution of the Works pertaining to this Contract; and that we will not divert the funds for the purpose(s) other than the intended purpose(s). Also, we give mandate to the Employer or their representative to make inspection(s) of this account whenever so desired by them.</p>	<p>2. We do hereby declare that we have obtained debt restructuring in the immediately preceding three (3) years from the date of deadline of submission of our Bid or have applied for it (as on the date of deadline of submission of Bids) or are currently in the process of corporate debt restructuring (strikethrough the clause which is not applicable). We do hereby undertake that we shall open a <i>dedicated ‘Trust & Retention Account (T & R Account)’ in consultation with the Employer. We shall submit a certified list of vendors/suppliers/sub-contractors/consultants, associated and engaged for the execution of the contract work. The Bank will make payments, on our instructions, to pre-certified vendors/suppliers/sub-contractors/consultants only. We shall not divert the funds for the purpose(s) other than the intended purpose(s).</i> Also, we give mandate to the Employer or their representative to make inspection(s) of this account whenever so desired by them.</p>



Item No.	Refer Para No.	Original/As Existing	Revised
8.	Part 1, Section IV - Bidding Forms, Form EXP -2(b), Page 81 of 101	<p>Key Activities:</p> <p>a. Design and execution of MEP works for minimum 2 No. of underground stations of metro rail / railway.</p> <p>b. Design and execution of Architectural works for minimum 2 No. of underground stations of metro rail / railway.</p> <p>Total Quantity of Activity under the Contract:</p> <p>Key Activity a. _____</p> <p>Key Activity b. _____</p>	<p>Key Activities:</p> <p>a. <i>Execution</i> of MEP works for minimum 2 No. of underground stations of metro rail / railway.</p> <p>b. <i>Execution</i> of Architectural works for minimum 2 No. of underground stations of metro rail / railway.</p> <p>c. <i>Design</i> of MEP works for minimum 2 No. of underground stations of metro rail / railway.</p> <p>d. <i>Design</i> of Architectural works for minimum 2 No. of underground stations of metro rail / railway.</p> <p>Total Quantity of Activity under the Contract:</p> <p>Key Activity a. _____</p> <p>Key Activity b. _____</p> <p>Key Activity c. _____</p> <p>Key Activity d. _____</p>
9.	Part 2, Section VI-1, Division 01000, Sub-Division 01020, Clause 1, Sub-Cause A, Item b), Page 5 of 10		<p><Add the following point after Point viii. in Item b)></p> <p>ix. Cable Ducts*</p> <p>Note*: There are three types of Cable Ducts i.e. for power supply, Signal and Telecommunication (hereinafter called Communication) and LCX (for train radio). Cables shall be installed by E-1 contractor.</p>



Item No.	Refer Para No.	Original/As Existing			Revised		
10.	Part 2, Section VI-1, Division 04000, Sub-Division 04100, Item 2. Milestone Schedules Page 66, 67 and 68 of 82	Milestone No.	Milestone Name/Description	Time for Completion from Commencement Date	Milestone No.	Milestone Name/Description	Time for Completion from Commencement Date
		MS 3	The following works shall be executed at UG Station and Cut & Cover Tunnel: i. Completion of all civil (structural) works up to B2 Slab Level for UG Station and Cut & Cover Tunnel. ii. Completion of structures, to be made available for track work including installation of shear bars in accordance with the requirements specified in GS 04040 Appendix 04000-1.	Day 665	MS 3	The following works shall be executed at UG Station and Cut & Cover Tunnel: i. Completion of all civil (structural) works up to B2 Slab Level for UG Station and Cut & Cover Tunnel. ii. Completion of structures, to be made available for track work including installation of shear bars in accordance with the requirements specified in GS 04040 Appendix 04000-1.	Day 889
		MS 4	The following works shall be executed at UG Station, Cut & Cover Tunnel: i. Completion of all civil (structural) works up to B1 Slab Level for UG Station and Cut & Cover Tunnel. (Including the delivery route for the electrical equipment	Day 777	MS 4	The following works shall be executed at UG Station, Cut & Cover Tunnel: i. Completion of all civil (structural) works up to B1 Slab Level for UG Station and Cut & Cover Tunnel. (Including the delivery route for the electrical equipment	Day 980



