



**Project**

**Design and Construction of Civil and Buildings Works including Testing and Commissioning on Design-Build Lump Sum Price basis for Double Line High Speed Railway for Mumbai Underground Station, Cut & Cover Tunnel and Shaft -1 from MAHSR Km. -0.255 to Km. 0.775 at Bandra-Kurla Complex in the State of Maharashtra for the Project for Construction of Mumbai-Ahmedabad High Speed Rail**

**Package No.**

**MAHSR - C - 1**

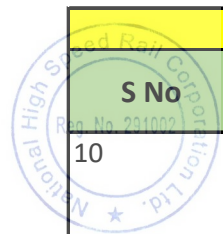
**Response to Bid Queries (Set-2) - 13.03.2020**

S No	Part & Section Reference	Page No / Clause No.	Provision as per Bidding Documents / Subject / Title / Item as mentioned by the Bidder	Bidder Query	Employer's Response
1	Part-3, Section VIII	6 & 27 of 67, Cl. No. 8.7	Delay damages for the Works - 0.01 % of Contract Price per day and maximum amount will be 2 % of the Final Contract Price. For Milestones refer to the table Summary of Milestones below.	1.Delay Damages should be percentage of Accepted Contract Amount. 2.On the achievement of succeeding Milestone, we understand that the Delay damages levied for preceding Milestone shall be refunded. Kindly confirm.	1. The Condition(s) of the Bidding Documents shall remain unaltered. 2. Refer Addendum No. 02, Item No. 35 for MS 1 and MS 2. For others, the Condition(s) of the Bidding Documents shall remain unaltered.
2	Part-2, Section VI-1	66 of 82, 04100 milestones	Time for Completion of MS-3 by 665 days & MS-4 by 777 days	The duration for completion of intermediate milestone is very aggressive . We request to increase the duration for Completion of MS-3 and MS-4 to 1460 days (48 months), 1825 days (60 months) respectively.	Refer Addendum No. 02, Item No. 10 and 32.
3	Part-3, Section VIII	5 of 67, Cl. No. 1.1.3.3	Time for Completion 1638 days	Considering scope and nature of the work and logistics involved , the duration of the work is highly optimistic. We request to consider the project duration of 2520 days (84 months)	The Condition(s) of the Bidding Documents shall remain unaltered.
4	Employer's Requirement ( General specifications)	Pg 66 of 82 , 04100 Milestones	MS-3 The following works shall be executed at UG Station and Cut & Cover Tunnel: i. Completion of all civil (structural) works up to B2 Slab Level for UG Station and Cut & Cover Tunnel. ii. Completion of structures, to be made available for track work including installation of shear bars in accordance with the requirements specified in GS 04040 Appendix 04000-1.	Mile stone 3 Completion requirement within 665 days ( 22 months) from commencement date appears to be highly optimistic considering the quantum and complexity of work. Request NHSRCL to modify his milestone to 790 days ( 26 months).	Refer Addendum No. 02, Item No. 10 and 32.
5	Part 3, Section VIII, Particular Conditions (PC), Page 8 of 67	Table – Summary of Milestones	Milestone delay damages	We request to reduce the delay damages amount per day from INR 50,000 to INR 25,000 for MS 1 and 2 , from INR 1,00,000 to INR 50,000 for MS-3 to MS-7, MS-9 to MS-11 and MS-13 and from INR 1,50,000 to INR 75,000 for MS-8 and MS-12, which is equal to the bonus entitlement amount per day. Please consider.	Refer Addendum No. 02 Item No. 31 for MS 1 and MS 2. For other milestones, the Condition(s) of the Bidding Documents shall remain unaltered.
6	Volume I; Section VII. General Conditions (GC); FIDIC Conditions of Contract, and Part 3, Section VIII, Particular Conditions (PC), Page 6 of 67	Clause 8.7 Delay Damages	The contractor fails to comply with..... from any other duties, obligations or responsibilities which he may have under the Contract	If the works are not executed by the contractor as per the milestones, but the contractor completes the work without any delay of the project, then the Employer should not consider the delay damage for any milestones or refund the damages levied for it. Please consider and modify the clause accordingly.	Refer Addendum No. 02, Item No. 31 and 35 for MS 1 and MS 2. For others, the Condition(s) of the Bidding Documents shall remain unaltered.

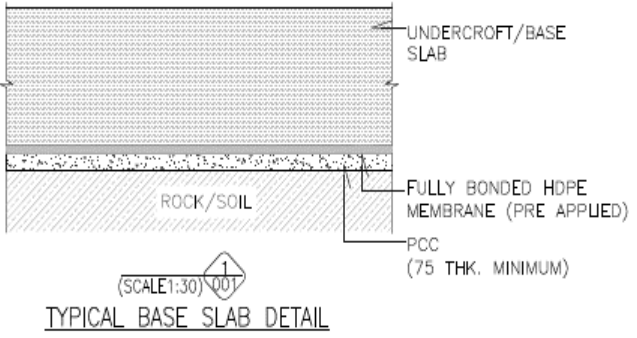
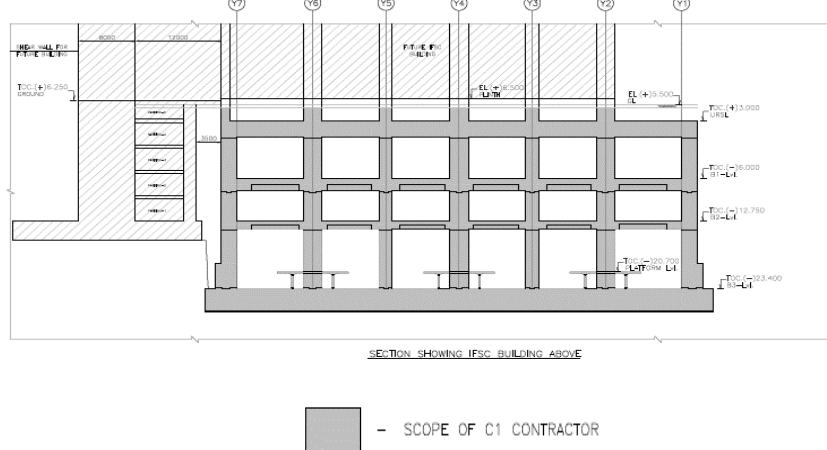
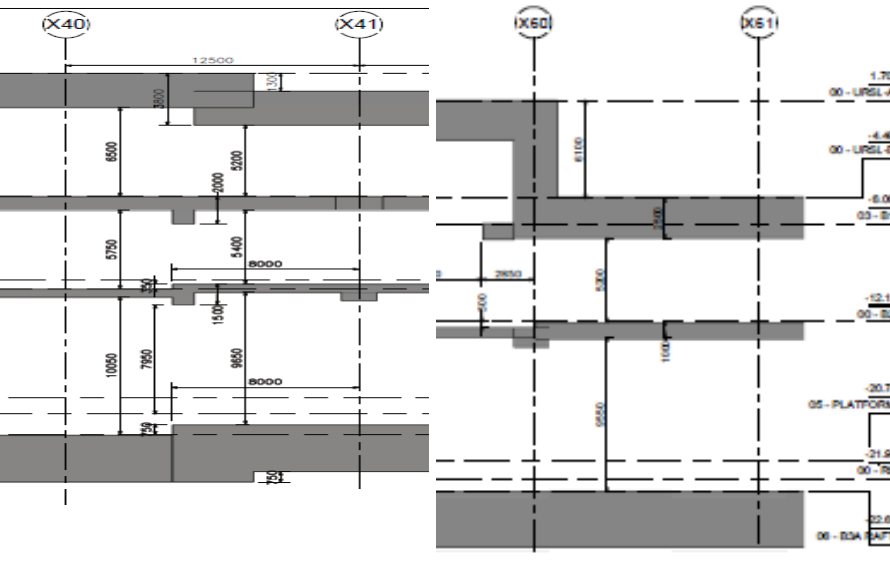
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7	Volume 2 of 2 Section VI-4 SD-MTC-D01-TDS-S01-CCT-NTU-200024-002 & SD-MTC-D01-TDS-S01-CCT-NTU-20208-000	General Arrangement & RC details B2 level beams	<table border="1"> <tr> <td>600</td> <td>1200</td> <td>B 14,B 64,B 21,B 54,B 22,B 23,B 24,B 56,B 57,B 25,B 58,B 26,B 59,B 33,B 45,B 38,B 39,B 40,B 55,B 96,B 97,B 104,B 105,B 106,B 119,B 120,B 138,B 139,B 144,B 145,B 207,B 210,B 218,B 234,B 235,B 236,B 237,B 277,B 278,B 238,B 279,B 239,B 280,B 241,B 260,B 244,B 257,B 283,B 290,B 313,B 314,B 315,B 348,B 349,B 350,B 390,B 391,B 396,B 397,B 417,B 418,B 419,B 501,B 508,B 524,B 535,B 551,B 558,B 507,B 557,B 518,B 542,B 525,B 533,B 614,B 615,B 616,B 711,B 712,B 713,B 714,B 715,B 716,B 717</td> </tr> <tr> <td>1200</td> <td>1500</td> <td>B 32,B 75,B 121,B 140,B 126,B 132,B 152,B 157,B 156,B 163,B 201,B 300,B 203,B 298,B 293,B 294,B 295,B 307,B 312,B 316,B 347,B 351,B 356,B 357,B 362,B 369,B 374,B 392,B 398,B 404,B 410,B 416</td> </tr> <tr> <td>1500</td> <td>1200</td> <td>B 77,B 78,B 81,B 82,B 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8	Section III. Evaluation and Qualification Criteria - 3.2(d) (iii) - Construction Experience in Key Activities	23 of 34	For the above or other contracts completed and under implementation as prime contractor (single entity or JV/Consortium member) or management contractor or Subcontractor(vi) between 1st January 2009 and Bid submission deadline, a minimum experience in the following key activities successfully completed: Key Activities: a. Design and execution of MEP works for minimum 2 No. of underground stations of metro rail / railway. b. Design and execution of Architectural works for minimum 2 No. of underground stations of metro rail / railway.	Underground Tunnel & Station Building projects from DMRC are invited on Part Design and Construction in which the design of station building is given by the client. Hence we request you to kindly amend the requirement as under: b. <del>Design and</del> Execution of Architectural works for minimum 2 No. of underground stations of metro rail / railway. The above will be supported by Designer of Architectural works for minimum 2 No. of underground stations of metro rail with undertaking to associate for this project.	Refer Addendum No. 02, Item No. 6																																																																																									
9	Section VI-4, Drawings	General	General	The drawing scanned copies are not legible especially and blur as zoom - Civil_Shaft and Architectural drawings. Please issue legible drawings.	New folder of clear PDF files of all the Drawings maybe downloaded for reference by the Bidders through the link provided.																																																																																									

