



**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. 3**

**Country: INDIA**

**Name of Work:** *Construction of Tunnelling Works including Testing and Commissioning for Double Line High Speed Railway using Tunnel Boring Machine (TBM) and New Austrian Tunnelling Method (NATM) between Mumbai Underground Station at Bandra-Kurla Complex (MAHSR Km. 0.773) and Shilphata (MAHSR Km. 21.150) in the State of Maharashtra for the Project for Construction of Mumbai-Ahmedabad High Speed Rail*

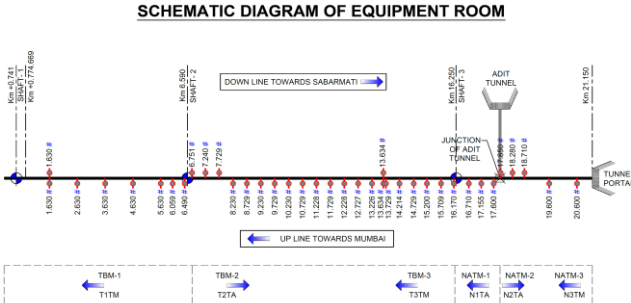
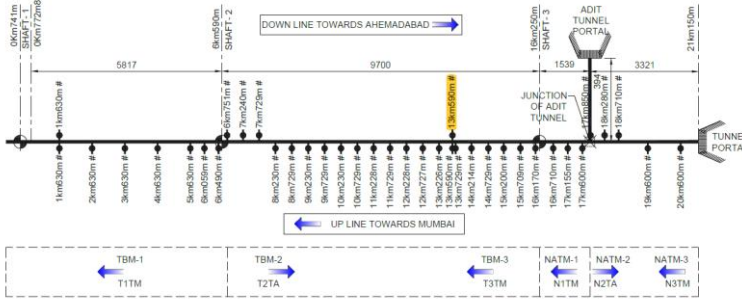
Date: 29.07.2019

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

IFB Number: Package No. MAHSR-C-2

Following are to be considered:

Item No.	Refer Para No.	Original			Revised		
1.	Part 1, Section III, Sub-Clause 4.2.5, Table, Page 30 of 31	<b>Major Plant &amp; Equipment</b>			<b>Major Plant &amp; Equipment</b>		
		<b>S. No.</b>	<b>Equipment Type and Characteristics</b>	<b>Minimum Number Required</b>	<b>S. No.</b>	<b>Equipment Type and Characteristics</b>	<b>Minimum Number Required</b>
		1	100% Brand new Slurry TBMs with full back up arrangements complete	3	1	100% brand new closed mode TBMs (dual mode included) with full back up arrangements	3

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		including lining erection equipment.	complete including lining erection equipment
2.	Part 1, Section IV, Sub-Clause 3.2(2)(c), Page 100 of 159	Details of Tunnel Boring Machines (TBMs) and backup equipment <i>including slurry plant</i> proposed to be used for the work in sufficient details.	Details of Tunnel Boring Machines (TBMs) and backup equipment proposed to be used for the work in sufficient details.
3.	Part 1, Section IV, Sub-Clause 3.2(2)(e)(iv), 7 <sup>th</sup> paragraph Page 101 of 159	Details of TBM machine and back up for 3 TBMs <i>including slurry treatment plant</i> .	Details of TBM machine and back up equipment for 3 TBMs.
4.	Part 2 Section VI-1, Division 01000, Sub-Division 01010, Sub-Clause 2(c)(ii), Page 4 of 11	Shaft 3 of inner diameter 35.000m with centre at Chainage 16km210m	Shaft 3 of inner diameter 35.000m with centre at Chainage <i>16km250m</i>
5.	Part 2 Section VI-1, Division 01000, Sub-Division 01010 Sub-Clause 2(d), “Schematic Diagram of Equipment Room”, Page 5 of 11	 <p style="text-align: center;"><b>SCHEMATIC DIAGRAM OF EQUIPMENT ROOM</b></p>	



Item No.	Refer Para No.	Original	Revised
6.	Part 2 Section VI-1, Division 01000, Sub-Division 01020 Sub-Clause 1(a), Page 7 of 11	Procurement of 3 Nos. (100% Brand new) Slurry TBMs and transporting to site	Procurement of 3 Nos. (100% Brand new) <i>closed mode (dual mode included)</i> TBMs and transporting to site
7.	Part 2 Section VI-1, Division 03000, Sub-Division 03010, Clause 1, Page 3 of 24	-	<Insert the following definition after “Delivery Plan” and before “DN Line” >  <b>“Design Quality Management Plan”</b> means the document, submitted by the Contractor to the Engineer for consent, as specified in the Clause 3 [ <i>Design Quality Management Plan (DQMP)</i> ] under Sub-Division 07010; detailing provisions, for its management and control of design works, that are to be implemented and maintained effectively during the period of the Works
8.	Part 2 Section VI-1, Division 03000, Sub-Division 03010 Clause 1, Page 7 of 24	<b>“Procurement Quality Management Plan”</b> means the subsidiary document in the Works Quality Management Plan (WQMP), submitted by the Contractor to the Engineer for consent in the Clause 6 [ <i>Procurement Quality Management Plan (PQMP)</i> ] under Sub-Division 07010; detailing provisions, for its management and control of procurement from external provider, that are to be implemented and maintained effectively during the time for completion.	<b>“Procurement Quality Management Plan”</b> means the subsidiary document in the Works Quality Management Plan (WQMP), submitted by the Contractor to the Engineer for consent in the Clause 6 [ <i>Procurement Quality Management Plan (PQMP)</i> ] under Sub-Division 07010; detailing provisions, for its management and control of procurement from external provider, that are to be implemented and maintained effectively during the <i>period of the Works</i> .
9.	Part 2 Section VI-1,	‘certificate’	‘certification’



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	Division 03000, Sub-Division 03020 Clause 1, First para, first line Page 15 of 24		
10.	Part 2 Section VI-1, Division 03000, Sub-Division 03020 Clause 2, First para, 4 <sup>th</sup> line, Page 15 of 24	'certificate'	'certification'
11.	Part 2 Section VI-1, Division 03000, Sub-Division 03020 Sub-Clause 5.1(a), First line Page 18 of 24	work segment programmes	Work Segment Programmes
12.	Part 2 Section VI-1, Division 03000, Sub-Division 03020 Sub-Clause 5.1(b), Page 18 of 24	drawings created by the Contractor as per the construction asset (classification) and on the software platform defined in the Contract,	drawings <i>and designs</i> created by the Contractor as per the construction asset (classification) and on the software platform defined in the Contract,
13.	Part 2 Section VI-1, Division 03000,	The digital photograph shall be colour jpeg image format with standard aspect ratio 4:3 and resolution of 300 DPI for all graphics in the printing. Read Only	The digital photograph shall be colour jpeg image format with standard aspect ratio 4:3 and resolution of 300 DPI for all graphics in the printing. Read Only Memory (ROM)



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	Sub-Division 03030, Clause 3, Second para, Page 21 of 24	Memory (ROM) based electric media of digital photographs shall be included as an integral part of the submittal. The locations and directions of the photographs taken shall be marked on a key plan of the Site, to be included in the submittal.	based <i>electronic</i> media of digital photographs shall be included as an integral part of the submittal. The locations and directions of the photographs taken shall be marked on a key plan of the Site, to be included in the submittal.
14.	Part 2 Section VI-1, Division 03000, Sub-Division 03030 Sub-Clause 5.4, Page 23 of 24	In addition to the Contractor's submittal of drawings and designs, the Contractor shall upload, maintain, and archive its source files utilizing the CAD software defined by the Contract onto his own document control system. The Engineer may also require the Contractor to upload his working CAD source files onto the document control system before submission, so that the Engineer can access working files in order to observe progress. <i>In addition, these working files shall be in accordance with Sub-Clause 4 of Sub-Division 03020 above.</i>	<i>The working files of drawings and design shall be in accordance with the Sub-Clauses 5.2 and 5.3 above.</i> In addition to the submittal of drawings and designs, the Contractor shall upload, maintain, and archive the related source files, created by utilising the CAD software specified in the Contract, in the document control system. The Engineer may also require the Contractor to upload the working CAD source files in the document control system before submission, so that the Engineer can access them in order to observe progress.



Item No.	Refer Para No.	Original						Revised							
15.	Part 2 Section VI-1, Division 04000, Appendix 04000-1, Chapter 3, Table 3, Page 94 of 100	4	Provision of soft eye or shotcreting etc for breakthrough of TBM-1	C2	C1	C1	C1	Size and location of soft eye shall be furnished by C-2 to C-1 for providing soft eye. Backfilling behind wall of shaft 1 with M-10 concrete shall be done by C-1. <i>In case only temporary shaft is available before arrival of TBM, arrangement for arrival of TBM shall be made by C-2 Contractor.</i>	4	Provision of soft eye for breakthrough of TBM-1	C2	C1	C1	C1	Size and location of soft eye shall be furnished by C-2 to C-1 for providing soft eye with GFRP rods. Backfilling behind wall of shaft 1 with minimum M-20 concrete shall be done by C-1. <i>Shaft-1 (permanent walls with supports) shall be made available by C-1 before arrival of TBM-1.</i>
16.	Part 2 Section VI-1, Division 04000, Appendix 04000-1, Chapter 3, Table 3, Page 94 of 100	6	Internal support of segment lining beyond face of rock	C2	C2	C2	C-1 Contractor shall advise the programme of construction of walls of Shaft 1 to C-2 Contractor so that C-2 can make necessary arrangements	6	Internal support of segment lining beyond internal face of RCC wall of Shaft-1.	C2	C2	C2	C-1 Contractor shall advise the programme of construction of Shaft 1 to C-2 Contractor for making the necessary arrangements.		



Item No.	Refer Para No.	Original						Revised							
17.	Part 2 Section VI-1, Division 04000, Appendix 04000-1, Chapter 3, Table 4, Page 95 of 100	1	Handing over area to C-3 contract or at Main Tunnel Portal at Shilphata	C-2	C-2	C-2	C-2	The coordinates of area to be handed over and items of work to be completed before handing over shall be as per Drawing No. TD-JIC- IC1-TDC-B01- UST-NTU- 00220000. After handing over the shaded area shown in above mentioned drawing the remaining area between chainage 21 km 150 m and NH- 4 shall be used by C-2 Contractor.	1	Handing over area to C-3 and P-1(A) contractor at Main Tunnel Portal at Shilphata	C-2	C-2	C-2	C-2	The coordinates of area to be handed over and items of work to be completed before handing over shall be as per Drawing No. TD-JIC-IC1-TDC-B01- UST-NTU-00220000. After handing over the shaded area shown in above mentioned drawing the remaining area between chainage 21 km 150 m and NH-4 shall be used by C-2 Contractor.



Item No.	Refer Para No.	Original					Revised						
18.	Part 2 Section VI-1, Division 04000, Appendix 04000-1, Chapter 3, Table 4, Page 95 of 100	3	Handing over of part working area between km21m150 and NH-4 to C-3 and P-1(A) for construction of foundation and substructure of viaduct	C-3, P-1(A)	- C2	C-3, P-1(A),	C-2 shall hand over part areas to C-3, P-1(A) as agreed between them for construction of foundation and substructure of viaduct before item No.1.	3	Handing over of part working area between km21m150 and NH-4 to C-3 and P-1(A) for construction of foundation and substructure of viaduct	C-3, P-1(A),	- C-2	C-3, P-1(A),	C-2 shall hand over part areas to C-3, P-1(A) as agreed between them for construction of foundation and substructure of viaduct before item No.1. <i>Area to be handed over to C-3 and P-1(A) Contractor and its duration shall be decided by Interfacing Contractors with the approval of the Engineer.</i>
19.	Part 2 Section VI-1, Division 04000, Sub-Division 04080 Clause 6, Page 64 of 100	A detailed description and record of Contractor's Personnel, Contractor's Equipment, and any equipment provided by the Contractor to the Employer and Engineer <i>(for example, vehicles)</i> .					A detailed description and record of Contractor's Personnel, Contractor's Equipment, and any equipment provided by the Contractor to the Employer and Engineer.						
20.	Part 2 Section VI-1, Division 04000, Sub-Division 04100,	4	Completion of Permanent Reinstatement works of cut & cover tunnel and handing over the area to C3 Contractor as described in drawing No.	900	INR300,000	4	Completion of Permanent Reinstatement works of cut & cover tunnel and handing over the area to C3 and P-1(A) Contractor as described in drawing No. TD-	900	INR300,000				





Item No.	Refer Para No.	Original			Revised			
	Clause 2, Table: Summary of Milestones Page 70 of 100		TD-JIC-IC1-TDC-B01-UST-NTU-00220000			JIC-IC1-TDC-B01-UST-NTU-00220000		
21.	Part 2 Section VI-1, Division 04000, Sub-Division 04100, Clause 2, Note 4, Page 71 of 100	For Milestone 4 to be considered complete the C-2 Contractor shall complete all the works described in the Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00220000. Thereafter, the area described in drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00240000 shall be handed over to C-3 Contractor for carrying out the works pertaining to C-3 Contract			For Milestone 4 to be considered complete the C-2 Contractor shall complete all the works described in the Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00220000 and handover the area to C-3 and P-1(A) Contractor as shown in the Drawing.			
22.	Part 2 Section VI-1, Division 05000, Sub-Division 05020, Sub-Clause 2(g), Page 6 of 10	The submitted shop drawings shall be reviewed, commented, accepted by the Engineer or otherwise will be returned to the Contractor with comments within fourteen (14) days after the Engineer's receipt of the submission.			The submitted shop drawings shall be reviewed, commented, accepted by the Engineer or otherwise will be returned to the Contractor with comments <i>within twenty-one (21) days</i> after the Engineer's receipt of the submission.			
23.	Part 2 Section VI-1, Division 05000, Sub-Division 05020, Sub-Clause 3(d), Last sentence Page 7 of 10	For each submission of coordination drawings, a minimum period of fourteen (14) days shall be allowed for review, comment and/or approval by the Engineer.			For each submission of coordination drawings, a minimum period of <i>twenty-one (21) days</i> shall be allowed for review, comment and/or approval by the Engineer.			
24.	Part 2 Section VI-1, Division 06000, Sub-Division 06030, Sub-Clause 3.1.4, 3 <sup>rd</sup> line, Page 17 of 51	This report shall be prepared as required by Clause 4.19 (1) of the Technical Specifications, Section VI-2 of Part 2 of Bidding Documents.			This report shall be prepared as required by Clause <i>4.18 (1)</i> of the Technical Specifications, Section VI-2 of Part-2 of Bidding Document.			