Item No.	Refer Para No.	Original/As Existing			Revised		
			<p>from Shaft-1 to equipment rooms at B2 Slab Level and B1 Slab Level in UG Station).</p> <p>ii. Completion of structures, to be made available to E-1 contractor (between B3 Slab Level and B1 Slab Level), and providing access to E-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1.</p>			<p>from Shaft-1 to equipment rooms at B2 Slab Level and B1 Slab Level in UG Station).</p> <p>ii. Completion of structures, to be made available to E-1 contractor (between B3 Slab Level and B1 Slab Level), and providing access to E-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1.</p>	
		MS 5	<p>The following works shall be executed at Shaft-1, excluding works to be executed by C-1 Contractor after retrieval of TBM by C-2 contractor:</p> <p>i. Completion of all civil (structural) works (with cut-outs for access/lowering of material/equipment required for E-1 and T-1 contractors) up to B0 Slab Level for Shaft-1.</p> <p>ii. Completion of structures including installation of shear bars for track work, for access to Shaft-1, and handing over to T-1 contractor in accordance</p>	Day 840	MS 5	<p>The following works shall be executed at Shaft-1, excluding works to be executed by C-1 Contractor after retrieval of TBM by C-2 contractor:</p> <p>i. Completion of all civil (structural) works (with cut-outs for access/lowering of material/equipment required for E-1 and T-1 contractors) up to B0 Slab Level for Shaft-1.</p> <p>ii. Completion of structures including installation of shear bars for track work, for access to Shaft-1, and handing over to T-1 contractor in accordance</p>	<i>Day 1050</i>



Item No.	Refer Para No.	Original/As Existing		Revised	
			<p>with the requirements specified in GS 04040 Appendix 04000-1.</p> <p>iii. Completion of structures to be made available to E-1 Contractor (between B3 Slab Level and B1 Slab Level) and providing access to Shaft-1, to the E-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1.</p>		<p>with the requirements specified in GS 04040 Appendix 04000-1.</p> <p>iii. Completion of structures to be made available to E-1 Contractor (between B3 Slab Level and B1 Slab Level) and providing access to Shaft-1, to the E-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1.</p>
		MS 6	<p>Completion of provisions at B2 Slab Level and B1 Slab Level of Shaft-1 and providing access to E-1 contractor, including provisions for Auto Transformer Post (ATP), in accordance with the requirements specified in GS 04040 Appendix 04000-1.</p>	Day 889	<p>MS 6</p> <p>Completion of provisions at B2 Slab Level and B1 Slab Level of Shaft-1 and providing access to E-1 contractor, including provisions for Auto Transformer Post (ATP), in accordance with the requirements specified in GS 04040 Appendix 04000-1.</p> <p><i>Day 1071</i></p>
		MS 7	<p>The following works shall be executed at UG Station, Cut & Cover Tunnel and Shaft-1 up to the Underground Roof Slab Level (URSL) and Roof Slab Level (RSL), as applicable, excluding works to be executed by C-1 Contractor after retrieval of TBM by C-2 contractor,</p>	Day 889	<p>MS 7</p> <p>The following works shall be executed at UG Station, Cut & Cover Tunnel and Shaft-1 up to the Underground Roof Slab Level (URSL) and Roof Slab Level (RSL), as applicable, excluding works to be executed by C-1 Contractor after retrieval of TBM by C-2 contractor,</p> <p><i>Day 1071</i></p>



Item No.	Refer Para No.	Original/As Existing		Revised									
			and providing access to E-1 contractor: i. Completion of all civil (structural) works. ii. Completion of the provisions for E-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1.		and providing access to E-1 contractor: i. Completion of all civil (structural) works. ii. Completion of the provisions for E-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1.								
11.	Part 2, Section VI-1, Division 04000, Appendix 04000-1, Chapter III, 3. Between C-1, E-1 and T-1, Column 1 and Column 2, Page 9 of 20	<table border="1"> <thead> <tr> <th data-bbox="577 691 719 730">No.</th> <th data-bbox="719 691 1216 730">Interface Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="577 730 719 927">1</td> <td data-bbox="719 730 1216 927">Transverse conduit pipe and hand hole (Embedded in a RC Track Bed). This includes installation of pipe of suitable size and material at the required location.</td> </tr> </tbody> </table>		No.	Interface Description	1	Transverse conduit pipe and hand hole (Embedded in a RC Track Bed). This includes installation of pipe of suitable size and material at the required location.	<table border="1"> <thead> <tr> <th data-bbox="1420 691 1561 730">No.</th> <th data-bbox="1561 691 2058 730">Interface Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="1420 730 1561 887">1</td> <td data-bbox="1561 730 2058 887">Transverse conduit pipe (Embedded in a RC Track Bed). This includes installation of pipe of suitable size and material at the required location.</td> </tr> </tbody> </table>		No.	Interface Description	1	Transverse conduit pipe (Embedded in a RC Track Bed). This includes installation of pipe of suitable size and material at the required location.
No.	Interface Description												
1	Transverse conduit pipe and hand hole (Embedded in a RC Track Bed). This includes installation of pipe of suitable size and material at the required location.												
No.	Interface Description												
1	Transverse conduit pipe (Embedded in a RC Track Bed). This includes installation of pipe of suitable size and material at the required location.												
12.	Part 2, Section VI-1, Division 04000, Appendix 04000-1, Chapter III, 4. Between C-1 and E-1			<Item No. 3, 5 and 23 have been modified in the Interface table between C-1 and E-1.> Refer Attachment No. 01 of this Addendum.									
13.	Part 2, Section VI-1, Division 08000, Appendix 08000-1, Sub-Clause 6.1.1, Page 75 of 149	The Contractor shall review and comply with the environmental management plan (EMP) prepared in the Supplemental Environmental Impact Assessment (S-EIA) report available on the NHSRCL information disclosure website (https://www.nhsrcl.in/environmental-impact-assessment-report) and will note and implement any requirements therein, in addition to those found in this specification.		The Contractor shall comply with <i>the Supplemental Environmental Impact Assessment (S-EIA) report</i> and environmental management plan (EMP) prepared in the S-EIA available on the NHSRCL information disclosure website (https://www.nhsrcl.in/environmental-impact-assessment-report) and will note and implement any requirements therein, in addition to those found in this specification.									



