

Mumbai Metropolitan Region Development Authority

Mumbai Trans Harbour Link Project

Quarterly Progress Report - No.18

(From 1st July 2021 to 30th September 2021)



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Mumbai Trans Harbour Link Project Quarterly Progress Report No. 18 1st July 2021 to 30th September 2021 Loan Agreement No. ID-P255 (Tranche–I)

ORGANIZATION INFORMATION

	Mumbai Metropolitan Region Development Authority					
	Person in Charge	Metropolitan Commissioner, MMRDA				
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Details of JICA Loan

	JICA ODA				
	Loan Portion:	238,572 million Japanese YEN (JPY)			
Source of Finance	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 27 th March 2020)			
Terms and Conditions of JICA ODA Loan (Tranche-1)	Repayment Period:	30 years, including 10 years of grace period.			



DOCUMENT VERIFICATION AND REVISION RECORD

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RO	06/01/2021	Quarterly Progress Report No.14 (Jul-Sept 20)	Prashant B	Mr. Som Gh	nosh	Dr Robin Sham
RO	12/02/2021	Quarterly Progress Report No.15 (Oct-Dec 20)	Prashant B	Mr. Som Gh	nosh	Dr Robin Sham
RO	06/05/2021	Quarterly Progress Report No.16 (Jan-Mar 21)	Prashant B	Mr. Som Gh	nosh	Dr Robin Sham
RO	30/07/2021	Quarterly Progress Report No.17 (Apr-Jun 21)	Prashant B	Mr. Som Gh	nosh	Dr Robin Sham
RO	11/11/2021	Quarterly Progress Report No.18 (Jul - Sep 21)	Prashant B	Mr. Som Gh	nosh	Dr Robin Sham
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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: 1st July to 30th September 2021



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:

Vehicle Between Sewri Interchange and Between Shivaji Nagar Interchange and Type Shivaji Nagar Interchange Chirle Interchange 2042 2022 2032 2022 2032 2042 24,100 Car 66,400 94,100 4,900 21,300 43,300 2700 Taxi 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 1,000 **HCV** 3,000 6,500 8,100 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

Table 1.3.1 Demand Projections Over the Period

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

- 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

	Original: (P/M)	
Location	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	The state of the s				
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 30 th September 2021
1)	Completion of Land Acquisition and Resettlement	March 2019	November 2021
2)	Consulting Services		
3.9	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		
Pa	ckage-1, Package-2 & Package-3	3 (Civil)	
	a) Pre-Qualification Process	May – December 2016	May – December 2016
	b) Main Bidding	January – December 2017	January – December 2017
	 JICA's Concurrence of Contract 	February-2018	February-2018
Pa	ckage-4 (ITS)		
	a) Pre-Qualification Process	January 2019 - May 2019	January 2020 - May 2020
	b) Main Bidding	June 2019 – September 2020	June 2020 – September 2021
4)	Civil Construction		
Pa	ckage-1 and Package-2	March 2018 – September 2022	March 2018 – September 2022
Pa	ckage-3	March 2018 – September 2021	March 2018 – March 2023 (Extended)
Pa	ckage-4	October 2020 – September 2022	February 2022 – May 2023
5)	Defect Liability Period	granica de la companya de la	
	ckage-1, Package-2 and ckage-4	October 2022 – September 2024	October 2022 – September 2024
Pa	ckage-3	October 2021 – September 2023	April 2023 – March 2025
6)	Commencement of Toll Collection	September -2022	September -2023
7)	Selection of O&M Organization	October 2020 – September 2021	October 2022 – September 2023

Attachment 6, 7 & 8: Package wise construction schedules (progress) updated at the end of 2nd Quarter (July-August-September 2021).

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

	Foreign	Currency	Portion	Local	Currency P	ortion	Total			
Cost Breakdown	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

	Foreign	Currency	Portion	Local	Currency	Portion	= ##2	Total	
Cost Breakdown	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	15,587	15,587	-	28,328	28,328		56,736	56,736	
Package-2	16,950	16,950	-	18,780	18,780		45,665	45,665	
Package-3	623	623	_	5,582	5,582		8,363	8,363	
Package-4 (ITS)	-		-	-			-		
Package-5 (Geotechnical Investigation)				196		196	308		308
Dispute Boards (Package-1, 2, 3 & 4)	-			-			-		-
Price Escalation	-			4	4	2.	6	6	-
Physical Contingency	-			-			-		-
Consulting Services	253	253		362	362		1,108	1,108	
Land Acquisition*	-			6,712		6,712	10,538		10,538
Administration Cost	-			3,909		3,909	6,138		6,138
GST	-			9,974		9,974	15,660		15,660
Import Tax	-			-			-		-
Interest during construction	-			/ -			-		2 5
Front End Fee	-			6 4			-		-
Total	33,413	33,413	•	73,847	53,055	20,792	144,522	111,878	32,643

- (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.bComparison 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	Total		Others				
Breakdown	Total	Tranche I	Tranche II	Tranche III	Sub Total	(MMRDA Portion)	
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				
	Total	Tranche I	Tranche II	Tranche III	Sub Total	(MMRDA Portion)	
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	31,859	23,922	-	-	23,922	7,937	
FY 2021	31,700	26,014	-	-	26,014	5,686	
FY 2022							
FY 2023							
FY 2024						12	
Total	144,520	111,877	-	-	111,877	32,643	

(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	Selection Method						
Package	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)	International Competitive Direct Bidding Process without Pre-Qualification				
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:

July 2021:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-40 20% Detailed Verification and IPC-42 80% Ad-hoc.
 - ii) Package-2: IPC-35 20% Detailed Verification and IPC-36 80% Ad-hoc.
 - iii) Package-3: IPC-32, IPC-33 & IPC-34 20% Detailed Verification and IPC-35 80% Ad-hoc.
- 2 GC has prepared and submitted a total reimbursement claim of 7120.87 million JPY to MMRDA / JICA in July 2021.

August 2021:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - Package-1: IPC-41 and IPC-42 20% Detailed Verification and IPC-43 80% Adhoc.
 - ii) Package-2: IPC-36 20% Detailed Verification and IPC-37 80% Ad-hoc.
 - iii) Package-3: IPC-35 20% Detailed Verification and IPC-36 80% Ad-hoc.
- 2 GC has prepared and submitted a total reimbursement claim of 1615.24 million JPY to MMRDA / JICA in August 2021.

September 2021:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-43 20% Detailed Verification and IPC-44 80% Ad-hoc.
 - ii) Package-2: IPC-37 20% Detailed Verification and IPC-38 80% Ad-hoc.
 - iii) Package-3: IPC-36 20% Detailed Verification and IPC-37 80% Ad-hoc.
- 2 GC has prepared and submitted a total reimbursement claim of 6243.39 million JPY to MMRDA / JICA in September 2021.
- 3 100% of the Technical Design Modules across all the 3 Packages have been given "NONO" by the GC.



Contractor's Progress:

Package-1 Physical Progress till 30th September 2021

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Temporary Access Bridg	е				
1.1	Bridge Deck	2953	Rmt	2953	100%	
2	Test Pile				Green and the second se	
2.1	Test Piles	5	No.	5	100%	AND THE DE VENTION
3	Permanent Bridge Works	- Land/ Inte	rchange	Zone		
3.1	Piles	523	No.	376	71.9%	
3.2	Pile Caps	158	No.	70	44.3%	
3.3	Piers •	228	No.	124	54.4%	
3.4	Pier Caps	215	No.	119	55.3%	
4	Permanent Bridge Works	- Intertidal	Zone			
4.1	Piles	312	No.	311	99.7%	
4.2	Pile Caps	66	No.	69	92.0%	
4.3	Piers	114	No.	116	79.5%	
4.4	Pier Caps	110	No.	111	76.0%	
5	Permanent Bridge Works	- Marine Zo	ne			
5.1	Piles	403	No.	403	100.0%	
5.2	Pile Caps	79	No.	66	82.5%	
5.3	Piers	160	No.	75	46.3%	
5.4	Pier Caps	160	No.	69	42.6%	
6	Permanent Bridge Works	- Total				
6.1	Piles	1238	No.	1090	88.0%	•
6.2	Pile Caps	313	No.	205	65.5%	
6.3	Piers	536	No.	315	58.8%	
6.4	Pier Caps	523	No.	299	57.2%	
7	Precast Segments					
7.1	Segment Casting	6713	No.	2789	41.5%	
7.2	Span Erection+ Cast-in- Situ Slab	478	Spans	101	21.1%	
8	OSD Structural Steel					
8.1	Fabrication	52726	МТ	45279	85.88%	
8.2	Erection	52726	MT	0	0%	



