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MMRDA

No. MMRDA/MTHL-PIU/CRZ/HYR-9/ 0195 /2021 Date: 10/03/2021

To,
The Sub Regional (Taloja)
Nirmal Bhawan, 3rd& 4th floor,
Plot No. P-3, MIDC Industrial Area,
Near Ghansoli Railway Station,
Mahape, Navi Mumbai – 400701

Sub: Mumbai Trans Harbour Link Project
- Submission of Six-monthly compliance report **(January to June 2020)** of CRZ Clearance for the project

Ref: 1)CRZ Clearance Letter No.: F. No. 11-65/2012-IA.III dated 25th January 2016
2) MMRDA letter No. MMRDA/MTHL-PIU/CRZ/HYR-9/084/2021 dated 05-02-2021

Sir/Madam,

1. The Mumbai Trans Harbour Link Project has received CRZ clearance vide the letter referred above.
2. As stipulated in the CRZ clearance, the six-monthly compliance report for the period of January to June 2020 was submitted on 05.02.2021.
3. MMRDA vide letter No. MMRDA/MTHL-PIU/CRZ/HYR-9/084/2021 dated 05-02-2021 had submitted the Half Yearly report no.9 Some pages of that report have been modified and are being submitted for your reference and record.

Thanking You,

Yours faithfully,

(Dr. D. T. Thube)
Chief Engineer,
MTHL-PIU

Encl.: As above

HALF YEARLY REPORT FOR MUMBAI TRANS HARBOUR LINK

JANUARY TO JUNE 2020

Submitted to

Maharashtra Pollution Control Board (MPCB)

Submitted by

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MMRDA

Information of Project officer and Nodal officer

1.	**Name of Project officer** **Email** **Phone /Fax Number**	Executive Engineer, MTHL- Project Implementation Unit 2nd floor, New Administrative building, MMRDA, Engineering Division, Mumbai Metropolitan Region Development Authority (MMRDA), E-Block, Bandra Kurla Complex, Bandra East, Mumbai, Maharashtra 400051 Phone No.: 022-26594034
2.	**Name of Nodal officers** **Email** **Phone /Fax Number**	Chief Engineer, MTHL Project Implementation Unit 2nd floor, New Administrative building, MMRDA, Engineering Division, Mumbai Metropolitan Region Development Authority (MMRDA), E-Block, BKC, Bandra Kurla Complex, Bandra East, Mumbai, Maharashtra 400051 Email: **chiefengineer1@mailmmrda.maharashtra.gov.in** Phone No.: 022-26594034

Photographs showing present progress of work

Please refer to the Quarterly Progress Report No. 11 and 12 for the photographs of the progress

Monitoring the Implementation of Environmental Safeguards

Ministry of environmental & Forest
Western Region, Regional Office, Bhopal
Monitoring Report
PART – I
DATA SHEET

No.	Particular		Information
1.	**Project type:** River Valley / Mining / Industry / Thermal / Nuclear / Others (specify)	**:**	Infrastructure
2.	**Name of the Project**	**:**	Mumbai Trans Harbour Link Project
3.	**Clearance letter (s) / OM No. and date**	:	F. No. 11-65/2012-IA.III on 25th January, 2016
4.	**Location**		**Start point:** Sewri in Mumbai City
	a) District (s)	**:**	**End Point:** Chirle in Raigad District
	b) State (s)	**:**	Maharashtra
	c) Location latitude / longitude	**:**	**Start:** Latitude: 18°59'48.57"N Longitude: 72°51'20.67"E **End:** Latitude: 18°56'18.33"N Longitude: 73° 1'52.92"E
5.	**Address for Correspondence** a) Address of the Concerned Project Chief Engineer (with Pin code & Telephone / Telex / Fax Numbers)	**:**	Chief Engineer, MTHL Project Implementation Unit 2nd floor, New Administrative building, MMRDA, Engineering Division, Mumbai Metropolitan Region Development Authority (MMRDA), E-Block, BKC, Bandra Kurla Complex, Bandra East, Mumbai, Maharashtra 400051 Phone No.: 022-26594034
	b) Address of the Concerned Project Chief Engineer (with Pin code & Telephone / Telex / Fax Numbers)		
6.	**Salient features** a) of the Project	**:**	The proposed Mumbai Trans Harbour Link ('MTHL') is proposed to facilitate decongestion of the island city by improving connectivity between Island city and mainland (Navi Mumbai) and development of Navi Mumbai Region.

No.	Particular		Information
			Mumbai Trans Harbour Link Project is 22 km long 6-lane bridge across the Mumbai bay connecting Sewri on Mumbai side to Chirle on Navi Mumbai side. **Benefits:** • Saving in travel time, Vehicle Operating Cost and Fuel Savings • Accelerated growth of Navi Mumbai • Decongestion of island city of Mumbai • Connectivity to MbPT and JNPT Ports • Faster access to Navi Mumbai International Airport • Connectivity to Pune Expressway and to South India
	b) of the Environmental Management Plans		Various measures stipulated in the Environmental Management Plan mentioned in the CRZ clearance are being complied.
7.	**Breakup of the Project Area** a) Submergence area: forest & non forest	**:**	Total Area of Right of Way: 120.228 Ha Forest area: 47.417 Ha Non-Forest area: 72.811 Ha
	b) Others		--
8.	**Breakup of the project affected population** with the enumeration of those losing Houses / Dwelling units only, Agricultural Land & Landless Laborers / Artisans: a) SC, ST / Adivasi b) Others (please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey is carried out give details & year of survey)	**:**	**Project affected population**: Please refer to the Quarterly Progress Report No. 11 and 12 for the project affected population. MMRDA has approved eligibility of 6356 fisher folks as project affected so far. Accordingly, fisheries department, Gov. of Maharashtra has paid compensation to eligible fisher-folk as per approved Fisherman Compensation Policy
9 a)	**Financial Details:** Project cost as originally planned and subsequent revised estimates and the year of price reference	:	The total cost of the project is Rs. 17,843 Crore Year of reference: 2016
b)	Allocation made for	:	Allocation of Rs. 335 Crore has been made for the

No.	Particular		Information
	environmental management plans with item wise and year wise breakup		implementation of Environment Management Plan for the MTHL project. The item-wise cost breakup of the EMP is attached as **Annexure-I.**
c)	Benefit cost ratio/Internal rate of Return and the year of assessment	:	-
d)	Whether (c)includes the cost of environmental management as shown in the above	:	-
e)	Actual expenditure incurred on the project so far	:	Rs. 5114.86 Crore
f)	Actual expenditure incurred on the environmental management plans so far	:	Please refer Annexure-II for actual expenditure incurred on the environmental management plans so far.
10	**Forest Land Requirement**		
a)	The status of approval for diversion of forest land for non-forestry use	:	Stage – I clearance approval for diversion of forest land for non-forestry use has been received from MoEF & CC on 22nd January 2016 vide letter F.No.8-89/2013-FC.
b)	The status of clearing felling	:	NOC from Hon. High Court for cutting of mangroves is received on 28th November 2016. Working Permission from Forest Department received on 22 May 2017.
c)	The status of compensatory afforestation, if any Comments on the viability & sustainability of compensatory afforestation program in the light of actual field experience so far	:	Rs. 91.42 crores have been transferred to Mangrove cell of Mangroves & Marine Biodiversity Foundation, setup under Maharashtra State Forest Department for Compensatory Afforestation (CA). Mangrove cell, Mumbai submitted updated status report of plantation vide letter dated 4th December 2019.
11	The status of clear felling in non-forest areas (such as submergence area or reservoir, approach roads.), if any with quantitative information required.	:	Commencement Letters have been issued to the Contractors of Package-1, Package-2 and Package-3 on 23 March 2018. Permission for cutting/transplantation in non-forest area of Navi Mumbai side has been granted by CIDCO. However, felling in non-forest area has not yet started.

No.	Particular		Information
12	**Status of construction** (Actual&/or planned)		Commencement Letters have been issued to the Contractors of Package-1, Package-2 and Package-3 on 23 March 2018. Please refer to the Quarterly Progress Report No. 11 and 12 attached with this report.
a)	Date of commencement (Actual & / or planned)	:	Commencement Letters have been issued to the Contractors of Package-1, Package-2 and Package-3 on 23 March 2018.
b)	Date of completion (Actual&/or planned)	:	--
13	**Reasons for the delay** if the project is yet to start	:	Not Applicable.
14	**Dates of Site Visits**		--
a)	The dates on which the project was monitored by the Regional Office on previous occasions, if any	:	--
b)	Date of site visits for this monitoring report	:	--

Name: - Dr. D.T. Thube

Chief Engineer, MTHL Project Implementation Unit

New Administrative building, MMRDA, 2nd floor, Engineering Department, Mumbai Metropolitan Region Development Authority (MMRDA), E-Block, BKC, Bandra Kurla Complex, Bandra East, Mumbai, Maharashtra 400051
Phone No.: 022-26594034

Signature:

Stamp: CHIEF ENGINEER (MTHL, PIU) MMRDA

HALF YEARLY COMPLIANCE REPORT

1.	**Project Type**	:	Infrastructure
2.	**Name of the Project**	:	Mumbai Trans Harbour Link (MTHL) Project
3.	**Clearance letter and date**	:	F. No. 11-65/2012-IA.III on 25th January, 2016
4.	**Location**	:	
	a. District	:	**Start point:** Sewri in Mumbai City **End Point:** Chirle in Raigad District
	b. State	:	Maharashtra
	c. Latitude/Longitude	:	**Start:** Latitude: 18°59'48.57"N Longitude: 72°51'20.67"E **End:** Latitude: 18°56'18.33"N Longitude: 73° 1'52.92"E
5.	**Address of correspondence**		
6.	**a. Address of concerned project Head**	:	Chief Engineer, MTHL Project Implementation Unit 2nd floor, New Administrative building, MMRDA, Engineering Division, Mumbai Metropolitan Region Development Authority (MMRDA), E-Block, Bandra Kurla Complex, Bandra East, Mumbai, Maharashtra 400051 Phone No.: 022-26594034

Compliance to the Conditions Recommended in CRZ Clearance

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
i.	All the terms and conditions stipulated by the MCZMA in their letter No. CRZ 2015/CR236/TC 4 dated 26th November 2015 shall be strictly complied with.	Noted. MMRDA is following the conditions stipulated in the CRZ Clearance.
ii.	All the terms and conditions as mentioned in the earlier CRZ Clearance dated 19th July 2013, shall also be complied with in letter and spirit,	Noted. MMRDA is following the conditions stipulated in the CRZ Clearance dated 19th July 2013.
iii.	The Environment Management Plan as presented during the meeting shall be implemented in consultation with all the stakeholders.	MMRDA is implementing the Environment Management plan as stipulated in CRZ clearance. The implementation plan with detailed EMP is attached as an **Annexure I.**
iv.	The project/activity shall be carried out strictly be in accordance with the provisions of CRZ Notification, 2011, and shall not affect the coastal ecology of the area including flora and fauna.	Noted and is being complied.
v.	The project proponent shall obtain all permissions from concerned authorities prior to commencement of the project and shall observe all safety requirements onshore and offshore.	Noted and is being complied.
vi.	The project proponent shall not undertake any blasting/construction activities during night hours.	This condition has been revised by MoEF& CC vide letter dated 28th August, 2017 having file no F. No. 11-65/2012-IA. III.
vii.	The proposal indicates the diversion of 47.417 ha forest land for which the proponent shall obtain the requisite Forest Clearance. The project may be executed in the entire stretch in non-forest land, and while making application to get the Forest Clearance, the execution of work on non-forest land shall not be cited as a reason for grant of FC and in case FC is declined, the forest land shall be maintained at its	Stage – I clearance approval for diversion of forest land for non-forestry use has been received from MoEF & CC on 22nd January 2016 vide letter F.No.8-89/2013-FC. Stage – II application is submitted to Deputy Conservator of Forest vide MMRDA letter 6-3-2017 and latest compliance submitted on 10-09-2018.

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
	existing condition. The PP shall submit an undertaking to this effect at the earliest to the concerned Regional Office to this Ministry.	
viii.	All the wildlife mitigation measures as proposed by BNHS in their report dated 23.09.2015 for original alignment shall be implemented with the following modification	
	a) Construction of jetty on both the ends passing through mud flats and mangroves must not exceed 30 months and construction of actual spans must not exceed more that further 12 months.	Noted and being complied.
	b) The distance between the supporting pillars shall remain 50 m as currently proposed by the MMRDA.	The distance between the piers is maintained more than 50 m.
	c) MMRDA will partly bear the cost of setting of effluent treatment plant in the region as suggested by BNHS.	Noted and being complied
ix.	The project proponent shall not undertake any blasting/construction activities during night hours.	This condition has been revised by MoEF&CC vide letter dated 28th August 2017 having file no F. No. 11-65/2012-IA. III.

Sr.No.	GENERAL CONDITIONS	COMPLIANCE STATUS
1	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	Noted and is being complied.
2	Full support shall be extended to the officers of this Ministry/Regional Office at Nagpur by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Noted and will be complied.
3	A Six-Monthly monitoring report shall need to	Noted and is being complied. List of

Sr.No.	GENERAL CONDITIONS	COMPLIANCE STATUS
	be submitted by the project proponents to the Regional Office of this Ministry at Nagpur regarding the implementation of the stipulated conditions.	Following Six-monthly compliance reports are also uploaded on MMRDA website : 1. January to June 2016. 2. July to December 2016. 3. January to June 2017. 4. July to December 2017. 5. January to June 2018. 6. July to December 2018. 7. January to June 2019. 8. July to December 2019
4	MoEF&CC or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary, in the interest of environment and the same shall be complied with.	Noted and shall be complied
5	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with to the satisfaction of the Ministry.	Noted.
6	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the MoEF & CC.	Noted.
7	The project proponents shall inform to the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Noted.
8	A copy of the clearance letter shall be marked to concerned Panchayat/ local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal	Noted and complied
9	A copy of the CRZ Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The Clearance letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/Tehsildar's Office for 30 days.	Noted and complied.
10	The above stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act	Noted and will be complied.

Sr.No.	GENERAL CONDITIONS	COMPLIANCE STATUS
	1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	
11	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, and clearances under the Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	Noted and will be complied.
12	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest & Climate Change at. The advertisement should be made within Seven days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Nagpur.	Complied.
13	This Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.	Noted.
14	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted.
15	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent on its website.	Noted and is being complied.
16	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local	Complied.

Sr.No.	GENERAL CONDITIONS	COMPLIANCE STATUS
	Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	
17	The proponent Shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Noted and is being complied. Six monthly reports on compliance & monitoring results of conditions stipulated in CRZ clearance is being submitted to MPCB Regional, sub regional office, Nagpur MPCB office, MCZMA & SEIAA.
18	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF & CC, the respective Zonal Office of CPCB and the SPCB.	Noted. Six monthly reports on compliance & monitoring results of conditions stipulated in CRZ clearance is being submitted to MPCB Regional, sub regional office, Nagpur MPCB office, MCZMA & SEIAA.
19	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF & CC by e-mail.	Noted. Individual construction packages have obtained CTE for batching plant and casting yards and the stipulations are being adhered to and are uploaded on the website of MMRDA

Annexures

Annexure I	Environment Management Plan
Annexure II	Item wise cost breakup of the Environmental Management Plan
Annexure III	Quarterly Progress Reports 11 & 12

Annexure-I Environment Management Plan stipulated in CRZ clearance

Sr. No	Environmental attribute	Cost in Crores
1.	Environmental Monitoring- Air Act, Water Act, Noise levels	8
2.	Compensatory Restoration Plan (Mangroves)	25
3.	Implementation of the suggestions given by BNHS	25
4.	Noise barriers	45
5.	Mitigation of marine water pollution caused due to the surrounding industries and Sewage from Urban Bodies, by providing Funding and Capacity Building for Enabling Effluent Treatment	40
6.	• Contribution to Mangroves Fund, an initiative by Govt. of Maharashtra for Conservation and Protection of Mangroves in Coastal areas by depositing Seed Money. • This can be used for Survey & Demarcation of Notified areas • Purchase of vehicles and equipment for anti-Encroachment drives, etc.	25
7.	Oil Spill Mitigation Plan	10
8.	Habitat quality assessment and monitoring Surveillance management and monitoring team for migratory birds, marine flora, turbidity in sea floor, etc Corpus fund for mudflat restoration program	20
9.	Appointment of Bird Monitor and his assistant till Restoration of Baseline data	4
10.	DMP, Firefighting, Risk Analysis	15
11.	Sustainable development including establishing Nature Interpretation Centre	10
12.	Safety and Security	15
13.	Energy conservation	10
14.	Landscaping-Plantation of trees, flower in plants etc.	8
15.	Compensation and Capacity Building of Fisher folks due to Temporary and Permanent Loss of Fishing round	75
		335 crores

Annexure-II

	EMP break up for Jan to June 2020			Cumulative Expenditure (Rs. In Crore)
Sr. No	**Environmental attribute**	**Cost in crores (As stipulated in CRZ clearance) (Rs. in Crore)**	**Expenditure incurred on the environmental management plans (Rs. in Crore)**	
1.	Environmental Monitoring- Air Act, Water Act, Noise levels	8	0.1696	0.7061
2.	Compensatory Restoration Plan (Mangroves)	25	0	50.82
3.	Implementation of the suggestions given by BNHS	25	0	41.98
4.	Noise barriers	45	0.3413	1.051
5.	Mitigation of marine water pollution caused due to the surrounding industries and Sewage from Urban Bodies, by providing Funding and Capacity Building for Enabling Effluent Treatment	40	0	5.8
6.	Contribution to Mangroves Fund, an initiative by Govt. of Maharashtra for Conservation and Protection of Mangroves in Coastal areas by depositing Seed Money. This can be used for Survey & Demarcation of Notified areas. Purchase of vehicles and equipment for anti-Encroachment drives, etc.	25	0	25
7.	Oil Spill Mitigation Plan	10	0.271	0.9281
8.	Habitat quality assessment and monitoring Surveillance management and monitoring team for migratory birds, marine flora, turbidity in sea floor, etc Corpus fund for mudflat restoration program	20	0	0
9.	Appointment of Bird Monitor and his assistant till	4	0	0

	EMP break up for Jan to June 2020			Cumulative Expenditure (Rs. In Crore)
Sr. No	**Environmental attribute**	**Cost in crores (As stipulated in CRZ clearance) (Rs. in Crore)**	**Expenditure incurred on the environmental management plans (Rs. in Crore)**	
	Restoration of Baseline data			
10.	DMP, Firefighting, Risk Analysis	15	0.2026	1.9225
11.	Sustainable development including establishing Nature Interpretation Centre	10	0	10
12.	Safety and Security	15	3.0618	9.5401
13.	Energy conservation	10	0.2837	2.9048
14.	Landscaping-Plantation of trees, flower in plants etc.	8	0.085	0.578
15.	Compensation and Capacity Building of Fisher folks due to Temporary and Permanent Loss of Fishing round	75	40.37	89.3
		335 Crores	**4.4785 Crores**	**240.5306 Crores**

Mumbai Metropolitan Region Development Authority

Mumbai Trans Harbour Link Project

Quarterly Progress Report - No.11

(From 1st October 2019 to 31st December 2019)

Mumbai Trans Harbour Link Project
Quarterly Progress Report No. 11
1st October 2019 to 31st December 2019
Loan Agreement No. ID-P255 (Tranche–I)

ORGANIZATION INFORMATION

Borrower	**Mumbai Metropolitan Region Development Authority**	
	Person in Charge	**Metropolitan Commissioner, MMRDA**
	Contact Address	M.M.R.D.A. New Office Building, Bandra-Kurla Complex, Plot no. R-5, R-6 & R-12, E Block, Bandra (East), Mumbai - 400051 Phone: +91-22-26594000 Fax No:+91-22-2659 1264
Executing Agency	**Mumbai Trans Harbour Link Project Implementation Unit**	
	Headed by:	Chief Engineer Mumbai Trans Harbour Link Project Implementation Unit
	Contact Address	M.M.R.D.A. New Office Building, Bandra-Kurla Complex, Plot no. R-5, R-6 & R-12, E Block Bandra (East), Mumbai - 400 051 Phone: +91-22-2659 4034 Fax No: +91-22-2659 4179

Details of JICA Loan

Source of Finance	JICA ODA Loan Portion:	238,572 million Japanese YEN (JPY)
	Tranche-I:	144,795 million Japanese YEN (JPY) (Loan Agreement signed on 31st March 2017)
	Tranche-II:	66,909 Million Japanese YEN (JPY) (Loan Agreement to be signed)
Terms and Conditions of JICA ODA Loan (Tranche-1)	Interest Rate:	0.10000% (LIBOR(-0.04817%) + SPREAD RATE(0.10000%)) from 20th September 2019 to 19th March 2020.
	Repayment Period:	30 years, including 10 years of grace period.

DOCUMENT VERIFICATION AND REVISION RECORD

PROJECT NAME	Mumbai Trans Harbour Link Project		
DOC NO.	11	DATE OF ISSUE	11/02/2020
DOC TITLE	Quarterly Progress Report No. 11		

REV No.	DATE OF ISSUE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY
R0	05/07/2017	Quarterly Progress Report No. 1 (Apr-Jun 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/10/2017	Quarterly Progress Report No. 2 (Jul-Sep 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/01/2018	Quarterly Progress Report No. 3 (Oct-Dec 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/04/2018	Quarterly Progress Report No. 4 (Jan-Mar 18)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	24/07/2018	Quarterly Progress Report No. 5 (Apr-Jun 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R0	10/10/2018	Quarterly Progress Report No. 6 (Jul-Sep 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R1	08/02/2019	Quarterly Progress Report No. 7 (Oct-Dec 18)	Prashant B	J Senthil/ Dr T K Sundaram	Dr Robin Sham
R0	05/04/2019	Quarterly Progress Report No. 8 (Jan-Mar 19)	Prashant B	J Senthil	V. D. Sharma/ Dr Robin Sham
R0	18/09/2019	Quarterly Progress Report No. 9 (Apr-Jun 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	13/11/2019	Quarterly Progress Report No. 10 (Jul-Sep 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	11/02/2020	Quarterly Progress Report No.11(Oct-Dec 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham

Contents

1.0 PROJECT DESCRIPTION

1.1 Project Objective

Original:

To improve connectivity in Mumbai Metropolitan region by constructing the Mumbai Trans Harbour Link connecting Mumbai with Navi Mumbai, thereby contributing to mitigation of traffic congestion and promoting regional economic development.

Actual *(P/R, PCR)*

There is no change in the Project Objective.

1.2 Necessity of the Project

The Project is consistent with the development policy, sector plan, national/regional development plans and demand of target group of the recipient country.

Benefits from MTHL Project

- Saving in travel time for commuters from Mumbai to Navi Mumbai.
- Improved comfort and accessibility between the island and the mainland.
- Reduced operating costs of vehicles due to lesser congestion.
- Smooth traffic flow from Navi Mumbai airport to Mumbai Island.
- Accelerated economic development of Navi Mumbai and nearby regions.
- Greater economic integration of Mumbai island with Navi Mumbai and extended regions of Pune, Goa, Panvel and Alibaug.
- Improvement in environment and reduced pollution levels.
- Improved safety due to reduction in accidents.
- Improvement in trade competitiveness through faster and improved logistics.
- Accelerated growth of Navi Mumbai.
- Decongestion of Mumbai Island and dispersal of population to Navi Mumbai region & beyond.

Necessity of the Project

1. Although the urbanization in India has been rapidly progressing, infrastructure development in the urban areas has not caught up its progress. Particularly, the traffic congestion in the urban areas due to a lack of road network hinders the economic development. Thus, Government of India (GOI) places transport and connectivity as one of the “Growth Enablers” and plans to enhance road network in the “Three Year Acton Agenda 2017-2018 to 2019-20 (NITI Aayog)”.
2. Mumbai Metropolitan Region, which includes Mumbai and Navi Mumbai, has about 18.4 million people in population as of 2011 (Census 2011) and the population density reaches 20,694 people per square km in the center of Mumbai, which is one of the most overpopulated and high-density cities in the world.
3. Mumbai, the narrow stretch of land that has traditionally been the epicentre of India’s commerce, has seen a steady increase in population in the last three decades despite obvious spatial constraints. Thus, the development of Navi Mumbai has been identified as

an urgent requirement for broad development in Mumbai Metropolitan Region.

4. The Government of Maharashtra (GoM), of which Mumbai Metropolitan Region is under jurisdiction, has been facilitating various development plans particularly in Navi Mumbai area, which stands at the opposite site of Mumbai across the Mumbai Bay and still has spacious area for development, such as a new international airport, Special Economic Zone (SEZ) and expansion of Jawaharlal Nehru Port in order to promote the sustainable economic development in Mumbai Metropolitan Region.
5. Furthermore, a lack of connectivity in Mumbai has stunted its growth. The GoM has given importance to construct the faster connection with Mumbai to Navi Mumbai International Airport, Jawaharlal Nehru Port, Mumbai-Pune expressway and main hinterland.
6. Accordingly, the Mumbai Trans Harbour Link (MTHL) has been identified as the important infrastructure to improve the connectivity between Mumbai and Navi Mumbai and continue economic development in Mumbai Metropolitan Region.

   The MTHL is proposed to be developed as an expressway link comprising of a dual three-lane main carriageway bridge connecting Sewri in Mumbai to Chirle in Navi Mumbai. When completed, MTHL will reduce the distance between Mumbai and Navi Mumbai and will help save approximately an hour in travel time. Also, development of Navi Mumbai along with the imminent construction of the Navi Mumbai airport will lead to increased traffic between Mumbai and Navi Mumbai. Consequently, the project is envisaged to; improving accessibility between Mumbai and Navi Mumbai, accelerating growth of Navi Mumbai, smooth traffic flow from Navi Mumbai airport to Mumbai, accelerating economic development of Navi Mumbai and surrounding regions, greater economic integration of Mumbai with Navi Mumbai and extended regions of Pune, Goa, Panvel and Alibaug, and decongestion of Mumbai and dispersal of population to Navi Mumbai region and beyond.

7. The Comprehensive Transportation Study (CTS) for Mumbai Metropolitan Region which was guided by Mumbai Metropolitan Region Development Authority (MMRDA) and supported by World Bank, was completed in July 2008, which was over 25 years after the issuance of the last comprehensive transport study. The report provided a vision for Mumbai's future transportation as seamless and integrated system, in which commuters can make their journeys safely and conveniently by various modes of transport, particularly by public transport, and recommended the development of Multi Modal Corridor to take care of the varied travel demands of the region for the period up to 2031. The CTS proposed to develop the highway network in the region. The MTHL has been regarded as the priority road for Mumbai, considering its function and importance connecting between Mumbai and Navi Mumbai.
8. Necessity of the Project: - To promote economic development in Mumbai Metropolitan Region it is essential to improve the connectivity between Mumbai and Navi Mumbai, by constructing MTHL.

Actual *(P/R, PCR)*

There is no change in the Necessity of the Project preamble.

1.3 Rationale of the Project Design

- Timing, Scale, Technology of the Project:

Demand Analysis

1. At the opening year 2022, the daily traffic on the main bridge is expected to be 39,300 PCU. The traffic is projected to increase up to 103,900 by 2032 and up to 145,500 by the year 2042. The daily breakdown by vehicle class on the main bridge link is presented in the Table 1.3.1 below:

Table 1.3.1 Demand Projections Over the Period

Vehicle Type	Between Sewri Interchange and Shivaji Nager Interchange			Between Shivaji Nager Interchange and Chirle Interchange		
	2022	2032	2042	2022	2032	2042
Car	24,100	66,400	94,100	4,900	21,300	43,300
Taxi	2700	14,100	20,200	100	400	2,300
Bus	2,700	3,700	3,700	2,700	3,700	3,700
LCV	2,200	4,100	5,600	700	1,300	1,800
HCV	3,000	6,500	8,100	1,000	2,000	2,200
MAV	4,600	9,100	13,800	400	900	1,700
Total	**39,300**	**103,900**	**145,500**	**9,800**	**29,600**	**55,000**

LCV: Light Commercial Vehicle; HCV: Heavy Commercial Vehicle; MAV: Multi Axle Vehicle

2. At the opening year in 2022, the traffic flow on MTHL represents a diversion of 10% on the traffic across Thane creek which will increase up to 16% in 2032. If only Thane Creek Bridge is considered, then the diverted traffic from the bridge will be 21% in 2022 which will rise up to 35% in 2032.

3. 6-lane of main carriageway was decided by GoM. It was reviewed based on the forecasted result of future traffic volume by Manual of Specification and Standards for Expressways (IRC: SP:99-2013). The result of the review shows that 6-lane will be required in 2032 (10 years later after traffic open). Although, 8-lane will be required in 2042, it is assumed that the level of service of MTHL would be maintained as additionally metro might be constructed in parallel with MTHL.

Design Parameters / Overall Design

4. The MTHL which is 21.8 km long road bridge partly on the land and partly over the creek across the Mumbai Bay between Sewri in Mumbai and Chirle in Navi Mumbai, is to be constructed with the approach sections and interchanges. ITS (Intelligence Transport System) and the other necessary facilities will be provided for full access-controlled bridges.

5. As per the provisions of IRC (Indian Road Congress) SP:99-2013, the Width of each lane of the Main Carriageway is 3.5 meters.

6. When the design speed is 100 km/h according to the traffic demand forecast the large vehicle, ratio will be as low as 9.4% (2022).

7. The shoulder width of bridge towards outside of each carriageway is 2.5 meters and towards median side of each carriageway is 0.75 meters.

8. The major portion of MTHL structure is on sea and partly towards ends is on land with

different type and with different span, viz., PC box girder with 50 m spans which is typically applied on marine viaduct since, it is economical, easy to construct and maintain.

9. On the land portion, the PC box girder having span of generally 30m is used.
10. As far as the location in which long span (150-180 m) is required to cross significant obstacles, such as navigation channels, pipelines and creeks, the steel box girder bridge with steel deck is proposed with large block erection method to shorten the construction period.
11. The project is coded with three lanes of traffic in each direction. The reference toll is presented in the Table 1.3.2 below for each vehicle class in Year 2022 (based on 2015 monetary value reflecting price escalation).

Table 1.3.2: Base Toll Rates (Rs) for different class of vehicles between Interchanges

Vehicle Type	Sewri to Shivaji Nagar	Shivaji Nagar to Chirle	Total
Car	180	60	240
Bus	420	130	550
LCV	240	70	310
HCV	420	130	550
MAV	600	180	780

Intelligent Transport Systems (ITS) and **Toll Management System (TMS)**

12. The Toll Management System will be implemented in MTHL to collect tolls from all road users of MTHL. Two types of toll collection method will be adopted; Electronic Toll Collection (ETC) and Manual (paying by cash).
13. The lanes corresponding to these toll collection methods are dedicated ETC lanes and Manual lanes, and Manual system shall be installed to ETC lanes for backup to be able to cope at the time of the trouble of ETC equipment failure.

Traffic management System

14. Traffic Management System is a support system to Manage the traffic on MTHL safely and efficiently. The System consists of the information collection system including Closed-Circuit Television (CCTV), Emergency Call Box (ECB), Automatic Traffic Counter-Cum-Classifier (ATCC) and Meteorological Data System (MDS), and Information Dissemination System including Variable message Sign (VMS).
15. CCTV Cameras shall be installed at around three places per 1 km, on Both side of main route and the monitoring of the traffic condition of the whole stretch of MTHL will be almost enabled in the Traffic Control Centre and VMS displays the appropriate information for road users on the collated information.
16. The Information collected by these devices shall be transmitted to the Command Control Centre through the medium of an Optical Fiber Cable laid in MTHL.

Actual *(P/R, PCR)*

There is no change in the Rationale of the Project Design.

2.0 PROJECT IMPLEMENTATION

2.1 Project Scope

Refer Table 2.1.1 and 2.1.2 for details on Scope of the Project.

Table 2.1.1 Comparison of Original and Actual location

Location	**Original: (P/M)** Mumbai Metropolitan Region Development Authority, Mumbai, State of Maharashtra	Actual: *(P/R and PCR)*

Table 2.1.2 Comparison of Original and Actual Scope

Items	Original	Actual
Construction work: 6-lane Marine Bridge Road (21.8 km)		
Package-1 Ch 0+000-10+380 (10.380 km)	• 1 Interchange (Sewri) • Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder) • Viaduct Substructure (RC Concrete Structure) • Viaduct Foundation (Bored piles) • Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers)	*(P/R and PCR)*
Package-2 Ch 10+380-18+187 (7.80 km)	• 1 Interchange (Shivaji Nagar) • Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder) • Viaduct Substructure (RC Concrete Structure) • Viaduct Foundation (Bored piles) • Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers)	*(P/R and PCR)* Actual: *No View Barriers*
Package-3 Ch 18+187-21+800 (3.61 km)	• 2 Interchanges (State Highway-54, National Highway-4B) • Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder & Steel Truss Girder for Rail-over-Bridges (ROB) • Viaduct Substructure (RC Concrete Structure) • Viaduct Foundation (Bored piles) • Cutting Section (6-lane with Slope Protection) • Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers)	*(P/R and PCR)* Actual: *No* Noise Barriers & *View Barriers*

Items	Original	Actual
Package-4 ITS (Intelligent Transport System)	• Administrative Buildings • Toll Booths (1 for main alignment and each on and off rumps for 3 interchanges) • Traffic Management System (Traffic Control Centre, Closed Circuit Television (CCTV), Meteorological Observation System (MET), Emergency Call Box (ECB), Automatic traffic Counter-cum-Classifier (ATCC), Variable Message Sign (VMS)) • Highway Lighting (Whole sections Low-positioned lighting for some sections) • Electrical Powering System including HV/ LV Ring Network across the Bridge.	*(P/R and PCR)*
Consulting Services	• Tender Assistance • Construction Supervision • Facilitation of Implementation of Environmental Management Plan (EMP), Environmental Monitoring plan (EMoP).	*(P/R and PCR)*

2.2 Implementation Schedule

2.2.1 The Original Implementation Schedule

Table 2-2-1 Comparison of Original and Actual Schedule

Items	Original	Status *(P/R and PCR)* as on 31st December 2019
1) Completion of Land Acquisition and Resettlement	March 2019	January 2020
2) Consulting Services		
a) Selection of Consultant	May – December 2016	May – December 2016
b) Consultancy Works	December 2016 – September 2024	December 2016 – September 2024
3) Selection of Contractor		
Package-1, Package-2 & Package-3 (Civil)		
a) Pre-Qualification Process	May – December 2016	May – December 2016
b) Main Bidding	January – December 2017	January – December 2017
c) JICA's Concurrence of Contract	February-2018	February-2018
Package-4 (ITS)		
a) Pre-Qualification Process	January 2019 – May 2019	January 2020 – April 2020
b) Main Bidding	June 2019 – September 2020	May 2020 – September 2020
4) Civil Construction		
Package-1 and Package-2	March 2018 – September 2022	March 2018 – September 2022
Package-3	March 2018 – September 2021	March 2018 – September 2021
Package-4	October 2020 – September 2022	September 2020 – September 2022
5) Defect Liability Period		
Package-1, Package-2 and Package-4	October 2022 – September 2024	October 2022 – September 2024
Package-3	October 2021 – September 2023	October 2021 – September 2023
6) Commencement of Toll Collection	September -2022	September -2022
7) Selection of O&M Organization	October 2020 – September 2021	October 2021 – September 2022

Attachment: Package wise updated construction schedules at the end of fourth quarter (October-December 2019).

2.2.2 Reasons for changes of the schedule and their effects to the Project

(P/R and PCR)
No change in the Implementation Schedule except the selection of O&M Organization timeline.

2.3 Project Cost

2.3.1.a Comparison of Originally Planned and Actually Incurred Cost BY ITEM

Table 2.3.1.a.(i) Originally Planned Cost BY ITEM

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total (Rs. mil)	JICA Portion (Rs. mil)	Others (Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	34,398	34,398	0	45,376	45,376	0	105,713	105,713	0
Package-2	26,513	26,513	0	32,617	32,617	0	77,774	77,774	0
Package-3	759	759	0	8,276	8,276	0	13,766	13,766	0
Package-4 (ITS)	0	0	0	1,444	1,444	0	2,269	2,269	0
Package-5 (Geotechnical Investigation)	0	0	0	166	0	166	260	0	260
Dispute Boards (Package-1, 2, 3 & 4)	63	63	0	45	45	0	134	134	0
Price Escalation	2,251	2,251	0	7,133	7,133	0	13,460	13,460	0
Physical Contingency	6,398	6,398	0	9,506	9,489	17	21,338	21,312	26
Consulting Services	1,650	1,650	0	1,587	1,587	0	4,145	4,145	0
Land Acquisition*	0	0	0	11,293	0	11,293	17,748	0	17,748
Administration Cost	0	0	0	4,898	0	4,898	7,698	0	7,698
GST	0	0	0	18,238	0	18,238	28,663	0	28,663
Import Tax	0	0	0	13,435	0	13,435	21,114	0	21,114
Interest during construction	2,942	0	2,942	0	0	0	2,942	0	2,942
Front End Fee	477	0	477	0	0	0	477	0	477
Total	**75,451**	**72,032**	**3,419**	**154,013**	**105,967**	**48,046**	**317,501**	**238,572**	**78,929**

(Note) 1. Exchange Rate: US$1=Rs. 71.9, US$1=JPY 113.0, Rs.1 = JPY 1.57
2. Price Escalation (a) Foreign Currency Portion: 1.83% p.a.
(b) Local Currency Portion: 4.13% p.a.
3. Physical Contingency: 10%
4. Base Year for Cost Estimation: December 2018
* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696. The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

Table 2.3.1.a.(ii) Actually Incurred Cost BY ITEM (Need to be updated by MMRDA – Account Dept)

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total (Rs. mil)	JICA Portion (Rs. mil)	Others (Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	5,075	5,075	-	13,140	13,140		25,660	25,660	
Package-2	3,705	3,705	-	9,105	9,105		16,980	16,980	
Package-3	72	72	-	1,921	1,921		3,066	3,066	
Package-4 (ITS)	-		-	-			-		
Package-5 (Geotechnical Investigation)	-			196		196	308		308
Dispute Boards (Package-1, 2, 3 & 4)	-			-			-		-
Price Escalation	-			4	4		6	6	-
Physical Contingency	-			-			-		-
Consulting Services	253	253		299	299		870	870	
Land Acquisition*	-			5,268		5,268	8,271		8,271
Administration Cost	-			1,819		1,819	2,856		2,856
GST	-			3,392		3,392	5,325		5,325
Import Tax	-			-			-		-
Interest during construction	-			-			-		-
Front End Fee	-			-			-		-
Total	**9,105**	**9,105**	**-**	**35,144**	**24,469**	**10,675**	**63,342**	**46,582**	**16,760**

(Note) 1. Exchange Rate: Rs.1 = JPY 1.57 for MMRDA Portion only
2. Price Escalation (a) Foreign Currency Portion: 1.83% p.a.
(b) Local Currency Portion: 4.13% p.a.
3. Physical Contingency: 10%
4. Base Year for Cost Estimation: December 2018
* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696. The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

2.3.1.b Comparison of Originally Planned and Actually Incurred Cost BY YEAR

Table 2.3.1.b.(i) Originally Planned Cost BY YEAR

(All Figures are in JPY mil)

Cost Breakdown	Total	JICA Portion				Others (MMRDA Portion)
		Tranche I	Tranche II	Tranche III	Sub Total	
FY 2017	12,679	10,134	0	0	10,134	2,545
FY 2018	30,771	22,707	0	0	22,707	8,064
FY 2019	72,379	56,816	0	0	56,816	15,563
FY 2020	92,944	55,138	16,040	0	71,178	21,765
FY 2021	66,397	0	50,869	0	50,869	15,527
FY 2022	27,683	0	0	20,113	20,113	7,570
FY 2023	3,723	0	0	565	565	3,158
FY 2024	10,925	0	0	6,189	6,189	4,735
Total	**317,501**	**144,795**	**66,909**	**26,868**	**238,571**	**78,929**

Table 2.3.1.b.(ii) Actually Incurred Cost BY YEAR (Need to be updated by MMRDA – Account Dept)

(All Figures are in JPY mil)

Cost Breakdown	Total	JICA Portion				Others (MMRDA Portion)
		Tranche I	Tranche II	Tranche III	Sub Total	
FY 2017	13,738	9,232	-	-	9,232	4,506
FY 2018	26,813	21,695	-	-	21,695	5,118
FY 2019	22,790	15,654			15,654	7,136
FY 2020						
FY 2021						
FY 2022						
FY 2023						
FY 2024						
Total	**63,341**	**46,581**	**-**	**-**	**46,581**	**16,760**

(Note) 1. Exchange Rate used: Rs.1 = JPY 1.57 for MMRDA Portion only

2. Fiscal Year starting from 1st April and ending on 31st March.

2.3.2 Reason(s) for the wide gap between the original and actual, if there have been any, the remedies you have taken, and their results**.**

(P/R and PCR) There is No major gap between the original and actual cost.

2.4 Organization for Implementation

2.4.1 Executing Agency

Original:

Executing Agency

Mumbai Metropolitan Region Development Authority (MMRDA) was established on 26thJanuary 1975 in accordance with the Mumbai Metropolitan Development Act, 1974 to make Mumbai Metropolitan Region (MMR) a destination for economic activity by promoting infrastructure and regional planning. MMRDA takes all the necessary measures, required from time to time, in an effective manner and be fully responsible for the Project implementation. After completion of the Project, MMRDA continues to be responsible for the efficient operation and maintenance of the Project.

The GoM appointed MMRDA as the implementing/ executing agency of MTHL vide Government Resolution dated 4th February 2009 and further the ownership of MTHL would be with MMRDA vide Government Resolution dated 8th June 2011.

Organization's Role

To construct, execute, carryout, improve, work, develop, administer, manage, control or maintain in MMR all types of roads, highways, express routes, paths, streets, bridges, sideways, tunnels and other infrastructure, works and conveniences, approach road, etc. Under the Project, MMRDA is responsible for all the tendering process including employment of consultants, as well as for the construction process.

Project Implementation Unit (PIU)

The PIU is in charge of the Projects. The PIU is headed by Chief Engineer, comprising of 6 Divisions/Cells (Finance Division, Social Development Cell, Engineering Division, Land Cell, Administrative Division and Environmental Cell), Supervision/ ITS Consultant and supporting staff.

Procurement

MMRDA shall have to adopt the JICA's Standard Biding Documents of the latest version, as stipulated in Section 4.01 (2) of "Guidelines for Procurement under Japanese ODA Loans.

Procurement of goods and services, except for consulting services, converted by the Japanese ODA Loan should be implemented in accordance with "Guidelines for Procurement under Japanese ODA Loans", dated in April 2012. Employment of consultants should be implemented in accordance with "Guidelines of Employment of Consultant under Japanese ODA Loans", dated in April 2012. "Principles of Procurement under the Project" is attached for brief explanation of the above Guidelines.

Actual, if changed: (*P/R and PCR*)

There is no change made in original Organisation Set-up & Implementation methods. Refer Annexure III Organisation Chart.

2.4.2 Contractor(s)/ Supplier(s), and Consultant(s) and their Performance:

2.4.2.1 Procurement & Consultant

Table 2.4.2 Procurement of Contractor(s)/ Supplier(s) and Consultant(s)

Contract Package	Selection Method		
	Original: *(P/M)*		**Actual:** *(P/R and PCR)*
Construction Works			
1	Package-1: From CH 0+000 - To CH 10+380 (10.38 km)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
2	Package-2: From CH 10+380 - To CH 18+187 (7.80 km)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
3	Package-3: From CH 18+187 - To CH 21+800 (3.61 km)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
4	Package-4: To install ITS (Toll Management System and Highway Traffic Management System)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
5	Package-5: To conduct the geotechnical investigation	Local Competitive Bidding Process	No Change
Consulting Services			
1	Consulting Service for Supervision	Short List Method (QCBS)	No Change

2.4.2.2 Performance

Consultant's Progress:

October 2019:

1 The JICA Safety Review Mission visited MTHL project from 14th October to 17th October 2019 to review the health & safety, environmental and social obligations of the Employer and the Contractors. The Contractors and GC made a series of presentations on the Environmental & Safety Monitoring at the project sites.

2 GC scrutinized & certified the following invoices:

i) Package-1: IPC-018 (80% ad-hoc) and IPC-017 (detailed verification)
ii) Package-2: IPC-015 (80% ad-hoc) and IPC-014 (detailed verification)
iii) Package-3: IPC-010 (80% ad-hoc) and IPC-009 (detailed verification)

3 GC has deployed adequate number of staff at MTHL Project sites for the construction supervision works. Also, they are rigorously monitoring the quality, health & safety and environmental aspects of the project.

November 2019:

1 GC conducted Monthly Progress Review Meeting with all the three Package Contractors on 13th November 2019 to review the status of Design and Physical progress of the project.

2 GC scrutinized & certified the following invoices claimed by the Contractors:

i) Package-1: IPC-019 (80% ad-hoc) and IPC-018 (detailed verification)
ii) Package-2: IPC-016 (80% ad-hoc) and IPC-015 (detailed verification)
iii) Package-3: IPC-011 (80% ad-hoc) and IPC-010 (detailed verification)

3 GC has deployed adequate number of staff at MTHL Project sites for supervision of the construction works. Also, they are rigorously monitoring the quality, health & safety and environmental aspects of the project.

December 2019:

1 GC scrutinized & certified the following invoices claimed by the Contractors:

i) Package-1: IPC-019 (80% ad-hoc) and IPC-018 (detailed verification)
ii) Package-2: IPC-017 (80% ad-hoc) and IPC-016 (detailed verification)
iii) Package-3: IPC-012 (80% ad-hoc) and IPC-011 (detailed verification)

2 GC has deployed adequate number of staff at MTHL Project sites for supervision of the construction works. Also, they are rigorously monitoring the quality, health & safety and environmental aspects of the project.

3 Approximately 80% of the foundation related designs have been reviewed and approved by GC. Approx. 65% of the substructure related designs have been reviewed and approved by GC. Approx. 25% of the superstructure related design have been reviewed and approved by GC.

Contractor's Progress:

Package-1 Physical Progress till 31st December 2019

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	**Temporary Access Bridge**					
1.1	Bridge Deck	2953	Rmt	2422	82%	
2	**Test Pile**					
2.1	Test Piles	5	No.	4	80%	
3	**Permanent Bridge Works - Land/ Interchange Zone**					
3.1	Piles	517	No.	231	45%	
3.2	Pile Caps	165	No.	25	15%	
3.3	Piers	228	No.	44	19%	
3.4	Pier Caps	228	No.	0	0%	
4	**Permanent Bridge Works - Intertidal Zone**					
4.1	Piles	236	No.	170	72%	
4.2	Pile Caps	57	No.	26	46%	
4.3	Piers	113	No.	36	32%	
4.4	Pier Caps	113	No.	12	11%	
5	**Permanent Bridge Works - Marine Zone**					
5.1	Piles	484	No.	155	32%	
5.2	Pile Caps	100	No.	11	11%	
5.3	Piers	198	No.	2	1%	
5.4	Pier Caps	198	No.	0	0%	
6	**Permanent Bridge Works - Total**					
6.1	**Piles**	**1237**	**No.**	**556**	45%	
6.2	**Pile Caps**	**322**	**No.**	**62**	19%	
6.3	**Piers**	**539**	**No.**	**82**	15%	
6.4	**Pier Caps**	**539**	**No.**	**12**	2%	
7	**Precast Segments**					
7.1	Segment Casting	6709	No.	185	3%	
7.2	Segment Erection	6709	No.	0	0%	

Package-2 Physical Progress till 31st December 2019

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	**Temporary Access Bridge**					
1.1	Bridge Deck	2682	Rmt	2312	86%	
2	**Test Pile**					
2.1	Test Piles	3	No.	2	67%	
3	**Permanent Bridge Works - Land/ Interchange Zone**					
3.1	Open Foundations	113	No.	27	24%	
3.3	Piers	113	No.	2	2%	
3.3	Pier Caps	113	No.	0	0%	
4	**Permanent Bridge Works - Intertidal & CRZ Zone**					
4.1	Piles	282	No.	134	48%	
4.2	Pile Caps	70	No.	7	10%	
4.3	Piers	72	No.	2	3%	
4.4	Pier Caps	72	No.	2	3%	
5	**Permanent Bridge Works - Marine Zone**					
5.1	Piles	522	No.	48	9%	
5.2	Pile Caps	122	No.	0	0%	
5.3	Piers	126	No.	0	0%	
5.4	Pier Caps	126	No.	0	0%	
6	**Permanent Bridge Works - Total**					
6.1	**Open Foundations**	**113**	**No.**	**27**	24%	
6.1	**Piles**	**804**	**No.**	**182**	23%	
6.2	**Pile Caps**	**192**	**No.**	**7**	4%	
6.3	**Piers**	**198**	**No.**	**4**	2%	
6.4	Pier Caps	**198**	**No.**	**2**	1%	
7	**Precast Segments**					
7.1	Segment Casting	3142	No.	16	1%	
7.2	Segment Erection	3142	No.	0	0%	

Package-3 Physical Progress till 31st December 2019

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	**Permanent Bridge Works**					
1.1	Open Foundations	195	No.	98	50%	The total scope has been amended as per the field conditions
1.2	Piers	195	No.	18	9%	The total scope has been amended as per the field conditions
1.3	Pier Caps	195	No.	0	0%	
1.4	Segment Casting	854	No.	20	2%	The total scope has been amended as per the field conditions
1.5	Segment Erection	854	No.	0	0%	

Package-4 (ITS)

Pre-Qualification (PQ) is ongoing. Also, preparation of Bid Documents for ITS system is in progress.

Health & Safety and Environment (HSE)

The HSE Plans have been submitted by the respective construction agencies for the Packages which is being monitored by the GC on a regular basis.

Package-1 Safety Report

Sr. No	Description	From October to December 2019	Cumulative
1	Total Man Hours Since Inception	30,31,008	1,06,43,040
2	Number of Man-Hours (Accident Free Man-Hours)	22,22,304	22,22,304
3	Number of Man-Days	3,71,996	13,59,280
4	Number of Reportable Fatal Accidents	1	1
5	Number of Non-Fatal Accidents	0	1
6	Number of Near Miss Incidents	11	28
7	Number of First Aid Cases	22	82
8	Number of Dangerous Occurrences	0	1
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	48,000	48,448
11	Number of Man-Days Lost	6,000	6,058
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	1	2
13	Number of Inspections done for Offices & Sites	65	197
14	Number of Training/ Induction done for Offices & Sites	48	159
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	8,564	1394
16	Details of Safety Committee meetings	3	19
17	No. of toolbox talks	5,176	17,665
18	No. of critical excavations.	9	8
19	Pre-employment Medical check-up	3,348	12,065
20	No. of Safety Walk down	14	107
21	No. of Safety Inductions completed	3,238	12,065

Package-2 Safety Report

Sr. No	Description	From October to December 2019	Cumulative
1	Total Man Hours Since Inception	885819	4822134
2	Number of Man-Hours (Accident Free Man-Hours)	885819	2675706
3	Number of Man-Days	80529	439752
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	2
6	Number of Near Miss Incidents	7	25
7	Number of First Aid Cases	7	42
8	Number of Dangerous Occurrences	1	4
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	0	836
11	Number of Man-Days Lost	0	89
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	0
13	Number of Inspections done for Offices & Sites	78	490
14	Number of Training/ Induction done for Offices & Sites	46	400
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	4151	719
16	Details of Safety Committee meetings	3	20
17	No. of toolbox talks	654	2296
18	No. of critical excavations.	0	0
19	Pre-employment Medical check-up	1264	4794
20	No. of Safety Walk down	10	59
21	No. of Safety Inductions completed	1293	4807

Package-3 Safety Report

Sr. No	Description	From October to December 2019	Cumulative
1	Total Man Hours Since Inception	231385	825856
2	Number of Man-Hours (Accident Free Man-Hours)	231385	825856
3	Number of Man-Days	28923	103232
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	0
6	Number of Near Miss Incidents	2	4
7	Number of First Aid Cases	10	33
8	Number of Dangerous Occurrences	0	0
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	0	0
11	Number of Man-Days Lost	0	0
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	0
13	Number of Inspections done for Offices & Sites	34	140
14	Number of Training/ Induction done for Offices & Sites	17	99
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	693	2583
16	Details of Safety Committee meetings	3	17
17	No. of toolbox talks	575	2138
18	No. of critical excavations.	3	3
19	Pre-employment Medical check-up	601	2129
20	No. of Safety Walk down	12	65
21	No. of Safety Inductions completed	602	2129

Please refer **Attachment 5 - Site Progress Photos** for the development of the project.

3.0 BENEFITS DERIVED FROM THE PROJECT (EFFECTIVENESS)

3.1 Operational and Physical Condition

(This section will be developed when the operational plan is available)

Facilities	Description of condition	Problems, its Background and Remedial Action Plan
(P/R and PCR)	*(P/R and PCR)*	*(P/R and PCR)*

3.2 Precautions (Measures To Be Adopted/ Points Which Require Special Attention)

Original Issues and Countermeasure(s)	Actual Issues and Countermeasure(s)
3.2.1 General Issues **1. Toll Arrangement/ Toll Rate** Fixed toll rate as per the type of vehicle will be levied for the road users after the completion of the Project. An appropriate tolling policy/ rates will be finalized in consultation with the state government prior to the completion of Civil works. **2. Operation and Maintenance** MMRDA proposes to appoint separate agencies for Operation & Maintenance of the bridge and for Toll Management System. Both the agencies for O & M and Toll Management System may be appointed through open tendering process. Overall monitoring of the two agencies would be done by MMRDA in house through a separate cell which could be constituted for the purpose. MMRDA has confirmed to allocate adequate budget for engaging the Contractors.	*(P/R and PCR)* Appropriate Tolling Policy/ Rates will be finalized by December 2020. Single Operation and Maintenance Contractor will be appointed by December 2020.
3.2.2 Environmental and Social Consideration **a. CRZ Clearance** i. Supplemental EIA has been approved by MMRDA and disclosed on the website of JICA. Supplemental EIA report has been disclosed also on the website of MMRDA. ii. Furthermore, renewed CRZ Clearance has been obtained in January 2016. iii. In accordance with the conditions for	*(P/R and PCR)* • MMRDA has disclosed Supplemental EIA & SIA on MMRDA website. • The renewed CRZ clearance was granted on 25/1/2016 from MoEF&CC and the approval conditions have been imposed on the Contractors as the Employer's requirements. MMRDA has actively monitored the compliances of the approval conditions and maintains throughout the construction phase. • MMRDA appointed Mangroves & Marine

CRZ Clearance, appropriate measures shall be taken, and necessary budget shall be secured by MMRDA.	Biodiversity Foundation for bird monitoring and implementation of Flamingos and bird monitoring program for the MTHL project during the construction as well as the long-term monitoring after the construction. • Rs 91.42 Crore has been transferred to Mangroves & Marine Biodiversity Foundation, Mumbai for the development & conservation of mangrove area and its afforestation. Such funds will be managed by the Mangrove Foundation of Maharashtra State. • As per the renewed CRZ clearance condition, IIT Mumbai has been appointed for the DPR study to develop a Mahul creek Effluent Treatment Plant (ETP). Rs 4.98 Crore was secured for IIT services. Draft DPR was submitted by IIT and has been under review by the "Environmental committee (EC)" of the MTHL CRZ clearance.

b. Required Permits

The Permits to be obtained by MMRDA/ Contractors and the present status is given in the following Table.

Table 3.2.2 Present Status of some Important Permits

Clearance Required	Approving Authority	Responsible Organization	Obtained by when	Remark /Status
Mangrove Cutting	Hon. Bombay High Court	MMRDA/ Contractor	Approval received from Hon. Bombay High Court on 28th November 2016	Mangrove cutting operation was completed with full compliance and as of now, no further follow up work is required.
Tree Cutting /Transplantation	Respective Tree Authorities	Contractor for respective Packages	-	**Pkg-1:** Tree Cutting/ Transplantation permission is awaited from the Tree Authority. **Pkg-2:** Tree Cutting/ Transplantation permission obtained & completed. **Pkg-3:** Forest Department has issued a concurrence on 19/05/2019. CIDCO's permission for Tree Cutting/ Transplantation obtained on 25th November 2019.
Consent to Establish	Maharashtra Pollution Control Board	Contractor for respective Packages	Pkg-1-18.07.2018 Pkg-2-16.08.2018 Pkg-3-29.05.2019	

3.3 Environmental and Social Impacts

Major environmental and social impacts have occurred during project implementation (e.g. involuntary resettlement, poverty reduction, impacts on the natural environment).