Item No.	Refer Para No.	Original/As Existing	Revised
14.	Part 2, Section VI-1, Division 08000, Appendix 08000-1, Sub-Clause 6.1.2, Page 75 of 149	Before the start of construction, the Contractor will prepare a Construction Environmental Management Plan (CEMP) based on the CEMP Form to be reviewed and approved by the Engineer and implemented during the work. The CEMP shall sufficiently address the items contained in this specification.	Before the start of construction, the Contractor will prepare a Construction Environmental Management Plan (CEMP) based on the <i>EMP in Supplemental Environmental Impact Assessment (S-EIA) report</i> to be reviewed and approved by the Engineer and implemented during the work. The CEMP shall sufficiently address the items contained in this specification.
15.	Part 2, Section VI-1, Division 08000, Appendix 08000-1, Sub-Clause 6.2.3, Page 76 of 149		<Add the following Sub-Clause 6.2.4 after existing Sub-Clause 6.2.3> “6.2.4. The Contractor shall comply with all legislative requirements and any additional conditions imposed by the competent authorities while giving approval or subsequent conditions given by authorities, throughout the entire construction period.”
16.	Part 2, Section VI-2, Division 02000, Sub-Clause 2.1.2, 2.1.3, Page 11 of 30	2.1.2. Geotechnical Investigation data (Geotechnical Profile) along the alignment is provided in the Employer’s Requirements - Reference Information/Reports. 2.1.3. The geotechnical investigation data provided by the Employer is the minimum required information for planning.	2.1.2. Geotechnical Investigation data (Geotechnical Profile) along the alignment <i>available with the Employer</i> is provided in the Employer’s Requirements - Reference Information/Reports. 2.1.3. Deleted
17.	Part 2, Section VI-2, Division 02000, Annexure 2		<Annexure 2: Arrangement of Cable Duct/Conduit Pipe has been revised> Refer Attachment No. 02.
18.	Part 2, Section VI-2, Division 05000, Sub-Division 05010, Annexure 5		<Annexure 5: Demarcation chart of E-1 package for SER/DSS has been revised> Refer Attachment No. 03.