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25.	Part 2 Section VI-1, Division 06000, Sub-Division 06030, Sub-Clause 3.1.5, Page 18 of 51	This report shall be prepared as required by Clause 4.19 (8) & 4.19 (9) of the Technical Specifications, Section VI-2 of Part 2 of Bidding Documents.	This report shall be prepared as required by Clause 4.18 (8) & 4.18 (9) of the Technical Specifications, Section VI-2 of Part 2 of Bidding Documents.
26.	Part 2 Section VI-1, Division 06000, Sub-Division 06040, Sub-Clause 4.3, Page 21 of 51	These Project information signboards shall be in accordance with the requirements of Clause 3, Sub-Division 04060 [Facilities for Employer's Personnel] of the General Specifications	4.3. <Deleted>
27.	Part 2 Section VI-1, Division 07000, Sub-Division 07010, Sub-Clause 2.6(1), Page 5 of 33	The Contractor shall determine the opportunities <i>[circumstances that makes it possible to do something]</i> for the Contractor to execute the Works in order to comply with the Specification and to improve the performance of its quality management system. It shall also determine the risks <i>[effects of uncertainty]</i> that may adversely impact its Works or its quality management system. The Contractor shall plan actions to address the determined opportunities and risks.	The Contractor shall determine the opportunities for the Contractor to execute the Works in order to comply with the Specification and to improve the performance of its quality management system. It shall also determine the risks that may adversely impact its Works or its quality management system. The Contractor shall plan actions to address the determined opportunities and risks.
28.	Part 2 Section VI-1, Division 07000, Sub-Division 07030, Clause 3, Sub-Clause 3.1,	If the Works are divided into Sections, the ITP for the Tests on Completion may be separated into the Tests required for each Section.	If the Works are divided into Sections, the ITP for the Tests on Completion may be separated for each Section.



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	2 <sup>nd</sup> paragraph Page 31 of 33		
29.	Part 2 Section VI-1, Division 08000, Appendix 08000-1		The word “should” shall be replaced by “shall” in the entire Appendix 08000-1.
30.	Part 2, Section VI-2, Sub-Clause 4.1, Bureau of Indian Standards (BIS) Codes, Page 14 of 199	IS 12269:53    Grade ordinary Portland cement	<Deleted>
31.	Part 2, Section VI-2. Sub-Clause 4.2(1), Page 16 of 199	The Contractor shall be responsible for the selection, design and supply of minimum 3 Nos. <i>Slurry TBMs</i> (100% Brand new) with all backup equipment and spares to complete the Works within the Contract milestones and programme.	The Contractor shall be responsible for the selection, design and supply of minimum 3 Nos. <i>closed mode (dual mode included) TBMs</i> (100% Brand new) with all backup equipment and spares to complete the Works within the Contract milestones and programme.
32.	Part 2, Section VI-2. Clause 4.2(1)(xix), Page 17 of 199	TBM shall permit a boulder of at least 300 mm size across its smallest cross-sectional dimension to be pushed through the cutter-head. TBM shall have the capability of handling, breaking up as required and removing such boulders <i>through slurry discharge aperture without special procedures.</i>	TBM shall permit a boulder of at least 300 mm size across its smallest cross-sectional dimension to be pushed through the cutter-head. TBM shall have the capability of handling, breaking up as required and removing such boulders.
33.	Part 2, Section VI-2.		<Add the following paragraph after first paragraph of Sub-



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	Sub-Clause 4.7(17) Item (e), Page 32 of 199		Clause 4.7 (17)(e)> “The cost of Witness Test for segments including the cost of segments shall be included in the Accepted Contract Amount. Nothing extra shall be payable to the Contractor on this account.”
34.	Part 2, Section VI-2. Sub-Clause 4.7(17), Page 36 of 199		<Add the following paragraph 4.7(17)(h) after existing paragraph 4.7(17)(g)> “(h) Inspection for Bolt Sockets (M-24)  Bolt Sockets shall conform to specifications as listed in the Table under Sub-Clause 4.7(15). The Contractor shall submit test certificates for material and physical properties of bolt sockets. Pull out strength test shall be carried out on 3 RC segments (1 bolt socket in each segment) in the casting yard before commencing mass production of RC segments. All the test pieces must pass the test. If any test piece fails, the system of fixing the bolt socket in RC segments shall be reviewed and 3 Nos. RC segments shall be cast again and retested. Mass production of RC segments shall commence only after all the 3 RC segments have passed the test. Thereafter pull out strength test shall be conducted on 1 RC segment (1 bolt socket) for every 100 segments produced.”
35.	Part 2, Section VI-2.		



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		Items	Function and Rating		Items	Function and Rating	
	P2		P3			P2	P3
	Sub-Clause 6.4.2(i), Table 43, Page 123 of 199	Insulation type	Insulation E type		Insulation type	<i>Insulation F type</i>	
36.	Part 2, Section VI-2. Sub-Clause 4.9, Page 40 of 199				<p>&lt;Add the following paragraph after first paragraph of Sub-Clause 4.9)&gt;</p> <p>“The cost of mock up including all items as mentioned above shall be included in the Accepted Contract Amount. Nothing extra shall be payable to the Contractor on this account.”</p>		
37.	Part 2, Section VI-2. Clause 4.12, Page 42 of 199	<p>All facilitation works required for operation of TBM such as slurry treatment plant, muck bins, grout plant, water treatment /storage tanks for raw water and waste water, segment stacking area, cutter repair shop, fuel and other consumables storage area, storage area for pipes, DG set etc. shall be set up by the Contractor at surface of Shafts. Slurry treatment plant shall cater to the requirement of the TBM as per the Technical Specifications and without limitation include gravel separator, cyclone filter sand separator, effluent treatment plant etc. The effluent from the treatment plant shall meet environmental standards as mentioned in Division 08000, Appendix 08000-1 of the General Specifications.</p>			<p><i>All facilitation works required for operation of TBM such as segment handling facilities, muck disposal arrangements, water storage tanks for raw water and waste water, cutter repair shop, fuel and other consumables storage area, DG set and all other facilities required for smooth working of TBMs, shall be set up by the Contractor.</i></p>		
38.	Part 2, Section VI-2,	Movements and distortions shall be limited as defined			Movements and distortions shall be limited as defined in		



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	Sub-Clause 4.18(8)(c), Page 49 of 199	in clause 4.19(7) above	clause 4.18(7) above
39.	Part 2, Section VI-2, Sub-Clause 4.19(1)(i), Page 53 of 199	(i) Operational data of slurry system	(i) <Deleted>
40.	Part 2, Section VI-2, Sub-Clause 4.25, Page 57 of 199	The drainage system in TBM tunnel shall consist of central drain of 800 mm diameter HDPE pipe with 4.5 mm wall thickness conforming to IS: 16098-2, drain pits/inspection boxes with MS grating and hand holes of various sizes with cover as shown in the Drawings. The drainage arrangement shall be provided in backfill concrete.	The drainage system in TBM tunnel shall consist of <i>unperforated PE pipe of DN 800 conforming to IS: 16098-2</i> , drain pits/inspection boxes with MS grating and hand holes of various sizes as shown in the Drawings. The drainage arrangement shall be provided in backfill concrete. <i>The designation of drainage pipe shall be PE/DWC/DN/ID/800SN4.</i>
41.	Part 2, Section VI-2, Sub-Clause 5.16, Page 100 of 199	Water collected from waterproofing membrane and from side drains of walkway shall be taken through vertical pipes to transverse pipes which will discharge into a central drain. Central drain shall consist of a 450 Ø perforated HDPE pipe conforming to IS: 16098-2 embedded in a trench with single size crushed stone No.4. Inspection boxes (drainage pits) with MS grating and hand holes of various sizes with cover shall be provided as shown in the Drawings.	<i>Water from the tunnel along the waterproofing membrane shall be collected in UPVC perforated rear catchment pipe of d<sub>n</sub> 80. Water from rear catchment drain and from side drains of walkway shall be taken through vertical unperforated PE pipes of DN 75 to transverse perforated UPVC pipes of d<sub>n</sub> 80. Perforated UPVC pipes of d<sub>n</sub> 80 shall be embedded in a trench filled with single sized aggregate of nominal size 20 mm conforming to IS: 383 as shown in the Drawings. The trench of transverse perforated pipes shall be covered with 0.4 mm thick, 200 mm wide EVA sheet to prevent leakage of concrete into the trench. The water from perforated d<sub>n</sub> 80 transverse pipes shall be discharged</i>



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			<p><i>into a central perforated UPVC pipe of <math>d_n</math> 455. The central pipe will be embedded in a trench covered with single sized aggregate of nominal size 40 mm conforming to IS: 383 as shown in the Drawings. EVA sheet of 0.4mm thickness and 2000 mm width shall be spread over trench of central pipe to prevent leakage of invert concrete into the trench. Unperforated PE pipes shall conform to IS:16098-2 and perforated UPVC pipes shall conform to IS:9271. Inspection boxes (drainage pits) with MS grating and hand holes of various sizes shall be provided as shown in the Drawings.</i></p>
42.	Part 2, Section VI-2. Sub-Clause 4.28(1)(i), Page 58 of 199	Cable trough for Communication is made of Precast-RCC (M75 grade) in lengths of 1000 mm. Concrete shall conform to Sub-Clauses 7.3 and Sub-Clause 7.4, if not in contravention to the following provisions. Cement shall be Ordinary Portland cement of 43/53 grade conforming to IS 12269 or better. Mix design for cable trough shall be carried out as per Sub- Clause 4.7(3) of these Specifications.	Cable trough for Communication is made of Precast-RCC (M75 grade) in lengths of 1000 mm. Concrete shall conform to Sub-Clauses 7.3 and Sub-Clause 7.4, if not in contravention to the following provisions. Cement shall be Ordinary Portland cement of 43/53 grade conforming to IS 269. Mix design for cable trough shall be carried out as per Sub- Clause 7.3(8) of these Specifications.
43.	Part 2, Section VI-2, Sub Clause 5.7.1 (11), 2 <sup>nd</sup> para, Page 77 of 199	After blasting at least 75% of the perimeter row blast hole traces (half barrels) must be measurable. The final profile shall be as smooth as possible with no induced cracks beyond the excavation profile.	<Deleted>
44.	Part 2, Section VI-2,	Waterproofing of the tunnel shall be carried out by providing waterproofing membrane manufactured	Waterproofing of the tunnel shall be carried out by providing waterproofing membrane manufactured from



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	Sub-Clause 5.14(1), Page 96 of 199	from Ethylene Vinyl Acetate (EVA) with isolation mat weighing 300g/cm <sup>2</sup> over shotcrete as shown in the Drawings.	Ethylene Vinyl Acetate (EVA) with isolation mat weighing 300g/m <sup>2</sup> over shotcrete as shown in the Drawings.
45.	Part 2, Section VI-2, Sub-Clause 6.4, Page 113 of 199	The Contractor shall provide pump out system in each shaft for draining the seepage inflow of tunnel collected in the sumps located at the bottom of shafts. The arrangement of providing pumps and the pipe lines is shown in the Drawings. The drainage pipes shall be provided up to the <i>point of connection with the drainage of relevant authorities</i> . The pump out system provided at Shaft 2 and Shaft 3 shall be called P2 & P3 respectively.	<p>The Contractor shall provide pump out system in each shaft for draining the seepage inflow of tunnel collected in the sumps located at the bottom of shafts. The arrangement of providing pumps and the pipe lines is shown in the Drawings. The drainage pipes shall be provided up to the <i>sump as shown in the Drawings</i>. The pump out system provided at Shaft 2 and Shaft 3 shall be called P2 &amp; P3 respectively.</p> <p>In the pump out system and other related equipment, wherever Japanese Standards are mentioned in the Technical Specification and the Drawings, the equivalent International/Indian Standards will be acceptable provided the requisite performance and parameters are met, with the prior approval of the Engineer.</p> <p>Dimensions/sizes specified for equipment/sub-equipment of pump out system and other related equipment in the Drawings can be changed subject to meeting the overall performance of the system stipulated in the Technical Specification/Drawings with prior approval of the Engineer.</p>
46.	Part 2, Section VI-2,	Temporary shafts shall be constructed at the start of	Temporary shafts shall be constructed at the start of the