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
1. Establishment of Effective Environmental and Social Cell in PIU MMRDA confirmed that Social Development Cell (2 Officers), Land Cell (3 Officers), and Environmental Cell (2 Officers) had been set up.	Cell is established by MMRDA (Annexure III, Organization chart)
2. Rehabilitation and Land Acquisition Issues **a. Affected Area and Population** Due to the Project, 1282 non-titleholders will be involuntary resettled, and 108.09 ha of land will be handed over by CIDCO.	**Sewri:** Involuntary resettlement in Sewri section has been further validated by Social Development Cell of MMRDA. Out of 298 Project Affected Households (PAHs) have given consents as follows: • 165 PAHs Kanjurmarg for residential • 25 PAHs Kanjurmarg for commercial • 7 PAHs (Satsangi Plot) Kanjurmarg for Commercial • 1 PAHs (commercial to residential) for Bhakti Park • 100 PAHs HDIL Kurla for residential **Navi Mumbai:** CIDCO has been finalizing the land acquisition closely monitored by Land Cell of MMRDA. Except private land and forest, CIDCO has possessed all required land of 108.09 ha. Out of the 108.09 ha, 101.99 ha has been handed over by CIDCO to MMRDA. CIDCO is going to acquire the balance 6.10 Ha with the help of Collector, Raigad.
b. Entitlement Policy MMRDA prepared the entitlement matrix for resettlement of non-title holders in Sewri, which meets the Resettlement and Rehabilitation Policy for Mumbai Urban Transportation Project (1997, amended in 2000) and JICA guidelines for Environmental and social considerations (2010)	There have been no changes during the enforcement. As per the **Attachment 2-5** of JICA MoD, MMRDA has committed to enforce the agreed/ approved policy.

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
("Guidelines") **(Attachment 2-5)**.	
c. Compensation to Project affected Fishermen Detailed baseline survey will be undertaken by MMRDA in order to identify fishermen who are affected by the Project. Based on the result of the baseline survey, MMRDA will compensate them in accordance with compensation policy prior to the construction. Monitoring will be conducted by MMRDA with assistance of the Consultant to gasp the exact impact during construction and operation phase.	Updated **Attachments 2-8 and 2-10** are enclosed in the report.
d. Implementation Schedule The Implementation schedule for land acquisition, resettlement and rehabilitation is attached as per **Attachment 2-10.**	Updated **Attachment 2-10** is enclosed in the report.
e. Grievance Redressal Mechanism Grievance Redressal Committee ("GRC") set under MMRDA will deal with grievances raised by PAPs in Sewri and fishermen to be affected by the Project. Any grievances raised by PAPs whose land is acquired by CIDCO shall be resolved by CIDCO.	**Sewri:** FLGRC (Field Level Grievance Redressal Committee) and SLGRC (Senior Level Grievance Redressal Committee) were set as per the RAP and in operation. Compensation Committee has been constituted to address the issues of Compensation to Lease Holders at Sewri. **Fishermen:** GRC for resolving grievances of the fisherfolk was set up as per the compensation policy and is in operation.
f. Internal Monitoring Internal Monitoring of the Resettlement Action Plan (RAP) implementation will be conducted by MMRDA in accordance with the RAP with necessary assistance of the consultant. RAP Internal Monitoring Form **(Attachment 2-8)** will be submitted to JICA on a quarterly basis as a part of PSR during the RAP implementation.	Internal Monitoring updates are mentioned in **Attachment 2-8.**

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
g. Qualitative Independent Evaluation An Independent Evaluation Agency will be hired by MMRDA for evaluation of RAP implementation. An external evaluation report will be submitted to MMRDA at mid-term and end-term. MMRDA would submit the evaluation report to JICA in a timely manner.	Updated **Attachment 2-10** is enclosed in the report.
h. RAP Implementation Budget The amount of estimated resettlement and compensation budget is Rs.906.26 Cr MMRDA informed to the JICA Mission that RAP implementation cost would be borne by MMRDA and ensured sufficient and timely allocation of funds for smooth implementation.	As updated in MOD dated 03/09/2019 for MTHL- II, the base cost Budget towards RAP Implementation is updated as Rs 1129.3 Cr.
i. Environmental Management Plan ("EMP") The mitigation measures against air pollution, waste, noise, and water pollution etc. shall be taken during construction and operation phase. Mitigation measures such as installation of noise barrier, appropriate waste management, etc. have been prepared by MMRDA. The mitigation measures are listed in the EMP matrix. **(Attachment 2-1).** During the detailed design stage, MMRDA, with assistance of the Consultant, will update the EMP, as necessary.	EMP will be updated, if required, in due course of construction activities/progress.
j. Environmental Monitoring Plan ("EMoP") MMRDA takes overall responsibility for implementation of EMoP. During construction, environmental monitoring will be carried out by contractors under supervision by Construction Supervision consultant. The result shall be reported to the JICA India Office on a quarterly basis as a part of Progress	Updated Environmental Monitoring Plan with package wise updated cost is reported in **Attachment 2-3.** Environmental Monitoring Results during the construction phase are reported in **Attachment 2-4**.

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
Status Report (PSR) by filling in the Reporting Form of Environmental Monitoring Result. **(Attachment 2-4).** After completion of the construction, EMoP shall be implemented by MMRDA, and the results shall be submitted to the JICA India Office semi-annually until two years after complementation of construction. The required amount of estimated environmental monitoring budget is borne by MMRDA.	
k. Long Term Bird Monitoring MMRDA committed to conduct the long-term monitoring of birds and its habitat in Sewri mud-flats with the assistance of hired bird expert. During the long-term monitoring, MMRDA will share information and receive advices from external experts including the one from NGOs and civil society.	• MMRDA has entrusted the work of bird monitoring and implementation of Flamingos and birds related mitigation measures & bird monitoring program to Mangrove and Marine Biodiversity Foundation. • Rs. 31.92 Crore deposited to Mangrove foundation, Mumbai for periodical disbursement to BNHS.

3.4 Qualitative and Quantitative Data of Monitoring Indicators

Operation and Effect Indicator EIRR and/ or FIRR

Supporting data for Computing EIRR and/ or FIRR

Indicators	Original (Year 2015)	Target (Year 2024) 2 Years After Commercial Operation
Average Annual Daily Traffic (PCU/ day)	-	47,400
Daily Average Travel Time (min) * 1	61 min	15.8 min
Number of Users (Persons/ year) * 2	-	46,077,504
Cargo Volume (tons/ year) * 3	-	13,511,759

*1 Section on Sewri – Chirle
*2 Assumptions: average passengers of car and taxi (2.6 persons), bus (37.2 persons) based on JICA study. Number of passengers of LCV, HCV and MAV is assumed as 1 person each.
*3 Assumptions: the maximum capacity of respective vehicle (LCV: 1 ton, HCV and MAV: 15 tons) is used for estimation.

EIRR	**Original:** 15.4% Cost: Project cost (excluding Price Escalation, Tax and Duties and Administration cost) O&M cost, Land Acquisition Benefit: Travel Time cost and Vehicle Operation cost Project Life: 32 Years	**Actual:** *(PCR)* ____% Cost: Benefit: Project Life: **Attachment(s):** **Supporting data for computing EIRR**
FIRR	**Original:** 1.5% Cost: Project Cost, O&M cost, Land Acquisition cost Benefit: Toll Revenue Project Life: 32 Years	**Actual:** *(PCR)* ____%

3.5 Monitoring Plan for the indicators

Monitoring Methods, Section(s)/ department(s) in charge of monitoring, frequency, the term and so forth are given below:

Original: *(P/M and PCR)*

Monitoring Organization

PIU shall be In-Charge of Monitoring activities for the Project.

Submission of QPR and PCR

The timely submission of the following documents is required by MMRDA.

a. **Quarterly Progress Report (QPR):** The progress report for the Project should be submitted by MMRDA to JICA on quarterly basis, not later than 30 days after the concerned quarter, in the form of Project Status Report (PSR) attached hereto as per **Annex I**; Updated status land Acquisition, milestone achieved with respect to Action Plan with Timetable, the monitoring form for environmental and social consideration should also be appended to the PSR. In addition, MMRDA shall also forward the Monthly & Quarterly Progress Reports (including S-Curve Chart) prepared by the Consultant to JICA India Office on regular basis till project completion.

b. **Project Completion Report (PCR):** A project completion report should be submitted by MMRDA to JICA promptly, but in any event not later than six months after completion of the Project, in the form of Project Status Report (PSR) attached hereto as per **Annex I**.

Actual: *(P/R and PCR)*

Monitoring Organization

PIU for MTHL has been established for monitoring the Project.

Submission of QPR and PCR

This QPR No. 11 is submitted for a period of 1st October to 31st December 2019.

3.6 Achievement of the Project Objective

(PCR)

4.0 OPERATION AND MAINTENANCE (O&M) (SUSTAINABILITY)

4.1 O&M and Management

- Organization Chart of O&M
- Operational and maintenance system (structure and the number, qualification and skill of staff or other conditions necessary to maintain the outputs and benefits of the project soundly, such as manuals, facilities and equipment for maintenance, and spare part stocks etc.)

Original: *(P/M)*

Operation & Maintenance, Toll Management and ITS

MMRDA proposes to engage two separate agencies for O&M and Toll Management System. Though MMRDA will not directly carry out O&M, the overall monitoring over the O&M agency will be the responsibility of MMRDA. O&M Budget will be allocated by MMRDA. O&M and increase in toll rate will be done in accordance with the NHAI's manuals such as "NHAI Works manuals".

Actual: *(PCR)*

4.2 O&M Cost and Budget

- The actual annual O&M cost for the duration of the project, as well as the annual O&M budget.

(PCR) This will be reported when the outcome of the above work study is available.

5.0 EVALUATION

5.1 JICA and Borrower / Executing Agency performance

JICA: *(PCR)*
Borrower/ Executing Agency: *(PCR)*

5.2 Overall Evaluation

Please describe your evaluation on the overall outcome of the project.

(PCR)

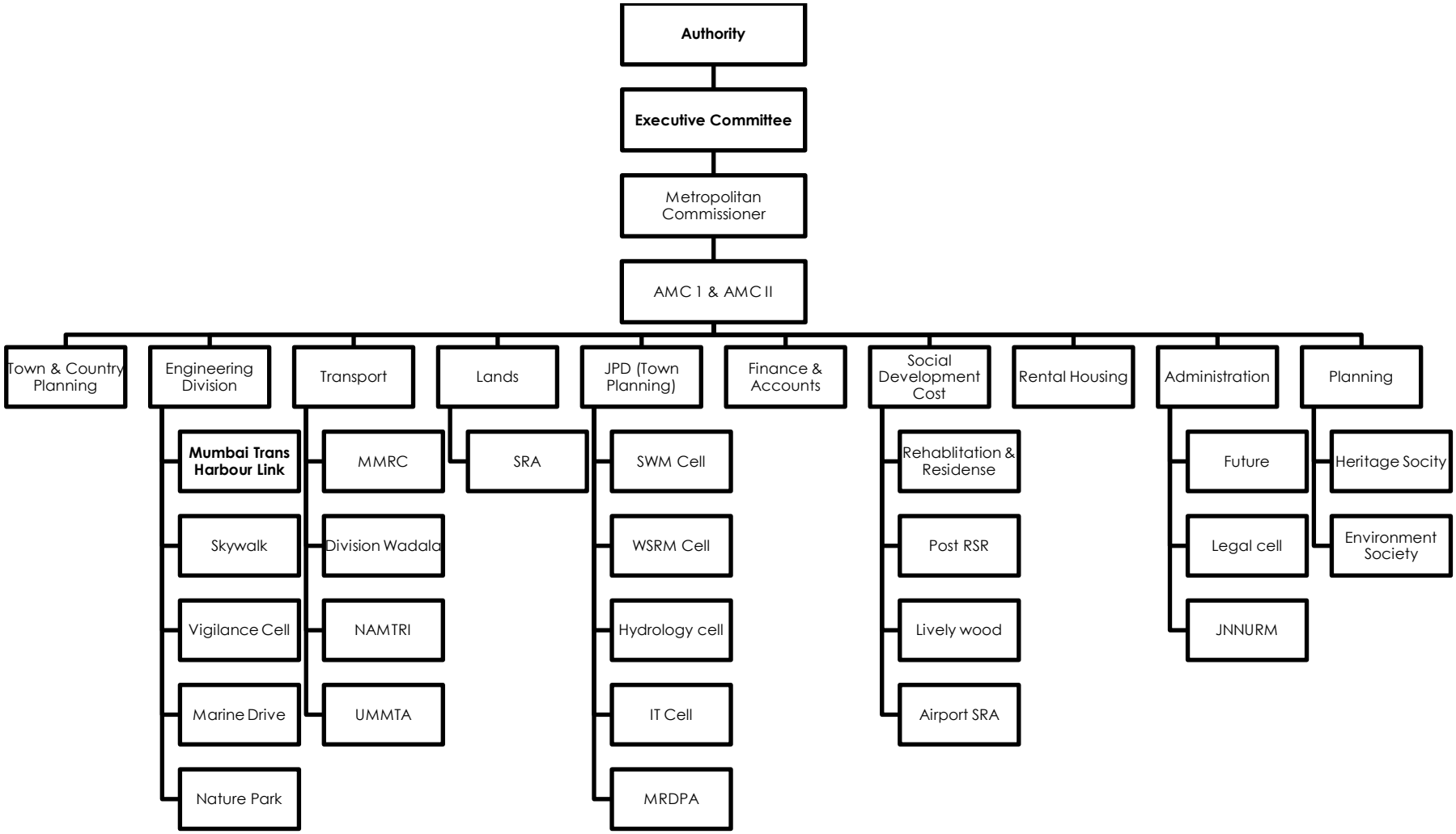
5.3 Lessons Learnt and Recommendations

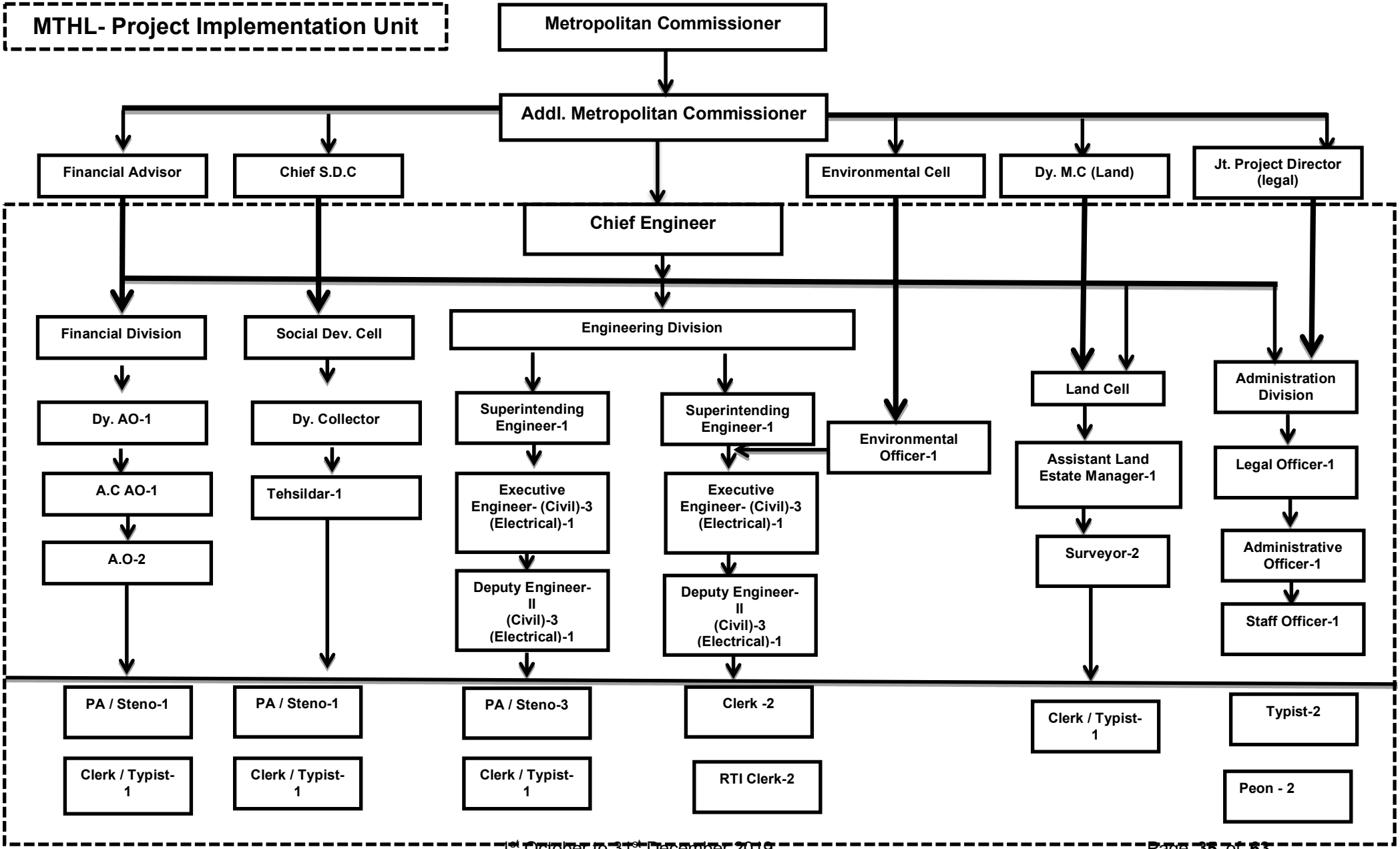
Please raise any lessons learned from the project experience, which might be valuable for the future JICA assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

(PCR)

Attachment 1- MMRDA & PIU Organization Chart

MMRDA Organization chart




MTHL- Project Implementation Unit
Metropolitan Commissioner
Addl. Metropolitan Commissioner
Financial Advisor
Chief S.D.C
Environmental Cell
Dy. M.C (Land)
Jt. Project Director (legal)
Chief Engineer
Financial Division
Social Dev. Cell
Engineering Division
Land Cell
Administration Division
Dy. AO-1
A.C AO-1
A.O-2
Dy. Collector
Tehsildar-1
Superintending Engineer-1
Executive Engineer- (Civil)-3 (Electrical)-1
Deputy Engineer-II (Civil)-3 (Electrical)-1
Superintending Engineer-1
Executive Engineer- (Civil)-3 (Electrical)-1
Deputy Engineer-II (Civil)-3 (Electrical)-1
Environmental Officer-1
Assistant Land Estate Manager-1
Surveyor-2
Legal Officer-1
Administrative Officer-1
Staff Officer-1
PA / Steno-1
Clerk / Typist-1
PA / Steno-1
Clerk / Typist-1
PA / Steno-3
Clerk / Typist-1
Clerk -2
RTI Clerk-2
Clerk / Typist-1
Typist-2
Peon - 2

Attachment 2- Environmental & Social Impacts Attachments

Attachment 2-3 - Environmental Monitoring Plan
Attachment 2-4 – Environmental Monitoring Result Reporting Form
Attachment 2-6 – MTHL Land Acquisition Status
Attachment 2-8 – RAP Internal Monitoring Form
Attachment 2-10 – Schedule of the RAP Implementation

Attachmemt 2-3

Updated Environmental Monitoring Plan with Packagewise Estimated Cost

Category	No.	Impacted Item on JICA Guidelines	Parameter	Method	Location	Frequency a year	Cost (INR)	Cost Pkg.1 (INR)	Cost Pkg.2 (INR)	Cost Pkg.3 (INR)	Total Cost (INR)	Standard Central Pollution Control Board (CPCB) – Ministry of Environment & Forest (MoEF)	Remarks
Pollution	1	Air pollution	SO_2, NO_2, PM_{10}, $PM_{2.5}$, O_3, CO, (6 Items)	National Ambient Air Quality Standards, 2009	1. Sewri & Sewri bay area for package I	Fortnightly at all locations except 2 locations each near Batching plants	1,800,000	15,000,000	1,800,000	742,500	17,542,500	National Ambient Air Quality Standards (NAAQS) by Central Pollution Control Board (CPCB)	P1 contractor team is conducting Ambient air quality monitoring with reference to National Standards and clause 1.2 of Employer's requirement.
					2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year						(Standard for 24hrs: Industrial and Residential/ Ecological Sensitive area)	P 2 contractor Monitoring plan has been designed as per EIA of 2015
					3. Gavhan & Chirle for package III	Fortnightly only for 3 months (jan-2019 to Mar-2019). Then quarterly monitoring as per MOEF and CPCB norms						· SO_2: 80 / 80µg/m^3	P3 contractor team is conducting Ambient air quality monitoring with reference to National Standards and clause 1.2 of Employer's requirement.
												· NO_2: 80 / 80µg/m^3	P 1 received Consents CTE & CTO from MPCB and they are following MPCB frequency in addition to frequency set by Environment Expert from GC. The NAAQ standards are showing High rate as that is the usual procedure. The frequency of monitoring is set by us which varies for different parameters as either Statutory requirements or as required by us to ensure we have sufficient data in hands if there are additional claims for Compensation in C5 category. Summary : Although the contract conditions for all packages were same at the time of biding. Later modifications suggested by GC were not accepted by P 2. P1 and P3 accepted the modifications and hence the difference. Second point is P 1 carrying out monitoring as per the obatiend CTE and CTO. Both other packages have applied for CTE but haven't obtained it yet. So we expect the monitoring frequecy would change after obtaining CTE.
												· PM_{10}: 100 / 100µg/m^3	
												· $PM_{2.5}$: 60 / 60µg/m^3	
												· O_3: 180 / 180µg/m^3	
												· CO: 0.4 / 0.4mg/m^3	
	2	Water pollution	pH, BOD, DO, Turbidity and O&G	IS / AWWA	1. Sewri & Sewri bay area for package I	Quarterly	810,000	2,400,000	810,000	0	3,210,000	Marine water quality Standards – Class SW-IV Harbour Waters (MPCB)	Water Pollution not applicable for Pkg. 3
					2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year						· pH : 6.5-9	
					3. Gavhan & Chirle for package III	Not applicable						· DO: 3 mg/l	
												· Turbidity: 30 NTU	
												· BOD: 5 mg/l	
												· O & G: 10 mg/l	
	3	Waste	Volume of waste soil, cutting tree and domestic garbage	Volumetric	1. Sewri & Sewri bay area for package I	Daily	500,000	299,200,000	500,000	600,000	300,300,000		The cost of waste disposal for P1 includes C&D waste, Pile muck etc. from all areas like, interchange, intertidal and marine. The disposal location is at MCGM approved location Bhayandarpada, Thane.

Category	No.	Impacted Item on JICA Guidelines	Parameter	Method	Location	Frequency a year	Cost (INR)	Cost Pkg.1 (INR)	Cost Pkg.2 (INR)	Cost Pkg.3 (INR)	Total Cost (INR)	Standard Central Pollution Control Board (CPCB) – Ministry of Environment & Forest (MoEF)	Remarks
					2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year						**Municipal Soild Waste Management Rules, 2013** Generated waste shall be reused or disposed at designated site. Sites have been identified and the location for **Pkg. 1** is at Bhayandar Pada in Thane. For **Pkg. 2 & 3** is in Navi Mumbai at Pushpak Node nera "Teen Taki Junction" along the Amar Marg.	P2 contractor has considered only Domestic garbage with respect to CIDCO. Other wastes are not considered. Construction wastes will be
					3. Gavhan & Chirle for package III	Once site clearing work/execution part of work start.							
	4 and 8	Soil Contamination/ sedimentation	Heavy Metals & Oil & Grease (5-10 items shall be selected from Soil pollution standards)	IS / Methods Manual Soil Testing in India by Department of Agriculture and Cooperation, January 2011	1. Sewri & Sewri bay area for package I	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year	150,000	1,500,000	150,000	100,000	1,750,000	Soil Pollution Standard in India (MOEF)	
					2. Nhava temporary bridge & casting yard in Gavhan for package II							· Cd: 0.01mg/l	
					3. Gavhan & Chirle for package III	*If any spillage/ leakage take place from chemical, fuel storage area. *One time grab sample to be collected during Bridge Construction *Pre & Post Monsoon at Storage area only						· Lead: 0.01mg/l · Chromium (VI): 0.05mg/l · Arsenic: 0.01mg/l · T-Mercury: 0.0005mg/l · Copper: 125mg/kg (some items shall be selected from totally 25 standards items)	
	5	Noise and vibration	Ambient and road side noise (dB(A)L_{Aeq})	IS Standard	1. Sewri & Sewri bay area for package I	Fortnightly	150,000	54,000	150,000	369,000	573,000	**-Construction Noise; 85dB(A)**	
					2. Nhava temporary bridge & casting yard in Gavhan for package II	2 Times / Year						**-Ambient Noise Standards in India (dB (A) $_{Leq}$)**	
					3. Gavhan & Chirle for package III	Fortnightly						1.Industrial Area Day Time: 75 (6-22hr) Night Time: 70 (22-6hr) 2.Commercial Area: Day Time: 65 (6-22hr) Night Time: 55 (22-6hr) 3.Residential Area: Day Time: 55 (6-22hr) Night Time: 45 (22-6hr) 4.Silence Zone Day Time: 50 (6-22hr) Night Time: 40 (22-6hr)	
			Vibration (dB L10 or mm/sec)		1 Location Gavan area for package III	Half yearly	75,000	0	75,000	400,000	475,000	**- Construction vibration 75dB** **-Vibration Standards roadside** 1. Commercial /Industrial Area Day Time: 70 (7-20hr) Night Time: 65 (20-7hr) 2. Residential Area: Day Time: 65 (7-20hr) Night Time: 60 (20-7hr)	Not applicable for Pkg. 1
	9 and 10	Protected Area /Ecosystem	1.Monitoring of mudflat conditions including fauna-flora	Ocular inspection and quantitative survey	Along MTHL alignment and mangrove replant area for Package I	Quarterly during the construction Period	6,500,000	7,200,000	6,500,000	0	13,700,000		Not applicable for Pkg. 3
			2. Monitoring of Cutting Tree and replantation/		Along MTHL alignment and mangrove replant area for package II	4 Times / Year						Significant impacts are not caused by the project	
			transplanting area	1-1. Fauna-Flora	Not applicable for Package III								
			3.Monitoring of Mangrove Plantation area appointed by MoEF	Line-Point census and record number and appeared species								**Note)**	

Category	No.	Impacted Item on JICA Guidelines	Parameter	Method	Location	Frequency a year	Cost (INR)	Cost Pkg.1 (INR)	Cost Pkg.2 (INR)	Cost Pkg.3 (INR)	Total Cost (INR)	Standard Central Pollution Control Board (CPCB) – Ministry of Environment & Forest (MoEF)	Remarks
Natural environment			4. Monitoring of sedimentation soil and ecological parameter (18items on Supplemental EIA Table 6.1.15 for soil and 7 items such as 1)Netprimary productivitye, 2)Chlorophyll-a, 3)Phosphate, 4)Nitrate, 5)Nitrite, 6)Particulate Organic Carbon, 7) SiO_2)	1-2: Mangrove density and community survey								**Detailed monitoring plan will be setup during basic design stage**	
				1-3: Benthos Survey									
				2-1: Cutting trees confirmation								Standard for Soil; Supplemental EIA Table 6.1.15	
				3-1: Mangrove survey in the replanted area								Standard for Ecological Parameter:	
												· Netprimary Productivity	
												<1,500 mgC/m3/day at surface	
												· Chlorophyll-a	
												<4mg/m3	
												· Phosphate: 0.1-90µg/l	
												· Nitrate: 1.0-500µg/l	
												· Nitrite: <125µg/l	
												· Particulate Organic Carbon: 10-100mg/m^3	
												· SiO2: 10-5,000µg/l	
	11	Hydrology	Flooding situation	Flood level measurement during high precipitation periods	Not applicable for Package I		350,000	0	350,000	0	350,000	Project activities and structures does not cause flooding and impacts on tidal conditions	Not applicable for Pkg. 1 & 3
					2 Locations (CRZ at Sewri and Shivaji Nagar) for Package II	4 Times / Year							
					Not applicable for Package III								
	12	Topography and Geology	Conditions in embankment area	Visual survey about Stability of embankment	Not applicable for Package I		115,000	0	115,000	0	115,000	Embankment shall be stabilized without any landslide and cracks	Not applicable for Pkg. 1 & 3
					Interchange in Shivaji Nagar for Package II	4 Times / Year							
					Not applicable for Package								
Social environment	13	Local economy such as employment and livelihood			Affected area		As per Actuals						
	14	Local conflict of interests	Construction worker's township	Confirmation of workers list from contractor	2 Locations (camp site in Sewri and Shivaji Nagar) for Package II	2 Times / Year	125,000	0	125,000	0	125,000	Employment opportunity shall be provided fairly	
	15	Infectious diseases such as HIV/AIDS	Number of infected patient	Confirmation of health check list from contractor	2 Locations	4 times / year x 4.5 years	525,000	0	525,000	0	525,000	Infection disease rate shall not be caused by the project	
	16	Labour Environment	Construction worker's condition	Confirmation of safety devices and conditions via interviews	2 Location (camp site in Sewri and Shivaji Nagar) for Package II	2 times / year	500,000	0	500,000	0	500,000	"Building And Other Construction Workers (Regulation of Emloyment and Conditions of Service) Act,1996", "The building and other construction worker's welfare cess Act, 1996" and international standards such as "IFC Performance Standard 2 Labor and Working Conditions"	
Other	17	Accidents	Number of accidents	Confirmation of accidents list from local government and State Traffic Police Department	2 Locations (camp site in Sewri and Shivaji Nagar) for Package II	4 Times / Year	400,000	0	400,000	0	400,000	Any accidents are not caused by construction	
		Total					**8140500**	**325,354,000**	**12,000,000**	**2,211,500**	**339,565,500**		

The Project for Construction of Mumbai Trans Harbour Link
Reporting Form of Environmental Monitoring during Construction
Attachment 2-4
1. Environmental Monitoring during Construction for 4.5 years

Monitoring Period - October to December 2019

Attachment 2-4

This form is prepared for reporting the monitoring results to JICA India Office. Only minimum required parameters are included in this form, and not all parameters in EMoP are covered.

Area	No.	Item	Parameter	Location	Frequency a year	Item and Stanadard	Monitoring Result				Remark - reasons why the data is exceeding standard - counter measures when the data is exceeding
							Location 1- Pkg 1	**Location 2**	**Location 3- Pkg 3**	Location 4	
Pollution	1	Air pollution	SO_2, NO_2, PM_{10}, $PM_{2.5}$	1. Sewri & Sewri bay area for package I	Quarterly monitoring is conducted at all locations.	**National Ambient Air Quality Standards (NAAQS)**	**Sewri**	**Shivaji Nagar**	**Chirle**		
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year	**(Standard for 24hrs: Industrial and Residential)**					
				3. Gavhan & Chirle for package III	From march -2019 onwards monitoring is conducted quarterly as per MOEF and CPCB norms	1. SO_2: 80μg/m^3	BDL (DL =5)	BDL	17		BDL- Below Detectable Limit
						2. NO_2: 80μg/m^3	17	36	34		
						3. PM_{10}: 100μg/m^3	150	127	87		
						4. $PM_{2.5}$: 60μg/m^3	46	23	31		
						5.CO:02mg/m3	1.2	1	0.38		
						6.VOCs	1.3	2	3.3		Benzene is analysed in ambient air
	2	Water pollution	pH, BOD, DO, Turbidity and O&G	1. Sewri & Sewri bay area for package I	Quarterly	**Marine water quality Standards – Class SW-IV Harbour Waters (MPCB)**	**Zone I**	**Zone II**	**Zone III**		
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year	1. pH : 6.5-9	7.4	8	Not applicable		
				3. Gavhan & Chirle for package III	Not applicable	2. DO: 3 mg/l	4.9	6	Not applicable		
						3. Turbidity: 30 NTU	11.7	18	Not applicable		
						4. BOD: 5 mg/l	3	BDL	Not applicable		
						5. O & G: 10 mg/l	BDL (DL =2)		Not applicable		
						6.COD	20	20	Not applicable		
	3	Waste	Volume of waste soil, cutting tree and domestic garbage	1. Sewri & Sewri bay area for package I	Daily	**Municipal Soild Waste Management Rules, 2013**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**	**Chirle Camp Site**		
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year	Generated waste soil (t) total	27105.51 m3	Total 2000 CuM Collected in jumbo bags and Disposed off in EBB Location and Casting Yard	Nil		
				3. Gavhan & Chirle for package III	Once site clearing work/execution part of work start.	Generated cutting treel (ha) total	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting so far NIL	20 trees are cut	permission in process from both CIDCO and Forest dept. Tree cutting so far is nil.		
						Generated domestic waste (t/month) total	3.58 T for the quarter	3 T for the quarter	325 KG/quarter is disposed through Gram panchayat.		
						Confirmation of adequate disposal (visualt survey)					
	4	Soil Contamination/sedimentation	Heavy Metals & Oil & Grease	1. Sewri & Sewri bay area for package I	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year	**Soil Pollution Standard in India (MOEF)**	Not applicable	Not applicable	Not applicable		Frequency is Once in a year.If any minor or major incident has not occure at storage area.
				2. Nhava temporary bridge & casting yard in Gavhan		1. Cadmium: 0.01mg/l					
				3. Gavhan & Chirle for package III	*If any spillage/ leakage take place from chemical, fuel storage area. *One time grab sample to be collected during Bridge Construction *Pre & Post Monsoon at Storage area only	2. total cyanide : not detected					
						3. organic phosphorus: not detected					
						4. lead: 0.01mg/l					
						5. chromium (VI): 0.05mg/l					
						6. arsenic: 0.01mg/l or 15mg/kg (agri-land soil)					
						7. total mercury: 0.005mg/l					
						8. alkyl mercury: not detected					
						9. PCBs: not detected					
						10. copper: 125mg/kg (only paddy field soil)					
						11. dichloromethane: 0.02mg/l					
						12. carbon tetrachloride: 0.002mg/l					
						13. 1,2-dichloroethane: 0.004mg/l					
						14. 1,1-dichloroethylene: 0.02mg/l					
						15. cis-1,2-dichloroethylene: 0.04mg/l					
						16. 1,1,1-trichloroethane: 1mg/l					
						17. 1,1,2-trichloroethane: 0.006 mg/l					
						18. trichloroethylene: 0.03mg/l					
						19. tetrachloroethylene: 0.01mg/l					
						20. 1,3-dichloropropene: 0.002mg/l					

Regarding soil contamination/sedimentation, some items shall be selected from the total 25 standards items during the Detailed Design. Only the selected items shall be reported to JICA, and the rest of items shall be deleted from this form.

The Project for Construction of Mumbai Trans Harbour Link
Reporting Form of Environmental Monitoring during Construction
Attachment 2-4
1. Environmental Monitoring during Construction for 4.5 years

Attachment 2-4

Monitoring Period - October to December 2019

This form is prepared for reporting the monitoring results to JICA India Office. Only minimum required parameters are included in this form, and not all perameters in EMoP are covered.

						21. thiuram: 0.006mg/l					
						22. simazine: 0.003mg/l					
						23. thiobencarb: 0.02mg/l					
						24. benzene: 0.01mg/l					
						25. selenium: 0.01mg/l					
	5	Noise and vibration	Ambient and road side noise (dB(A)LAeq)	1. Sewri & Sewri bay area for package I	Fortnightly	**Construction area Standard 85 dB(A) daytime (Japan standard) Not constuction area : Ambient Noise Standard in India (dB(A) Laeq)**	**Sewri (ST 200-500) (Industrial area)**	**Sea Section (ST5000-5500) Migratory Bird Area(no standard on sea section)**	**Shivaji Nagar (Commercial area)**		
				2. Nhava temporary bridge & casting yard in Gavhan for package II	2 Times / Year	Day time : 6-22 hr (continious) dB(A)	64.9	71.3	1.6		
				3. Gavhan & Chirle for package III	Fortnightly	Night time: 22-6 hr (continious) dB(A)	56.9	64.2	0.2		
						(only sea section)					
						Day time : 6-22 hr (10 min during 9-17 hrs)					
						Night time: 22-6 hr (10 min 22-24 hr)					
						Note (standard values in Not construction area)					
						1.Industrial Area					
						Day Time: 75 (6-22hr)					
						Night Time: 70 (22-6hr)					
						2.Commercial Area:					
						Day Time: 65 (6-22hr)					
						Night Time: 55 (22-6hr)					
			Vibration (dB) shall be converted from mm/s to dB	1 Location Gavan area for package III	Half yearly	**Construction area Standard 75 dB daytime (Japan standard) Not constuction area : Vibration Standard (Japan Standard along the road)**	**Sewri (ST 200-500) (Industrial area)**	**Shivaji Nagar (Commercial area)**	**Chirle**		
						Day time : 6-22 hr (continious)	Not applicable	Not applicable	Not applicable		
						Night time: 22-6 hr (continious)					
						Note (standard values in Not construction area)					
						1. Commercial /Industrial Area					
						Day Time: 70 (7-20hr)					
						Night Time: 65 (20-7hr)					
			1.Monitoring of mudflat conditions including fauna-flora 2. Monitoring of Cutting Tree and replantation/transplation area 3.Monitoring of Mangrove	Along MTHL alignment and mangrove replant area for Package I	Quarterly during the construction Period	**Standard is not existing, but quantity and quality should not be worsen**	**Sewri side (ST500-5500)**	**Sea Section (ST5500-16000)**	**Shivaji Nagar side (app. ST16000-19000)**	**Mangorove Replantation area appointed by State Government**	
				Along MTHL alignment and mangrove replant area for package II	4 Times / Year	1-1. Fauna-Flora (number of species and quantity			N/A	N/A	
						(1) Number of species of bird					
						(2) Number of species of fish					
						(3) Estimated number of Flamingo					
						1-2: Mangrove density and community survey		not required			

Regarding protected area (CRZ and Important Bird Area) and ecosystem, detailed long-term monitoring plan will be extablished during baseline survay of birds. This tentative monitoring form shall be updated based on the detailed long-term monitoring plan.

The Project for Construction of Mumbai Trans Harbour Link
Reporting Form of Environmental Monitoring during Construction
Attachment 2-4
1. Environmental Monitoring during Construction for 4.5 years

Attachment 2-4

This form is prepared for reporting the monitoring results to JICA India Office. Only minimum required parameters are included in this form, and not all parameters in EMoP are covered.

Monitoring Period - October to December 2019

Natural Environment	6	Protected Area	3.Monitoring of Mangrove Plantation area appointed by MoEF 4. Monitoring of sedimentation soil and ecological parameter (25 items on EIA main text Table 6.1.15 for soil and 7 items such as 1)Net primary productivity, 2)Chlorophyll-a, 3)Phosphate, 4)Nitrate, 5)Nitrite, 6)Particulate Organic Carbon, 7) SiO2)			(1) Number of species of mangorve		not required			
						(2) Density of mangrove (xx trees/10m x 10m)		not required			
						1-3: Benthos Survey		not required			
						(1) Number of species and quantity by species	470 Species and 232 No/m2	not required			
						2-1: Cutting tree confirmation	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting NIL	not required	Nil		
						(1) Number of cutting tree and species		not required			
						3-1: Mangrove survey in the replant area		not required	Nil		
						(1) Number of species of mangorve		not required			
						(2) Density of mangrove (xx trees/10m x 10m)		not required			
						4. Ecologial Parameter					
						(1) Net primary Productivity : <1,500 mgC/m3/day at surface	300				
						(2) Chlorophyll-a: <4mg/m3	4.1				
						(3) Phosphate: 0.1-90µg/l	285				
						(4) Nitrate: 1.0-500µg/l	732				
						(5) Nitrite: <125µg/l					
						(6) Particulate Organic Carbon: 10-100mg/m^3					
		Ecosystem				(7) SiO2: 10-5,000µg/l	5993				
	7	Hydrology	Flooding situation	Not applicable for Package I		**Criteria for evaluation** **Project activities and structures does not cause flooding and impacts on tidal conditions**	**Sewri**	**Shivaji Nagar**			
				2 Locations (CRZ at Sewri and Shivaji Nagar) for Package II	4 Times / Year	Monitoring of flooding situation	No Flooding	No Flooding	No Flooding		
				Not applicable for Package III							
	8	Topography and Geology	Conditions in embankment area	2 Locations (1. Embankment of Inter Change in Shivaji Nagar and 2 Cutting area at toll gate in Chirle)	4 times / year x 4.5 years	**Criteria for evaluation** **Embankment shall be stabilized without any landslide and cracks**	**Shivaji Nagar**	**Chilre**	**Chirle**		
						Monitoring of embankment					
	9	Local conflict of interests	Construction worker's township	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	**Criteria for evaluation** **Employment opportunity shall be provided fairly**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**	**Chirle**		
						Number of hired workers by community	30-40 unskilled labours	125-150	Skilled labours; 270 (from outside)		
	10	Infectious diseases such as HIV/AIDS	Number of infected patient	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	**Criteria for evaluation** **Infection disease rate shall not be caused by the project**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**			
						Confirmation of health check record and inspect project site	Health Checkup conducted by Doctors at Site. HIV AIDS awareness and detection program conducted on 24th December 2019.195 no's of workmen were screened by Maharashtra State AIDS CONTROL SOCIETY (MSACS). Mumbai.	Health Checks carried out but HIV/AIDS parameter is not there.	Conforming with BOCW Act 1996. In the month of December Maleria antidot tablet (vaccination)is provided to all Labours		
	11	Labour Environment	Construction worker's condi	2 Locations (major camp site in Sewri and Shivaji Nagar)	2 times / year x 4.5 years	**Criteria for evaluation** **"Building And Other Construction Workers (Regulation of Employment and Conditions of Service) Act,1996", "The building and other construction worker's welfare cess Act, 1996" and international standards such as "IFC Performance Standard 2 Labor and Working Conditions"**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**	**Gavan Camp site**		
						Site Visual Inspection	All provisions as per BOCW	Conforming with BOCW Act 1996	Conforming with BOCW Act 1996 as per IM -26A checklist		
Other	12	Accident	Number of accidents	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	**Criteria for evaluation** **Any accidents are not caused by construction**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**	**Other area**		
						Number of recorded accident	1	Nil	Nil		

MTHL Land Acquisition Status (Attachment 2-6):

Total land required on Navi Mumbai side- 108.09 ha
Land in possession in MMRDA – 101.99 ha
Balance land acquisition- 6.10 ha

Note: The acquisition of 6.10 ha is in progress by CIDCO. The balance acquisition would be likely completed by the end of January 2020.

Land Required in ha		Land Acquired in ha		Balance Land to be acquired in ha	Anticipated date for Land Acquisition	Payment status (Payment made to Land Owners by CIDCO)	Remarks
Govt.	**Private**	**Govt.**	**Private**	**Private***			
98.75	9.34	98.75	3.24	6.10	31/01/2020	--	1. The payment status to the land owners is awaited from CIDCO. The same would be communicated to JICA on receipt of the same.
Total 108.09		**98.75**	**3.24**	**6.10**			

***Portions of Private Land**

Sr. No.	Name of Village	Area (Hectare)	Acquired	Non-acquired
1	Gavhan	0.15	-	0.15
2	Jasai	8.72	3.24	5.48
3	Chirle	0.47	-	0.47
Total Area		**9.34**	**3.24**	**6.10**

Attachment 2-8

RAP Implementation Monitoring Form
For Mumbai Trans Harbour Link Project (MTHL)

1. General Information

a.	RAP Implementation Monitoring Results:	Progress Status Report (PSR) of 4th quarter of 2019
b.	Date of Preparing This form	31.12.2019
c.	Person Preparing This form	Name: Robin Sham Position: Engineer and Team Leader Department/Organizations: General Consultants

2. Scale of Impact

2.1 Project Affected Households (PAHs) and Project Affected Persons (PAPs) for Sewri side

Total Project Affected Households (PAHs)	297 Hhs	Titleholders: 0 Hhs Non-titleholders: 297 Hhs
Total PAPs	1,282 persons*	Titleholders: 0 persons Non-titleholders: 1,282 persons*
PAHs who need relocation (as residents)	231 Hhs	Titleholders: 0 persons Non-titleholders:231 (1,088 persons) *
PAPs who do not need relocation (as residents)	0 persons	Titleholders: 0 persons Non-titleholders: 0 persons
Commercial PAPs who need relocation	66 (194 persons) *	Titleholders: 0 persons Non-titleholders:66 (194 persons) *
Commercial PAPs who do not need relocation	0 persons	Titleholders: 0 persons Non-titleholders: 0 persons

* - Figures for number of persons do not include no. of family members of few additional PAPs.

2.2 Structures

Structures	Residential: 231 Commercial: 65 Residential + Commercial: 1 (counted in Commercial) Community: 9 (Religious Properties 6, Public Toilets 3) Government: 16 (MbPT Structures 9, Occupants of Leased Plots 6 & Police Chowky1) Total: 322

2.3 Fishery

Categories of Fisher-folks	Identified Number		Total	Remarks
	Mumbai side	Navi Mumbai side		
C1: Fishing stakes and nets in RoW (250 m.)	199	52	251	1. Funds being transferred to Commissioner of Fisheries for payment to the beneficiaries. 2. Compensation to C2 Category is already disbursed through Fisheries Dept.

				3. Out of 3831 Nos. of Beneficiaries, Compensation to 1695 Nos. of Beneficiaries has been already disbursed through Fisheries Dept. MMRDA is transferring the fund to Fisheries Dept. for Compensation to the balance 2136 Nos. of Beneficiaries.
C2: Fishing Stakes and Nets within 500 m. of RoW (Southern side)	749	126	875	
C3: Hand-pickers	507	3324	3831	
C4: Commercial and Artisanal Fisher-folks (Loss of Time and Increased Operating Costs)	Will be observed during construction period	Will be observed during construction period	---	Nil
C5: Fisher-folks with Loss due to Turbidity	Will be observed during construction period	Will be observed during construction period	----	Nil
C6: Fisher-folks with Damages due to Accidents	Will be observed during construction period	Will be observed during construction period	----	Nil

2.4 Land Acquisition / Transfer

Location	Land Required in Ha.		Land Acquired in Ha.		Balance Land to be acquired in Ha	Remarks
	Govt.	Private	Govt.	Private		
Sewri	10.089	0	10.089	0	0	
Navi Mumbai	98.75	9.34	98.75	3.24	6.10	
Total	**118.179**		**108.839**	**3.24**	**6.10**	

3. Monitoring Results

3.1 Sewri Section

Activity	Indicator	Total Target	Progress till Last Quarter	Progress during reporting Quarter	Cumulative Progress till Current Quarter	Cumulative Achievement of Total Target (%)	Remarks, If Any
Resettlement	No. of Residential PAHs provided with Allotment Letters of Alternate Tenements	231	141	0	141	62%	
	No. of Residential PAHs given possession of Alternate Tenements	231	137	0	137	60%	
	No. of Commercial/R+C PAPs provided with Allotment Letters of Alternate Shops/Tenements	66	20	0	20	30%	
	No. of Commercial R+C PAPs given possession of Alternate Shops/Tenements	66	17	0	17	26%	
	No. of Occupants of MbPT Leased Plots provided Compensation	6	5	0	5	84%	
	No. of Religious properties Relocated / Removed	6	1	0	1	17%	Jivdani Mandir allotment letter given
	No. of Other Community properties Relocated / Removed	4	0	0	0	0%	
	No. of Structures in possession of MbPT Dismantled / Cleared	9	0	0	0	0%	
	No. of PAHs/PAPs provided Shifting Charges / Arrangement	297	0	0	0	0%	
Rehabilitation	No. of PAHs / PAPs identified for Livelihood Support in Post Resettlement Assessment						
	No. of PAHs / PAPs provided Livelihood Support under Program-I (to be identified)						
	No. of PAHs / PAPs provided Livelihood Support under Program-II (to be identified)						
	No. of PAHs / PAPs provided Livelihood Support under Program-III (to be identified)						
	No. of new enterprises started						

Activity	Indicator	Total Target	Progress till Last Quarter	Progress during reporting Quarter	Cumulative Progress till Current Quarter	Cumulative Achievement of Total Target (%)	Remarks, If Any
Grievance Redress	No. of Grievances Received by FLGRC	4					
	No. of Grievances Disposed by FLGRC	0					
	No. of Grievances Received by SLGRC	0					
	No. of Grievances Disposed by SLGRC	0					
Post Resettlement Assistance	No. of CHSs Registration helped						
	No. of CHSs provided Tenements for Social Amenities						
	No. of CHSs' Maintenance Fund Invested						
	No. of CHSs' Office Bearers provided training						

3.2 Fishery Compensation

Categories of Fisher-folks	**Identified Number**		**Total**	**Remarks**
	Mumbai side	**Navi Mumbai side**		
C1: Fishing stakes and nets in RoW (250 m.)	199	52	251	1. Funds being transferred to Commissioner of Fisheries for payment to the beneficiaries. 2. Compensation to C2 Category is already disbursed through Fisheries Dept. 3. Out of 3831 Nos. of Beneficiaries, Compensation to 1695 Nos. of Beneficiaries has been already

				disbursed through Fisheries Dept. MMRDA is transferring the fund to Fisheries Dept. for Compensation to the balance 2136 Nos. of Beneficiaries.
C2: Fishing Stakes and Nets within 500 m. of RoW (Southern side)	749	126	875	An amount of about 49 crores has been deposited with the Fisheries Department towards disbursement of compensation to 2564 Nos. of beneficiaries. Further, the Fisheries Department has started disbursing the amount to the individual PAPs on following due procedure. The scrutiny of the balance Nos. of applications of fisherfolk is in the process of scrutiny for deciding their eligibility for the compensation.
C3: Hand-pickers	507	3324	3831	
C4: Commercial and Artisanal Fisher-folks (Loss of Time and Increased Operating Costs)	Will be observed during construction period	Will be observed during construction period	---	Nil
C5: Fisher-folks with Loss due to Turbidity	Will be observed during construction period	Will be observed during construction period	----	Nil
C6: Fisher-folks with Damages due to Accidents	Will be observed during construction period	Will be observed during construction period	----	Nil

List as per C2 & C3 category

Sr. No	Village name	Total No of family units surveyed	No of eligible family units
Mumbai side			
1.	Mahul & Sewri	336	336
2.	Trombay	829	829
Total Mumbai side		**1165**	**1165**
Navi Mumbai side			
3.	Bamandongri	235	25
4.	Belpada	484	329
5.	Ganeshpuri	25	50
6.	Jasai	26	18
7.	Gavhan	5	4
8.	Morave	190	83
9.	Kopar	548	228
10.	Mora	70	1
11.	Uran	65	0
12.	Jawale	232	1
13.	Shelghar	1	15
14.	Shivaji Nagar	2	64
15.	Ulwe	29	14
16.	Vahal	119	3
17.	Navakhadi	673	326
18.	Moha	222	146
19.	Kombadbhuja	134	92
Total Navi Mumbai side		**3060**	**1399**
Total (Mumbai side + Navi Mumbai side)		**4225**	**2564**

Note: MMRDA has received *16,281* new applications from Fishing families which are yet to be scrutinized.
Note: The category of fishermen is as per the Fishermen Compensation Policy

Grievance Redressal Committee (GRC) for Fisher-folk Compensation

No. of Cases referred to GRC	No. of Cases		No. of Cases Rejected	No. of Cases under Consideration
	Allowed	**Compensation Paid**		
Nil	Nil	Nil	Nil	Nil

Implementation Schedule for Fisher-folks Compensation & Land Acquisition in Navi Mumbai

A. Implementation Schedule for Fisher-folks Compensation: -

Sr. No.	Task Designation	Approving authority	Start Date	Completion Date
1	Approval of fisher-folks' compensation Policy	Fisher-folks Compensation Committee (FCC)	08-10-2015	23-12-2015
2	Approval by MMRDA	MMRDA	10-12-2015	23-12-2015
3	Submission to JICA	MMRDA	--	04-01-2016
4	Detailed list of PAP and compensation plan	Detailed list of Fisher-folk PAP & disbursement is finalized by the Fisheries Department.	23-12-2015	1. Total up to date applications scrutinized = 5881 nos 2. Eligible = 2564 nos 3. In-eligible = 06 nos 4. In process of approval = 2043 nos 5. Documents awaited = 1268 nos
5	Validation of compensation plan	Fisher-folks Compensation Committee (FCC)	23-12-2015	1. Approval to the Fisher-folk PAP list obtained from Fisheries Department for Fisherfolk from Sewri, Mahul & Trombay (Mumbai side) – 12th September 2017 and 20th November 2018 for C-2 & C3 Category only.
			23-12-2015	2. Approval to the Fisher-folk PAP list obtained from Fisheries Department for Fisherfolk of Navi Mumbai of C2 & C3 on 25th April 2018. 3. Validation of compensation is in progress and would be completed in phases.
6	Approval of compensation plan	FCC	23-11-2015	28-12-2017
7	Approval by MMRDA	MMRDA	23-11-2015	09-03-2018

B. Implementation Schedule for Land Acquisition in Navi Mumbai:-

Land Required in Ha.		Land Acquired in Ha.		Balance Land to be acquired in Ha	Anticipated date for Land Acquisition	Payment status (Payment made to Landowners by CIDCO)	Remarks
Govt.	**Private**	**Govt.**	**Private**	**Private**			
98.75	9.34	98.75	3.24	6.10	31/01/2020	--	1. CIDCO is the land acquisition authority for land acquisition for Navi Mumbai 2. MMRDA has paid an amount of INR 59.16 Cr to CIDCO as per their demand. 3. The payment status to the landowners is awaited from CIDCO. The same would be communicated to JICA on receipt of the same.
Total	**108.09**	**101.99**		**6.10**			

Implementation Schedule for SIA (Sewri Section)

Task No.	Task Designation	Start Date	Completion / Forecast Date
1	**Preparation of Final SIA**		
1.1	MMRDA Approval	October 2015	January 2016
1.2	JICA Approval	November 2015	January 2016
1.3	Posting of project Information on MMRDA		
1.4	Translation and disclosure of entitlement policy in local language to all PAP's	December 2015	January 2016
2	**LARP Implementation**		
2.1	Grievance redress mechanism established	August 2016	August 2016
2.2	Staff deployment SIA implementation	June 2016	March 2020
2.3	Staff Deployment Public Relation	June 2016	June 2016
2.4	Hiring of Independent Evaluation Agency	November 2018	September 2019
2.5	Preparation and issue of allotment letters to	June 2018	March 2020
2.6	Notice of PAPs for shifting (Sewri Section)	December 2018	March 2020
2.7	Allotment of dwelling units to PAP's	September 2016	March 2020
2.8	Shifting of PAPs to resettlement Colony	December 2018	March 2020
2.9	Transfer of compensation / allowance/ assistance to PAPs	December 2018	March 2020
2.10	Creation of Community Revolving fund (within 3 months post handing over)	April 2019	March 2020
2.11	Assessment of economic rehabilitation needs by individual household (within 6 months after handing over	September 2019	June 2020
2.12	Registration of Co-operative housing societies, transfer of maintenance funds. (6 months period)	December 2019	September 2020
2.13	Signing of Civil Contract		January 2017
2.14	Notice of Civil works to proceed		March 2017
3	**Monitoring & Evaluation**		
3.1	Internal Monitoring- Monthly/ Quarterly	June 2016	January 2020
3.2	Independent Evaluation Mid-term and End term evaluation Mid Term End Term	 May 2019 November 2019	 Nov. 2019 January 2020

Attachment 3- JICA's Concurrence Status

Status of JICA'S Concurrence

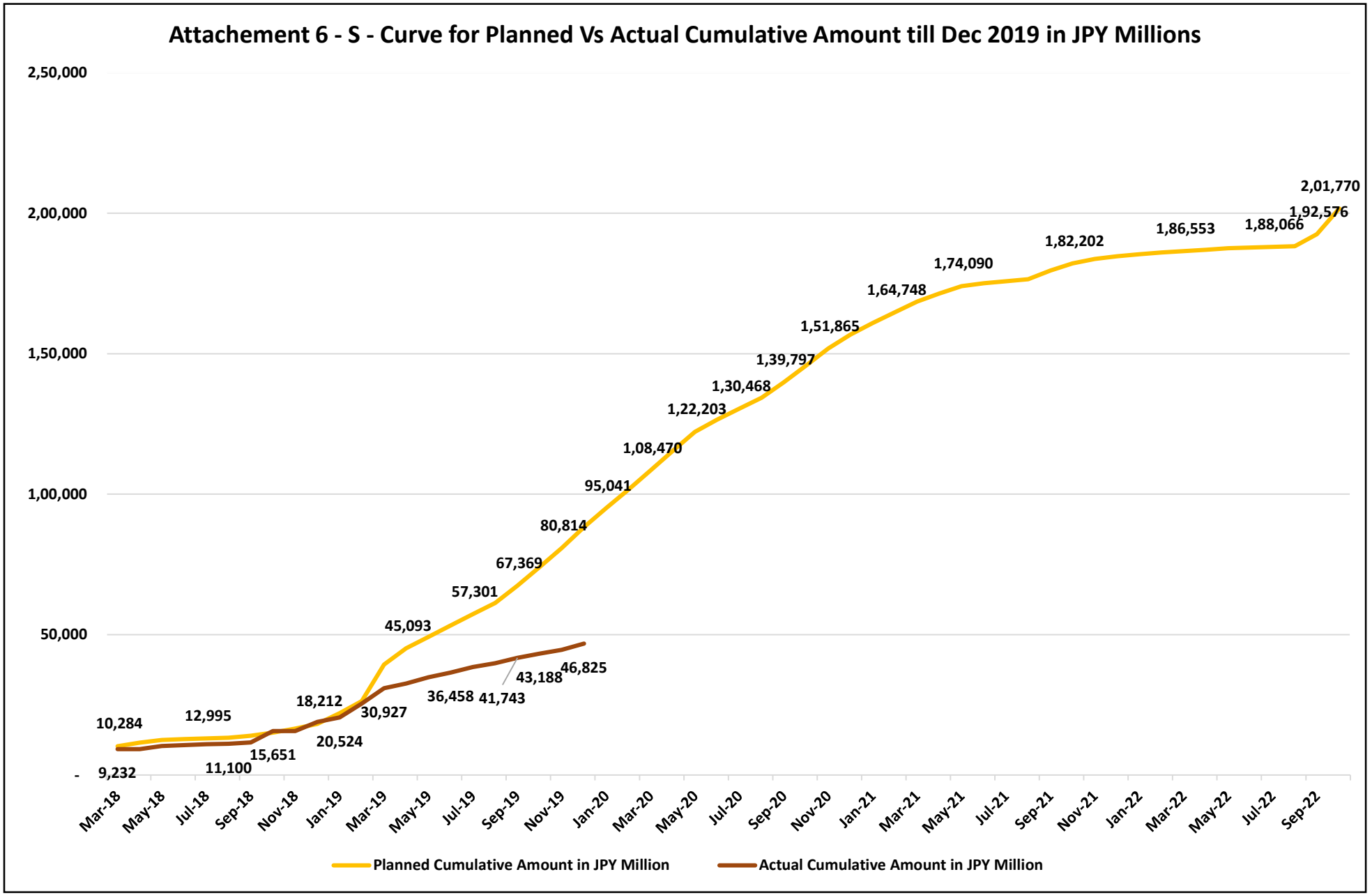
Sl. No.	Brief description	Procurement procedure	Bid Cost		JICA's Concurrence on					
			Local Currency (Cr Rs.)	Total (Cr Rs)	PQ Documents	PQ Evaluation	Bid Documents	Technical Evaluation	Financial Evaluation	Contract
1.	Package-1 (CH 0+000 km to CH10+380 km)	ICB with PQ (2P)	7637.30	7637.30	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 22nd Dec 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 12th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence – 15th Feb 2018
2.	Package-2 (CH 10+380 km to CH18+187 km)	ICB with PQ (2P)	5612.61	5612.61	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 22nd Dec 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 12th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence – 15th Feb 2018
3.	Package-3 (CH18+187 to CH21+800)	ICB with PQ (2P)	1013.79	1013.79	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 15th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence – 15th Feb 2018
4.	Package-4 Intelligent Transport System	ICB with PQ (2P)	181.49	181.49	JICA's Concurrence - 23rd August 2019	-	-	-	-	-