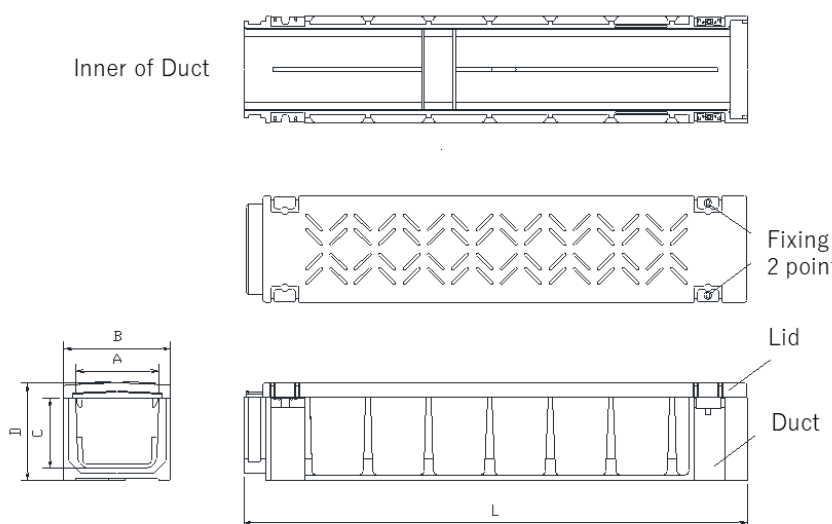
Item No.	Refer Para No.	Original/As Existing	Revised
19.	Part 2, Section VI-2, Division 05000, Sub-Division 05030, Sub-Clause 2.2.1, Item h) iv), Page 23 of 77	iv) Coefficient of Performance (COP): Minimum 6.5	iv) Coefficient of Performance (COP): <i>As per ECBC-2017, considering ECBC + rating.</i>
20.	Part 2, Section VI-2, Division 05000, Sub-Division 05030, Sub-Clause 6.4.24, Item k)	k) All lifts having a stop at the platform level and shall also stop at under platform level. Lifts shall stop at under platform level only through key operation.	k) <i>Goods</i> lifts having a stop at the platform level, shall also stop at under platform level. Lifts shall stop at under platform level only through key operation.
21.	Part 2, Section VI-2, Division 05000, Sub-Division 05040, Clause 17.4.2, Page 30 of 58	The lighting requirements, design and calculation of the illumination levels, uniformity shall be as per best international practices, IS. SP 72: 2010 or equivalent standard. The adopted LUX levels, FEU and Lighting design shall be submitted by the Contractor for approval of the Engineer. Care shall be taken with regard to the uniformity of lighting levels for different areas.	The lighting requirements, design and calculation of the illumination levels, uniformity and other parameters shall be as per IS. SP 72: 2010 and best international practices. The adopted LUX levels and lighting design shall be submitted to obtain approval from the Engineer. <i>Lighting design for whole Station, including but not limited to offices and control rooms, shall comply with the requirements mentioned in Clauses 7, 8 and 9, Section 2, Part 5, IS SP 72 : 2010.</i> Care shall be taken with regard to the uniformity, <i>perceived space brightness, energy efficiency and other parameters in lighting environment.</i> <i>LED Chip and accessories shall be of reputed make with low SDCM (Standard deviation colour matching) / MacAdams value.</i>
22.	Part 2, Section VI-2, Division 05000, Sub-Division 05040, Clause 17.4.7, Page 30 of 58	Contractor shall allow all things necessary to meet the required design illumination lux level/ FEU index approved by the Engineer.	The Contractor shall <i>execute</i> all works necessary to meet the required illumination LUX level, <i>space brightness, uniformity and other technical parameters as approved by the Engineer.</i>



Item No.	Refer Para No.	Original/As Existing	Revised
23.	<p>Addendum No. 01, Item 19</p> <p>Part 2, Section VI-2, Division 05000, Sub-Division 05050, Sub-Clause 2.1, Page 13 of 22</p>	<p>The water is to be received from two sources of Municipal Corporation/local authorities, i.e., one from domestic supply source and the other from treated wastewater supply source and shall be stored in various tanks as indicated in the Drawings.</p> <p>The domestic water supply shall be fed into raw and domestic water storage tanks from which it will be transferred by filter feed pumps for suitable treatment as per IS: 10500. Post treatment, the domestic water shall be allowed into fire water static storage tanks. The overflow from the fire tanks shall be fed into treated domestic water storage tanks.</p> <p>The treated wastewater supply received from the Municipal Corporation/local authorities shall be fed into soft water storage tanks after necessary treatment and then supplied via pumps to the ECS cooling towers.</p>	<p>The water is to be received from two sources of Municipal Corporation/local authorities, i.e., one from domestic supply source and the other from treated wastewater supply source and shall be stored in various tanks as indicated in the Drawings. <i>The water tapping points shall be made available by the Employer, within 100m from the nearest ROW boundary.</i></p> <p>The domestic water supply shall be fed into raw and domestic water storage tanks from which it will be transferred by filter feed pumps for suitable treatment as per IS: 10500. Post treatment, the domestic water shall be allowed into fire water static storage tanks. The overflow from the fire tanks shall be fed into treated domestic water storage tanks.</p> <p>The treated wastewater supply received from the Municipal Corporation/local authorities shall be fed into soft water storage tanks after necessary treatment and then supplied via pumps to the ECS cooling towers.</p>
24.	<p>Part 2, Section VI-3, Division 02000, Sub-Clause 3.4.1, Page 22 of 72</p>	<p>Structural Design drawings indicate the locations of splicing of bars. Other than those, no splicing of bars shall be permitted without prior approval of the Engineer. Lengths of splice, wherever required, shall be as indicated on the Structural Design drawings and/or shop drawings and approved by the Engineer. Lapped splices shall be staggered and located at points along the span where stresses are low, unless otherwise indicated in Structural Design drawings, other parts of the Technical Specifications or approved by the Engineer.</p>	<p>Structural Design drawings indicate the locations of splicing of bars. Other than those, no splicing of bars shall be permitted without prior approval of the Engineer. Lengths of splice, wherever required, shall be as indicated on the Structural Design drawings and/or shop drawings <i>subject to a minimum length of 40d for rebar diameter 'd' less than 25mm and 50d for 'd' greater than or equal to 25mm</i>, and approved by the Engineer. Lapped splices shall be staggered and located at points along the span where stresses are low, unless otherwise indicated in Structural Design drawings, other parts of the Technical Specifications or approved by the Engineer.</p>