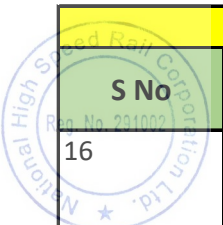
Response to Bid Queries (Set-2) - 13.03.2020

S No	Part & Section Reference	Page No / Clause No.	Provision as per Bidding Documents / Subject / Title / Item as mentioned by the Bidder	Bidder Query	Employer's Response
10	Section VI-4, Drawings	Base Inspection procedure for shaft	<p><u>Base inspection procedures for construction of Shaft-1 base slab</u></p> <ol style="list-style-type: none"> <li>Final excavation to formation level shall not be carried out in a situation where the surface will be left exposed without blinding for more than 24 hours. A minimum cover of 0.5m above the formation level shall be kept before the final excavation. In case it is left exposed for more than 24 hrs it shall be compacted to the desired level.</li> <li>The formation level shall be clear of excavation and other debris.</li> <li>Any area of the formation which is exposed to rain water or ground water ingress shall be examined by the experienced Geologist before blinding operation to ensure no localized softening of the soil/rock occurs.</li> <li>The final excavation to formation level, rock logging and blinding shall be carried out in a staged manner, completing each area promptly such that blinding is placed as soon as possible.</li> </ol>	The base inspection procedure mentions about formation level exposure less than 24 hours and blinding concrete shall follow, otherwise compaction shall be done. This is not practicable, while any specific reason as heaving base.	Refer Addendum No. 02, Item No. 37
11	Section VI-4, Drawings	Waterproofing	Waterproofing	The water proofing drawings are not provided for the station. Also noticed that the station has no anchors provided for the uplift.	Waterproofing drawings for Shaft-1 are applicable for UG Station, Cut & Cover Tunnel and Shaft-1. Waterproofing shall be as per the Technical Specifications.  Anchors are to be provided as per the Drawings. For anchor details of UG Station, refer Addendum No. 02, Item No. 37.
12	Section VI-1, Employer's Requirements, Division 01000	Page 2 of 10, 01010 Description of scope	The Schematic Diagram of C-1 Package:- Note: a) The widths shown in the above diagram are from outer to outer faces and do not include the toe projections, however they are a part of the Permanent Works.	As per clause description and schematic drawing, the width shown are from outer to outer faces excluding Toe projections, but as per Appendix-1, Longitudinal section drawing of station, Start Chainage of station is shown from inner face of station (Grid X0). There is ambiguity in the employers statement and drawings provided. Please clarify.	The <b>width</b> of the structures is from outer to outer face while the <b>chainage</b> at Grid X0 is for the inner face.
13	Section VI-4, Drawings	#30760001 TBM Temporary wall	Tunnel eye thickness shown in drawing 1500mm	Outer wall thickness of shaft is 1800mm . Please confirm the wall thickness 1500 or 1800mm.	Refer Addendum No. 02, Item No. 37
14	Section VI-4, Drawings	#44040001 and #44010001 Anchor drawings and waterproofing details	The details presented in #44040001 regarding connection of anchor with base slab and corresponding water proofing details for pile anchors are shown in #44010001.	The details presented in #44040001 regarding connection of anchor with base slab is not matching with water proofing details for pile anchors shown in #44010001.	Refer Addendum No. 02, Item No. 37
15	Section VI-3. Employer's Requirements	Clause 11.2 and 11.3 Pg. 30/60	PU Waterproofing and XPS Thermal Insulation and Acrylic Cementitious Waterproofing	The drawings are showing details and specific locations are not presented. Please clarify.	The location of PU waterproofing and XPS insulation shall be designed in detail based on the finishing schedule(BD-JIC-C14-DRW-S01-STA-NTU-01201-000 to BD-JIC-C14-DRW-S01-STA-NTU-01206-000). Acrylic Cementitious Waterproofing shall be applied around doors and windows on exterior walls.  The Contractor shall develop during detailed design for approval of the Engineer.