Package-2 Physical Progress till 30th September 2021

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	2682	100%	
2	Test Pile					
2.1	Test Piles	2	No.	2	100%	
3	Permanent Bridge Works -	Land/ In	terchange	Zone	3.6	
3.1	Open Foundation	113	No.	113	100%	
3.3	Piers	119	No.	119	100%	
3.3	Pier Caps	105	No.	64	60.95%	
3.4	Portal Beams- Land	6	No.	6	100%	
3.5	Pier Head Segments -Land	42	No.	25	59.52%	
4	Permanent Bridge Works -	Intertida	& CRZ Z	one		
4.1	Piles	280	No.	280	100%	
4.2	Pile Caps	72	No.	72	100%	
4.3	Piers	72	No.	72	100%	
4.4	Pier Caps	18	No.	15	83.33%	
4.5	Pier Head Segments	54	No.	40	74.07%	
5	Permanent Bridge Works -	Marine Z	one			
5.1	Piles	512	No.	448	87.50%	
5.2	Pile Caps	120	No.	83	69.16%	
5.3	Piers	120	No.	33	27.50%	
5.4	Pier Caps	48	No.	2	4.16%	
5.5	Pier Head Segments	72	No.	0	0%	
6	Permanent Bridge Works -	Total				
6.1	Open Foundation	113	No.	113	100%	
6.2	Piles	792	No.	728	91.91%	, s = 7
6.3	Pile Caps	192	No.	155	80.72%	
6.4	Piers	305	No.	224	72.02%	
6.5	Pier Caps/ Portal Beams	177	No.	87	49.15%	
6.6	Pier Head Segments	168	No.	65	38.69%	
7	Precast Segments					
7.1	Segment Casting	3142	No.	965	30.71%	
7.2	Span Erection	208	Spans	38	18.27%	
8	OSD Structural Steel					
8.1	Fabrication	34726	МТ	34726	100%	
8.2	Erection	34726	МТ	0	0%	



Package-3 Physical Progress till 30th September 2021

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	219	No.	202	92.23%	
1.2	Pile Foundations	6	No.	4	66.67%	
1.3	Piers	242	No.	167	69.00%	
1.4	Pier Caps	189	No.	132	69.84%	
1.5	Segment Casting	750	No.	637	84.93%	
1.6	Segment Erection	53	Span	14	26.41%	
1.7	Cast in-situ Slab	114	Span	31	27.19%	

Package-4 (ITS) Progress till 30th September 2021

- 1. Preparation of Bid Documents for the Package-4 ITS (Intelligent Transport System) is in progress.
- 2. As recommended by the GC, JICA accorded concurrence for Single Stage Bidding (without Pre-Qualification) on 9th October 2020 and asked to submit draft Bid Document for review and approval.
- 3. The GC submitted first draft Bid Document to the Employer on 2nd November 2020 for review.
- After reviewing the draft, MMRDA issued the observations on 29th December 2020 for further correction & amendments, etc. The GC is in the process of preparing the revised draft Bid Document.
- 5. The GC submitted the revised draft Bid Document to the Employer on 14th June 2021 for a review and further concurrence with JICA.
- The Employer received JICA concurrence for the revised Bid Documents on 24th August 2021.
- 7. The Tender has been floated (published) on 3rd September 2021. A Pre-bid Meeting was arranged on 27th September 2021. The GC is resolving the queries raised by the prospective bidders.

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



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 July to September 2021	Cumulative
1	Total Man Hours Since Inception	4,710,816	34,989,470
2	Number of Man-Hours (Accident-Free Man-Hours)	6,324,756	4,350,816
3	Number of Man-Days	588,852	4,373,683
4	Number of Reportable Fatal Accidents	0	5
5	Number of Non-Fatal Accidents	1	3
6	Number of Near Miss Incidents	7	93
7	Number of First Aid Cases	21	221
8	Number of Dangerous Occurrences	0	1
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	696	241,272
11	Number of Man-Days Lost	87	30,159
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	3	8
13	Number of Inspections done for Offices & Sites	506	3,175
14	Number of Training/ Induction done for Offices & Sites	345	1,582
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	13,228	43,078
16	Details of Safety Committee meetings	3	35
17	No. of toolbox talks	8,868	84,457
18	No. of critical excavations.	11	54
19	Pre-employment Medical check-up	4,097	31,922
20	No. of Safety Walk down	20	216
21	No. of Safety Inductions completed	4,097	31,922



Package-2 Safety Report

Sr. No	Description	From July to September 2021	Cumulative
1	Total Man Hours Since Inception	2,415,182	16,985,276
2	Number of Man-Hours (Accident-Free Man-Hours)	2,314,851	2,723,226
3	Number of Man-Days	219,562	1,545,463
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	4
6	Number of Near Miss Incidents	30	194
7	Number of First Aid Cases	15	132
8	Number of Dangerous Occurrences	0	9
9	Number of Reportable Sick Cases	0	1
10	Number of Man-Hours Lost	112	1,156
11	Number of Man-Days Lost	14	126
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	4
13	Number of Inspections done for Offices & Sites	236	1,340
14	Number of Training/ Induction done for Offices & Sites	79	149
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	8,435	1,245
16	Details of Safety Committee meetings	3	39
17	No. of toolbox talks	1,134	7,672
18	No. of critical excavations.	0	0
19	Pre-employment Medical check-up	1,459	12,977
20	No. of Safety Walk down	12	130
21	No. of Safety Inductions completed	1,469	13,264



Package-3 Safety Report

Sr. No	Description	From July to September 2021	Cumulative
1	Total Man Hours Since Inception	647,614	3,763,197
2	Number of Man-Hours (Accident-Free Man-Hours)	647,614	1,662,848
3	Number of Man-Days	80,951	470,399
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	2
6	Number of Near Miss Incidents	4	19
7	Number of First Aid Cases	8	85
8	Number of Dangerous Occurrences	1	1
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	0	2,320
11	Number of Man-Days Lost	0	290
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	2
13	Number of Inspections done for Offices & Sites	51	402
14	Number of Training/ Induction done for Offices & Sites	18	216
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	1,839	11,262
16	Details of Safety Committee meetings	3	35
17	No. of toolbox talks	623	5,587
18	No. of critical excavations.	0	3
19	Pre-employment Medical check-up	1,340	7,097
20	No. of Safety Walk down	12	133
21	No. of Safety Inductions completed	1,340	7,095



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 (P/R and PCR) 1. Toll Arrangement/ Toll Rate Fixed toll rate as per the type of vehicle Appropriate Tolling Policy/ Rates will be finalized will be levied for the road users after the by December 2021. 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 Single Operation and Maintenance Contractor the bridge and for Toll Management will be appointed by December 2021. 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. 3.2.2 **Environmental** and Social (P/R and PCR) Consideration

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.
- In accordance with the conditions for

- 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 Biodiversity Foundation for bird monitoring shall be taken, and necessary budget and implementation of Flamingos and bird shall be secured by MMRDA. monitoring program for the MTHL project during the construction as well as the longterm 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 28 th November 2016	Mangrove cutting operation was completed with full compliance and as of now, no further follow up work is required.
Tree Cutting /Transplantati on	Respective Tree Authorities	Contractor for respective Packages	-	Pkg-1: Tree Cutting/ Transplantation permission from the Garden Dept., MCGM obtained on 24 th December 2020. 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 25 th 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)
Establishment of Effective	Cell is established by MMRDA
Environmental and Social Cell in PIU	(Annexure III, Organization chart)
MMRDA confirmed that Social Development Cell (2 Officers), Land Cell (3 Officers), and Environmental Cell (2 Officers) had been set up.	
2. Rehabilitation and Land Acquisition	Sewri: Involuntary resettlement in Sewri section
Issues	has been further validated by Social Development Cell of MMRDA. Out of 297 Project Affected
a. Affected Area and Population Due to the Project, 1282 non-	Households (PAHs) have given consents as follows:
titleholders will be involuntary resettled,	
and 108.09 ha of land will be handed	164 PAHs Kanjurmarg for residential
over by CIDCO.	 25 PAHs Kanjurmarg for commercial
	 7_EPAHs (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	Updated Attachments 2-8 and 2-10 are enclosed
	Detailed baseline survey will be undertaken by MMRDA in order to	in the report.
	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	5
,	operation phase.	# · · · · · · · · · · · · · · · · · · ·
d.	Implementation Schedule	
u.	The Implementation schedule for land	Updated Attachment 2-10 is enclosed in the
•	acquisition, resettlement and	report.
	rehabilitation is attached as per	
	Attachment 2-10.	
e.	Grievance Redressal Mechanism	
	Grievance Redressal Committee ("GRC") set under MMRDA will deal with grievances raised by PAPs in	Sewri: FLGRC (Field Level Grievance Redressal Committee) and SLGRC (Senior Level Grievance Redressal Committee) were set as per the RAP and in operation.
	Sewri and fishermen to be affected by	Compensation Committee has been constituted to
	the Project. Any grievances raised by	address the issues of Compensation to Lease
	PAPs whose land is acquired by CIDCO	Holders at Sewri.
	shall be resolved by CIDCO.	Fishermen: GRC for resolving grievances of the
		fisherfolk was set up as per the compensation
	* 2	policy and is in operation.
f.	Internal Monitoring	
	Internal Monitoring of the Resettlement	Internal Monitoring updates are mentioned in
	Action Plan (RAP) implementation will	Attachment 2-8.
	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	
	JICA OII a qualterly basis as a part of t	



	Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
~	. Qualitative Independent Evaluation	remaining problem(s)
g	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.
į.	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	Environmental Monitoring Plan with the package wise budgeted 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.	
MMRDA committed to conduct the long-term monitoring of birds and its habitat in Sewri mudflats with the assistance of hired bird expert. During the long-term monitoring, MMRDA will share information and receive advice 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.