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	Sub-Clause 6.2.1, Page 110 of 199	the work. Temporary shafts shall be used for launching and retrieving the TBMs. <i>These shafts shall be constructed by providing continuous retaining wall with the help of secant piles/ D-wall including capping beam. The retaining walls shall be waterproof. Excavation shall be carried out with mechanical means to start with. Temporary support system as per noticed method statement like waler beams and struts shall be provided to ensure safety of the excavation as the work of excavation progresses.</i>	work <i>as per drawings approved by Engineer.</i> Temporary shafts will be used for launching and retrieving the TBMs.
47.	Part 2, Section VI-2, Sub-Clause 7.3(1)(a)(i), Page 136 of 199	Blended cement as per IS 1489 or IRS: CBC(CL4.1) can be used on the specific approval by the Engineer.	Blended cement <i>such as Portland Pozzolana Cement (IS 1489) or Portland Slag Cement (IS: 455)</i> can be used on the specific approval of the Engineer.
48.	Part 2, Section VI-2, Sub-Clause 7.3(10)(c)(iv), Page 146 of 199	No concrete shall be placed in any part of the structure until approval of the Engineer has been obtained. If concreting did not commence within 24 hours of issuance of approval, then it shall be obtained again from the Engineer. Concreting then shall proceed continuously over the area between the construction joints. <i>Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed.</i>	No concrete shall be placed in any part of the structure until approval of the Engineer has been obtained. If concreting did not commence within 24 hours of issuance of approval, then it shall be obtained again from the Engineer. Concreting then shall proceed continuously over the area between the construction joints.
49.	Part 2, Section VI-2,	Concrete when delivered shall be maintained at a temperature of not more than 40°C as far as possible. <i>It</i>	Concrete when delivered at site shall be maintained at a temperature of not more than 40°C as far as possible. <i>However, for base slabs and walls of Shaft-2 and Shaft-3</i>



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	Sub-Clause 7.3(10)(c)(vi), 1 <sup>st</sup> sentence, Page 146 of 199	<i>shall be compacted in its final position within 30 minutes of its discharge from the mixer, unless carried in properly designed agitators, operating continuously, in which case this time shall be within one hour of the addition of cement to the mix and within 30 minutes of its discharge from the agitator.</i>	<i>the temperature of concrete shall be below 30<sup>o</sup>C.</i>
50.	Part 2, Section VI-2, Clause 8, Sub Clause 212 (a), Page 177 of 199	Measurement for payment for excavation in all kinds of strata will be of the in-situ volume as measured/ worked out in cum from the levels recorded prior to any excavation work and the lines and grades shown on the Drawings or established at the Site by the Engineer. The bottom level of excavation shall be taken as bottom of levelling concrete. <i>The width of excavation at bottom shall be taken as 500 mm more on either side of outermost point of duct. The slope of excavation shall be taken as 1:1.</i> Payment will be made at the Unit Price per cubic meter entered in the Priced Bill of Quantities.	Measurement for payment for excavation in all kinds of strata will be of the in-situ volume as measured/ worked out in cum from the levels recorded prior to any excavation work and the lines and grades shown on the Drawings or established at the Site by the Engineer. The bottom level of excavation shall be taken as bottom of levelling concrete. <i>The width of excavation at bottom and slope of excavation shall be taken as per payment line shown in the Drawings.</i> Payment will be made at the Unit Price per cubic meter entered in the Priced Bill of Quantities.
51.	Part 2, Section VI-2, Clause 8, Sub Clause 402 (a), Page 185 of 199	Measurement for Payment for this item shall be in number of rings made up of standard/ and tapered RC segments as shown on the Drawings complete in all respect. The payment for the item shall be made at Unit Rate per number of rings entered in the Priced Bill of Quantities. Measurement for payment for reinforcement steel shall be made separately.	Measurement for Payment for this item shall be in number of rings made up of standard and tapered RC segments complete in all respects. <i>The payment shall be made for the rings actually used in the tunnel as per Drawings.</i> The payment for the item shall be made at Unit Rate per number of rings entered in the Priced Bill of Quantities. Measurement for payment for reinforcement steel shall be made separately.



Item No.	Refer Para No.	Original	Revised
52.	Part 2, Section VI-2, Clause 8, Sub Clause 506 (a), Page 189 of 199	<b>Excavation</b> - Measurement for payment for excavation in all kinds of strata will be of the in-situ volume as measured/ worked out in cum from the levels recorded prior to any excavation work and the lines and grades shown on the Drawings or established at the Site by the Engineer. The bottom level of excavation shall be taken as bottom of levelling concrete. <i>The width of excavation at bottom shall be taken as 1000 mm more on either side of outermost point of cut &amp; cover tunnel. The slope of excavation shall be taken as 1:1.</i> The top level of excavation shall be taken from existing ground profile which shall be recorded before start of work.	<b>Excavation</b> - Measurement for payment for excavation in all kinds of strata will be of the in-situ volume as measured/ worked out in cum from the levels recorded prior to any excavation work and the lines and grades shown on the Drawings or established at the Site by the Engineer. The bottom level of excavation shall be taken as bottom of levelling concrete. <i>The width of excavation at bottom and slope of excavation shall be taken as per payment line shown in the Drawings.</i> The top level of excavation shall be taken from existing ground profile which shall be recorded before start of work.
53.	Part 2, Section VI-2, Clause 8, Sub Clause 513 (a), line 5 to 7 Page 192 of 199	<b>Excavation</b> - Measurement for payment for excavation in all kinds of strata will be of the in-situ volume as measured/ worked out in cum from the levels recorded prior to any excavation work and the lines and grades shown on the Drawings or established at the Site by the Engineer. The bottom level of excavation shall be taken as bottom of levelling concrete. <i>The width of excavation at bottom shall be taken as 700 mm more on either side of outermost point of cut &amp; cover tunnel. The slope of excavation shall be taken as 1:1.</i> The top level of	<b>Excavation</b> - Measurement for payment for excavation in all kinds of strata will be of the in-situ volume as measured/ worked out in cum from the levels recorded prior to any excavation work and the lines and grades shown on the Drawings or established at the Site by the Engineer. The bottom level of excavation shall be taken as bottom of levelling concrete. <i>The width of excavation at bottom and slope of excavation shall be taken as per payment line shown in the Drawings.</i> The top level of excavation shall be taken from existing ground profile which shall be recorded



Item No.	Refer Para No.	Original	Revised
		excavation shall be taken from existing ground profile which shall be recorded before start of work.	before start of work.
54.	Part 2, Section VI-2, Sub-Clause 5.15, Page 100 of 199		<p>&lt;Add the following paragraphs after the existing paragraph (6) of Sub-Clause 5.15&gt;</p> <p>“(7) Pull out test for anchor bolts in tunnel lining</p> <p>Anchor bolts shall conform to specifications as shown in the Drawings. The Contractor shall submit test certificate for material and physical properties of anchor bolts. Pull out strength test shall be carried out at every 500m length of the tunnel at 3 locations (on one anchor bolt at each location). All the anchor bolts within the stretch of 500m shall be deemed to have passed the test if none of the three anchor bolt fails in pull out test. If any anchor bolt fails, the complete group of anchor bolts at location of failed test shall be reconstructed as directed by the Engineer. In addition, tests shall be carried out at 3 more locations within the stretch of 500m. None of the three additional anchor bolts shall fail the test.</p> <p>(8) Evacuation guidance indication Board</p> <p>Evacuation guidance indication boards shall be provided in the tunnel as per the details and intervals shown in the drawings.</p> <p>(9) Tunnel post and indication of lining thickness</p>



Item No.	Refer Para No.	Original					Revised																								
							The Contractor shall provide a tunnel post on the face of portal structure depicting details of tunnel in accordance with the drawing. Lining thickness indicators shall be provided at places and as per details shown in the drawings.”																								
55.	Part 2, Section VI-2, Sub-Clause 6.4.2(e), Table 38, 1 <sup>st</sup> row Page 119 of 199	<table border="1"> <thead> <tr> <th data-bbox="651 603 848 663">Parts</th> <th data-bbox="848 603 1075 663">Quality style</th> <th data-bbox="1075 603 1189 663">Unit</th> <th data-bbox="1189 603 1283 663">P2</th> <th data-bbox="1283 603 1359 663">P3</th> </tr> </thead> <tbody> <tr> <td data-bbox="651 663 848 810">Failure display equipment</td> <td data-bbox="848 663 1075 810">Collective form</td> <td data-bbox="1075 663 1189 810">No.</td> <td data-bbox="1189 663 1283 810">3</td> <td data-bbox="1283 663 1359 810">3</td> </tr> </tbody> </table>					Parts	Quality style	Unit	P2	P3	Failure display equipment	Collective form	No.	3	3	<table border="1"> <thead> <tr> <th data-bbox="1388 603 1603 663">Parts</th> <th data-bbox="1603 603 1830 663">Quality style</th> <th data-bbox="1830 603 1944 663">Unit</th> <th data-bbox="1944 603 2016 663">P2</th> <th data-bbox="2016 603 2096 663">P3</th> </tr> </thead> <tbody> <tr> <td data-bbox="1388 663 1603 810">Failure display equipment</td> <td data-bbox="1603 663 1830 810"><i>Touch Panel Type</i></td> <td data-bbox="1830 663 1944 810">No.</td> <td data-bbox="1944 663 2016 810">3</td> <td data-bbox="2016 663 2096 810">3</td> </tr> </tbody> </table>					Parts	Quality style	Unit	P2	P3	Failure display equipment	<i>Touch Panel Type</i>	No.	3	3
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Failure display equipment	<i>Touch Panel Type</i>	No.	3	3																											
56.	Part 2, Section VI-2, Sub-Clause 6.3.8, Page 113 of 199	The Contractor shall supply, install and commission the air conditioning system of panel room in accordance with the Drawings and specifications in complete. The air conditioning system shall include all electrical works required for commissioning the system.					The Contractor shall supply, install and commission the air conditioning system of panel room complete in all respects in accordance with the Drawings and specifications. The air conditioning system shall include all electrical works required for commissioning the system. <i>Air-conditioner shall be of 5-star rating from a reputed manufacturer. The capacity of AC shall be 8 kW for shaft-2 and 5.6 kW for shaft-3.</i>																								
57.	Part 2, Section VI-2, Sub-Clause 6.4.2(h)(i), 2 <sup>nd</sup> paragraph Page 121 of 199	In case the guide-rail fitting system type is applied, the guide-rail fitting system fixed with steady base shall be installed.					<Deleted.>																								



Item No.	Refer Para No.	Original		Revised					
58.	Part 2, Section VI-2, Sub-Clause 6.4.2(h)(ii), Page 122 of 199	The pump casing shall be made of gray cast iron which has good resistance to salt water and must be an integral structure with discharge pipe made of the same material. As for electrochemical protection, the pump shall also be equipped with Zinc and Aluminum anode.		The pump casing shall be made of grey cast iron <i>and must be an integral structure with discharge pipe made of the same material.</i> As for electrochemical protection, the pump shall also be equipped with Zinc and Aluminium anode.					
59.	Part 2, Section VI-2, Sub-Clause 6.4.2(h)(vii), Table 40, Page 122 of 199	<table border="1"> <thead> <tr> <th data-bbox="636 531 864 576">Name</th> <th data-bbox="864 531 1359 576">Material</th> </tr> </thead> <tbody> <tr> <td data-bbox="636 576 864 663">Guide-rail fitting system</td> <td data-bbox="864 576 1359 663">Duck-foot bend JIS G 5501 (Grey iron cast) FC200</td> </tr> <tr> <td data-bbox="636 663 864 751">(for guide-rail fitting pump)</td> <td data-bbox="864 663 1359 751">Screwed flange JIS G 5501 (Grey iron cast) FCD450</td> </tr> </tbody> </table>	Name	Material	Guide-rail fitting system	Duck-foot bend JIS G 5501 (Grey iron cast) FC200	(for guide-rail fitting pump)	Screwed flange JIS G 5501 (Grey iron cast) FCD450	<Deleted>
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(for guide-rail fitting pump)	Screwed flange JIS G 5501 (Grey iron cast) FCD450								
60.	Part 2, Section VI-2, Sub-Clause 6.4.6, Page 127 of 199	The Contractor shall supply the Contract spare parts as shown in Table 51. Provisions of Sub-Division 04130 of Division 04000 of the General Specifications shall be followed.		The Contractor shall supply the Contract spare parts as shown in Table 51. Provisions of Sub-Division 04130 of Division 04000 of the General Specifications shall be followed. <i>In case, equipment is imported, the Indian equivalent spares/consumables should be identified by the supplier along with the Indian agency for attending to replacement, warranty issues.</i>					
61.	Part 2, Section VI-2, Sub-Clause 6.4.1(d), Page 114 of 199	Piping system shall consist of ductile iron pipes conforming to K-9 class of IS: 8329 (For ductile iron pipes), IS:9523 (For ductile iron fittings) and IS:5382 (For rubber sealing rings). The pipes and fittings shall be given coating of polyethylene.		Piping system shall consist of ductile iron pipes conforming to K-9 class of IS: 8329 or <i>Japanese standards JWWA K116 (SGP-VB, SGP-VD)</i> with polyethylene sleeving.					
62.	Part 2,								