Attachment 4- Project Procurement and Financial Status till 31st December 2019

PROJECT PROCUREMENT AND FINANCIAL STATUS TILL 31st DECEMBER 2019

Type	Contract	Awarded or Estimated Value (in Rs. Crore)	Current Status	Contractors	Project Commencement Date	Stipulated Project Completion Date	% of Overall Project completion (Design/ Procurement/ Construction) up to 25th December 2019	% of Overall Financial Progress (Including Mobilization Advance & Price Adjustment) till 31st December 2019
CIVIL	Package-1 (CH 0+000 km to CH 10+380 km)	7637.30	Awarded	L&T-IHI Consortium	March 2018	Sep 2022	19.19%	17.60%
	Package-2 (CH 10+380 km to CH18+187 km)	5612.61	Awarded	DAEWOO-TPL JV	March 2018	Sep 2022	15.57%	14.51%
	Package-3 (CH18+187 to CH21+800)	1013.79	Awarded	L&T	March 2018	Sep 2021	17.82%	17.07%
	Package-4 Intelligent Transport System	181.49 (Estimated)	Design Stage	--	Jul 2020 (Estimated)	Sep 2022	NA	NA

Attachment 5- S-Curve for Cumulative Planned Vs Actual Amount in JPY Million


Attachement 6 - S - Curve for Planned Vs Actual Cumulative Amount till Dec 2019 in JPY Millions
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9,232
10,284
11,100
12,995
15,651
18,212
20,524
30,927
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36,458
41,743
43,188
46,825
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67,369
80,814
95,041
1,08,470
1,22,203
1,30,468
1,39,797
1,51,865
1,64,748
1,74,090
1,82,202
1,86,553
1,88,066
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2,01,770
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Mar-22
May-22
Jul-22
Sep-22
Planned Cumulative Amount in JPY Million
Actual Cumulative Amount in JPY Million

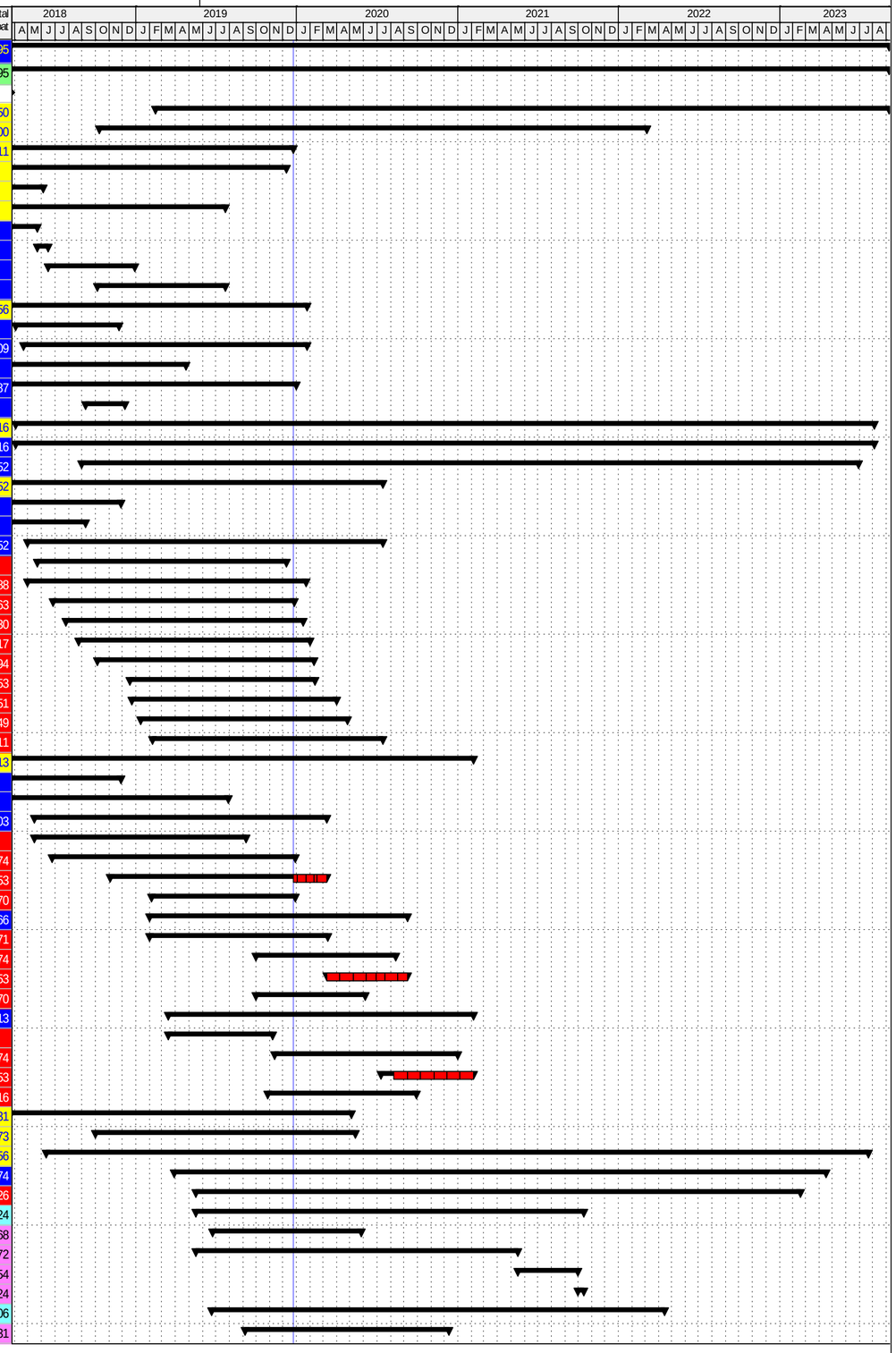
Attachment 6- Package-1's Construction Programme Updated as on 25th December 2019

MUMBAI TRANS HARBOUR LINK PACKAGE 1, UPDATED BASELINE PROGRAMME FOR DECEMBER 2019

IHI | MMRDA | AECOM | PADECO | dar al-handasah | TYLIN INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Original Duration	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
MPR21	MTHL P1 - Dec'19 Month Progress	1062	23-Mar-18	22-Sep-22	1445	23-Mar-18 A	06-Sep-23	33.89%	19.19%	0	-294	-295
MPR21.1	Mumbai Trans Harbour Link - Package 1	1062	23-Mar-18	22-Sep-22	1445	23-Mar-18 A	06-Sep-23	33.89%	19.19%	0	-294	-295
M10000	Commencement Date	0	23-Mar-18		0	23-Mar-18 A		100%	100%	0	0	
MPR21.1.1	Key Milestones	1464	19-Sep-18	22-Sep-22	1628	15-Feb-19 A	06-Sep-23	0%	0%	-148	-349	-350
MPR21.1.2	Contractual Interface	1243	09-Oct-18	05-Mar-22	1243	09-Oct-18 A	05-Mar-22	0%	0%	0	0	200
MPR21.1.3	Access to Site	165	23-Mar-18	03-Sep-18	165	23-Mar-18 A	25-Dec-19	0%	0%	0	-477	-211
MPR21.1.4	Document Submittals	180	23-Mar-18	18-Sep-18	180	23-Mar-18 A	09-Dec-19 A	0%	0%	0	-446	
MPR21.1.5	Survey	73	23-Mar-18	03-Jun-18	73	23-Mar-18 A	03-Jun-18 A	0%	0%	0	0	
MPR21.1.6	Geotechnical Investigation	165	23-Mar-18	03-Sep-18	165	23-Mar-18 A	23-Jul-19 A	0%	0%	0	-322	
MPR21.1.6.1	Phase 1	60	23-Mar-18	21-May-18	60	23-Mar-18 A	21-May-18 A	0%	0%	0	0	
MPR21.1.6.2	Phase 2	25	22-May-18	15-Jun-18	25	22-May-18 A	15-Jun-18 A	0%	0%	0	0	
MPR21.1.6.3	Phase 3	50	16-Jun-18	04-Aug-18	50	16-Jun-18 A	30-Dec-18 A	0%	0%	0	-147	
MPR21.1.6.4	Phase 4	45	21-Jul-18	03-Sep-18	45	05-Oct-18 A	23-Jul-19 A	0%	0%	-76	-322	
MPR21.1.7	Infrasturcture Facilties	188	23-Mar-18	05-Feb-19	376	23-Mar-18 A	24-Jan-20	0%	0%	0	-218	656
MPR21.1.7.1	Project Site Office Construction (Contractor + Employer +	120	04-Apr-18	27-Nov-18	120	04-Apr-18 A	25-Nov-18 A	0%	0%	0	2	
MPR21.1.7.2	Casting Yard	164	20-Apr-18	05-Feb-19	355	20-Apr-18 A	24-Jan-20	0%	0%	0	-218	-109
MPR21.1.7.3	Fabrication Yard	133	23-Mar-18	30-Nov-18	133	23-Mar-18 A	26-Apr-19 A	0%	0%	0	-122	
MPR21.1.7.4	Rebar Yard	133	23-Mar-18	30-Nov-18	376	23-Mar-18 A	30-Dec-19	0%	0%	0	-251	-87
MPR21.1.7.5	Batching Plant Installation - CP30 & CP60	164	20-Apr-18	05-Feb-19	164	08-Sep-18 A	08-Dec-18 A	0%	0%	-47	49	
MPR21.1.8	Procurement Plan	1618	04-Apr-18	07-Sep-22	2088	04-Apr-18 A	03-Aug-23	0%	0%	0	-330	-316
MPR21.1.8.1	Plant & Machinery Deployment Plan	1618	04-Apr-18	07-Sep-22	2088	04-Apr-18 A	03-Aug-23	0%	0%	0	-330	-316
MPR21.1.8.4	Bulk Material Procurement Plan	1412	01-Sep-18	13-Jul-22	1679	31-Aug-18 A	29-Jun-23	0%	0%	0	-351	-352
MPR21.1.9	Design & Engineering (Civil)	302	23-Mar-18	21-Sep-19	525	23-Mar-18 A	15-Jul-20	0%	0%	0	-223	-152
MPR21.1.9.1	Initial Design (General & Preliminary Design, DBR)	79	23-Mar-18	09-Jun-18	79	23-Mar-18 A	29-Nov-18 A	0%	0%	0	-172	
MPR21.1.9.2	Finalization of Alignment	88	23-Mar-18	18-Jun-18	88	23-Mar-18 A	10-Sep-18 A	0%	0%	0	-83	
MPR21.1.9.3	Detailed Design and Construction Design	269	01-May-18	21-Sep-19	525	01-May-18 A	15-Jul-20	0%	0%	0	-223	-152
MPR21.1.9.3.1	GIR	133	22-May-18	01-Oct-18	193	22-May-18 A	09-Dec-19 A	0%	0%	0	-433	
MPR21.1.9.3.2	Test Pile	113	01-May-18	15-Dec-18	391	01-May-18 A	22-Jan-20	0%	0%	0	-258	-188
MPR21.1.9.3.3	Design Phase -1 (Accelerated Design of Initial Items)	137	19-Jun-18	02-Nov-18	137	27-Jun-18 A	25-Dec-19	0%	0%	-8	-418	-363
MPR21.1.9.3.4	Design Phase -2 (Accelerated Design of Initial Items)	163	04-Jul-18	13-Dec-18	163	26-Jul-18 A	16-Jan-20	0%	0%	-22	-399	-330
MPR21.1.9.3.5	Design Phase -3	221	19-Jun-18	25-Jan-19	144	25-Aug-18 A	31-Jan-20	0%	0%	-67	-371	-317
MPR21.1.9.3.6	Design Phase -4	220	07-Jul-18	11-Feb-19	220	05-Oct-18 A	09-Feb-20	0%	0%	-90	-362	-294
MPR21.1.9.3.7	Design Phase -5	242	07-Jul-18	05-Mar-19	579	19-Dec-18 A	12-Feb-20	0%	0%	-165	-343	-253
MPR21.1.9.3.8	Design Phase -6	221	26-Aug-18	03-Apr-19	719	24-Dec-18 A	31-Mar-20	0%	0%	-120	-363	-351
MPR21.1.9.3.9	Design Phase -7	272	26-Aug-18	24-May-19	753	11-Jan-19 A	25-Apr-20	0%	0%	-138	-336	-149
MPR21.1.9.3.10	Design Phase -8	355	02-Oct-18	21-Sep-19	389	08-Feb-19 A	15-Jul-20	0%	0%	-129	-297	-211
MPR21.1.10	Design, Engineering & Material Procurement (OSD)	697	23-Mar-18	17-Feb-20	1050	23-Mar-18 A	05-Feb-21	0%	0%	0	-353	-113
MPR21.1.10.1	Initial Design	53	23-Mar-18	14-May-18	53	23-Mar-18 A	29-Nov-18 A	0%	0%	0	-198	
MPR21.1.10.3	Aerodynamic Analysis	145	23-Mar-18	14-Aug-18	145	23-Mar-18 A	30-Jul-19 A	0%	0%	0	-349	
MPR21.1.10.4	Technical Design	311	15-May-18	21-Mar-19	717	15-May-18 A	09-Mar-20	0%	0%	0	-353	-203
MPR21.1.10.4.1	OS01NS/SS	150	15-May-18	11-Oct-18	150	15-May-18 A	09-Sep-19 A	0%	0%	0	-332	
MPR21.1.10.4.2	OS02NS/SS	164	26-Jun-18	06-Dec-18	530	26-Jun-18 A	28-Dec-19	0%	0%	0	-386	-374
MPR21.1.10.4.3	OS03NS/SS	164	14-Aug-18	24-Jan-19	626	04-Nov-18 A	09-Mar-20	0%	0%	-82	-409	-353
MPR21.1.10.4.4	OS04NS/SS	164	09-Oct-18	21-Mar-19	425	06-Feb-19 A	28-Dec-19	0%	0%	-120	-281	-170
MPR21.1.10.5	Construction Design	344	12-Oct-18	20-Sep-19	879	02-Feb-19 A	08-Sep-20	0%	0%	-113	-353	-266
MPR21.1.10.5.1	OS01NS/SS	201	12-Oct-18	30-Apr-19	700	02-Feb-19 A	12-Mar-20	0%	0%	-113	-317	-171
MPR21.1.10.5.2	OS02NS/SS	231	07-Dec-18	25-Jul-19	276	01-Oct-19 A	12-Aug-20	0%	0%	-298	-383	-374
MPR21.1.10.5.3	OS03NS/SS	183	25-Jan-19	26-Jul-19	183	09-Mar-20	08-Sep-20	0%	0%	-409	-409	-353
MPR21.1.10.5.4	OS04NS/SS	183	22-Mar-19	20-Sep-19	207	01-Oct-19 A	04-Jun-20	0%	0%	-193	-257	-170
MPR21.1.10.6	Material Procurement (1st Lot)	353	02-Mar-19	17-Feb-20	416	15-Mar-19 A	05-Feb-21	0%	0%	-13	-353	-113
MPR21.1.10.6.1	OS01NS/SS	210	02-Mar-19	27-Sep-19	287	15-Mar-19 A	08-Nov-19 A	0%	0%	-13	-41	
MPR21.1.10.6.2	OS02NS/SS	210	27-May-19	22-Dec-19	226	11-Nov-19 A	31-Dec-20	0%	0%	-168	-374	-374
MPR21.1.10.6.3	OS03NS/SS	210	28-May-19	23-Dec-19	210	10-Jul-20	05-Feb-21	0%	0%	-409	-409	-353
MPR21.1.10.6.4	OS04NS/SS	210	23-Jul-19	17-Feb-20	183	28-Oct-19 A	29-Sep-20	0%	0%	-97	-224	16
MPR21.1.11	Tree Cutting and Transplantation	225	23-Mar-18	02-Nov-18	774	23-Mar-18 A	05-May-20	0%	0%	0	-549	-431
MPR21.1.12	Utility Diversion	210	19-Jun-18	14-Jan-19	783	01-Oct-18 A	13-May-20	0%	0%	-104	-485	-173
MPR21.1.13	Construction	919	11-Jun-18	22-Jun-22	1317	11-Jun-18 A	22-Jul-23	28.11%	12.19%	0	-331	-256
MPR21.1.13.1	Sewri Interchange Section	779	03-Nov-18	28-Feb-22	1164	29-Mar-19 A	17-Apr-23	28.73%	9.28%	-121	-346	-174
MPR21.1.13.1.1	Sewri Interchnage - Work Front - 1	779	03-Nov-18	28-Feb-22	1116	18-May-19 A	17-Feb-23	29.96%	7.55%	-163	-298	-126
MPR21.1.13.1.1.1	Sewri Interchange - Work Front - 1 - Piling	490	03-Nov-18	15-Dec-20	704	18-May-19 A	14-Oct-21	56.17%	33.12%	-163	-175	-24
MPR21.1.13.1.1.1.1	Piling - Land Viaduct	54	13-Apr-19	16-Sep-19	298	25-Jun-19 A	27-May-20	100%	90%	-53	-211	-168
MPR21.1.13.1.1.1.2	Piling - Ramp A	442	03-Nov-18	17-Oct-20	698	18-May-19 A	17-May-21	55.67%	28.5%	-163	-175	-72
MPR21.1.13.1.1.1.3	Piling - Ramp E	36	20-Oct-20	01-Dec-20	36	17-May-21	30-Sep-21	0%	0%	-175	-175	-54
MPR21.1.13.1.1.1.4	Piling - Ramp F	12	02-Dec-20	15-Dec-20	12	30-Sep-21	14-Oct-21	0%	0%	-175	-175	-24
MPR21.1.13.1.1.2	Sewri Interchange - Work Front - 1 -Pile Cap	560	19-Nov-18	24-Mar-21	789	21-Jun-19 A	15-Apr-22	45.62%	9.68%	-175	-246	-106
MPR21.1.13.1.1.2.1	Pile Cap - Land Viaduct	68	25-Apr-19	15-Oct-19	110	06-Sep-19 A	10-Dec-20	100%	50%	-43	-274	-231



Actual Level of Effort | Remaining Work | Milestone
Actual Work | Critical Remaining Work | summary

Please note that this Monthly Rolling Plan has been updated based on the actual progress and will not match withimpacted schedule submitted with the EOT-02 proposal for the contractor's eligibility for extension of time.

MUMBAI TRANS HARBOUR LINK PACKAGE 1, UPDATED BASELINE PROGRAMME FOR DECEMBER 2019

L&T - IHI | MMRDA | AECOM | PADECO | dar al-handasah | TYLIN INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Original Duration	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
MPR21.1.13.1.1.2.2	Pile Cap - Ramp A	504	19-Nov-18	15-Jan-21	753	21-Jun-19 A	04-Mar-22	42.47%	4.84%	-175	-266	-217
MPR21.1.13.1.1.2.3	Pile Cap - Ramp E	44	07-Jan-21	27-Feb-21	67	25-Jan-22	15-Apr-22	0%	0%	-243	-266	-106
MPR21.1.13.1.1.2.4	Pile Cap - Ramp F	20	01-Mar-21	24-Mar-21	20	10-Mar-22	02-Apr-22	0%	0%	-235	-235	-146
MPR21.1.13.1.1.3	Sewri Interchange - Work Front - 1 - Pier	588	12-Dec-18	20-May-21	526	30-Jul-19 A	29-Jun-22	30.37%	6.53%	-155	-262	-105
MPR21.1.13.1.1.3.1	Pier - Land Viaduct	52	29-May-19	30-Oct-19	36	21-Oct-19 A	15-Jan-21	100%	26.67%	-43	-291	-234
MPR21.1.13.1.1.3.2	Pier - Ramp A	504	12-Dec-18	09-Feb-21	454	30-Jul-19 A	06-Apr-22	37.26%	2.42%	-155	-274	-225
MPR21.1.13.1.1.3.3	Pier - Ramp E	96	27-Jan-21	20-May-21	84	31-Jul-19 A	29-Jun-22	0%	13.64%	337	-262	-158
MPR21.1.13.1.1.3.4	Pier - Ramp F	83	23-Dec-20	01-Apr-21	83	31-Dec-21	11-Apr-22	0%	0%	-235	-235	-37
MPR21.1.13.1.1.4	Sewri Interchange - Work Front - 1 - Pier Cap	587	05-Jan-19	11-Jun-21	537	28-Apr-20	04-Aug-22	27.07%	0%	-323	-274	38
MPR21.1.13.1.1.4.1	Pier Cap - Land Viaduct	49	16-Sep-19	14-Nov-19	48	07-Dec-20	03-Feb-21	100%	0%	-295	-294	-237
MPR21.1.13.1.1.4.2	Pier Cap - Ramp A	499	05-Jan-19	26-Feb-21	449	28-Apr-20	23-Apr-22	31.61%	0%	-323	-274	-225
MPR21.1.13.1.1.4.3	Pier Cap - Ramp E	100	13-Feb-21	11-Jun-21	100	09-Apr-22	04-Aug-22	0%	0%	-274	-274	38
MPR21.1.13.1.1.4.4	Pier Cap - Ramp F	86	31-Dec-20	13-Apr-21	91	10-Jan-22	28-Apr-22	0%	0%	-235	-240	-26
MPR21.1.13.1.1.5	Sewri Interchange - Embankment Works - Ramp	90	14-Apr-21	01-Nov-21	90	22-Apr-22	05-Aug-22	0%	0%	-235	-235	-86
MPR21.1.13.1.1.6	Sewri Interchange - Work Front - 1 - Super Struc	628	04-May-19	28-Feb-22	606	23-Nov-20	17-Feb-23	15.32%	0%	-319	-298	-256
MPR21.1.13.1.1.6.1	Erection - Land Viaduct	96	19-Nov-19	11-Mar-20	96	08-Feb-21	02-Jun-21	1.11%	0%	-295	-295	-281
MPR21.1.13.1.1.6.2	Erection - Ramp A	486	04-May-19	09-Apr-21	415	23-Nov-20	03-Jun-22	26.84%	0%	-370	-300	-260
MPR21.1.13.1.1.6.3	Erection - Ramp E	146	10-Apr-21	02-Dec-21	146	03-Jun-22	24-Nov-22	0%	0%	-300	-300	-260
MPR21.1.13.1.1.6.4	Erection - Ramp F	52	28-Dec-21	28-Feb-22	52	19-Dec-22	17-Feb-23	0%	0%	-300	-300	-258
MPR21.1.13.1.2	Sewri Interchange - Work Front - 2	765	03-Nov-18	11-Feb-22	1164	29-Mar-19 A	17-Apr-23	35.44%	13.76%	-121	-360	-288
MPR21.1.13.1.2.1	Sewri Interchange - Work Front - 2 - Piling	553	03-Nov-18	01-Mar-21	775	29-Mar-19 A	08-Jan-22	53.42%	39.63%	-121	-183	-137
MPR21.1.13.1.2.1.1	Piling - Ramp C2	325	03-Nov-18	27-Feb-20	586	29-Mar-19 A	15-Jan-21	67.78%	95.92%	-121	-190	-137
MPR21.1.13.1.2.1.2	Piling - Ramp C1	140	03-Apr-19	18-Dec-19	128	12-Nov-19 A	07-Jan-21	100%	8.57%	-108	-243	-137
MPR21.1.13.1.2.1.3	Piling - Ramp B	84	21-Nov-20	01-Mar-21	75	22-Nov-19 A	08-Jan-22	0%	8.32%	227	-183	-137
MPR21.1.13.1.2.2	Sewri Interchange - Work Front - 2 - Pile Cap	591	19-Nov-18	29-Apr-21	828	05-May-19 A	15-Mar-22	46.25%	13.66%	-140	-187	-125
MPR21.1.13.1.2.2.1	Pile Cap - Ramp C2	361	19-Nov-18	24-Apr-20	655	05-May-19 A	18-May-21	57.46%	61.19%	-140	-244	-156
MPR21.1.13.1.2.2.2	Pile Cap - Ramp C1	172	12-Apr-19	04-Feb-20	177	14-Dec-19 A	31-Mar-21	83.28%	0.33%	-128	-272	-176
MPR21.1.13.1.2.2.3	Pile Cap - Ramp B	131	25-Nov-20	29-Apr-21	131	08-Oct-21	15-Mar-22	0%	0%	-187	-187	-125
MPR21.1.13.1.2.3	Sewri Interchange - Work Front - 2 - Pier	589	12-Dec-18	21-May-21	477	04-Sep-19 A	02-Apr-22	39.94%	26.12%	-155	-185	-2
MPR21.1.13.1.2.3.1	Pier - Ramp C2	353	12-Dec-18	09-May-20	300	04-Sep-19 A	01-Jun-21	58.09%	59.87%	-155	-244	-156
MPR21.1.13.1.2.3.2	Pier - Ramp C1	194	01-Apr-19	18-Feb-20	221	10-Sep-19 A	14-Apr-21	77.04%	15.3%	-64	-272	-170
MPR21.1.13.1.2.3.3	Pier - Ramp B	248	25-Apr-20	21-May-21	197	08-Oct-19 A	02-Apr-22	0%	22.95%	168	-185	-2
MPR21.1.13.1.2.4	Sewri Interchange - Work Front - 2 - Pier Cap	583	26-Dec-18	28-May-21	464	02-Dec-19 A	17-May-22	36.48%	0.05%	-206	-217	-33
MPR21.1.13.1.2.4.1	Pier Cap - Ramp C2	356	26-Dec-18	27-May-20	264	02-Dec-19 A	21-Sep-21	57.93%	0.3%	-206	-244	-156
MPR21.1.13.1.2.4.2	Pier Cap - Ramp C1	198	18-Apr-19	12-Mar-20	183	29-Sep-20	07-May-21	67.59%	0%	-287	-272	-174
MPR21.1.13.1.2.4.3	Pier Cap - Ramp B	235	19-May-20	28-May-21	205	12-Jun-21	17-May-22	0%	0%	-247	-217	-33
MPR21.1.13.1.2.5	Sewri Interchange - Embankment Works - Ramp	60	23-May-19	02-Nov-19	60	15-Oct-20	26-Dec-20	0%	0%	-273	-273	283
MPR21.1.13.1.2.6	Sewri Interchange - Work Front - 2 - Super Struc	654	18-Mar-19	11-Feb-22	702	26-Sep-20	17-Apr-23	20.55%	0%	-312	-360	-288
MPR21.1.13.1.2.6.1	Erection - Ramp C2	343	18-Mar-19	02-Nov-20	368	26-Sep-20	16-Mar-22	52.94%	0%	-312	-337	-265
MPR21.1.13.1.2.6.2	Erection - Ramp C1	194	08-Oct-19	26-May-20	194	16-Feb-21	07-Dec-21	34.39%	0%	-363	-363	-291
MPR21.1.13.1.2.6.3	Erection - Ramp B	316	28-Nov-20	11-Feb-22	316	09-Apr-22	17-Apr-23	0%	0%	-363	-363	-291
MPR21.1.13.1.3	Sewri Interchange - Work Front - 3 (Cast in situ Span	431	28-Feb-20	01-Feb-22	431	15-Jan-21	15-Sep-22	0%	0%	-190	-190	-94
MPR21.1.13.1.3.1	Sewri Interchange - Work Front - 3 - Piling	144	28-Feb-20	20-Nov-20	144	15-Jan-21	08-Oct-21	0%	0%	-190	-190	-137
MPR21.1.13.1.3.1.1	Piling - Ramp B	54	28-Feb-20	02-May-20	54	15-Jan-21	22-Mar-21	0%	0%	-190	-190	-137
MPR21.1.13.1.3.1.2	Piling - Ramp E	54	04-May-20	07-Oct-20	54	22-Mar-21	25-May-21	0%	0%	-190	-190	-137
MPR21.1.13.1.3.1.3	Piling - Ramp C1	36	08-Oct-20	20-Nov-20	36	25-May-21	08-Oct-21	0%	0%	-190	-190	-137
MPR21.1.13.1.3.2	Sewri Interchange - Work Front - 3 - Pile Cap	159	07-Mar-20	15-Dec-20	159	22-Jan-21	03-Nov-21	0%	0%	-190	-190	21
MPR21.1.13.1.3.2.1	Pile Cap - Ramp B	81	07-Mar-20	10-Jun-20	81	22-Jan-21	29-Apr-21	0%	0%	-190	-190	-21
MPR21.1.13.1.3.2.2	Pile Cap - Ramp E	81	11-May-20	17-Nov-20	81	29-Mar-21	05-Oct-21	0%	0%	-190	-190	45
MPR21.1.13.1.3.2.3	Pile Cap - Ramp C1	45	23-Oct-20	15-Dec-20	45	08-Jun-21	03-Nov-21	0%	0%	-190	-190	10
MPR21.1.13.1.3.3	Sewri Interchange - Work Front - 3 - Pier	216	18-Mar-20	05-Mar-21	216	03-Feb-21	20-Jan-22	0%	0%	-190	-190	-30
MPR21.1.13.1.3.3.1	Pier - Ramp B	135	18-Mar-20	27-Nov-20	135	03-Feb-21	15-Oct-21	0%	0%	-190	-190	-69
MPR21.1.13.1.3.3.2	Pier - Ramp E	135	21-May-20	01-Feb-21	135	08-Apr-21	18-Dec-21	0%	0%	-190	-190	-3
MPR21.1.13.1.3.3.3	Pier - Ramp C1	90	18-Nov-20	05-Mar-21	90	05-Oct-21	20-Jan-22	0%	0%	-190	-190	-41
MPR21.1.13.1.3.4	Sewri Interchange - Work Front - 3 - Pier Cap	196	24-Apr-20	19-Mar-21	196	13-Mar-21	04-Feb-22	0%	0%	-190	-190	-30
MPR21.1.13.1.3.4.1	Pier Cap - Ramp B	115	24-Apr-20	11-Dec-20	115	13-Mar-21	30-Oct-21	0%	0%	-190	-190	-69
MPR21.1.13.1.3.4.2	Pier Cap - Ramp E	132	08-Jun-20	15-Feb-21	132	26-Apr-21	03-Jan-22	0%	0%	-190	-190	-3
MPR21.1.13.1.3.4.3	Pier Cap - Ramp C1	77	17-Dec-20	19-Mar-21	77	04-Nov-21	04-Feb-22	0%	0%	-190	-190	-41
MPR21.1.13.1.3.5	Sewri Interchange - Work Front - 3 - Super Struc	360	23-May-20	01-Feb-22	360	10-Apr-21	15-Sep-22	0%	0%	-190	-190	-94
MPR21.1.13.1.3.5.1	Super Structure - Ramp B	132	23-May-20	30-Jan-21	132	10-Apr-21	17-Dec-21	0%	0%	-190	-190	-80
MPR21.1.13.1.3.5.2	Super Structure - Ramp E	132	16-Jan-21	24-Sep-21	132	03-Dec-21	10-May-22	0%	0%	-190	-190	-80
MPR21.1.13.1.3.5.3	Super Structure - Ramp C1	120	09-Jun-21	01-Feb-22	120	26-Apr-22	15-Sep-22	0%	0%	-190	-190	-94
MPR21.1.13.2	Intertidal Section	715	11-Jun-18	23-Oct-21	1044	11-Jun-18 A	30-Aug-22	37.82%	34.65%	0	-262	-235
MPR21.1.13.2.1	Intertidal - Temporary Access Bridge Work	467	11-Jun-18	26-Sep-20	465	11-Jun-18 A	03-Apr-20	0%	0%	0	69	232
MPR21.1.13.2.1.1	Access Bridge	457	11-Jun-18	12-Jun-20	455	11-Jun-18 A	23-Mar-20	0%	0%	0	69	232
MPR21.1.13.2.1.1.1	Access Bridge - Piling	451	11-Jun-18	05-Jun-20	407	11-Jun-18 A	04-Jan-20	0%	0%	0	129	297
MPR21.1.13.2.1.1.2	Access Bridge - Decking	437	06-Oct-18	12-Jun-20	455	14-Jul-18 A	23-Mar-20	0%	0%	16	69	232

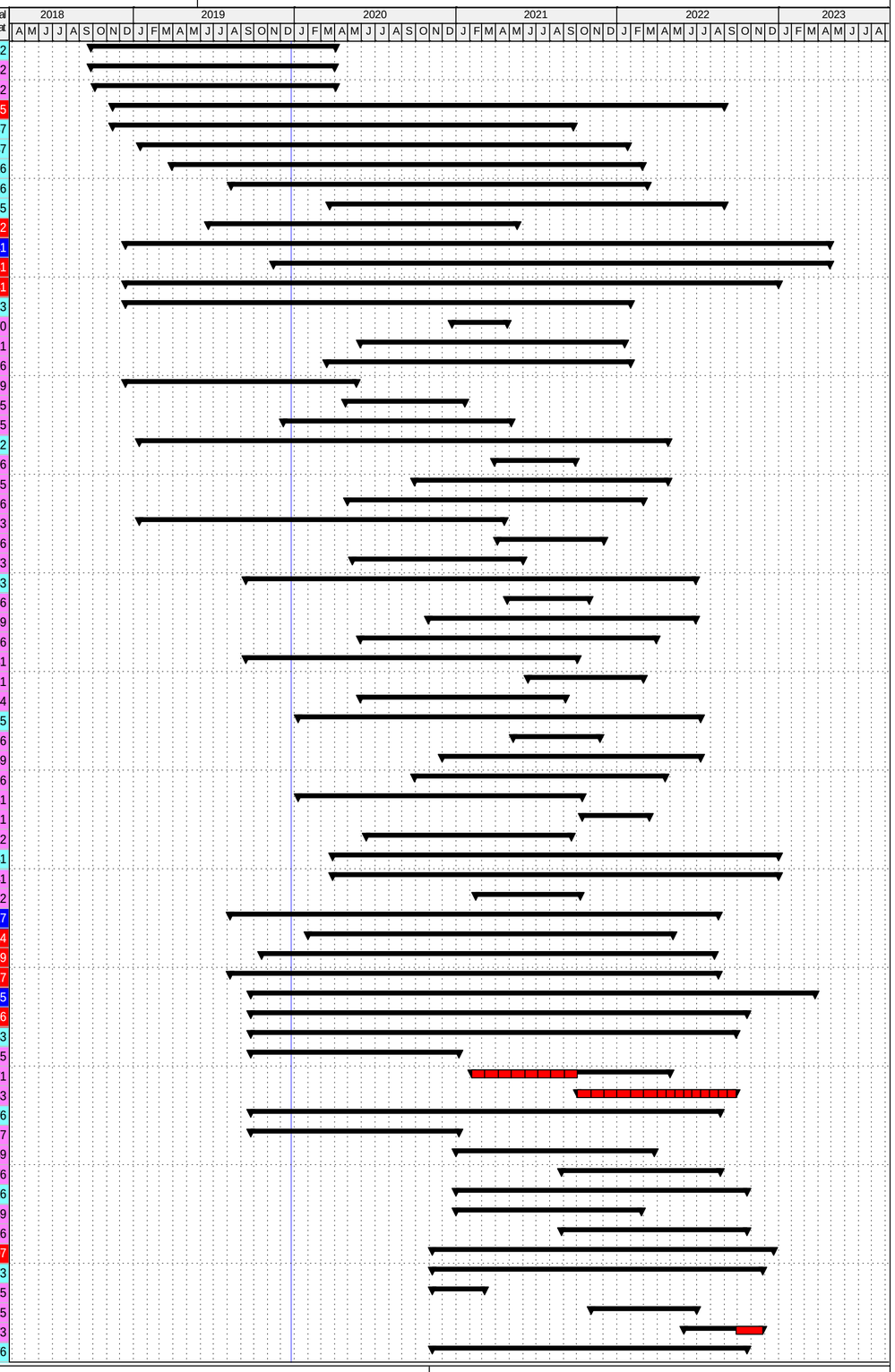
Actual Level of Effort | Remaining Work | Milestone
Actual Work | Critical Remaining Work | summary

Please note that this Monthly Rolling Plan has been updated based on the actual progress and will not match withimpacted schedule submitted with the EOT-02 proposal for the contractor's eligibility for extension of time.

MUMBAI TRANS HARBOUR LINK PACKAGE 1, UPDATED BASELINE PROGRAMME FOR DECEMBER 2019

General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Original Duration	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
MPR21.1.13.2.1.2	Fingers	441	13-Oct-18	26-Sep-20	465	26-Sep-18 A	03-Apr-20	0%	0%	16	69	232
MPR21.1.13.2.1.2.1	Fingers - Piling	437	13-Oct-18	22-Sep-20	461	26-Sep-18 A	30-Mar-20	0%	0%	16	69	232
MPR21.1.13.2.1.2.2	Fingers - Decking	426	01-Nov-18	26-Sep-20	465	06-Oct-18 A	03-Apr-20	0%	0%	22	69	232
MPR21.1.13.2.2	Intertidal - Main Bridge Work	638	14-Dec-18	23-Oct-21	979	14-Nov-18 A	30-Aug-22	37.82%	34.65%	26	-262	-235
MPR21.1.13.2.2.1	Intertidal - Main Bridge Work - Piling	531	14-Dec-18	16-Mar-21	691	14-Nov-18 A	23-Sep-21	55.08%	72.88%	26	-81	-47
MPR21.1.13.2.2.2	Intertidal - Main Bridge Work - Pile Cap	536	29-Dec-18	06-Apr-21	794	17-Jan-19 A	24-Jan-22	44.64%	44.04%	-15	-166	-137
MPR21.1.13.2.2.3	Intertidal - Main Bridge Work - Pier	562	17-Jan-19	25-May-21	822	29-Mar-19 A	26-Feb-22	41.42%	28.67%	-59	-153	-126
MPR21.1.13.2.2.4	Intertidal - Main Bridge Work - Pier Cap	562	30-Jan-19	05-Jun-21	571	10-Aug-19 A	11-Mar-22	38.14%	10.81%	-115	-153	-126
MPR21.1.13.2.2.5	Intertidal - Main Bridge Work - Super Structure E	534	18-Apr-19	23-Oct-21	592	19-Mar-20	30-Aug-22	7.78%	0%	-204	-262	-235
MPR21.1.13.2.3	Intertidal - Finger Removal & Reuse	400	07-Mar-19	29-Dec-20	363	20-Jun-19 A	19-May-21	0%	0%	-85	-117	-32
MPR21.1.13.3	Marine Section	911	18-Sep-18	17-Jun-22	1204	14-Dec-18 A	26-Apr-23	29.74%	11.43%	-73	-262	-241
MPR21.1.13.3.1	Temporary Access Bridge Work -2 (MP70 to MP51- 2	911	18-Sep-18	17-Jun-22	864	14-Nov-19 A	26-Apr-23	0%	0%	-274	-262	-241
MPR21.1.13.3.2	Marine - Main Bridge	775	03-Nov-18	23-Feb-22	1107	14-Dec-18 A	31-Dec-22	29.74%	11.43%	-34	-262	-241
MPR21.1.13.3.2.1	Marine - Piling	564	03-Nov-18	15-Mar-21	825	14-Dec-18 A	01-Feb-22	44.27%	29.96%	-34	-191	-73
MPR21.1.13.3.2.1.1	Piling - Stretch - 1 - OSD-1 MP51 to MP53 (32	104	20-Sep-19	22-Jan-20	104	23-Dec-20	26-Apr-21	76.92%	0%	-306	-306	-170
MPR21.1.13.3.2.1.2	Piling - Stretch - 2 - Marine - MP54 to MP68 (8	344	25-Feb-19	13-Oct-20	344	28-May-20	17-Jan-22	40%	0%	-306	-306	-121
MPR21.1.13.3.2.1.3	Piling - Stretch - 3 - OSD-2&3 MP69 to MP80 (	521	10-Dec-18	26-Feb-21	419	13-Mar-20	01-Feb-22	38.91%	0%	-306	-204	-126
MPR21.1.13.3.2.1.4	Piling - Stretch - 4 - Marine MP81 to MP123 (2	370	03-Nov-18	21-Apr-20	489	14-Dec-18 A	20-May-20	72.06%	79.11%	-34	-24	79
MPR21.1.13.3.2.1.5	Piling - Stretch - 5 - OSD-4 MP124 to MP128 (	147	22-Apr-20	16-Jan-21	147	25-Apr-20	21-Jan-21	0%	0%	-3	-3	105
MPR21.1.13.3.2.1.6	Piling - Stretch - 6 - Marine MP129 to MP148	395	25-May-19	15-Mar-21	234	06-Dec-19 A	05-May-21	5%	5%	-85	-43	75
MPR21.1.13.3.2.3	Marine - Pile Cap	572	23-Nov-18	12-Apr-21	871	14-Jan-19 A	25-Apr-22	29.98%	10.35%	-43	-238	-122
MPR21.1.13.3.2.3.1	Pile Cap - Stretch - 1 - OSD-1 MP51 to MP53 (	75	25-Dec-19	23-Mar-20	75	30-Mar-21	28-Sep-21	0%	0%	-306	-306	-196
MPR21.1.13.3.2.3.2	Pile Cap - Stretch - 2 - Marine - MP54 to MP6	400	28-Mar-19	20-Jan-21	400	30-Sep-20	25-Apr-22	40%	0%	-306	-306	-185
MPR21.1.13.3.2.3.3	Pile Cap - Stretch - 3 - OSD-2&3 MP69 to MP	505	28-Jan-19	27-Mar-21	403	29-Apr-20	01-Mar-22	28.13%	0%	-306	-204	-126
MPR21.1.13.3.2.3.4	Pile Cap - Stretch - 4 - Marine MP81 to MP12	444	23-Nov-18	10-Nov-20	640	14-Jan-19 A	20-Apr-21	43.88%	23.29%	-43	-135	-83
MPR21.1.13.3.2.3.5	Pile Cap - Stretch - 5 - OSD-4 MP124 to MP12	125	11-Nov-20	08-Apr-21	125	05-Apr-21	03-Dec-21	0%	0%	-121	-121	-56
MPR21.1.13.3.2.3.6	Pile Cap - Stretch - 6 - Marine MP 129 to MP 1	407	08-Jun-19	12-Apr-21	246	11-May-20	02-Jun-21	5%	0%	-204	-43	73
MPR21.1.13.3.2.4	Marine - Pier	590	22-Dec-18	02-Jun-21	639	12-Sep-19 A	27-Jun-22	26.97%	1.73%	-146	-249	-163
MPR21.1.13.3.2.4.1	Pier - Stretch - 1 - OSD-1 MP51 to MP53 (320	75	24-Jan-20	21-Apr-20	75	28-Apr-21	28-Oct-21	0%	0%	-306	-306	-186
MPR21.1.13.3.2.4.2	Pier - Stretch - 2 - Marine - MP54 to MP68 (85	429	26-Apr-19	26-Mar-21	429	30-Oct-20	27-Jun-22	33.33%	0%	-306	-306	-189
MPR21.1.13.3.2.4.3	Pier - Stretch - 3 - OSD-2&3 MP69 to MP80 (1	504	26-Feb-19	24-Apr-21	402	29-May-20	30-Mar-22	25%	0%	-306	-204	-126
MPR21.1.13.3.2.4.4	Pier - Stretch - 4 - Marine MP81 to MP123 (2.6	472	22-Dec-18	12-Jan-21	414	12-Sep-19 A	02-Oct-21	40.43%	3.93%	-146	-142	-41
MPR21.1.13.3.2.4.5	Pier - Stretch - 5 - OSD-4 MP124 to MP128 (6(	118	13-Jan-21	02-Jun-21	139	14-Jun-21	01-Mar-22	0%	0%	-127	-148	-111
MPR21.1.13.3.2.4.6	Pier - Stretch - 6 - Marine MP129 to MP148 (1	419	27-Sep-19	28-Apr-21	258	28-May-20	04-Sep-21	5%	0%	-204	-43	84
MPR21.1.13.3.2.2	Marine - Pier Cap	576	21-Jan-19	14-Jun-21	608	08-Jan-20	08-Jul-22	25.76%	0%	-217	-249	-125
MPR21.1.13.3.2.2.1	Pier Cap - Stretch - 1 - OSD-1 MP51 to MP53	87	04-Feb-20	16-May-20	87	10-May-21	22-Nov-21	0%	0%	-306	-306	-86
MPR21.1.13.3.2.2.2	Pier Cap - Stretch - 2 - Marine - MP54 to MP6	414	27-May-19	07-Apr-21	414	30-Nov-20	08-Jul-22	27.33%	0%	-306	-306	-189
MPR21.1.13.3.2.2.3	Pier Cap - Stretch - 3 - OSD-2&3 MP69 to MP	497	28-Mar-19	17-May-21	395	30-Sep-20	20-Apr-22	17.06%	0%	-306	-204	-126
MPR21.1.13.3.2.2.4	Pier Cap - Stretch - 4 - Marine MP81 to MP12	458	21-Jan-19	23-Jan-21	383	08-Jan-20	14-Oct-21	38.83%	0%	-217	-142	-41
MPR21.1.13.3.2.2.5	Pier Cap - Stretch - 5 - OSD(4) MP124 to MP1	103	12-Feb-21	14-Jun-21	124	15-Oct-21	14-Mar-22	0%	0%	-127	-148	-111
MPR21.1.13.3.2.2.6	Pier Cap - Stretch - 6 - Marine MP129 to MP1	403	12-Oct-19	11-May-21	230	12-Jun-20	18-Sep-21	12.54%	0%	-204	-31	122
MPR21.1.13.3.2.5	Marine - Super Structure Erection	636	19-Apr-19	23-Feb-22	689	27-Mar-20	31-Dec-22	11.07%	0%	-209	-262	-241
MPR21.1.13.3.2.5.1	Erection - Main Concrete Viaduct	636	19-Apr-19	23-Feb-22	689	27-Mar-20	31-Dec-22	11.26%	0%	-209	-262	-241
MPR21.1.13.3.2.5.2	Rescue Span (MP98 to MP99)	120	07-Mar-20	29-Oct-20	120	15-Feb-21	09-Oct-21	0%	0%	-209	-209	112
MPR21.1.13.4	Precast Segments	778	06-Feb-19	21-Aug-21	819	07-Aug-19 A	18-Aug-22	32.73%	2.8%	-154	-303	27
MPR21.1.13.4.1	Precast Segement - Sewri Interchange	701	06-Feb-19	24-May-21	693	31-Jan-20	07-May-22	42.19%	0%	-301	-293	114
MPR21.1.13.4.2	Precast Segement - Intertidal	753	28-Feb-19	14-Aug-21	753	18-Oct-19 A	10-Aug-22	35.44%	6.13%	-194	-302	-239
MPR21.1.13.4.3	Precast Segement - Marine	759	28-Feb-19	21-Aug-21	819	07-Aug-19 A	18-Aug-22	27.34%	1.54%	-135	-303	27
MPR21.1.13.5	Orthotropic Steel Deck (OSD) - Fabrication, Shipping, As	608	11-Jun-19	15-Mar-22	771	23-Sep-19 A	24-Mar-23	0%	0%	-9	-315	-155
MPR21.1.13.5.1	OSD - Fabrication	746	28-Sep-19	12-Oct-21	954	23-Sep-19 A	22-Oct-22	0%	0%	5	-374	-316
MPR21.1.13.5.1.1	Fabrication - Factory A	720	28-Sep-19	16-Sep-21	930	23-Sep-19 A	28-Sep-22	0%	0%	5	-376	-353
MPR21.1.13.5.1.1.1	OSD 01 - RHS Fabrication - MP50 to MP53 (3	330	28-Sep-19	22-Aug-20	300	23-Sep-19 A	06-Jan-21	0%	0%	5	-137	15
MPR21.1.13.5.1.1.2	OSD 03 - RHS Fabrication - MP75 to MP81 (7	450	26-Jan-20	19-Apr-21	450	05-Feb-21	01-May-22	0%	0%	-376	-376	-271
MPR21.1.13.5.1.1.3	OSD 04 - RHS Fabrication - MP124 to MP128	360	22-Sep-20	16-Sep-21	360	03-Oct-21	28-Sep-22	0%	0%	-376	-376	-353
MPR21.1.13.5.1.2	Fabrication - Factory B	720	28-Sep-19	16-Sep-21	894	23-Sep-19 A	23-Aug-22	0%	0%	5	-340	-276
MPR21.1.13.5.1.2.1	OSD 01 - LHS Fabrication - MP50 to MP53 (3	330	28-Sep-19	22-Aug-20	300	23-Sep-19 A	06-Jan-21	0%	0%	5	-137	-7
MPR21.1.13.5.1.2.2	OSD 02 - RHS Fabrication - MP69 to MP75 (6	450	26-Jan-20	19-Apr-21	450	31-Dec-20	26-Mar-22	0%	0%	-340	-340	-259
MPR21.1.13.5.1.2.3	OSD 04 - LHS Fabrication - MP124 to MP128	360	22-Sep-20	16-Sep-21	360	28-Aug-21	23-Aug-22	0%	0%	-340	-340	-276
MPR21.1.13.5.1.3	Fabrication - Factory C	660	23-Dec-19	12-Oct-21	660	31-Dec-20	22-Oct-22	0%	0%	-374	-374	-316
MPR21.1.13.5.1.3.1	OSD 02 - LHS Fabrication - MP69 to MP75 (6	420	23-Dec-19	14-Feb-21	420	31-Dec-20	24-Feb-22	0%	0%	-374	-374	-239
MPR21.1.13.5.1.3.2	OSD 03 - LHS Fabrication - MP75 to MP81 (7	420	19-Aug-20	12-Oct-21	420	28-Aug-21	22-Oct-22	0%	0%	-374	-374	-316
MPR21.1.13.5.2	OSD - Shipping	536	24-Jun-20	11-Dec-21	774	07-Nov-20	21-Dec-22	0%	0%	-137	-374	-197
MPR21.1.13.5.2.1	Shipping - Factory A	510	24-Jun-20	15-Nov-21	750	07-Nov-20	27-Nov-22	0%	0%	-137	-376	-173
MPR21.1.13.5.2.1.1	OSD 01 - RHS Shipping - MP50 to MP53 (320	120	24-Jun-20	21-Oct-20	120	07-Nov-20	07-Mar-21	0%	0%	-137	-137	15
MPR21.1.13.5.2.1.2	OSD 03 - RHS Shipping - MP75 to MP81 (770	240	22-Oct-20	18-Jun-21	240	02-Nov-21	30-Jun-22	0%	0%	-376	-376	-215
MPR21.1.13.5.2.1.3	OSD 04 - RHS Shipping - MP124 to MP128 (5	180	20-May-21	15-Nov-21	180	31-May-22	27-Nov-22	0%	0%	-376	-376	-173
MPR21.1.13.5.2.2	Shipping - Factory B	510	24-Jun-20	15-Nov-21	714	07-Nov-20	22-Oct-22	0%	0%	-137	-340	-276



Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
summary

Please note that this Monthly Rolling Plan has been updated based on the actual progress and will not match withimpacted schedule submitted with the EOT-02 proposal for the contractor's eligibility for extension of time.