	Original:	Actual: (PCR)
	15.4%	%
	Cost: Project cost (excluding Price Escalation, Tax and	Cost:
EIRR	Duties and Administration cost) O&M cost, Land	Benefit:
LIKIX	Acquisition	Project Life:
	Benefit: Travel Time cost and Vehicle Operation cost	Attachment(s):
	Project Life: 32 Years	Supporting data for computing EIRR
	Original:	1 2
	1.5%	Actual: (PCR)
FIRR	Cost: Project Cost, O&M cost, Land Acquisition cost Benefit: Toll Revenue Project Life: 32 Years	%

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. 18 is submitted for the period of 1st July to 30th September 2021.

3.6 Achievement of the Project Objective

(PCR)

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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.



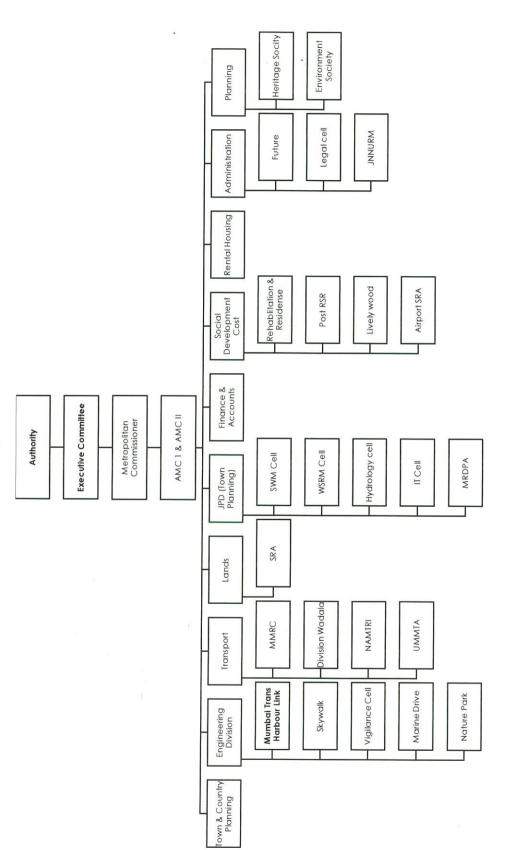
5.0 EVALUATION
5.1 JICA and Borrower / Executing Agency performance
JICA:
(PCR)
Borrower/ Executing Agency:
(PCR)
5.2 Overall Evaluation
Please describe your evaluation on the overall outcome of the project.
(PCR)
5.3 Lessons Learnt and Recommendations
Please raise any lessons learned from the project 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

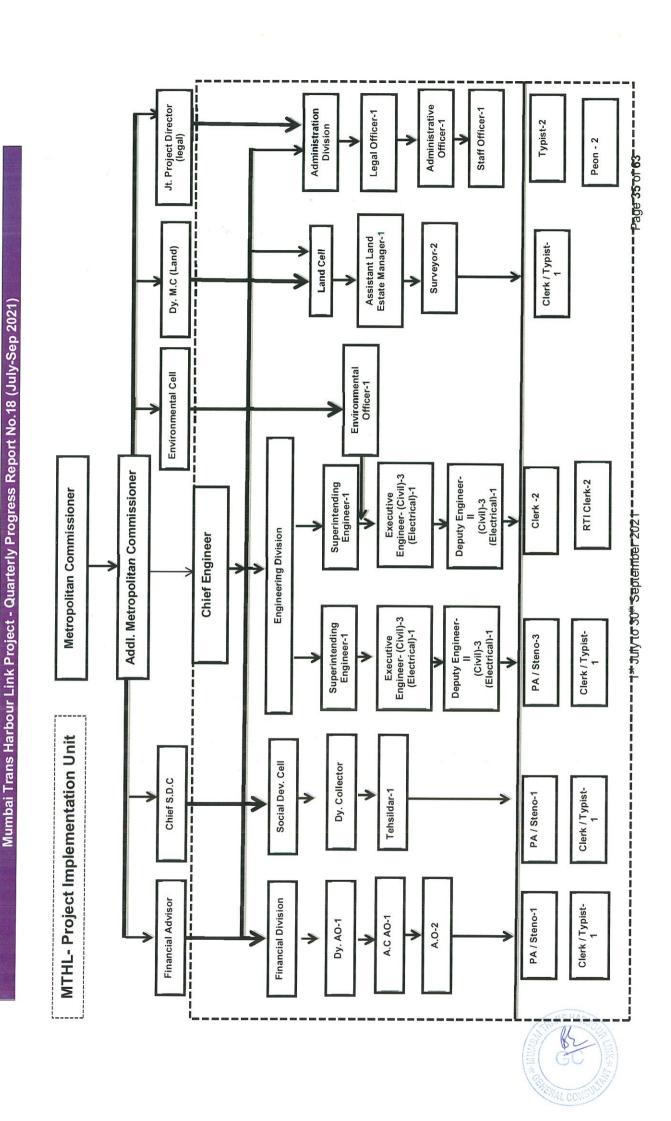


MMRDA Organization chart



1st July to 30th September 2021





Attachment 2- Environmental & Social Impacts Attachments

Attachment 2-3 – Envi. Monitoring Plan with Package wise Estimated Cost
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



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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
	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀ , PM ₂₅ , O ₃ , CO, (6 Items)	National Ambient Air Quality Standards, 2009	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.
					Nhava temporary bridge casting yard in Gavhan for package II							(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.
						4						· NO ₂ : 80 / 80µg/m³	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
			9			r.						я « * * ;	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.
	es Ma				,							 PM₁₀: 100 / 100μg/m³ PM₂₅: 60 / 60μg/m³ O₃: 180 / 180μg/m³ CO: 0.4 / 0.4mg/m³ 	
	2	Water pollution	pH, BOD, DO, Turbidity and O&G		Sewri & Sewri bay area for package I Nhava temporary bridge casting yard in Gavhan for package II	Quarterly 4 Times / Year	810,000	2,400,000	810,000	0	3,210,000	Marine water quality Standards – Class SW-IV Harbour Waters (MPCB) • pH: 6.5-9	Water Pollution not applicable for Pkg. 3
			8		3. Gavhan & Chirle for package III	Not applicable	73		5			DO: 3 mg/l Turbidity: 30 NTU BOD: 5 mg/l	
Pollution	3	Waste	Volume of waste soil, cutting tree and domestic garbage		1. Sewri & Sewri bay area for package I	Daily	500,000	299,200,000	500,000	600,000	300,300,000	· 0 & G: 10 mg/l	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.