Item No.	Refer Para No.	Original/As Existing	Revised
25.	Part 2, Section VI-3, Division 02000, Sub-Clause 4.6.3, Page 25 of 72	Use of fly ash and ground granulated blast furnace slag in concrete is not permitted.	Use of fly ash and ground granulated blast furnace slag in concrete is not permitted. <i>However, if the grade of concrete is more than M60, fly ash and micro silica may be used in mix design to improve workability and durability.</i>
26.	Part 2, Section VI-3, Division 02000, Sub-Clause 7.7.1, Item b) Page 50 of 72	<p>b) Cable duct for LCX</p> <p>(i) Cable duct for LCX shall be made of polyethylene, and polypropylene, which in total shall constitute 63%±5% of the material, and admixture of inorganic material, which shall constitute 37%±5%. Any other alternative material which fulfils the Employer’s Requirements can be proposed by the Contractor. The hazardous materials and substances that generate dioxin and other toxic gases shall not be used. The characteristics of material of the cable duct shall be considered for the influence on radio wave transmission.</p> <p>(ii) The shape and dimensions of cable duct for LCX are as shown in Figure 3 and Table 9. Detail inner and exterior structure dimensions shall be as shown in the attached drawing.</p>	<p><Replace the existing Sub-Clause with the following></p> <p>“b) Cable Duct for LCX at Shaft-1</p> <p>i) In the case of LCX cable duct at <i>Shaft-1</i>, as the duct shall not have metal reinforcement so as not to affect radio wave transmission, the concrete shall be Glass fibre Reinforced Concrete (GRC) and the fibre used shall be alkali-resistance glass fibre. The cement used shall not have a chloride ion content of more than 0.30 kg/m³.</p> <p>ii) The pull-out strength of the bolt-insert for the LCX cable ducts shall be at least 3kN/bolt.</p> <p>iii) The LCX cable duct shall have radio wave transmission range for VHF band (30MHz~300MHz) and for UHF band (300MHz~3GHz). The transmission is influenced by rainwater/moisture content in the cable duct and appropriate measures shall be taken to mitigate the risk of moisture ingress, as per the approved method statement.</p> <p>iv) GRC material: The alkali-resistance glass fibre used in LCX cable ducts, shall be in lengths of 13-19 mm, with diameter in the range of 18 μm ± 2 μm, shall be clean and without any cracks; shall be dry having water-content less than 0.5%; and shall have a zirconia content of not less than 16.0%. The Contractor shall submit the material certificate from the Manufacturer to the Engineer for approval.”</p>

Item No.	Refer Para No.	Original/As Existing	Revised												
		 <p style="text-align: center;">Figure 3: Shape of Cable Duct for LCX</p> <p style="text-align: center;">Table 9: Dimensions of Cable Duct for LCX</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Dimens ions</th> <th style="text-align: center;">A</th> <th style="text-align: center;">B</th> <th style="text-align: center;">C</th> <th style="text-align: center;">D</th> <th style="text-align: center;">L</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">170 ± 8</td> <td style="text-align: center;">220 ± 8</td> <td style="text-align: center;">145 ± 8</td> <td style="text-align: center;">200 ± 10</td> <td style="text-align: center;">1035 ± 10</td> </tr> </tbody> </table>	Dimens ions	A	B	C	D	L		170 ± 8	220 ± 8	145 ± 8	200 ± 10	1035 ± 10	
Dimens ions	A	B	C	D	L										
	170 ± 8	220 ± 8	145 ± 8	200 ± 10	1035 ± 10										



Item No.	Refer Para No.	Original/As Existing	Revised						
		(iii) The cable ducts shall not have harmful scratches, cracks, chips, war page while being used. (iv) The surface of the cable duct lid shall be rough processed. (v) The connection part of the cable duct shall be designed in a way to protect the water ingress during rain. (vi) M6 (6mm dia.) and M8 (8mm dia.) type of stainless-steel bolts shall be used for fixing the duct lids and main body respectively.							
27.	Part 2, Section VI-4, Drawings, All drawings of Shaft-1 Civil Structure		<The latest drawings shall be applicable for all the referred drawings mentioned under the heading “Reference Drawing”>						
28.	Addendum No. 01, Item No. 40 Part 2, Section VI-5, Attachment 5 – ROW Ortho Map		<The ROW Ortho Map has been revised> Refer Attachment No. 04.						
29.	Part 3, Section VIII – Particular Conditions (PC), Part A - Contract Data, Sub-Clause 3.1(B) (ii), Page 06 of 67	<table border="1" data-bbox="495 1112 1234 1192"> <tr> <td data-bbox="495 1112 801 1192">Engineer’s Duties and Authority</td> <td data-bbox="801 1112 987 1192">3.1(B) (ii)</td> <td data-bbox="987 1112 1234 1192">NIL</td> </tr> </table>	Engineer’s Duties and Authority	3.1(B) (ii)	NIL	<table border="1" data-bbox="1337 1112 2130 1347"> <tr> <td data-bbox="1337 1112 1532 1347">Engineer’s Duties and Authority</td> <td data-bbox="1532 1112 1688 1347">3.1(B) (ii)</td> <td data-bbox="1688 1112 2130 1347"><i>0.05%, until the cumulative amount of Variations instructed by the Engineer without obtaining the approval of the Employer reaches 1% of the Accepted Contract Amount.</i></td> </tr> </table>	Engineer’s Duties and Authority	3.1(B) (ii)	<i>0.05%, until the cumulative amount of Variations instructed by the Engineer without obtaining the approval of the Employer reaches 1% of the Accepted Contract Amount.</i>
Engineer’s Duties and Authority	3.1(B) (ii)	NIL							
Engineer’s Duties and Authority	3.1(B) (ii)	<i>0.05%, until the cumulative amount of Variations instructed by the Engineer without obtaining the approval of the Employer reaches 1% of the Accepted Contract Amount.</i>							