MUMBAI TRANS HARBOUR LINK PACKAGE 1, UPDATED BASELINE PROGRAMME FOR DECEMBER 2019

General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Original Duration	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
MPR21.1.13.5.2.2.1	OSD 01 - LHS Shipping - MP50 to MP53 (320	120	24-Jun-20	21-Oct-20	120	07-Nov-20	07-Mar-21	0%	0%	-137	-137	182
MPR21.1.13.5.2.2.2	OSD 02 - RHS Shipping - MP69 to MP75 (683	240	21-Nov-20	18-Jul-21	240	27-Oct-21	24-Jun-22	0%	0%	-340	-340	-289
MPR21.1.13.5.2.2.3	OSD 04 - LHS Shipping - MP124 to MP128 (5	180	20-May-21	15-Nov-21	180	25-Apr-22	22-Oct-22	0%	0%	-340	-340	-276
MPR21.1.13.5.2.3	Shipping - Factory C	450	18-Sep-20	11-Dec-21	450	27-Sep-21	21-Dec-22	0%	0%	-374	-374	-292
MPR21.1.13.5.2.3.1	OSD 02 - LHS Shipping - MP69 to MP75 (683	210	18-Sep-20	15-Apr-21	210	27-Sep-21	25-Apr-22	0%	0%	-374	-374	-210
MPR21.1.13.5.2.3.2	OSD 03 - LHS Shipping - MP75 to MP81 (770	210	16-May-21	11-Dec-21	210	25-May-22	21-Dec-22	0%	0%	-374	-374	-292
MPR21.1.13.5.3	OSD - Custom Clearance and Inland Transport (Last	482	07-Sep-20	01-Jan-22	720	21-Jan-21	11-Jan-23	0%	0%	-137	-374	-197
MPR21.1.13.5.3.1	OSD 1 - MP50 to MP53 (320m)	75	07-Sep-20	20-Nov-20	75	21-Jan-21	06-Apr-21	0%	0%	-137	-137	182
MPR21.1.13.5.3.2	OSD 2 - MP69 to MP75 (683m)	274	17-Nov-20	17-Aug-21	240	26-Nov-21	24-Jul-22	0%	0%	-374	-340	-270
MPR21.1.13.5.3.3	OSD 3 - MP75 to MP81 (770m)	377	21-Dec-20	01-Jan-22	375	01-Jan-22	11-Jan-23	0%	0%	-376	-374	-292
MPR21.1.13.5.3.4	OSD 4 - MP124 to MP128 (560m)	141	19-Jul-21	06-Dec-21	177	24-Jun-22	18-Dec-22	0%	0%	-340	-376	-173
MPR21.1.13.5.4	OSD - Assembly	337	07-Oct-20	16-Feb-22	537	20-Feb-21	24-Feb-23	0%	0%	-114	-313	-152
MPR21.1.13.5.4.1	OSD 1 - MP50 to MP53 (320m)	80	07-Oct-20	11-Jan-21	80	20-Feb-21	27-May-21	0%	0%	-114	-114	74
MPR21.1.13.5.4.2	OSD 2 - MP69 to MP75 (683m)	252	17-Dec-20	13-Oct-21	224	27-Dec-21	20-Sep-22	0%	0%	-314	-286	-216
MPR21.1.13.5.4.3	OSD 3 - MP75 to MP81 (770m)	329	20-Jan-21	16-Feb-22	328	31-Jan-22	24-Feb-23	0%	0%	-314	-313	-265
MPR21.1.13.5.4.4	OSD 4 - MP124 to MP128 (560m)	142	18-Aug-21	04-Feb-22	171	25-Jul-22	14-Feb-23	0%	0%	-286	-315	-144
MPR21.1.13.5.5	OSD - Erection	608	11-Jun-19	15-Mar-22	617	15-Dec-20	24-Mar-23	0%	0%	-306	-315	-155
MPR21.1.13.5.5.1	OSD 1 - MP50 to MP53 (320m)	157	21-May-20	26-Feb-21	95	26-Nov-21	19-Mar-22	0%	0%	-306	-244	-75
MPR21.1.13.5.5.2	OSD 2 - MP69 to MP75 (683m)	542	11-Jun-19	24-Dec-21	482	15-Dec-20	14-Oct-22	0%	0%	-306	-246	-196
MPR21.1.13.5.5.3	OSD 3 - MP75 to MP81 (770m)	279	07-Jan-21	10-Mar-22	388	10-Dec-21	18-Mar-23	0%	0%	-204	-313	-265
MPR21.1.13.5.5.4	OSD 4 - MP124 to MP128 (560m)	185	05-May-21	15-Mar-22	373	05-Jan-22	24-Mar-23	0%	0%	-127	-315	-155
MPR21.1.13.6	Post Erection Segmental Stitch Concrete (incl. Bearing I	644	24-Apr-19	10-Mar-22	708	28-Sep-20	25-Apr-23	0%	0%	-281	-345	-181
MPR21.1.13.6.1	Stitch Concrete - Sewri Interchange	644	24-Apr-19	10-Mar-22	677	04-Nov-20	25-Apr-23	0%	0%	-312	-345	-181
MPR21.1.13.6.2	Stitch Concrete - Intertidal	475	29-Nov-19	22-Dec-21	521	30-Oct-20	17-Oct-22	0%	0%	-204	-249	-243
MPR21.1.13.6.3	Stitch Concrete - Marine	563	21-Oct-19	26-Feb-22	616	28-Sep-20	04-Jan-23	0%	0%	-209	-262	-89
MPR21.1.13.7	Crash Barrier Works	585	05-Oct-19	11-Mar-22	688	03-Nov-20	08-May-23	0%	0%	-251	-354	-191
MPR21.1.13.7.1	Crash Barrier - Sewri Interchange	585	05-Oct-19	11-Mar-22	627	15-Jan-21	08-May-23	0%	0%	-312	-354	-191
MPR21.1.13.7.2	Crash Barrier - Intertidal	470	17-Dec-19	04-Jan-22	516	18-Nov-20	28-Oct-22	0%	0%	-204	-249	-63
MPR21.1.13.7.3	Crash Barrier - Marine	541	26-Nov-19	09-Mar-22	594	03-Nov-20	13-Jan-23	0%	0%	-209	-262	-101
MPR21.1.13.7.4	Crash Barrier - Orthotropic Steel Deck	291	23-Dec-20	10-Mar-22	353	20-Jan-22	17-Mar-23	0%	0%	-250	-312	-153
MPR21.1.13.8	Bridge Deck (Superstructure) Water Proofing	581	15-Oct-19	16-Mar-22	674	26-Nov-20	13-May-23	0%	0%	-262	-355	-196
MPR21.1.13.8.1	Water Proofing - Sewri Interchange	579	15-Oct-19	14-Mar-22	624	25-Jan-21	13-May-23	0%	0%	-312	-357	-196
MPR21.1.13.8.2	Water Proofing - Intertidal	465	28-Dec-19	10-Jan-22	511	30-Nov-20	03-Nov-22	0%	0%	-204	-249	-36
MPR21.1.13.8.3	Water Proofing - Marine	526	18-Dec-19	14-Mar-22	579	26-Nov-20	18-Jan-23	0%	0%	-209	-262	-101
MPR21.1.13.8.4	Water Proofing - Orthotropic Steel Deck	281	11-Jan-21	16-Mar-22	343	08-Feb-22	23-Mar-23	0%	0%	-250	-312	-153
MPR21.1.13.9	Stone Mastic Asphalt Pavement	74	23-Dec-21	22-Mar-22	225	22-Aug-22	18-May-23	0%	0%	-204	-354	-256
MPR21.1.13.9.1	Sewri Interchange	70	27-Dec-21	21-Mar-22	130	14-Dec-22	18-May-23	0%	0%	-295	-355	-256
MPR21.1.13.9.2	Main Bridge	74	23-Dec-21	22-Mar-22	182	22-Aug-22	28-Mar-23	0%	0%	-204	-311	-271
MPR21.1.13.10	Bridge Anclilaries and Misc. Works	575	31-Jan-20	22-Jun-22	703	02-Jan-21	22-Jul-23	0%	0%	-204	-331	-256
MPR21.1.13.10.1	Bridge Ancillaries	575	31-Jan-20	22-Jun-22	703	02-Jan-21	22-Jul-23	0%	0%	-204	-331	-256
MPR21.1.13.10.1.1	Noise Barrier, View Barrier and Safety Fence	552	31-Jan-20	26-May-22	640	02-Jan-21	10-May-23	0%	0%	-204	-291	-193
MPR21.1.13.10.1.1.1	Noise Barrier	546	31-Jan-20	19-May-22	604	02-Jan-21	28-Mar-23	0%	0%	-204	-262	-158
MPR21.1.13.10.1.1.2	View Barrier	416	13-Oct-20	26-May-22	498	23-Sep-21	10-May-23	0%	0%	-209	-291	-281
MPR21.1.13.10.1.1.3	Safety Fence	105	27-Oct-21	28-Feb-22	184	02-Aug-22	10-Mar-23	0%	0%	-236	-315	-231
MPR21.1.13.10.1.2	Traffic Signages and Marking	84	17-Mar-22	22-Jun-22	121	01-Mar-23	22-Jul-23	0%	0%	-294	-331	-256
MPR21.1.13.10.1.2.1	Traffic Signages and Marking - Sewri Interc	56	23-Mar-22	26-May-22	56	18-May-23	22-Jul-23	0%	0%	-354	-354	-256
MPR21.1.13.10.1.2.2	Traffic Signages and Marking - Main Bridge	84	17-Mar-22	22-Jun-22	95	01-Mar-23	22-Jun-23	0%	0%	-294	-305	-288
MPR21.1.15	Handing Over	148	31-Mar-22	22-Sep-22	148	16-Mar-23	06-Sep-23	0%	0%	-294	-294	-295
MPR21.1.14	Invoice Schedule (Shows the Invoice items which are not co	1062	23-Mar-18	22-Sep-22	1356	23-Mar-18 A	06-Sep-23	38.04%	24.21%	0	-294	-295

Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone
summary

Please note that this Monthly Rolling Plan has been updated based on the actual progress and will not match withimpacted schedule submitted with the EOT-02 proposal for the contractor's eligibility for extension of time.

Attachment 7- Package-2's Construction Programme Updated as on 25th December 2019

MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE UNDER IDENTIFICATION NO MMRDA/ENG/000753

ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME

#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete
1		MTHL-PKG2-DETAILED WORK PROGRAMME_25122019_APPROVED_MPR.2	2904.25	17-Nov-17	21-Sep-24	17-Nov-17		31.24%	15.57%
2		PROJECT PRE-COMMENCEMENT ACTIVITY	126.00	17-Nov-17	22-Mar-18	17-Nov-17	16-Mar-18	0%	0%
3		PRE-COMMENCEMENT ACTIVITY	55.00	15-Dec-17	07-Feb-18	15-Dec-17	20-Mar-18	0%	0%
4		PROJECT EVENT MILESTONE	2228.63	23-Mar-18	21-Mar-23	23-Mar-18		0%	0%
5		PROJECT KEY MILESTONE	2048.63	23-Mar-18	22-Sep-22	23-Mar-18		0%	0%
6		INTERFACE MILESTONE_ERG19	2200.63	19-Apr-18	21-Mar-23	03-Apr-18		0%	0%
7		PHYSICAL PROGRESS AND INTERFACE DATE_ADD2-ATTACHMENT 25	1757.88	18-Sep-18	22-Jun-22	31-Aug-18		0%	0%
8		CONSTRUCTION KEY MILESTONES	932.88	03-Sep-18	06-Jul-21	25-Oct-18		0%	0%
9		MANAGEMENT	613.00	20-Jan-18	18-Aug-18	12-Jan-18	22-Aug-19	0%	0%
10		SITE ORGANISATION	35.00	20-Jan-18	23-Feb-18	07-Mar-18	07-Mar-18	0%	0%
11		DEVELOPMENT OF MANAGEMENT SYSTEM	613.00	20-Jan-18	27-May-18	20-Jan-18	22-Aug-19	0%	0%
12		COMMUNICATION / DOCUMENT CONTROL SYSTEM	315.38	20-Jan-18	10-May-18	20-Jan-18	24-Oct-18	0%	0%
13		QUALITY ASSURANCE AND MANAGEMENT SYSTEM	254.00	23-Mar-18	10-May-18	23-Mar-18	24-Oct-18	0%	0%
14		HEALTH, SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEM	551.00	23-Mar-18	10-May-18	23-Mar-18	22-Aug-19	0%	0%
15		INTERFACE MANAGEMENT SYSTEM	49.00	23-Mar-18	10-May-18	23-Mar-18	24-Oct-18	0%	0%
16		RISK MANAGEMENT PLAN	66.00	23-Mar-18	27-May-18	23-Mar-18	24-Oct-18	0%	0%
17		DEVELOPMENT OF WORK PROGRAMME	63.00	23-Mar-18	24-May-18	23-Mar-18	21-Sep-18	0%	0%
18		CONTRACTOR'S WORK PROGRAMME	63.00	23-Mar-18	24-May-18	23-Mar-18	21-Sep-18	0%	0%
19		OTHER CONTRACTUAL SUBMITTALS	28.00	24-Mar-18	20-Apr-18	24-Mar-18	23-Apr-18	0%	0%
20		PERMIT & APPROVAL	389.00	20-Jan-18	18-Aug-18	12-Jan-18	03-Aug-19	0%	0%
21		SURVEYING & GEOTECHNICAL INVESTIGATION	35.00	20-Jan-18	23-Feb-18	12-Jan-18	09-Feb-18	0%	0%
22		CUTTING OF MANGROVES	70.00	20-Jan-18	30-Mar-18	25-Jan-18	23-Apr-18	0%	0%
23		SETTING UP BATCHING PLANT	313.00	06-Apr-18	18-Aug-18	06-Apr-18	28-Nov-18	0%	0%
24		PC YARD & CAMP	28.00	04-May-18	01-Jun-18	21-Mar-18	01-Oct-18	0%	0%
25		CONNECTION FOR ELECTRICITY & WATER	63.00	18-May-18	20-Jul-18	06-Apr-18	03-Aug-19	0%	0%
26		CUTTING OF TREES	35.00	23-Mar-18	26-Apr-18	10-May-18	02-Aug-18	0%	0%
27		IMPORT PERMITS/LICENCES FOR EQUIPMENTS & GOODS	70.00	23-Mar-18	31-May-18	15-May-18	31-May-18	0%	0%
28		NOC FOR PLANT & FACILITIES TO BE USED AT SITE	51.00	23-Mar-18	31-May-18	16-Aug-18	28-Nov-18	0%	0%
29		TEMPORARY ACCESS ROAD FOR MAIN BRIDGE & INTERCHANGE	58.00	23-Mar-18	19-May-18	23-Mar-18	28-Jul-18	0%	0%
30		DESIGN	1020.38	20-Jan-18	04-Sep-19	01-Jan-18		100%	71.65%
31		EARLY STAGE DESIGN WORK / INFORMATION COLLECTION	678.38	20-Jan-18	17-Jul-18	01-Jan-18	12-Nov-19	100%	100%
32		INDEPENDENT DESIGN CHECKER APPROVAL	35.00	20-Jan-18	23-Feb-18	20-Jan-18	13-Apr-18	0%	0%
33		TOPOGRAPHIC SURVEY	116.33	20-Jan-18	16-May-18	01-Jan-18	20-Apr-18	0%	0%
34		BATHYMETRIC SURVEY	75.00	20-Jan-18	04-Apr-18	25-Jan-18	20-Mar-18	0%	0%
35		ADDITIONAL TIME FOR ONGC & BPCL PHYSCIAL VERIFICATION	309.00			21-Mar-18	05-Aug-19	0%	0%
36		GEOTECHNICAL INVESTIGATION	548.08	20-Jan-18	17-Jul-18	12-Jan-18	25-Jun-19	100%	100%
37		ADDITIONAL WORKS FOR DESIGN INITIATION OF STEEL MODULE 1	63.00			26-Jun-19	12-Nov-19	0%	0%
38		TEMPORARY WORK	794.17	22-Jan-18	01-Nov-18	20-Jan-18		100%	100%
39		PROJECT OFFICE LAYOUT	241.13	04-May-18	02-Jun-18	04-May-18	17-Jul-18	0%	0%
40		CASTING YARD LAYOUT	72.33	22-Jan-18	04-Apr-18	20-Jan-18	09-Oct-18	0%	0%
41		TEMPORARY BRIDGE	94.33	26-Feb-18	31-May-18	24-Feb-18	30-Aug-18	100%	100%
42		CASTING YARD STRUCTURE	199.38	10-May-18	10-Aug-18	20-Mar-18	20-Nov-18	0%	0%
43		STEEL BRIDGE FABRICATION YARD	122.17	20-Jul-18	01-Nov-18	11-Nov-19		0%	0%
44		CONCRETE MIX DESIGN	274.38	23-Mar-18	31-Aug-18	12-May-18	15-Nov-18	0%	0%
45		JFE DESIGN PROGRAMME	919.04	01-May-18	04-Sep-19	09-Apr-18		100%	20.42%
46		PROCUREMENT, MANUFACTURING AND LOGISTICS	1327.38	20-Jan-18	23-Aug-20	22-Dec-17		100%	72.5%
47		SURVEY & INVESTIGATION	72.33	20-Jan-18	02-Apr-18	22-Dec-17	04-Apr-18	0%	0%
48		TEMPORARY WORK	751.33	20-Jan-18	20-Oct-18	20-Jan-18		0%	0%
49		MAIN WORK_SUBCONTRACT WORK	712.00	23-Mar-18	20-Jul-19	23-Mar-18		0%	0%
50		EQUIPMENTS	893.50	23-Mar-18	12-Sep-19	23-Mar-18		100%	100%
51		BATCHING PLANT	437.00	23-Mar-18	31-Jul-18	23-Mar-18	23-Mar-19	0%	0%
52		RCD MACHINE	514.00	23-Mar-18	11-Nov-18	23-Mar-18	24-Aug-19	0%	0%
53		GANTRY CRANE	792.00	23-Mar-18	08-Feb-19	23-Mar-18		100%	100%
54		SEGMENT LAUNCHER	770.41	24-Jul-18	12-Sep-19	24-Jul-18		0%	0%
55		PRECAST MOULD AND SYSTEM FORM	714.91	07-Aug-18	24-Mar-19	04-Sep-18		100%	45%
56		PRECAST MOULD_CASTING BED	332.00	20-Aug-18	24-Mar-19	03-Jun-19		100%	45%
57		SYSTEM FORM	446.91	07-Aug-18	04-Mar-19	04-Sep-18		0%	0%
58		MATERIAL SUPPLIERS	760.38	02-Jun-18	15-Oct-19	20-Apr-18		0%	0%

Project Baseline Bar
Actual Work
Remaining Work
Critical Remaining Work
Milestone
% Complete
Summary

EMPLOYER:
MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)

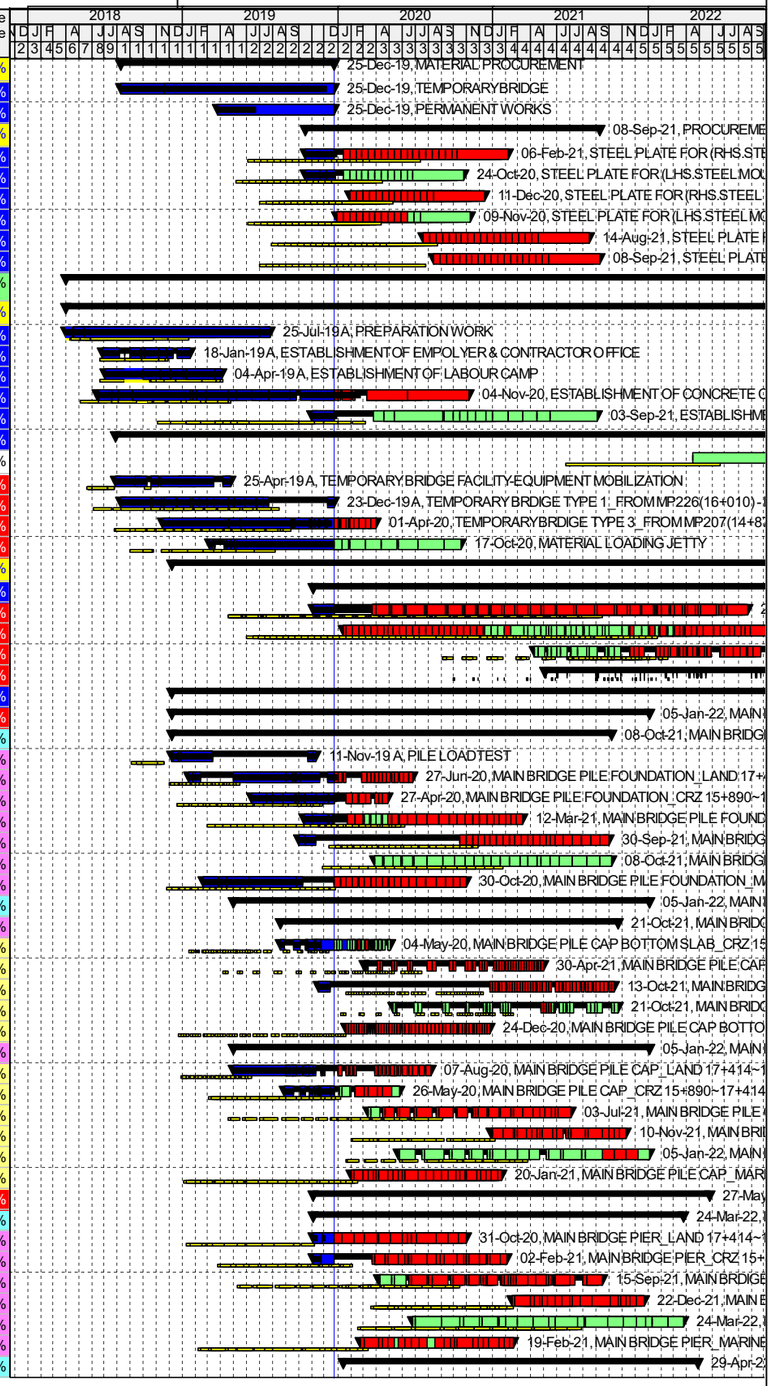
CONTRACTOR:
DAEWOO - TPL JV

Date	Revision	Checked	Approved
25-Dec-19	R0		

MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE UNDER IDENTIFICATION NO MMRDA/ENG/000753

ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME

#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete
59		MATERIAL PROCUREMENT	0.00			08-Aug-18		0%	0%
60		TEMPORARY BRIDGE	0.00			08-Aug-18		0%	0%
61		PERMANENT WORKS	0.00			25-Mar-19		0%	0%
62		PROCUREMENT OF STEEL GIRDER	695.00	07-May-19	23-Aug-20	17-Oct-19		0%	0%
63		STEEL PLATE FOR (RHS.STEEL MOUDLE-2_MP177 - MP182)	451.00	04-Jun-19	13-Jul-20	17-Oct-19		0%	0%
64		STEEL PLATE FOR (LHS.STEEL MOUDLE-2_MP177 - MP182)	376.00	07-May-19	16-Apr-20	17-Oct-19		0%	0%
65		STEEL PLATE FOR (RHS.STEEL MOUDLE-3_MP183 - MP186)	315.00	01-Jul-19	10-May-20			0%	0%
66		STEEL PLATE FOR (LHS.STEEL MOUDLE-3_MP183 - MP186)	315.00	04-Jun-19	14-Apr-20			0%	0%
67		STEEL PLATE FOR (RHS.STEEL MOUDLE-1_MP176 - MP171)	390.00	30-Jul-19	23-Aug-20			0%	0%
68		STEEL PLATE FOR (LHS.STEEL MOUDLE-1_MP176 - MP171)	390.00	02-Jul-19	26-Jul-20			0%	0%
69		CONSTRUCTION	1927.33	02-Apr-18	21-Jun-22	02-Apr-18		28.38%	13.12%
70		TEMPORARY WORK	1839.08	02-Apr-18	21-Jun-22	02-Apr-18		97.95%	94.08%
71		PREPARATION WORK	368.33	02-Apr-18	16-Jan-19	02-Apr-18	25-Jul-19	0%	0%
72		ESTABLISHMENT OF EMPOLYER & CONTRACTOR OFFICE	194.04	20-Jun-18	27-Nov-18	27-Jun-18	18-Jan-19	100%	100%
73		ESTABLISHMENT OF LABOUR CAMP	463.92	20-Jun-18	05-Apr-19	03-Jul-18	04-Apr-19	0%	0%
74		ESTABLISHMENT OF CONCRETE CASTING YARD	945.83	04-May-18	25-Apr-19	14-Jun-18		100%	97.44%
75		ESTABLISHMENT OF STEEL SPAN ASSEMBLY YARD	331.00	02-Nov-18	06-Mar-20	01-Nov-19		0%	0%
76		TEMPORARY BRIDGE	1786.75	20-May-18	21-Jun-22	27-Jul-18		96.49%	91.67%
77	A13700	Removal of Temporary Bridge & Casting Yard	365.00	21-Jun-21	21-Jun-22			0%	0%
78		TEMPORARY BRIDGE FACILITY-EQUIPMENT MOBILIZATION	372.33	20-May-18	19-Oct-18	27-Jul-18	25-Apr-19	0%	0%
79		TEMPORARY BRDIGE TYPE 1_FROM MP226(16+010) - MP249(17+320)	467.97	04-Jun-18	17-Aug-19	08-Aug-18	23-Dec-19	100%	100%
80		TEMPORARY BRIDGE TYPE 3_FROM MP207(14+870) - MP226(16+010)	566.29	24-Jul-18	12-Sep-19	16-Nov-18		100%	96.16%
81		MATERIAL LOADING JETTY	414.13	31-Aug-18	08-Aug-19	08-Mar-19		100%	56.7%
82		PERMANENT WORK	1660.33	03-Sep-18	24-May-22	08-Dec-18		19.28%	2.54%
83		PRE-FABRICATION AND ASSEMBLY	1134.33	18-Apr-19	19-Feb-22	06-Nov-19		4.67%	0.09%
84		CONCRETE PRE-FABRICATION AT THE CASTING YARD	638.00	18-Apr-19	15-Sep-21	06-Nov-19		27.52%	0.51%
85		STEEL SPAN FABRICATION AT THE SUPPLIER'S WORK SHOP INCLUDING LOGISTIC	1107.38	02-Jun-19	24-Jan-22			0%	0%
86		STEEL GIRDER ASSEMBLY AT THE CONTRACTOR'S ASSEMBLY YARD	532.63	05-Sep-20	17-Feb-22			0%	0%
87		STEEL SPAN LOADING AND TRANSPORTING TO THE ERECTION AREA	449.00	30-Sep-20	19-Feb-22			0%	0%
88		MAIN BRIDGE	1660.33	03-Sep-18	24-May-22	08-Dec-18		27.45%	5.96%
89		MAIN BRIDGE FOUNDATION	1107.21	03-Sep-18	23-Mar-21	08-Dec-18		47.71%	18.25%
90		MAIN BRIDGE PILE FOUNDATION	1018.21	03-Sep-18	23-Jan-21	08-Dec-18		57.99%	27.8%
91		PILE LOAD TEST	259.25	03-Sep-18	19-Nov-18	08-Dec-18	11-Nov-19	100%	100%
92		MAIN BRIDGE PILE FOUNDATION_LAND 17+414~18+187 FROM MP250 TO MP266	202.35	30-Nov-18	15-May-19	17-Jan-19		100%	49.69%
93		MAIN BRIDGE PILE FOUNDATION_CRZ 15+890~17+414 FROM MP226 TO MP250	268.00	20-Dec-18	27-Nov-19	12-Jun-19		100%	70.14%
94		MAIN BRIDGE PILE FOUNDATION_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225	344.00	27-Feb-19	06-Jun-20	15-Oct-19		44.88%	19.66%
95		MAIN BRIDGE PILE FOUNDATION_MARINE 13+610~14+800 FROM MP187 TO MP205	272.00	12-Dec-19	28-Nov-20	01-Oct-19		1.88%	4.79%
96		MAIN BRIDGE PILE FOUNDATION_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186	403.00	27-Nov-19	23-Jan-21			3.96%	0%
97		MAIN BRIDGE PILE FOUNDATION_MARINE 10+380~11+880 FROM MP146 TO MP170	384.13	24-Nov-18	28-Dec-19	19-Feb-19		99.09%	24.82%
98		MAIN BRIDGE PILE CAP INSTALLATION	637.25	22-Dec-18	23-Mar-21	01-May-19		36.98%	8.27%
99		MAIN BRIDGE PILE CAP BOTTOM SLAB INSTALLATION	572.25	22-Dec-18	17-Feb-21	19-Aug-19		0%	0%
100		MAIN BRIDGE PILE CAP BOTTOM SLAB_CRZ 15+890~17+414 FROM MP226 TO MP250	190.05	17-Jan-19	12-Dec-19	19-Aug-19		0%	0%
101		MAIN BRIDGE PILE CAP BOTTOM SLAB_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225	323.00	06-Apr-19	18-Jul-20			0%	0%
102		MAIN BRIDGE PILE CAP BOTTOM SLAB_MARINE 13+610~14+800 FROM MP187 TO MP205	213.00	21-Jan-20	10-Dec-20	16-Nov-19		0%	0%
103		MAIN BRIDGE PILE CAP PRECAST SHELL_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186	377.00	08-Jan-20	17-Feb-21			0%	0%
104		MAIN BRIDGE PILE CAP BOTTOM SLAB_MARINE 10+380~11+880 FROM MP146 TO MP170	250.00	22-Dec-18	21-Jan-20			0%	0%
105		MAIN BRIDGE PILE CAP INSTALLATION	626.75	27-Dec-18	23-Mar-21	01-May-19		36.98%	8.27%
106		MAIN BRIDGE PILE CAP_LAND 17+414~18+188 FROM MP251 TO MP266	242.75	27-Dec-18	13-Jun-19	01-May-19		100%	42.42%
107		MAIN BRIDGE PILE CAP_CRZ 15+890~17+414 FROM MP226 TO MP250	145.00	04-Mar-19	08-Jan-20	28-Aug-19		94.17%	33.33%
108		MAIN BRIDGE PILE CAP_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225	360.00	18-Apr-19	05-Sep-20			30.4%	0%
109		MAIN BRIDGE PILE CAP_MARINE 13+610~14+800 FROM MP187 TO MP205	233.00	01-Feb-20	06-Jan-21			0%	0%
110		MAIN BRIDGE PILE CAP_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186	432.00	20-Jan-20	23-Mar-21			0%	0%
111		MAIN BRIDGE PILE CAP_MARINE 10+380~11+880 FROM MP146 TO MP170	263.00	03-Jan-19	17-Feb-20			87.92%	0%
112		MAIN BRIDGE SUB-STRUCTURE	914.17	09-Jan-19	24-Sep-21	04-Nov-19		46.16%	0.83%
113		MAIN BRIDGE PIER INSTALLATION	649.00	09-Jan-19	28-Jul-21	04-Nov-19		49.81%	1.52%
114		MAIN BRIDGE PIER_LAND 17+414~18+188 FROM MB251 TO MB266	255.00	09-Jan-19	08-Nov-19	06-Nov-19		100%	1.97%
115		MAIN BRIDGE PIER_CRZ 15+890~17+414 FROM MB226 TO MB250	232.00	26-Mar-19	06-Feb-20	04-Nov-19		83%	6.67%
116		MAIN BRIDGE PIER_INTERTIDAL 14+800~15+890 FROM MB206 TO MB225	381.00	11-May-19	16-Oct-20			25.49%	0%
117		MAIN BRIDGE PIER_MARINE 13+610~14+800 FROM MB187 TO MB205	228.00	19-Mar-20	18-Feb-21			0%	0%
118		MAIN BRIDGE PIER_MARINE (STEEL) 11+880~13+610 FROM MB171 TO MB186	473.00	17-Feb-20	28-Jul-21			0%	0%
119		MAIN BRIDGE PIER_MARINE 10+380~11+880 FROM MB146 TO MB170	269.00	07-Feb-19	13-Mar-20			79.46%	0%
120		MAIN BRIDGE PIER CAP INSTALLATION	635.25	08-Feb-19	27-Aug-21			46.32%	0%



Project Baseline Bar | Actual Work | Remaining Work | Critical Remaining Work | Milestone | % Complete | Summary

EMPLOYER:
MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)

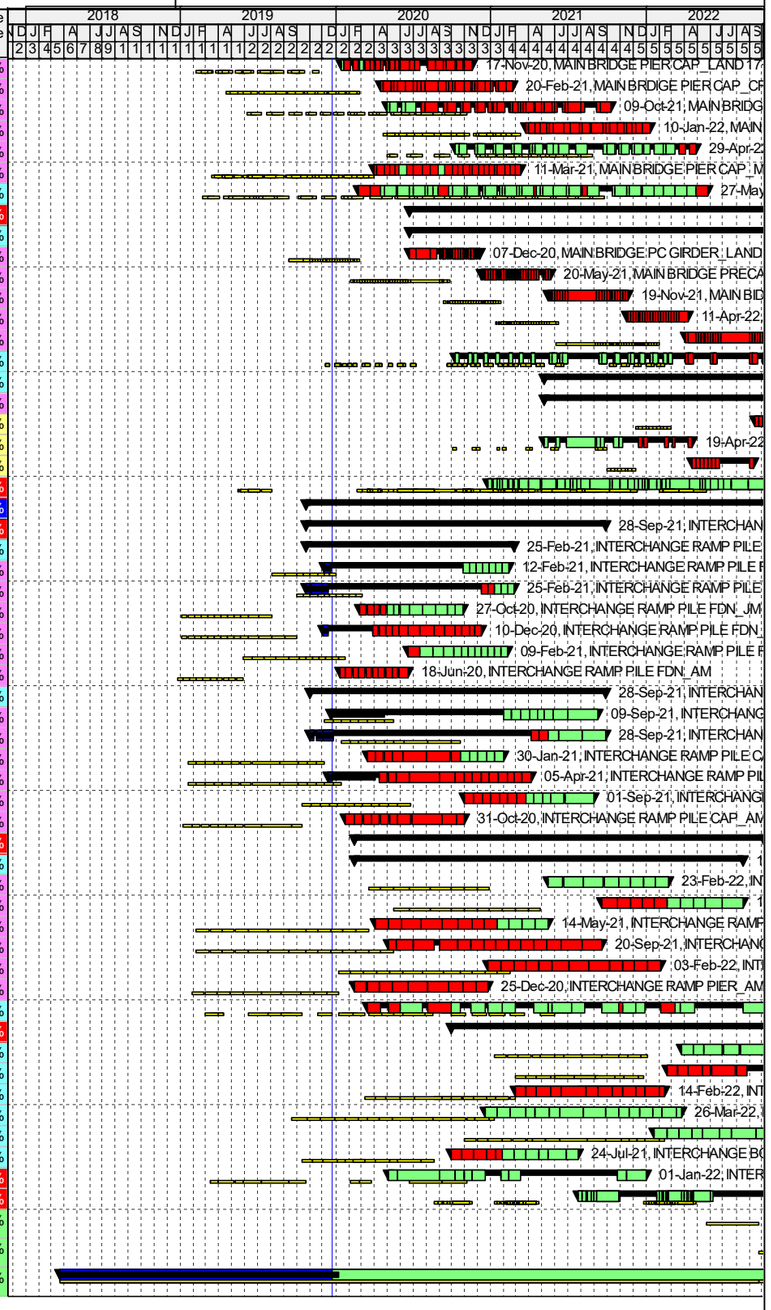
CONTRACTOR:
DAEWOO - TPL JV

Date	Revision	Checked	Approved
25-Dec-19	R0		

MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE UNDER IDENTIFICATION NO MMRDA/ENG/000753

ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME

#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete
121		MAIN BRIDGE PIER CAP_LAND 17+414~18+188 FROM MB251 TO MB266	223.25	08-Feb-19	23-Nov-19			100%	0%
122		MAIN BRIDGE PIER CAP_CRZ 15+890~17+414 FROM MB226 TO MB250	227.00	19-Apr-19	25-Feb-20			74.3%	0%
123		MAIN BRIDGE PIER CAP_INTERTIDAL 14+800~15+890 FROM MB206 TO MB225	376.00	06-Jun-19	05-Nov-20			22.73%	0%
124		MAIN BRIDGE PIER CAP_MARINE 13+610~14+800 FROM MB187 TO MB205	214.00	23-Apr-20	10-Mar-21			0%	0%
125		MAIN BRIDGE PIER CAP_MARINE (STEEL) 11+880~13+610 FROM MB171 TO MB186	442.00	30-Apr-20	27-Aug-21			0%	0%
126		MAIN BRIDGE PIER CAP_MARINE 10+380~11+880 FROMMB146 TO MB170	255.00	15-Mar-19	01-Apr-20			72.6%	0%
127		MAIN BRIDGE BEARING PAD AND BEARING INSALLATION	822.63	22-Feb-19	24-Sep-21			6.31%	0%
128		MAIN BRIDGE SUPER STRUCTURE BOX GIRDER INSTALLATION	982.13	12-Sep-19	01-Mar-22			5.58%	0%
129		MAIN BRIDGE CONCRETE GIRDER INSTALLATION	891.88	12-Sep-19	02-Feb-22			6.54%	0%
130		MAIN BRIDGE PC GIRDER_LAND 15+890~17+414 FROM MP251 TO MP266	167.13	12-Sep-19	27-Feb-20			43.09%	0%
131		MAIN BRIDGE PRECAST GIRDER_CRZ 15+890~17+414 FROM MP226 TO MP250	137.25	04-Feb-20	25-Sep-20			0%	0%
132		MAIN BIDGE PRECAST GIRDER_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225	105.25	12-Sep-20	23-Jan-21			0%	0%
133		MAIN BRIDGE PRECAST GIRDER_MARINE 13+610~14+800 FROM MP187 TO MP205	124.25	12-Jan-21	10-Jun-21			0%	0%
134		MAIN BRIDGE PRECAST GIRDER_MARINE 10+380~11+880 FROM MP146 TO MP170	150.00	04-Jun-21	02-Feb-22			0%	0%
135		STITCH JOINT CASTING	626.88	07-Dec-19	12-Feb-22			0%	0%
136		MAIN BRIDGE STEEL GIRDER INSTALLATION	455.00	03-Oct-20	01-Mar-22			0%	0%
137		MAN BRIDGE STEEL GIRDER INSTALLATION_MARINE 11+880~13+610 FROM MP171 TO MP 186	455.00	03-Oct-20	01-Mar-22			0%	0%
138		STEEL MODULE-01_MP176 - MP171 (INSTALLATION)	143.00	07-Dec-21	01-Mar-22			0%	0%
139		STEEL MODULE-02_MP182 - MP177 (INSTALLATION)	240.00	03-Oct-20	30-Sep-21			0%	0%
140		STEEL MODULE-03_MP186 - MP183 (INSTALLATION)	72.00	30-Sep-21	07-Dec-21			0%	0%
141		MISCELLANEOUS & FINISHING WORKS	707.13	16-May-19	24-May-22			2.15%	0%
142		INTERCHANGE	1232.33	24-Dec-18	28-Apr-22	25-Oct-19		51.59%	1.99%
143		INTERCHANGE FOUNDATION	696.08	24-Dec-18	22-Oct-20	25-Oct-19		76.9%	9.63%
144		INTERCHANGE RAMP PILE FOUNDATION	326.00	24-Dec-18	05-Mar-20	25-Oct-19		89.06%	10.54%
145		INTERCHANGE RAMP PILE FDN_MA	91.00	05-Aug-19	03-Jan-20	05-Dec-19		91.9%	12.39%
146		INTERCHANGE RAMP PILE FDN_AC	91.00	01-Oct-19	05-Mar-20	25-Oct-19		53.78%	49.65%
147		INTERCHANGE RAMP PILE FDN_JM	156.00	03-Jan-19	05-Aug-19			100%	0%
148		INTERCHANGE RAMP PILE FDN_MJ	169.00	03-Jan-19	01-Oct-19	04-Dec-19		100%	7.11%
149		INTERCHANGE RAMP PILE FDN_CA	156.00	28-May-19	23-Jan-20			83.75%	0%
150		INTERCHANGE RAMP PILE FDN_AM	130.00	24-Dec-18	27-May-19			100%	0%
151		INTERCHANGE RAMP PILE CAP INSTALLATION	440.00	08-Jan-19	22-Oct-20	02-Nov-19		59.43%	8.33%
152		INTERCHANGE RAMP PILE CAP_MA	131.75	06-Dec-19	15-May-20	21-Dec-19		11.21%	3.13%
153		INTERCHANGE RAMP PILE CAP_AC	140.25	15-Jan-20	22-Oct-20	02-Nov-19		0%	50%
154		INTERCHANGE RAMP PILE CAP_JM	204.00	18-Jan-19	06-Dec-19			100%	0%
155		INTERCHANGE RAMP PILE CAP_MJ	233.75	18-Jan-19	15-Jan-20	16-Dec-19		92.12%	1.79%
156		INTERCHANGE RAMP PILE CAP_CA	204.00	15-Oct-19	27-Jun-20			28.55%	0%
157		INTERCHANGE RAMP PILE CAP_AM	170.00	08-Jan-19	15-Oct-19			100%	0%
158		INTERCHANGE SUBSTRUCTURE & BEARING	693.00	29-Jan-19	31-May-21			41.52%	0%
159		INTERCHANGE RAMP PIER INSTALLATION	665.00	29-Jan-19	27-Apr-21			41.52%	0%
160		INTERCHANGE RAMP PIER_MA	200.00	18-Mar-20	29-Dec-20			0%	0%
161		INTERCHANGE RAMP PIER_AC	250.00	16-May-20	27-Apr-21			0%	0%
162		INTERCHANGE RAMP PIER_JM	300.00	08-Feb-19	18-Mar-20			74.66%	0%
163		INTERCHANGE RAMP PIER_MJ	349.00	08-Feb-19	16-May-20			63.47%	0%
164		INTERCHANGE RAMP PIER_CA	300.00	08-Jan-20	16-Feb-21			0%	0%
165		INTERCHANGE RAMP PIER_AM	225.00	29-Jan-19	08-Jan-20			94.49%	0%
166		INTERCHANGE BEARING INSTALLATION	668.00	27-Feb-19	31-May-21			0%	0%
167		INTERCHANGE SUPERSTRUCTURE INSTALLATION	663.38	20-Sep-19	15-Feb-22			4.5%	0%
168		INTERCHANGE BOX GIRDER INSTALLATION_MA	255.00	09-Jan-21	03-Jan-22			0%	0%
169		INTERCHANGE BOX GIRDER INSTALLATION_AC	276.78	27-Feb-21	27-Dec-21			0%	0%
170		INTERCHANGE BOX GIRDER INSTALLATION_JM	250.00	11-Mar-20	26-Feb-21			0%	0%
171		INTERCHANGE BOX GIRDER INSTALLATION_MJ	343.38	20-Sep-19	08-Jan-21			9.23%	0%
172		INTERCHANGE BOX GIRDER INSTALLATION_CA	280.00	30-Oct-20	15-Feb-22			0%	0%
173		INTERCHANGE BOX GIRDER INSTALLATION_AM	230.00	14-Oct-19	19-Aug-20			16.67%	0%
174		INTERCHANGE RETAINING STRUCTURE	379.00	11-Mar-19	06-Nov-20			60%	0%
175		MISCELLANEOUS & FINISHING WORKS	504.88	19-Aug-20	28-Apr-22			0%	0%
176		PROJECT HANDINGOVER	65.00	24-May-22	22-Sep-22			0%	0%
177		DEFECT LIABILITY PERIOD (DLP)	730.00	22-Sep-22	21-Sep-24			0%	0%
178		PRICE SCHEDULE	2228.25	23-Mar-18	21-Mar-23	23-Mar-18		51.1%	33.39%



Project Baseline Bar
Actual Work
Remaining Work
Critical Remaining Work
Milestone
% Complete
Summary

EMPLOYER:
MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)

CONTRACTOR:
DAEWOO - TPL JV

Date	Revision	Checked	Approved
25-Dec-19	R0		

Attachment 8- Package-3's Construction Programme Updated as on 25th December 2019

Activity ID	Activity Name	Original Duration	BL1 Start	BL1 Finish	Start	Finish	Activity % Complete	Schedule % Complete	Performance % Complete	Budgeted Total Cost	Actual Total Cost	Schedule Performance Index	Cost Performance Index	Planned Value Cost	Earned Value Cost
MTHL Pkg 3_Construction Schedule Dec'19		1326	23-Mar-18	21-Sep-21	23-Mar-18 A	13-Nov-22		65.2%	17.82%	Rs10,137,901,022	Rs1,710,413,671	0.27	1.09	Rs6,805,519,618	Rs1,860,033,567
Procurement of Mumbai Trans Harbour Link Project (Package-3)-(		1326	23-Mar-18	21-Sep-21	23-Mar-18 A	13-Nov-22		65.2%	17.82%	Rs10,137,901,022	Rs1,710,413,671	0.27	1.09	Rs6,805,519,618	Rs1,860,033,567
2	Commencement Date (CD)	0	23-Mar-18		23-Mar-18 A		100%	100%	100%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Physical Milestones		996	18-Sep-18	21-Sep-21	21-Feb-20	13-Nov-22		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1001	KD1 [Construction programme, completion of Soil Investigation, Submit final	0	18-Sep-18	18-Sep-18	21-Feb-20	21-Feb-20	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1002	KD 2 [NOC for technical design doc & drawing for foundation, Sub & Super	0	17-Dec-18	17-Dec-18	26-Apr-20	26-Apr-20	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1003	KD 3 [NOC for Good for construction drawing for foundation, Sub structure,	0	15-Jun-19	15-Jun-19	19-Sep-20	19-Sep-20	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1004	KD 4 [Substantial completion of foundation, piles (if applicable), piers, abutm	0	21-Mar-20	21-Mar-20	14-Mar-21	14-Mar-21	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1005	KD 5 [Substantial completion of pile caps (if applicable), piers, abutments, p	0	19-Sep-20	19-Sep-20	26-Sep-21	26-Sep-21	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1006	KD 6 [Substantial completion superstructure (PC/CIS/SS) & asphalt paveme	0	20-Mar-21	20-Mar-21	28-Apr-22	28-Apr-22	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1007	KD 7 [Substantial completion of kerb/traffic signs, Marking & noise barrier, Rc	0	24-Jul-21	24-Jul-21	06-Oct-22	06-Oct-22	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1008	KD 8 [Final completion & handing over]	0	21-Sep-21	21-Sep-21	13-Nov-22	13-Nov-22	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Financial Milestone		758	18-Sep-18	21-Sep-21	23-Mar-18 A	21-Sep-21		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Interface Milestone		855	17-Dec-18	06-Mar-21	25-Dec-19	28-Apr-22		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Document Submittals		45	23-Mar-18	06-May-18	06-Apr-18 A	25-Dec-19		100%	80%	Rs74,992,895	Rs59,994,316	0.80	1.00	Rs74,992,895	Rs59,994,316
Employer's Obligation / Land Handover		151	19-Apr-18	18-Sep-18	23-Mar-18 A	29-Dec-19		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
ROW 75 Ha [CD +180 days]		0	19-Apr-18	18-Sep-18	23-Mar-18 A	29-Dec-19		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
E Ob1000	ROW 24 Ha (from ch 18+187 to 18+930 and ch 20+170 to 21+232) Viadu	0	19-Apr-18	19-Apr-18	23-Mar-18 A	29-Dec-19	90%	100%	90%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
E Ob1001	ROW [51 Ha, unencumbered (Part 1) from ch 21+232 to 21+800] Viaduct	0	16-May-18	16-May-18	23-Mar-18 A	25-Dec-19	65%	100%	65%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
E Ob1002	ROW [51 Ha, unencumbered (Part 2) from ch 18+930 to 20+170] At-grade	0	18-Sep-18	18-Sep-18	23-Mar-18 A	29-Dec-19	97%	100%	97%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Casting Yard 9.16 Ha [CD+120 days]		0	20-Jul-18	20-Jul-18	20-Dec-18 A	21-Dec-18 A		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Employer Office (Sch 01- General Item)		801	20-Aug-18	16-Sep-21	25-Jan-19 A	21-Oct-21		86.61%	86.5%	Rs142,351,965	Rs123,137,965	1.00	1.00	Rs123,288,811	Rs123,137,965
Construction of Employer office		110	20-Aug-18	11-Dec-18	30-May-19 A	31-Oct-19 A		100%	100%	Rs112,791,965	Rs112,791,965	1.00	1.00	Rs112,791,965	Rs112,791,965
Facility		980	12-Dec-18	16-Sep-21	25-Jan-19 A	21-Oct-21		35.51%	35%	Rs29,560,000	Rs10,346,000	0.99	1.00	Rs10,496,846	Rs10,346,000
Survey & Geotechnical Investigation Works		346	19-Apr-18	22-Oct-18	19-Apr-18 A	21-Feb-20		100%	95.75%	Rs242,300,773	Rs181,725,579	0.96	1.28	Rs242,300,945	Rs232,003,161
Topographical Survey		346	19-Apr-18	22-Oct-18	19-Apr-18 A	25-Dec-19		100%	99.85%	Rs0	Rs0	1.00	0.00	Rs109	Rs109
Geotechnical Investigation work		93	17-May-18	17-Sep-18	10-Sep-18 A	21-Feb-20		100%	95.75%	Rs242,300,773	Rs181,725,579	0.96	1.28	Rs242,300,836	Rs232,003,052
Design Works		462	07-May-18	14-Jun-19	25-Apr-18 A	19-Sep-20		100%	60.32%	Rs159,122,500	Rs78,391,635	0.60	1.22	Rs159,123,270	Rs95,989,465
Design Basis Report		48	07-May-18	30-Jun-18	25-Apr-18 A	08-Dec-18 A		100%	100%	Rs0	Rs0	1.00	0.00	Rs51	Rs51
Preliminary Design		47	02-Jul-18	25-Aug-18	26-Jul-18 A	25-Dec-19		100%	80%	Rs286,875	Rs286,875	0.80	0.80	Rs286,875	Rs229,500
Geotechnical Interpretative Report Submission & GC Approval (NONO)		24	11-Sep-18	08-Oct-18	07-Dec-18 A	25-Feb-20		100%	91%	Rs0	Rs0	0.91	0.00	Rs42	Rs38
Plan & Profile Alignment		77	06-Jun-18	14-Aug-18	25-Jun-18 A	03-Jan-20		100%	80%	Rs0	Rs0	0.80	0.00	Rs102	Rs82
Superstructure Design		316	16-Aug-18	26-Feb-19	05-Mar-19 A	08-Jun-20		100%	44.66%	Rs85,075,000	Rs37,992,885	0.45	1.00	Rs85,075,144	Rs37,992,168
Foundation & Pier		324	05-Oct-18	14-Jun-19	06-Nov-18 A	19-Sep-20		100%	67.2%	Rs28,434,375	Rs12,791,250	0.67	1.49	Rs28,434,435	Rs19,106,851
Abutment & Foundation		255	15-Oct-18	16-Jan-19	31-Dec-18 A	31-Mar-20		100%	67.41%	Rs0	Rs0	0.67	0.00	Rs81	Rs55
Pier Cap		374	24-Oct-18	10-May-19	11-Jan-19 A	16-Sep-20		100%	33.22%	Rs0	Rs0	0.33	0.00	Rs290	Rs96
Bearings & Drainage		176	17-Nov-18	03-Apr-19	21-Jan-19 A	08-Aug-20		100%	62.98%	Rs18,005,625	Rs0	0.63	0.00	Rs18,005,625	Rs11,340,000
Pavement Design		71	01-Jul-18	27-Aug-18	15-Oct-18 A	18-Feb-19 A		100%	100%	Rs27,320,625	Rs27,320,625	1.00	1.00	Rs27,320,625	Rs27,320,625
Procurement Works		959	12-Sep-18	08-Jun-21	15-Feb-19 A	10-Sep-22		90.17%	1.51%	Rs1,387,160,466	Rs5,089,147	0.02	5.00	Rs1,519,472,186	Rs25,445,877
For Main Bridge		959	12-Sep-18	08-Jun-21	15-Feb-19 A	10-Sep-22		81.13%	2.9%	Rs877,933,218	Rs5,089,147	0.04	5.00	Rs712,281,063	Rs25,445,843
For Road Works		568	04-Apr-19	13-Jan-21	01-Mar-19 A	25-Jan-22		46.9%	8.29%	Rs0	Rs0	0.18	0.00	Rs197	Rs35
Imported Procurement		170	22-Jan-19	10-Aug-19	04-May-20	20-Nov-20		100%	0%	Rs509,227,248	Rs0	0.00	0.00	Rs807,190,926	Rs0
Co-ordinated Fabrication & Manufracturing Works		561	27-Sep-18	10-Feb-20	21-Feb-19 A	29-May-21		97.01%	0%	Rs390,605,953	Rs0	0.00	0.00	Rs378,916,770	Rs322
Permanent Works fabrication		531	27-Sep-18	06-Jan-20	21-Feb-19 A	23-Apr-21		97.01%	0%	Rs390,605,953	Rs0	0.00	0.00	Rs378,916,270	Rs157
Permanent Works Assembly		531	22-Oct-18	10-Feb-20	25-Feb-19 A	29-May-21		92.59%	30.56%	Rs0	Rs0	0.33	0.00	Rs500	Rs165
Construction Works		1087	20-Jul-18	23-Jul-21	26-Sep-18 A	06-Oct-22		55.33%	18.44%	Rs7,063,465,446	Rs1,242,075,029	0.33	1.05	Rs3,908,087,313	Rs1,302,709,724
Preconstruction Activity		465	20-Jul-18	01-Jul-19	26-Sep-18 A	28-Aug-20		100%	30.44%	Rs0	Rs0	0.30	0.00	Rs565	Rs172
Sub Structures (Open Foundation, Pier ,Pier Cap)		789	08-Dec-18	07-Nov-20	30-Sep-18 A	25-Nov-21		58.08%	31.57%	Rs3,392,806,949	Rs1,065,510,244	0.54	1.01	Rs1,970,423,939	Rs1,071,248,946
Main Carriageway		638	08-Dec-18	24-Jan-20	05-Dec-18 A	27-Apr-21		98.95%	29.83%	Rs1,821,401,625	Rs537,543,963	0.30	1.01	Rs1,802,300,511	Rs543,282,665
SH 54 Ramps		274	27-Feb-19	06-Mar-20	25-Apr-19 A	29-Apr-21		41.65%	54.39%	Rs232,139,423	Rs126,257,103	1.31	1.00	Rs96,695,913	Rs126,257,103
Chirle NH 4B Ramps		325	20-May-19	05-Sep-20	30-Sep-18 A	21-Oct-21		4.08%	24.92%	Rs874,987,055	Rs218,070,697	6.11	1.00	Rs35,713,757	Rs218,070,697
Chirle NH 4B Loops		286	09-Sep-19	07-Nov-20	21-Aug-19 A	25-Nov-21		7.69%	39.55%	Rs464,278,846	Rs183,638,481	5.14	1.00	Rs35,713,757	Rs183,638,481
Super Structures		647	27-Feb-19	12-Apr-21	11-Sep-19 A	20-May-22		34.87%	0.84%	Rs1,408,927,165	Rs11,877,439	0.02	1.00	Rs491,330,801	Rs11,877,477
Segments Precasting		443	30-Mar-19	09-Nov-20	11-Sep-19 A	23-Sep-21		40.31%	1.56%	Rs760,156,099	Rs11,877,439	0.04	1.00	Rs306,438,812	Rs11,877,477
Segments Erection		405	26-Aug-19	20-Jan-21	02-Dec-20	28-Apr-22		29.37%	0%	Rs70,699,410	Rs0	0.00	0.00	Rs20,767,952	Rs0
Cast In Situ		620	27-Feb-19	12-Apr-21	17-Mar-20	20-May-22		25.85%	0%	Rs464,334,354	Rs0	0.00	0.00	Rs120,012,348	Rs0
Steel Structure		390	10-May-19	17-Nov-20	16-Sep-20	25-Jan-22		38.78%	0%	Rs113,737,302	Rs0	0.00	0.00	Rs44,111,689	Rs0
Bearings & Expansion Joints		210	03-Aug-20	12-Apr-21	09-Dec-21	11-Aug-22		0%	0%	Rs10,454,697	Rs0	0.00	0.00	Rs0	Rs0
Bridge Ancillaries & Miscellaneous Item		324	12-Aug-20	23-Jul-21	21-Sep-21	06-Oct-22		0%	0%	Rs180,921,987	Rs0	0.00	0.00	Rs0	Rs0
RE Wall		504	27-Feb-19	18-Feb-21	11-May-20	01-Mar-22		54.08%	0%	Rs461,687,248	Rs0	0.00	0.00	Rs249,665,816	Rs0
Road Work		803	20-Apr-19	18-May-21	16-Feb-19 A	25-Jul-22		74.39%	13.65%	Rs1,608,667,400	Rs164,687,346	0.18	1.33	Rs1,196,666,191	Rs219,583,128
Completion of Interface Activity		467	19-Sep-20	06-Mar-21	19-Sep-20	28-Apr-22		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Provisional Sum		800	23-Apr-18	23-Aug-21	30-Nov-18 A	27-Sep-22		58.76%	3.05%	Rs677,901,024	Rs20,000,000	0.05	1.04	Rs399,337,429	Rs20,752,736
Testing & Commissioning Works		33	26-Jul-21	20-Sep-21	06-Oct-22	13-Nov-22		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
ToC1000	Testing & Commissioning Works	25	26-Jul-21	11-Sep-21	06-Oct-22	04-Nov-22	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
ToC1001	Safety Test & Auditing	6	13-Sep-21	18-Sep-21	04-Nov-22	11-Nov-22	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
ToC1002	TOC	2	19-Sep-21	20-Sep-21	11-Nov-22	13-Nov-22	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0

Attachment 9- Project Progress Photos

Package 1- Site Progress Photos

Photo No. 1: View along TAB at MP-23 seeing towards Mumbai

Photo No. 2: Work in Progress between MP83 & MP148

Photo No. 3: Work in Progress between MP81 & MP85

Photo No. 4: MP15 Pier cap works – Intertidal is in progress

Photo No. 5: 4. Launching Girder Erection works – Intertidal is in progress

Photo No. 6: Pile boring works at Interchange area

Photo No. 7: Precast Yard - Segment casting in BAY-2 is in progress

Photo No. 8: Pier Works at BP44 & BP45 – Interchange is in progress

Photo No. 9: Pier Works at BP41 & BP44 – Interchange is in progress

Photo No. 10: Site visit by MMRDA Officials and GC Team at the Structural Steel Manufacturing Plant Ms. Najing Iron & Steel Co. Ltd. China

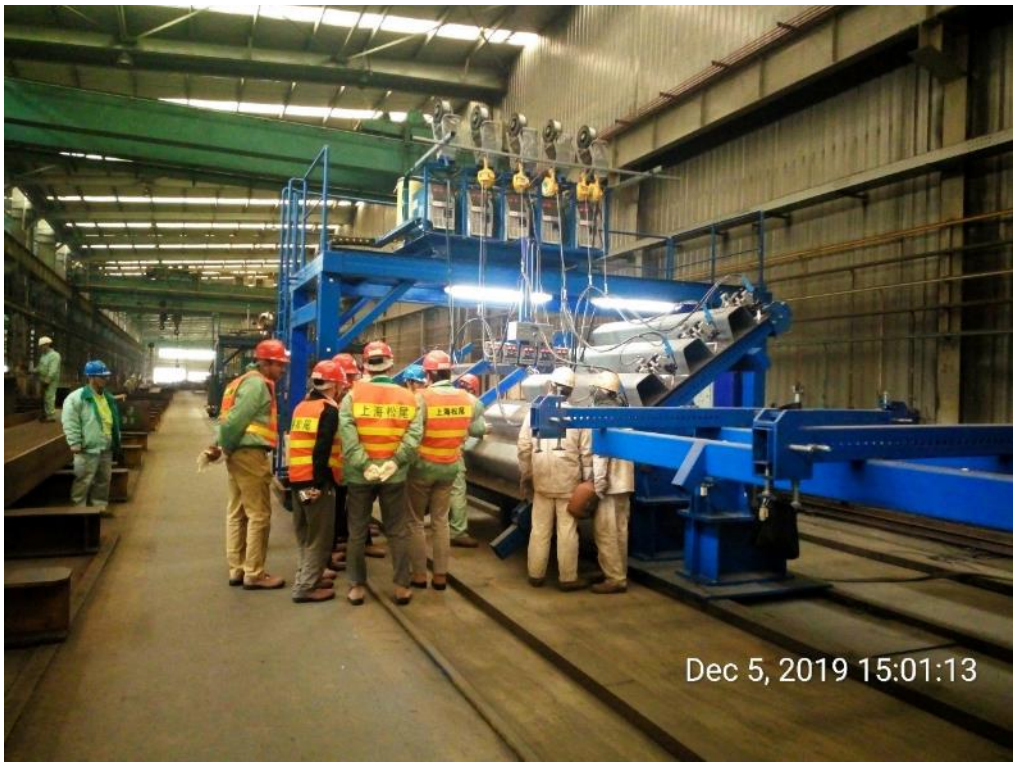


Photo No. 11: Site visit by MMRDA Officials and GC Team at the Structural Steel Manufacturing Plant Ms. Najing Iron & Steel Co. Ltd. China

Photo No. 12: Segment assembly for OSD Girder Fabrication OS01-NG (lot1) -IIA, Vietnam

Package 2 – Site Progress Photos

Photo No. 1: Precast Slab erection works at TAB in progress

Photo No. 2: Material Platform bracing welding works in progress

Photo No. 3: Pile Cap bottom formwork and Pile head chipping in progress at MP 206 LHS and RHS in progress

Photo No. 4: Pile concreting at MP 232/02 LHS in progress

Photo No. 5: Preparatory works at MP 209 LHS location in progress

Photo No. 6: Segment lifting and stacking at Bay-3 in progress

Photo No. 7: Segment Concreting works at Bay-2 in progress

Photo No. 8: Pile reinforcement cage checking in progress

Photo No. 9: Open foundation concreting at MP 243 LHS in progress

Photo No. 10: Coal Tar epoxy application at Open foundation MP 245 LHS in progress

Photo No. 11: Open foundation concreting at ACP 03 in progress

Photo No. 12: Pier reinforcement tying at MP 245 LHS location in progress

Package 3 – Site Progress Photos

Photo No. 1: Foundation casting completed at LP 01 RHS Chirle location

Photo No. 2: Foundation casting completed at LP 31 Chirle location

Photo No. 3: Foundation Reinforcement Works at RMP 280 is in progress

Photo No. 4: Pier casting works at Pier location LMP 280 in progress

Photo No. 5: Pier casting completed at LMP 269 location

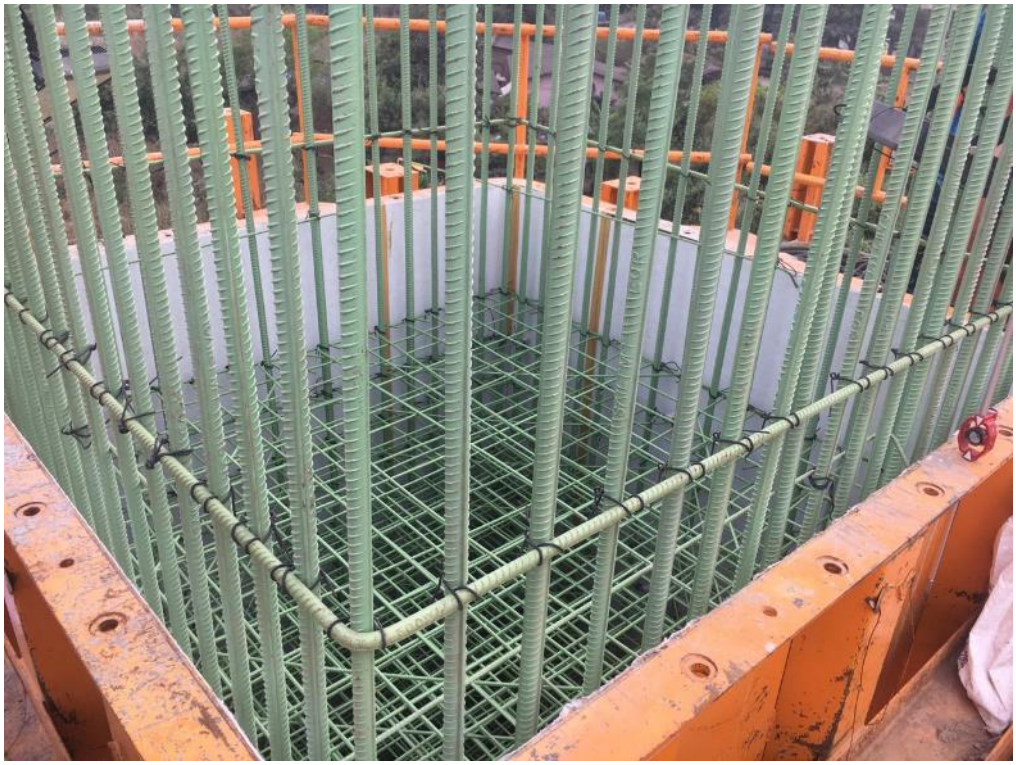


Photo No. 6: Pier reinforcement and shuttering at RMP 269 is in progress

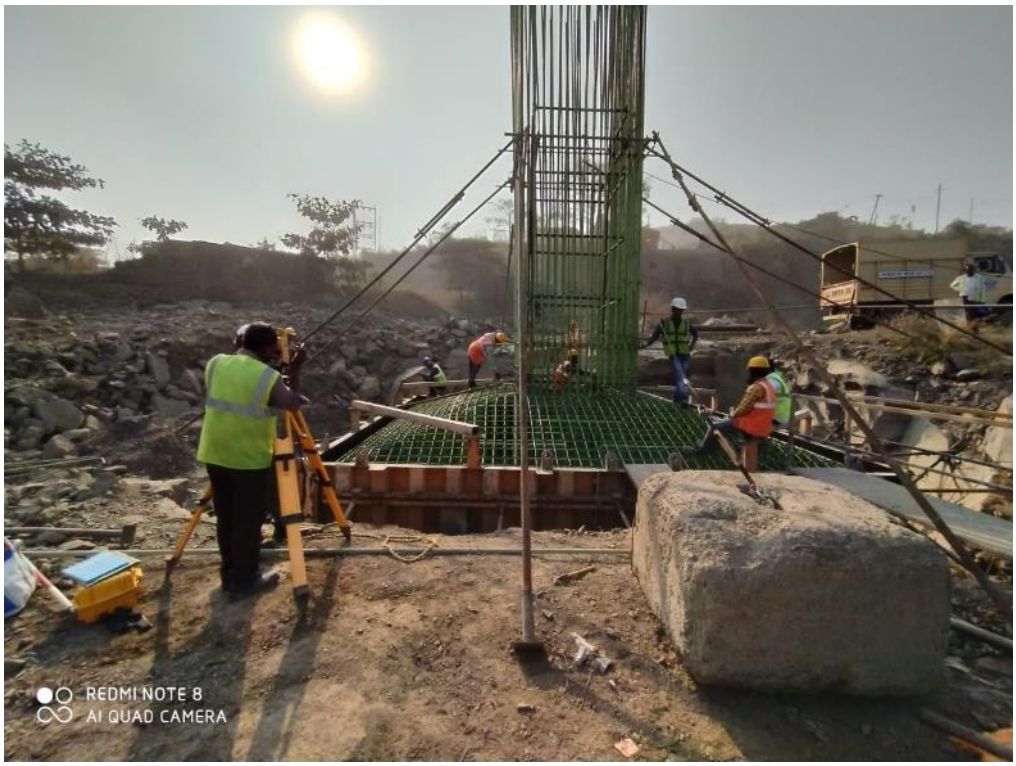


Photo No. 7: Foundation co-ordinates checking at Jasai area is in progress

Photo No. 8: PCC Pre-pour checking at LMP 279 P1

Photo No. 9: PCC Concrete pouring at LMP 279 LHS

Photo No. 10: Segment Casting is in progress

Photo No. 11: Segment Casting at PC yard is in progress

Photo No. 12: Excavated material shifting at At-grade area Ch @ 19+720

Ref No: MTHL/GC/MMRDA/LT/QPR-1854/2021 **22nd January 2021**

To,
The Chief Engineer
Engineering Division
Mumbai Metropolitan Regional Development Authority (MMRDA)
2nd Floor, New MMRDA Building,
Plot No R-06 & R-12, 'E' Block
Bandra Kurla Complex, Bandra (E),
Mumbai, Maharashtra, India 400051.