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
				Nhava temporary bridge & casting yard in Gavhan for package II Gavhan & Chirle for package III	4 Times / Year Once site clearing work/execution part of work start.						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
		8	2	Ç ^{les}			3 8 °	eze s	21 18	*		
4 and 8	Soil Contamination/ sedimentation	Heavy Metals & Oil & Grease	IS / Methods Manual Soil Testing in India by		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)	
	seamentation	(5-10 items shall be selected from Soil pollution standards)	Department of Agriculture and Cooperation, January 2011	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						Lead: 0.01 mg/l Chromium (VI): 0.05 mg/l Arsenic: 0.01 mg/l T-Mercury: 0.0005 mg/l Copper: 125 mg/kg (some items shall be selected from totally 25 standards)	-
5	Noise and vibration	Ambient and road side noise (dB(A)L _{Aeq})	IS Standard	Sewri & Sewri bay area for package I	at Storage area only Fortnightly	150,000	54,000	150,000	369,000	573,000	items) -Construction Noise; 85dB(A)	
				Nhava temporary bridge & casting yard in Gavhan for package II	2 Times / Year						-Ambient Noise Standards in India (dB (A) _{Leq})	
		Vibration (dB L10 or		3. Gavhan & Chirle for package III 1 Location Gavan area for	Fortnightly Halfyearly	75,000	0	75,000	400,000	475,000	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) - Construction vibration 75dB	Not applicable for Pk
er e		vioration (dB LTU or mm/sec)	2	1 Location Gavan area for package III	Hall yearly	75,000	0	75,000	400,000	475,000	-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
9 and 10	Protected Area /Ecosystem	1.Monitoring of mudflat conditions including fauna-flora	and quantitative	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
		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		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
0			4. Monitoring of sedimentation soil and ecological	1-2: Mangrove density and community survey								Detailed monitoring plan will be setup during basic design stage	
			parameter (18items on Supplemental EIA Table 6.1.15 for soil and 7 items such as								1 20	de a	
			1)Netprimary productivitye, 2)Chlorophyll-a, 3)Phosphate,									fao s	
			4)Nitrate, 5)Nitrite, 6)Particulate Organic Carbon, 7)SiO ₂)						•			* · · · · · · · · · · · · · · · · · · ·	9
												4	
vironment													
Natural environm													
				1-3: Benthos Survey	у		1						1
				2-1: Cutting trees			1 1					Standard for Soil; Supplemental EIA Table 6.1.15	-
				confirmation 3-1: Mangrove			-					Standard for Ecological Parameter:	-
				survey in the replanted area			- 1					Netprimary Productivity	-
					N N		1 1		10.1			<1,500 mgC/m3/day at surface	1
]					· Chlorophyll-a	
							-					<4mg/m3	
							-					 Phosphate: 0.1-90μg/l Nitrate: 1.0-500μg/l 	-
							1 1					· Nitrite: <125μg/l	-
							1					Particulate Organic Carbon: 10-100mg/m³	
	11	Hydrology	Flooding situation	Flood level	Not applicable for Package I		350,000	0	350,000	0	350,000	· SiO2: 10-5,000μg/l Project activities and structures does not cause flooding	Not applicable for Plag 1 8, 2
		nyarology	rissamg staation	measurement during high precipitation periods	Not applicable for Fackage F		330,000		330,000	0	550,000	and impacts on tidal conditions	NOLAPPIICABLE TOT 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 Interchange in Shivaji Nagar	4 Times / Year	115,000	0	115,000	0	115,000	Embankment shall be stabilized without any landslide and cracks	Not applicable for Pkg. 1 & 3
		v v			for Package II				6 5 19	s		v.	
		8 4			Not applicable for Package				7,	201			
	13	Local economy such as employment and livelihood			Affected area		As per Actuals						
nment	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	
ial enviro	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	
Soc	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	accidents list from local government and State Traffic	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	
Ш	•			Police Department				9					
				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

Monitoring Period - July 2021 to September 2021

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.

ment		Monitoring during Construction for 4.5 years				Monitoring Perio	d - July 2021 to September 2021		required p	parameters are included in this fo	rm, and not all perameters in EMoP are cov							
ironn	mental	Monitoring duri	ng Construction for 4	.5 years														
		_						Monitoring R	esult		Remark							
	No.	Item	Parameter	Location	Frequency a year	Item and Stanadard	Location 1- Pkg 1	Location 2	Location 3- Pkg 3	Location 4	reasons why the data is exceeding standard counter measures when the data is exceeding							
		2	ser 2	1. Sewri & Sewri bay area for package I	Quarterly monitoring ia conducted at all locations.	National Ambient Air Quality Standards (NAAQS)	S.uni	China	a									
	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year	(Standard for 24hrs: Industrial and Residential)	Sewri	Shivaji Nagar	Chirle									
				3. Gavhan & Chirle for package III	From march -2019 onwards monitoring is conducted quarterly as	1. SO ₂ : 80μg/m ³	21.75											
					per MOEF and CPCB	2. NO ₂ : 80μg/m ³	46.92											
					norms	3. PM ₁₀ : 100μg/m ³	143.61											
						4. PM _{2.5} : 60μg/m ³	46.16											
						5.CO:02mg/m3	4.25											
						6.VOCs	4.03				Benzene is analysed in ambient air							
				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		Delizere is analysed in amorem an							
	2	Water pollution	pH, BOD, DO, Turbidity	2. Nhava temporary bridge & casting yard in Gayban for package II	4 Times / Year	1. pH : 6.5-9					Water Sampling not conducted due to monsoon season (Due to cyclone)							
	-	Water political	and O&G	3. Gavhan & Chirle for	Not applicable	2. DO: 3 mg/l												
			//t	package III		3. Turbidity: 30 NTU			****									
						4. BOD: 5 mg/l			3***** ******									
						5. O & G: 10 mg/l			••••									
						6.COD												
				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									
			Volume of waste soil, cutting tree and domestic garbage		2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year	Generated waste soil (t) total	5878.71 m3				,						
	3	Waste		J. Gavilali & Cilifie Ioi			In this quarter no tree cutting done. Till											
			9			Generated cutting tree (ha) total	March 21 total 308 trees has been cutted				£							
		*		*		Generated domestic waste (t/month) total Confirmation of adequate disposal (visualt survey)	6.44 T for the quarter	3			1							
				1. Sewri & Sewri bay area for package I	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year	Soil Pollution Standard in India (MOEF)	Sediment sample at Sewri				* a 6 ,							
				2. Nhava temporary	Teal	1. Cadmium: 0.01mg/I												
				3. Gavhan & Chirle for	*If any spillage/leakage	2. total cyanide : not detected												
				package III	fuel storage area.	3. organic phosphorus: not detected												
					*One time grab sample to	4. lead: 0.01mg/1												
		,			Storage area only	5. chromium (VI): 0.05mg/l												
						6. arsenic: 0.01mg/l or 15mg/kg (agri-land soil)												
						7. total mercury: 0.005mg/l												
		Soil	********			8. alkyl mercury: not detected 9. PCBs: not detected					tation, some items shall be selected from							
		Contamination/sedim	Heavy Metals & Oil & Grease			10. copper: 125mg/kg (only paddy field soil)					Design. Only the selected items shall be re							
		entation	Grease			11. dichloromethane: 0.02mg/l			JICA, a	and the rest of items shall be dele	tea from this form.							
						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		1										
1	- 1				16.													
1	- 1												l l	17. 1,1,2-trichloroethane: 0.006 mg/l		1		

GC COMPANY CONSTITUTE

The Pr	oject for	Construction o	f Mumbai Trans H	Iarbour Link					,		Attachment 2-4
			ntal Monitoring du								nitoring results to JICA India Office. Only minimum
Attachm			mun momitoring un	ing construction		Manitoring Period	July 2021 to September 2021		required parar	meters are included in this fo	rm, and not all perameters in EMoP are covered.
		Monitoring duri	ng Construction for 4	5 voors		monitoring reriou	July 2021 to September 2021				
I. LIIVII	I		ing constituction for 4	years		19. tetrachloroethylene: 0.01mg/l					
						20. 1,3-dichloropropene: 0.002mg/l		5 (4			
						21. thiuram: 0.006mg/l		7. 9			
						22. simazine: 0.003mg/l					
					素	23. thiobencarb: 0.02mg/l				· · · · · · · · · · · · · · · · · · ·	
		viit.				24. benzene: 0.01mg/l					
			*			25. selenium: 0.01mg/l				4.*	
				1. Sewri & Sewri bay	Fortnightly						
				area for package I	1 or emgilery	Construction area Standard 85 dB(A) daytime (Japan standard)	Sewri (ST 200-500)	Sea Section (ST5000-5500)	Shivaji Nagar		
						Not constuction area : Ambient Noise Standard in	(Industrial area)	Migratory Bird Area(no standard or	(Commercial area)		
			70			India (dB(A) Laeq)	(mastria area)	sea section)	(Commercial area)		
				2. Nhava temporary	2 Times / Year						
				bridge & casting yard in	1	Day time : 6.22 hr (continious) dB(A)					Noise Monitroing not conducted due to monsoon
				Gavhan for package II		Day time : 6-22 hr (continious) dB(A)					season.
				0.0.1.0.01.1.6							
				3. Gavhan & Chirle for	Fortnightly	Night time: 22-6 hr (continious) dB(A)					
			Ambient and road side	package III		(only sea section)					
			noise (dB(A)LAeq)			Day time : 6-22 hr (10 min during 9-17 hrs)					
						Night time: 22-6 hr (10 min 22-24 hr)					
			100								
						Note (standard values in Not construction area)					
						1.Industrial Area					
						Day Time: 75 (6-22hr)					
	5	Noise and vibration				Night Time: 70 (22-6hr)					
		3				2.Commercial Area:					
						Day Time: 65 (6-22hr)					
				41 0	11.16	Night Time: 55 (22-6hr)					
				1 Location Gavan area for package III	Half yearly	Construction area Standard 75 dB daytime (Japan standard)	Sewri (ST 200-500)	Shivaji Nagar	69450000 C		
				101 package III		Not constuction area : Vibration Standard (Japan	(Industrial area)	(Commercial area)	Chirle		
						Standard along the road)	(2-14-15-11-11-11-11-11-11-11-11-11-11-11-11-				
											There is no reference standard in India for Vibration
			Vibration			Day time : 6-22 hr (continious)					monitoring in marine area. GC has confirmed that
			(dB)			400					vibration monitoring is not required for the project.
			shall be converted from mm/s to dB			20 (1 ()					
			min/s to dB			Night time: 22-6 hr (continious)					
						Note (standard values in Not construction area)			Regarding protec	ted area (CRZ and Importan	t Bird Area) and ecosystem, detailed long-
				1		1. Commercial /Industrial Area					ng baseline survay of birds. This tentative
						Day Time: 70 (7-20hr)					he detailed long-term monitoring plan.
						Night Time: 65 (20-7hr)			Landing		
				Along MTHL alignment			And the source		SECTION MONTHS PAGE	Mangorove Replantation	
			*	and mangrove replant		Standard is not existing, but quantity and quality	Sewri side	Sea Section	Shivaji Nagar side	area appointed by State	
				area for Package I	construction	should not be worsen	(ST500-5500)	(ST5500-16000)	(app. ST16000-19000)	Government	
				Along MTHL	Period						
						1-1. Fauna-Flora (number of species and quantity			N/A	N/A	
				mangrove replant	4 Times / Year	1-1. Fauna-Fiora (number of species and quantity		1	N/A	IN/A	
			11	area for package II							
						-					a 2
			0			(1) Number of species of bird				1	
			1.Monitoring of mudflat								
			conditions including fauna-							19	_
			flora	1		(2) Number of species of fish					<u> </u>
			2. Monitoring of Cutting		Î	(3) Estimated number of Flamingo					
			Tree and	1							
		1	replantation/transplation			1-2: Mangrove density and community survey					
			area 3.Monitoring of Mangrove			- 10 Maria			9		
				or to							