Item No.	Refer Para No.	Original					Revised				
		S. No.	Steel Materials	Coating	Specification	Volume	S. No.	Steel Materials	Coating	Specification	Volume
	Section VI-2, Sub-Clause 7.8(c), Table-58 Page 170 of 199	5.1	Pump, motor, valves & auxiliary equipment	Tar epoxy coating	FC200 : JIS G5501 (IS14948)		5.1	Pump, motor, valves & auxiliary equipment	Tar epoxy coating	JIS K5552 (IS14948)	
63.	Part 2, Section VI-2, Clause 8, Appendix 4, Page 198 of 199						<p>&lt;Add the following note under the figure of tunnel (NATM)&gt;</p> <p>“Note- “H” indicates the level of top of backfill concrete.”</p>				
64.	Part 2, Section VI-4, Attachment 6 A. Drawings	<ol style="list-style-type: none"> <li>1. Location of pier for proposed flyover and metro alignment @ 0km 802m</li> <li>2. Cross Section of the Revetment for river (0km 920)</li> <li>3. Cross Section of the Central Railway (16km 005)</li> <li>4. Cross Section of the Under-pass structure (16km 075)</li> </ol>					<ol style="list-style-type: none"> <li>1. General Arrangement at CLR-Phase-I and Bullet train interface (Drawing No. 624-SK-074).</li> <li>2. Cross Section of the Revetment for river (0km 920) (Drawing No. JIC-IC1-TDC-UST-C2-SK04).</li> <li>3. Cross Section of the Central Railway (16km 005) (Drawing No. JIC-IC1-TDC-UST-C2-SK05).</li> <li>4. Cross Section of the Under-pass structure (16km 075) (Drawing No. JIC-IC1-TDC-UST-C2-SK06).</li> </ol> <p>For revised drawings refer to Attachment No.1 of this Addendum.</p>				



Item No.	Refer Para No.	Original	Revised																								
65.	Part 2, Section VI-4, Attachment 6 B. Status of As-built drawings and Design Conditions	<table border="1" style="width: 100%; text-align: center;"> <tr> <th colspan="4">Crossing Structure</th> </tr> <tr> <th>Sl No.</th> <th>Structure</th> <th>Chainage</th> <th>Status</th> </tr> <tr> <td>2</td> <td>Mithi River Revetment</td> <td>0km 92</td> <td>Enclosed as Annexure-2</td> </tr> </table>	Crossing Structure				Sl No.	Structure	Chainage	Status	2	Mithi River Revetment	0km 92	Enclosed as Annexure-2	<table border="1" style="width: 100%; text-align: center;"> <tr> <th colspan="4">Crossing Structure</th> </tr> <tr> <th>Sl No.</th> <th>Structure</th> <th>Chainage</th> <th>Status</th> </tr> <tr> <td>2</td> <td>Mithi River Revetment</td> <td>0km 920</td> <td>Enclosed as Annexure-2</td> </tr> </table>	Crossing Structure				Sl No.	Structure	Chainage	Status	2	Mithi River Revetment	0km 920	Enclosed as Annexure-2
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66.	Part 2, Section VI-2. Appendix Page 199 of 199		<p>&lt;Add the following “APPENDIX.5. FORM DC AND FORM 3PVC” after existing APPENDIX.4. “TOLERANCES OF THE FINISHED CONCRETE STRUCTURES”&gt;</p> <p>Refer Attachment No. 7 of this Addendum.</p> <p>&lt;Add the following “APPENDIX.6. TECHNICAL SPECIFICATIONS FOR SOIL NAIL” after existing APPENDIX.5. “FORM DC AND FORM 3PVC”&gt;</p> <p>Refer Attachment No. 10 of this Addendum.</p>																								
67.	Part 2, Section VI-4, Attachment 4, A. List of Underground,	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>SN</th> <th>Chainage</th> <th>Description of Underground Utility</th> <th>Owner of Utility Services</th> <th>Approx. Depth at Centre (m)</th> <th>Material</th> <th>Approx. Dia in (m)</th> <th>Crossing / Parallel</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>547</td> <td>16242</td> <td>Gas Pipe Line</td> <td></td> <td></td> <td></td> <td></td> <td>crossing</td> <td></td> </tr> </tbody> </table>	SN	Chainage	Description of Underground Utility	Owner of Utility Services	Approx. Depth at Centre (m)	Material	Approx. Dia in (m)	Crossing / Parallel	Remarks	547	16242	Gas Pipe Line					crossing		547. <Deleted>						
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547	16242	Gas Pipe Line					crossing																				





Item No.	Refer Para No.	Original	Revised
	Utilities,  Table		
68.	Part 2, Section VI-4, Attachment 4 B. Utility Drawings	ii) Shaft 3 iii) NATM Portal	The following drawings have been revised - ii) Shaft 3 (Drawing No: JIC-IC1-TDC-UST-C2-SK02) iii) NATM Portal (Drawing No: JIC-IC1-TDC-UST-C2-SK03)  Refer Attachment No 3 of this Addendum.
69.	Part 2, Section VI-4, Attachment 4: UTILITY		<Add the following item after existing item C. (Trial Pit Report: Shaft-3)>  “D. Trial Pit Reports: Main Tunnel Portal”  Refer Attachment No. 4 of this Addendum.
70.	Part 2, Section VI-4. Works Requirements (Reference Information/Reports)		“Attachment 9 -Specifications for Rebar Corrosion Monitoring System” shall be added after existing Attachment 8 of Reference Information/Reports.  Refer Attachment No. 5 of this Addendum.
71.	Part 2, Section VI-4.	Drg No. TD-JIC-IC1-TDC-B01-UST-NTU-41140000	<Deleted>



Item No.	Refer Para No.	Original	Revised
	Attachment 08: Information Drawings		
72.	Part 2 Section VI-1. Division 01000, Sub-Division 01020, Clause 7, Item (e), Page 10 of 11	(e) Design of all other Temporary Works including dewatering, ventilation, lighting, etc. as directed by the Engineer.	(e) Design of support of utilities above and below MIDC road near main tunnel portal including temporary road diversion and steel decking.  (f) Design of all other Temporary Works including dewatering, ventilation, lighting, etc. as directed by the Engineer.
73.	Part 2, Section VI-2. Clause 2, Page 8 of 199		<Add the following Sub-Clause 2.7 after the existing Sub-Clause 2.6>  “Design submission under Sub-Clause 2.1 and 2.5 shall include a compliant Design Certificate (Form-DC) and a Third Party Verifier Certificate (Form 3PVC), thereby demonstrating that the designer and the Third Party Verifier have fully checked the design as being compliant with all Quality Assurance (QA) procedures and fully compliant with the requirement of the Contract.  The Third Party Verifier shall be a reputable consultancy firm or an institute of repute and accepted by the Engineer.  The Form DC and Form 3PVC shall be as specified in Appendix-5.”
74.	Part 2, Section VI-2.	Tunnel eye and cradle shall also be designed by the	Tunnel eye and cradle shall also be designed by the



Item No.	Refer Para No.	Original	Revised
	Sub-Clause 2.1 3), 2 <sup>nd</sup> paragraph, Page 7 of 199	Contractor. The Contractor shall use a well-established method for structural analysis of the support system for the temporary shaft. <i>The Contractor shall prepare and submit a Design Report for temporary shaft including all the above mentioned items to the Engineer. Design Report shall include design philosophy, design assumptions, design parameters, calculations, schedules and specifications of material.</i>	Contractor. The Contractor shall use a well-established method for structural analysis of the support system for the temporary shaft. <i>The Contractor shall submit the design of temporary shafts to the Engineer.</i>
75.	Part 2, Section VI-2. Sub-Clause 2.5, Page 8 of 199	<p><b>2.5. Design of all other temporary works</b></p> <p>The Contractor is required to design all other temporary works like dewatering, ventilation, lighting etc wherever required as directed by the Engineer. The design shall be based on standards given in these specifications or on good industrial practice.</p>	<p><b>2.5. Design of support of utilities above and below MIDC road near Main Tunnel Portal including temporary road diversion and steel decking</b></p> <p><i>The Contractor is required to design complete scheme of support of utilities at MIDC road including steel decking and road diversion to enable safe construction of tunnel below the MIDC road. The Contractor shall carry out geotechnical investigation required for the purpose. Complete design of the scheme shall be provided by the contractor. Data required for design of the scheme shall be collected by the Contractor from the relevant utility authorities/ road authorities. The design shall conform to specifications as decided by the utility owners.</i></p> <p><b>2.6. Design of all other temporary works</b></p>



Item No.	Refer Para No.	Original	Revised
			The Contractor is required to design all other temporary works like dewatering, ventilation, lighting etc wherever required as directed by the Engineer. The design shall be based on standards given in these specifications or on good industrial practice.
76.	Part 2, Section VI-1, Division 04000, Sub-Division 04060, Clause 1, Page 44 of 100		<Add Sub-Clause 1.6 after existing Sub-Clause 1.5.>  Refer Attachment No. 2 of this Addendum.
77.	Part 2, Section VI-2, Sub-Clause 4.8 (7)(d) & (e), Page 38 of 199	4.8. Steel Segment for Main Tunnel and equipment rooms (7) Inspection and Testing of Steel Segments (d) Witness Test (e) Acceptance Criteria	<Paragraph (d) Witness Test and (e) Acceptance Criteria of Sub-Clause 4.8 (7) is modified>  Refer Attachment No. 8 of this Addendum.
78.	Part 2, Section VI-2, Sub-Clause 6.3.1 Page 111 of 199	After the work of tunnel is over and TBMs have been removed from Temporary shafts, the work of construction of Shafts 2 & 3 shall be taken up in accordance with the Drawings. The Contractor shall submit method statement for construction of shafts to obtain approval from the Engineer. The annular space, if any, between outer side of side walls of shafts and temporary shafts shall be filled with M-20 concrete by the Contractor. The cost of M-20 concrete shall be deemed to be included in the rate of RCC of side walls	<i>The work of construction of shafts 2 &amp; 3 shall be taken up in accordance with the Drawings. The walls of shafts shall be constructed by using outside shuttering from bottom to top and waterproofing treatment carried out on the outside surface of the walls as shown in the Drawings. The annular space between RCC walls of shaft and temporary shafts shall be filled up with M20 cement concrete after carrying out water proofing treatment on the walls. No extra payment shall be made for filling M20 cement concrete in the annular space between walls of shaft and temporary</i>



Item No.	Refer Para No.	Original	Revised
		<p>of the shafts and no extra payment shall be made for filling concrete. After construction of shafts, ventilation buildings shall be constructed on top of shafts 2&amp;3 in accordance with the Drawings as per noticed Method Statement.</p>	<p><i>shaft and the cost of the same shall be included in the item rate of RCC for walls of shafts.</i></p> <p><i>Alternatively, the portion of shafts in rock can be constructed without using outside shuttering. In such case the rock surface of temporary shafts shall be used as outside shuttering. Waterproofing treatment shall be provided on the rock surface of temporary shafts instead of outer surface of walls. However, the quantity of concrete and waterproofing of walls of shafts for payment in rock portion shall be measured from the Drawings and no extra payment shall be made for M35 concrete filled in annular space between walls of shaft and the rock. The Contractor shall submit method statement for construction of shafts and ventilation buildings to obtain approval from the Engineer.</i></p>
79.	Part 2, Section VI-2, Sub-Clause 6.3.2, Page 111 of 199	6.3.2. Waterproofing	<p>&lt; Sub-Clause 6.3.2. Waterproofing is modified &gt;</p> <p>Refer Attachment No. 6 of this Addendum.</p>
80.	Part 2, Section VI-2, Sub-Clause 5.14(2), Page 96 of 199		<p>&lt;Add the following Table 29A after existing Table: 29 &gt;</p> <p>Table 29A: Isolation Mat</p>



Item No.	Refer Para No.	Original	Revised		
			Properties	Minimum Values	Reference Code
			Material	Non-woven polypropylene geotextile	-
			Mass per unit area	300 gm/m <sup>2</sup>	-
			Tensile strength in longitudinal and transverse direction to the direction of production	18 kN/m	BS EN ISO 10319
			Elongations at break in longitudinal and transverse direction to the direction of production	Within the tolerances of the manufacturer	BS EN ISO 10319
			Elongations at maximum tensile force.	50%	BS EN ISO 10319
81.	Part 2, Section VI-2,		<Deleted>		