Sub: General Consultancy services for Mumbai Trans Harbour Link (MTHL) project - **Re-submission of the Quarterly Progress Report No. 12 (January-March 2020)**

Ref:

1. MTHL/GC/MMRDA/LT/QPR – 1559/ 2020 dated 17th September 2020
2. MTHL/GC/MMRDA/LT/QPR-1729/2020 dated 30th November 2020

Dear Sir,

With reference to the above-mentioned subject, we are recalling the earlier submitted QPR No.12 (January-March 2020) vide Letter No. 1729 dated 30th November 2020. We have recently identified an error in Section 2.3 - Table 2.3.1.b.(ii) Actually Incurred Cost BY YEAR, Page No. 14 of the report on Tranche-I amount for the financial year 2019.

The correct Tranche-I JICA disbursement for the financial year 2019 should read as JPY 31014 million instead of reported JPY 15690 million.

The total disbursement for the financial year 2019 is JPY 40410 million which included MMRDA portion of expense of JPY 9396 million.

We are submitting to you the revised QPR No. 12 for your review/ approval. You are requested to recall the earlier submitted report to JICA and re-submit the corrected report to JICA, India at your earliest convenience.

Thanking you,
Yours faithfully,

22 January 2021

Dr. S H Robin Sham, CBE
(BSc, PhD, DIC, FCGI, FRSA, CEng, FICE, FIStructE, FHKIE)
The Engineer
General Consultant (MTHL)

Encl: 1 Copy of the corrected QPR No.12 (January-March 2020)

CC: Superintendent Engineer – MMRDA - Mr. Sakhalkar
Executive Engineer – MMRDA – Mr. Bhisikar
Executive Engineer – MMRDA – Mr. Vishal Jambhale
Executive Engineer – MMRDA – Mr. Ganesh Deshpande
By Email

एम एम आर डी ए
MMRDA

Mumbai Metropolitan Region Development Authority

Mumbai Trans Harbour Link Project

Quarterly Progress Report - No.12

(From 1st January 2020 to 31st March 2020)

Mumbai Trans Harbour Link Project
Quarterly Progress Report No. 12
1st January 2020 to 31st March 2020
Loan Agreement No. ID-P255 (Tranche–I)

ORGANIZATION INFORMATION

Borrower	**Mumbai Metropolitan Region Development Authority**	
	Person in Charge	**Metropolitan Commissioner, MMRDA**
	Contact Address	M.M.R.D.A. New Office Building, Bandra-Kurla Complex, Plot no. R-5, R-6 & R-12, E Block, Bandra (East), Mumbai - 400051 Phone: +91-22-26594000 Fax No:+91-22-2659 1264
Executing Agency	**Mumbai Trans Harbour Link Project Implementation Unit**	
	Headed by:	Chief Engineer Mumbai Trans Harbour Link Project Implementation Unit
	Contact Address	M.M.R.D.A. New Office Building, Bandra-Kurla Complex, Plot no. R-5, R-6 & R-12, E Block Bandra (East), Mumbai - 400 051 Phone: +91-22-2659 4034 Fax No: +91-22-2659 4179

Details of JICA Loan

Source of Finance	JICA ODA Loan Portion:	238,572 million Japanese YEN (JPY)
	Tranche-I:	144,795 million Japanese YEN (JPY) (Loan Agreement signed on 31st March 2017)
	Tranche-II:	66,909 Million Japanese YEN (JPY) (Loan Agreement signed on 27th March 2020)
Terms and Conditions of JICA ODA Loan (Tranche-1)	Interest Rate:	0.10000% (LIBOR (-0.04817%) + SPREAD RATE (0.10000%)) from 20th September 2019 to 19th March 2020.
	Repayment Period:	30 years, including 10 years of grace period.

DOCUMENT VERIFICATION AND REVISION RECORD

PROJECT NAME	Mumbai Trans Harbour Link Project		
DOC NO.	12	DATE OF ISSUE	25/11/2020
DOC TITLE	Quarterly Progress Report No. 12		

REV No.	DATE OF ISSUE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY
R0	05/07/2017	Quarterly Progress Report No. 1 (Apr-Jun 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/10/2017	Quarterly Progress Report No. 2 (Jul-Sep 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/01/2018	Quarterly Progress Report No. 3 (Oct-Dec 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/04/2018	Quarterly Progress Report No. 4 (Jan-Mar 18)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	24/07/2018	Quarterly Progress Report No. 5 (Apr-Jun 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R0	10/10/2018	Quarterly Progress Report No. 6 (Jul-Sep 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R1	08/02/2019	Quarterly Progress Report No. 7 (Oct-Dec 18)	Prashant B	J Senthil/ Dr T K Sundaram	Dr Robin Sham
R0	05/04/2019	Quarterly Progress Report No. 8 (Jan-Mar 19)	Prashant B	J Senthil	V. D. Sharma/ Dr Robin Sham
R0	18/09/2019	Quarterly Progress Report No. 9 (Apr-Jun 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	13/11/2019	Quarterly Progress Report No. 10 (Jul-Sep 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	11/02/2020	Quarterly Progress Report No.11 (Oct-Dec 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	25/11/2020	Quarterly Progress Report No.12 (Jan-Mar 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham

Contents

1.0 PROJECT DESCRIPTION

1.1 Project Objective

Original:

To improve connectivity in Mumbai Metropolitan region by constructing the Mumbai Trans Harbour Link connecting Mumbai with Navi Mumbai, thereby contributing to mitigation of traffic congestion and promoting regional economic development.

Actual *(P/R, PCR)*

There is no change in the Project Objective.

1.2 Necessity of the Project

The Project is consistent with the development policy, sector plan, national/regional development plans and demand of target group of the recipient country.

Benefits from MTHL Project

- Saving in travel time for commuters from Mumbai to Navi Mumbai.
- Improved comfort and accessibility between the island and the mainland.
- Reduced operating costs of vehicles due to lesser congestion.
- Smooth traffic flow from Navi Mumbai airport to Mumbai Island.
- Accelerated economic development of Navi Mumbai and nearby regions.
- Greater economic integration of Mumbai island with Navi Mumbai and extended regions of Pune, Goa, Panvel and Alibaug.
- Improvement in environment and reduced pollution levels.
- Improved safety due to reduction in accidents.
- Improvement in trade competitiveness through faster and improved logistics.
- Accelerated growth of Navi Mumbai.
- Decongestion of Mumbai Island and dispersal of population to Navi Mumbai region & beyond.

Necessity of the Project

1. Although the urbanization in India has been rapidly progressing, infrastructure development in the urban areas has not caught up its progress. Particularly, the traffic congestion in the urban areas due to a lack of road network hinders the economic development. Thus, Government of India (GOI) places transport and connectivity as one of the “Growth Enablers” and plans to enhance road network in the “Three Year Acton Agenda 2017-2018 to 2019-20 (NITI Aayog)”.
2. Mumbai Metropolitan Region, which includes Mumbai and Navi Mumbai, has about 18.4 million people in population as of 2011 (Census 2011) and the population density reaches 20,694 people per square km in the center of Mumbai, which is one of the most overpopulated and high-density cities in the world.
3. Mumbai, the narrow stretch of land that has traditionally been the epicentre of India’s commerce, has seen a steady increase in population in the last three decades despite obvious spatial constraints. Thus, the development of Navi Mumbai has been identified as an urgent requirement for broad development in Mumbai Metropolitan Region.

4. The Government of Maharashtra (GoM), of which Mumbai Metropolitan Region is under jurisdiction, has been facilitating various development plans particularly in Navi Mumbai area, which stands at the opposite site of Mumbai across the Mumbai Bay and still has spacious area for development, such as a new international airport, Special Economic Zone (SEZ) and expansion of Jawaharlal Nehru Port in order to promote the sustainable economic development in Mumbai Metropolitan Region.
5. Furthermore, a lack of connectivity in Mumbai has stunted its growth. The GoM has given importance to construct the faster connection with Mumbai to Navi Mumbai International Airport, Jawaharlal Nehru Port, Mumbai-Pune expressway and main hinterland.
6. Accordingly, the Mumbai Trans Harbour Link (MTHL) has been identified as the important infrastructure to improve the connectivity between Mumbai and Navi Mumbai and continue economic development in Mumbai Metropolitan Region.

   The MTHL is proposed to be developed as an expressway link comprising of a dual three-lane main carriageway bridge connecting Sewri in Mumbai to Chirle in Navi Mumbai. When completed, MTHL will reduce the distance between Mumbai and Navi Mumbai and will help save approximately an hour in travel time. Also, development of Navi Mumbai along with the imminent construction of the Navi Mumbai airport will lead to increased traffic between Mumbai and Navi Mumbai. Consequently, the project is envisaged to; improving accessibility between Mumbai and Navi Mumbai, accelerating growth of Navi Mumbai, smooth traffic flow from Navi Mumbai airport to Mumbai, accelerating economic development of Navi Mumbai and surrounding regions, greater economic integration of Mumbai with Navi Mumbai and extended regions of Pune, Goa, Panvel and Alibaug, and decongestion of Mumbai and dispersal of population to Navi Mumbai region and beyond.

7. The Comprehensive Transportation Study (CTS) for Mumbai Metropolitan Region which was guided by Mumbai Metropolitan Region Development Authority (MMRDA) and supported by World Bank, was completed in July 2008, which was over 25 years after the issuance of the last comprehensive transport study. The report provided a vision for Mumbai's future transportation as seamless and integrated system, in which commuters can make their journeys safely and conveniently by various modes of transport, particularly by public transport, and recommended the development of Multi Modal Corridor to take care of the varied travel demands of the region for the period up to 2031. The CTS proposed to develop the highway network in the region. The MTHL has been regarded as the priority road for Mumbai, considering its function and importance connecting between Mumbai and Navi Mumbai.
8. Necessity of the Project: - To promote economic development in Mumbai Metropolitan Region it is essential to improve the connectivity between Mumbai and Navi Mumbai, by constructing MTHL.

Actual *(P/R, PCR)*

There is no change in the Necessity of the Project preamble.

1.3 Rationale of the Project Design

- Timing, Scale, Technology of the Project:

Demand Analysis

1. At the opening year 2022, the daily traffic on the main bridge is expected to be 39,300 PCU. The traffic is projected to increase up to 103,900 by 2032 and up to 145,500 by the year 2042. The daily breakdown by vehicle class on the main bridge link is presented in the Table 1.3.1 below:

Table 1.3.1 Demand Projections Over the Period

Vehicle Type	Between Sewri Interchange and Shivaji Nagar Interchange			Between Shivaji Nagar Interchange and Chirle Interchange		
	2022	2032	2042	2022	2032	2042
Car	24,100	66,400	94,100	4,900	21,300	43,300
Taxi	2700	14,100	20,200	100	400	2,300
Bus	2,700	3,700	3,700	2,700	3,700	3,700
LCV	2,200	4,100	5,600	700	1,300	1,800
HCV	3,000	6,500	8,100	1,000	2,000	2,200
MAV	4,600	9,100	13,800	400	900	1,700
Total	**39,300**	**103,900**	**145,500**	**9,800**	**29,600**	**55,000**

LCV: Light Commercial Vehicle; HCV: Heavy Commercial Vehicle; MAV: Multi Axle Vehicle

2. At the opening year in 2022, the traffic flow on MTHL represents a diversion of 10% on the traffic across Thane creek which will increase up to 16% in 2032. If only Thane Creek Bridge is considered, then the diverted traffic from the bridge will be 21% in 2022 which will rise up to 35% in 2032.

3. 6-lane of main carriageway was decided by GoM. It was reviewed based on the forecasted result of future traffic volume by Manual of Specification and Standards for Expressways (IRC: SP:99-2013). The result of the review shows that 6-lane will be required in 2032 (10 years later after traffic open). Although, 8-lane will be required in 2042, it is assumed that the level of service of MTHL would be maintained as additionally metro might be constructed in parallel with MTHL.

Design Parameters / Overall Design

4. The MTHL which is 21.8 km long road bridge partly on the land and partly over the creek across the Mumbai Bay between Sewri in Mumbai and Chirle in Navi Mumbai, is to be constructed with the approach sections and interchanges. ITS (Intelligence Transport System) and the other necessary facilities will be provided for full access-controlled bridges.

5. As per the provisions of IRC (Indian Road Congress) SP:99-2013, the Width of each lane of the Main Carriageway is 3.5 meters.

6. When the design speed is 100 km/h according to the traffic demand forecast the large vehicle, ratio will be as low as 9.4% (2022).

7. The shoulder width of bridge towards outside of each carriageway is 2.5 meters and towards median side of each carriageway is 0.75 meters.

8. The major portion of MTHL structure is on sea and partly towards ends is on land with

different type and with different span, viz., PC box girder with 50 m spans which is typically applied on marine viaduct since, it is economical, easy to construct and maintain.

9. On the land portion, the PC box girder having span of generally 30m is used.
10. As far as the location in which long span (150-180 m) is required to cross significant obstacles, such as navigation channels, pipelines and creeks, the steel box girder bridge with steel deck is proposed with large block erection method to shorten the construction period.
11. The project is coded with three lanes of traffic in each direction. The reference toll is presented in the Table 1.3.2 below for each vehicle class in Year 2022 (based on 2015 monetary value reflecting price escalation).

Table 1.3.2: Base Toll Rates (Rs) for different class of vehicles between Interchanges

Vehicle Type	Sewri to Shivaji Nagar	Shivaji Nagar to Chirle	Total
Car	180	60	240
Bus	420	130	550
LCV	240	70	310
HCV	420	130	550
MAV	600	180	780

Intelligent Transport Systems (ITS) and **Toll Management System (TMS)**

12. The Toll Management System will be implemented in MTHL to collect tolls from all road users of MTHL. Two types of toll collection method will be adopted; Electronic Toll Collection (ETC) and Manual (paying by cash).
13. The lanes corresponding to these toll collection methods are dedicated ETC lanes and Manual lanes, and Manual system shall be installed to ETC lanes for backup to be able to cope at the time of the trouble of ETC equipment failure.

Traffic management System

14. Traffic Management System is a support system to Manage the traffic on MTHL safely and efficiently. The System consists of the information collection system including Closed-Circuit Television (CCTV), Emergency Call Box (ECB), Automatic Traffic Counter-Cum-Classifier (ATCC) and Meteorological Data System (MDS), and Information Dissemination System including Variable message Sign (VMS).
15. CCTV Cameras shall be installed at around three places per 1 km, on Both side of main route and the monitoring of the traffic condition of the whole stretch of MTHL will be almost enabled in the Traffic Control Centre and VMS displays the appropriate information for road users on the collated information.
16. The Information collected by these devices shall be transmitted to the Command Control Centre through the medium of an Optical Fiber Cable laid in MTHL.

Actual *(P/R, PCR)*

There is no change in the Rationale of the Project Design.

2.0 PROJECT IMPLEMENTATION

2.1 Project Scope

Refer Table 2.1.1 and 2.1.2 for details on Scope of the Project.

Table 2.1.1 Comparison of Original and Actual location

Location	**Original: (P/M)** Mumbai Metropolitan Region Development Authority, Mumbai, State of Maharashtra	Actual: *(P/R and PCR)*

Table 2.1.2 Comparison of Original and Actual Scope

Items	Original	Actual
Construction work: 6-lane Marine Bridge Road (21.8 km)		
Package-1 Ch 0+000-10+380 (10.380 km)	• 1 Interchange (Sewri) • Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder) • Viaduct Substructure (RC Concrete Structure) • Viaduct Foundation (Bored piles) • Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers)	*(P/R and PCR)*
Package-2 Ch 10+380-18+187 (7.80 km)	• 1 Interchange (Shivaji Nagar) • Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder) • Viaduct Substructure (RC Concrete Structure) • Viaduct Foundation (Bored piles) • Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers)	*(P/R and PCR)* Actual: *No View Barriers*
Package-3 Ch 18+187-21+800 (3.61 km)	• 2 Interchanges (State Highway-54, National Highway-4B) • Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder & Steel Truss Girder for Rail-over-Bridges (ROB) • Viaduct Substructure (RC Concrete Structure) • Viaduct Foundation (Bored piles) • Cutting Section (6-lane with Slope Protection) • Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers)	*(P/R and PCR)* Actual: *No* Noise Barriers & *View Barriers*

Items	Original	Actual
Package-4 ITS (Intelligent Transport System)	• Administrative Buildings • Toll Booths (1 for main alignment and each on and off rumps for 3 interchanges) • Traffic Management System (Traffic Control Centre, Closed Circuit Television (CCTV), Meteorological Observation System (MET), Emergency Call Box (ECB), Automatic traffic Counter-cum-Classifier (ATCC), Variable Message Sign (VMS)) • Highway Lighting (Whole sections Low-positioned lighting for some sections) • Electrical Powering System including HV/ LV Ring Network across the Bridge.	*(P/R and PCR)*
Consulting Services	• Tender Assistance • Construction Supervision • Facilitation of Implementation of Environmental Management Plan (EMP), Environmental Monitoring plan (EMoP).	*(P/R and PCR)*

2.2 Implementation Schedule

2.2.1 The Original Implementation Schedule

Table 2-2-1 Comparison of Original and Actual Schedule

Items	Original	Status *(P/R and PCR)* as on 31st March 2020
1) Completion of Land Acquisition and Resettlement	March 2019	June 2020
2) Consulting Services		
a) Selection of Consultant	May – December 2016	May – December 2016
b) Consultancy Works	December 2016 – September 2024	December 2016 – September 2024
3) Selection of Contractor		
Package-1, Package-2 & Package-3 (Civil)		
a) Pre-Qualification Process	May – December 2016	May – December 2016
b) Main Bidding	January – December 2017	January – December 2017
c) JICA's Concurrence of Contract	February-2018	February-2018
Package-4 (ITS)		
a) Pre-Qualification Process	January 2019 – May 2019	January 2020 – April 2020
b) Main Bidding	June 2019 – September 2020	May 2020 – September 2020
4) Civil Construction		
Package-1 and Package-2	March 2018 – September 2022	March 2018 – September 2022
Package-3	March 2018 – September 2021	March 2018 – September 2021
Package-4	October 2020 – September 2022	September 2020 – September 2022
5) Defect Liability Period		
Package-1, Package-2 and Package-4	October 2022 – September 2024	October 2022 – September 2024
Package-3	October 2021 – September 2023	October 2021 – September 2023
6) Commencement of Toll Collection	September -2022	September -2022
7) Selection of O&M Organization	October 2020 – September 2021	October 2021 – September 2022

Attachment 6, 7 & 8: Package wise construction schedules updated at the end of fourth quarter (January-March 2020).

2.2.2 Reasons for changes of the schedule and their effects to the Project

(P/R and PCR)

No change in the Implementation Schedule except the selection of O&M Organization timeline.

2.3 Project Cost

2.3.1.a Comparison of Originally Planned and Actually Incurred Cost BY ITEM

Table 2.3.1.a.(i) Originally Planned Cost BY ITEM

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total (Rs. mil)	JICA Portion (Rs. mil)	Others (Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	34,398	34,398	0	45,376	45,376	0	105,713	105,713	0
Package-2	26,513	26,513	0	32,617	32,617	0	77,774	77,774	0
Package-3	759	759	0	8,276	8,276	0	13,766	13,766	0
Package-4 (ITS)	0	0	0	1,444	1,444	0	2,269	2,269	0
Package-5 (Geotechnical Investigation)	0	0	0	166	0	166	260	0	260
Dispute Boards (Package-1, 2, 3 & 4)	63	63	0	45	45	0	134	134	0
Price Escalation	2,251	2,251	0	7,133	7,133	0	13,460	13,460	0
Physical Contingency	6,398	6,398	0	9,506	9,489	17	21,338	21,312	26
Consulting Services	1,650	1,650	0	1,587	1,587	0	4,145	4,145	0
Land Acquisition*	0	0	0	11,293	0	11,293	17,748	0	17,748
Administration Cost	0	0	0	4,898	0	4,898	7,698	0	7,698
GST	0	0	0	18,238	0	18,238	28,663	0	28,663
Import Tax	0	0	0	13,435	0	13,435	21,114	0	21,114
Interest during construction	2,942	0	2,942	0	0	0	2,942	0	2,942
Front End Fee	477	0	477	0	0	0	477	0	477
Total	**75,451**	**72,032**	**3,419**	**154,013**	**105,967**	**48,046**	**317,501**	**238,572**	**78,929**

(Note) 1. Exchange Rate: US$1=Rs. 71.9, US$1=JPY 113.0, Rs.1 = JPY 1.57
2. Price Escalation (a) Foreign Currency Portion: 1.83% p.a.
(b) Local Currency Portion: 4.13% p.a.
3. Physical Contingency: 10%
4. Base Year for Cost Estimation: December 2018
* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696. The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

Table 2.3.1.a.(ii) Actually Incurred Cost BY ITEM

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total (Rs. mil)	JICA Portion (Rs. mil)	Others (Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	5,618	5,618	-	17,446	17,446		32,653	32,653	
Package-2	5,417	5,417	-	12,299	12,299		23,427	23,427	
Package-3	72	72	-	3,185	3,185		4,950	4,950	
Package-4 (ITS)	-		-	-			-		
Package-5 (Geotechnical Investigation)	-			196		196	308		308
Dispute Boards (Package-1, 2, 3 & 4)	-			-			-		-
Price Escalation	-			4	4		6	6	-
Physical Contingency	-			-			-		-
Consulting Services	253	253		362	362		905	905	
Land Acquisition*	-			5,391		5,391	8,464		8,464
Administration Cost	-			2,268		2,268	3,561		3,561
GST	-			4,260		4,260	6,688		6,688
Import Tax	-			-			-		-
Interest during construction	-			-			-		-
Front End Fee	-			-			-		-
Total	**11,360**	**11,360**	**-**	**45,411**	**33,295**	**12,115**	**80,962**	**61,941**	**19,020**

(Note) 1. Exchange Rate: Rs.1 = JPY 1.57 for MMRDA Portion only
2. Price Escalation (a) Foreign Currency Portion: 1.83% p.a.
(b) Local Currency Portion: 4.13% p.a.
3. Physical Contingency: 10%
4. Base Year for Cost Estimation: December 2018
* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696. The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

2.3.1.b Comparison of Originally Planned and Actually Incurred Cost BY YEAR

Table 2.3.1.b.(i) Originally Planned Cost BY YEAR

(All Figures are in JPY mil)

Cost Breakdown	Total	JICA Portion				Others (MMRDA Portion)
		Tranche I	Tranche II	Tranche III	Sub Total	
FY 2017	12,679	10,134	0	0	10,134	2,545
FY 2018	30,771	22,707	0	0	22,707	8,064
FY 2019	72,379	56,816	0	0	56,816	15,563
FY 2020	92,944	55,138	16,040	0	71,178	21,765
FY 2021	66,397	0	50,869	0	50,869	15,527
FY 2022	27,683	0	0	20,113	20,113	7,570
FY 2023	3,723	0	0	565	565	3,158
FY 2024	10,925	0	0	6,189	6,189	4,735
Total	**317,501**	**144,795**	**66,909**	**26,868**	**238,571**	**78,929**

Table 2.3.1.b.(ii) Actually Incurred Cost BY YEAR

(All Figures are in JPY mil)

Cost Breakdown	Total	JICA Portion				Others (MMRDA Portion)
		Tranche I	Tranche II	Tranche III	Sub Total	
FY 2017	13,738	9,232	-	-	9,232	4,506
FY 2018	26,813	21,695	-	-	21,695	5,118
FY 2019	40,410	31,014	-	-	31,014	9,396
FY 2020						
FY 2021						
FY 2022						
FY 2023						
FY 2024						
Total	**80,961**	**61,941**	**-**	**-**	**61,941**	**19,020**

(Note) 1. Exchange Rate used: Rs.1 = JPY 1.57 for MMRDA Portion only

2. Fiscal Year starting from 1st April and ending on 31st March.

2.3.2 Reason(s) for the wide gap between the original and actual, if there have been any, the remedies you have taken, and their results.

(P/R and PCR)

There is no major gap between the original and actual cost.

2.4 Organization for Implementation

2.4.1 Executing Agency

Original:

Executing Agency

Mumbai Metropolitan Region Development Authority (MMRDA) was established on 26thJanuary 1975 in accordance with the Mumbai Metropolitan Development Act, 1974 to make Mumbai Metropolitan Region (MMR) a destination for economic activity by promoting infrastructure and regional planning. MMRDA takes all the necessary measures, required from time to time, in an effective manner and be fully responsible for the Project implementation. After completion of the Project, MMRDA continues to be responsible for the efficient operation and maintenance of the Project.

The GoM appointed MMRDA as the implementing/ executing agency of MTHL vide Government Resolution dated 4th February 2009 and further the ownership of MTHL would be with MMRDA vide Government Resolution dated 8th June 2011.

Organization's Role

To construct, execute, carryout, improve, work, develop, administer, manage, control or maintain in MMR all types of roads, highways, express routes, paths, streets, bridges, sideways, tunnels and other infrastructure, works and conveniences, approach road, etc. Under the Project, MMRDA is responsible for all the tendering process including employment of consultants, as well as for the construction process.

Project Implementation Unit (PIU)

The PIU is in charge of the Projects. The PIU is headed by Chief Engineer, comprising of 6 Divisions/Cells (Finance Division, Social Development Cell, Engineering Division, Land Cell, Administrative Division and Environmental Cell), Supervision/ ITS Consultant and supporting staff.

Procurement

MMRDA shall have to adopt the JICA's Standard Biding Documents of the latest version, as stipulated in Section 4.01 (2) of "Guidelines for Procurement under Japanese ODA Loans.

Procurement of goods and services, except for consulting services, converted by the Japanese ODA Loan should be implemented in accordance with "Guidelines for Procurement under Japanese ODA Loans", dated in April 2012. Employment of consultants should be implemented in accordance with "Guidelines of Employment of Consultant under Japanese ODA Loans", dated in April 2012. "Principles of Procurement under the Project" is attached for brief explanation of the above Guidelines.

Actual, if changed: (*P/R and PCR*)

There is no change made in original Organisation Set-up & Implementation methods. Refer Annexure III Organisation Chart.

2.4.2 Contractor(s)/ Supplier(s), and Consultant(s) and their Performance:

2.4.2.1 Procurement & Consultant

Table 2.4.2 Procurement of Contractor(s)/ Supplier(s) and Consultant(s)

Contract Package	Selection Method		
	Original: *(P/M)*		**Actual:** *(P/R and PCR)*
Construction Works			
1	Package-1: From CH 0+000 - To CH 10+380 (10.38 km)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
2	Package-2: From CH 10+380 - To CH 18+187 (7.80 km)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
3	Package-3: From CH 18+187 - To CH 21+800 (3.61 km)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
4	Package-4: To install ITS (Toll Management System and Highway Traffic Management System)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
5	Package-5: To conduct the geotechnical investigation	Local Competitive Bidding Process	No Change
Consulting Services			
1	Consulting Service for Supervision	Short List Method (QCBS)	No Change

2.4.2.2 Performance

Consultant's Progress:

January 2020:

1 GC conducted Monthly Progress Review Meeting with the Package-1 Contractor on 16th January 2020 and with the Package-2 & the Package-3 Contractors on 17th January 2020 to review the status of Design and Physical progress of the project.

2 GC scrutinized & certified the following invoices claimed by the Contractors:
   i) Package-1: IPC-022 & IPC-023 (80% ad-hoc) and IPC-021 (detailed verification)
   ii) Package-2: IPC-018 (80% ad-hoc) and IPC-017 (detailed verification)
   iii) Package-3: IPC-013 (80% ad-hoc) and IPC-012 (detailed verification)

3 GC has prepared and submitted a total reimbursement claim of 7069.47 Million JPY to MMRDA / JICA in January 2020.

4 GC has deployed adequate number of staff at MTHL Project sites for the construction supervision works. Also, they are rigorously monitoring the quality, health & safety and environmental aspects of the project.

February 2020:

1 GC scrutinized & certified the following invoices claimed by the Contractors:
   i) Package-1: IPC-024 (80% ad-hoc) and IPC-022 & IPC-023 (detailed verification)
   ii) Package-2: IPC-019 & IPC-020 (80% ad-hoc) and IPC-018 (detailed verification)
   iii) Package-3: IPC-014 (80% ad-hoc) and IPC-013 (detailed verification)

2 GC has prepared and submitted a total reimbursement claim of 6192.32 Million JPY to MMRDA / JICA in February 2020.

3 GC has deployed adequate number of staff at MTHL Project sites for supervision of the construction works. Also, they are rigorously monitoring the quality, health & safety and environmental aspects of the project.

March 2020:

1 GC scrutinized & certified the following invoices claimed by the Contractors:
   i) Package-1: IPC-025 (80% ad-hoc) and IPC-024 (detailed verification) – Mobilization Advance Recovery done for INR and EURO.
   ii) Package-2: IPC-021, IPC-022 & IPC-023 (80% ad-hoc) and IPC-020 (detailed verification)
   iii) Package-3: IPC-015 (80% ad-hoc) and IPC-014 (detailed verification) – Mobilization Advance Recovery done for INR

2 3 GC has prepared and submitted a total reimbursement claim of 2255 Million JPY to MMRDA / JICA in March 2020.

3 Approximately 91% of the Technical Design Modules have been submitted by the Contractors across all the 3 Packages; out of which 77% of the modules have been reviewed and approved by GC.

4 From 23rd March 2020, countrywide lockdown implemented following the Corona Virus Pandemic situation across the globe forcing all the construction activities to be completely stopped.

Contractor's Progress:

Package-1 Physical Progress till 31st March 2020

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	**Temporary Access Bridge**					
1.1	Bridge Deck	2953	Rmt	2953	100%	
2	**Test Pile**					
2.1	Test Piles	5	No.	4	80%	
3	**Permanent Bridge Works - Land/ Interchange Zone**					
3.1	Piles	524	No.	246	47%	
3.2	Pile Caps	158	No.	42	27%	
3.3	Piers	228	No.	77	34%	
3.4	Pier Caps	215	No.	0	0%	
4	**Permanent Bridge Works - Intertidal Zone**					
4.1	Piles	316	No.	202	64%	
4.2	Pile Caps	76	No.	40	53%	
4.3	Piers	148	No.	76	51%	
4.4	Pier Caps	148	No.	39	26%	
5	**Permanent Bridge Works - Marine Zone**					
5.1	Piles	399	No.	266	67%	
5.2	Pile Caps	79	No.	22	28%	
5.3	Piers	160	No.	4	3%	
5.4	Pier Caps	160	No.	2	1%	
6	**Permanent Bridge Works - Total**					
6.1	**Piles**	**1239**	**No.**	**714**	**58%**	
6.2	**Pile Caps**	**313**	**No.**	**104**	**33%**	
6.3	**Piers**	**536**	**No.**	**157**	**29%**	
6.4	**Pier Caps**	**523**	**No.**	**41**	**8%**	
7	**Precast Segments**					
7.1	**Segment Casting**	**6713**	**No.**	**408**	**6%**	
7.2	**Segment Erection**	**446**	**Spans**	**1**	**0.2%**	

Note: Please note that the scope of works has been little changed due to the design amendment.

Package-2 Physical Progress till 31st March 2020

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	**Temporary Access Bridge**					
1.1	Bridge Deck	2682	Rmt	2677	99%	
2	**Test Pile**					
2.1	Test Piles	2	No.	2	100%	
3	**Permanent Bridge Works - Land/ Interchange Zone**					
3.1	Open Foundation	113	No.	58	51%	
3.3	Piers	119	No.	16	13%	
3.3	Pier Caps	104	No.	0	0%	
3.4	Portal Beams- Land	6	No.	0	0%	
3.5	Pier Head Segments -Land	42	No.	0	0%	
4	**Permanent Bridge Works - Intertidal & CRZ Zone**					
4.1	Piles	290	No.	251	87%	
4.2	Pile Caps	70	No.	32	46%	
4.3	Piers	70	No.	9	13%	
4.4	Pier Caps	18	No.	0	0%	
4.5	Pier Head Segments	52	No.	0	0%	
5	**Permanent Bridge Works - Marine Zone**					
5.1	Piles	514	No.	66	13%	
5.2	Pile Caps	122	No.	0	0%	
5.3	Piers	122	No.	0	0%	
5.4	Pier Caps	48	No.	0	0%	
5.5	Pier Head Segments	74	No.	0	0%	
6	**Permanent Bridge Works - Total**					
6.1	**Open Foundation**	**113**	**No.**	**58**	**51%**	
6.2	**Piles**	**804**	**No.**	**317**	**39%**	
6.3	**Pile Caps**	**192**	**No.**	**32**	**17%**	
6.4	**Piers**	**311**	**No.**	**25**	**8%**	
6.5	**Pier Caps**	**170**	**No.**	**0**	**0%**	
6.6	**Portal Beams**	**6**	**No.**	**0**	**0%**	
6.7	**Pier Head Segments**	**168**	**No.**	**0**	**0%**	
7	**Precast Segments**					
7.1	**Segment Casting**	**3142**	**No.**	**135**	**4.3%**	
7.2	**Segment Erection**	**271**	**Spans**	**0**	**0%**	

Note: Please note that the scope of works has been little changed due to the design amendment.

Package-3 Physical Progress till 31st March 2020

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	**Permanent Bridge Works**					
1.1	Open Foundations	195	No.	126	65%	
1.2	Piers	195	No.	63	32%	
1.3	Pier Caps	189	No.	21	11%	
1.4	Segment Casting	750	No.	78	9%	
1.5	Segment Erection	53	Span	0	0%	

Package-4 (ITS)

Pre-Qualification (PQ) process is on-going. Also, preparation of Bid Documents for ITS system is in progress. GC is resolving the queries raised by the prospective bidders.

Health & Safety and Environment (HSE)

The HSE Plans have been submitted by the respective construction agencies for the Packages which are being monitored by the GC on a regular basis.

Package-1 Safety Report

Sr. No	Description	From January to March 2020	Cumulative
1	Total Man Hours Since Inception	3,803,304	14,677,548
2	Number of Man-Hours (Accident Free Man-Hours)	3,538,320	2,167,560
3	Number of Man-Days	475,413	1,834,693
4	Number of Reportable Fatal Accidents	1	2
5	Number of Non-Fatal Accidents	0	1
6	Number of Near Miss Incidents	16	44
7	Number of First Aid Cases	16	98
8	Number of Dangerous Occurrences	0	1
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	48,000	96,448
11	Number of Man-Days Lost	6,000	12,058
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	1	3
13	Number of Inspections done for Offices & Sites	46	243
14	Number of Training/ Induction done for Offices & Sites	51	210
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	10,673	1,702
16	Details of Safety Committee meetings	2	21
17	No. of toolbox talks	8,630	26,295
18	No. of critical excavations.	8	16
19	Pre-employment Medical check-up	1,925	13,990
20	No. of Safety Walk down	12	119
21	No. of Safety Inductions completed	4,304	13,990

Package-2 Safety Report

Sr. No	Description	From January to March 2020	Cumulative
1	Total Man Hours Since Inception	1,796,751	6,618,885
2	Number of Man-Hours (Accident Free Man-Hours)	1,253,901	1,51,470
3	Number of Man-Days	163,348	6,03,100
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	1	3
6	Number of Near Miss Incidents	7	33
7	Number of First Aid Cases	8	54
8	Number of Dangerous Occurrences	0	4
9	Number of Reportable Sick Cases	1	1
10	Number of Man-Hours Lost	88	924
11	Number of Man-Days Lost	8	97
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	1	3
13	Number of Inspections done for Offices & Sites	77	567
14	Number of Training/ Induction done for Offices & Sites	34	434
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	5,774	870
16	Details of Safety Committee meetings	2	22
17	No. of toolbox talks	488	3,078
18	No. of critical excavations.	0	0
19	Pre-employment Medical check-up	1,595	6,389
20	No. of Safety Walk down	10	69
21	No. of Safety Inductions completed	1,622	6,411

Package-3 Safety Report

Sr. No	Description	From January to March 2020	Cumulative
1	Total Man Hours Since Inception	365,618	1,191,474
2	Number of Man-Hours (Accident Free Man-Hours)	365,618	1,191,474
3	Number of Man-Days	45,703	148,934
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	0
6	Number of Near Miss Incidents	2	7
7	Number of First Aid Cases	6	39
8	Number of Dangerous Occurrences	0	0
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	0	0
11	Number of Man-Days Lost	0	0
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	0
13	Number of Inspections done for Offices & Sites	41	181
14	Number of Training/ Induction done for Offices & Sites	14	120
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	1,095	3678
16	Details of Safety Committee meetings	2	19
17	No. of toolbox talks	586	2,714
18	No. of critical excavations.	0	3
19	Pre-employment Medical check-up	693	2825
20	No. of Safety Walk down	11	76
21	No. of Safety Inductions completed	693	2825

Please refer **Attachment 9 - Site Progress Photos** for the development of the project.

3.0 BENEFITS DERIVED FROM THE PROJECT (EFFECTIVENESS)

3.1 Operational and Physical Condition

(This section will be developed when the operational plan is available)

Facilities	Description of condition	Problems, its Background and Remedial Action Plan
(P/R and PCR)	*(P/R and PCR)*	*(P/R and PCR)*

3.2 Precautions (Measures To Be Adopted/ Points Which Require Special Attention)

Original Issues and Countermeasure(s)	Actual Issues and Countermeasure(s)
3.2.1 General Issues **1. Toll Arrangement/ Toll Rate** Fixed toll rate as per the type of vehicle will be levied for the road users after the completion of the Project. An appropriate tolling policy/ rates will be finalized in consultation with the state government prior to the completion of Civil works. **2. Operation and Maintenance** MMRDA proposes to appoint separate agencies for Operation & Maintenance of the bridge and for Toll Management System. Both the agencies for O & M and Toll Management System may be appointed through open tendering process. Overall monitoring of the two agencies would be done by MMRDA in house through a separate cell which could be constituted for the purpose. MMRDA has confirmed to allocate adequate budget for engaging the Contractors.	*(P/R and PCR)* Appropriate Tolling Policy/ Rates will be finalized by December 2021. Single Operation and Maintenance Contractor will be appointed by December 2021.
3.2.2 Environmental and Social Consideration **a. CRZ Clearance** i. Supplemental EIA has been approved by MMRDA and disclosed on the website of JICA. Supplemental EIA report has been disclosed also on the website of MMRDA. ii. Furthermore, renewed CRZ Clearance has been obtained in January 2016. iii. In accordance with the conditions for	*(P/R and PCR)* • MMRDA has disclosed Supplemental EIA & SIA on MMRDA website. • The renewed CRZ clearance was granted on 25/1/2016 from MoEF&CC and the approval conditions have been imposed on the Contractors as the Employer's requirements. MMRDA has actively monitored the compliances of the approval conditions and maintains throughout the construction phase. • MMRDA appointed Mangroves & Marine

CRZ Clearance, appropriate measures shall be taken, and necessary budget shall be secured by MMRDA.	Biodiversity Foundation for bird monitoring and implementation of Flamingos and bird monitoring program for the MTHL project during the construction as well as the long-term monitoring after the construction. • Rs 91.42 Crore has been transferred to Mangroves & Marine Biodiversity Foundation, Mumbai for the development & conservation of mangrove area and its afforestation. Such funds will be managed by the Mangrove Foundation of Maharashtra State. • As per the renewed CRZ clearance condition, IIT Mumbai has been appointed for the DPR study to develop a Mahul creek Effluent Treatment Plant (ETP). Rs 4.98 Crore was secured for IIT services. The Draft DPR has been reviewed and approved.

b. Required Permits

The Permits to be obtained by MMRDA/ Contractors and the present status is given in the following Table.

Table 3.2.2 Present Status of some Important Permits

Clearance Required	Approving Authority	Responsible Organization	Obtained by when	Remark /Status
Mangrove Cutting	Hon. Bombay High Court	MMRDA/ Contractor	Approval received from Hon. Bombay High Court on 28th November 2016	Mangrove cutting operation was completed with full compliance and as of now, no further follow up work is required.
Tree Cutting /Transplantation	Respective Tree Authorities	Contractor for respective Packages	-	**Pkg-1:** Tree Cutting/ Transplantation permission is awaited from the Tree Authority. **Pkg-2:** Tree Cutting/ Transplantation permission obtained & completed. **Pkg-3:** Forest Department has issued a concurrence on 19/05/2019. CIDCO's permission for Tree Cutting/ Transplantation obtained on 25th November 2019.
Consent to Establish	Maharashtra Pollution Control Board	Contractor for respective Packages	Pkg-1-18.07.2018 Pkg-2-16.08.2018 Pkg-3-29.05.2019	

3.3 Environmental and Social Impacts

Major environmental and social impacts have occurred during project implementation (e.g. involuntary resettlement, poverty reduction, impacts on the natural environment).

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
1. Establishment of Effective Environmental and Social Cell in PIU MMRDA confirmed that Social Development Cell (2 Officers), Land Cell (3 Officers), and Environmental Cell (2 Officers) had been set up.	Cell is established by MMRDA (Annexure III, Organization chart)
2. Rehabilitation and Land Acquisition Issues **a. Affected Area and Population** Due to the Project, 1282 non-titleholders will be involuntary resettled, and 108.09 ha of land will be handed over by CIDCO.	**Sewri:** Involuntary resettlement in Sewri section has been further validated by Social Development Cell of MMRDA. Out of 297 Project Affected Households (PAHs) have given consents as follows: • 164 PAHs Kanjurmarg for residential • 25 PAHs Kanjurmarg for commercial • 7 PAHs (Satsangi Plot) Kanjurmarg for Commercial • 1 PAHs (commercial to residential) for Bhakti Park • 100 PAHs HDIL Kurla for residential **Navi Mumbai:** CIDCO has been finalizing the land acquisition closely monitored by Land Cell of MMRDA. Except private land and forest, CIDCO has possessed all required land of 108.09 ha. Out of the 108.09 ha, 106.345 ha has been handed over by CIDCO to MMRDA. CIDCO is going to acquire the balance 1.745 Ha with the help of Collector, Raigad.
b. Entitlement Policy MMRDA prepared the entitlement matrix for resettlement of non-title holders in Sewri, which meets the Resettlement and Rehabilitation Policy for Mumbai Urban Transportation Project (1997, amended in 2000) and JICA guidelines for Environmental and social considerations (2010)	There have been no changes during the enforcement. As per the **Attachment 2-5** of JICA MoD, MMRDA has committed to enforce the agreed/ approved policy.

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
("Guidelines") **(Attachment 2-5)**.	
c. Compensation to Project affected Fishermen Detailed baseline survey will be undertaken by MMRDA in order to identify fishermen who are affected by the Project. Based on the result of the baseline survey, MMRDA will compensate them in accordance with compensation policy prior to the construction. Monitoring will be conducted by MMRDA with assistance of the Consultant to gasp the exact impact during construction and operation phase.	Updated **Attachments 2-8 and 2-10** are enclosed in the report.
d. Implementation Schedule The Implementation schedule for land acquisition, resettlement and rehabilitation is attached as per **Attachment 2-10.**	Updated **Attachment 2-10** is enclosed in the report.
e. Grievance Redressal Mechanism Grievance Redressal Committee ("GRC") set under MMRDA will deal with grievances raised by PAPs in Sewri and fishermen to be affected by the Project. Any grievances raised by PAPs whose land is acquired by CIDCO shall be resolved by CIDCO.	**Sewri:** FLGRC (Field Level Grievance Redressal Committee) and SLGRC (Senior Level Grievance Redressal Committee) were set as per the RAP and in operation. Compensation Committee has been constituted to address the issues of Compensation to Lease Holders at Sewri. **Fishermen:** GRC for resolving grievances of the fisherfolk was set up as per the compensation policy and is in operation.
f. Internal Monitoring Internal Monitoring of the Resettlement Action Plan (RAP) implementation will be conducted by MMRDA in accordance with the RAP with necessary assistance of the consultant. RAP Internal Monitoring Form **(Attachment 2-8)** will be submitted to JICA on a quarterly basis as a part of PSR during the RAP implementation.	Internal Monitoring updates are mentioned in **Attachment 2-8.**

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
g. Qualitative Independent Evaluation An Independent Evaluation Agency will be hired by MMRDA for evaluation of RAP implementation. An external evaluation report will be submitted to MMRDA at mid-term and end-term. MMRDA would submit the evaluation report to JICA in a timely manner.	Updated **Attachment 2-10** is enclosed in the report.
h. RAP Implementation Budget The amount of estimated resettlement and compensation budget is Rs.906.26 Cr MMRDA informed to the JICA Mission that RAP implementation cost would be borne by MMRDA and ensured sufficient and timely allocation of funds for smooth implementation.	As updated in MOD dated 03/09/2019 for MTHL-II, the base cost Budget towards RAP Implementation is updated as Rs 1129.3 Cr.
i. Environmental Management Plan ("EMP") The mitigation measures against air pollution, waste, noise, and water pollution etc. shall be taken during construction and operation phase. Mitigation measures such as installation of noise barrier, appropriate waste management, etc. have been prepared by MMRDA. The mitigation measures are listed in the EMP matrix. **(Attachment 2-1).** During the detailed design stage, MMRDA, with assistance of the Consultant, will update the EMP, as necessary.	EMP will be updated, if required, in due course of construction activities/progress.
j. Environmental Monitoring Plan ("EMoP") MMRDA takes overall responsibility for implementation of EMoP. During construction, environmental monitoring will be carried out by contractors under supervision by Construction Supervision consultant. The result shall be reported to the JICA India Office on a quarterly basis	Updated Environmental Monitoring Plan with package wise updated cost is reported in **Attachment 2-3.** Environmental Monitoring Results during the construction phase are reported in **Attachment 2-4**.

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
as a part of Progress Status Report (PSR) by filling in the Reporting Form of Environmental Monitoring Result. **(Attachment 2-4).** After completion of the construction, EMoP shall be implemented by MMRDA, and the results shall be submitted to the JICA India Office semi-annually until two years after complementation of construction. The required amount of estimated environmental monitoring budget is borne by MMRDA.	
k. Long Term Bird Monitoring MMRDA committed to conduct the long-term monitoring of birds and its habitat in Sewri mud-flats with the assistance of hired bird expert. During the long-term monitoring, MMRDA will share information and receive advices from external experts including the one from NGOs and civil society.	• MMRDA has entrusted the work of bird monitoring and implementation of Flamingos and birds related mitigation measures & bird monitoring program to Mangrove and Marine Biodiversity Foundation. • Rs. 31.92 Crore deposited to Mangrove foundation, Mumbai for periodical disbursement to BNHS.

3.4 Qualitative and Quantitative Data of Monitoring Indicators

Operation and Effect Indicator EIRR and/ or FIRR

Supporting data for Computing EIRR and/ or FIRR

Indicators	Original (Year 2015)	Target (Year 2024) 2 Years After Commercial Operation
Average Annual Daily Traffic (PCU/ day)	-	47,400
Daily Average Travel Time (min) * 1	61 min	15.8 min
Number of Users (Persons/ year) * 2	-	46,077,504
Cargo Volume (tons/ year) * 3	-	13,511,759

*1 Section on Sewri – Chirle
*2 Assumptions: average passengers of car and taxi (2.6 persons), bus (37.2 persons) based on JICA study. Number of passengers of LCV, HCV and MAV is assumed as 1 person each.
*3 Assumptions: the maximum capacity of respective vehicle (LCV: 1 ton, HCV and MAV: 15 tons) is used for estimation.

EIRR	**Original:** 15.4% Cost: Project cost (excluding Price Escalation, Tax and Duties and Administration cost) O&M cost, Land Acquisition Benefit: Travel Time cost and Vehicle Operation cost Project Life: 32 Years	**Actual:** *(PCR)* ____% Cost: Benefit: Project Life: **Attachment(s): Supporting data for computing EIRR**
FIRR	**Original:** 1.5% Cost: Project Cost, O&M cost, Land Acquisition cost Benefit: Toll Revenue Project Life: 32 Years	**Actual:** *(PCR)* ____%

3.5 Monitoring Plan for the indicators

Monitoring Methods, Section(s)/ department(s) in charge of monitoring, frequency, the term and so forth are given below:

Original: *(P/M and PCR)*

Monitoring Organization

PIU shall be In-Charge of Monitoring activities for the Project.

Submission of QPR and PCR

The timely submission of the following documents is required by MMRDA.

a. **Quarterly Progress Report (QPR):** The progress report for the Project should be submitted by MMRDA to JICA on quarterly basis, not later than 30 days after the concerned quarter, in the form of Project Status Report (PSR) attached hereto as per **Annex I**; Updated status land Acquisition, milestone achieved with respect to Action Plan with Timetable, the monitoring form for environmental and social consideration should also be appended to the PSR. In addition, MMRDA shall also forward the Monthly & Quarterly Progress Reports (including S-Curve Chart) prepared by the Consultant to JICA India Office on regular basis till project completion.

b. **Project Completion Report (PCR):** A project completion report should be submitted by MMRDA to JICA promptly, but in any event not later than six months after completion of the Project, in the form of Project Status Report (PSR) attached hereto as per **Annex I**.

Actual: *(P/R and PCR)*

Monitoring Organization

PIU for MTHL has been established for monitoring the Project.

Submission of QPR and PCR

This QPR No. 12 is submitted for a period of 1st January to 31st March 2020.

3.6 Achievement of the Project Objective

(PCR)

4.0 OPERATION AND MAINTENANCE (O&M) (SUSTAINABILITY)

4.1 O&M and Management

- Organization Chart of O&M
- Operational and maintenance system (structure and the number, qualification and skill of staff or other conditions necessary to maintain the outputs and benefits of the project soundly, such as manuals, facilities and equipment for maintenance, and spare part stocks etc.)

Original: *(P/M)*

Operation & Maintenance, Toll Management and ITS

MMRDA proposes to engage two separate agencies for O&M and Toll Management System. Though MMRDA will not directly carry out O&M, the overall monitoring over the O&M agency will be the responsibility of MMRDA. O&M Budget will be allocated by MMRDA. O&M and increase in toll rate will be done in accordance with the NHAI's manuals such as "NHAI Works manuals".

Actual: *(PCR)*

4.2 O&M Cost and Budget

- The actual annual O&M cost for the duration of the project, as well as the annual O&M budget.

(PCR) This will be reported when the outcome of the above work study is available.