Item No.	Refer Para No.	Original/As Existing					Revised				
30.	Part 3, Section VIII – Particular Conditions (PC), Part A – Contract Data, Sub-Clause 8.7, Page 6 of 67	0.01% (zero-point zero one percent) of the Contract Price per day. For Milestones refer to the table Summary of Milestones below.					0.025% (zero-point zero <i>two five</i> percent) of the Contract Price per day. For Milestones refer to the table Summary of Milestones below.				
31.	Part 3, Section VIII, Table: Summary of Milestones, Page 8 of 67	Milestone No.	Milestone Name/Description (Sub-Clause 1.1.5.9)	Time for Completion from Commencement Date	Bonus Entitlement (amount per day of early achievement (Sub-Clause 8.13))	Delay Damages (amount per day of delay) (Sub-Clause 8.7)	Milestone No.	Milestone Name/Description (Sub-Clause 1.1.5.9)	Time for Completion from Commencement Date	Bonus Entitlement (amount per day of early achievement (Sub-Clause 8.13))	Delay Damages (amount per day of delay) (Sub-Clause 8.7)
		MS 1	Submission of Technical Design of Temporary Works for excavation including, earth retaining structures for	Day 119	INR 25,000	INR 50,000	MS 1	Submission of Technical Design of Temporary Works for excavation including, earth retaining structures for	Day 119	-	INR 20,000



Item No.	Refer Para No.	Original/As Existing				Revised					
			UG Station, Cut & Cover Tunnel and Shaft-1 as per DRC 01000 and GS 05000 and obtaining approval from the Engineer.					UG Station, Cut & Cover Tunnel and Shaft-1 as per DRC 01000 and GS 05000 and obtaining approval from the Engineer.			
		MS 2	Submission of Technical Design of Civil (Structural), Architectural and MEP works at UG Station, Cut & Cover Tunnel and Shaft-1 and obtaining approval from the Engineer.	Day 210	INR 25,000	INR 50,000	MS 2	Submission of Technical Design of Civil (Structural), Architectural and MEP works at UG Station, Cut & Cover Tunnel and Shaft-1 and obtaining approval from the Engineer.	Day 210	-	INR 20,000
32.	Part 3, Section VIII, Table: Summary of Milestones, Columns 1, 2 and 3, Page 8 and 9 of 67	Milestone No.	Milestone Name/Description (Sub-Clause 1.1.5.9)	Time for Completion from Commencement Date	Milestone No.	Milestone Name/Description (Sub-Clause 1.1.5.9)	Time for Completion from Commencement Date				
		MS 3	The following works shall be executed at UG Station and Cut & Cover Tunnel: i. Completion of all civil	Day 665	MS 3	The following works shall be executed at UG Station and Cut & Cover Tunnel: i. Completion of all civil	Day 889				



Item No.	Refer Para No.	Original/As Existing		Revised	
			<p>(structural) works up to B2 Slab Level for UG Station and Cut & Cover Tunnel.</p> <p>ii. Completion of structures, to be made available for track work including installation of shear bars in accordance with the requirements specified in GS 04040 Appendix 04000-1.</p>		<p>(structural) works up to B2 Slab Level for UG Station and Cut & Cover Tunnel.</p> <p>ii. Completion of structures, to be made available for track work including installation of shear bars in accordance with the requirements specified in GS 04040 Appendix 04000-1.</p>
		MS 4	<p>The following works shall be executed at UG Station, Cut & Cover Tunnel:</p> <p>i. Completion of all civil (structural) works up to B1 Slab Level for UG Station and Cut & Cover Tunnel. (Including the delivery route for the electrical equipment from Shaft-1 to equipment rooms at B2 Slab Level and B1 Slab Level in UG Station).</p> <p>ii. Completion of structures, to be made available to E-1 contractor (between B3 Slab Level and B1 Slab Level), and providing access to E-1 contractor in accordance with</p>	Day777	<p>The following works shall be executed at UG Station, Cut & Cover Tunnel:</p> <p>i. Completion of all civil (structural) works up to B1 Slab Level for UG Station and Cut & Cover Tunnel. (Including the delivery route for the electrical equipment from Shaft-1 to equipment rooms at B2 Slab Level and B1 Slab Level in UG Station).</p> <p>ii. Completion of structures, to be made available to E-1 contractor (between B3 Slab Level and B1 Slab Level), and providing access to E-1 contractor in accordance with</p>