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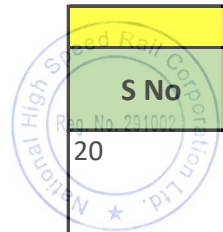
S No	Part & Section Reference	Page No / Clause No.	Provision as per Bidding Documents / Subject / Title / Item as mentioned by the Bidder	Bidder Query	Employer's Response
16	VI-4, Drawings (Station+Tunnel)	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20152-001 'Detail 1/001, 8A/001		In the drawing number SD-MTC-D01-TDS-S01-CCT-NTU-20080-001 (sheet 1 of 4 to 4 of 4), PCC requirements below raft / base slab has been indicated 150mm thick, different than the Drawing Number SD-MTC-D01-TDS-S01-CCT-NTU-20152-001. Please confirm the thickness of PCC.	Refer Addendum No. 02, Item No. 37
17	VI-4, Drawings (Station+Tunnel)	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20007-001 Scope of Civil Contractor		The scope of C1 civil contractor is not clear for the civil structures above URSC level (+) 3.000, like staircase, walls, Lift walls, skylight wall, filling of soil, walls, slab drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20048-001, SD-MTC-D01-TDS-S01-CCT-NTU-20049-001 to SD-MTC-D01-TDS-S01-CCT-NTU-20057-001 with respect to SD-MTC-D01-TDS-S01-CCT-NTU-20007-001 and longitudinal section Drawings No. SD-MTC-D01-TDS-S01-CCT-NTU-20084-001 to 20090-001. Also provide the extent of IFSC building shown underground part as shown adjacent to the underground station. The temporary excavation retaining system shall include the underground part of IFSC building. Please clarify.	Refer Battery limit drawing SD-MTC-01-D01-TDS-S01-CCT-NTU-20002 to SD-MTC-01-D01-TDS-S01-CCT-NTU-20005 for extent of the Contractor's scope of civil work. Temporary excavation retaining system shall be to the extent required for UG Station and Cut & Cover Tunnel as applicable.
18	VI-4, Drawings (Station+Tunnel)	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20087-001 and D01-TDS-S01-CCT-NTU-20088-001		Requirement of reinforcement and its detail is required at the change in roof slab and base slab level at grid X40 to X41 and at roof slab level grid X60 to X61.	Refer Addendum No. 1, Item 41.
19	VI-4, Drawings (Station+Tunnel)	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20239-000	Notes 3. GRADE OF CONCRETE HSR MAIN WALL, RAFT, BEAMS(ALL LEVELS), SLAB(ALL LEVELS), STAIRS, LIFT PIT WALLS, WATER TANK WALLS/SLABS, PLATFORM WALL/SLABS - M60 ALL INTERNAL COLUMNS/WALLS - M80 R.C.C. - M20	Please confirm the RCC M20 Grade of structure in the Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20239-000.	Refer Addendum No. 2, Item No. 37.





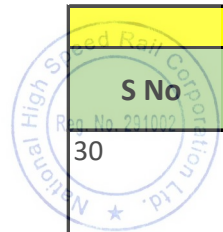
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20	VI-4, Drawings (Station+Tunnel)	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20238-000	Grade of reinforcement	The grade of reinforcement has been indicated in the general notes drawing no. (SD-MTC-D01-TDS-S01-CCT-NTU-20001-002 for all reinforcement is fe 550 D but in the drawing no. SD-MTC-D01-TDS-S01-CCT-NTU-20238-000 the grade of steel has been given fe 500D. Kindly confirm.	Refer Addendum No. 2, Item No. 37.
21	VI-4, Drawings (Shaft -1)	Drawing No. SD-JIC-C14-DRW-S01-CCT-NTU-45030001	General Notes	The grade of concrete has been considered for the cable through is M75. The specification for minimum cement content, anchorage length, etc has only given for M35 and M60 in general notes Drawing No. SD-JIC-C14-DRW-S01-CCT-NTU-10010001. Kindly provide the specification for M75 as well.	The Contractor shall submit design mix for M75 concrete to the Engineer for approval. Also refer Addendum No. 02 Item No. 37.
22	General		Geotechnical Investigations	1. Additional Geotechnical reports if any. 2. Borehole plan according to the additional Geotechnical investigation.	The Condition(s) of the Bidding Documents shall remain unaltered.
23	General			Kindly provide the Electrical Single Line diagram, loadsheet & electrical load matrix for all the maintenance depots, maintenance car sheds.	Maintenance depot and maintenance car shed are not in the scope of Works.
24	Employer's Requirement ( Design Requirements and Criteria)	page 5 of 58 Description of Electrical Works	The incoming power supply from Main Distribution Panel (MDP) of E-1 Package to MDB.MDP is located in Station DSS. Low Voltage Switch Board with ATS shall be located in Station electrical rooms. Further power distribution from MDB shall be planned to SMDB, distribution boards of station E&M systems and equipment loads. The Contractor shall provide downstream feeders from the secondary connection terminal of the circuit breaker of Main Distribution Panel in DSS.	We assume all the High Side Electrical Equipments for normal supply, standby supply and backup supply is in the scope of E1 Package. Please confirm.	The Bidder's understanding is correct. It is confirmed. Refer Clause 4 of DRC 05040
25	Part-2– EMPLOYER'S REQUIREMENTS : Section VI-2 (Design Requirements and Criteria)		Scope Clarification	Kindly clarify the location & distance between E1 Package substation and the proposed project stuctures for the cable lengths	Refer Section VI-4 Drawings.
26	GENERAL ELV		Conduit and cable containment for telephone, data and AV system	Conduit and cable containment for telephone,data and AV system shall be considered for the station buildings.Kindly confirm	Refer Clause 3 of GS 01020.
27	GENERAL ELV		Building Management System	Please provide the I/O summary for BMS	The Contractor shall develop during detailed design for approval of the Engineer.
28	GENERAL ELV		Public Adress System	Public address system is in E1 package but as per Demarcation Chart of E1 Package for Inside Station Area of page no 1 of 2 [Annexure 6] only cable tray,cut out for cable,installation space to be considered under c package scope of work for public address system .so we shall be considered as per the Demarcation chart.Kindly confirm  Please provide the location of speraker	Refer Annexure 6 of DRC 05010. The Contractor shall interface with E-1 contractor during detailed design.
29	GENERAL ELV		Network Switch	Network Sysytem is in E1 package but as per Demarcation Chart of E1 Package for Inside Station Area of page no 1 of 2 [Annexure 6] only cable tray,cut out for cable,installation space to be considered under c package scope of work for public address system .so we shall be considered as per the Demarcation chart.Kindly confirm	Refer Annexure 6 of DRC 05010. The Contractor shall interface with E-1 contractor during detailed design.