5.0 EVALUATION

5.1 JICA and Borrower / Executing Agency performance

JICA:

(PCR)

Borrower/ Executing Agency:

(PCR)

5.2 Overall Evaluation

Please describe your evaluation on the overall outcome of the project.

(PCR)

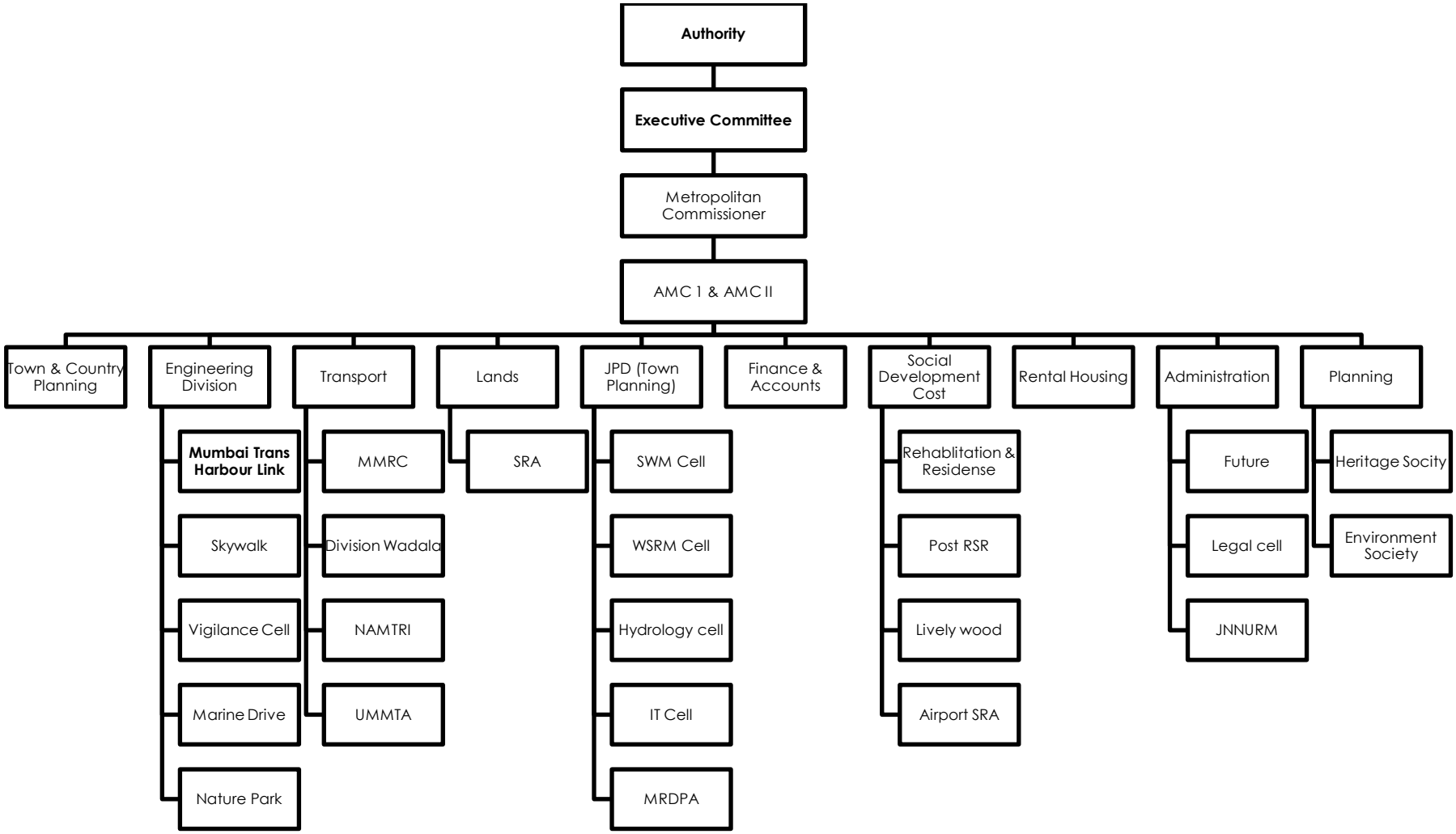
5.3 Lessons Learnt and Recommendations

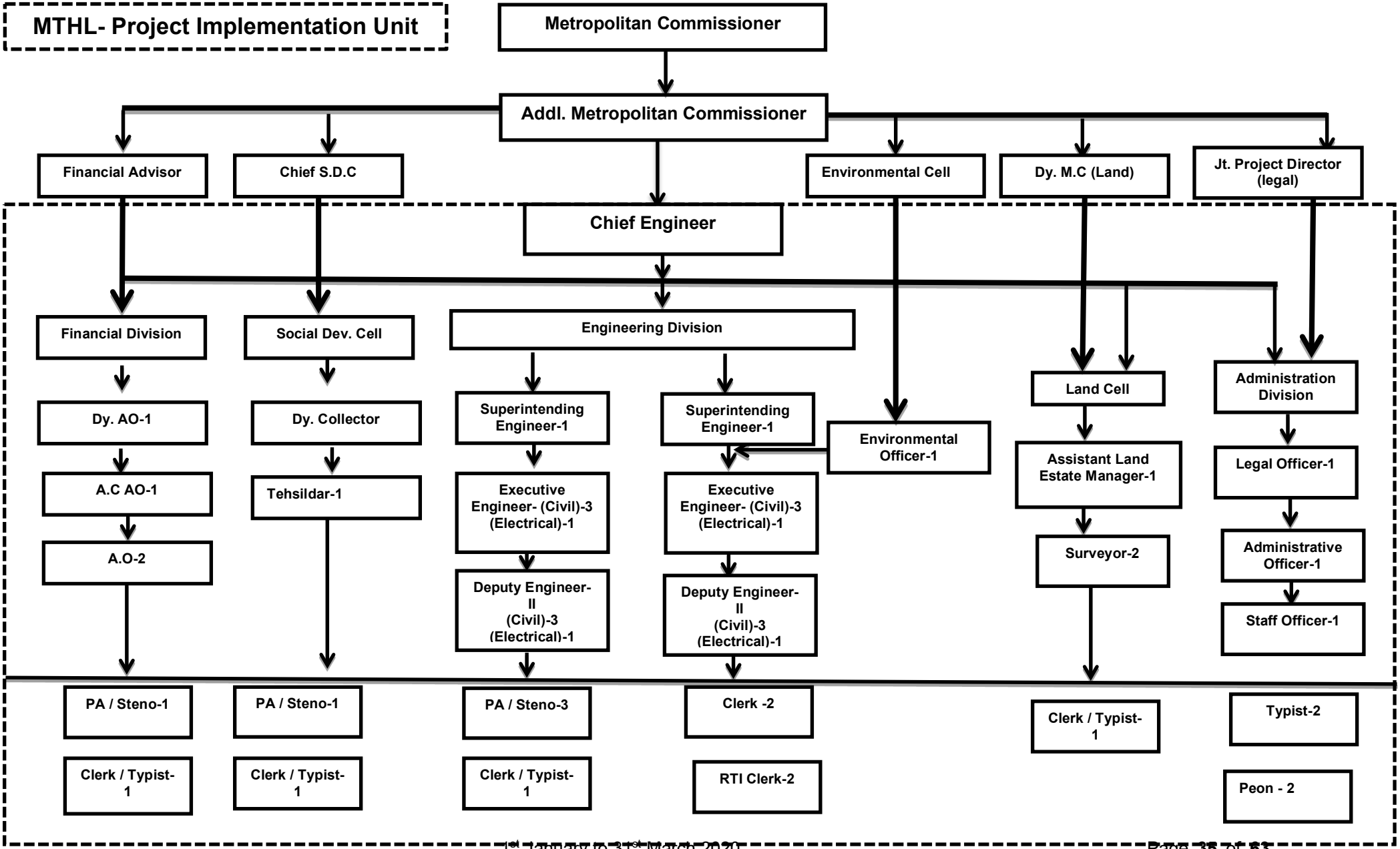
Please raise any lessons learned from the project experience, which might be valuable for the future JICA assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

(PCR)

Attachment 1- MMRDA & PIU Organization Chart

MMRDA Organization chart




MTHL- Project Implementation Unit
Metropolitan Commissioner
Addl. Metropolitan Commissioner
Financial Advisor
Chief S.D.C
Environmental Cell
Dy. M.C (Land)
Jt. Project Director (legal)
Chief Engineer
Financial Division
Social Dev. Cell
Engineering Division
Land Cell
Administration Division
Dy. AO-1
A.C AO-1
A.O-2
Dy. Collector
Tehsildar-1
Superintending Engineer-1
Executive Engineer- (Civil)-3 (Electrical)-1
Deputy Engineer-II (Civil)-3 (Electrical)-1
Superintending Engineer-1
Executive Engineer- (Civil)-3 (Electrical)-1
Deputy Engineer-II (Civil)-3 (Electrical)-1
Environmental Officer-1
Assistant Land Estate Manager-1
Surveyor-2
Legal Officer-1
Administrative Officer-1
Staff Officer-1
PA / Steno-1
Clerk / Typist-1
PA / Steno-1
Clerk / Typist-1
PA / Steno-3
Clerk / Typist-1
Clerk -2
RTI Clerk-2
Clerk / Typist-1
Typist-2
Peon - 2

Attachment 2- Environmental & Social Impacts Attachments

Attachment 2-3 - Environmental Monitoring Plan
Attachment 2-4 – Environmental Monitoring Result Reporting Form
Attachment 2-6 – MTHL Land Acquisition Status
Attachment 2-8 – RAP Internal Monitoring Form
Attachment 2-10 – Schedule of the RAP Implementation

Attachmemt 2-3

Updated Environmental Monitoring Plan with Packagewise Estimated Cost

Category	No.	Impacted Item on JICA Guidelines	Parameter	Method	Location	Frequency a year	Cost (INR)	Cost Pkg.1 (INR)	Cost Pkg.2 (INR)	Cost Pkg.3 (INR)	Total Cost (INR)	Standard Central Pollution Control Board (CPCB) – Ministry of Environment & Forest (MoEF)	Remarks
Pollution	1	Air pollution	SO_2, NO_2, PM_{10}, $PM_{2.5}$, O_3, CO, (6 Items)	National Ambient Air Quality Standards, 2009	1. Sewri & Sewri bay area for package I	Fortnightly at all locations except 2 locations each near Batching plants	1,800,000	15,000,000	1,800,000	742,500	17,542,500	National Ambient Air Quality Standards (NAAQS) by Central Pollution Control Board (CPCB)	P1 contractor team is conducting Ambient air quality monitoring with reference to National Standards and clause 1.2 of Employer's requirement.
					2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year						(Standard for 24hrs: Industrial and Residential/ Ecological Sensitive area)	P 2 contractor Monitoring plan has been designed as per EIA of 2015
					3. Gavhan & Chirle for package III	Fortnightly only for 3 months (jan-2019 to Mar-2019). Then quarterly monitoring as per MOEF and CPCB norms						· SO_2: 80 / 80µg/m^3	P3 contractor team is conducting Ambient air quality monitoring with reference to National Standards and clause 1.2 of Employer's requirement.
												· NO_2: 80 / 80µg/m^3	P 1 received Consents CTE & CTO from MPCB and they are following MPCB frequency in addition to frequency set by Environment Expert from GC. The NAAQ standards are showing High rate as that is the usual procedure. The frequency of monitoring is set by us which varies for different parameters as either Statutory requirements or as required by us to ensure we have sufficient data in hands if there are additional claims for Compensation in C5 category. Summary : Although the contract conditions for all packages were same at the time of biding. Later modifications suggested by GC were not accepted by P 2. P1 and P3 accepted the modifications and hence the difference. Second point is P 1 carrying out monitoring as per the obatiend CTE and CTO. Both other packages have applied for CTE but haven't obtained it yet. So we expect the monitoring frequecy would change after obtaining CTE.
												· PM_{10}: 100 / 100µg/m^3	
												· $PM_{2.5}$: 60 / 60µg/m^3	
												· O_3: 180 / 180µg/m^3	
												· CO: 0.4 / 0.4mg/m^3	
	2	Water pollution	pH, BOD, DO, Turbidity and O&G	IS / AWWA	1. Sewri & Sewri bay area for package I	Quarterly	810,000	2,400,000	810,000	0	3,210,000	Marine water quality Standards – Class SW-IV Harbour Waters (MPCB)	Water Pollution not applicable for Pkg. 3
					2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year						· pH : 6.5-9	
					3. Gavhan & Chirle for package III	Not applicable						· DO: 3 mg/l	
												· Turbidity: 30 NTU	
												· BOD: 5 mg/l	
												· O & G: 10 mg/l	
	3	Waste	Volume of waste soil, cutting tree and domestic garbage	Volumetric	1. Sewri & Sewri bay area for package I	Daily	500,000	299,200,000	500,000	600,000	300,300,000		The cost of waste disposal for P1 includes C&D waste, Pile muck etc. from all areas like, interchange, intertidal and marine. The disposal location is at MCGM approved location Bhayandarpada, Thane.

Category	No.	Impacted Item on JICA Guidelines	Parameter	Method	Location	Frequency a year	Cost (INR)	Cost Pkg.1 (INR)	Cost Pkg.2 (INR)	Cost Pkg.3 (INR)	Total Cost (INR)	Standard Central Pollution Control Board (CPCB) – Ministry of Environment & Forest (MoEF)	Remarks
					2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year						**Municipal Soild Waste Management Rules, 2013** Generated waste shall be reused or disposed at designated site. Sites have been identified and the location for **Pkg. 1** is at Bhayandar Pada in Thane. For **Pkg. 2 & 3** is in Navi Mumbai at Pushpak Node nera "Teen Taki Junction" along the Amar Marg.	P2 contractor has considered only Domestic garbage with respect to CIDCO. Other wastes are not considered. Construction wastes will be
					3. Gavhan & Chirle for package III	Once site clearing work/execution part of work start.							
	4 and 8	Soil Contamination/ sedimentation	Heavy Metals & Oil & Grease (5-10 items shall be selected from Soil pollution standards)	IS / Methods Manual Soil Testing in India by Department of Agriculture and Cooperation, January 2011	1. Sewri & Sewri bay area for package I	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year	150,000	1,500,000	150,000	100,000	1,750,000	Soil Pollution Standard in India (MOEF)	
					2. Nhava temporary bridge & casting yard in Gavhan for package II							· Cd: 0.01mg/l	
					3. Gavhan & Chirle for package III	*If any spillage/ leakage take place from chemical, fuel storage area. *One time grab sample to be collected during Bridge Construction *Pre & Post Monsoon at Storage area only						· Lead: 0.01mg/l · Chromium (VI): 0.05mg/l · Arsenic: 0.01mg/l · T-Mercury: 0.0005mg/l · Copper: 125mg/kg (some items shall be selected from totally 25 standards items)	
	5	Noise and vibration	Ambient and road side noise (dB(A)L_{Aeq})	IS Standard	1. Sewri & Sewri bay area for package I	Fortnightly	150,000	54,000	150,000	369,000	573,000	**-Construction Noise; 85dB(A)**	
					2. Nhava temporary bridge & casting yard in Gavhan for package II	2 Times / Year						**-Ambient Noise Standards in India (dB (A) $_{Leq}$)**	
					3. Gavhan & Chirle for package III	Fortnightly						1.Industrial Area Day Time: 75 (6-22hr) Night Time: 70 (22-6hr) 2.Commercial Area: Day Time: 65 (6-22hr) Night Time: 55 (22-6hr) 3.Residential Area: Day Time: 55 (6-22hr) Night Time: 45 (22-6hr) 4.Silence Zone Day Time: 50 (6-22hr) Night Time: 40 (22-6hr)	
			Vibration (dB L10 or mm/sec)		1 Location Gavan area for package III	Half yearly	75,000	0	75,000	400,000	475,000	**- Construction vibration 75dB** **-Vibration Standards roadside** 1. Commercial /Industrial Area Day Time: 70 (7-20hr) Night Time: 65 (20-7hr) 2. Residential Area: Day Time: 65 (7-20hr) Night Time: 60 (20-7hr)	Not applicable for Pkg. 1
	9 and 10	Protected Area /Ecosystem	1.Monitoring of mudflat conditions including fauna-flora	Ocular inspection and quantitative survey	Along MTHL alignment and mangrove replant area for Package I	Quarterly during the construction Period	6,500,000	7,200,000	6,500,000	0	13,700,000		Not applicable for Pkg. 3
			2. Monitoring of Cutting Tree and replantation/		Along MTHL alignment and mangrove replant area for package II	4 Times / Year						Significant impacts are not caused by the project	
			transplanting area	1-1. Fauna-Flora	Not applicable for Package III								
			3.Monitoring of Mangrove Plantation area appointed by MoEF	Line-Point census and record number and appeared species								**Note)**	

Category	No.	Impacted Item on JICA Guidelines	Parameter	Method	Location	Frequency a year	Cost (INR)	Cost Pkg.1 (INR)	Cost Pkg.2 (INR)	Cost Pkg.3 (INR)	Total Cost (INR)	Standard Central Pollution Control Board (CPCB) – Ministry of Environment & Forest (MoEF)	Remarks
Natural environment			4. Monitoring of sedimentation soil and ecological parameter (18items on Supplemental EIA Table 6.1.15 for soil and 7 items such as 1)Netprimary productivitye, 2)Chlorophyll-a, 3)Phosphate, 4)Nitrate, 5)Nitrite, 6)Particulate Organic Carbon, 7) SiO_2)	1-2: Mangrove density and community survey								**Detailed monitoring plan will be setup during basic design stage**	
				1-3: Benthos Survey									
				2-1: Cutting trees confirmation								Standard for Soil; Supplemental EIA Table 6.1.15	
				3-1: Mangrove survey in the replanted area								Standard for Ecological Parameter:	
												· Netprimary Productivity	
												<1,500 mgC/m3/day at surface	
												· Chlorophyll-a	
												<4mg/m3	
												· Phosphate: 0.1-90µg/l	
												· Nitrate: 1.0-500µg/l	
												· Nitrite: <125µg/l	
												· Particulate Organic Carbon: 10-100mg/m^3	
												· SiO2: 10-5,000µg/l	
	11	Hydrology	Flooding situation	Flood level measurement during high precipitation periods	Not applicable for Package I		350,000	0	350,000	0	350,000	Project activities and structures does not cause flooding and impacts on tidal conditions	Not applicable for Pkg. 1 & 3
					2 Locations (CRZ at Sewri and Shivaji Nagar) for Package II	4 Times / Year							
					Not applicable for Package III								
	12	Topography and Geology	Conditions in embankment area	Visual survey about Stability of embankment	Not applicable for Package I		115,000	0	115,000	0	115,000	Embankment shall be stabilized without any landslide and cracks	Not applicable for Pkg. 1 & 3
					Interchange in Shivaji Nagar for Package II	4 Times / Year							
					Not applicable for Package								
Social environment	13	Local economy such as employment and livelihood			Affected area		As per Actuals						
	14	Local conflict of interests	Construction worker's township	Confirmation of workers list from contractor	2 Locations (camp site in Sewri and Shivaji Nagar) for Package II	2 Times / Year	125,000	0	125,000	0	125,000	Employment opportunity shall be provided fairly	
	15	Infectious diseases such as HIV/AIDS	Number of infected patient	Confirmation of health check list from contractor	2 Locations	4 times / year x 4.5 years	525,000	0	525,000	0	525,000	Infection disease rate shall not be caused by the project	
	16	Labour Environment	Construction worker's condition	Confirmation of safety devices and conditions via interviews	2 Location (camp site in Sewri and Shivaji Nagar) for Package II	2 times / year	500,000	0	500,000	0	500,000	"Building And Other Construction Workers (Regulation of Emloyment and Conditions of Service) Act,1996", "The building and other construction worker's welfare cess Act, 1996" and international standards such as "IFC Performance Standard 2 Labor and Working Conditions"	
Other	17	Accidents	Number of accidents	Confirmation of accidents list from local government and State Traffic Police Department	2 Locations (camp site in Sewri and Shivaji Nagar) for Package II	4 Times / Year	400,000	0	400,000	0	400,000	Any accidents are not caused by construction	
		Total					**8140500**	**325,354,000**	**12,000,000**	**2,211,500**	**339,565,500**		

The Project for Construction of Mumbai Trans Harbour Link

Reporting Form of Environmental Monitoring during Construction

Attachment 2-4

1. Environmental Monitoring during Construction for 4.5 years

Monitoring Period - January 2020 to March 2020

Attachment 2-4

This form is prepared for reporting the monitoring results to JICA India Office. Only minimum required parameters are included in this form, and not all perameters in EMoP are covered.

Area	No.	Item	Parameter	Location	Frequency a year	Item and Stanadard	Monitoring Result				Remark - reasons why the data is exceeding standard - counter measures when the data is exceeding
							Location 1- Pkg 1	**Location 2- Pkg-2**	**Location 3- Pkg 3**	**Location 4**	
Pollution	1	Air pollution	SO_2, NO_2, PM_{10}, $PM_{2.5}$	1. Sewri & Sewri bay area for package I	Quarterly monitoring ia conducted at all locations.	**National Ambient Air Quality Standards (NAAQS)**	**Sewri**	**Shivaji Nagar**	**Chirle**		
				2. Nhava temporary bridge & casting yard in	4 Times / Year	**(Standard for 24hrs: Industrial and Residential)**					
				3. Gavhan & Chirle for package III	From march -2019 onwards monitoring is conducted quarterly as per MOEF and CPCB norms	1. SO_2: 80μg/m^3	BDL (DL =5)	BDL	16		BDL- Below Detectable Limit
						2. NO_2: 80μg/m^3	21	16	39		
						3. PM_{10}: 100μg/m^3	175	87	86		
						4. $PM_{2.5}$: 60μg/m^3	55	37	41		
						5.CO:02mg/m3	1.3	1.3	0.66		
						6.VOCs	1.3	1.8	2.9		Benzene is analysed in ambient air
	2	Water pollution	pH, BOD, DO, Turbidity and O&G	1. Sewri & Sewri bay area for package I	Quarterly	**Marine water quality Standards – Class SW-IV Harbour Waters (MPCB)**	**Zone I**	**Zone II**	**Zone III**		
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year	1. pH : 6.5-9	7.6	7.9			
				3. Gavhan & Chirle for package III	Not applicable	2. DO: 3 mg/l	4.7	5.5			
						3. Turbidity: 30 NTU	11.7	11.8	Not applicable		NOT applicable For MTHL Package-03
						4. BOD: 5 mg/l	BDL (DL =2)	BDL	Not applicable		
						5. O & G: 10 mg/l	BDL (DL =2)	BDL	Not applicable		
						6.COD	21	32	Not applicable		
	3	Waste	Volume of waste soil, cutting tree and domestic garbage	1. Sewri & Sewri bay area for package I	Daily	**Municipal Soild Waste Management Rules, 2016**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**	**Chirle Camp Site**		
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year	Generated waste soil (t) total	27105.51 m3	App. 3000 CuM Collected in jumbo bags and Disposed off in EBB (named by MbPT)Location and Casting Yard	NIL		
				3. Gavhan & Chirle for package III	Once site clearing work/execution part of work start.	Generated cutting tree (ha) total	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting so far NIL	Not Applicable	Permission from both CIDCO and Forest dept. Tree cutting so far is nil.		
						Generated domestic waste (t/month) total	3.58 T for the quarter	3 T per quarter is disposed by CIDCO	1.5 T quarter is disposed through Gram panchayat.		
						Confirmation of adequate disposal (visualt survey)					
	4	Soil Contamination/sedimentation	Heavy Metals & Oil & Grease	1. Sewri & Sewri bay area for package I	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year	**Soil Pollution Standard in India (MOEF)**		Testing Done on september 2019 and Reports submitted to GC.	Not applicable		Frequency is Once in a year.If any minor or major incident has not occure at storage area.
				2. Nhava temporary bridge & casting yard in Gavhan for package II		1. Cadmium: 0.01mg/l					
				3. Gavhan & Chirle for package III	*If any spillage/ leakage take place from chemical, fuel storage area. *One time grab sample to be collected during Bridge Construction *Pre & Post Monsoon at Storage area only	2. total cyanide : not detected	Refer Remark				Muck analysis for package-I was conducted in April 2019, and report is already submitted to GC.
						3. organic phosphorus: not detected					
						4. lead: 0.01mg/l			Not applicable for package-3		
						5. chromium (VI): 0.05mg/l					
						6. arsenic: 0.01mg/l or 15mg/kg (agri-land soil)					
						7. total mercury: 0.005mg/l					
						8. alkyl mercury: not detected					
						9. PCBs: not detected					
						10. copper: 125mg/kg (only paddy field soil)					
						11. dichloromethane: 0.02mg/l					
						12. carbon tetrachloride: 0.002mg/l					
						13. 1,2-dichloroethane: 0.004mg/l					
						14. 1,1-dichloroethylene: 0.02mg/l					

Regarding soil contamination/sedimentation, some items shall be selected from the total 25 standards items during the Detailed Design. Only the selected items shall be reported to JICA, and the rest of items shall be deleted from this form.

The Project for Construction of Mumbai Trans Harbour Link

Reporting Form of Environmental Monitoring during Construction

Attachment 2-4

1. Environmental Monitoring during Construction for 4.5 years

Monitoring Period - January 2020 to March 2020

Attachment 2-4

This form is prepared for reporting the monitoring results to JICA India Office. Only minimum required parameters are included in this form, and not all perameters in EMoP are covered.

					15. cis-1,2-dichloroethylene: 0.04mg/l						
					16. 1,1,1-trichloroethane: 1mg/l						
					17. 1,1,2-trichloroethane: 0.006 mg/l						
					18. trichloroethylene: 0.03mg/l						
					19. tetrachloroethylene: 0.01mg/l						
					20. 1,3-dichloropropene: 0.002mg/l						
					21. thiuram: 0.006mg/l						
					22. simazine: 0.003mg/l						
					23. thiobencarb: 0.02mg/l						
					24. benzene: 0.01mg/l						
					25. selenium: 0.01mg/l						
	5	Noise and vibration	Ambient and road side noise (dB(A)LAeq)	1. Sewri & Sewri bay area for package I	Fortnightly	**Construction area Standard 85 dB(A) daytime (Japan standard) Not constuction area : Ambient Noise Standard in India (dB(A) Laeq)**	**Sewri (ST 200-500) (Industrial area)**	**Sea Section (ST5000-5500) Migratory Bird Area(no standard on sea section)**	**Shivaji Nagar (Commercial area)**		
				2. Nhava temporary bridge & casting yard in Gavhan for package II	2 Times / Year	Day time : 6-22 hr (continious) dB(A)	65.2	72.8	66.8		
				3. Gavhan & Chirle for package III	Fortnightly	Night time: 22-6 hr (continious) dB(A)	59.1	65.5	65.3		
						(only sea section)					
						Day time : 6-22 hr (10 min during 9-17 hrs)					
						Night time: 22-6 hr (10 min 22-24 hr)					
						Note (standard values in Not construction area)					
						1.Industrial Area					
						Day Time: 75 (6-22hr)	Not Applicable	Not Applicable	Not Applicable		
						Night Time: 70 (22-6hr)	Not Applicable	Not Applicable	Not Applicable		
						2.Commercial Area:					
						Day Time: 65 (6-22hr)	Not Applicable	Not Applicable	Not Applicable		
						Night Time: 55 (22-6hr)	Not Applicable	Not Applicable	Not Applicable		
			Vibration (dB) shall be converted from mm/s to dB	1 Location Gavan area for package III	Half yearly	**Construction area Standard 75 dB daytime (Japan standard) Not constuction area : Vibration Standard (Japan Standard along the road)**	**Sewri (ST 200-500) (Industrial area)**	**Shivaji Nagar (Commercial area)**	**Chirle**		
						Day time : 6-22 hr (continious)	Refer Remark	Not Applicable	Not applicable		There is no reference standard in India for Vibration monitoring in marine area. GC has confirmed that vibration monitoring is not required for the project. (Package-I)
						Night time: 22-6 hr (continious)					
						Note (standard values in Not construction area)					
						1. Commercial /Industrial Area		Not Applicable			
						Day Time: 70 (7-20hr)			1.6		
						Night Time: 65 (20-7hr)			0.2		
			1.Monitoring of mudflat conditions including fauna-flora 2. Monitoring of Cutting Tree and replantation/transplation	Along MTHL alignment and mangrove replant area for Package I	Quarterly during the construction Period	**Standard is not existing, but quantity and quality should not be worsen**	**Sewri side (ST500-5500)**	**Sea Section (ST5500-16000)**	**Shivaji Nagar side (app. ST16000-19000)**	**Mangrove Replantation agency appointed by State Government**	
				Along MTHL alignment and mangrove replant area for package II	4 Times / Year	1-1. Fauna-Flora (number of species and quantity			N/A	N/A	
						(1) Number of species of bird	9715 (Jan-Feb 2020) (refer remark)	7142(Jan-Feb 2020) (refer remark)			BNHS report (October 2019- March 2020)
						(2) Number of species of fish					
						(3) Estimated number of Flamingo	287 (Greater Flamingo), 8841 (Lesser Flamingo) (refer remark)	1500 (Greater Flamingo), 25 (Lesser Flamingo) (refer remark)			
						1-2: Mangrove density and community survey					

Regarding protected area (CRZ and Important Bird Area) and ecosystem, detailed long-term monitoring plan will be estabilished during baseline survay of birds. This tentative monitoring form shall be updated based on the detailed long-term monitoring plan.

The Project for Construction of Mumbai Trans Harbour Link
Reporting Form of Environmental Monitoring during Construction
Attachment 2-4

Attachment 2-4

This form is prepared for reporting the monitoring results to JICA India Office. Only minimum required parameters are included in this form, and not all perameters in EMoP are covered.

Monitoring Period - January 2020 to March 2020

1. Environmental Monitoring during Construction for 4.5 years

Natural Environment	6	Protected Area	area 3.Monitoring of Mangrove Plantation area appointed by MoEF 4. Monitoring of sedimentation soil and ecological parameter (25 items on EIA main text Table 6.1.15 for soil and 7 items such as 1)Net primary productivity, 2)Chlorophyll-a, 3)Phosphate, 4)Nitrate, 5)Nitrite, 6)Particulate Organic Carbon, 7) SiO2)			(1) Number of species of mangorve					
						(2) Density of mangrove (xx trees/10m x 10m)					
						1-3: Benthos Survey					
						(1) Number of species and quantity by species	503 Species and 289 No/m2 (refer remark)				Environmental monitoring reports (Pkg-1)
						2-1: Cutting tree confirmation	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting NIL	All the tree cutting and mangrove cutting had been carried Out as per approval received from GC and MMRDA and job was completed in 2018 itself and after that no trees and mangroves have been cut till date	Nil		
						(1) Number of cutting tree and species	Nil				
						3-1: Mangrove survey in the replant area			Nil		
						(1) Number of species of mangorve					
						(2) Density of mangrove (xx trees/10m x 10m)					
						4. Ecologial Parameter					
						(1) Net primary Productivity : <1,500 mgC/m3/day at surface	600 (refer remark)				Environmental monitoring reports (Pkg-1)
						(2) Chlorophyll-a: <4mg/m3	4.4 (refer remark)				Environmental monitoring reports (Pkg-1)
						(3) Phosphate: 0.1-90µg/l	278 (refer remark)				Environmental monitoring reports (Pkg-1)
						(4) Nitrate: 1.0-500µg/l	740 (refer remark)				Environmental monitoring reports (Pkg-1)
						(5) Nitrite: <125µg/l					
						(6) Particulate Organic Carbon: 10-100mg/m^3	Done as a part of Soil analysis once in a year				
		Ecosystem				(7) SiO2: 10-5,000µg/l	6561				
	7	Hydrology	Flooding situation	Not applicable for Package I		**Criteria for evaluation** **Project activities and structures does not cause flooding and impacts on tidal conditions**	**Sewri**	**Shivaji Nagar**	**Chirle**		
				2 Locations (CRZ at Sewri and Shivaji Nagar) for Package II	4 Times / Year	Monitoring of flooding situation	No Flooding	No flooding	No Flooding		
				Not applicable for Package III							
	8	Topography and Geology	Conditions in embankment area	2 Locations (1. Embankment of Inter Change in Shivaji Nagar and 2 Cutting area at toll gate in Chirle)	4 times / year x 4.5 years	**Criteria for evaluation** **Embankment shall be stabilized without any landslide and cracks**	**Shivaji Nagar**	**Chilre**	**Chirle**		
						Monitoring of embankment	NA	NA	NA		
	9	Local conflict of interests	Construction worker's township	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	**Criteria for evaluation** **Employment opportunity shall be provided fairly**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**	**Chirle**		Data from the log book and attendence register of respective Packages
						Number of hired workers by community	360 (refer remark)	125-150 (refer remark)	Skilled labours; 270 (from outside) (refer remark)		
	10	Infectious diseases such as HIV/AIDS	Number of infected patient	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	**Criteria for evaluation** **Infection disease rate shall not be caused by the project**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**	**Chirle**		
						Confirmation of health check record and inspect project site	Doctors conduct regular health checkup of all workers at site.	Doctors conduct regular health checkup of all workers at site.	Doctors conduct regular health checkup of all workers at site.		
	11	Labour Environment	Construction worker's condi	2 Locations (major camp site in Sewri and Shivaji Nagar)	2 times / year x 4.5 years	**Criteria for evaluation** **"Building And Other Construction Workers (Regulation of Employment and Conditions of Service) Act,1996", "The building and other construction worker's welfare cess Act, 1996" and international standards such as "IFC Performance Standard 2 Labor and Working Conditions"**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**	**Gavan Camp site**		
						Site Visual Inspection	All provisions as per BOCW	Conforming with BOCW Act 1996	Conforming with BOCW Act 1996 as per IM -26A checklist		
Other	12	Accident	Number of accidents	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	**Criteria for evaluation** **Any accidents are not caused by construction**	**Sewri Camp Site**	**Shivaji Nagar Camp Site**	**Other area**		
						Number of recorded accident	2	NIL	NIL		

MTHL Land Acquisition Status (Attachment 2-6):

Total land required on Navi Mumbai side- 108.09 ha
Land in possession in MMRDA – 106.5 ha
Balance land acquisition- 1.59 ha

Note: The acquisition of 1.59 ha is in progress by CIDCO. The balance acquisition would be likely completed by the end of September 2020.

Land Required in ha		Land Acquired in ha		Balance Land to be acquired in ha	Anticipated date for Land Acquisition	Payment status (Payment made to Land Owners by CIDCO)	Remarks
Govt.	**Private**	**Govt.**	**Private**	**Private***			
98.75	9.34	98.75	7.595	1.745	30-09-2020	--	The payment status to the land owners are awaited from CIDCO. The same would be communicated to JICA on receipt of the same.
Total		**98.75**	**7.595**	**1.745**			
108.09							

***Portions of Private Land**

Sr. No.	Name of Village	Area (Hectare)	Acquired	Non-acquired
1	Gavhan	0.15	0.15	0.00
2	Jasai	8.72	7.306	1.414
3	Chirle	0.47	0.139	0.331
Total Area		**9.34**	**7.595**	**1.745**

Attachment 2-8

RAP Implementation Monitoring Form
For Mumbai Trans Harbour Link Project (MTHL)

1. General Information

a.	RAP Implementation Monitoring Results:	Progress Status Report (PSR) of 1st quarter of 2020
b.	Date of Preparing This form	31-03-2020
c.	Person Preparing This form	Name: Robin Sham Position: Engineer and Team Leader Department/Organizations: General Consultants

2. Scale of Impact

2.1 Project Affected Households (PAHs) and Project Affected Persons (PAPs) for Sewri side

Total Project Affected Households (PAHs)	297 Hhs	Titleholders: 0 Hhs Non-titleholders: 297 Hhs
Total PAPs	1,282 persons*	Titleholders: 0 persons Non-titleholders: 1,282 persons*
PAHs who need relocation (as residents)	231 Hhs	Titleholders: 0 persons Non-titleholders:231 (1,088 persons) *
PAPs who do not need relocation (as residents)	0 persons	Titleholders: 0 persons Non-titleholders: 0 persons
Commercial PAPs who need relocation	66 (194 persons) *	Titleholders: 0 persons Non-titleholders:66 (194 persons) *
Commercial PAPs who do not need relocation	0 persons	Titleholders: 0 persons Non-titleholders: 0 persons

* - Figures for number of persons do not include no. of family members of few additional PAPs.

2.2 Structures

Structures	Residential: 231 Commercial: 65 Residential + Commercial: 1 (counted in Commercial) Community: 9 (Religious Properties 6, Public Toilets 3) Government: 16 (MbPT Structures 9, Occupants of Leased Plots 6 & Police Chowky1) Total: 322

2.3 Fishery

Categories of Fisher-folks	Identified Number		Total	Remarks
	Mumbai side	Navi Mumbai side		
C1: Fishing stakes and nets in RoW (250 m.)	178	52	230	Funds for 230 nos C1 category fishermen are transferred to Commissioner of Fisheries on 17.03.2020 for payment to the beneficiaries.

C2: Fishing Stakes and Nets within 500 m. of RoW (Southern side)	430	552	982	1. Funds for 496 nos C2 category fishermen are transferred to Commissioner of Fisheries in the 2017-18. 2. The list of balance 440 Nos. of C2 category fishermen are submitted to ACF Raigad, ACF Thane and ACF Mumbai suburban for their verifications.
C3: Hand Pickers	1453	3691	5144	Funds for 4205 nos of C3 category fishermen are already transferred to Commissioner of Fisheries and balance 939 Nos. of C3 category fishermen are in process of transfer to Commissioner of Fisheries.
C4: Commercial and Artisanal Fisher-folks (Loss of Time and Increased Operating Costs)	Will be observed during construction period	Will be observed during construction period	---	Nil
C5: Fisher-folks with Loss due to Turbidity	Will be observed during construction period	Will be observed during construction period	----	Nil
C6: Fisher-folks with Damages due to Accidents	Will be observed during construction period	Will be observed during construction period	----	Nil

2.4 Land Acquisition / Transfer

Location	**Land Required in Ha.**		**Land Acquired in Ha.**		**Balance Land to be acquired in Ha**	**Remarks**
	Govt.	**Private**	**Govt.**	**Private**		
Sewri	10.089	0	10.089	0	0	
Navi Mumbai	98.75	9.34	98.75	7.595	1.745	
Total	**118.179**		**108.839**	**7.595**	**1.745**	

3. Monitoring Results

3.1 Sewri Section

Activity	Indicator	Total Target	Progress till Last Quarter	Progress during reporting Quarter	Cumulative Progress till Current Quarter	Cumulative Achievement of Total Target (%)	Remarks, If Any
Resettlement	No. of Residential PAHs provided with Allotment Letters of Alternate Tenements	231	141	0	141	62%	
	No. of Residential PAHs given possession of Alternate Tenements	231	139	0	139	60%	
	No. of Commercial/R+C PAPs provided with Allotment Letters of Alternate Shops/Tenements	66	21	0	21	30%	
	No. of Commercial R+C PAPs given possession of Alternate Shops/Tenements	66	20	0	20	26%	
	No. of Occupants of MbPT Leased Plots provided Compensation	6	5	0	5	84%	
	No. of Religious properties Relocated / Removed	6	1	0	1	17%	Jivdani Mandir allotment letter given
	No. of Other Community properties Relocated / Removed	4	0	0	0	0%	
	No. of Structures in possession of MbPT Dismantled / Cleared	9	0	0	0	0%	
	No. of PAHs/PAPs provided Shifting Charges / Arrangement	297	0	0	0	0%	
Rehabilitation	No. of PAHs / PAPs identified for Livelihood Support in Post Resettlement Assessment						
	No. of PAHs / PAPs provided Livelihood Support under Program-I (to be identified)						
	No. of PAHs / PAPs provided Livelihood Support under Program-II (to be identified)						
	No. of PAHs / PAPs provided Livelihood Support under Program-III (to be identified)						
	No. of new enterprises started						

Activity	Indicator	Total Target	Progress till Last Quarter	Progress during reporting Quarter	Cumulative Progress till Current Quarter	Cumulative Achievement of Total Target (%)	Remarks, If Any
Grievance Redress	No. of Grievances Received by FLGRC	4					
	No. of Grievances Disposed by FLGRC	1					
	No. of Grievances Received by SLGRC	0					
	No. of Grievances Disposed by SLGRC	0					
Post Resettlement Assistance	No. of CHSs Registration helped						
	No. of CHSs provided Tenements for Social Amenities						
	No. of CHSs' Maintenance Fund Invested						
	No. of CHSs' Office Bearers provided training						

SUMMARY OF FISHER FOLKS OF MTHL PROJECT (Influence Zone of 23 villages) Up to 31st March 2020.							
Sr. No.	**Village Name**	**Total number of forms Received**	**Total approved eligible family units**				**No. of Rejected Applications**
			C1	**C2**	**C3**	**Total**	
1	**2**	**3**	**6**	**7**	**8**	**10**	**11**
1	Bamandongri	273	1	0	25	**26**	230
2	Belapur	110	0	5	14	**19**	86
3	Belpada	1185	0	7	473	**480**	476
4	Diwale	455	10	236	12	**258**	132
5	Ganeshpuri	276	0	33	32	**65**	164
6	Gavhan	2167	0	14	1305	**1319**	575
7	Jasai	926	0	0	18	**18**	908
8	Jawale	51	0	1	0	**1**	50
9	Kombadbhuja	413	1	24	126	**151**	219
10	Kopar	994	2	5	230	**237**	551
11	Mahul	1198	129	170	600	**899**	190
12	Moha	475	22	34	134	**190**	212
13	Mora	466	0	75	213	**288**	175
14	Morave	539	14	17	79	**110**	301
15	Nhava	1646	0	32	304	**336**	1009
16	Sarsole	266	0	30	83	**113**	135
17	Sewri	305	0	1	70	**71**	234
18	Shelghar	241	0	0	15	**15**	214
19	Shivajinagar	200	1	4	61	**66**	133
20	Trombay	1253	49	259	783	**1091**	121
21	Ulwa	218	1	4	12	**17**	173
22	Uran & Hanuman Koliwada	685	0	29	554	**583**	87
23	Vahal	411	0	2	1	**3**	367
Total		**14753**	**230**	**982**	**5144**	**6356**	**6742**

	Total applications			14753
	Duplicate/Repeated Application			1655
	Net Applications			13098
	Approved applications			6356
	Rejected application			6742

SUMMARY OF FISHER FOLKS OF MTHL PROJECT (Out of Influence Zone of 21 villages)						
Sr. No.	Village Name	Total number of Applications Received	Total approved eligible family units			No. of Rejected Applications
			C1	C2	Total	
1	2	3	6	7	10	11
1	Airoli	76	0	29	29	47
2	Dhutun	398	0	1	1	395
3	Dighode	708	0	17	17	662
4	Diwa-Koliwada	122	0	12	12	107
5	Fanaspada	4	0	1	1	3
6	Ghansoli	340	0	30	30	310
7	Gharapuri	261	0	17	17	222
8	Juhugaon	201	0	7	7	171
9	Karave	178	0	44	44	126
10	Kelavane	105	0	2	2	102
11	Kopar Khairane	245	0	5	5	236
12	Koproli	70	0	4	4	66
13	Kundegaon	548	0	33	33	323
14	Nerul	5	0	1	1	4
15	Shahabaj	6	0	1	1	5
16	Takigaon	21	0	1	1	20
17	Talvali	54	0	2	2	51
18	Targhar	110	0	2	2	85
19	Vashigaon	257	0	51	51	176
20	Vindhane	12	0	2	2	10
21	Waghivali	112	0	4	4	104
398Total		**3833**	**0**	0		**3225**

Grievance Redressal Committee (GRC) for Fisher-folk Compensation

No. of Cases referred to GRC	No. of Cases		No. of Cases Rejected	No. of Cases under Consideration
	Allowed	Compensation Paid		
Nil	Nil	Nil	Nil	Nil

Implementation Schedule for Fisher-folks Compensation & Land Acquisition in Navi Mumbai

A. Implementation Schedule for Fisher-folks Compensation: -

Sr. No.	Task Designation	Approving authority	Start Date	Completion Date
1	Approval of fisher-folks' compensation Policy	Fisher-folks Compensation Committee (FCC)	08-10-2015	23-12-2015
2	Approval by MMRDA	MMRDA	10-12-2015	23-12-2015
3	Submission to JICA	MMRDA	--	04-01-2016
4	Detailed list of PAP and compensation plan	1. Detailed list of Fisher-folk PAP upto list 1 (1165 Nos) & 2 (1399 Nos) are finalized by the Fisheries Department. 2. From 2018, FEVC committee is the approval authority of PAF and approved C1- 230 Nos; C2-440 Nos and C3- 2580 Nos are approved.	23-12-2015	**Up to 31.03.2020** 1. Total up to date applications scrutinized = 13098 Nos. 2. Eligible = 6356 nos 3. Rejected = 6742 nos
5	Validation of compensation plan	Fisher-folks Compensation Committee (FCC)	23-12-2015	1. Approval to the Fisher-folk PAP list obtained from Fisheries Department for Fisherfolk from Sewri, Mahul & Trombay (Mumbai side) – 12th September 2017 and 20th November 2018 for C-2 & C3 Category only.

Sr. No.	Task Designation	Approving authority	Start Date	Completion Date
			23-12-2015	2. Approval to the Fisher-folk PAP list obtained from Fisheries Department for Fisherfolk of Navi Mumbai of C2 & C3 on 25th April 2018. 3. Validation of compensation is in progress and would be completed in phases.
6	Approval of compensation plan	FCC	23-11-2015	28-12-2017
7	Approval by MMRDA	MMRDA	23-11-2015	09-03-2021

B. Implementation Schedule for Land Acquisition in Navi Mumbai: -

Land Required in Ha.		Land Acquired in Ha.		Balance Land to be acquired in Ha	Anticipated date for Land Acquisition	Payment status (Payment made to Landowners by CIDCO)	Remarks
Govt.	Private	Govt.	Private	Private			
98.75	9.34	98.75	7.595	1.745	30-09-2020	--	1. CIDCO is the land acquisition authority for land acquisition for Navi Mumbai 2. MMRDA has paid an amount of INR 59.16 Cr to CIDCO as per their demand. 3. The payment status to the landowners is awaited from CIDCO. The same would be communicated to JICA on receipt of the same.
Total	**108.09**	**106.345**		**1.745**			

Implementation Schedule for SIA (Sewri Section)

Task No.	Task Designation	Start Date	Completion / Forecast Date
1	**Preparation of Final SIA**		
1.1	MMRDA Approval	October 2015	January 2016
1.2	JICA Approval	November 2015	January 2016
1.3	Posting of project Information on MMRDA		
1.4	Translation and disclosure of entitlement policy in local language to all PAP's	December 2015	January 2016
2	**LARP Implementation**		
2.1	Grievance redress mechanism established	August 2016	August 2016
2.2	Staff deployment SIA implementation	June 2016	Dec. 2020
2.3	Staff Deployment Public Relation	June 2016	June 2016
2.4	Hiring of Independent Evaluation Agency	November 2018	November 2020
2.5	Preparation and issue of allotment letters to PAPs	June 2018	Dec. 2020*
2.6	Notice of PAPs for shifting (Sewri Section)	December 2018	Dec. 2020
2.7	Allotment of dwelling units to PAP's	September 2016	Dec. 2020
2.8	Shifting of PAPs to resettlement Colony	December 2018	Dec. 2020
2.9	Transfer of compensation / allowance/ assistance to PAPs	December 2018	Dec. 2020
2.10	Creation of Community Revolving fund (within 3 months post handing over)	April 2019	Feb. 2021
2.11	Assessment of economic rehabilitation needs by individual household (within 6 months after handing over	September 2019	June 2021
2.12	Registration of Co-operative housing societies, transfer of maintenance funds. (6 months period)	December 2019	June 2021
2.13	Signing of Civil Contract		January 2018
2.14	Notice of Civil works to proceed		March 2018
3	**Monitoring & Evaluation**		
3.1	Internal Monitoring- Monthly/ Quarterly	June 2016	January 2020
3.2	Independent Evaluation Mid-term and End term evaluation Mid Term End Term	 May 2019 November 2019	 June 2020 March 2021

*Subject to open the lockdown upto September 2020 and get the Occupation certificate of Kurla Bhandari R&R site from SRA department upto Jan. 2021.

Attachment 3- JICA's Concurrence Status

Status of JICA'S Concurrence

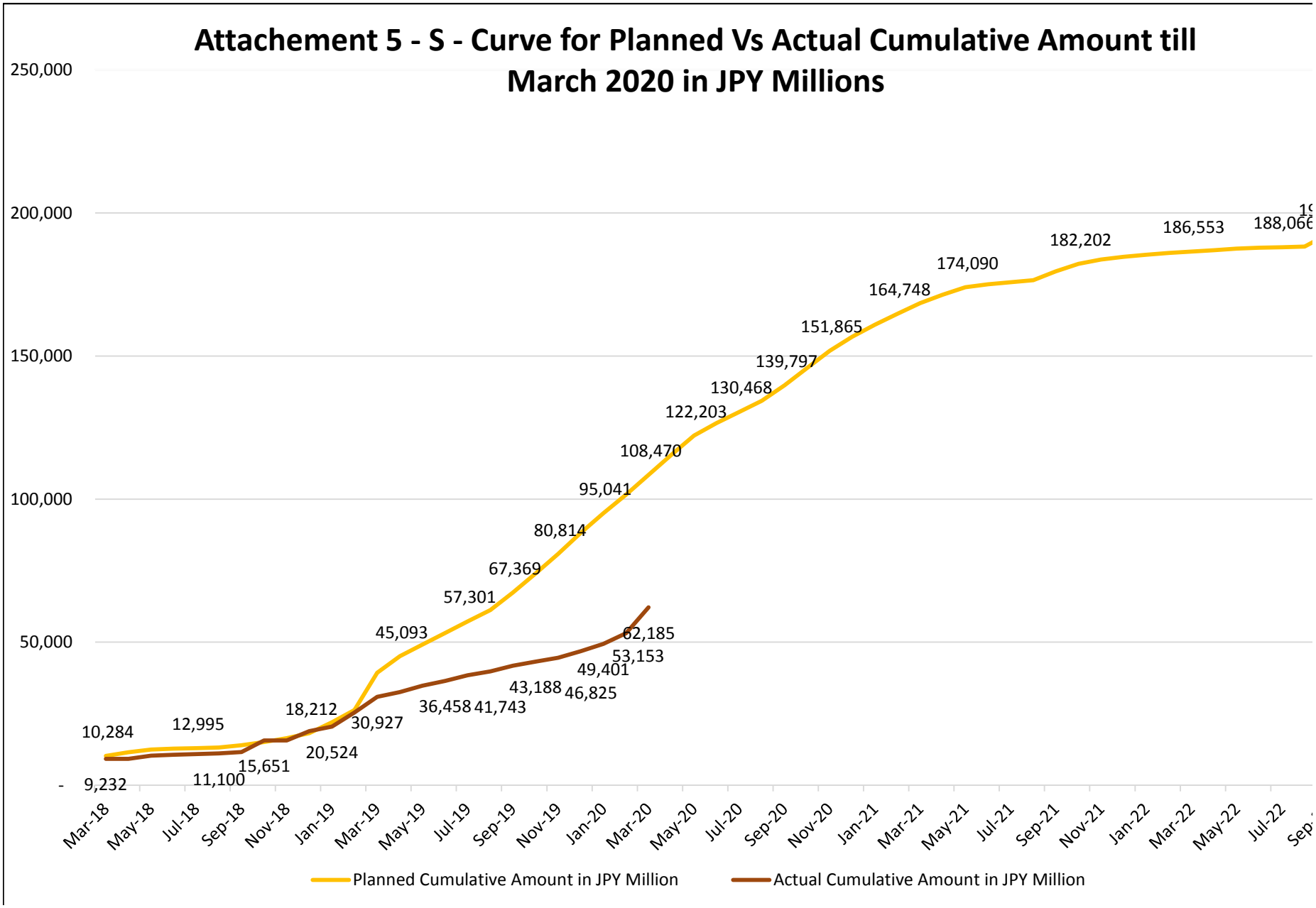
Sl. No.	Brief description	Procurement procedure	Bid Cost		JICA's Concurrence on					
			Local Currency (Cr Rs.)	Total (Cr Rs)	PQ Documents	PQ Evaluation	Bid Documents	Technical Evaluation	Financial Evaluation	Contract
1.	Package-1 (CH 0+000 km to CH10+380 km)	ICB with PQ (2P)	7637.30	7637.30	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 22nd Dec 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 12th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence – 15th Feb 2018
2.	Package-2 (CH 10+380 km to CH18+187 km)	ICB with PQ (2P)	5612.61	5612.61	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 22nd Dec 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 12th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence – 15th Feb 2018
3.	Package-3 (CH18+187 to CH21+800)	ICB with PQ (2P)	1013.79	1013.79	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 15th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence – 15th Feb 2018
4.	Package-4 Intelligent Transport System	ICB with PQ (2P)	181.49	181.49	JICA's Concurrence - 23rd August 2019	-	-	-	-	-

Attachment 4- Project Procurement and Financial Status till 31st March 2020

PROJECT PROCUREMENT AND FINANCIAL STATUS TILL 31st March 2020

Type	Contract	Awarded or Estimated Value (in Rs. Crore)	Current Status	Contractors	Project Commencement Date	Stipulated Project Completion Date	% of Overall Project completion (Design/ Procurement/ Construction) up to 25th March 2020	% of Overall Financial Progress ((Including Mobilization Advance & Price Adjustment) till 31st March 2020
CIVIL	Package-1 (CH 0+000 km to CH 10+380 km)	7637.30	Awarded	L&T-IHI Consortium	March 2018	Sep 2022	25.59%	34.54%
	Package-2 (CH 10+380 km to CH18+187 km)	5612.61	Awarded	DAEWOO-TPL JV	March 2018	Sep 2022	19.05%	35.20%
	Package-3 (CH18+187 to CH21+800)	1013.79	Awarded	L&T	March 2018	Sep 2021	27.38%	43.45%
	Package-4 Intelligent Transport System	181.49 (Estimated)	Design Stage	--	Jul 2020 (Estimated)	Sep 2022	NA	NA

Attachment 5- S-Curve for Cumulative Planned Vs Actual Amount in JPY Million


Attachement 5 - S - Curve for Planned Vs Actual Cumulative Amount till March 2020 in JPY Millions
250,000
200,000
150,000
100,000
50,000
-
9,232
10,284
11,100
12,995
15,651
18,212
20,524
30,927
45,093
57,301
67,369
80,814
95,041
108,470
122,203
130,468
139,797
151,865
164,748
174,090
182,202
186,553
188,066
36,458
41,743
43,188
46,825
49,401
53,153
62,185
Mar-18
May-18
Jul-18
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Nov-21
Jan-22
Mar-22
May-22
Jul-22
Planned Cumulative Amount in JPY Million
Actual Cumulative Amount in JPY Million