The Pro	oject for	Construction o	f Mumbai Trans H	arbour Link							Attachment 2-4
Reporti	ing Forn	n of Environme	ntal Monitoring du	ring Construction					This form is pre	pared for reporting the mor	itoring results to JICA India Office. Only minimum rm, and not all perameters in EMoP are covered.
Attachme						Monitoring Period	d - July 2021 to September 2021		required param	ieters are included in this fol	III, and not an perameters in Livior are covered.
1. Enviro	onmental	Monitoring during	ng Construction for 4.	5 years							
		D	Plantation area appointed by MoEF			(1) Number of species of mangorve		not required			350
	6	Protected Area	4. Monitoring of	¥1.		(2) Density of mangrove (xx trees/10m x 10m)		not required			
			sedimentation soil and ecological parameter (25			1-3: Benthos Survey		not required			Ecology sampling not conducted due to monsoon
1			items on EIA main text			(1) Number of species and quantity by species		not required			season.
Natural Environment	-		Table 6.1.15 for soil and 7 items such as 1)Net primary productivity,	* B		2-1: Cutting tree confirmation	Total 308 trees have been cutted till march 2021. 89 trees have transplanted	not required			
învir			2)Chlorophyll-a,			(1) Number of cutting tree and species	* ***	not required			tw-
ral E			3)Phosphate, 4)Nitrate, 5)Nitrite, 6)Particulate			3-1: Mangrove survey in the replant area (1) Number of species of mangorve		not required			
Natu			Organic Carbon, 7) SiO2)			(2) Density of mangrove (xx trees/10m x 10m)		not required			
						4. Ecologial Parameter		not required			Ecology sampling not conducted due to monsoon
						(1) Net primary Productivity : <1,500 mgC/m3/day at					season.
						surface					
1						(2) Chlorophyll-a: <4mg/m3 (3) Phosphate: 0.1-90μg/l					
						(4) Nitrate: 1.0-500µg/l					
						(5) Nitrite: <125µg/l					
		Ecosystem	-			(6) Particulate Organic Carbon: 10-100mg/m ³ (7) SiO2: 10-5,000μg/I					
1		Leosystem		Not applicable for		Criteria for evaluation					
				Package I		Project activities and structures does not cause	Sewri	Shivaji Nagar			
	7	Hydrology	Flooding situation	2 Locations (CRZ at Sewri and Shivaji	4 Times / Year	flooding and impacts on tidal conditions Monitoring of flooding situation	No Flooding				
				Nagar) for Package II Not applicable for							
				Package III		Criteria for evaluation					
	_	Topography and	Conditions in embankment	2 Locations (1. Embankment of Inter		Embankment shall be stabilized without any landslide and cracks	Shivaji Nagar	Chilre	Chirle		
	8	Geology	area	Change in Shivaji Nagar and 2 Cutting area at toll gate in Chirle)	4 times / year x 4.5 years	Monitoring of embankment	done				
	9	Local conflict of	Construction worker's	2 Locations (major camp site in Sewri and Shivaji	4 times / year x 4.5 years	Criteria for evaluation Employment opportunity shall be provided fairly	Sewri Camp Site	Shivaji Nagar Camp Site	Chirle		
		interests	township	Nagar)		Number of hired workers by community	497 in July 21, 522 in August 21 and 464 in September 21				
				2 Locations (major camp		Criteria for evaluation Infection disease rate shall not be caused by the project	Sewri Camp Site	Shivaji Nagar Camp Site			
	10	Infectious diseases such as HIV/AIDS	Number of infected patient		4 times / year x 4.5 years	Confirmation of health check record and inspect project site	During this quarter 1 no. , COVID 19 positive case reported who have been treated and discharged	·			
	si .		i		- ,	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		
				9		Standard 2 Salott and Worlding Conditions	All provisions as per BOCW have been provided. * Total 233 Nos of workmen registered			1.5	
	11	Labour Environment	Construction worker's cond	2 Locations (major camp site in Sewri and Shivaji Nagar)	2 times / year x 4.5 years	,	under BOCW and distributed BOCW kit *1325 nos. of Food meals (lunch & Dinner) provided to workmen from				
				*		Site Visual Inspection	BOCW, * Face mask provided to workmen, * Sanitizers & Liquids soaps also provides to different location for				
		8					workmen. *Daily temperature Cheek of workmen at site and colony is conducted. Daily sanitisation at work site, of working equipment and the buses used for			*	^
							communiting is conducted.				
ther	12	Accident	Number of accidents	2 Locations (major camp site in Sewri and Shivaji	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		
ŏ	12	. recident	Programme and the control of the con	Nagar)	. times year x 4.5 years	Number of recorded accident	Zero accident reported in this quarter only 1 RLTI reported				
						Karana and a same and a	TALTI reported				



QPR No.18 (July to September 2021) - Attachment 2-6

MTHL Land Acquisition Status (Attachment 2-6):

Total land required on Navi Mumbai side- 108.09 ha Land in possession in MMRDA – 106.345 ha Balance land acquisition- 1.745 ha

Note: The acquisition of 1.745 ha is in progress by CIDCO. The balance acquisition would be likely completed by the end of November 2021.

Land Required in ha		in ha		equired Land Acquired in ha a		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	30-11-2021		The payment status to the land owners are awaited from CIDCO. The same would be communicated to JICA on receipt of the same.			
Total 108.09		98.75	7.595	1.745						

*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 3rd quarter of 2021

b. Date of Preparing This form 30-09-2021

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	Titleholders: 0 persons
	(194 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 Chowki 1)
	Total: 322

2.3 Fishery

Categories of Fisher-folks	Identif	ied Number	Total	Remarks		
	Mumbai side	Navi Mumbai side				
C1: Fishing stakes and nets in RoW (250 m.)	178	54	232	Funds for 230 nos C1 category fishermen are transferred to Commissioner of Fisheries on 17.03.2020 for payment to the beneficiaries. 2. The list of balance 2 Nos. of C1 category fishermen are in process of fund transfer to		

QPR No.18 (July to September 2021)



				Commissioner of Fisheries.
C2: Fishing Stakes and Nets within 500 m. of RoW (Southern side)	296	567	863	Funds for 496 nos C2 category fishermen are transferred to Commissioner of Fisheries in the 2017-18. The list of balance 367 Nos. of C2 category fishermen are under verification of validity.
C3: Hand Pickers	1498	4051	5549	Funds for 4141 nos of C3 category fishermen are already transferred to Commissioner of Fisheries and balance 1408 Nos. of C3 category fishermen are in process of fund 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		quired in a.	Land Acq	uired 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	

QPR No.18 (July to September 2021)



QPR No. 18 (July to September 2021) Attachment 2-8

3. Monitoring Results

3.1 Sewri Section

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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	197	29	226	97%	
	No. of Residential PAHs given possession of Alternate Tenements	231	139	87	226	97%	
	No. of Commercial/R+C PAPs provided with Allotment Letters of Alternate Shops/Tenements	66	23	38	61	92%	
	No. of Commercial R+C PAPs given possession of Alternate Shops/Tenements	66	20	41	61	92%	
	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	9	9	100%	
* .	No. of PAHs/PAPs provided Shifting Charges / Arrangement	297	0	0	0	0%	2
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)						

QPR No.18 (July to September 2021)