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30	GENERAL ELV		Telecommunication wiring Box & CTF	Telecommunication wiring Box & CTF is in E1 package but as per Demarcation Chart of E1 Package for Inside Station Area of page no 1 of 2 [Annexure 6] only cable tray, cut out for cable, installation space to be considered under c package scope of work, Please provide the location of the same.	Refer Annexure 6 of DRC 05010. The Contractor shall interface with E-1 contractor during detailed design.
31	GENERAL ELV		Access Control System	If Access control system is in scope of work, please share the DRC 5040 document for location of Access points in station.	Access control system is in the scope of Works of C-1 package. For tentative location of rooms, refer Sub-Clause 18.3.3 of DRC 05040.
32	GENERAL ELV		WIFI System	Please provide the location WIFI access points	The Contractor shall develop during detailed design for approval of the Engineer. For tentative location of rooms, refer Sub-Clause 18.4.5 of DRC 05040.
33	GENERAL ELV		General	Please provide the location of Network switch for camera, Telephone, WIFI, PA	The Contractor shall interface with E-1 contractor during detailed design.
34	Part-2– EMPLOYER'S REQUIREMENTS : Section VI-2 (Design Requirements and Criteria)	Page 30 of 58, 17.4.2	The adopted LUX levels, FEU and Lighting design shall be submitted by the Contractor for approval of the Engineer.	Please be note none of Light manufactures are complying to FEU except M/s Panasonic, hence request you to exclude the FEU from the tender	Refer Addendum No. 02, Item No. 21 and 22.
35	General			Kindly provide Preferred / Approved List of makes/brands for E&M equipments	The Condition(s) of the Bidding Documents shall remain unaltered.
36	Part-2– EMPLOYER'S REQUIREMENTS : Section VI-2 (Design Requirements and Criteria)	Page 34 of 58, 17.4.11	Station shall have centralized network-based control system for schedule based automatic lighting shut off switches and other control and monitoring operations.	Kindly provide the design internet for the centralized network-based control system for schedule based automatic lighting,	The Schedule based Automatic lighting shall be designed and installed to meet Requirements of ECBC 2017. Refer Sub - Clause 17.4.4 of DRC 05040.
37	Part-2– EMPLOYER'S REQUIREMENTS : Section VI-2 (Design Requirements and Criteria)	Page 34 of 58, 17.4.26	Exterior and Façade lighting for station entry/exit structure shall be designed to meet the station architecture theme and requirement from architecture.	Please provide the theme and requirement of FAÇADE lighting	The Contractor shall develop and submit during detailed design for approval of the Engineer.
38	Part-2– EMPLOYER'S REQUIREMENTS : Section VI-3 (Technical Specifications)	Page 33 of 74, 12.10.2	The battery cell shall be of heavy duty, rechargeable, valve regulated lead acid, and maintenance-free type and the performance shall comply with IEC 60896-21 and IEC 60896-22 having an intended design life of at least 7 years.	30 Minutes back up is required at the end of 7 years, please confirm	The Condition(s) of Bidding Documents shall remain unaltered.
39	General			Kindly provide Technical details of Tickting System	Refer Clause 9 of Sub-Division 01010 of GS 01000.
40	General		PIDS	please provide the load details & locations of PIDS, Train information terminals, & terminal for instruction on train operation	The Contractor shall interface with E-1 contractor during detailed design.
41	Vol 2 of 2, VI-2 -Design Requirement & Criteria	Page 27 of 633, Chapter-3 : Rolling Stock of Annexure-1 SOD	Information provided for Rolling Stock	Please provide the total heat rejection from each Rolling Stock Condensing Units and the breaking and other train accessories. This is required for the design of the Exhaust System comprising of OTE and UPE and sizing of FAHUs.	Refer Appendix 04000-1, Chapter III, 5. Interface between C-1 and R-1.
42	Vol 2 of 2, VI-2 -Design Requirement & Criteria	Page 27 of 633, Chapter-3 : Rolling Stock of Annexure-1 SOD		Please confirm whether Rolling Stock for the HSR will have regenerative breaking System. Also let us have the efficiency of regeneration.	The Condition(s) of the Bidding Documents shall remain unaltered.

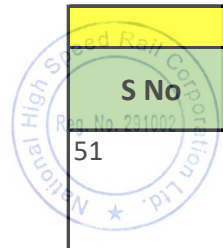


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43	Vol 2 of 2, VI-2 -Design Requirement & Criteria	Page 40 of 77, 5	TVS System	We understand that the TVS fans required for the cut and cover tunnel section , station and shaft would be unidirectional. Please confirm.	Refer Figure 1: Tunnel Ventilation System, Sub-Clause 5.3 of DRC 05030.
44	Vol 2 of 2, VI-2 -Design Requirement & Criteria	Page 40 of 77, 5	TVS System	We would design the TVS Fans suitable to withstand pressure pulse of +/- 300 Pa. Please confirm the same is acceptable or specify the alternate value.	Refer Clause 5 of DRC 05030 which is self-explanatory.
45	Employer's Requirement ( Design Requirement criteria)- Division 05050	Page 14 of 22, 2.2	Domestic Water Storage Tank - The minimum Raw & Domestic Water Storage Tanks Capacities shall be as per Table 3.	Please clarify shall we have to consider the same capacity as mentioned i.e 500 m3 or shall we have to calculated the storage capacity as per Projected number of passengers per day in 2053.	The Condition(s) are self-explanatory.
46	Employer's Requirement ( Design Requirement criteria)- Division 05050	Page 15 of 22, 2.6	Piping Work - g) Stainless Steel Pipes(Grade 316) for rain water downtake on the external facia of the building (exposed areas)	In 2.6(f) uPVC-SWR Pipe Type A for downtake of rainwater pipes has been asked for consideration, then the same can be considered for the exposed area as well. Please confirm.	The Condition(s) of the Bidding Documents shall remain unaltered.
47	Employer's Requirement ( Design Requirement criteria)- Division 05050	Page 17 of 22, 5	Sewage Disposal System - a) Soil water from the toilets, public areas and commercial areas shall be discharged into sewage sump and shall be transferred via transfer pumps into Municipal sewage trunk mainline.	As per Drawing No. BD-JIC-C14-DRW-S01-STM-NTU-01500_000 - UNDER GROUND WATER TANKS & FIRE PUMP LAYOUT - Indicates STP (Sewage Treatment Plant), we understand that this is only to treat the grey(waste) water only and not black(soil) water. As Soil water shall we directly pumped to nearest Municipal Sewage main line.	Refer Addendum No. 01, Item No. 41 and Clauses 5 & 8 of DRC 05050.
48	Employer's Requirement ( Design Requirement criteria)- Division 05050	Page 21 of 22, 12.2	General - h) All fire hydrant mist water lines shall be Stainless Steel (SS 316) heavy duty & sprinkler mist water pipe lines shall be c-PVC pipe UL approved (IS: 16088 - 2012). The system design shall take into consideration the farthest point of water mist gun pressure, sprinkler pressure, type of sprinkler and its temperature rating as per the relevant standard codes or as per the local fire authorities.	Please confirm can we consider GI 'C' Class heavy duty - IS 1239- Part 1 & 2 (Galvanised Iron) Pipes with grooved fittings, instead of Stainless Steel (SS-316) and cPVC Pipes.	The Condition(s) of the Bidding Documents shall remain unaltered.
49	Employer's Requirement ( Design Requirement criteria)- Division 05050	Page 21 of 22, 12.3	High Pressure Water Mist System (HPWMS)- UG Station shall be protected with high pressure water mist system working at high water pressure (120 bar). The system shall include internal and external hose cabinets (located in a public area without obstruction to the movement of passengers), water mist gun hydrants, reel drum with hose pipes covering the entire public area with stainless steel piping and valves,brackets and clamps etc. as per relevant codes and guidelines of the local fire authorities,whichever is more stringent.	Shall we consider High pressure (Hydrant) System for entire facility with GI-C Class Heavy Pipes instead of Stainless Steel pipe and the branch pipe, valves shall be stainless steel. Please clarify	The Condition(s) of the Bidding Documents shall remain unaltered.
50	Employer's Requirement ( Design Requirement criteria)- Division 05050	Page 21 of 22, 12.4	Low Pressure Sprinkler Water Mist System - UG Station shall be protected with high pressure water mist system working at high water pressure (120 bar). The system shall include internal and external hose cabinets (located in a public area without obstruction to the movement of passengers), water mist gun hydrants, reel drum with hose pipes covering the entire public area with stainless steel piping and valves,brackets and clamps etc. as per relevant codes and guidelines of the local fire authorities,whichever is more stringent.	Can we consider GI 'C' Class pipes - IS 1239- Part 1 & 2 , instead UL approved cPVC Pipes. Only in the concourse level and commercial areas shall be provided with sprinkler system. Please confirm.	The Condition(s) of the Bidding Documents shall remain unaltered.