Item No.	Refer Para No.	Original/As Existing			Revised		
			the requirements specified in GS 04040 Appendix 04000-1.			the requirements specified in GS 04040 Appendix 04000-1.	
		MS 5	<p>The following works shall be executed at Shaft-1, excluding works to be executed by C-1 Contractor after retrieval of TBM by C-2 contractor:</p> <ul style="list-style-type: none"> i. Completion of all civil (structural) works (with cut-outs for access/lowering of material/equipment required for E-1 and T-1 contractors) up to B0 Slab Level for Shaft-1. ii. Completion of structures including installation of shear bars for track work, for access to Shaft-1, and handing over to T-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1. iii. Completion of structures to be made available to E-1 Contractor (between B3 Slab Level and B1 Slab Level) and providing access to Shaft-1, to the E-1 contractor 	Day 840	MS 5	<p>The following works shall be executed at Shaft-1, excluding works to be executed by C-1 Contractor after retrieval of TBM by C-2 contractor:</p> <ul style="list-style-type: none"> i. Completion of all civil (structural) works (with cut-outs for access/lowering of material/equipment required for E-1 and T-1 contractors) up to B0 Slab Level for Shaft-1. ii. Completion of structures including installation of shear bars for track work, for access to Shaft-1, and handing over to T-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1. iii. Completion of structures to be made available to E-1 Contractor (between B3 Slab Level and B1 Slab Level) and providing access to Shaft-1, to the E-1 contractor 	<i>Day 1050</i>



Item No.	Refer Para No.	Original/As Existing		Revised			
			in accordance with the requirements specified in GS 04040 Appendix 04000-1.			in accordance with the requirements specified in GS 04040 Appendix 04000-1.	
		MS 6	Completion of provisions at B2 Slab Level and B1 Slab Level of Shaft-1 and providing access to E-1 contractor, including provisions for Auto Transformer Post (ATP), in accordance with the requirements specified in GS 04040 Appendix 04000-1.	Day 889	MS 6	Completion of provisions at B2 Slab Level and B1 Slab Level of Shaft-1 and providing access to E-1 contractor, including provisions for Auto Transformer Post (ATP), in accordance with the requirements specified in GS 04040 Appendix 04000-1.	<i>Day 1071</i>
		MS 7	The following works shall be executed at UG Station, Cut & Cover Tunnel and Shaft-1 up to the Underground Roof Slab Level (URSL) and Roof Slab Level (RSL), as applicable, excluding works to be executed by C-1 Contractor after retrieval of TBM by C-2 contractor, and providing access to E-1 contractor: <ul style="list-style-type: none"> i. Completion of all civil (structural) works. ii. Completion of the provisions for E-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1. 	Day 889	MS 7	The following works shall be executed at UG Station, Cut & Cover Tunnel and Shaft-1 up to the Underground Roof Slab Level (URSL) and Roof Slab Level (RSL), as applicable, excluding works to be executed by C-1 Contractor after retrieval of TBM by C-2 contractor, and providing access to E-1 contractor: <ul style="list-style-type: none"> i. Completion of all civil (structural) works. ii. Completion of the provisions for E-1 contractor in accordance with the requirements specified in GS 04040 Appendix 04000-1. 	<i>Day 1071</i>