QPR No. 18 (July to September 2021) Attachment 2-8

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
	No. of new enterprises started						
Grievance Redress	No. of Grievances Received by FLGRC	4					
Redress	No. of Grievances Disposed by FLGRC	1	0	1	1	100%	
	No. of Grievances Received by SLGRC	0					
	No. of Grievances Disposed by SLGRC	0					
Post Resettlement	No. of CHSs Registration helped						
Assistance	No. of CHSs provided Tenements for Social Amenities						
	No. of CHSs' Maintenance Fund Invested						
	No. of CHSs' Office Bearers provided training						



Sr.		Total number	Total	approve u	d eligible	e family
No.	Village Name	of forms Received	C1	C2	С3	Total
1	Bamandongri	273	1	1	28	30
2	Belapur	110	0	5	15	20
3	Belpada	1185	0	7	478	485
4	Diwale	455	12	201	52	265
5	Ganeshpuri	276	0	37	35	72
6	Gavhan	2162	0	14	1317	1331
7	Jasai	926	0	0	18	18
8	Jawale	51	0	1	0	1
9	Kombadbhuja	413	1	23	134	158
10	Kopar	994	2	5	228	235
11	Karave	178	0	44	67	111
12	Mahul	1062	129	76	604	809
13	Moha	475	22	24	135	181
14	Mora	818	0	102	375	477
15	Morave	539	14	21	88	123
16	Nhava	1646	0	32	307	339
17	Sarsole	266	0	30	83	113
18	Sewri	305	0	1	72	73
19	Shelghar	241	0	0	15	15
20	Shivajinagar	202	1	4	61	66
21	Trombay	1208	49	219	823	1091
22	Ulwe	218	1	3	14	18
23	Uran & Hanuman Koliwada	683	0	11	600	611
24	Vahal	411	0	2	1	3
	Total	15097	232	863	5550	6645
	Total applications			*1		15097
	Duplicate/Repeated Applicati	on	*			2428
	Net Applications	011				12669
-	Approved applications					6645

Grievance Redressal Committee (GRC) for Fisher-folk Compensation

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

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QPR No. 18 (July to September 2021) Attachment 2-10

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
~	Approval of fisher-folks' compensation	Fisher-folks Compensation	08-10-2015	23-12-2015
	Policy	Committee (FCC)		1
2	Approval by MMRDA	MMRDA	10-12-2015	23-12-2015
3	Submission to JICA	MMRDA	1	04-01-2016
4	Detailed list of PAP and compensation plan	1. Detailed list of Fisher-folk PAP	23-12-2015	Up to 30.09.2021
		up to list 1 (1165 Nos) & 2 (1399		1. Total up to date applications scrutinized = 12669 Nos.
		Nos) are finalized by the		2. Eligible = 6645 Nos.
		Fisheries Department.		3. Rejected = 6024 Nos.
		2. From 2018, FEVC committee		
		is the approval authority of PAF		
		and approved C1- 232 Nos.		
		C2 - 367 Nos and C3- 3482 Nos		
		are approved.		
	Validation of compensation plan	Fisher-folks Compensation	23-12-2015	1. Approval to the Fisher-folk PAP list obtained from Fisheries
	A A	Committee (FCC)		Department for Fisherfolk from Sewri, Mahul & Trombay
				(Mumbai side) – 12th September 2017 and 20th November
				2018 for C-2 & C3 Category only.



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

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

Table 1 . No. 1	123		
Remarks		CIDCO is the land acquisition authority for land acquisition for Navi Mumbai MMRDA has paid an amount of INR 59.16 Cr to CIDCO as per their demand. The payment status to the landowners is awaited from CIDCO. The same would be communicated to JICA on receipt of the same.	
Payment status (Payment made to Landowners by CIDCO)		ļ	
Anticipated date for Land Acquisition		30-11-2021	
Balance Land Land Acquired in Ha in Ha	Private	1.745	1.745
uired in Ha.	Private	7.595	106.345
Land Acq	Govt.	98.75	106
Land Required in Ha.	Private	9.34	108.09
Land Re	Govt.	98.75	Total



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QPR No. 18 (July to September 2021) Attachment 2-10

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	Dec. 2021
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	Nov. 2021
2.6	Notice of PAPs for shifting (Sewri Section)	December 2018	Nov. 2021
2.7	Allotment of dwelling units to PAP's	September 2016	Nov. 2021
2.8	Shifting of PAPs to resettlement Colony	December 2018	Nov. 2021
2.9	Transfer of compensation / allowance/ assistance to PAPs	December 2018	Dec. 2021
2.10	Creation of Community Revolving fund (within 3 months post handing over)	April 2019	Dec. 2021
2.11	Assessment of economic rehabilitation needs by individual household (within 6 months after handing over	September 2019	Dec. 2021
2.12	Registration of Co-operative housing societies transfer of maintenance funds. (6 months period)	December 2019	Dec. 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	July 2020
3.2	Independent Evaluation Mid-term and End term evaluation	, , , , , , , , , , , , , , , , , , ,	
	Mid Term	May 2019	June 2020
.:	End Term	November 2019	Dec. 2021



Attachment 3- JICA's Concurrence Status



Status of JICA'S Concurrence

			Bid Co.	ost			JICA's Concurrence on	currence on		
S. No.	Sl. Brief No. description	Procurement procedure	Local Currency (Cr Rs.)	Total (Cr Rs)	PQ Documents	PQ Evaluation	۵	Technical Evaluation	Financial Evaluation	Contract
-	Package-1 (CH 0+000 km to CH10+380 km)	ICB with PQ (2P)	7637.30	7637.30	JICA's 7637.30 Concurrence - 9th May 2016	JICA's Concurrence - 22 nd Dec 2016	JICA's Concurrence - 4 th Jan 2017		JICA's Concurrence - 12 th Oct 2017	JICA's JICA's JICA's Concurrence - Concurrence - 12th Sep 2017 12th Oct 2017 15th Feb 2018
2.	Package-2 (CH 10+380 km to CH18+187 km)	ICB with PQ (2P)	5612.61	5612.61	JICA's 5612.61 Concurrence - 9 th May 2016	JICA's Concurrence - 22 rd Dec 2016	JICA's Concurrence - 4 th Jan 2017	JICA's Concurrence - 12th Sep 2017	JICA's JICA's Concurrence - 12 th Sep 2017	JICA's JICA's Concurrence – 12th Oct 2017 15th Feb 2018
6.	3. (CH18+187 to CH21+800)	ICB with PQ (2P)	1013.79	1013.79	JICA's 1013.79 Concurrence - 9 th May 2016	JICA's Concurrence - 4 th Jan 2017	JICA's Concurrence - 4 th Jan 2017	JICA's JICA's JICA's Concurrence - Concurrence - 15th Sep 2017 12th Oct 2017 15th Feb 2018	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence – 15th Feb 2018
4.	Package-4 Intelligent Transport System	ICB with PQ (2P)	413	413	JICA's Concurrence - 23 rd August 2019	1	JICA's Concurrence - 24 th Aug 2017	1		