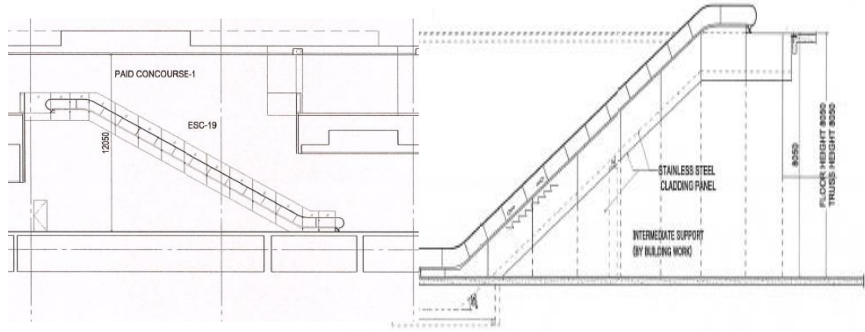
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51	Employer's Requirement ( Design Requirement criteria)- Division 05050	Page 22 of 22, 12.5	Fire Water Tank - a) Water for firefighting shall be stored in two interconnected compartments of RCC each having capacity of 125 m3. This shall facilitate cleaning and maintenance of the tanks without interrupting the water availability for firefighting.	As per NBC-2016 - Part IV- Annexure-J - Total Fire Water Tank should be of 100 m3 each interconnected compartments which w.o.t 200 m3. Please clarify whether we have to adhere to the capacity mentioned i.e 125 m3 each.	Refer Sub-Clause 12.5 of DRC 05050.
52	Employer's Requirement ( Design Requirement criteria)- Division 05010	Page 33 of 43, 3.3	Drainage	Kindly clarify scope & extent of the External Drainage.	Refer Sub-Clause 2.1.12 of TS 05050. Drainage works shall be executed as per the Employer's Requirements.
53	Architectural Drawings	B0-JIC-C14-DRW-S01-STA-NTU-03001/03002/03003	Drawing schedule	Door and window schedule provided however door window numbers are not marked on the plans. Please provide marked plan drawings.	The quantities of Door & Windows are listed in the rightmost column of the schedule in BD-JIC-C14-DRW-S01-STA-NTU-03002 and BD-JIC-C14-DRW-S01-STA-NTU-03003. For locations, refer BD-JIC-C14-DRW-S01-STA-NTU-03004 to BD-JIC-C14-DRW-S01-STA-NTU-03013. Also, refer Addendum No. 01, Item No. 41.
54	Architectural Drawings	B0-JIC-C14-DRW-S01-STA-NTU-02410-000	Staircase Details	Please provide details for all staircases. All staircases nos are not covered in typical details. Also confirm staircase M1 & similar staircase M4 both are open to sky staircases.	All staircases shall be covered on top by suitable architectural structure which the Contractor shall develop during the detailed design. For M1, refer Addendum No. 02, Item No. 37.
55	Architectural Drawings	B0-JIC-C14-DRW-S01-STA-NTU-05101	Signage Schedule	Signage Schedule does not provide materials for sign types mentioned. Please provide type viz material in schedule.	Material for Signage shall be in accordance with the Section VI-3, Division 05010 and Section VI-5 Reference Information/Reports Attachment 6: Sign Program Manual.
56	Architectural Drawings	B0-JIC-C14-DRW-S01-STA-NTU-02405/09	Sections	Please clarify extent and height of the filling required for Landscape	The scope of Landscaping is shown in BD-JIC-C14-DRW-S01-STA-NTU-01101, 02108, 02201, 02202, 02203, 02204, 04011 and 06104.  The Contractor needs to do only backfilling up to GL in the area where landscaping work is to be done by Other contractors.
57	Architectural Drawings	Drg No. BD-JIC-C14-S01-STA-NTU-01201-000		1.XPS (xtruded polystyrene)Thermal insulation used for thermal insulation . Plese specify the R- Value of material	The Contractor shall develop in compliance with Sub-Clause 1.3.1 of DRC 05030 during detail design for the approval of the Engineer.
58	Employer's Requirement ( General specifications)	Pg no. 23	040404 - Interface co ocrdination and cooperation with other parties	1. Please specify the list of interface contractors. 2.Please provide the interface matrix.	1. & 2. Refer Appendix 04000-1 of GS 04000.





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59	Employer's Requirement (Technical specifications)	Pg no. 16 of 60	Variation in granite shade .	Since Platform,Concourse & Ground floor area is about 20,000Sqm & finishing of floor granite is ST-01(refer tender drg no. 060106-000)at public area. Granite is a natural stone. Hence, there may be variation in shade can be possible.	The Contractor shall ensure provision of Granite as per best industrial practices with minimum shade variation as approved by the Engineer.
60	Employer's Requirement (Technical specifications)	Pg no. 46 of 60	15.14.1.1- Stainless Steel drawing - Size , location and fixing as per basic design drawing	Please provide the basic drawing & railing layout .	Refer BD-JIC-C14-DRW-S01-STA-NTU-04005-000.
61				Request to provide List Of approved Make ??	Refer Sub-Clause 1.1 of TS 05010 and Addendum No. 01, Item No. 25.
62	Drawing	Drg No. BD-JIC-C14-S01-STA-NTU-01210-000 & Drg No. BD-JIC-C14-S01-STA-NTU-01001-000	General- Elevation -1 & Perspective sketch -1	Request to provide the Cross section of elevation drg .	Refer BD-JIC-C14-DRW-S01-STA-NTU-02405 and BD-JIC-C14-DRW-S01-STA-NTU-02411.
63	Drawing	Drg No. BD-JIC-C14-S01-STA-NTU-20406-000 & Drg No. BD-JIC-C14-S01-STM-NTU-00503-001	Escalator(C to P ) in architectural 3 (ESC-19)& ESC 25 in section 4 has no IMS while esclator detail (drg no. 00503-001) showing the IMS 	Please clarify .	Refer Drawing No. Drg No. BD-JIC-C14-S01-STM-NTU-00503-001. However, the Contractor shall confirm the requirement of IMS during detailed design.
64	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20024-002 and SD-MTC-D01-TDS-S01-CCT-NTU-20208-000 to 20212-000		At level B2, beam sizes as per schedule in General Arrangement drawings are different from the beam sizes in RC details of Beam schedule. Please provide us corrected size of beams.	Refer Addendum No. 02, Item No. 37.
65	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20020-001 to 20023-001 and Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20045-001		Column schedules for C2, C3, CT5, CT7, CT8 and Wall schedules for W1, W2,W3,W4 W5, W6 & W6-W6 are not available. Kindly provide the details.	Refer Addendum No. 01, Item No. 41.
66	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20220-001		RC Details for Wall along Grid-X60 from B1 Level slab to URSL slab top and RC details for B1 Level slab beyond Grid-X60 not available. Kindly provide the details.	Refer Addendum No. 01, Item No. 41. B1 slab stops at Grid X-60 and does not continue beyond Grid X-60.