Item No.	Refer Para No.	Original			Revised			
		Equipment	Unit	Quantity				
	Sub-Clause 6.4.1(b), Table 32, Page 114 of 199	Guide-rail fitting device	No.	1				
82.	Part 2, Section VI-2, Sub-Clause 6.4.2(f), Table 39 Page 120 of 199				<Add the following row at the end of Table 39>			
					<b>Monitoring items</b>	<b>Monitoring contents</b>		
					Pump Pressure Dropping	Pump operation On/Off		
83.	Part 2, Section VI-2, Sub-Clause 4.10(3), Page 41 of 199	Wriggle survey shall be carried out after breakthrough of TBMs to check the intrados of built tunnel with respect to design tunnel alignment. Based on the report of wriggle survey the Contractor shall propose final horizontal and vertical alignment of the tunnel ensuring no infringement to SOD to obtain approval from the Engineer. <i>After this, laying of back fill concrete and track bed concrete shall be undertaken.</i>			Wriggle survey shall be carried out after breakthrough of each TBM to check the intrados of built tunnel with respect to design tunnel alignment. Based on the report of wriggle survey the Contractor shall propose final horizontal and vertical alignment of the tunnel ensuring no infringement to SOD to obtain approval from the Engineer.			
84.	Part 2, Section VI-2, Sub-Clause 6.4.1(a), Table 31, Page 114 of 199				<Add the following row at the end of Table 31>			
					<b>Name</b>	<b>Unit</b>	<b>Quantity</b>	
							<b>P2</b>	<b>P3</b>
					Electric Wire Rope Hoists (Hoist Crane)	Set	1	1
85.	Part 2, Section VI-2, Sub-Clause 6.4.1, Page 115 of 199				<Add following paragraph 6.4.1(f) at the end of existing paragraph 6.4.1(e)> “(f) Electric Wire Rope Hoists (Hoist Crane) Electric wire rope hoists shall be provided in shaft 2 & 3 at the ground floor of the ventilation building and in the pump			



Item No.	Refer Para No.	Original	Revised																																			
			<p>room on the ceiling of B4 slab in shaft 2 and on the ceiling of B2 slab in shaft 3 for installation and removal of pumps as per the Drawings. The hoist shall conform to IS:3938. The hoist crane in the ventilation building shall be of 8-ton capacity and the hoist in pump room on the ceiling of B4 slab in shaft 2 and on the ceiling of B2 slab in shaft 3 shall be of 2-ton capacity.</p> <p>Specifications of the hoist shall be as follows:</p> <table border="1" data-bbox="1370 608 2134 1305"> <thead> <tr> <th>S. No.</th> <th>Item</th> <th>8-ton hoist</th> <th>2-ton hoist</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Class designation</td> <td>1</td> <td>1</td> </tr> <tr> <td>2</td> <td>Type of suspension</td> <td>Motor driven trolley</td> <td>Motor driven trolley</td> </tr> <tr> <td>3</td> <td>Maximum lift (in metre)</td> <td>70</td> <td>10</td> </tr> <tr> <td>4</td> <td>Desirable hoisting speed</td> <td>4m/min and 1m/min</td> <td>4m/min</td> </tr> <tr> <td>5</td> <td>Traverse Speed</td> <td>4m/min</td> <td>4m/min</td> </tr> <tr> <td>6</td> <td>Beam Size</td> <td>ISMB 400</td> <td>ISMB 400</td> </tr> <tr> <td>7</td> <td>Operating Voltage</td> <td>3-phase 440V 50Hz</td> <td>3-phase 440V 50Hz</td> </tr> </tbody> </table> <p>The hoist crane shall be procured from reputed manufacturer with the approval of the Engineer.”</p>				S. No.	Item	8-ton hoist	2-ton hoist	1	Class designation	1	1	2	Type of suspension	Motor driven trolley	Motor driven trolley	3	Maximum lift (in metre)	70	10	4	Desirable hoisting speed	4m/min and 1m/min	4m/min	5	Traverse Speed	4m/min	4m/min	6	Beam Size	ISMB 400	ISMB 400	7	Operating Voltage	3-phase 440V 50Hz	3-phase 440V 50Hz
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Item No.	Refer Para No.	Original	Revised
86.	Part 2, Section VI-2, Sub-Clause 7.9, Page 171 of 199	<p>The Contractor shall stabilise the slope near SP at Adit portal by drilling rock bolts, fixing of wire mesh (if required) and shotcrete the sloped area to guard against the slope failure.</p> <p>Rock Bolting - For technical specifications and quality control of rock bolts Clause 5.12 of these specifications may be referred to.</p> <p>Shotcrete and wire mesh – Dry or wet shotcrete shall be used for slope protection. For technical specifications and quality control of shotcrete Clause 5.11 of these specifications may be referred to.</p> <p>The Contractor shall submit method statement for slope stabilisation to obtain approval from the Engineer.</p>	<p>The slopes near SP at Adit portal shall be stabilised by soil nailing, shotcrete, boulder crating (gabion) and pitching as shown in the drawing.</p> <ul style="list-style-type: none"> <li>(i) Soil Nail– Detailed specifications for soil nail are given in Appendix-6 of the Technical Specifications.</li> <li>(ii) Rock Bolting - For technical specifications and quality control of rock bolts Clause 5.12 of these specifications may be referred to.</li> <li>(iii) Shotcrete– Dry or wet shotcrete shall be used for slope protection. For technical specifications and quality control of shotcrete Clause 5.11 of these specifications may be referred to.</li> <li>(iv) Boulder crate– Boulder crating shall be provided as shown in the Drawings. Gabions shall conform to IS:16014 Type-1. The boulder size will vary from 150 to 250 mm.</li> <li>(v) Pitching– Pitching shall be carried out as shown in the Drawings. The size of boulders for pitching shall be as per MORTH specifications.</li> </ul>
87.	Part 2, Section VI-2, Sub-Clause 7.10, Page 171 of 199	<p>The Contractor shall construct the precast boundary wall consisting of precast columns, precast panel with lifting arrangement, fixing of concertina wire over boundary wall including MS angles, clips, etc. all as per the Drawings. The construction of boundary wall shall include excavation in all kind of strata, concreting of footing, backfill, fixing of precast columns in footing maintaining specified top level , fixing precast panels into grooves of columns, fixing Y shaped MS angles,</p>	<p>The Contractor shall construct the precast boundary wall consisting of precast columns, precast panel with lifting arrangement, fixing of concertina wire over boundary wall including MS angles, clips, etc. all as per the Drawings. The construction of boundary wall shall include excavation in all kind of strata, concreting of footing, backfill, fixing of precast columns in footing <i>or on retaining</i> walls maintaining specified top level , fixing precast panels into grooves of columns, fixing Y shaped MS angles, horizontal</p>



Item No.	Refer Para No.	Original	Revised																				
		<p>horizontal reinforced barbed tape (RBT), Concertina coil fencing, with G.I Staples &amp; Clips, painting of MS angles and all other works to complete the boundary wall. The Contractor shall precast the horizontal panel with logo of MAHSR embossed or engraved on surface of the precast horizontal panel as per the Drawings. Total height of the boundary wall on either side including concertina coil fencing shall be as per the Drawings. The specification of concertina wires shall be as follows:</p> <table border="1" data-bbox="633 692 1348 1034"> <tr> <td>Concertina wire</td> <td>2.5 mm diameter GI</td> </tr> <tr> <td>Weight of concertina wire</td> <td>43.478 gm/metre</td> </tr> <tr> <td>Tensile strength of concertina wire</td> <td>165 kg/sq.mm</td> </tr> <tr> <td>Diameter of concertina wire coil</td> <td>600 mm</td> </tr> <tr> <td>Nos. of rounds of concertina coil</td> <td>Minimum 8 nos. rounds per metre length</td> </tr> </table> <p>Painting of MS angles shall be done as per Clause 7.8 of these specifications.</p>	Concertina wire	2.5 mm diameter GI	Weight of concertina wire	43.478 gm/metre	Tensile strength of concertina wire	165 kg/sq.mm	Diameter of concertina wire coil	600 mm	Nos. of rounds of concertina coil	Minimum 8 nos. rounds per metre length	<p>reinforced barbed tape (RBT), Concertina coil fencing, with G.I Staples &amp; Clips, painting of MS angles and all other works to complete the boundary wall. The Contractor shall precast the horizontal panel with logo of MAHSR embossed or engraved on surface of the precast horizontal panel as per the Drawings. Total height of the boundary wall on either side including concertina coil fencing shall be as per the Drawings. The specification of concertina wires shall be as follows:</p> <table border="1" data-bbox="1382 652 2119 959"> <tr> <td>Concertina wire</td> <td>2.5 mm diameter GI</td> </tr> <tr> <td>Weight of concertina wire</td> <td>43.478 gm/metre</td> </tr> <tr> <td>Tensile strength of concertina wire</td> <td>165 kg/sq.mm</td> </tr> <tr> <td>Diameter of concertina wire coil</td> <td>600 mm</td> </tr> <tr> <td>Nos. of rounds of concertina coil</td> <td><i>Minimum 10 nos. rounds per metre length</i></td> </tr> </table> <p>Painting of MS angles shall be done as per Clause 7.8 of these specifications.</p>	Concertina wire	2.5 mm diameter GI	Weight of concertina wire	43.478 gm/metre	Tensile strength of concertina wire	165 kg/sq.mm	Diameter of concertina wire coil	600 mm	Nos. of rounds of concertina coil	<i>Minimum 10 nos. rounds per metre length</i>
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88.	Part 2, Section VI-2, Sub-Clause 7.11 Page 171 of 199	The Contractor shall provide and fix the Chain Link Fence around TSS, DSS and SP area at Main Tunnel Portal, Adit Portal, Shaft-2 and Shaft-3 as per the Drawings. The chain link fencing shall include the following:	The Contractor shall provide and fix the Chain Link <i>Fencing for constructing enclosure at Shaft-2 as shown in the Drawings.</i> The chain link fencing shall conform to IS:2721(2003). The chain link fencing shall include the following:																				



Item No.	Refer Para No.	Original	Revised																
		<p>Excavation in all kind of strata, levelling concrete, footing concrete, backfill including compaction, reinforcement, pedestal, vertical and horizontal angles, galvanised barbed wire, wire mesh, painting of MS angles. The specification of chain link wire mesh fencing shall be as follows:</p> <table border="1" data-bbox="645 544 1339 1038"> <thead> <tr> <th>Description</th> <th>Specification</th> </tr> </thead> <tbody> <tr> <td>Material of GI wire</td> <td>As per IS:280</td> </tr> <tr> <td>Diameter of Wire</td> <td>4 mm</td> </tr> <tr> <td>Size of wire mesh openings</td> <td>50mmx50mm</td> </tr> <tr> <td>Weight of Wire Mesh</td> <td>4 kg/Sq m</td> </tr> <tr> <td>Diameter of Galvanised Steel Barbed Wire as per IS:278</td> <td>2.5 mm</td> </tr> <tr> <td>Weight of Galvanised Steel Barbed Wire</td> <td>136 gm/m</td> </tr> <tr> <td>Tensile Strength of Galvanised Steel Barbed Wire</td> <td>390-590 N/mm<sup>2</sup></td> </tr> </tbody> </table> <p>MS vertical angles shall be painted as per Clause 7.8 of these specifications.</p>	Description	Specification	Material of GI wire	As per IS:280	Diameter of Wire	4 mm	Size of wire mesh openings	50mmx50mm	Weight of Wire Mesh	4 kg/Sq m	Diameter of Galvanised Steel Barbed Wire as per IS:278	2.5 mm	Weight of Galvanised Steel Barbed Wire	136 gm/m	Tensile Strength of Galvanised Steel Barbed Wire	390-590 N/mm <sup>2</sup>	<p>Excavation in all kind of strata, levelling concrete, footing concrete, backfill including compaction, reinforcement, pedestal, vertical and horizontal angles, galvanized barbed wire, wire mesh, painting of MS angles.</p> <p>MS vertical angles shall be painted as per Clause 7.8 of these specifications.</p>
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89.	Part 2, Section VI-2, Sub-Clause 2.1 (2), 2 <sup>nd</sup> paragraph Page 6 of 199	<p><i>The walls of temporary shafts shall be designed as retaining wall or continuous wall comprising of secant piles with capping beam.</i> Soldier piling shall not be permitted. A berm of minimum 1.0 m shall be kept from</p>	<p>Soldier piling shall not be permitted. A berm of minimum 1.0 m shall be kept from inside of temporary wall (outermost point towards excavated face) to edge of</p>																



Item No.	Refer Para No.	Original	Revised
		inside of temporary wall (outermost point towards excavated face) to edge of excavation slope line.	excavation slope line.
90.	Part 2, Section VI-2, Clause 8, Item 219, Page 179 of 199	Measurement for payment of this item shall be in sqm of area <i>of the black top surface</i> of metalled access road as shown on the Drawings or established at the Site by the Engineer. The payment for the item shall be made at Unit Rate per sqm, entered in the Priced Bill of Quantities. This item includes cost of all the items for construction of road complete in all respects as shown in the Drawings.	Measurement for payment of this item shall be in sqm of area of metalled access road as shown on the Drawings or established at the Site by the Engineer. The payment for the item shall be made at Unit Rate per sqm, entered in the Priced Bill of Quantities. This item includes cost of all the items for construction of road complete in all respects as shown in the Drawings.
91.	Part 2, Section VI-2, Sub-Clause 7.14 Page 173 of 199	7.14 Metalled Access Road	< Sub-Clause 7.14. Metalled Access Road is modified >  Refer Attachment No. 9 of this Addendum.
92.	Part 2, Section VI-2, Clause 304(e) Page 181 of 199	(i) Measurement for payment for this item shall be in sets. All the openings for the maintenance at various slab levels as shown on the Drawings, complete in all respect, shall comprise one set. The payment for the item shall be made at Unit Rate per set, entered in the Priced Bill of Quantities.  (ii) All openings for ventilation at various slab levels shall comprise one set. The payment for the item shall be made at Unit Rate per set, entered in the	(i) <i>All the openings for the maintenance in each shaft as shown on the Drawings, complete in all respect, shall comprise one set.</i> The payment for the item shall be made at Unit Rate per set, entered in the Priced Bill of Quantities.  (ii) <i>All openings for ventilation in each shaft as shown on the Drawings, complete in all respect, shall comprise one set.</i> The payment for the item shall be made at Unit Rate per set, entered in the Priced Bill of Quantities.