Attachment 4- Project Procurement and Financial Status till 30th September 2021



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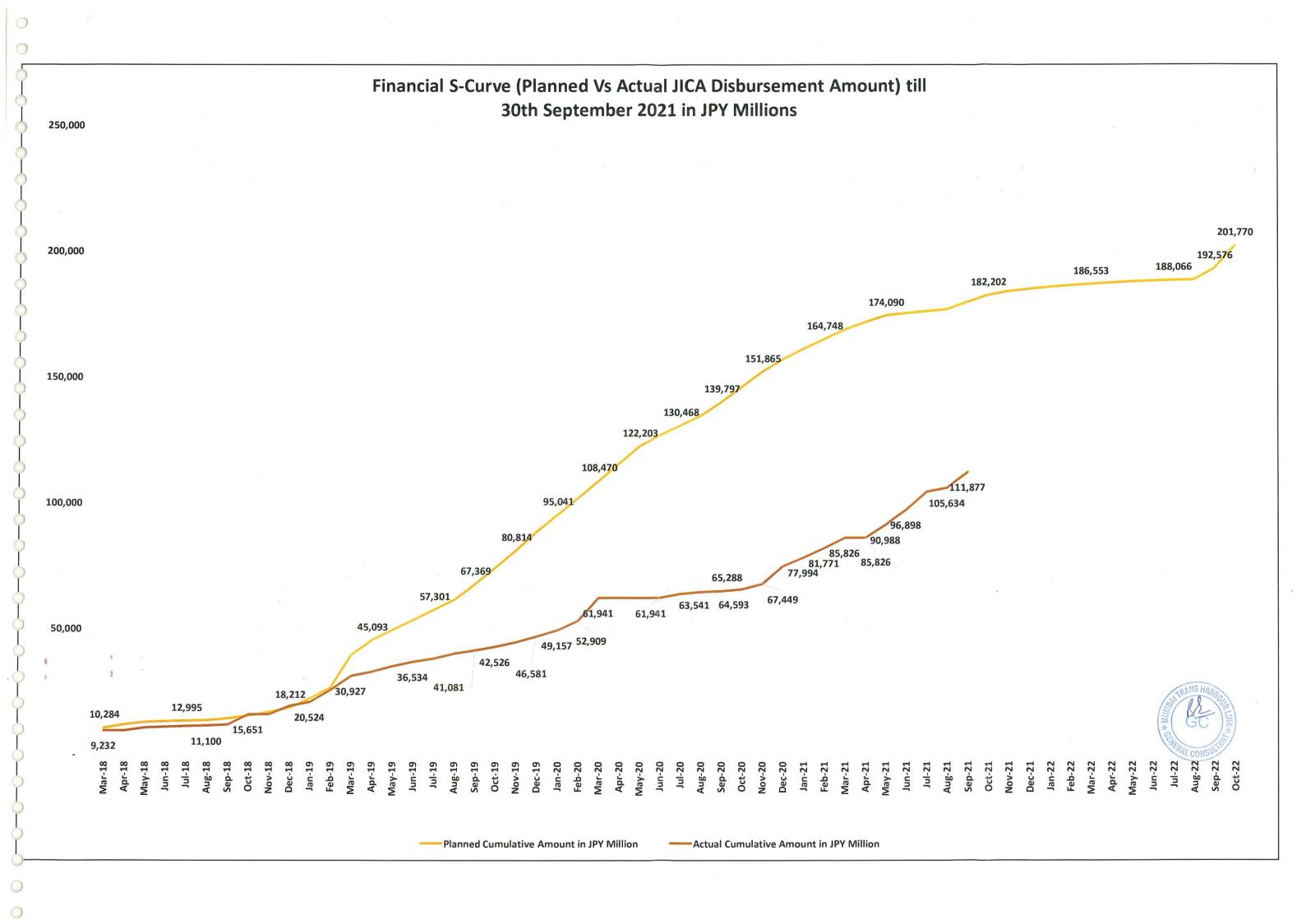
PROJECT PROCUREMENT AND FINANCIAL STATUS TILL 30th SEPTEMBER 2021

Type	Contract	Awarded or Estimated Value (in Rs. Crore)	Current	Contractors	Project Commencement Date	Stipulated Project Completion Date	% of Overall Project completion (Design/Procurement/ Construction) till 25 th September 2021	% of Overall Financial Progress (Including Mobilization Advance and excluding the Price Adjustment & Work Variation) till 30th September 2021
	Package-1 (CH 0+000 km to CH 10+380 km)	7637.30	Awarded	L&T-IHI Consortium	March 2018	Sep 2022	59.21%	65.08%
CIVIL	Package-2 (CH 10+380 km to CH18+187 km)	5612.61	Awarded	DAEWOO- TPL JV	March 2018	Sep 2022	54.22%	68.75%
	Package-3 (CH18+187 to CH21+800)	1013.79	Awarded	L&T	March 2018	Sep 2021	61.38%	77.29%
STI .	Package-4 Intelligent Transport System (ITS)	413	Tender Stage	NA	February 2022	May 2023	NA	AN



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





Attachment 6- Package-1's Construction Programme Updated as on 25th September 2021





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MUMBAI TRANS HARBOUR LINK PACKAGE 1, UPDATED BASELINE PROGRAMME FOR SEPTEMBER 2021