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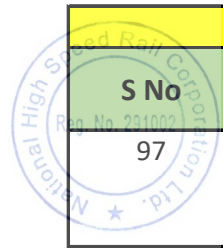
S No	Part & Section Reference	Page No / Clause No.	Provision as per Bidding Documents / Subject / Title / Item as mentioned by the Bidder	Bidder Query	Employer's Response
67	Structural Drawings- BKC Station and Cut & Cover Tunnel			Typical RC Details for Ground floor, Mezzanine floor & Terrace floor slab of West Entry-Exit Structure not available. Kindly provide the details.	Refer Addendum No. 02, Item No. 37.
68	Structural Drawings- BKC Station and Cut & Cover Tunnel			Typical RC details of opening in the Retaining wall and slab are not available. Kindly provide the details.	Refer Addendum No. 02, Item No. 37.
69	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20154-002		RC details of the Shear wall WT-10 from level B3 TO URSL -1 around periphery of stair-1 and RC details of 200mm THK. wall around Lift periphery not available. Kindly provide the details.	Refer Addendum No. 02, Item No. 37.
70	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20174-000		RC details of shear walls of 250mm THK. & 200mm THK. in all Staircases not available. Kindly provide the details.	Refer Addendum No. 02, Item No. 37.
71	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20160-002 to 20161-002		RC details of WG5 & RC Wall 600mm THK. from Grid X53-X61 not available. Kindly provide the details.	Refer Addendum No. 01, Item No. 41.
72	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20017-001 to 20019-001		Column schedule for CG5 and Shear Wall schedule for WT12, WT11-WT11/WG8 and WT14-3 are not available. Kindly provide the details.	Refer Addendum No. 01, Item No. 41.
73	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20152-001		Typical details for reinforcement around opening in Slab/Wall > 600mm is not available. Kindly provide the details.	Refer Addendum No. 01, Item No. 41 and Addendum No. 02, Item No. 37.
74	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20025-002		RC Details for 2500mm THK. Slab below column along Grid X11, not available. Kindly provide the drawing.	Refer Addendum No. 02, Item No. 37.
75	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20226-001 to 20233-001		RC details for Guard Walls around opening at URSL Level not available. Kindly provide the details.	Refer Addendum No. 02, Item No. 37.
76	Structural Drawings- BKC Station and Cut & Cover Tunnel			RC details of 400mm THK. Wall & 850mm THK. Wall @ 3.00M Level along grid X17-X21 in Skylight and RC details of beam like structure @ 3.00M Level not available. Kindly provide the details.	Refer Addendum No. 02, Item No. 37.
77	Structural Drawings- BKC Station and Cut & Cover Tunnel			RC details for RC Lump in Staircase 17,19 and 23, 24, 25, 26, 27 & 28 are required. Kindly provide the details.	RC details of RC lump are given as RC details of suspender in Drawing numbers SD-MTC-D01-TDS-S01-CCT-NTU-20184, 20194, 20195, 20196 & 20197.
78	Structural Drawings- BKC Station and Cut & Cover Tunnel			RC details of RC Brackets in all staircases are required. Kindly provide the details.	RC details of Bracket are given as MBR RC detail in Drawing numbers SD-MTC-D01-TDS-S01-CCT-NTU-20188, 20190, 20192, 20196, 20197.
79	Structural Drawings- BKC Station and Cut & Cover Tunnel			RC details of 300mm Wide Bund at Stair 25 is not available. Kindly provide the details.	Refer Addendum No. 02, Item No. 37.
80	Structural Drawings- BKC Station and Cut & Cover Tunnel			RC details of Slab, Beam, & Suspenders @ Mezzanine Level is not available. Kindly provide the details.	Refer Addendum No. 02, Item No. 37.

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81	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20032-001 and 20173-000		Size of Shear wall WT5B1 as per General Arrangement- B1 Level drawing is 6825mm x 800 mm, but as per RC details:Column and Wall drawing the size shown as 6950mm x 800mm. Please suggest which size is to be referred.	Refer Addendum No. 02, Item No. 37.
82	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20028-002		In Grid X39-Y4/ Y5, no beam size is mentioned and it is marked as (?) in the drawing (Please check the attached drawing). Kindly provide details of the beam size. Kindly provide details of the beam.	Refer Addendum No. 02, Item No. 37.
83	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20028-002		In Grid X39-Y3/ Y4, a beam is visible but no beam no. marked and size of the beam shown in the drawing (Please check the attached drawing).	Refer Addendum No. 02, Item No. 37.
84	Structural Drawings- BKC Station and Cut & Cover Tunnel	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20027-002		In Grid X29-Y1/ Y2, no beam size is mentioned and it is marked as (?) in the drawing (Please check the attached drawing). Kindly provide details of the beam size. Kindly provide details of the beam.	Refer Addendum No. 02, Item No. 37.
85	Mumbai Station - Architectural, Structural and Signage	Drawing No. BD-JIC-C14-DRW-S01-STA-NTU-07001-000		Foundation sectional details of footing F1 and F2 is required. Kindly provide the details.	The Contractor shall develop design for F1 and F2 during the detailed design for approval of the Engineer.
86	Shaft Building	Drawing		For stair 1 & 2, thickness for waist slab as per GA drg (P.No. 158 & 159) is 300mm. But as per reinforcement drg (P. no. 119) it is 250mm. Please advise.	Refer Addendum No. 02, Item No. 37.
87	Shaft Building	Drawing		Details for external stairs near stair 1 & 2 at level BOF (ground floor) is required.	Refer Addendum No. 02, Item No. 37.
88	Section -IV - 4 Drawings		All Drawings are in PDF Format	Require all drawings in editable format in AutoCAD	AutoCAD drawings cannot be provided at this stage.
89	Section -IV - 4 Drawings	Floor detail plan -2206 to 2241	Open & Closed Staircases	Each type of Staircase to be marked as Open or Closed Staircase as the finishes are different. Kindly provide the details.	Refer BD-JIC-C14-DRW-S01-STA-NTU-01202 to BD-JIC-C14-DRW-S01-STA-NTU-01206.
90	Section -IV - 4 Drawings	Enlarge section 2405 to 2414	Partition Walls	Height of Partition wall with respect to wall finishes & false ceiling is required.	The ceiling height is mentioned in the finishing table (BD-JIC-C14-DRW-S01-STA-NTU-01202-000 to BD-JIC-C14-DRW-S01-STA-NTU-01206-000). If walls constitute part of fire compartment, the wall height and fire rated finishes shall be till structural slab soffits.
91	Section -IV - 4 Drawings	Enlarge section 2405 to 2414	False Ceiling	Support system details required for false ceiling as the slab height is more. Kindly provide the details.	The Contractor shall develop during detailed design with reference to BD-JIC-C14-DRW-S01-STA-NTU-04017-000 for the Engineer's approval.
92	Section -IV - 4 Drawings	Detail section 4001 to 4004	Structural Columns	Finishing of Structural column is mentioned as Power Coating? Kindly confirm.	The finishing of Structural column is Powder coating.
93	Section -IV - 4 Drawings	Elevation 2101, 2102 & detail section 4003	Precast concrete panels with aluminium half sphere shape cladding	PL provide details of vendor required if the panels are readily available.	Refer Sub-Clause 1.1 of TS 05010. Also refer Addendum No. 01, Item No. 25.
94	Section -IV - 4 Drawings	Finishing schedule 1201 to 1205	Finishing materials e.g. kota,stone, granite stone, vitrified tiles	Basic rate of this finishing materials required.	The Condition(s) of the Bidding Documents shall remain unaltered.
95	Section -IV - 4 Drawings	Finishes schedule 1205 & floor plans 2201 to 2240	Brick work hatched nomenclature	The Brick work is not very clearly demarkated on the Floor Plans as per the Nomenclature/Legend mentioned in the Schedule of Finishes. PI provide the details.	The Contractor shall develop during the detailed design for approval of the Engineer.
96	Section -IV - 4 Drawings	Page no. 417 ,clause no.4.1 & 4.2	AAC block work / brick work	Drawings show Brick work and specifications are AAC block & Brick work, what should be considered?	The Contractor shall develop during the detailed design for approval of the Engineer.