Item No.	Refer Para No.	Original	Revised
		Priced Bill of Quantities.	
93.	Part 2, Section VI-2, Sub-Clause 7.15 Page 175 of 199		<p data-bbox="1370 379 2132 451">&lt;Add Sub-Clause 7.15, 7.16 and 7.17 after existing Sub-Clause 7.14&gt;</p> <p data-bbox="1370 496 1630 523">“7.15. Box Culverts</p> <p data-bbox="1451 568 2132 687">2 (two) Nos. box culverts shall be provided under metaled access road at Adit for existing drain/stream as shown in the Drawings.</p> <p data-bbox="1370 730 1572 758">7.16. MS Gates</p> <p data-bbox="1451 802 2132 922">MS gates shall be provided at shaft 2, shaft 3, Adit and main tunnel portal. The size, the location and details of MS gates are shown in the Drawings.</p> <p data-bbox="1370 965 1653 992">7.17. Retaining Walls</p> <p data-bbox="1451 1037 2132 1284">Retaining walls shall be constructed at shaft 2 and shaft 3 and Adit as shown in the Drawings. At certain locations boundary wall will also be provided over retaining walls, as shown in the Drawings. The specifications of concrete and reinforcement steel shall be as given in Clause 7.3 and 7.6 respectively.”</p>



Item No.	Refer Para No.	Original	Revised														
94.	Part 3, Section VIII, Part-B Specific Provisions, Page No. 15 of 33		<p>&lt;Add the following paragraph after existing Sub-Clause 13.5&gt;</p> <table border="1" data-bbox="1373 360 2134 866"> <tr> <td data-bbox="1373 360 1624 483"><b>Sub-Clause 14.1 The Contract Price</b></td> <td data-bbox="1624 360 2134 866">           Replace the last para of Sub-Clause 14.1 as under:             Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts therefor, imported by the Contractor for the sole purpose of executing the Contract shall be governed by the prevailing laws in this regard.         </td> </tr> </table>	<b>Sub-Clause 14.1 The Contract Price</b>	Replace the last para of Sub-Clause 14.1 as under:  Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts therefor, imported by the Contractor for the sole purpose of executing the Contract shall be governed by the prevailing laws in this regard.												
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95.	Part 1, Section II, BDS ITB 11.2 (h), Page 4 of 31	<p>The Bidder shall submit with its Technical Bid the following additional documents:</p> <p>The duly filled Checklist of Submission of Documents for Technical Bid.</p>	<p>The Bidder shall submit with its Technical Bid the following additional documents:</p> <p>(i) <u>Duly signed and stamped copy of "Section V. Eligible Source Countries of Japanese ODA Loans" of the Bidding Documents.</u></p> <p>(ii) The duly filled Checklist of Submission of Documents for Technical Bid.</p>														
96.	Part 1, Section IV. Bidding Forms, Clause 5.0 Checklist of Submission of Documents/Forms duly	<table border="1" data-bbox="633 1161 1305 1391"> <tr> <th data-bbox="633 1161 719 1305">S. no.</th> <th data-bbox="719 1161 965 1305">Requirements of Technical Bid</th> <th data-bbox="965 1161 1137 1305">Reference Clause No. of Bid Documents</th> <th colspan="2" data-bbox="1137 1161 1305 1305">Bidder's Name: .....</th> </tr> <tr> <td></td> <td></td> <td></td> <td data-bbox="1137 1305 1227 1391">Yes / No</td> <td data-bbox="1227 1305 1305 1391">Ref .</td> </tr> </table>	S. no.	Requirements of Technical Bid	Reference Clause No. of Bid Documents	Bidder's Name: .....					Yes / No	Ref .	<table border="1" data-bbox="1373 1161 2101 1313"> <tr> <th data-bbox="1373 1161 1451 1313">S. no.</th> <th data-bbox="1451 1161 1720 1313">Requirements of Technical Bid</th> <th data-bbox="1720 1161 1888 1313">Reference Clause No.</th> <th data-bbox="1888 1161 2101 1313">Bidder's Name: .....</th> </tr> </table>	S. no.	Requirements of Technical Bid	Reference Clause No.	Bidder's Name: .....
S. no.	Requirements of Technical Bid	Reference Clause No. of Bid Documents	Bidder's Name: .....														
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S. no.	Requirements of Technical Bid	Reference Clause No.	Bidder's Name: .....														



Item No.	Refer Para No.	Original					Revised				
	filled for the Technical Bid, Page 146 of 159	18	Letter of Intent to form JV/ Consortium	BDS ITB 43.3 (new)					of Bid Documents	Yes / No	Ref.
		29	Bids (i.e., Technical Bid & Price Bid) including Addenda no.... submitted duly signed & stamped.	ITB 20 & ITB 8.0			18	Letter of Intent to form JV/ Consortium <u>and draft JV/ Consortium agreement</u>	ITB 11.2 (e)		
		30	Any other Documents				29	<u>Addenda nos. duly filled in Letter of Technical Bid.</u>	<u>Letter of Technical Bid</u>		
		30	<u>Duly signed and stamped copy of "Section V. Eligible Source Countries of Japanese ODA Loans" of the Bidding Documents</u>	<u>BDS ITB 11.2 (1) (i)</u>			31	Any other Documents			
		97.	Part 1, Section IV, Sub-Clause 3.3, Page No 102 of 159	<b>3.3. Works Execution Programme</b>  (1) <i>The Contractor shall submit comprehensive Construction Programme, Quality assurance/Quality control management program, Safety management program and Environment management program in accordance with the General Specifications.</i>					<b>3.3. Works Execution Programme</b>  <i>It should brief the Construction Program, Quality Assurance/Quality Control Management Program, Safety Management Program and Environment Management Program. An indicative content is as under:</i>  (1) The Construction Program may be in the form of a bar		



Item No.	Refer Para No.	Original	Revised
		<p>(2) The Construction Programme may be in the form of a bar chart showing the relationship and timing of major operations required for Construction of the Works allowing due consideration for climatic and hydrological conditions pertaining to the Site.</p>	<p>chart showing the relationship and timing of major operation required for construction of the Works allowing due consideration for climatic and hydrological conditions pertaining to the Site.</p> <p>(2) <i>The Quality Assurance/Quality Control Program may brief Bidder's quality assurance/quality control plan and procedures, including practices and sequence of activities to be followed and resources to be input to meet the quality administration requirements of Section-VI-1 [Works Requirements-General Specification] of the Bidding Document Part 2.</i></p> <p>(3) <i>The Safety Management Program may brief Bidder's Safety Management Plan in compliance with the requirements of Section-VI-1 [Works Requirements - General Specification].</i></p> <p>(4) <i>The Environment Management Program may brief Bidder's Environment Management Plan (EMP) which will demonstrate the manner in which he will implement, manage and control environmental mitigation measures as required under the Section-VI-1 [Works Requirements -General Specification].</i></p>





Item No.	Refer Para No.	Original	Revised
98.	Part 3, Section VIII, Part A Contract Data, Sub-Clause 4.2, Performance Security, Page 6 of 33	The Performance Security shall be in the form of a demand guarantee in the amount(s) of 5% (five percent) of the Accepted Contract Amount and in the same currencies of the Accepted Contract Amount.	The Performance Security shall be in the form of a demand guarantee in the amount(s) of 5% (five percent) of the Accepted Contract Amount <u>less Provisional Sums</u> and in the same currencies of the Accepted Contract Amount.
99.	Part 3, Section VIII, Part-A Contract Data, Sub-Clause 14.2, Advance Payment, Page 6 of 33	<p>15% (fifteen percent) of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable.</p> <p>The Advance Payment shall be made in two instalments as under:</p> <ul style="list-style-type: none"> <li>a) 10 (ten) percent: On submission of a Performance Security; and</li> <li>b) 5 (five) percent: On submission of proof of placement of order for three (3) TBMs.</li> </ul>	<p>15% (fifteen percent) of the Accepted Contract Amount <u>less Provisional Sums</u> payable in the currencies and proportions in which the Accepted Contract Amount is payable.</p> <p>The Advance Payment shall be made in two instalments as under:</p> <ul style="list-style-type: none"> <li>a) 10 (ten) percent: On submission of a Performance Security; and</li> <li>b) 5 (five) percent: On submission of proof of placement of order for three (3) TBMs.</li> </ul>
100.	Part 3, Section VIII, Part-B Specific Provisions, Sub-Clause 4.2, Performance Security, Page 12 of 33	<p>Add new paragraph after last paragraph of Sub-Clause 4.2 with the following:</p> <p>“In the event the Contractor fails to provide the Performance Security within 28 days from the date of issue of the LOA, it may seek an extension of time for providing the performance security for a period not exceeding a further 15 days on payment of damages for such extended period in a sum calculated at the rate of 0.005% of the Contract price for each day until the Performance Security is provided.”</p>	<p>Add new paragraph after last paragraph of Sub-Clause 4.2 with the following:</p> <p>“In the event the Contractor fails to provide the Performance Security within 28 days from the date of issue of the LOA, it may seek an extension of time for providing the performance security for a period not exceeding a further 15 days on payment of damages for such extended period in a sum calculated at the rate of 0.005% of the <u>Accepted Contract Amount less Provisional Sums</u> for each day until the Performance Security is provided.”</p>



Item No.	Refer Para No.	Original	Revised
101.	Part 3, Section VIII, Part-B Specific Provisions, Sub-Clause 8.1 Commencement of Works, Page 13 of 33	<p>Replace Sub-paragraph (d) of the Sub-Clause 8.1 with the following:</p> <p>(d) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor within 28 days from the date of signing of the Contract Agreement. If the Contractor fails to deliver the guarantee within such 28 days, this sub-paragraph (d) shall not be applied.</p>	<p>Replace Sub-paragraph (d) of the Sub-Clause 8.1 with the following:</p> <p>(d) receipt by the Contractor of the Advance Payment under Sub-Clause <u>14.2 a)</u> [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor within 28 days from the date of signing of the Contract Agreement. If the Contractor fails to deliver the guarantee within such 28 days, this sub-paragraph (d) shall not be applied.</p>
102.	Part 3, Section VIII, Part-B Specific Provisions, Sub-Clause 14.9, Payment of Retention Money (second paragraph), Page 17 of 33	<p>The Contractor may substitute the Retention Money deducted from Interim Payment Certificates with an unconditional bank guarantee issued by any bank nationalized or scheduled by the Government of India or any Japanese bank having corresponding arrangements with the Indian bank of equivalent amount for the respective currency portions, provided that the refund shall be made in tranches of 1% of the Contract Price. The bank guarantees shall be valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security in Sub-Clause 4.2.</p>	<p>The Contractor may substitute the Retention Money deducted from Interim Payment Certificates with an unconditional bank guarantee issued by any bank nationalized or scheduled by the Government of India or any Japanese bank having corresponding arrangements with the Indian bank of equivalent amount for the respective currency portions, provided that the refund shall be made in tranches of 1% of the Accepted Contract Amount excluding the Provisional Sum. The bank guarantees shall be valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security in Sub-Clause 4.2. <u>Alternatively, the Contractor may submit bank guarantee for full Retention Money in advance to avoid deduction of Retention Money from Interim Payment Certificate.</u></p>
103.	Part 3, Section IX, Annex to the Particular	15(a) is hereby excluded.	<u>This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.</u>