Attachment 6- Package-1's Construction Programme Updated as on 25th March 2020

L&T - IHI

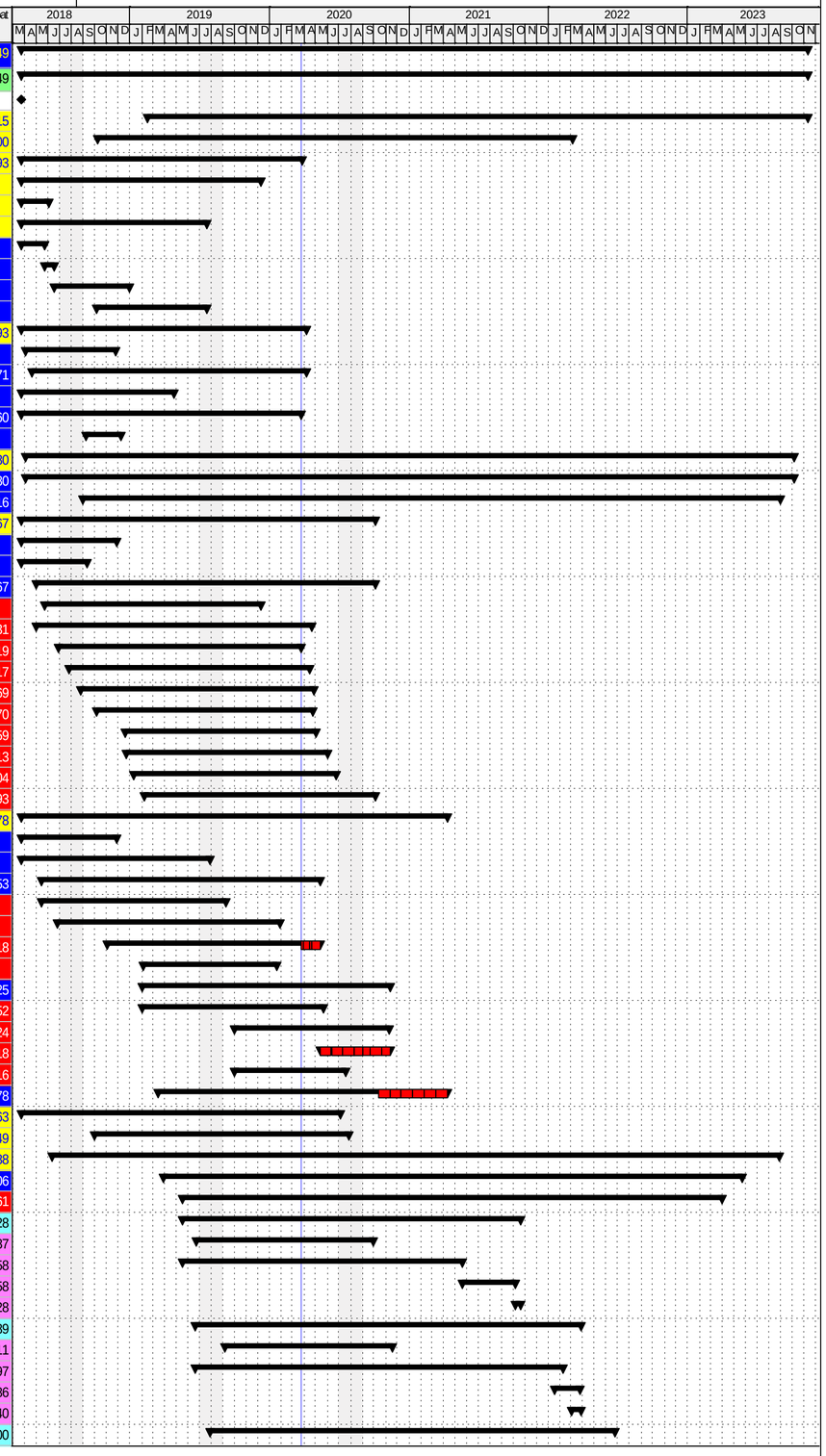
MUMBAI TRANS HARBOUR LINK PACKAGE 1, UPDATED BASELINE PROGRAMME FOR MARCH 2020

MMRDA

AECOM | PADECO | dar al-handasah shair and partners | TYLIN INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Original Duration	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
MPR24	MTHL P1 - Mar'20 Month Progress	1062	23-Mar-18	22-Sep-22	1445	23-Mar-18 A	10-Nov-23	42.96%	25.59%	0	-348	-349
MPR24.1	Mumbai Trans Harbour Link - Package 1	1062	23-Mar-18	22-Sep-22	1445	23-Mar-18 A	10-Nov-23	42.96%	25.59%	0	-348	-349
M10000	Commencement Date	0	23-Mar-18		0	23-Mar-18 A		100%	100%	0	0	
MPR24.1.1	Key Milestones	1464	19-Sep-18	22-Sep-22	1693	15-Feb-19 A	10-Nov-23	0%	0%	-148	-414	-415
MPR24.1.2	Contractual Interface	1243	09-Oct-18	05-Mar-22	1243	09-Oct-18 A	05-Mar-22	0%	0%	0	0	200
MPR24.1.3	Access to Site	165	23-Mar-18	03-Sep-18	165	23-Mar-18 A	26-Mar-20	0%	0%	0	-570	-293
MPR24.1.4	Document Submittals	180	23-Mar-18	18-Sep-18	180	23-Mar-18 A	09-Dec-19 A	0%	0%	0	-446	
MPR24.1.5	Survey	73	23-Mar-18	03-Jun-18	73	23-Mar-18 A	03-Jun-18 A	0%	0%	0	0	
MPR24.1.6	Geotechnical Investigation	165	23-Mar-18	03-Sep-18	165	23-Mar-18 A	23-Jul-19 A	0%	0%	0	-322	
MPR24.1.6.1	Phase 1	60	23-Mar-18	21-May-18	60	23-Mar-18 A	21-May-18 A	0%	0%	0	0	
MPR24.1.6.2	Phase 2	25	22-May-18	15-Jun-18	25	22-May-18 A	15-Jun-18 A	0%	0%	0	0	
MPR24.1.6.3	Phase 3	50	16-Jun-18	04-Aug-18	50	16-Jun-18 A	30-Dec-18 A	0%	0%	0	-147	
MPR24.1.6.4	Phase 4	45	21-Jul-18	03-Sep-18	45	05-Oct-18 A	23-Jul-19 A	0%	0%	-76	-322	
MPR24.1.7	Infrasturcture Facilties	188	23-Mar-18	05-Feb-19	376	23-Mar-18 A	07-Apr-20	0%	0%	0	-280	593
MPR24.1.7.1	Project Site Office Construction (Contractor + Employer + (	120	04-Apr-18	27-Nov-18	120	04-Apr-18 A	25-Nov-18 A	0%	0%	0	2	
MPR24.1.7.2	Casting Yard	164	20-Apr-18	05-Feb-19	355	20-Apr-18 A	07-Apr-20	0%	0%	0	-280	-171
MPR24.1.7.3	Fabrication Yard	133	23-Mar-18	30-Nov-18	133	23-Mar-18 A	26-Apr-19 A	0%	0%	0	-122	
MPR24.1.7.4	Rebar Yard	133	23-Mar-18	30-Nov-18	376	23-Mar-18 A	26-Mar-20	0%	0%	0	-324	-160
MPR24.1.7.5	Batching Plant Installation - CP30 & CP60	164	20-Apr-18	05-Feb-19	164	08-Sep-18 A	08-Dec-18 A	0%	0%	-47	49	
MPR24.1.8	Procurement Plan	1618	04-Apr-18	07-Sep-22	2088	04-Apr-18 A	06-Oct-23	0%	0%	0	-394	-380
MPR24.1.8.1	Plant & Machinery Deployment Plan	1618	04-Apr-18	07-Sep-22	2088	04-Apr-18 A	06-Oct-23	0%	0%	0	-394	-380
MPR24.1.8.4	Bulk Material Procurement Plan	1412	01-Sep-18	13-Jul-22	1679	31-Aug-18 A	01-Sep-23	0%	0%	0	-415	-416
MPR24.1.9	Design & Engineering (Civil)	302	23-Mar-18	21-Sep-19	525	23-Mar-18 A	05-Oct-20	0%	0%	0	-238	-167
MPR24.1.9.1	Initial Design (General & Preliminary Design, DBR)	79	23-Mar-18	09-Jun-18	79	23-Mar-18 A	29-Nov-18 A	0%	0%	0	-172	
MPR24.1.9.2	Finalization of Alignment	88	23-Mar-18	18-Jun-18	88	23-Mar-18 A	10-Sep-18 A	0%	0%	0	-83	
MPR24.1.9.3	Detailed Design and Construction Design	269	01-May-18	21-Sep-19	525	01-May-18 A	05-Oct-20	0%	0%	0	-238	-167
MPR24.1.9.3.1	GIR	133	22-May-18	01-Oct-18	193	22-May-18 A	09-Dec-19 A	0%	0%	0	-433	
MPR24.1.9.3.2	Test Pile	113	01-May-18	15-Dec-18	468	01-May-18 A	22-Apr-20	0%	0%	0	-335	-231
MPR24.1.9.3.3	Design Phase -1 (Accelerated Design of Initial Items)	137	19-Jun-18	02-Nov-18	137	27-Jun-18 A	25-Mar-20	0%	0%	-8	-509	-419
MPR24.1.9.3.4	Design Phase -2 (Accelerated Design of Initial Items)	163	04-Jul-18	13-Dec-18	163	26-Jul-18 A	15-Apr-20	0%	0%	-22	-488	-317
MPR24.1.9.3.5	Design Phase -3	221	19-Jun-18	25-Jan-19	144	25-Aug-18 A	28-Apr-20	0%	0%	-67	-458	-369
MPR24.1.9.3.6	Design Phase -4	220	07-Jul-18	11-Feb-19	220	05-Oct-18 A	24-Apr-20	0%	0%	-90	-438	-370
MPR24.1.9.3.7	Design Phase -5	242	07-Jul-18	05-Mar-19	579	19-Dec-18 A	01-May-20	0%	0%	-165	-422	-259
MPR24.1.9.3.8	Design Phase -6	221	26-Aug-18	03-Apr-19	799	24-Dec-18 A	02-Jun-20	0%	0%	-120	-425	-413
MPR24.1.9.3.9	Design Phase -7	272	26-Aug-18	24-May-19	806	11-Jan-19 A	25-Jun-20	0%	0%	-138	-398	-204
MPR24.1.9.3.10	Design Phase -8	355	02-Oct-18	21-Sep-19	399	08-Feb-19 A	05-Oct-20	0%	0%	-129	-379	-293
MPR24.1.10	Design, Engineering & Material Procurement (OSD)	697	23-Mar-18	17-Feb-20	1115	23-Mar-18 A	10-Apr-21	0%	0%	0	-418	-178
MPR24.1.10.1	Initial Design	53	23-Mar-18	14-May-18	53	23-Mar-18 A	29-Nov-18 A	0%	0%	0	-198	
MPR24.1.10.3	Aerodynamic Analysis	145	23-Mar-18	14-Aug-18	145	23-Mar-18 A	30-Jul-19 A	0%	0%	0	-349	
MPR24.1.10.4	Technical Design	311	15-May-18	21-Mar-19	782	15-May-18 A	12-May-20	0%	0%	0	-418	-153
MPR24.1.10.4.1	OS01NS/SS	150	15-May-18	11-Oct-18	150	15-May-18 A	09-Sep-19 A	0%	0%	0	-332	
MPR24.1.10.4.2	OS02NS/SS	164	26-Jun-18	06-Dec-18	530	26-Jun-18 A	30-Jan-20 A	0%	0%	0	-419	
MPR24.1.10.4.3	OS03NS/SS	164	14-Aug-18	24-Jan-19	691	04-Nov-18 A	12-May-20	0%	0%	-82	-474	-418
MPR24.1.10.4.4	OS04NS/SS	164	09-Oct-18	21-Mar-19	425	06-Feb-19 A	20-Jan-20 A	0%	0%	-120	-304	
MPR24.1.10.5	Construction Design	344	12-Oct-18	20-Sep-19	944	02-Feb-19 A	11-Nov-20	0%	0%	-113	-418	-325
MPR24.1.10.5.1	OS01NS/SS	201	12-Oct-18	30-Apr-19	731	02-Feb-19 A	22-May-20	0%	0%	-113	-388	-152
MPR24.1.10.5.2	OS02NS/SS	231	07-Dec-18	25-Jul-19	367	01-Oct-19 A	10-Nov-20	0%	0%	-298	-474	-324
MPR24.1.10.5.3	OS03NS/SS	183	25-Jan-19	26-Jul-19	183	13-May-20	11-Nov-20	0%	0%	-474	-474	-418
MPR24.1.10.5.4	OS04NS/SS	183	22-Mar-19	20-Sep-19	253	01-Oct-19 A	19-Jul-20	0%	0%	-193	-303	-216
MPR24.1.10.6	Material Procurement (1st Lot)	353	02-Mar-19	17-Feb-20	481	15-Mar-19 A	10-Apr-21	0%	0%	-13	-418	-178
MPR24.1.11	Tree Cutting and Transplantation	225	23-Mar-18	02-Nov-18	835	23-Mar-18 A	04-Jul-20	0%	0%	0	-610	-463
MPR24.1.12	Utility Diversion	210	19-Jun-18	14-Jan-19	859	01-Oct-18 A	28-Jul-20	0%	0%	-104	-561	-249
MPR24.1.13	Construction	919	11-Jun-18	22-Jun-22	1349	11-Jun-18 A	29-Aug-23	39.54%	20.58%	0	-363	-288
MPR24.1.13.1	Sewri Interchange Section	779	03-Nov-18	28-Feb-22	1196	29-Mar-19 A	24-May-23	40.73%	13.27%	-121	-378	-206
MPR24.1.13.1.1	Sewri Interchnage - Work Front - 1	779	03-Nov-18	28-Feb-22	1151	18-May-19 A	01-Apr-23	44.46%	12.46%	-163	-333	-161
MPR24.1.13.1.1.1	Sewri Interchange - Work Front - 1 - Piling	490	03-Nov-18	15-Dec-20	708	18-May-19 A	20-Oct-21	71.98%	43.73%	-163	-179	-28
MPR24.1.13.1.1.1.1	Piling - Land Viaduct	54	13-Apr-19	16-Sep-19	298	25-Jun-19 A	28-Sep-20	100%	90%	-53	-236	-187
MPR24.1.13.1.1.1.2	Piling - Ramp A	442	03-Nov-18	17-Oct-20	698	18-May-19 A	21-May-21	75.26%	41.65%	-163	-179	-58
MPR24.1.13.1.1.1.3	Piling - Ramp E	36	20-Oct-20	01-Dec-20	36	21-May-21	05-Oct-21	0%	0%	-179	-179	-58
MPR24.1.13.1.1.1.4	Piling - Ramp F	12	02-Dec-20	15-Dec-20	12	05-Oct-21	20-Oct-21	0%	0%	-179	-179	-28
MPR24.1.13.1.1.2	Sewri Interchange - Work Front - 1 -Pile Cap	560	19-Nov-18	24-Mar-21	772	21-Jun-19 A	26-Mar-22	61.97%	20.85%	-175	-229	-89
MPR24.1.13.1.1.2.1	Pile Cap - Land Viaduct	68	25-Apr-19	15-Oct-19	110	06-Sep-19 A	18-Nov-20	100%	77.78%	-43	-254	-211
MPR24.1.13.1.1.2.2	Pile Cap - Ramp A	504	19-Nov-18	15-Jan-21	745	21-Jun-19 A	09-Feb-22	62.9%	14.76%	-175	-246	-197
MPR24.1.13.1.1.2.3	Pile Cap - Ramp E	44	07-Jan-21	27-Feb-21	54	18-Jan-22	24-Mar-22	0%	0%	-237	-246	-86
MPR24.1.13.1.1.2.4	Pile Cap - Ramp F	20	01-Mar-21	24-Mar-21	20	03-Mar-22	26-Mar-22	0%	0%	-229	-229	-140
MPR24.1.13.1.1.3	Sewri Interchange - Work Front - 1 - Pier	588	12-Dec-18	20-May-21	494	30-Jul-19 A	24-Jun-22	41.15%	15.29%	-155	-257	-100



Actual Level of Effort | Actual Work | Remaining Work | Critical Remaining Work | Milestone | summary

Please note that this Monthly Rolling Plan has been updated based on the actual progress and will not match with impacted schedule submitted with the EOT-03 proposal for the contractor's eligibility for extension of time.

L&T - IHI

MUMBAI TRANS HARBOUR LINK PACKAGE 1, UPDATED BASELINE PROGRAMME FOR MARCH 2020

MMRDA

AECOM | PADECO | dar al-handasah shair and partners | TYLIN INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Original Duration	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
	MPR24.1.13.1.1.3.1 Pier - Land Viaduct	52	29-May-19	30-Oct-19	35	21-Oct-19 A	04-Jan-21	100%	77.78%	-43	-281	-224
	MPR24.1.13.1.1.3.2 Pier - Ramp A	504	12-Dec-18	09-Feb-21	422	30-Jul-19 A	01-Apr-22	55.65%	6.71%	-155	-269	-220
	MPR24.1.13.1.1.3.3 Pier - Ramp E	96	27-Jan-21	20-May-21	93	31-Jul-19 A	24-Jun-22	0%	22.73%	337	-257	-153
	MPR24.1.13.1.1.3.4 Pier - Ramp F	83	23-Dec-20	01-Apr-21	63	18-Jan-22	04-Apr-22	0%	0%	-249	-229	-31
	MPR24.1.13.1.1.4 Sewri Interchange - Work Front - 1 - Pier Cap	587	05-Jan-19	11-Jun-21	481	25-Sep-20	25-Jul-22	38.62%	0%	-370	-264	48
	MPR24.1.13.1.1.4.1 Pier Cap - Land Viaduct	49	16-Sep-19	14-Nov-19	52	05-Jan-21	09-Mar-21	100%	0%	-319	-322	-265
	MPR24.1.13.1.1.4.2 Pier Cap - Ramp A	499	05-Jan-19	26-Feb-21	398	25-Sep-20	19-Apr-22	51.29%	0%	-370	-269	-220
	MPR24.1.13.1.1.4.3 Pier Cap - Ramp E	100	13-Feb-21	11-Jun-21	104	25-Mar-22	25-Jul-22	0%	0%	-260	-264	48
	MPR24.1.13.1.1.4.4 Pier Cap - Ramp F	86	31-Dec-20	13-Apr-21	66	27-Jan-22	15-Apr-22	0%	0%	-249	-229	-15
	MPR24.1.13.1.1.5 Sewri Interchange - Embankment Works - Ramp F	90	14-Apr-21	01-Nov-21	90	15-Apr-22	29-Jul-22	0%	0%	-229	-229	-80
	MPR24.1.13.1.1.6 Sewri Interchange - Work Front - 1 - Super Structu	628	04-May-19	28-Feb-22	595	18-Jan-21	01-Apr-23	31.41%	0%	-366	-333	-291
	MPR24.1.13.1.1.6.1 Erection - Land Viaduct	96	19-Nov-19	11-Mar-20	96	08-Mar-21	01-Oct-21	100%	0%	-318	-318	-304
	MPR24.1.13.1.1.6.2 Erection - Ramp A	486	04-May-19	09-Apr-21	405	18-Jan-21	16-Jul-22	40.11%	0%	-417	-336	-296
	MPR24.1.13.1.1.6.3 Erection - Ramp E	146	10-Apr-21	02-Dec-21	146	16-Jul-22	06-Jan-23	0%	0%	-336	-336	-296
	MPR24.1.13.1.1.6.4 Erection - Ramp F	52	28-Dec-21	28-Feb-22	52	31-Jan-23	01-Apr-23	0%	0%	-336	-336	-294
	MPR24.1.13.1.2 Sewri Interchange - Work Front - 2	765	03-Nov-18	11-Feb-22	1196	29-Mar-19 A	24-May-23	46.95%	17.88%	-121	-392	-320
	MPR24.1.13.1.2.1 Sewri Interchange - Work Front - 2 - Piling	553	03-Nov-18	01-Mar-21	810	29-Mar-19 A	18-Feb-22	64.91%	39.63%	-121	-218	-172
	MPR24.1.13.1.2.1.1 Piling - Ramp C2	325	03-Nov-18	27-Feb-20	586	29-Mar-19 A	25-Feb-21	100%	95.92%	-121	-225	-172
	MPR24.1.13.1.2.1.2 Piling - Ramp C1	140	03-Apr-19	18-Dec-19	151	12-Nov-19 A	17-Feb-21	100%	8.57%	-108	-278	-172
	MPR24.1.13.1.2.1.3 Piling - Ramp B	84	21-Nov-20	01-Mar-21	108	22-Nov-19 A	18-Feb-22	0%	8.32%	227	-218	-172
	MPR24.1.13.1.2.2 Sewri Interchange - Work Front - 2 - Pile Cap	591	19-Nov-18	29-Apr-21	855	05-May-19 A	14-Apr-22	59.3%	23.44%	-140	-214	-152
	MPR24.1.13.1.2.2.1 Pile Cap - Ramp C2	361	19-Nov-18	24-Apr-20	649	05-May-19 A	10-May-21	86.02%	81.77%	-140	-238	-150
	MPR24.1.13.1.2.2.2 Pile Cap - Ramp C1	172	12-Apr-19	04-Feb-20	179	14-Dec-19 A	01-Apr-21	100%	6.67%	-128	-274	-172
	MPR24.1.13.1.2.2.3 Pile Cap - Ramp B	131	25-Nov-20	29-Apr-21	158	16-Jan-20 A	14-Apr-22	0%	7.14%	184	-214	-152
	MPR24.1.13.1.2.3 Sewri Interchange - Work Front - 2 - Pier	589	12-Dec-18	21-May-21	503	04-Sep-19 A	02-May-22	52.04%	38.74%	-155	-211	-28
	MPR24.1.13.1.2.3.1 Pier - Ramp C2	353	12-Dec-18	09-May-20	294	04-Sep-19 A	24-May-21	76.55%	82.04%	-155	-238	-150
	MPR24.1.13.1.2.3.2 Pier - Ramp C1	194	01-Apr-19	18-Feb-20	223	10-Sep-19 A	15-Apr-21	100%	25.51%	-64	-274	-172
	MPR24.1.13.1.2.3.3 Pier - Ramp B	248	25-Apr-20	21-May-21	221	08-Oct-19 A	02-May-22	0%	34.09%	168	-211	-28
	MPR24.1.13.1.2.4 Sewri Interchange - Work Front - 2 - Pier Cap	583	26-Dec-18	28-May-21	442	02-Dec-19 A	26-May-22	51.03%	0.35%	-206	-226	-42
	MPR24.1.13.1.2.4.1 Pier Cap - Ramp C2	356	26-Dec-18	27-May-20	249	02-Dec-19 A	08-Oct-21	67.95%	2.1%	-206	-259	-171
	MPR24.1.13.1.2.4.2 Pier Cap - Ramp C1	198	18-Apr-19	12-Mar-20	172	06-Nov-20	01-Jun-21	100%	0%	-320	-293	-195
	MPR24.1.13.1.2.4.3 Pier Cap - Ramp B	235	19-May-20	28-May-21	200	30-Sep-21	26-May-22	0%	0%	-261	-226	-42
	MPR24.1.13.1.2.5 Sewri Interchange - Embankment Works - Ramp C	60	23-May-19	02-Nov-19	60	27-Nov-20	08-Feb-21	0%	0%	-307	-307	249
	MPR24.1.13.1.2.6 Sewri Interchange - Work Front - 2 - Super Structu	654	18-Mar-19	11-Feb-22	701	04-Nov-20	24-May-23	30.15%	0%	-345	-392	-320
	MPR24.1.13.1.2.6.1 Erection - Ramp C2	343	18-Mar-19	02-Nov-20	368	04-Nov-20	22-Apr-22	52.94%	0%	-345	-370	-298
	MPR24.1.13.1.2.6.2 Erection - Ramp C1	194	08-Oct-19	26-May-20	194	26-Mar-21	14-Jan-22	66.05%	0%	-396	-396	-324
	MPR24.1.13.1.2.6.3 Erection - Ramp B	316	28-Nov-20	11-Feb-22	316	17-May-22	24-May-23	0%	0%	-396	-396	-324
	MPR24.1.13.1.3 Sewri Interchange - Work Front - 3 (Cast in situ Spans	431	28-Feb-20	01-Feb-22	431	25-Feb-21	26-Oct-22	4.08%	0%	-225	-225	-129
	MPR24.1.13.1.3.1 Sewri Interchange - Work Front - 3 - Piling	144	28-Feb-20	20-Nov-20	144	25-Feb-21	18-Nov-21	14.58%	0%	-225	-225	-172
	MPR24.1.13.1.3.1.1 Piling - Ramp B	54	28-Feb-20	02-May-20	54	25-Feb-21	30-Apr-21	38.89%	0%	-225	-225	-172
	MPR24.1.13.1.3.1.2 Piling - Ramp E	54	04-May-20	07-Oct-20	54	30-Apr-21	06-Oct-21	0%	0%	-225	-225	-172
	MPR24.1.13.1.3.1.3 Piling - Ramp C1	36	08-Oct-20	20-Nov-20	36	06-Oct-21	18-Nov-21	0%	0%	-225	-225	-172
	MPR24.1.13.1.3.2 Sewri Interchange - Work Front - 3 - Pile Cap	159	07-Mar-20	15-Dec-20	159	05-Mar-21	13-Dec-21	6.94%	0%	-225	-225	-14
	MPR24.1.13.1.3.2.1 Pile Cap - Ramp B	81	07-Mar-20	10-Jun-20	81	05-Mar-21	09-Jun-21	18.52%	0%	-225	-225	-56
	MPR24.1.13.1.3.2.2 Pile Cap - Ramp E	81	11-May-20	17-Nov-20	81	08-May-21	15-Nov-21	0%	0%	-225	-225	10
	MPR24.1.13.1.3.2.3 Pile Cap - Ramp C1	45	23-Oct-20	15-Dec-20	45	21-Oct-21	13-Dec-21	0%	0%	-225	-225	-25
	MPR24.1.13.1.3.3 Sewri Interchange - Work Front - 3 - Pier	216	18-Mar-20	05-Mar-21	216	16-Mar-21	03-Mar-22	1.67%	0%	-225	-225	-65
	MPR24.1.13.1.3.3.1 Pier - Ramp B	135	18-Mar-20	27-Nov-20	135	16-Mar-21	25-Nov-21	4.44%	0%	-225	-225	-104
	MPR24.1.13.1.3.3.2 Pier - Ramp E	135	21-May-20	01-Feb-21	135	19-May-21	29-Jan-22	0%	0%	-225	-225	-38
	MPR24.1.13.1.3.3.3 Pier - Ramp C1	90	18-Nov-20	05-Mar-21	90	15-Nov-21	03-Mar-22	0%	0%	-225	-225	-76
	MPR24.1.13.1.3.4 Sewri Interchange - Work Front - 3 - Pier Cap	196	24-Apr-20	19-Mar-21	196	22-Apr-21	17-Mar-22	0%	0%	-225	-225	-65
	MPR24.1.13.1.3.4.1 Pier Cap - Ramp B	115	24-Apr-20	11-Dec-20	115	22-Apr-21	09-Dec-21	0%	0%	-225	-225	-104
	MPR24.1.13.1.3.4.2 Pier Cap - Ramp E	132	08-Jun-20	15-Feb-21	132	05-Jun-21	12-Feb-22	0%	0%	-225	-225	-38
	MPR24.1.13.1.3.4.3 Pier Cap - Ramp C1	77	17-Dec-20	19-Mar-21	77	14-Dec-21	17-Mar-22	0%	0%	-225	-225	-76
	MPR24.1.13.1.3.5 Sewri Interchange - Work Front - 3 - Super Structu	360	23-May-20	01-Feb-22	360	21-May-21	26-Oct-22	0%	0%	-225	-225	-129
	MPR24.1.13.1.3.5.1 Super Structure - Ramp B	132	23-May-20	30-Jan-21	132	21-May-21	28-Jan-22	0%	0%	-225	-225	-115
	MPR24.1.13.1.3.5.2 Super Structure - Ramp E	132	16-Jan-21	24-Sep-21	132	13-Jan-22	18-Jun-22	0%	0%	-225	-225	-115
	MPR24.1.13.1.3.5.3 Super Structure - Ramp C1	120	09-Jun-21	01-Feb-22	120	04-Jun-22	26-Oct-22	0%	0%	-225	-225	-129
	MPR24.1.13.2 Intertidal Section	715	11-Jun-18	23-Oct-21	1109	11-Jun-18 A	17-Nov-22	52.55%	54.65%	0	-327	-300
	MPR24.1.13.2.1 Intertidal - Temporary Access Bridge Work	467	11-Jun-18	26-Sep-20	486	11-Jun-18 A	28-Apr-20	0%	0%	0	49	212
	MPR24.1.13.2.1.1 Access Bridge	457	11-Jun-18	12-Jun-20	482	11-Jun-18 A	06-Apr-20	0%	0%	0	58	221
	MPR24.1.13.2.1.2 Fingers	441	13-Oct-18	26-Sep-20	486	26-Sep-18 A	28-Apr-20	0%	0%	16	49	212
	MPR24.1.13.2.2 Intertidal - Main Bridge Work	638	14-Dec-18	23-Oct-21	1044	14-Nov-18 A	17-Nov-22	52.55%	54.65%	26	-327	-300
	MPR24.1.13.2.2.1 Intertidal - Main Bridge Work - Piling	531	14-Dec-18	16-Mar-21	683	14-Nov-18 A	10-Jun-21	64.99%	87.54%	26	-73	-39
	MPR24.1.13.2.2.2 Intertidal - Main Bridge Work - Pile Cap	536	29-Dec-18	06-Apr-21	829	17-Jan-19 A	07-Mar-22	61.54%	69.74%	-15	-201	-172
	MPR24.1.13.2.2.3 Intertidal - Main Bridge Work - Pier	562	17-Jan-19	25-May-21	857	29-Mar-19 A	08-Apr-22	57.88%	67.26%	-59	-188	-161
	MPR24.1.13.2.2.4 Intertidal - Main Bridge Work - Pier Cap	562	30-Jan-19	05-Jun-21	606	10-Aug-19 A	20-Apr-22	56.11%	37.3%	-115	-188	-161

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MUMBAI TRANS HARBOUR LINK PACKAGE 1, UPDATED BASELINE PROGRAMME FOR MARCH 2020

MMRDA

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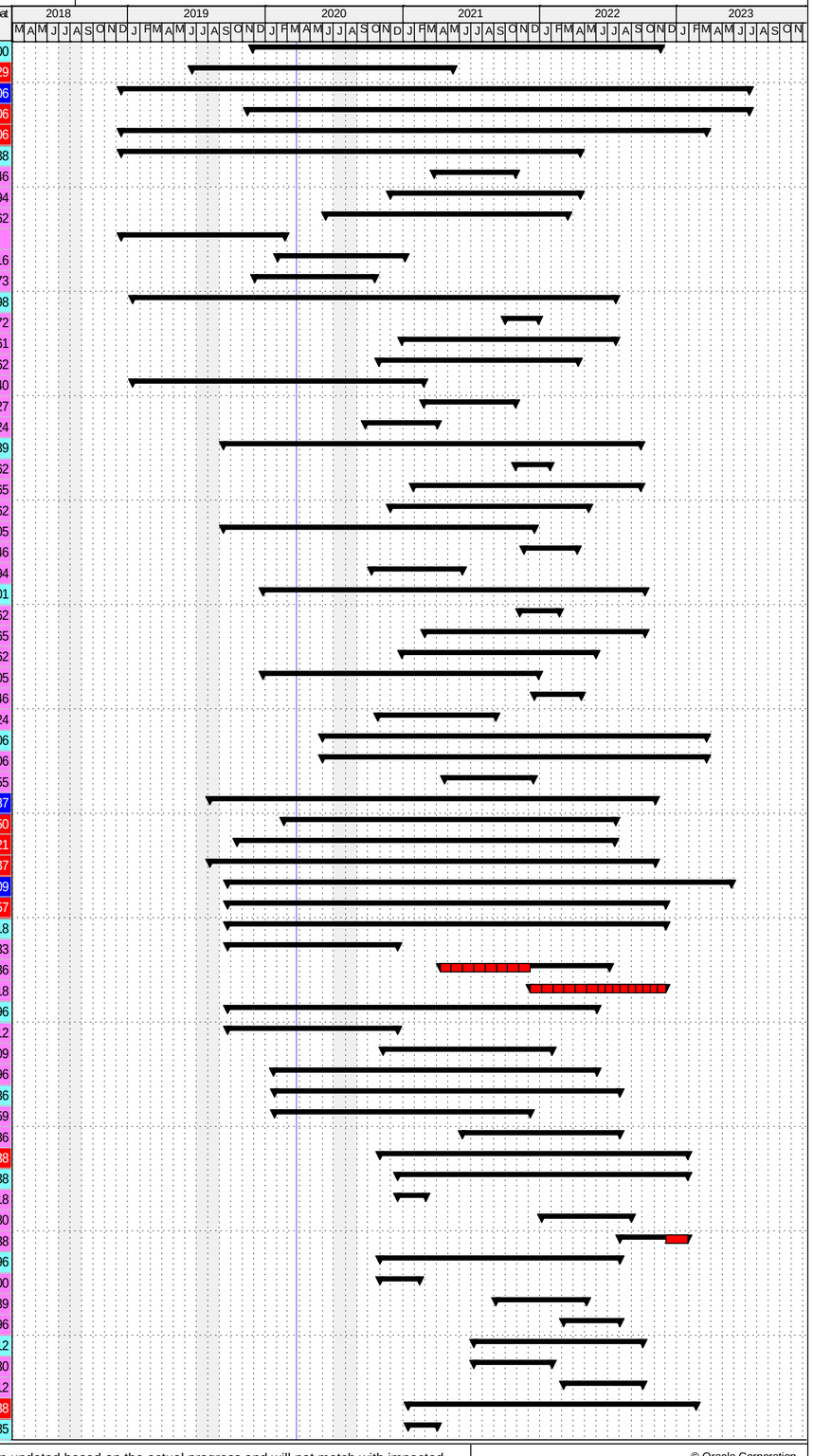
General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Original Duration	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
	MPR24.1.13.2.2.5 Intertidal - Main Bridge Work - Super Structure Er	534	18-Apr-19	23-Oct-21	646	29-Nov-19 A	17-Nov-22	22.87%	1.53%	-110	-327	-300
	MPR24.1.13.2.3 Intertidal - Finger Removal & Reuse	400	07-Mar-19	29-Dec-20	360	20-Jun-19 A	15-May-21	0%	0%	-85	-114	-29
	MPR24.1.13.3 Marine Section	911	18-Sep-18	17-Jun-22	1269	14-Dec-18 A	12-Jul-23	44.15%	21.9%	-73	-327	-306
	MPR24.1.13.3.1 Temporary Access Bridge Work -2 (MP70 to MP51- 21	911	18-Sep-18	17-Jun-22	908	14-Nov-19 A	12-Jul-23	0%	0%	-274	-327	-306
	MPR24.1.13.3.2 Marine - Main Bridge	775	03-Nov-18	23-Feb-22	1172	14-Dec-18 A	20-Mar-23	44.15%	21.9%	-34	-327	-306
	MPR24.1.13.3.2.1 Marine - Piling	564	03-Nov-18	15-Mar-21	890	14-Dec-18 A	18-Apr-22	58.88%	55.36%	-34	-256	-138
	MPR24.1.13.3.2.1.1 Piling - Stretch - 1 - OSD-1 MP51 to MP53 (320	104	20-Sep-19	22-Jan-20	104	25-Mar-21	28-Oct-21	100%	0%	-382	-382	-246
	MPR24.1.13.3.2.1.2 Piling - Stretch - 2 - Marine - MP54 to MP68 (85	344	25-Feb-19	13-Oct-20	344	30-Nov-20	18-Apr-22	61.67%	0%	-382	-382	-194
	MPR24.1.13.3.2.1.3 Piling - Stretch - 3 - OSD-2&3 MP69 to MP80 (1	521	10-Dec-18	26-Feb-21	379	11-Jun-20	15-Mar-22	50.89%	0%	-382	-240	-162
	MPR24.1.13.3.2.1.4 Piling - Stretch - 4 - Marine MP81 to MP123 (2.(	370	03-Nov-18	21-Apr-20	489	14-Dec-18 A	22-Feb-20 A	94.52%	100%	-34	50	
	MPR24.1.13.3.2.1.5 Piling - Stretch - 5 - OSD-4 MP124 to MP128 (6	147	22-Apr-20	16-Jan-21	130	04-Feb-20 A	07-Jan-21	0%	36.19%	66	8	116
	MPR24.1.13.3.2.1.6 Piling - Stretch - 6 - Marine MP129 to MP148 (1	395	25-May-19	15-Mar-21	148	06-Dec-19 A	20-Oct-20	5%	92.5%	-85	122	173
	MPR24.1.13.3.2.3 Marine - Pile Cap	572	23-Nov-18	12-Apr-21	947	14-Jan-19 A	22-Jul-22	45.11%	22.42%	-43	-314	-198
	MPR24.1.13.3.2.3.1 Pile Cap - Stretch - 1 - OSD-1 MP51 to MP53 (3	75	25-Dec-19	23-Mar-20	75	30-Sep-21	27-Dec-21	100%	0%	-382	-382	-272
	MPR24.1.13.3.2.3.2 Pile Cap - Stretch - 2 - Marine - MP54 to MP68	400	28-Mar-19	20-Jan-21	400	30-Dec-20	22-Jul-22	40.27%	0%	-382	-382	-261
	MPR24.1.13.3.2.3.3 Pile Cap - Stretch - 3 - OSD-2&3 MP69 to MP8(	505	28-Jan-19	27-Mar-21	363	31-Oct-20	12-Apr-22	43.4%	0%	-382	-240	-162
	MPR24.1.13.3.2.3.4 Pile Cap - Stretch - 4 - Marine MP81 to MP123	444	23-Nov-18	10-Nov-20	597	14-Jan-19 A	27-Feb-21	66.83%	50.44%	-43	-92	-40
	MPR24.1.13.3.2.3.5 Pile Cap - Stretch - 5 - OSD-4 MP124 to MP128	125	11-Nov-20	08-Apr-21	125	27-Feb-21	29-Oct-21	0%	0%	-92	-92	-27
	MPR24.1.13.3.2.3.6 Pile Cap - Stretch - 6 - Marine MP 129 to MP 14	407	08-Jun-19	12-Apr-21	159	24-Sep-20	03-Apr-21	5%	0%	-240	8	124
	MPR24.1.13.3.2.4 Marine - Pier	590	22-Dec-18	02-Jun-21	715	12-Sep-19 A	27-Sep-22	41.35%	3.19%	-146	-325	-239
	MPR24.1.13.3.2.4.1 Pier - Stretch - 1 - OSD-1 MP51 to MP53 (320m	75	24-Jan-20	21-Apr-20	75	30-Oct-21	27-Jan-22	68%	0%	-382	-382	-262
	MPR24.1.13.3.2.4.2 Pier - Stretch - 2 - Marine - MP54 to MP68 (856	429	26-Apr-19	26-Mar-21	429	30-Jan-21	27-Sep-22	40%	0%	-382	-382	-265
	MPR24.1.13.3.2.4.3 Pier - Stretch - 3 - OSD-2&3 MP69 to MP80 (1.5	504	26-Feb-19	24-Apr-21	362	01-Dec-20	10-May-22	40.63%	0%	-382	-240	-162
	MPR24.1.13.3.2.4.4 Pier - Stretch - 4 - Marine MP81 to MP123 (2.6 I	472	22-Dec-18	12-Jan-21	478	12-Sep-19 A	17-Dec-21	61.74%	7.25%	-146	-206	-105
	MPR24.1.13.3.2.4.5 Pier - Stretch - 5 - OSD-4 MP124 to MP128 (60(	118	13-Jan-21	02-Jun-21	120	19-Nov-21	11-Apr-22	0%	0%	-181	-183	-146
	MPR24.1.13.3.2.4.6 Pier - Stretch - 6 - Marine MP129 to MP148 (1.2	419	27-Sep-19	28-Apr-21	199	12-Oct-20	08-Jun-21	5%	0%	-253	-33	94
	MPR24.1.13.3.2.2 Marine - Pier Cap	576	21-Jan-19	14-Jun-21	651	26-Dec-19 A	08-Oct-22	39.43%	0.99%	-206	-325	-201
	MPR24.1.13.3.2.2.1 Pier Cap - Stretch - 1 - OSD-1 MP51 to MP53 (3	87	04-Feb-20	16-May-20	87	10-Nov-21	21-Feb-22	34.92%	0%	-382	-382	-162
	MPR24.1.13.3.2.2.2 Pier Cap - Stretch - 2 - Marine - MP54 to MP68	414	27-May-19	07-Apr-21	414	01-Mar-21	08-Oct-22	40%	0%	-382	-382	-265
	MPR24.1.13.3.2.2.3 Pier Cap - Stretch - 3 - OSD-2&3 MP69 to MP8(	497	28-Mar-19	17-May-21	355	30-Dec-20	31-May-22	33.33%	0%	-382	-240	-162
	MPR24.1.13.3.2.2.4 Pier Cap - Stretch - 4 - Marine MP81 to MP123	458	21-Jan-19	23-Jan-21	413	26-Dec-19 A	29-Dec-21	59%	2.28%	-206	-206	-105
	MPR24.1.13.3.2.2.5 Pier Cap - Stretch - 5 - OSD(4) MP124 to MP12	103	12-Feb-21	14-Jun-21	105	18-Dec-21	22-Apr-22	0%	0%	-181	-183	-146
	MPR24.1.13.3.2.2.6 Pier Cap - Stretch - 6 - Marine MP129 to MP14	403	12-Oct-19	11-May-21	192	28-Oct-20	06-Sep-21	12.54%	0%	-240	-29	124
	MPR24.1.13.3.2.5 Marine - Super Structure Erection	636	19-Apr-19	23-Feb-22	697	02-Jun-20	20-Mar-23	24.97%	0%	-266	-327	-306
	MPR24.1.13.3.2.5.1 Erection - Main Concrete Viaduct	636	19-Apr-19	23-Feb-22	697	02-Jun-20	20-Mar-23	25.18%	0%	-266	-327	-306
	MPR24.1.13.3.2.5.2 Rescue Span (MP98 to MP99)	120	07-Mar-20	29-Oct-20	120	22-Apr-21	15-Dec-21	12.5%	0%	-266	-266	55
	MPR24.1.13.4 Precast Segments	778	06-Feb-19	21-Aug-21	883	07-Aug-19 A	04-Nov-22	42.37%	6.67%	-154	-367	-37
	MPR24.1.13.4.1 Precast Segement - Sewri Interchange	701	06-Feb-19	24-May-21	684	20-Feb-20 A	22-Jul-22	53.23%	0.78%	-317	-358	50
	MPR24.1.13.4.2 Precast Segement - Intertidal	753	28-Feb-19	14-Aug-21	672	18-Oct-19 A	19-Jul-22	45.96%	17.3%	-194	-284	-221
	MPR24.1.13.4.3 Precast Segement - Marine	759	28-Feb-19	21-Aug-21	883	07-Aug-19 A	04-Nov-22	35.86%	1.54%	-135	-367	-37
	MPR24.1.13.5 Orthotropic Steel Deck (OSD) - Fabrication, Shipping, Ass	608	11-Jun-19	15-Mar-22	808	23-Sep-19 A	27-May-23	0%	0%	-9	-369	-209
	MPR24.1.13.5.1 OSD - Fabrication	746	28-Sep-19	12-Oct-21	975	23-Sep-19 A	01-Dec-22	0%	0%	5	-415	-357
	MPR24.1.13.5.1.1 Fabrication - Factory A	720	28-Sep-19	16-Sep-21	975	23-Sep-19 A	01-Dec-22	0%	0%	5	-441	-418
	MPR24.1.13.5.1.1.1 OSD 01 - RHS Fabrication - MP50 to MP53 (32	330	28-Sep-19	22-Aug-20	262	23-Sep-19 A	18-Dec-20	0%	0%	5	-118	33
	MPR24.1.13.5.1.1.2 OSD 03 - RHS Fabrication - MP75 to MP81 (77	450	26-Jan-20	19-Apr-21	450	11-Apr-21	04-Jul-22	0%	0%	-441	-441	-336
	MPR24.1.13.5.1.1.3 OSD 04 - RHS Fabrication - MP124 to MP128 (	360	22-Sep-20	16-Sep-21	360	07-Dec-21	01-Dec-22	0%	0%	-441	-441	-418
	MPR24.1.13.5.1.2 Fabrication - Factory B	720	28-Sep-19	16-Sep-21	794	23-Sep-19 A	03-Jun-22	0%	0%	5	-260	-196
	MPR24.1.13.5.1.2.1 OSD 01 - LHS Fabrication - MP50 to MP53 (32(	330	28-Sep-19	22-Aug-20	262	23-Sep-19 A	18-Dec-20	0%	0%	5	-118	12
	MPR24.1.13.5.1.2.2 OSD 02 - RHS Fabrication - MP69 to MP75 (68	450	26-Jan-20	19-Apr-21	450	11-Nov-20	03-Feb-22	0%	0%	-290	-290	-209
	MPR24.1.13.5.1.2.3 OSD 04 - LHS Fabrication - MP124 to MP128 (5	360	22-Sep-20	16-Sep-21	330	24-Jan-20 A	03-Jun-22	0%	0%	242	-260	-196
	MPR24.1.13.5.1.3 Fabrication - Factory C	660	23-Dec-19	12-Oct-21	632	27-Jan-20 A	02-Aug-22	0%	0%	-35	-294	-236
	MPR24.1.13.5.1.3.1 OSD 02 - LHS Fabrication - MP69 to MP75 (68:	420	23-Dec-19	14-Feb-21	392	27-Jan-20 A	05-Dec-21	0%	0%	-35	-294	-159
	MPR24.1.13.5.1.3.2 OSD 03 - LHS Fabrication - MP75 to MP81 (77(	420	19-Aug-20	12-Oct-21	420	09-Jun-21	02-Aug-22	0%	0%	-294	-294	-236
	MPR24.1.13.5.2 OSD - Shipping	536	24-Jun-20	11-Dec-21	819	02-Nov-20	30-Jan-23	0%	0%	-132	-415	-238
	MPR24.1.13.5.2.1 Shipping - Factory A	510	24-Jun-20	15-Nov-21	773	18-Dec-20	30-Jan-23	0%	0%	-178	-441	-238
	MPR24.1.13.5.2.1.1 OSD 01 - RHS Shipping - MP50 to MP53 (320m	120	24-Jun-20	21-Oct-20	75	18-Dec-20	03-Mar-21	0%	0%	-178	-133	18
	MPR24.1.13.5.2.1.2 OSD 03 - RHS Shipping - MP75 to MP81 (770m	240	22-Oct-20	18-Jun-21	240	06-Jan-22	02-Sep-22	0%	0%	-441	-441	-280
	MPR24.1.13.5.2.1.3 OSD 04 - RHS Shipping - MP124 to MP128 (56	180	20-May-21	15-Nov-21	180	04-Aug-22	30-Jan-23	0%	0%	-441	-441	-238
	MPR24.1.13.5.2.2 Shipping - Factory B	510	24-Jun-20	15-Nov-21	638	02-Nov-20	02-Aug-22	0%	0%	-132	-260	-196
	MPR24.1.13.5.2.2.1 OSD 01 - LHS Shipping - MP50 to MP53 (320m	120	24-Jun-20	21-Oct-20	106	02-Nov-20	16-Feb-21	0%	0%	-132	-118	200
	MPR24.1.13.5.2.2.2 OSD 02 - RHS Shipping - MP69 to MP75 (683m	240	21-Nov-20	18-Jul-21	240	07-Sep-21	04-May-22	0%	0%	-290	-290	-239
	MPR24.1.13.5.2.2.3 OSD 04 - LHS Shipping - MP124 to MP128 (56(	180	20-May-21	15-Nov-21	150	06-Mar-22	02-Aug-22	0%	0%	-290	-260	-196
	MPR24.1.13.5.2.3 Shipping - Factory C	450	18-Sep-20	11-Dec-21	450	09-Jul-21	01-Oct-22	0%	0%	-294	-294	-212
	MPR24.1.13.5.2.3.1 OSD 02 - LHS Shipping - MP69 to MP75 (683m	210	18-Sep-20	15-Apr-21	210	09-Jul-21	03-Feb-22	0%	0%	-294	-294	-130
	MPR24.1.13.5.2.3.2 OSD 03 - LHS Shipping - MP75 to MP81 (770m	210	16-May-21	11-Dec-21	210	06-Mar-22	01-Oct-22	0%	0%	-294	-294	-212
	MPR24.1.13.5.3 OSD - Custom Clearance and Inland Transport (Last M	482	07-Sep-20	01-Jan-22	765	16-Jan-21	20-Feb-23	0%	0%	-132	-415	-238
	MPR24.1.13.5.3.1 OSD 1 - MP50 to MP53 (320m)	75	07-Sep-20	20-Nov-20	76	16-Jan-21	02-Apr-21	0%	0%	-132	-133	185



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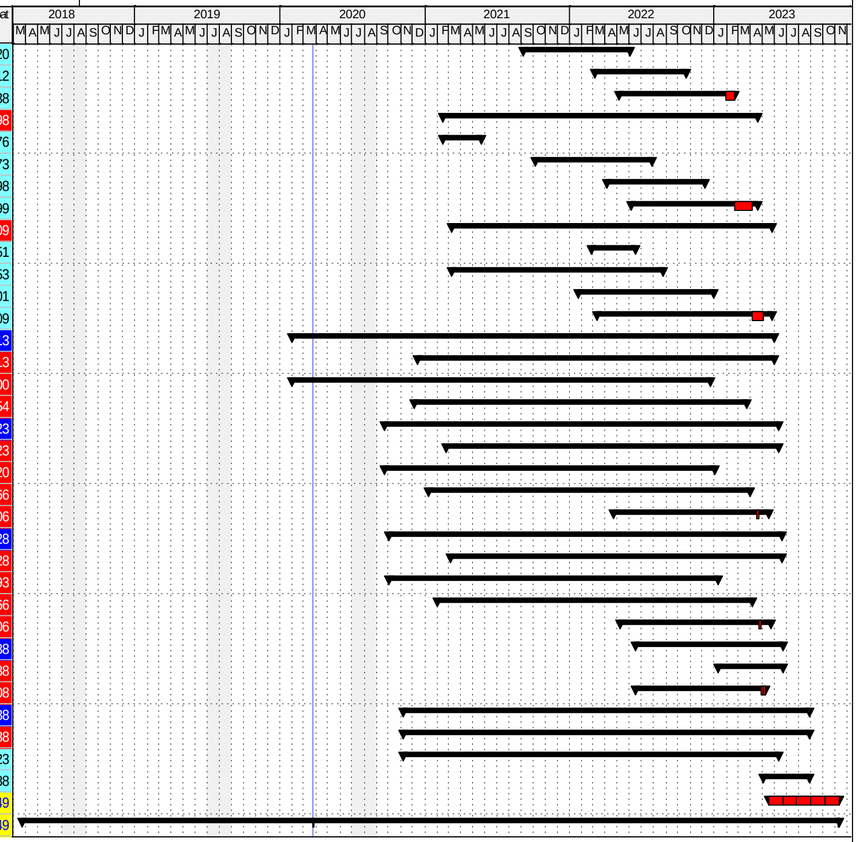
AECOM | PADECO | dar al-handasah | TYLIN INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Original Duration	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
	MPR24.1.13.5.3.2 OSD 2 - MP69 to MP75 (683m)	274	17-Nov-20	17-Aug-21	270	07-Sep-21	03-Jun-22	0%	0%	-294	-290	-220
	MPR24.1.13.5.3.3 OSD 3 - MP75 to MP81 (770m)	377	21-Dec-20	01-Jan-22	230	07-Mar-22	22-Oct-22	0%	0%	-441	-294	-212
	MPR24.1.13.5.3.4 OSD 4 - MP124 to MP128 (560m)	141	19-Jul-21	06-Dec-21	292	05-May-22	20-Feb-23	0%	0%	-290	-441	-238
	MPR24.1.13.5.4 OSD - Assembly	337	07-Oct-20	16-Feb-22	587	15-Feb-21	19-Apr-23	0%	0%	-109	-359	-198
	MPR24.1.13.5.4.1 OSD 1 - MP50 to MP53 (320m)	80	07-Oct-20	11-Jan-21	82	15-Feb-21	24-May-21	0%	0%	-109	-111	76
	MPR24.1.13.5.4.2 OSD 2 - MP69 to MP75 (683m)	252	17-Dec-20	13-Oct-21	249	07-Oct-21	28-Jul-22	0%	0%	-246	-243	-173
	MPR24.1.13.5.4.3 OSD 3 - MP75 to MP81 (770m)	329	20-Jan-21	16-Feb-22	206	06-Apr-22	07-Dec-22	0%	0%	-369	-246	-198
	MPR24.1.13.5.4.4 OSD 4 - MP124 to MP128 (560m)	142	18-Aug-21	04-Feb-22	269	04-Jun-22	19-Apr-23	0%	0%	-243	-370	-199
	MPR24.1.13.5.5 OSD - Erection	608	11-Jun-19	15-Mar-22	602	09-Mar-21	27-May-23	0%	0%	-375	-369	-209
	MPR24.1.13.5.5.1 OSD 1 - MP50 to MP53 (320m)	157	21-May-20	26-Feb-21	95	25-Feb-22	16-Jun-22	0%	0%	-382	-320	-151
	MPR24.1.13.5.5.2 OSD 2 - MP69 to MP75 (683m)	542	11-Jun-19	24-Dec-21	370	09-Mar-21	23-Aug-22	0%	0%	-375	-203	-153
	MPR24.1.13.5.5.3 OSD 3 - MP75 to MP81 (770m)	279	07-Jan-21	10-Mar-22	288	22-Jan-22	30-Dec-22	0%	0%	-240	-249	-201
	MPR24.1.13.5.5.4 OSD 4 - MP124 to MP128 (560m)	185	05-May-21	15-Mar-22	373	11-Mar-22	27-May-23	0%	0%	-181	-369	-209
	MPR24.1.13.6 Post Erection Segmental Stitch Concrete (incl. Bearing In:	644	24-Apr-19	10-Mar-22	759	01-Feb-20 A	01-Jun-23	0%	0%	-159	-377	-213
	MPR24.1.13.6.1 Stitch Concrete - Sewri Interchange	644	24-Apr-19	10-Mar-22	676	12-Dec-20	01-Jun-23	0%	0%	-345	-377	-213
	MPR24.1.13.6.2 Stitch Concrete - Intertidal	475	29-Nov-19	22-Dec-21	624	01-Feb-20 A	22-Dec-22	0%	0%	-54	-306	-300
	MPR24.1.13.6.3 Stitch Concrete - Marine	563	21-Oct-19	26-Feb-22	624	04-Dec-20	23-Mar-23	0%	0%	-266	-327	-154
	MPR24.1.13.7 Crash Barrier Works	585	05-Oct-19	11-Mar-22	754	22-Sep-20	13-Jun-23	0%	0%	-216	-386	-223
	MPR24.1.13.7.1 Crash Barrier - Sewri Interchange	585	05-Oct-19	11-Mar-22	626	23-Feb-21	13-Jun-23	0%	0%	-345	-386	-223
	MPR24.1.13.7.2 Crash Barrier - Intertidal	470	17-Dec-19	04-Jan-22	619	22-Sep-20	03-Jan-23	0%	0%	-156	-306	-120
	MPR24.1.13.7.3 Crash Barrier - Marine	541	26-Nov-19	09-Mar-22	602	09-Jan-21	01-Apr-23	0%	0%	-266	-327	-166
	MPR24.1.13.7.4 Crash Barrier - Orthotropic Steel Deck	291	23-Dec-20	10-Mar-22	330	21-Apr-22	18-May-23	0%	0%	-326	-365	-206
	MPR24.1.13.8 Bridge Deck (Superstructure) Water Proofing	581	15-Oct-19	16-Mar-22	749	03-Oct-20	19-Jun-23	0%	0%	-218	-387	-228
	MPR24.1.13.8.1 Water Proofing - Sewri Interchange	579	15-Oct-19	14-Mar-22	623	05-Mar-21	19-Jun-23	0%	0%	-345	-389	-228
	MPR24.1.13.8.2 Water Proofing - Intertidal	465	28-Dec-19	10-Jan-22	614	03-Oct-20	09-Jan-23	0%	0%	-156	-306	-93
	MPR24.1.13.8.3 Water Proofing - Marine	526	18-Dec-19	14-Mar-22	587	02-Feb-21	06-Apr-23	0%	0%	-266	-327	-166
	MPR24.1.13.8.4 Water Proofing - Orthotropic Steel Deck	281	11-Jan-21	16-Mar-22	320	09-May-22	24-May-23	0%	0%	-326	-365	-206
	MPR24.1.13.9 Stone Mastic Asphalt Pavement	74	23-Dec-21	22-Mar-22	311	17-Jun-22	23-Jun-23	0%	0%	-149	-386	-288
	MPR24.1.13.9.1 Sewri Interchange	70	27-Dec-21	21-Mar-22	138	10-Jan-23	23-Jun-23	0%	0%	-318	-387	-288
	MPR24.1.13.9.2 Main Bridge	74	23-Dec-21	22-Mar-22	273	17-Jun-22	10-May-23	0%	0%	-149	-348	-308
	MPR24.1.13.10 Bridge Anclilaries and Misc. Works	575	31-Jan-20	22-Jun-22	781	06-Nov-20	29-Aug-23	0%	0%	-156	-363	-288
	MPR24.1.13.10.1 Bridge Ancillaries	575	31-Jan-20	22-Jun-22	781	06-Nov-20	29-Aug-23	0%	0%	-156	-363	-288
	MPR24.1.13.10.1.1 Noise Barrier, View Barrier and Safety Fence	552	31-Jan-20	26-May-22	716	06-Nov-20	13-Jun-23	0%	0%	-156	-321	-223
	MPR24.1.13.10.1.2 Traffic Signages and Marking	84	17-Mar-22	22-Jun-22	99	05-May-23	29-Aug-23	0%	0%	-348	-363	-288
	MPR24.1.15 Handing Over	148	31-Mar-22	22-Sep-22	148	19-May-23	10-Nov-23	0%	0%	-348	-348	-349
	MPR24.1.14 Invoice Schedule (Shows the Invoice items which are not cov	1062	23-Mar-18	22-Sep-22	1410	23-Mar-18 A	10-Nov-23	45.42%	29.19%	0	-348	-349



Actual Level of Effort | Remaining Work | Milestone
Actual Work | Critical Remaining Work | summary

Please note that this Monthly Rolling Plan has been updated based on the actual progress and will not match with impacted schedule submitted with the EOT-03 proposal for the contractor's eligibility for extension of time.