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97	Section -IV - 4 Drawings	Floor detail plans 2201 to 2240	Outer wall- drain wall access panels	Details of Access Panel such as total numbers, location, size and material specifications are required.	The Contractor shall develop during the detailed design for approval of the Engineer.
98	Section -IV - 4 Drawings	Floor plans 2201 to 2227	Loose furniture is shown in dotted lines in floor plans	Is loose furniture included in the scope of the Contractor? If yes, then pl provide details .	Refer to Clause 9 of GS 01010 and GS 04060.
99	Section -IV - 4 Drawings	Floor plans 2201 to 2227	future space shown with hatching,as per finishes schedule only concrete flooring is to be considered for future space.	No other finishes besides Floor Concrete are to be considered? Kindly confirm.	No finishing is to be done on future space shown with hatching other than concrete flooring.
100	Section -IV - 4 Drawings	Enlarge section 2405 to 2414	Cat walk	Details of Cat walk required, such as size of members and/or the load carrying capacity etc.	The Contractor shall develop during detailed design with reference to BD-JIC-C14-DRW-S01-STA-NTU-02601 for approval of the Engineer.
101	Section -IV - 4 Drawings	Roof mf urf enlarged plan 02110	Stair case type M- 5,6 7 & 8.	Finishing details are required for these type of Staircases.	Staircase No. M5, M6, M7 and M8 are Maintenance Ladders and the Contractor shall propose finishing during detailed design for approval of the Engineer.
102	Section -IV - 4 Drawings	Ground floor detail plans 2202 to 2205	Land scape work by other contractor. the schedule no.7 ,mentioned cost of landscaping.	Is Landscaping work part of Contractor's scope or not? Kindly clarify.	Landscaping shown in BD-JIC-C14-DRW-S01-STA-NTU-01101, 02108, 02201, 02202, 02203, 02204, 04011 and 06104 is in the scope of the Contractor.
103	Section -IV - 4 Drawings	Ground floor detail plans 2202 to 2205	Outer Staircase	Finishing details are required for this staircase.	Refer to finishing schedule in BD-JIC-C14-DRW-S01-STA-NTU-01201 to 1206.
104	Section -IV - 4 Drawings	Floor plans 2201 to 2227	Lift lobby	Finishing details are required for all lift lobbies , mainly door jambs & wall cladding.	The Contractor shall develop during the detailed design based on the Basic Design drawings for approval of the Engineer.
105	Section -IV - 4 Drawings	Ground floor detail plans 2202 to 2205	Skylight details	Details of Skylight are required.	The Contractor shall develop during detailed design for the approval of the Engineer. Also refer Addendum No. 01, Item No. 38.
106			Green building certification	Does the building needs to be designed for any green building certification such as igbc or griha ratings?	The Employer shall be applying for IGBC certification. The Contractor shall facilitate the Employer with necessary documentary evidence such as site photographs during construction purchase invoices of various Green Certified materials being used etc. to support the compliance to specification and design conditions already mentioned in the Bidding Documents. Refer Sub-Clause 1.1 of TS 5010, Section VI-3.
107				Automatic Power Factor Control Panel (APECR) is not part of this package. Please confirm	The Bidder's understanding is not correct. The Contractor shall propose during detailed design for approval of the Engineer. Refer Sub-Clause 17.2 of DRC 05040.
108				As per RFP, Design and SITC of incoming cable/busduct is part of this package. Please confirm	Refer Sub-Clause 4.4.1 of DRC 05040.



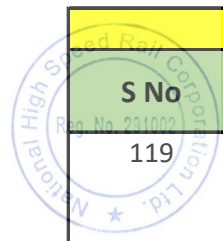


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109	volume 2 of 2 part-2 & section VI-2 division 05040	sub division 6.6 & 7	Supply and installation of Transformer and Back up Generator (DG set) is in scope of E1 contractor	Transformer and DG is not part of this package. However, interfacing for provision of space for Exhaust duct routing and provision of shaft as per Section VI-1 Appendix 04000-1 Page no 11 is in scope. Please confirm	The Bidder's understanding is correct.
110	Section VI-1 Appendix 04000-1	Page no 11/ Sr no 6	Refer remarks	Incoming cable termination for station MDP is not part of this package. Please confirm	Refer Sub-Clause 4.3 of DRC 05040.
111	volume 2 of 2 part-2 section VI-2 division 05010	sub division 1.3.1 (e&f)	IT networking, CCTV and public address system and their associates work is in scope of E1	IT rack, CCTV and public address system and their associated work is not part of this package. Please confirm. Is the cable tray for the same is in the scope of C1 Contractor? Kindly confirm.	Refer Sub-Clause 3.2 of GS 01020 and Annexure 6 of DRC 05010.
112	volume 2 of 2 part-2 section VI-2 division 05040	sub division 4.6	System study is to be given	System study is not require at pre-bid stage. Please confirm	The Bidder's understanding is correct. System studies as mentioned in Sub-Clause 4.6 of DRC 05040 shall be submitted during detailed design for approval of the Engineer.
113	volume 2 of 2 part-2 section VI-2 division 05040	sub division 13	Central metering system with power quality analysis is to be provided	Central metering is separate from BMS/BAS or is it part of BMS/BAS.	Hardware and software of BMS shall be used for monitoring and control of Centralized metering system.
114				Design and SITC of cable containment and Earthing outside of station Box is part of this package or not?	Supply, Installation, Testing and Commissioning works are not limited to station box only and Works shall be executed for Mumbai HSR Station which includes Underground Station, Cut & Cover Tunnel and Shaft -1. Refer Sub-Clause 1.1 of DRC 05040.
115				Please confirm the requirement of UPS for Station building E&M-PHE equipment and IT/DATA networking equipment. Should we keep a common for E&M-PHE and IT/DATA networking rack? OR Separate UPS for IT / Data & E&M - PHE?	The Contractor may propose combined or separate UPS for IT / Data & E&M - PHE during detailed design for approval of the Engineer.
116	Design	Design Requirements and Criteria	None	Do the temporary works need to be designed for accidental case of one strut/anchor failure condition. There is no mention of the same is tender document. Also please specify the factor of safety for the same.	The design of temporary works is in the Contractor's scope. The Contractor has to design his temporary works while taking into account all the eventualities and as per best industrial practices.
117	Design	Design Requirements and Criteria 4. 2. 6 and 4.2.8	Temporary Works shall be designed in accordance with the BIS design standards or similar international standards for live load surcharge and all other loads including seismic (Zone III) loads and shall be removed when no longer required and shall not be left in the ground	Temporary works life is less than 5years. Can seismic load be ignored in design as the probability is less likely in Mumbai region?.	The design of temporary works is in the Contractor's scope. The Contractor has to design his temporary works while taking into account all the eventualities and as per best industrial practices.
118	Design	Design Requirements and Criteria		We understand that all slabs are solid and no void forms are required either for cabling/ducting or structural design. PI confirm.	Refer Sub-Clause 1.2.3, Section VI-2, Division 02000 of DRC.