Item No.	Refer Para No.	Original	Revised
	Conditions – Contract Forms, Performance Security (Demand Guarantee), (last paragraph), Page 29 of 33		<u>758</u> , except that the supporting statement under Article 15(a) is hereby excluded.
104.	IFB, S. No.5, 7, 8 Page 2 of 3, Page 3 of 3	<p>S. No. 5) Second 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<sup>th</sup> April 2019 to 22<sup>nd</sup> August 2019.</p> <p>S. No. 7) Bids must be delivered to the address above on or before 15:00 hrs on 23<sup>rd</sup> August 2019 and must be accompanied by a Bid Security of INR700,000,000.00 (Indian Rupee Seven Hundred Million only).</p> <p>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 23<sup>rd</sup> August 2019 at the office of:</p>	<p>S. No. 5) Second 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<sup>th</sup> April 2019 to 23<sup>rd</sup> September 2019.</p> <p>S. No. 7) Bids must be delivered to the address above on or before 15:00 hrs on 24<sup>th</sup> September 2019 and must be accompanied by a Bid Security of INR700,000,000.00 (Indian Rupee Seven Hundred Million only).</p> <p>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 24<sup>th</sup> September 2019 at the office of:</p>
105.	Part 1, Section II, BDS ITB 22.1 & 25.1, Page 9 of 31	<p>BDS ITB 22.1: The deadline for Bid submission is: Date : 23<sup>rd</sup> August 2019 Time : 15:00 hrs</p> <p>BDS ITB 25.1:</p>	<p>BDS ITB 22.1: The deadline for Bid submission is: Date : 24<sup>th</sup> September 2019 Time : 15:00 hrs</p> <p>BDS ITB 25.1:</p>



Item No.	Refer Para No.	Original		Revised	
		<p>The opening of the Technical Bid shall take place at: Date : 23<sup>rd</sup> August 2019 Time : 15:30 hrs</p>		<p>The opening of the Technical Bid shall take place at: Date : 24<sup>th</sup> September 2019 Time : 15:30 hrs</p>	
106.	Part 1, Section II, BDS-ITB 7.1 Page 4 of 31	<b>ITB 7.1</b>	<p>Responses to any request for clarification, if any, will be published on the Employer's web site: www.nhsrcl.in.</p> <p>Replace the word "in writing at the Employer's address" in the second line of ITB 7.1 with "in writing with the signature on behalf of the Bidder, delivered to the Employer through email/courier/fax/by hand".</p> <p>Replace the sentence "The Employer will respond in writing to any request for clarification, provided that such request is received no later than fourteen (14) days prior to the deadline for submission of Bids." at the fifth to eighth lines of ITB 7.1 with "The Employer's response will be uploaded on the Employer's webpage no later than twenty-eight (28) days prior to the deadline for submission of Bids, provided that such request is received no</p>	<b>ITB 7.1</b>	<p>Responses to any request for clarification, if any, will be published on the Employer's web site: www.nhsrcl.in.</p> <p>Replace the word "in writing at the Employer's address" in the second line of ITB 7.1 with "in writing with the signature on behalf of the Bidder, delivered to the Employer through email/courier/fax/by hand".</p> <p>Replace the sentence "The Employer will respond in writing to any request for clarification, provided that such request is received no later than fourteen (14) days prior to the deadline for submission of Bids." at the fifth to eighth lines of ITB 7.1 with "The Employer's response will be uploaded on the Employer's webpage no later than 27<sup>th</sup> August 2019, provided that such request is received no later than 9<sup>th</sup> August 2019".</p>



Item No.	Refer Para No.	Original			Revised																		
			later than forty-nine (49) days prior to the deadline”.																				
107.	Part 3, Section VIII, Part A – Contract Data, Sub Clause 1.1.3.3, Page 5 of 33	<table border="1"> <thead> <tr> <th>Conditions</th> <th>Sub-Clause</th> <th>Data</th> </tr> </thead> <tbody> <tr> <td><b>Time for Completion</b></td> <td>1.1.3.3</td> <td>1280 days For Milestones, refer to Table: Summary of Milestones, below.</td> </tr> </tbody> </table>			Conditions	Sub-Clause	Data	<b>Time for Completion</b>	1.1.3.3	1280 days For Milestones, refer to Table: Summary of Milestones, below.	<table border="1"> <thead> <tr> <th>Conditions</th> <th>Sub-Clause</th> <th>Data</th> </tr> </thead> <tbody> <tr> <td><b>Time for Completion</b></td> <td>1.1.3.3</td> <td>1760 days For Milestones, refer to Table: Summary of Milestones, below.</td> </tr> </tbody> </table>			Conditions	Sub-Clause	Data	<b>Time for Completion</b>	1.1.3.3	1760 days For Milestones, refer to Table: Summary of Milestones, below.				
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<b>Time for Completion</b>	1.1.3.3	1760 days For Milestones, refer to Table: Summary of Milestones, below.																					
108.	Part 2, Section VI-1, Division 4000, Sub-Division 4100, Clause 2, Table: Summary of Milestone, Column 1 to Column 3, Page 69 of 100 to 70 of 100	<table border="1"> <thead> <tr> <th colspan="2">Milestone Name/Description (Sub- Clause 1.1.5.9)</th> <th>Time for Completion from the Commencement Date (Sub- Clause 1.1.3.3)</th> </tr> </thead> <tbody> <tr> <td>No.</td> <td>Description</td> <td>Days</td> </tr> <tr> <td>1</td> <td>Completion of Permanent Reinstatement works of TSS &amp; DSS platform at Shaft No. 2 and handing over the area to E1 Contractor as described in Drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00200000</i></td> <td>540</td> </tr> </tbody> </table>		Milestone Name/Description (Sub- Clause 1.1.5.9)		Time for Completion from the Commencement Date (Sub- Clause 1.1.3.3)	No.	Description	Days	1	Completion of Permanent Reinstatement works of TSS & DSS platform at Shaft No. 2 and handing over the area to E1 Contractor as described in Drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00200000</i>	540	<table border="1"> <thead> <tr> <th colspan="2">Milestone Name/Description (Sub- Clause 1.1.5.9)</th> <th>Time for Completion from the Commencement Date (Sub- Clause 1.1.3.3)</th> </tr> </thead> <tbody> <tr> <td>No.</td> <td>Description</td> <td>Days</td> </tr> <tr> <td>1</td> <td>Completion of Permanent Reinstatement works of TSS &amp; DSS platform at Shaft No. 2 and handing over the area to E1 Contractor as described in Drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00200000</i></td> <td>540</td> </tr> </tbody> </table>		Milestone Name/Description (Sub- Clause 1.1.5.9)		Time for Completion from the Commencement Date (Sub- Clause 1.1.3.3)	No.	Description	Days	1	Completion of Permanent Reinstatement works of TSS & DSS platform at Shaft No. 2 and handing over the area to E1 Contractor as described in Drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00200000</i>	540
		Milestone Name/Description (Sub- Clause 1.1.5.9)		Time for Completion from the Commencement Date (Sub- Clause 1.1.3.3)																			
		No.	Description	Days																			
1	Completion of Permanent Reinstatement works of TSS & DSS platform at Shaft No. 2 and handing over the area to E1 Contractor as described in Drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00200000</i>	540																					
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Item No.	Refer Para No.	Original		Revised			
		2	Completion of Permanent Reinstatement works of DSS platform at Shaft No. 3 and handing over the area to E1 Contractor as described in Drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00210000</i>	540	2	Completion of Permanent Reinstatement works of DSS platform at Shaft No. 3 and handing over the area to E1 Contractor as described in Drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00210000</i>	540
		3	Completion of Permanent Reinstatement works of SP platform at Adit Portal and handing over the area to E1 Contractor as described in Drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00230000</i>	540	3	Completion of Permanent Reinstatement works of SP platform at Adit Portal and handing over the area to E1 Contractor as described in Drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00230000</i>	540
		4	Completion of Permanent Reinstatement works of cut & cover tunnel and handing over the area to C3 Contractor as described in drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00220000</i>	900	4	Completion of Permanent Reinstatement works of cut & cover tunnel and handing over the area to C3 Contractor as described in drawing No. <i>TD-JIC-IC1-TDC-B01-UST-NTU-00220000</i>	950
		5	Completion of all permanent works in tunnel as shown in the Drawings between Chainage <i>0Km 772m869</i> to Chainage <i>6Km 561m</i> and handing over to T1 Contractor	1110	5	Completion of all permanent works in tunnel as shown in the Drawings between Chainage <i>0Km 772m869</i> to Chainage <i>6Km 561m</i> and handing over to T1 Contractor	1560



Item No.	Refer Para No.	Original		Revised		
		6	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 6Km 561m to Chainage 12Km 000m and handing over to T1 Contractor	1185	6	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 6Km 561m to Chainage 12Km 000m and handing over to T1 Contractor  <i>1620</i>
		7	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 12Km 000m to Chainage 16Km 210m and handing over to T1 Contractor	1035	7	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 12Km 000m to Chainage 16Km 210m and handing over to T1 Contractor  <i>1620</i>
		8	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 16Km 210m to Chainage 21Km 150m and handing over to T1 Contractor	1035	8	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 16Km 210m to Chainage 21Km 150m and handing over to T1 Contractor  <i>1440</i>



Item No.	Refer Para No.	Original			Revised		
		Milestone No.	Milestone Name/Description (Sub- Clause 1.1.5.9)	Time for Completion from the Commencement Date (Sub- Clause 1.1.3.3)	Milestone No.	Milestone Name/Description (Sub- Clause 1.1.5.9)	Time for Completion from the Commencement Date (Sub- Clause 1.1.3.3)
109.	Part 3, Section VIII, Part A – Contract Data, Summary of Milestone, Column 1 to Column 3, Page 8 of 33 to 10 of 33	1	Completion of Permanent Reinstatement works of TSS & DSS platform at Shaft No. 2 and handing over the area to E1 Contractor as described in Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00200000..	540 days	1	Completion of Permanent Reinstatement works of TSS & DSS platform at Shaft No. 2 and handing over the area to E1 Contractor as described in Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00200000..	540 days
		2	Completion of Permanent Reinstatement works of DSS platform at Shaft No. 3 and handing over the area to E1 Contractor as described in Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00210000..	540 days	2	Completion of Permanent Reinstatement works of DSS platform at Shaft No. 3 and handing over the area to E1 Contractor as described in Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00210000..	540 days





Item No.	Refer Para No.	Original		Revised	
		3	Completion of Permanent Reinstatement works of SP platform at Adit Portal and handing over the area to E1 Contractor as described in Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00230000.	540 days	3 Completion of Permanent Reinstatement works of SP platform at Adit Portal and handing over the area to E1 Contractor as described in Drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00230000. 540 days
		4	Completion of Permanent Reinstatement works of cut & cover tunnel and handing over the area to C3 Contractor as described in drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00220000.	900 days	4 Completion of Permanent Reinstatement works of cut & cover tunnel and handing over the area to C3 Contractor as described in drawing No. TD-JIC-IC1-TDC-B01-UST-NTU-00220000. 950 days
		5	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 0Km 772m869 to Chainage 6Km 561m and handing over to T1 Contractor.	1110 days	5 Completion of all permanent works in tunnel as shown in the Drawings between Chainage 0Km 772m869 to Chainage 6Km 561m and handing over to T1 Contractor. 1560 days
		6	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 6Km 561m to Chainage 12Km 000m and handing over to T1 Contractor.	1185 days	6 Completion of all permanent works in tunnel as shown in the Drawings between Chainage 6Km 561m to Chainage 12Km 000m and handing over to T1 Contractor. 1620 days



Item No.	Refer Para No.	Original		Revised			
		7	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 12Km 000m to Chainage 16Km 250m and handing over to T1 Contractor.	1035 days	7	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 12Km 000m to Chainage 16Km 250m and handing over to T1 Contractor.	1620 days
		8	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 16Km 250m to Chainage 21Km 150m and handing over to T1 Contractor.	1035 days	8	Completion of all permanent works in tunnel as shown in the Drawings between Chainage 16Km 250m to Chainage 21Km 150m and handing over to T1 Contractor.	1440 days
110.	Part-2, Section VI-2, Sub-Clause 4.7 (17) (e), Acceptance criteria (iii), Page 34 of 199	Thrust Test The value of P <sub>3</sub> and size of shoving jack shoe shall be provided by the manufacturer of TBM. The segment shall show no harmful crack at load P <sub>3</sub>		Thrust Test <i>The value of P<sub>3</sub> shall be taken as 5100 kN per spreader of 0.97m length. The segment shall show no harmful crack at load P<sub>3</sub>.</i>			
111.	Part 2, Section VI-1, Division 3000, Sub-division 3010, Page 13 of 24			<Add the following item between existing item NGO and NH>  NGL    Natural Ground Level			



Item No.	Refer Para No.	Original	Revised
112.	Part 2, Section VI-1, Division 3000, Sub-division 3010, Page 13 of 24		< Insert the following definition after “Monthly Progress Report” and before “Nonconformity Report” > “ <b>Natural Ground Level</b> ” means the natural level of the site before any excavation or filling has been carried out on the site.
113.	Part 1, Section IV, Sub-Clause 3.2 (2) (e) (iv) 22 <sup>nd</sup> bulleted point, Page 101 of 159	Disposal of slurry effluent.	Disposal of muck/ slurry effluent
114.	Part 2, Section VI-4, Attachment-5A Building Survey Report		< Attachment-5A Building Survey Report has been revised >  Refer Attachment No. 12 of this Addendum.
115.	Part 2, Section VI-2, Sub-Clause 8. 304(d), Page 180 of 199	Measurement for payment for this item shall be in sets. One set comprises all the pre-cast RCC removable covers for the shaft as shown on the Drawings. The payment for the item shall be made at Unit Rate per set, entered in the Priced Bill of Quantities. No separate payment shall be made for any other ancillary work for execution of this item. Payment for reinforcement steel shall be made separately.	<i>All the RCC removable cover on openings for the maintenance in each shaft as shown on the Drawings, complete in all respect, shall comprise one set.</i> The payment for the item shall be made at Unit Rate per set, entered in the Priced Bill of Quantities. No separate payment shall be made for any other ancillary work for execution of this item. Payment for reinforcement steel shall be made separately.