Item No.	Refer Para No.	Original/As Existing	Revised
33.	Part 3, Section VIII - Particular Conditions (PC), Part B - Specific Provisions, Sub-Clause 2.1, Page 16 and 17 of 67	<p>Replace the third paragraph, including sub-paragraphs (a) and (b), and fourth paragraph with the following two paragraphs:</p> <p>If the Contractor suffers a delay as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Engineer and shall be entitled to an extension of time for any such delay as per Sub-Clause 20.1 [Contractor's Claims], if completion is or will be delayed, as per Sub-Clause 8.4 [Extension of Time for Completion]. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this matter.</p> <p>If the Employer fails to give any such right to access or possession within such time, the Contractor shall give notice to the Employer and shall be entitled to a payment for Cost, including profit, of INR2,500(Indian Rupees Two Thousand Five hundred) for damages due to delay per day for every 100 Square meter subject to a maximum amount of INR 50,000,000 (Indian Rupees Fifty Million). For any area less than 100 square meter, the payment for cost of damage due to delay shall be calculated on pro-rata basis.</p>	<p><i>Replace the third paragraph with the following two paragraphs:</i></p> <p><i>If the Contractor suffers delay and/or damage as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:</i></p> <p><i>a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and</i></p> <p><i>b) payment for such damages under Sub-Clause 20.1, which shall be included in the Contract Price, provided that:</i></p> <p><i>i) the payment for damages shall be INR 2,500 (Indian Rupees Two Thousand Five hundred) per day for each 100 square meter in delay. For any area less than a 100 square meters, the payment of damages for delay shall be calculated pro-rata.</i></p> <p><i>ii) the total cumulative amount of the damages as above, under the Contract shall be limited to INR 50,000,000 (Indian Rupees Fifty Million).</i></p> <p><i>No other claim, whatsoever, shall be admissible under this Sub-Clause .</i></p>
34.	Part 3, Section VIII, Part -B- Specific Provisions, Sub-Clause 6.5, Working Hours, Page 22 of 67	<p>Replace the whole of Sub-Clause 6.5 with the following:</p> <p>“No work shall be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the Contract Data.</p> <p>However, multiple shifts involving work at night or outside normal working hours is permitted for all operations with 7 days prior intimation to the Engineer after obtaining necessary permissions from local authorities, if required. The contractor shall provide temporary lighting arrangements and maintain the same satisfactorily during the execution of the Contract.</p>	<p>Replace the whole of Sub-Clause 6.5 with the following:</p> <p>No work shall be carried out on the Site on locally recognised days of rest, or outside the normal working hours stated in the Contract Data, <i>unless:</i></p> <p><i>a) otherwise stated in the Contract;</i></p> <p><i>b) the Engineer gives consent;</i></p> <p><i>c) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer; or</i></p>



Item No.	Refer Para No.	Original/As Existing	Revised
		The Contractor shall also take necessary actions to avoid excessive noise & vibration etc. especially at night and if there are complaints in this regard, then the Contractor shall take remedial measures. No extra payment will be made to the Contractor for the provision of such measures.”	<i>d) the work under multiple shifts outside the normal working hours is notified to the Engineer with seven (7) days prior notice, subject to prior necessary permissions obtained from local authorities, if required.</i>
35.	Part 3, Section VIII - Particular Conditions (PC), Part B - Specific Provisions, Sub-Clause 8.7, Page 27 of 67	Replace the entire first paragraph of Sub-Clause 8.7 with the following: If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Employer’s Claims] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking- Over Certificate or the Milestone Certificate. However, the total amount due under this sub-clause shall not exceed the maximum amount of delay damages (if any) stated in the Contract Data.	Replace the entire first paragraph of Sub-Clause 8.7 with the following two paragraphs: If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Employer’s Claims] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking- Over Certificate or the Milestone Certificate. However, the total amount due under this sub-clause shall not exceed the maximum amount of delay damages (if any) stated in the Contract Data. <i>The delay damages paid by the Contractor as a result of delay in achieving Milestones MS-1 to MS-2 shall be refunded subject to completion of whole of the Works within 1638 days.</i>
36.	Part-3, Section VIII, Part-B, PC, Sub- Clause 14.7, last two paragraphs, Page 32 of 67	The funds will be paid in the designated currency to the designated bank of the Contractor. Payment to the Contractor which is not to be covered by the JICA ODA Loan shall be made directly into a bank account nominated by the Contractor. Responsibility for the payment of Bank Charges shall be with the Employer.	The <i>payments by the Employer shall be made</i> in the designated currency to the dedicated ‘Contract Specific Bank Account’ to be opened by the Contractor for credit of advances and all other payments received from the Employer under this Contract and for expenditures/debits made/to-be-made for the purpose of execution of the Works pertaining to this Contract. The details of the Contract Specific Bank Account will be specified after the award of work. Payment to the Contractor which is not to be covered by the JICA ODA Loan shall also be made to the dedicated ‘Contract Specific Bank



Item No.	Refer Para No.	Original/As Existing	Revised
			<i>Account'. Responsibility</i> for the payment of Bank Charges shall be with the Employer.
37.	Part 2, Section VI-4, Drawings		<p>Replaced with “New List of Drawings” issued in Attachment No. 05.</p> <p>In these lists, the original drawings which have not been revised are shown in ‘Black’, drawings which have been revised are shown in ‘Blue’ and drawings which have been newly added are shown in ‘Red’.</p> <p>Note that only those drawings that have been revised or newly added are enclosed in Attachment.</p> <p>Attachment may be downloaded by the Bidders, who have purchased the Bid Document, through the link provided to the respective Bidders.</p>