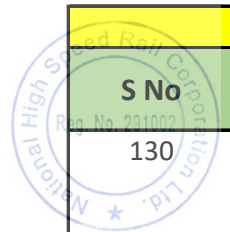
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119	Geotechnical	Design Requirements and Criteria	Regarding the aggressive nature of water so far, we have concluded in out GIR (based on results from Tender Geotechnical factual report) that the ground water is non- aggressive.	During the further site investigation after award of work, if it is found that ground water is aggressive & contain the high quantity of sulphate & chloride more than permissible limit as per IS 456: 2000. How will client compensate the contractor for fulfilling the additional requirements of protection against sulphate & chloride?	The Condition(s) of the Bidding Documents shall remain unaltered. Also, refer to Sub-Clause 4.10 of General Conditions.
120	Geotechnical		Temporary pile is shown for ground support system.	Drawing indicate the secant pile is temporary support, kindly confirm. Can contractor free to adopt any other temporary structure based on ground condition? In case of rock available at lesser depth, can contractor adopt open excavation?	Refer Sub-Clause 4.2 of DRC 02000.
121	Utilities			Please confirm that all the utilities are to be permanently diverted and no utility are to be supported during construction and restored later.	Refer GS 06060 "Utilities and Facilities".
122	Decking	Drawing		PL confirm whether both the roads are closed during the construction or not?	Refer Sub-Clause 7.2 of GS 06070.
123	Design	Drawing		Please provide design intend for above ground entry steel structure.	The Contractor shall develop during detailed design based on the architectural intent shown in BD-JIC-C14-DRW-S01-STA-NTU-01001, 01002, 01201, 01202, 02101, 02102, 02103, 02201, 02405, 02411, 02501, 06001, 06101, 06102, 06104, 06110, 06111, 06112, 06114, DRC and TS 05010 & 05020, and for Steel Structure drawings BD-JIC-C14-DRW-S01-STA-NTU-07003 and 7004 for approval of the Engineer. Also, refer Addendum 01, Item No. 38 for West Entry/Exit Structure.
124	Volume 2 of 2 part-2 section VI-3 Technical Specification	4.1.2	Samples shall be tested from every batch of cement delivered to Site or once in every 1000 bags or part thereof	Considering the huge volume of concrete, testing frequency is high. Request to relax to each batch or once a week.	The Condition(s) of the Bidding Documents shall remain unaltered.
125	Volume 2 of 2 part-2 section VI-3 Technical Specification	4.6.3	Fly ash and GGBS not permitted.	Request to allow flyash or GGBS blending at batching plant from durability point of view.	Refer Addendum No. 02, Item No. 25 for fly ash. For GGBS, the Condition(s) of the Bidding Documents shall remain unaltered.
126	Volume 2 of 2 part-2 section VI-3 Technical Specification	4.6.8	Each batch of admixture supply shall be tested for IR spectrograph and prove the consistency of supply.	Considering the huge volume of concrete, testing frequency is high. Consistency can be checked for fresh and hardened concrete properties results compared to reference sample. Kindly confirm.	The Condition(s) of the Bidding Documents shall remain unaltered.
127	Volume 2 of 2 part-2 section VI-3 Technical Specification	4.10.3 c	Fresh concrete shall not be placed against concrete which has been in position for more than thirty (30) minutes unless a proper construction joint is formed.	Due to use of admixture, the initial setting time will be more than 30min. Request to allow the fresh concrete time placement lesser than the initial setting time.	The Condition(s) of the Bidding Documents shall remain unaltered.
128	Volume 2 of 2 part-2 section VI-3 Technical Specification	Drawing No: SD-MTC-D01-TDS-S01-CCT-NTU-20001-002. General notes No. 8	WHILE PLACING CONCRETE SHALL NOT BE DROPPED FROM A HEIGHT OF MORE THAN 1 m	Request to allow 1.5m drop fo concrete.	Refer Addendum No. 02, Item No. 37.
129	Drawing no 20001-002	Cement notes	Minimum fly ash 25% to be used	Technical Specification does not allow fly ash. In notes it is written. Kindly confirm whether to use or not.	Refer Addendum No. 02, Item No. 25 and 37.



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130		Drawing No: SD-JIC-C14-DRW-S01-CCT-NTU-10010001 – General note Civil	C1- For Grade M60 - Minimum Cement Content 500Kg.	Very high cement content. IS 456 does not allow OPC more than 450 kgs. Kindly confirm.	Refer Addendum No. 02, Item No. 37.
131		Drawing No: SD-JIC-C14-DRW-S01-CCT-NTU-10010001 – General note Civil	C5 - For all cast in situ concrete sections (excluding pile & diaphragm wall) exceeding 500m thickness the following applies 1. The concrete shall contain either GGBS or Fly ash in proportion to control heat of hydration.	Technical specifications does not allow fly ash. In notes it is written. Kindly confirm whether to use or no.	Refer Addendum No. 02, Item No. 25 and 37.
132	Section VI-4, Drawings	General	General	<p>The structural drawings issued for shaft and station are not consistent. Example</p> <ul style="list-style-type: none"> <li>- Reinforcement schedule is provided for ventilation shaft while for station reinforcement schedule is not provided. Please provide reinforcement schedule for station showing the reinforcement shape and dimensions.</li> <li>- Seperate general notes are provided for Station and shaft.</li> <li>- Reinforcement cover for the station is not mentioned in general notes for stations while shall be followed based on general notes provided for shaft.</li> <li>- As per station general notes, BIS standards shall be followed for reinforcement detailing, while for shaft applicable standards mentioned are Standard specifications for concrete structure -2002- Japan Society of Civil Engineers and Standard specifications for Tunneling 2006 and cut and cover tunnels - 2002- Japan Society of Civil Engineers.</li> </ul>	<ul style="list-style-type: none"> <li>-Reinforcement schedule for the Mumbai HSR Station shall be developed by the Contractor.</li> <li>- General notes have been revised. Refer Addendum No. 2, Item No. 37.</li> <li>- Reinforcement cover has been shown in the revised general notes. Refer Addendum No. 2, Item No. 37.</li> <li>- The Condition(s) of the Bidding Documents shall remain unaltered.</li> </ul>
133	VI-4, Drawings (Station+Tunnel)	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20155-002 to D01-TDS-S01-CCT-NTU-20165-001	Notes	Please provide the SBC (Safe Bearing Capacity) considered for the design of Raft slab of BKC station and cut and cover.	Refer Addendum No. 2, Item No. 37.
134	VI-4, Drawings (Shaft -1) & (Station + Tunnel)	Drawing No. SD-MTC-D01-TDS-S01-CCT-NTU-20199-000, SD-MTC-D01-TDS-S01-CCT-NTU-20001-002, SD-JIC-C14-DRW-S01-CCT-NTU-10010001, SD-JIC-C14-DRW-S01-CCT-NTU-10020001, SD-JIC-C14-DRW-S01-CCT-NTU-42010001, SD-JIC-C14-DRW-S01-CCT-NTU-42080001, SD-JIC-C14-DRW-S01-CCT-NTU-42160001, 42170001, 42190001, 4220001	Platform material specification	The Platform reinforcement drawing has shown along with Shaft -1 drawings and Shaft -1 material specification. Few reinforcement details has also been given along with station + Tunnel drawings no. SD-MTC-D01-TDS-S01-CCT-NTU-20199-000. The material specifications are different in Shaft specification for grade of steel fe500D and fe 550D, cover, etc. Please clarify.	Refer Addendum No. 02 Item No. 37.



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135	Design	Drawing		Construction joint with shear key is shown at all joints. Shear key CJ is required in elements which are in contact with soil. Please conform whether straight CJ be proposed in internal elements.	Refer Addendum No. 02 Item No. 37.
136	Drawing no 20001-002	General Note No. 9	PLACEMENT TEMPERATURE FOR CONCRETE SHALL NOT EXCEED 1. FOR THICKNESS LESS THAN 500MM - 32°C 2. FOR THICKNESS EQUAL TO OR GREATER THAN 500MM AND LESS THAN 1000MM - 29°C 3. FOR THICKNESS EQUAL TO OR GREATER THAN 1000MM - 18°C.	Considering the climate of Mumbai and batching plant location will be away from the pouring location, the concrete temperature of 18°C will be difficult to produce and deliver. Kindly modify the temperature to 25°C	Refer Addendum No. 02, Item No. 37.
137	Drawing no 20001-002	General Note No. 10	IT SHALL BE ENSURED THAT MAXIMUM TEMPERATURE IN CONCRETE AFTER POURING DOES NOT RISE ABOVE 55°C.	CIRIA report says if fly ash and GGBS are used, even temperatures upto 100°C does not cause DEF. Even for 100% OPC upto 80°C is allowed. 55°C is very restrictive and request to modify the temperature.	Refer Addendum No. 02, Item No. 37.