Attachment 7- Package-2's Construction Programme Updated as on 25th March 2020

MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE UNDER IDENTIFICATION NO MMRDA/ENG/000753

ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME (PACKAGE-2)

#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete
1	MTHL-PKG2-DETAILED WORK PROGRAMME_25032020_APPROVED_MPR.2		2946.04	17-Nov-17	21-Sep-24	17-Nov-17		38.06%	19.05%
2	PROJECT PRE-COMMENCEMENT ACTIVITY		126.00	17-Nov-17	22-Mar-18	17-Nov-17	16-Mar-18	0%	0%
3	PRE-COMMENCEMENT ACTIVITY		55.00	15-Dec-17	07-Feb-18	15-Dec-17	20-Mar-18	0%	0%
4	PROJECT EVENT MILESTONE		2270.13	23-Mar-18	21-Mar-23	23-Mar-18		0%	0%
5	PROJECT KEY MILESTONE		2090.13	23-Mar-18	22-Sep-22	23-Mar-18		0%	0%
6	INTERFACE MILESTONE_ERG19		2242.13	19-Apr-18	21-Mar-23	03-Apr-18		0%	0%
7	PHYSICAL PROGRESS AND INTERFACE DATE_ADD2-ATTACHMENT 25		1825.88	18-Sep-18	22-Jun-22	31-Aug-18		0%	0%
8	CONSTRUCTION KEY MILESTONES		947.25	03-Sep-18	06-Jul-21	25-Oct-18		0%	0%
9	MANAGEMENT		613.00	20-Jan-18	18-Aug-18	12-Jan-18	22-Aug-19	0%	0%
10	SITE ORGANISATION		35.00	20-Jan-18	23-Feb-18	07-Mar-18	07-Mar-18	0%	0%
11	DEVELOPMENT OF MANAGEMENT SYSTEM		613.00	20-Jan-18	27-May-18	20-Jan-18	22-Aug-19	0%	0%
12	COUMMUNICATION / DOCUMENT CONTROL SYSTEM		315.38	20-Jan-18	10-May-18	20-Jan-18	24-Oct-18	0%	0%
13	QUALITY ASSURANCE AND MANAGEMENT SYSTEM		254.00	23-Mar-18	10-May-18	23-Mar-18	24-Oct-18	0%	0%
14	HEALTH, SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEM		551.00	23-Mar-18	10-May-18	23-Mar-18	22-Aug-19	0%	0%
15	INTERFACE MANAGEMENT SYSTEM		49.00	23-Mar-18	10-May-18	23-Mar-18	24-Oct-18	0%	0%
16	RISK MANAGEMENT PLAN		66.00	23-Mar-18	27-May-18	23-Mar-18	24-Oct-18	0%	0%
17	DEVELOPMENT OF WORK PROGRAMME		63.00	23-Mar-18	24-May-18	23-Mar-18	21-Sep-18	0%	0%
18	CONTRACTOR'S WORK PROGRAMME		63.00	23-Mar-18	24-May-18	23-Mar-18	21-Sep-18	0%	0%
19	OTHER CONTRACTUAL SUBMITTALS		28.00	24-Mar-18	20-Apr-18	24-Mar-18	23-Apr-18	0%	0%
20	PERMIT & APPROVAL		389.00	20-Jan-18	18-Aug-18	12-Jan-18	03-Aug-19	0%	0%
21	SURVEYING & GEOTECHNICAL INVESTIGATION		35.00	20-Jan-18	23-Feb-18	12-Jan-18	09-Feb-18	0%	0%
22	CUTTING OF MANGROVES		70.00	20-Jan-18	30-Mar-18	25-Jan-18	23-Apr-18	0%	0%
23	SETTING UP BATCHING PLANT		313.00	06-Apr-18	18-Aug-18	06-Apr-18	28-Nov-18	0%	0%
24	PC YARD & CAMP		28.00	04-May-18	01-Jun-18	21-Mar-18	01-Oct-18	0%	0%
25	CONNECTION FOR ELECTRICITY & WATER		63.00	18-May-18	20-Jul-18	06-Apr-18	03-Aug-19	0%	0%
26	CUTTING OF TREES		35.00	23-Mar-18	26-Apr-18	10-May-18	02-Aug-18	0%	0%
27	IMPORT PERMITS/LICENCES FOR EQUIPMENTS & GOODS		70.00	23-Mar-18	31-May-18	15-May-18	31-May-18	0%	0%
28	NOC FOR PLANT & FACILITIES TO BE USED AT SITE		51.00	23-Mar-18	31-May-18	16-Aug-18	28-Nov-18	0%	0%
29	TEMPORARY ACCESS ROAD FOR MAIN BRIDGE & INTERCHANGE		58.00	23-Mar-18	19-May-18	23-Mar-18	28-Jul-18	0%	0%
30	DESIGN		1087.38	20-Jan-18	04-Sep-19	01-Jan-18		100%	82.36%
31	EARLY STAGE DESIGN WORK / INFORMATION COLLECTION		678.38	20-Jan-18	17-Jul-18	01-Jan-18	12-Nov-19	100%	100%
32	INDEPENDENT DESIGN CHECKER APPROVAL		35.00	20-Jan-18	23-Feb-18	20-Jan-18	13-Apr-18	0%	0%
33	TOPOGRAPHIC SURVEY		116.33	20-Jan-18	16-May-18	01-Jan-18	20-Apr-18	0%	0%
34	BATHYMETRIC SURVEY		75.00	20-Jan-18	04-Apr-18	25-Jan-18	20-Mar-18	0%	0%
35	ADDITIONAL TIME FOR ONGC & BPCL PHYSCIAL VERIFICATION		309.00			21-Mar-18	05-Aug-19	0%	0%
36	GEOTECHNICAL INVESTIGATION		548.08	20-Jan-18	17-Jul-18	12-Jan-18	25-Jun-19	100%	100%
37	ADDITIONAL WORKS FOR DESIGN INITIATION OF STEEL MODULE 1		63.00			26-Jun-19	12-Nov-19	0%	0%
38	TEMPORARY WORK		884.17	22-Jan-18	01-Nov-18	20-Jan-18		100%	100%
39	PROJECT OFFICE LAYOUT		241.13	04-May-18	02-Jun-18	04-May-18	17-Jul-18	0%	0%
40	CASTING YARD LAYOUT		72.33	22-Jan-18	04-Apr-18	20-Jan-18	09-Oct-18	0%	0%
41	TEMPORARY BRIDGE		94.33	26-Feb-18	31-May-18	24-Feb-18	30-Aug-18	100%	100%
42	CASTING YARD STRUCTURE		199.38	10-May-18	10-Aug-18	20-Mar-18	20-Nov-18	0%	0%
43	STEEL BRIDGE FABRICATION YARD		212.17	20-Jul-18	01-Nov-18	11-Nov-19		0%	0%
44	CONCRETE MIX DESIGN		274.38	23-Mar-18	31-Aug-18	12-May-18	15-Nov-18	0%	0%
45	JFE DESIGN PROGRAMME		986.04	01-May-18	04-Sep-19	09-Apr-18		100%	50.5%
46	PROCUREMENT, MANUFACTURING AND LOGISTICS		1394.33	20-Jan-18	23-Aug-20	22-Dec-17		100%	91.67%
47	SURVEY & INVESTIGATION		72.33	20-Jan-18	02-Apr-18	22-Dec-17	04-Apr-18	0%	0%
48	TEMPORARY WORK		840.33	20-Jan-18	20-Oct-18	20-Jan-18		0%	0%
49	MAIN WORK_SUBCONTRACT WORK		742.00	23-Mar-18	20-Jul-19	23-Mar-18		0%	0%
50	EQUIPMENTS		893.50	23-Mar-18	12-Sep-19	23-Mar-18		100%	100%
51	BATCHING PLANT		437.00	23-Mar-18	31-Jul-18	23-Mar-18	23-Mar-19	0%	0%
52	RCD MACHINE		514.00	23-Mar-18	11-Nov-18	23-Mar-18	24-Aug-19	0%	0%
53	GANTRY CRANE		883.00	23-Mar-18	08-Feb-19	23-Mar-18		100%	100%
54	SEGMENT LAUNCHER		770.41	24-Jul-18	12-Sep-19	24-Jul-18	09-Mar-20	0%	0%
55	PRECAST MOULD AND SYSTEM FORM		714.91	07-Aug-18	24-Mar-19	04-Sep-18		100%	83.33%
56	PRECAST MOULD_CASTING BED		332.00	20-Aug-18	24-Mar-19	03-Jun-19		100%	83.33%
57	SYSTEM FORM		446.91	07-Aug-18	04-Mar-19	04-Sep-18		0%	0%
58	MATERIAL SUPPLIERS		851.38	02-Jun-18	15-Oct-19	20-Apr-18		0%	0%

Project Baseline Bar
Actual Work
Remaining Work
Critical Remaining Work
Milestone
% Complete
Summary

EMPLOYER:
MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)

CONTRACTOR:
DAEWOO - TPL JV

Date	Revision	Checked	Approved
25-Mar-20	R0		

MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE UNDER IDENTIFICATION NO MMRDA/ENG/000753

ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME (PACKAGE-2)

#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete
59		MATERIAL PROCUREMENT	0.00			08-Aug-18		0%	0%
60		TEMPORARY BRIDGE	0.00			08-Aug-18		0%	0%
61		PERMANENT WORKS	0.00			25-Mar-19		0%	0%
62		PROCUREMENT OF STEEL GIRDER	762.00	07-May-19	23-Aug-20	01-Aug-19		0%	0%
63		STEEL PLATE FOR (RHS.STEEL MOUDLE-2_MP177 - MP182)	513.00	04-Jun-19	13-Jul-20	08-Aug-19		0%	0%
64		STEEL PLATE FOR (LHS.STEEL MOUDLE-2_MP177 - MP182)	438.00	07-May-19	16-Apr-20	01-Aug-19		0%	0%
65		STEEL PLATE FOR (RHS.STEEL MOUDLE-3_MP183 - MP186)	315.00	01-Jul-19	10-May-20	01-Nov-19		0%	0%
66		STEEL PLATE FOR (LHS.STEEL MOUDLE-3_MP183 - MP186)	315.00	04-Jun-19	14-Apr-20	01-Oct-19		0%	0%
67		STEEL PLATE FOR (RHS.STEEL MOUDLE-1_MP176 - MP171)	390.00	30-Jul-19	23-Aug-20			0%	0%
68		STEEL PLATE FOR (LHS.STEEL MOUDLE-1_MP176 - MP171)	390.00	02-Jul-19	26-Jul-20			0%	0%
69		CONSTRUCTION	1995.33	02-Apr-18	21-Jun-22	02-Apr-18		35.5%	16.39%
70		TEMPORARY WORK	1908.21	02-Apr-18	21-Jun-22	02-Apr-18		97.95%	97.67%
71		PREPARATION WORK	368.33	02-Apr-18	16-Jan-19	02-Apr-18	25-Jul-19	0%	0%
72		ESTABLISHMENT OF EMPOLYER & CONTRACTOR OFFICE	194.04	20-Jun-18	27-Nov-18	27-Jun-18	18-Jan-19	100%	100%
73		ESTABLISHMENT OF LABOUR CAMP	463.92	20-Jun-18	05-Apr-19	03-Jul-18	04-Apr-19	0%	0%
74		ESTABLISHMENT OF CONCRETE CASTING YARD	945.83	04-May-18	25-Apr-19	14-Jun-18		100%	99.33%
75		ESTABLISHMENT OF STEEL SPAN ASSEMBLY YARD	397.75	02-Nov-18	06-Mar-20	01-Nov-19		0%	0%
76		TEMPORARY BRIDGE	1855.88	20-May-18	21-Jun-22	27-Jul-18		96.49%	96.49%
77	A13700	Removal of Temporary Bridge & Casting Yard	365.00	21-Jun-21	21-Jun-22			0%	0%
78		TEMPORARY BRIDGE FACILITY-EQUIPMENT MOBILIZATION	372.33	20-May-18	19-Oct-18	27-Jul-18	25-Apr-19	0%	0%
79		TEMPORARY BRIDGE TYPE 1_FROM MP226(16+010) - MP249(17+320)	467.97	04-Jun-18	17-Aug-19	08-Aug-18	23-Dec-19	100%	100%
80		TEMPORARY BRIDGE TYPE 3_FROM MP207(14+870) - MP226(16+010)	566.29	24-Jul-18	12-Sep-19	16-Nov-18	15-Feb-20	100%	100%
81		MATERIAL LOADING JETTY	405.13	31-Aug-18	08-Aug-19	08-Mar-19		100%	100%
82		PERMANENT WORK	1728.33	03-Sep-18	24-May-22	08-Dec-18		27.34%	5.77%
83		PRE-FABRICATION AND ASSEMBLY	1170.33	18-Apr-19	19-Feb-22	16-Oct-19		8.41%	0.72%
84		CONCRETE PRE-FABRICATION AT THE CASTING YARD	612.13	18-Apr-19	15-Sep-21	06-Nov-19		40.21%	4.25%
85		STEEL SPAN FABRICATION AT THE SUPPLIER'S WORK SHOP INCLUDING LOGISTIC	1135.38	02-Jun-19	24-Jan-22	16-Oct-19		1.99%	0%
86		STEEL GIRDER ASSEMBLY AT THE CONTRACTOR'S ASSEMBLY YARD	622.63	05-Sep-20	17-Feb-22			0%	0%
87		STEEL SPAN LOADING AND TRANSPORTING TO THE ERECTION AREA	539.00	30-Sep-20	19-Feb-22			0%	0%
88		MAIN BRIDGE	1728.33	03-Sep-18	24-May-22	08-Dec-18		38.41%	12.01%
89		MAIN BRIDGE FOUNDATION	1138.04	03-Sep-18	23-Mar-21	08-Dec-18		57.93%	35.16%
90		MAIN BRIDGE PILE FOUNDATION	1044.27	03-Sep-18	23-Jan-21	08-Dec-18		70.3%	49.44%
91		PILE LOAD TEST	259.25	03-Sep-18	19-Nov-18	08-Dec-18	11-Nov-19	100%	100%
92		MAIN BRIDGE PILE FOUNDATION_LAND 17+414~18+187 FROM MP250 TO MP266	231.35	30-Nov-18	15-May-19	17-Jan-19		100%	86.41%
93		MAIN BRIDGE PILE FOUNDATION_CRZ 15+890~17+414 FROM MP226 TO MP250	268.00	20-Dec-18	27-Nov-19	12-Jun-19	21-Feb-20	100%	100%
94		MAIN BRIDGE PILE FOUNDATION_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225	317.00	27-Feb-19	06-Jun-20	15-Oct-19		75.42%	76.49%
95		MAIN BRIDGE PILE FOUNDATION_MARINE 13+610~14+800 FROM MP187 TO MP205	299.20	12-Dec-19	28-Nov-20	01-Oct-19		32.14%	19.5%
96		MAIN BRIDGE PILE FOUNDATION_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186	319.50	27-Nov-19	23-Jan-21	17-Mar-20		17.23%	0.78%
97		MAIN BRIDGE PILE FOUNDATION_MARINE 10+380~11+880 FROM MP146 TO MP170	461.13	24-Nov-18	28-Dec-19	19-Feb-19		100%	24.82%
98		MAIN BRIDGE PILE CAP INSTALLATION	662.75	22-Dec-18	23-Mar-21	01-May-19		45.01%	20.24%
99		MAIN BRIDGE PILE CAP BOTTOM SLAB INSTALLATION	630.25	22-Dec-18	17-Feb-21	19-Aug-19		0%	0%
100		MAIN BRIDGE PILE CAP BOTTOM SLAB_CRZ 15+890~17+414 FROM MP226 TO MP250	204.75	17-Jan-19	12-Dec-19	19-Aug-19		0%	0%
101		MAIN BRIDGE PILE CAP BOTTOM SLAB_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225	309.75	06-Apr-19	18-Jul-20	30-Dec-19		0%	0%
102		MAIN BRIDGE PILE CAP BOTTOM SLAB_MARINE 13+610~14+800 FROM MP187 TO MP205	277.00	21-Jan-20	10-Dec-20	16-Nov-19		0%	0%
103		MAIN BRIDGE PILE CAP PRECAST SHELL_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186	308.00	08-Jan-20	17-Feb-21			0%	0%
104		MAIN BRIDGE PILE CAP BOTTOM SLAB_MARINE 10+380~11+880 FROM MP146 TO MP170	250.00	22-Dec-18	21-Jan-20			0%	0%
105		MAIN BRIDGE PILE CAP INSTALLATION	652.25	27-Dec-18	23-Mar-21	01-May-19		45.01%	20.24%
106		MAIN BRIDGE PILE CAP_LAND 17+414~18+188 FROM MP251 TO MP266	267.50	27-Dec-18	13-Jun-19	01-May-19		100%	72.73%
107		MAIN BRIDGE PILE CAP_CRZ 15+890~17+414 FROM MP226 TO MP250	147.50	04-Mar-19	08-Jan-20	28-Aug-19		100%	84.44%
108		MAIN BRIDGE PILE CAP_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225	318.00	18-Apr-19	05-Sep-20	29-Jan-20		58.19%	17.5%
109		MAIN BRIDGE PILE CAP_MARINE 13+610~14+800 FROM MP187 TO MP205	270.00	01-Feb-20	06-Jan-21	13-Jan-20		15.02%	4.76%
110		MAIN BRIDGE PILE CAP_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186	411.00	20-Jan-20	23-Mar-21			1.62%	0%
111		MAIN BRIDGE PILE CAP_MARINE 10+380~11+880 FROM MP146 TO MP170	263.00	03-Jan-19	17-Feb-20			100%	0%
112		MAIN BRIDGE SUB-STRUCTURE	946.04	09-Jan-19	24-Sep-21	04-Nov-19		57.51%	4.01%
113		MAIN BRIDGE PIER INSTALLATION	674.50	09-Jan-19	28-Jul-21	04-Nov-19		61.04%	7.32%
114		MAIN BRIDGE PIER_LAND 17+414~18+188 FROM MB251 TO MB266	279.75	09-Jan-19	08-Nov-19	06-Nov-19		100%	6.45%
115		MAIN BRIDGE PIER_CRZ 15+890~17+414 FROM MB226 TO MB250	216.80	26-Mar-19	06-Feb-20	04-Nov-19		100%	33.22%
116		MAIN BRDIGE PIER_INTERTIDAL 14+800~15+890 FROM MB206 TO MB225	439.00	11-May-19	16-Oct-20	10-Feb-20		46.82%	1.14%
117		MAIN BRIDGE PIER_MARINE 13+610~14+800 FROM MB187 TO MB205	217.00	19-Mar-20	18-Feb-21			0.22%	0%
118		MAIN BRIDGE PIER_MARINE (STEEL) 11+880~13+610 FROM MB171 TO MB186	452.00	17-Feb-20	28-Jul-21			0%	0%
119		MAIN BRIDGE PIER_MARINE 10+380~11+880 FROM MB146 TO MB170	269.00	07-Feb-19	13-Mar-20			100%	0%
120		MAIN BRIDGE PIER CAP INSTALLATION	596.25	08-Feb-19	27-Aug-21			59.1%	0%

Project Baseline Bar
Actual Work
Remaining Work
Critical Remaining Work
Milestone
% Complete
Summary

EMPLOYER:
MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)

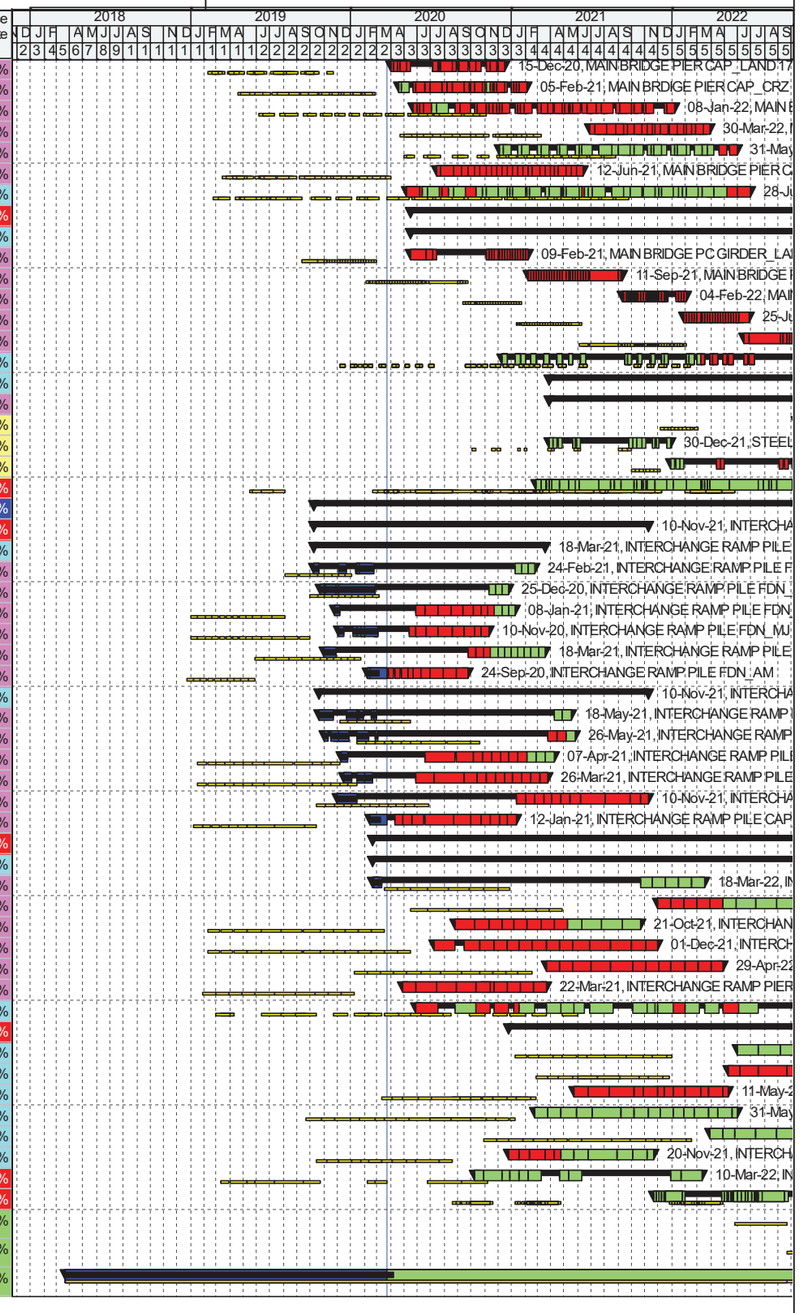
CONTRACTOR:
DAEWOO - TPL JV

Date	Revision	Checked	Approved
25-Mar-20	R0		

MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE UNDER IDENTIFICATION NO MMRDA/ENG/000753

ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME (PACKAGE-2)

#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete
121		MAIN BRIDGE PIER CAP_LAND 17+414~18+188 FROM MB251 TO MB266	183.50	08-Feb-19	23-Nov-19			100%	0%
122		MAIN BRIDGE PIER CAP_CRZ 15+890~17+414 FROM MB226 TO MB250	211.80	19-Apr-19	25-Feb-20			100%	0%
123		MAIN BRIDGE PIER CAP_INTERTIDAL 14+800~15+890 FROM MB206 TO MB225	434.00	06-Jun-19	05-Nov-20			37.44%	0%
124		MAIN BRIDGE PIER CAP_MARINE 13+610~14+800 FROM MB187 TO MB205	203.00	23-Apr-20	10-Mar-21			0%	0%
125		MAIN BRIDGE PIER CAP_MARINE (STEEL) 11+880~13+610 FROM MB171 TO MB186	421.00	30-Apr-20	27-Aug-21			0%	0%
126		MAIN BRIDGE PIER CAP_MARINE 10+380~11+880 FROM MB146 TO MB170	255.00	15-Mar-19	01-Apr-20			98.99%	0%
127		MAIN BRIDGE BEARING PAD AND BEARING INSALLATION	780.25	22-Feb-19	24-Sep-21			8.01%	0%
128		MAIN BRIDGE SUPER STRUCTURE BOX GIRDER INSTALLATION	1088.00	12-Sep-19	01-Mar-22			18.05%	0%
129		MAIN BRIDGE CONCRETE GIRDER INSTALLATION	1005.88	12-Sep-19	02-Feb-22			21.15%	0%
130		MAIN BRIDGE PC GIRDER_LAND 15+890~17+414 FROM MP251 TO MP266	268.75	12-Sep-19	27-Feb-20			100%	0%
131		MAIN BRIDGE PRECAST GIRDER_CRZ 15+890~17+414 FROM MP226 TO MP250	129.75	04-Feb-20	25-Sep-20			25.18%	0%
132		MAIN BIDGE PRECAST GIRDER_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225	122.63	12-Sep-20	23-Jan-21			0%	0%
133		MAIN BRIDGE PRECAST GIRDER_MARINE 13+610~14+800 FROM MP187 TO MP205	126.00	12-Jan-21	10-Jun-21			0%	0%
134		MAIN BRIDGE PRECAST GIRDER_MARINE 10+380~11+880 FROM MP146 TO MP170	156.00	04-Jun-21	02-Feb-22			0%	0%
135		STITCH JOINT CASTING	639.00	07-Dec-19	12-Feb-22			0%	0%
136		MAIN BRIDGE STEEL GIRDER INSTALLATION	545.00	03-Oct-20	01-Mar-22			0%	0%
137		MAN BRIDGE STEEL GIRDER INSTALLATION_MARINE 11+880~13+610 FROM MP171 TO MP186	545.00	03-Oct-20	01-Mar-22			0%	0%
138		STEEL MODULE-01_MP176 - MP171 (INSTALLATION)	178.13	07-Dec-21	01-Mar-22			0%	0%
139		STEEL MODULE-02_MP182 - MP177 (INSTALLATION)	180.00	03-Oct-20	30-Sep-21			0%	0%
140		STEEL MODULE-03_MP186 - MP183 (INSTALLATION)	186.88	30-Sep-21	07-Dec-21			0%	0%
141		MISCELLANEOUS & FINISHING WORKS	711.88	16-May-19	24-May-22			7.05%	0%
142		INTERCHANGE	1224.08	24-Dec-18	28-Apr-22	09-Oct-19		67.8%	6.98%
143		INTERCHANGE FOUNDATION	621.08	24-Dec-18	22-Oct-20	09-Oct-19		91.8%	30.48%
144		INTERCHANGE RAMP PILE FOUNDATION	274.00	24-Dec-18	05-Mar-20	09-Oct-19		100%	32.61%
145		INTERCHANGE RAMP PILE FDN_MA	83.50	05-Aug-19	03-Jan-20	09-Oct-19		100%	62.82%
146		INTERCHANGE RAMP PILE FDN_AC	117.00	01-Oct-19	05-Mar-20	25-Oct-19		100%	69.51%
147		INTERCHANGE RAMP PILE FDN_JM	143.00	03-Jan-19	05-Aug-19	26-Nov-19		100%	8.29%
148		INTERCHANGE RAMP PILE FDN_MJ	132.00	03-Jan-19	01-Oct-19	04-Dec-19		100%	43.14%
149		INTERCHANGE RAMP PILE FDN_CA	162.85	28-May-19	23-Jan-20	01-Nov-19		100%	8.29%
150		INTERCHANGE RAMP PILE FDN_AM	111.15	24-Dec-18	27-May-19	07-Feb-20		100%	15.09%
151		INTERCHANGE RAMP PILE CAP INSTALLATION	377.00	08-Jan-19	22-Oct-20	22-Oct-19		80.01%	27.42%
152		INTERCHANGE RAMP PILE CAP_MA	98.00	06-Dec-19	15-May-20	22-Oct-19		67.83%	75%
153		INTERCHANGE RAMP PILE CAP_AC	148.00	15-Jan-20	22-Oct-20	02-Nov-19		34.26%	70%
154		INTERCHANGE RAMP PILE CAP_JM	187.00	18-Jan-19	06-Dec-19	11-Dec-19		100%	8.33%
155		INTERCHANGE RAMP PILE CAP_MJ	193.00	18-Jan-19	15-Jan-20	16-Dec-19		100%	21.43%
156		INTERCHANGE RAMP PILE CAP_CA	193.70	15-Oct-19	27-Jun-20	02-Dec-19		66.3%	8.33%
157		INTERCHANGE RAMP PILE CAP_AM	168.30	08-Jan-19	15-Oct-19	15-Feb-20		100%	1%
158		INTERCHANGE SUBSTRUCTURE & BEARING	686.25	29-Jan-19	31-May-21	19-Feb-20		55.14%	4.83%
159		INTERCHANGE RAMP PIER INSTALLATION	658.25	29-Jan-19	27-Apr-21	19-Feb-20		55.14%	4.83%
160		INTERCHANGE RAMP PIER_MA	125.00	18-Mar-20	29-Dec-20	19-Feb-20		0.97%	40.83%
161		INTERCHANGE RAMP PIER_AC	250.00	16-May-20	27-Apr-21			0%	0%
162		INTERCHANGE RAMP PIER_JM	300.00	08-Feb-19	18-Mar-20			100%	0%
163		INTERCHANGE RAMP PIER_MJ	360.25	08-Feb-19	16-May-20			86.55%	0%
164		INTERCHANGE RAMP PIER_CA	300.00	08-Jan-20	16-Feb-21			16.85%	0%
165		INTERCHANGE RAMP PIER_AM	234.18	29-Jan-19	08-Jan-20			100%	0%
166		INTERCHANGE BEARING INSTALLATION	661.25	27-Feb-19	31-May-21			0%	0%
167		INTERCHANGE SUPERSTRUCTURE INSTALLATION	647.45	20-Sep-19	15-Feb-22			16.15%	0%
168		INTERCHANGE BOX GIRDER INSTALLATION_MA	255.00	09-Jan-21	03-Jan-22			0%	0%
169		INTERCHANGE BOX GIRDER INSTALLATION_AC	266.23	27-Feb-21	27-Dec-21			0%	0%
170		INTERCHANGE BOX GIRDER INSTALLATION_JM	250.00	11-Mar-20	26-Feb-21			0%	0%
171		INTERCHANGE BOX GIRDER INSTALLATION_MJ	343.38	20-Sep-19	08-Jan-21			30.77%	0%
172		INTERCHANGE BOX GIRDER INSTALLATION_CA	285.93	30-Oct-20	15-Feb-22			0%	0%
173		INTERCHANGE BOX GIRDER INSTALLATION_AM	230.00	14-Oct-19	19-Aug-20			63.25%	0%
174		INTERCHANGE RETAINING STRUCTURE	367.13	11-Mar-19	06-Nov-20			80%	0%
175		MISCELLANEOUS & FINISHING WORKS	484.95	19-Aug-20	28-Apr-22			0%	0%
176		PROJECT HANDINGOVER	65.00	24-May-22	22-Sep-22			0%	0%
177		DEFECT LIABILITY PERIOD (DLP)	730.00	22-Sep-22	21-Sep-24			0%	0%
178		PRICE SCHEDULE	2270.04	23-Mar-18	21-Mar-23	23-Mar-18		55.47%	35%



Project Baseline Bar
Actual Work
Remaining Work
Critical Remaining Work
Milestone
% Complete
Summary

EMPLOYER:
MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)

CONTRACTOR:
DAEWOO - TPL JV

Date	Revision	Checked	Approved
25-Mar-20	R0		

Attachment 8- Package-3's Construction Programme Updated as on 25th March 2020

Activity ID	Activity Name	Original Duration	BL1 Start	BL1 Finish	Start	Finish	Activity % Complete	Schedule % Complete	Performance % Complete	Budgeted Total Cost	Actual Total Cost	Schedule Performance Index	Cost Performance Index	Planned Value Cost	Earned Value Cost
MTHL Pkg 3_Construction Schedule Mar'20		1403	23-Mar-18	21-Sep-21	23-Mar-18 A	11-Feb-23		76.8%	27.38%	Rs10,137,901,022	Rs2,519,869,701	0.36	1.13	Rs8,015,960,737	Rs2,857,959,025
Procurement of Mumbai Trans Harbour Link Project (Pacl		1403	23-Mar-18	21-Sep-21	23-Mar-18 A	11-Feb-23		76.8%	27.38%	Rs10,137,901,022	Rs2,519,869,701	0.36	1.13	Rs8,015,960,737	Rs2,857,959,025
2	Commencement Date (CD)	0	23-Mar-18		23-Mar-18 A		100%	100%	100%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Physical Milestones		995	18-Sep-18	21-Sep-21	22-May-20	11-Feb-23		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1001	KD1 [Construction programme, completion of Soil Investi	0	18-Sep-18	18-Sep-18	22-May-20	22-May-20	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1002	KD 2 [NOC for technical design doc & drawing for foundi	0	17-Dec-18	17-Dec-18	24-Jul-20	24-Jul-20	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1003	KD 3 [NOC for Good for construction drawing for foundat	0	15-Jun-19	15-Jun-19	18-Dec-20	18-Dec-20	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1004	KD 4 [Substantial completion of foundation, piles (if appli	0	21-Mar-20	21-Mar-20	07-May-21	07-May-21	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1005	KD 5 [Substantial completion of pile caps (if applicable),	0	19-Sep-20	19-Sep-20	18-Sep-21	18-Sep-21	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1006	KD 6 [Substantial completion superstructure (PC/CIS/SS	0	20-Mar-21	20-Mar-21	27-Jul-22	27-Jul-22	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1007	KD 7 [Substantial completion of kerb/traffic signs, Markin	0	24-Jul-21	24-Jul-21	04-Jan-23	04-Jan-23	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
KD1008	KD 8 [Final completion & handing over]	0	21-Sep-21	21-Sep-21	11-Feb-23	11-Feb-23	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Financial Milestone		758	18-Sep-18	21-Sep-21	23-Mar-18 A	21-Sep-21		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Interface Milestone		854	17-Dec-18	06-Mar-21	25-Mar-20	27-Jul-22		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Document Submittals		45	23-Mar-18	06-May-18	06-Apr-18 A	25-Mar-20		100%	80%	Rs74,992,895	Rs59,994,316	0.80	1.00	Rs74,992,895	Rs59,994,316
Employer's Obligation / Land Handover		151	19-Apr-18	18-Sep-18	23-Mar-18 A	29-Mar-20		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
ROW 75 Ha [CD +180 days]		0	19-Apr-18	18-Sep-18	23-Mar-18 A	29-Mar-20		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Casting Yard 9.16 Ha [CD+120 days]		0	20-Jul-18	20-Jul-18	20-Dec-18 A	21-Dec-18.		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Employer Office (Sch 01- General Item)		801	20-Aug-18	16-Sep-21	25-Jan-19 A	21-Dec-21		88.54%	86.5%	Rs142,351,965	Rs123,137,965	0.98	1.00	Rs126,033,668	Rs123,137,995
Construction of Employer office		110	20-Aug-18	11-Dec-18	30-May-19 A	31-Oct-19 A		100%	100%	Rs112,791,965	Rs112,791,965	1.00	1.00	Rs112,791,965	Rs112,791,965
Facility		980	12-Dec-18	16-Sep-21	25-Jan-19 A	21-Dec-21		44.8%	35%	Rs29,560,000	Rs10,346,000	0.78	1.00	Rs13,241,703	Rs10,346,030
Survey & Geotechnical Investigation Works		346	19-Apr-18	22-Oct-18	19-Apr-18 A	22-May-20		100%	95.75%	Rs242,300,773	Rs181,725,579	0.96	1.28	Rs242,300,945	Rs232,003,161
Topographical Survey		346	19-Apr-18	22-Oct-18	19-Apr-18 A	25-Mar-20		100%	99.85%	Rs0	Rs0	1.00	0.00	Rs109	Rs109
Geotechnical Investigation work		93	17-May-18	17-Sep-18	10-Sep-18 A	22-May-20		100%	95.75%	Rs242,300,773	Rs181,725,579	0.96	1.28	Rs242,300,836	Rs232,003,052
Design Works		480	07-May-18	14-Jun-19	25-Apr-18 A	18-Dec-20		100%	67.18%	Rs159,122,500	Rs91,017,152	0.67	1.17	Rs159,123,270	Rs106,905,207
Design Basis Report		48	07-May-18	30-Jun-18	25-Apr-18 A	08-Dec-18.		100%	100%	Rs0	Rs0	1.00	0.00	Rs51	Rs51
Preliminary Design		47	02-Jul-18	25-Aug-18	26-Jul-18 A	25-Mar-20		100%	80%	Rs286,875	Rs286,875	0.80	0.80	Rs286,875	Rs229,500
Geotechnical Interpretative Report Submission & GC Approval (NONO)		24	11-Sep-18	08-Oct-18	07-Dec-18 A	26-May-20		100%	91%	Rs0	Rs0	0.91	0.00	Rs42	Rs38
Plan & Profile Alignment		77	06-Jun-18	14-Aug-18	25-Jun-18 A	02-Apr-20		100%	80%	Rs0	Rs0	0.80	0.00	Rs102	Rs82
Superstructure Design		368	16-Aug-18	26-Feb-19	05-Mar-19 A	07-Sep-20		100%	46.27%	Rs85,075,000	Rs34,061,917	0.46	1.16	Rs85,075,144	Rs39,367,734
Foundation & Pier		324	05-Oct-18	14-Jun-19	06-Nov-18 A	18-Dec-20		100%	83.66%	Rs28,434,375	Rs13,147,734	0.84	1.81	Rs28,434,435	Rs23,786,988
Abutment & Foundation		255	15-Oct-18	16-Jan-19	31-Dec-18 A	13-Jun-20		100%	81.48%	Rs0	Rs0	0.81	0.00	Rs81	Rs66
Pier Cap		374	24-Oct-18	10-May-19	11-Jan-19 A	15-Dec-20		100%	42.52%	Rs0	Rs0	0.43	0.00	Rs290	Rs123
Bearings & Drainage		218	17-Nov-18	03-Apr-19	21-Jan-19 A	07-Oct-20		100%	89.97%	Rs18,005,625	Rs16,200,000	0.90	1.00	Rs18,005,625	Rs16,200,000
Pavement Design		71	01-Jul-18	27-Aug-18	15-Oct-18 A	18-Feb-19,		100%	100%	Rs27,320,625	Rs27,320,625	1.00	1.00	Rs27,320,625	Rs27,320,625
Procurement Works		1036	12-Sep-18	08-Jun-21	15-Feb-19 A	09-Dec-22		90.17%	9.31%	Rs1,387,160,466	Rs44,849,209	0.10	3.50	Rs1,519,472,262	Rs156,879,749
For Main Bridge		1036	12-Sep-18	08-Jun-21	15-Feb-19 A	09-Dec-22		81.13%	6.38%	Rs877,933,218	Rs27,990,308	0.08	2.00	Rs712,281,063	Rs55,980,814
Launching Girder with factory testing.....(Using Underslung)		180	22-Jan-19	23-Aug-19	26-Nov-19 A	04-Mar-21		100%	50%	Rs0	Rs0	0.50	0.00	Rs180	Rs90
Segments Moulds		60	12-Dec-18	21-Feb-19	26-Apr-19 A	02-Jul-19 A		100%	100%	Rs0	Rs0	1.00	0.00	Rs60	Rs60
Steel Structure		300	08-Dec-18	30-Nov-19	26-Jun-20	17-Jun-21		100%	0%	Rs203,366,072	Rs0	0.00	0.00	Rs203,366,072	Rs0
Steel for superstructure		68	16-Oct-18	26-Dec-18	22-Aug-19 A	22-Jul-20		100%	11%	Rs508,914,691	Rs27,990,308	0.11	2.00	Rs508,914,691	Rs55,980,616
Formwork & stagging requirement		104	12-Sep-18	23-Nov-18	15-Feb-19 A	04-Jun-20		100%	80%	Rs0	Rs0	0.80	0.00	Rs60	Rs48
Bearings, Expansion joint, Water proofing with factory test		180	27-Jun-20	27-Jan-21	02-Feb-22	31-Aug-22		0%	0%	Rs165,652,455	Rs0	0.00	0.00	Rs0	Rs0
Painting with testing		141	22-Dec-20	08-Jun-21	28-Jun-22	09-Dec-22		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
For Road Works		631	04-Apr-19	13-Jan-21	01-Mar-19 A	08-Apr-22		65%	16.57%	Rs0	Rs0	0.25	0.00	Rs273	Rs70
Imported Procurement		350	22-Jan-19	10-Aug-19	04-Dec-19 A	17-Feb-21		100%	12.5%	Rs509,227,248	Rs16,858,901	0.13	5.98	Rs807,190,926	Rs100,898,866
Co-ordinated Fabrication & Manufracturing Works		637	27-Sep-18	10-Feb-20	21-Feb-19 A	28-Sep-21		100%	0%	Rs390,605,953	Rs0	0.00	0.00	Rs390,606,723	Rs470
Permanent Works fabrication		607	27-Sep-18	06-Jan-20	21-Feb-19 A	13-Aug-21		100%	0%	Rs390,605,953	Rs0	0.00	0.00	Rs390,606,183	Rs230
Permanent Works Assembly		607	22-Oct-18	10-Feb-20	25-Feb-19 A	28-Sep-21		100%	44.44%	Rs0	Rs0	0.44	0.00	Rs540	Rs240
Construction Works		1164	20-Jul-18	23-Jul-21	26-Sep-18 A	04-Jan-23		72.24%	30.56%	Rs7,063,465,446	Rs1,999,145,479	0.42	1.08	Rs5,102,495,823	Rs2,158,285,390
Preconstruction Activity		541	20-Jul-18	01-Jul-19	26-Sep-18 A	27-Nov-20		100%	45.31%	Rs0	Rs0	0.45	0.00	Rs565	Rs256
Sub Structures (Open Foundation, Pier ,Pier Cap)		823	08-Dec-18	07-Nov-20	30-Sep-18 A	17-Dec-21		73.27%	48.81%	Rs3,392,806,949	Rs1,656,074,430	0.67	1.00	Rs2,486,041,696	Rs1,656,074,430
Main Carriageway		676	08-Dec-18	24-Jan-20	05-Dec-18 A	11-Jun-21		100%	41.84%	Rs1,821,401,625	Rs762,039,312	0.42	1.00	Rs1,821,401,625	Rs762,039,312
SH 54 Ramps		245	27-Feb-19	06-Mar-20	18-Dec-18 A	06-May-21		100%	82.41%	Rs232,139,423	Rs191,316,439	0.82	1.00	Rs232,139,423	Rs191,316,439
Chirle NH 4B Ramps		336	20-May-19	05-Sep-20	30-Sep-18 A	17-Dec-21		45.35%	45.33%	Rs874,987,055	Rs396,616,894	1.00	1.00	Rs396,786,890	Rs396,616,894
Chirle NH 4B Loops		319	09-Sep-19	07-Nov-20	21-Aug-19 A	16-Nov-21		7.69%	65.93%	Rs464,278,846	Rs306,101,785	8.57	1.00	Rs35,713,757	Rs306,101,785
Super Structures		677	27-Feb-19	12-Apr-21	11-Sep-19 A	27-Jul-22		55.38%	4.47%	Rs1,408,927,165	Rs53,448,476	0.08	1.18	Rs780,323,989	Rs63,044,448
Segments Precasting		444	30-Mar-19	09-Nov-20	11-Sep-19 A	27-Oct-21		60%	8.25%	Rs760,156,099	Rs53,448,476	0.14	1.17	Rs456,094,925	Rs62,713,045
Segments Erection		405	26-Aug-19	20-Jan-21	06-Mar-20 A	27-Jul-22		45.31%	0.47%	Rs70,699,410	Rs0	0.01	0.00	Rs32,035,720	Rs331,403
Cast In Situ		593	27-Feb-19	12-Apr-21	22-May-20	23-Jun-22		44.61%	0%	Rs464,334,354	Rs0	0.00	0.00	Rs207,160,477	Rs0
Steel Structure		390	10-May-19	17-Nov-20	17-Nov-20	26-Mar-22		74.76%	0%	Rs113,737,302	Rs0	0.00	0.00	Rs85,032,867	Rs0
Bearings & Expansion Joints		210	03-Aug-20	12-Apr-21	09-Mar-22	09-Nov-22		0%	0%	Rs10,454,697	Rs0	0.00	0.00	Rs0	Rs0
Bridge Ancillaries & Miscellaneous Item		400	12-Aug-20	23-Jul-21	22-Sep-21	04-Jan-23		0%	0%	Rs180,921,987	Rs0	0.00	0.00	Rs0	Rs0
RE Wall		503	27-Feb-19	18-Feb-21	17-Aug-20	13-May-22		60.6%	0%	Rs461,687,248	Rs0	0.00	0.00	Rs279,801,250	Rs0
Road Work		880	20-Apr-19	18-May-21	16-Feb-19 A	22-Oct-22		96.75%	27.3%	Rs1,608,667,400	Rs289,622,574	0.28	1.52	Rs1,556,328,324	Rs439,166,256
Completion of Interface Activity		544	19-Sep-20	06-Mar-21	19-Sep-20	27-Jul-22		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0
Provisional Sum		876	23-Apr-18	23-Aug-21	30-Nov-18 A	24-Dec-22		59%	3.05%	Rs677,901,024	Rs20,000,000	0.05	1.04	Rs400,935,150	Rs20,752,736
Testing & Commissioning Works		33	26-Jul-21	20-Sep-21	04-Jan-23	11-Feb-23		0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0

TASK filter: All Activities

Attachment 9- Project Progress Photos

Package 1- Site Progress Photos

Photo No. 1: MP 84 N Pier Concrete – Marine Area

Photo No. 2: MP 104 Pile Cap Concreting- Marine Area

Photo No. 3: MP 104 Pile Concreting- Marine Area

Photo No. 4: Segments Shifting For Erection- Intertidal Area

Photo No. 5: MP 02 Pier Reinforcement Inspection

Photo No. 6: MP 93 Pile Cap Pre-pour Inspection- Marine Area

Photo No. 7: Intertidal pier concreting in progress

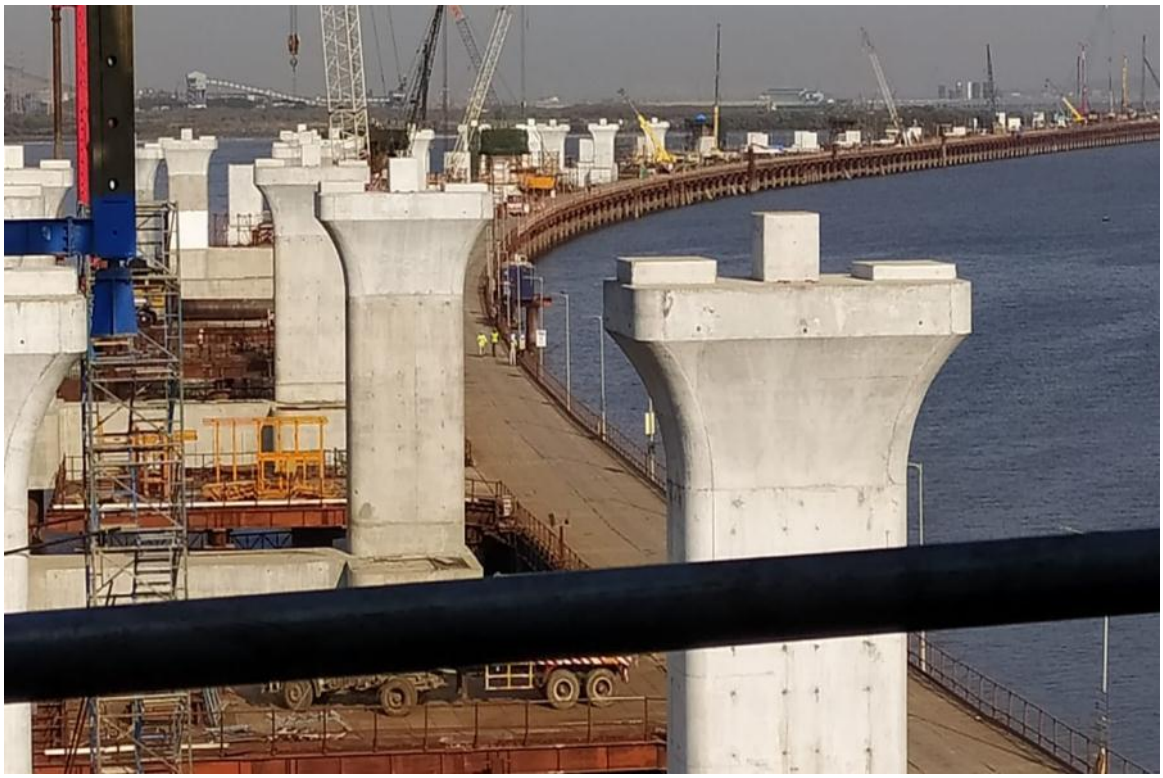


Photo No. 8: A View of Intertidal Area Taken From MP 13 Towards the Sea

Photo No. 9: A View of Pier and Pier Caps at the Interchange Area

Photo No. 10: Segment Erection by LG at MP 14-15 N11- Intertidal Area is in progress

Photo No. 11: MP 14-15 Erection is in progress

Photo No. 12: AP 46 Pier Concreting is in progress

Package 2 – Site Progress Photos

Photo No. 1: Precast Slab erection at TAB/Loading Jetty platform in progress

Photo No. 2: Pile reinforcement cage lowering at MP 223/02 RHS in progress

Photo No. 3: Pile Cap Reinforcement and Pile Head Chipping at MP 207 LHS & RHS in progress

Photo No. 4: High Strain Dynamic Pile Load Test at MP 209/02 LHS in progress

Photo No. 5: Pier 1st and 2nd lift reinforcement tying in progress at MP 206 LHS and RHS

Photo No. 6: Pile cap concreting at MP 228 RHS in progress

Photo No. 7: Pier 2nd lift formwork and 2nd lift reinforcement at MP 231 RHS and LHS in progress

Photo No. 8: Placing of sacrificial slab at MP 238 RHS in progress

Photo No. 9: Scaffolding and Bottom formwork for Portal Beam at MP 245 LHS in progress

Photo No. 10: Bracket fixing for Pier Cap at MP 243 RHS in progress

Photo No. 11: Open foundation concreting at MP 261 RHS in progress

Photo No. 12: Pier final lift formwork inspection at MP 243 LHS in progress

Package 3 – Site Progress Photos

Photo No. 1: Casting of Foundation done at Location JMA1

Photo No. 2: PCC concrete pouring at location JMP09

Photo No. 3: RMP 277 foundation annular filling in progress

Photo No. 4: Pier Reinforcement at location LP31, RP31

Photo No. 5: Pier concrete at location MPP14 in progress

Photo No. 6: Pier Concrete at location JMP20 in progress

Photo No. 7: 1st Segment Erection at RMP267-268 in progress

Photo No. 8: Pier Shuttering at location JMP20 in progress

Photo No. 9: Pier Cap casting at location LMP283 in progress

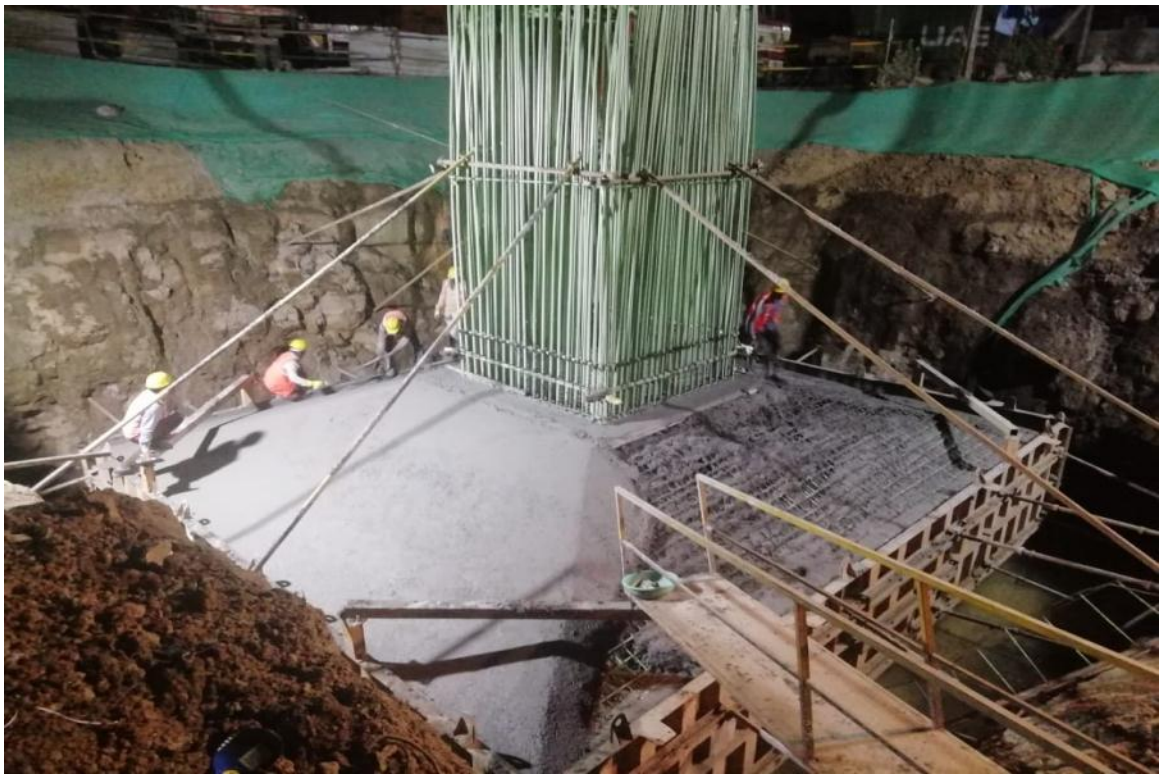


Photo No. 10: Foundation casting at LP21 in progress

Photo No. 11: Segment erection at span RMP 268-269 in progress

Photo No. 12: Span MJP-07 to 08 (Chirle Ramp) Staging for cast in-situ voided slab in progress

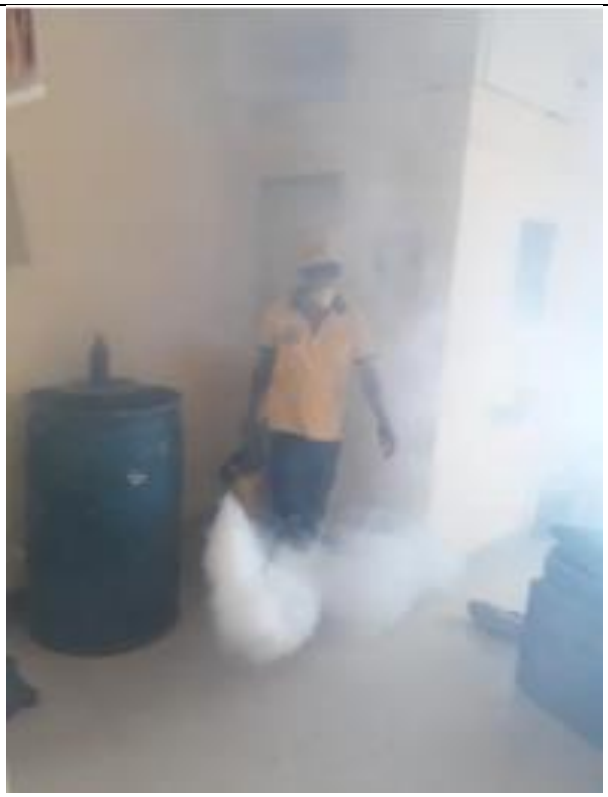
Annexure IV: Infrastructure facilities at Construction site

Bathrooms and Toilets at Labour camps

Drinking water facilities at labour camps

Sewage treatment plant at labour camp

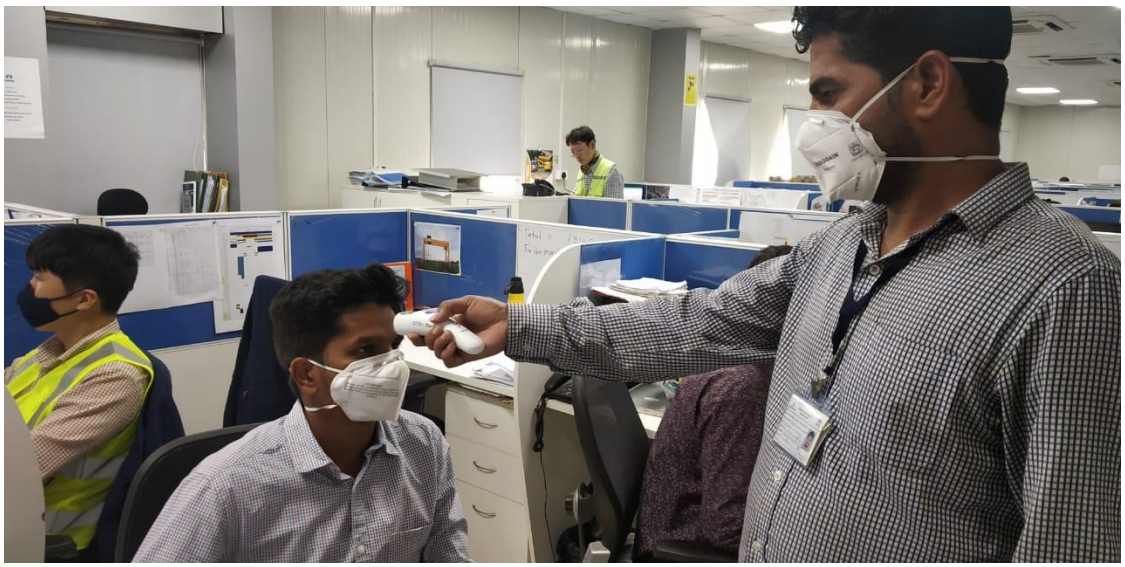
Emergency First aid room



Disinfection Facility

Quarantine and Isolation room for COVID suspects

Sanitazation facility for the staff



Thermal Scanning for Staffs