Item No.	Refer Para No.	Original	Revised
116.	Part 2, Section VI-2, Sub-Clause 4.24, Page 57 of 199	After excavation profile has stabilized, steel segments shall be erected in a sequence as per noticed method statement. The space between excavated profile and backside of steel segments shall be filled with cement grout of specified strength as shown in the Drawings. The Contractor shall carry out mixing and strength test before construction of Equipment Rooms and submit the report to obtain approval from the Engineer. Inside surface of steel segments shall be infilled with M-45 concrete. Cable pits and cable trays shall be provided in accordance with the Drawings.	After excavation profile has stabilized, steel segments shall be erected in a sequence as per noticed method statement. The space between excavated profile and backside of steel segments shall be filled with cement grout of specified strength as shown in the Drawings. The Contractor shall carry out mixing and strength test before construction of Equipment Rooms and submit the report to obtain approval from the Engineer. Inside surface of steel segments shall be infilled with M-45 concrete <i>either at fabrication yard or in-situ</i> . Cable pits and cable trays shall be provided in accordance with the Drawings.
117.	Part 2, Section VI-2, Sub-Clause 4.19 (1) (p), Page 53 of 199	(p) Details of any operational delays, including the TBM, backup and <i>slurry</i> systems , recorded in 5 minute intervals;	(p) Details of any operational delays, including the TBM, backup and <i>other</i> systems, recorded in 5 minute intervals;
118.	Part 2, Section VI-1, Division 01000, Sub-Division 01020, Clause 1 (p), Page 7 of 11	Provision and installation of location indicator lamps;	Provision and installation of evacuation guidance indication boards;



Item No.	Refer Para No.	Original	Revised
119.	Part 2, Section VI-1, Division 01000, Sub-Division 01020, Clause 2 (l), Page 8 of 11	Provision and installation of location indicator lamps;	Provision and installation of evacuation guidance indicator boards and indication of lining thickness;
120.	Part 2, Section VI-1, Division 01000, Sub-Division 01020, Clause 3 (g), Page 8 of 11	Provision and installation of location indicator lamps;	Provision and installation of tunnel post and indication of lining thickness;
121.	Part 2, Section VI-1, Division 01000, Sub-Division 01020, Clause 4 (n), Page 9 of 11	Provision and installation of location indicator lamps;	Provision and installation of <i>evacuation guidance indication lighting boards</i> ;
122.	Part 2, Section VI-1, Division 01000, Sub-Division 01020, Clause 5 A (h), Page 9 of 11	Cable pits;	Cable pits <i>with covers</i> ;



Item No.	Refer Para No.	Original	Revised
123.	Part 2, Section VI-1, Division 01000, Sub-Division 01020, Clause 5 B (c), Page 10 of 11	Cable pits;	Cable pits <i>with covers</i> ;
124.	Part 2, Section VI-1, Division 01000, Sub-Division 01020, Clause 6 (e), Page 10 of 11	Slope protection of cutting by shotcrete, rock bolting etc;	Slope protection <i>works at Adit portal</i> by shotcrete, <i>soil nails</i> , rock bolts, <i>wire crates</i> ;
125.	Part 2, Section VI-1 Division 01000, Sub-Division 01020, Clause 6 (h), Page 10 of 11	Box Culvert over existing drain at Adit Portal;	<i>RCC box culverts for existing drain/stream</i> at Adit Portal;
126.	Part 2, Section VI-2 Clause 4, Page 64 of 199		<Add new sub-clause 4.34 after existing sub-clause 4.33 as follows>  “4.34. Evacuation guidance indication boards  Evacuation guidance indication boards shall be provided in the tunnel as per the details and intervals shown in the Drawings.”



Item No.	Refer Para No.	Original	Revised
127.	Part 2, Section VI-2, Sub-Clause 5.24, Page 102 of 199		<p>&lt;Add new paragraphs after existing paragraph (3) of Sub Clause 5.24&gt;</p> <p>“(4) Evacuation guidance indication lighting board</p> <p>The Contractor shall provide one evacuation indication lighting board at the junction of main tunnel and adit in accordance with the Drawings. Electrical cables and the lamps shall be provided by E-1 Contractor.</p> <p>(5) Evacuation guidance indication boards</p> <p>Evacuation guidance indication boards shall be provided in the tunnel as per the details and intervals shown in the Drawings.</p>
128.	Part 2, Section VI-2, Sub-Clause 6.3, Page 113 of 199		<p>&lt; Add new Sub-Clauses after existing Sub Clause 6.3.9&gt;</p> <p>“6.3.10. Evacuation guidance indicator lighting boards</p> <p>The Contractor shall provide evacuation guidance indicator lighting board in shaft 2 &amp; 3 in accordance with the Drawings. Electrical cable and lamps shall be provided by E-1 Contractor.</p> <p>6.3.11. Waterproofing of roof of Ventilation Building</p> <p>Waterproofing of the roof slab of ventilation building at shaft 2 and shaft 3 shall be carried out in accordance with the Drawings.”</p>



Item No.	Refer Para No.	Original	Revised
129.	Part 2, Section VI-2, Sub-Clause 6.3.4, Page 113 of 199	The Contractor shall supply, fabricate and fix the MS Doors and Louvers for the Shaft and Ventilation Building as per the Drawings. The work of MS Doors shall be carried out as per Clause 7.6 of these Specifications. Painting shall be done as per Clause 7.8 of these Specifications,	<p>6.3.4.1 Doors, windows and rolling shutters</p> <p>The Contractor shall supply, fabricate and fix the doors, <i>window and rolling shutter</i> for the Shaft and Ventilation Building as per the Drawings. The work of doors and windows shall be carried out as per Clause 7.6 of these Specifications. Painting shall be done as per Clause 7.8 of these Specifications</p> <p>6.3.4.1 <i>RCC louvers</i></p> <p><i>The Contractor shall supply and fix precast RCC louvers in ventilation Building in accordance with the Drawings.</i></p>
130.	Part 2, Section VI-3, Drawings	<p>&lt;Following drawings have been revised&gt;</p> <ol style="list-style-type: none"> <li>1. TD-JIC-IC1-TDC-B01-UST-NTU-10570000</li> <li>2. TD-JIC-IC1-TDC-B01-UST-NTU-10580000</li> <li>3. TD-JIC-IC1-TDC-B01-UST-NTU-10771000</li> <li>4. TD-JIC-IC1-TDC-B01-UST-NTU-10773000</li> <li>5. TD-JIC-IC1-TDC-B01-UST-NTU-10870001</li> <li>6. TD-JIC-IC1-TDC-B01-UST-NTU-15220001</li> <li>7. TD-JIC-IC1-TDC-B01-UST-NTU-15230001</li> <li>8. TD-JIC-IC1-TDC-B01-UST-NTU-15240001</li> <li>9. TD-JIC-IC1-TDC-B01-UST-NTU-15250001</li> <li>10. TD-JIC-IC1-TDC-B01-UST-NTU-15260000</li> <li>11. TD-JIC-IC1-TDC-B01-UST-NTU-15270000</li> <li>12. TD-JIC-IC1-TDC-B01-UST-NTU-15520001</li> <li>13. TD-JIC-IC1-TDC-B01-UST-NTU-16260000</li> <li>14. TD-JIC-IC1-TDC-B01-UST-NTU-16280000</li> </ol>	<p>&lt;Following drawings have been revised&gt;</p> <ol style="list-style-type: none"> <li>1. TD-JIC-IC1-TDC-B01-UST-NTU-10570001</li> <li>2. TD-JIC-IC1-TDC-B01-UST-NTU-10580001</li> <li>3. TD-JIC-IC1-TDC-B01-UST-NTU-10771001</li> <li>4. TD-JIC-IC1-TDC-B01-UST-NTU-10773001</li> <li>5. TD-JIC-IC1-TDC-B01-UST-NTU-10870002</li> <li>6. TD-JIC-IC1-TDC-B01-UST-NTU-15220002</li> <li>7. TD-JIC-IC1-TDC-B01-UST-NTU-15230002</li> <li>8. TD-JIC-IC1-TDC-B01-UST-NTU-15240002</li> <li>9. TD-JIC-IC1-TDC-B01-UST-NTU-15250002</li> <li>10. TD-JIC-IC1-TDC-B01-UST-NTU-15260001</li> <li>11. TD-JIC-IC1-TDC-B01-UST-NTU-15270001</li> <li>12. TD-JIC-IC1-TDC-B01-UST-NTU-15520002</li> <li>13. TD-JIC-IC1-TDC-B01-UST-NTU-16260001</li> <li>14. TD-JIC-IC1-TDC-B01-UST-NTU-16280001</li> </ol>





Item No.	Refer Para No.	Original	Revised
		15. TD-JIC-IC1-TDC-B01-UST-NTU-16330000	15. TD-JIC-IC1-TDC-B01-UST-NTU-16330001
		16. TD-JIC-IC1-TDC-B01-UST-NTU-16340000	16. TD-JIC-IC1-TDC-B01-UST-NTU-16340001
		17. TD-JIC-IC1-TDC-B01-UST-NTU-17020001	17. TD-JIC-IC1-TDC-B01-UST-NTU-17020002
		18. TD-JIC-IC1-TDC-B01-UST-NTU-17030001	18. TD-JIC-IC1-TDC-B01-UST-NTU-17030002
		19. TD-JIC-IC1-TDC-B01-UST-NTU-17180001	19. TD-JIC-IC1-TDC-B01-UST-NTU-17180002
		20. TD-JIC-IC1-TDC-B01-UST-NTU-17190001	20. TD-JIC-IC1-TDC-B01-UST-NTU-17190002
		21. TD-JIC-IC1-TDC-B01-UST-NTU-17200001	21. TD-JIC-IC1-TDC-B01-UST-NTU-17200002
		22. TD-JIC-IC1-TDC-B01-UST-NTU-17210001	22. TD-JIC-IC1-TDC-B01-UST-NTU-17210002
		23. TD-JIC-IC1-TDC-B01-UST-NTU-17380001	23. TD-JIC-IC1-TDC-B01-UST-NTU-17380002
		24. TD-JIC-IC1-TDC-B01-UST-NTU-18050000	24. TD-JIC-IC1-TDC-B01-UST-NTU-18050001
		25. TD-JIC-IC1-TDC-B01-UST-NTU-18060000	25. TD-JIC-IC1-TDC-B01-UST-NTU-18060001
		26. TD-JIC-IC1-TDC-B01-UST-NTU-18070000	26. TD-JIC-IC1-TDC-B01-UST-NTU-18070001
		27. TD-JIC-IC1-TDC-B01-UST-NTU-20310001	27. TD-JIC-IC1-TDC-B01-UST-NTU-20310002
		28. TD-JIC-IC1-TDC-B01-UST-NTU-20360001	28. TD-JIC-IC1-TDC-B01-UST-NTU-20360002
		29. TD-JIC-IC1-TDC-B01-UST-NTU-20370001	29. TD-JIC-IC1-TDC-B01-UST-NTU-20370002
		30. TD-JIC-IC1-TDC-B01-UST-NTU-20380001	30. TD-JIC-IC1-TDC-B01-UST-NTU-20380002
		31. TD-JIC-IC1-TDC-B01-UST-NTU-20390001	31. TD-JIC-IC1-TDC-B01-UST-NTU-20390002
		32. TD-JIC-IC1-TDC-B01-UST-NTU-20490001	32. TD-JIC-IC1-TDC-B01-UST-NTU-20490002
		33. TD-JIC-IC1-TDC-B01-UST-NTU-23360001	33. TD-JIC-IC1-TDC-B01-UST-NTU-23360002
		34. TD-JIC-IC1-TDC-B01-UST-NTU-23390000	34. TD-JIC-IC1-TDC-B01-UST-NTU-23390001
		35. TD-JIC-IC1-TDC-B01-UST-NTU-23400000	35. TD-JIC-IC1-TDC-B01-UST-NTU-23400001
		36. TD-JIC-IC1-TDC-B01-UST-NTU-00310000	36. TD-JIC-IC1-TDC-B01-UST-NTU-00310001
		37. TD-JIC-IC1-TDC-B01-UST-NTU-00320000	37. TD-JIC-IC1-TDC-B01-UST-NTU-00320001
		38. TD-JIC-IC1-TDC-B01-UST-NTU-00330000	38. TD-JIC-IC1-TDC-B01-UST-NTU-00330001
			Refer Attachment No. 11 of this Addendum.



<b>Item No.</b>	<b>Refer Para No.</b>	<b>Original</b>	<b>Revised</b>
131.	Part 2, Section VI-3, Drawings		<Following drawings have been added> 1. TD-JICC16-TDC-B01-TRW-NTU-30240000 Refer Attachment No. 11 of this Addendum.