AECOM PADECO der al-handasah

TYLIN INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

ID Activity Name	BL1 BL1 Start Duration	BL1 Finish	Original Start Duration	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	tal Float 201	18 2019 2020 2021 2022 2023 20
MPR42 MTHL P1 -Sep'21 Month Progress	1062 23-Mar-18	22-Sep-22	1691 23-Mar-18 A	14-Oct-24	93.32%	59.21%	0	-629	-630	
MPR42.1 Mumbai Trans Harbour Link - Package 1	1062 23-Mar-18	22-Sep-22	1691 23-Mar-18 A	14-Oct-24	93.32%	59.21%	0	-629	-630	
M10000 Commencement Date	0 23-Mar-18		0 23-Mar-18 A		100%	100%	0	0	•	
MPR42.1.1 Key Milestones MPR42.1.2 Contractual Interface	1464 19-Sep-18	22-Sep-22	2032 15-Feb-19 A	14-Oct-24	0%	. 0%	-148	-753	-754	
MPR42.1.3 Access to Site	1243 09-Oct-18	05-Mar-22	1243 09-Oct-18 A	05-Mar-22	0%	0%	0	. 0	200	
MPR42.1.4 Document Submittals	165 23-Mar-18 180 23-Mar-18	03-Sep-18 18-Sep-18	165 23-Mar-18 A 180 23-Mar-18 A	26-Sep-21 09-Dec-19 A	0%	. 0%	0	-1119 -446	-684	
MPR42.1.5 Survey	73 23-Mar-18	03-Jun-18	73 23-Mar-18 A	03-Jun-18 A	0%	0%	0	-446		
MPR42.1.6 Geotechnical Investigation	165 23-Mar-18	03-Sep-18	165 23-Mar-18 A	23-Jul-19 A	0%	0%	0	-322		
☐ MPR42.1.6.1 Phase 1	60 23-Mar-18	21-May-18	60 23-Mar-18 A	21-May-18	0%	0%	0	0	—	
MPR42.1.6.2 Phase 2	25 22-May-18	15-Jun-18	25 22-May-18 A	15-Jun-18 A	0%	0%	0	0	₩	
MPR42.1.6.3 Phase 3	50 16-Jun-18	04-Aug-18	50 16-Jun-18 A	30-Dec-18 A	0%	0%	0	-147	V	
MPR42.1.6.4 Phase 4	45 21-Jul-18	03-Sep-18	45 05-Oct-18 A	23-Jul-19 A	0%	0%	-76	-322		
MPR42.1.7 Infrasturcture Facilities	188 23-Mar-18	05-Feb-19	376 23-Mar-18 A	26-Oct-20 A	0%	0%	0	-369		
MPR42.1.7.1 Project Site Office Construction (Contractor + Employer + GC)	120 04-Apr-18	27-Nov-18	120 04-Apr-18 A	25-Nov-18	0%	0%	0	2	V	
MPR42.1.7.2 Casting Yard	164 20-Apr-18	05-Feb-19	355 20-Apr-18 A	26-Oct-20 A	0%	0%	0	-369		
MPR42.1.7.3 Fabrication Yard	133 23-Mar-18	30-Nov-18	133 23-Mar-18 A	26-Apr-19 A	0%	0%	0	-122		
☐ MPR42.1.7.4 Rebar Yard ☐ MPR42.1.7.5 Batching Plant Installation - CP30 & CP60	133 23-Mar-18	30-Nov-18	376 23-Mar-18 A	16-Jan-20 A	0%	0%	0	-265		
MPR42.1.7.5 Batching Plant Installation - CP30 & CP60 MPR42.1.8 Procurement Plan	164 20-Apr-18	05-Feb-19	164 08-Sep-18 A	08-Dec-18 A	0%	0%	-47	49		1A
MPR42.1.8 Procurement Plan MPR42.1.8.1 Plant & Machinery Deployment Plan	1618 04-Apr-18	07-Sep-22	2186 04-Apr-18 A	09-Sep-24	0%	0%	0	-733	-719	
MPR42.1.8.4 Bulk Material Procurement Plan	1618 04-Apr-18 1412 01-Sep-18	07-Sep-22 13-Jul-22	2186 04-Apr-18 A	09-Sep-24	0% 0%	0%	0	-733	-719	
MPR42.1.9 Design & Engineering (Civil)	302 23-Mar-18	13-Jul-22 21-Sep-19	1679 31-Aug-18 A 673 23-Mar-18 A	03-Aug-24 30-Oct-21	0%	0%	0	-752	-753	
MPR42.1.9.1 Initial Design (General & Preliminary Design, DBR)	79 23-Mar-18	09-Jun-18	79 23-Mar-18 A	29-Nov-18	0%	0%	0	-486 -172	-304	
MPR42.1.9.2 Finalization of Alignment	88 23-Mar-18	18-Jun-18	88 23-Mar-18 A	10-Sep-18 A	0%	0%	0	-1/2		
MPR42.1.9.3 Detailed Design and Construction Design	269 01-May-18	21-Sep-19	673 01-May-18 A	30-Oct-21	0%	0%	0	-486	-304	
MPR42.1.10 Design, Engineering & Material Procurement (OSD)	697 23-Mar-18	-	1211 23-Mar-18 A	22-Jul-21 A	0%	0%	0	-520	307	<u> </u>
MPR42.1.10.1 Initial Design	53 23-Mar-18	14-May-18	53 23-Mar-18 A	29-Nov-18	0%	0%	0	-198		
MPR42.1.10.3 Aerodynamic Analysis	145 23-Mar-18	14-Aug-18	145 23-Mar-18 A	30-Jul-19 A	0%	0%	0	-349	₩	
MPR42.1.10.4 Technical Design	311 15-May-18	21-Mar-19	813 15-May-18 A	22-Jul-20 A	0%	0%	0	-488	-	
MPR42.1.10.5 Construction Design	344 12-Oct-18	20-Sep-19	1124 02-Feb-19 A	22-Jul-21 A	0%	0%	-113	-670		
MPR42.1.10.6 Material Procurement (1st Lot)	353 02-Mar-19	17-Feb-20	577 15-Mar-19 A	19-Jan-21 A	0%	0%	-13	-336		
MPR42.1.11 Tree Cutting and Transplantation	225 23-Mar-18	02-Nov-18	1121 23-Mar-18 A	23-Oct-21	0%	0%	0	-1085	-861	
MPR42.1.12 Utility Diversion	210 19-Jun-18	14-Jan-19	1363 01-Oct-18 A	02-Dec-21	0%	0%	-104	-1053	-733	
MPR42.1.13 Construction	919 11-Jun-18	22-Jun-22	1628 11-Jun-18 A	29-Jul-24	92.48%	52.21%	0	-642	-567	
MPR42.1.13.1 Sewri Interchange Section	779 03-Nov-18	28-Feb-22	1406 29-Mar-19 A	01-Feb-24	92.36%	34.34%	-121	-588	-416	
MPR42.1.13.1.1 Sewri Interchnage - Work Front - 1	779 03-Nov-18	28-Feb-22	1406 16-May-19 A	01-Feb-24	92.21%	26.78%	-161	-588	-416	
MPR42.1.13.1.1.1 Sewri Interchange - Work Front - 1 - Piling MPR42.1.13.1.1.2 Sewri Interchange - Work Front - 1 - Pile Cap	490 03-Nov-18	15-Dec-20	923 16-May-19 A	02-Jul-22	100%	62.89%	-161	-394	-243	
MPR42.1.13.1.1.3 Sewri Interchange - Work Front - 1 - Pier	560 19-Nov-18 588 12-Dec-18	24-Mar-21	1011 21-Jun-19 A	06-Jan-23	100%	37.25%	-175	-468	-328	
MPR42.1.13.1.1.4 Sewri Interchange - Work Front - 1 - Pier Cap	587 05-Jan-19	20-May-21 11-Jun-21	681 30-Jul-19 A 499 12-Oct-20 A	04-Feb-23 23-Feb-23	100%	39.26% 36.92%	-155 -384	-444 -441	-277	······································
MPR42.1.13.1.1.5 Sewri Interchange - Embankment Works - Ramp F	. 90 14-Apr-21	01-Nov-21	90 27-Jan-23	15-May-23	0%	0%	-384	-441	-129 -319	
MPR42.1.13.1.1.6 Sewri Interchange - Work Front - 1 - Super Structure Erec	628 04-May-19		749 29-Jul-20 A	01-Feb-24	80.38%	0.5%	-264	-588	-546	
MPR42.1.13.1.2 Sewri Interchange - Work Front - 2	The second secon	11-Feb-22	1193 29-Mar-19 A	23-May-23	92.32%	45.48%	-121	-389	-317	
MPR42.1.13.1.2.1 Sewri Interchange - Work Front - 2 - Piling	553 03-Nov-18	1	922 29-Mar-19 A	30-Jun-22	100%	56.1%	-121	-329	-254	
MPR42.1.13.1.2.2 Sewri Interchange - Work Front - 2 - Pile Cap	591 19-Nov-18	29-Apr-21	976 05-May-19 A	05-Sep-22	100%	34.19%	-140	-335	-273	
MPR42.1.13.1.2.3 Sewri Interchange - Work Front - 2 - Pier	589 12-Dec-18	21-May-21	620 04-Sep-19 A	20-Sep-22	100%	50.95%	-155	-328	-145	
MPR42.1.13.1.2.4 Sewri Interchange - Work Front - 2 - Pier Cap	583 26-Dec-18	28-May-21	545 02-Dec-19 A	27-Sep-22	100%	51.36%	-206	-328	-144	
MPR42.1.13.1.2.5 Sewri Interchange - Embankment Works - Ramp C2	60 23-May-19	02-Nov-19	60 23-Oct-21	03-Jan-22	0%	0%	-504	-504	52	
MPR42.1.13.1.2.6 Sewri Interchange - Work Front - 2 - Super Structure erec		11-Feb-22	589 05-Dec-20 A	23-May-23	79.21%	40.51%	-370	-389	-317	
MPR42.1.13.1.3 Sewri Interchange - Work Front - 3 (Cast in situ Spans)	431 28-Feb-20	01-Feb-22	545 16-May-20 A	16-May-23	93.07%	23.94%	-65	-393	-297	
MPR42.1.13.1.3.1 Sewri Interchange - Work Front - 3 - Piling	144 28-Feb-20	20-Nov-20	231 16-May-20 A	15-Apr-22	100%	54.17%	-65	-348	-277	
MPR42.1.13.1.3.2 Sewri Interchange - Work Front - 3 - Pile Cap	159 07-Mar-20	15-Dec-20	180 21-Sep-20 A	14-May-22	100%	29.17%	-87	-353	-126	
MPR42.1.13.1.3.3 Sewri Interchange - Work Front - 3 - Pier MPR42.1.13.1.3.4 Sewri Interchange - Work Front - 3 - Pier Cap	216 18-Mar-20	05-Mar-21	212 10-Oct-20 A	06-Aug-22	100%	25%	-95	-359	-198	
MPR42.1.13.1.3.5 Sewrithterchange - Work Front - 3 - Pier Cap	196 24-Apr-20	19-Mar-21 01-Feb-22	180 27-Mar-21 A	22-Aug-22	100%	20.83%	-202	-359	-199	
MPR42.1.13.2 Intertidal Section		23-Oct-21	360 12-Mar-22 1428 11-Jun-18 A	16-May-23 04-Dec-23	71.3% 99.19%	90.74%	-393 0	-393 -646	-297 -619	
MPR42.1.13.2.1 Intertidal - Temporary Access Bridge Work	467 11-Jun-18	26-Sep-20		04-Dec-23 04-Dec-20 A	99.19%	90.74%	0	-546 -56	-019	
MPR42.1.13.2.1.1 Access Bridge	457 11-Jun-18	12-Jun-20	528 11-Jun-18 A	27-May-20	0%	0%	0	-56		
MPR42.1.13.2.1.2 Fingers	441 13-Oct-18	26-Sep-20	620 26-Sep-18 A	04-Dec-20 A	0%	0%	16	-56		
MPR42.1.13.2.2 Intertidal - Main Bridge Work	638 14-Dec-18	23-Oct-21	1363 14-Nov-18 A	04-Dec-23	99.19%	90.74%	26	-646	-619	
MPR42.1.13.2.2.1 Intertidal - Main Bridge Work - Piling	531 14-Dec-18	16-Mar-21	686 14-Nov-18 A	16-Apr-21 A	100%	100%	26	-26		
MPR42.1.13.2.2.2 Intertidal - Main Bridge Work - Pile Cap	536 29-Dec-18	06-Apr-21	953 17-Jan-19 A	03-Jul-21 A	100%	100%	-15	-58		
MPR42.1.13.2.2.3 Intertidal - Main Bridge Work - Pier	562 17-Jan-19	25-May-21	960 29-Mar-19 A	23-Sep-21 A	100%	100%	-59	-22		
MPR42.1.13.2.2.4 Intertidal - Main Bridge Work - Pier Cap				THE R. P. LEWIS CO., LANSING, MICH. LANSING, MICH.				-260	The second secon	A CONTROL OF THE PROPERTY OF THE PARTY OF TH

 Actual Level of Effort
 Remaining Work Critical Remaining Work summary Page 1 of 2

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-04 proposal for the contractor's eligibility for extension of time.

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MUMBAI TRANS HARBOUR LINK PACKAGE 1, **UPDATED BASELINE PROGRAMME FOR SEPTEMBER 2021**





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General Consultant for Mumbai Trans Harbour Link Project

ty ID Activity Name	BL1 BL1 Start Duration	BL1 Finish	Original Start Duration	Finish	Schedule % Complete	Performance % V Complete	ariance - BL1 Start Date	Variance - BL1 Finish Date	Total Float 2018 2019 2020 2021 2022 2023 2024
MPR42.1.13.2.2.5 Intertidal - Main Bridge Work - Super Structure Erection	534 18-Apr-19	23-Oct-21	965 29-Nov-19 A	04-Dec-23	96.3%	58.89%	-110	646	-619
MPR42.1.13.2.3 Intertidal - Finger Removal & Reuse	400 07-Mar-19	29-Dec-20	415 20-Jun-19 A	22-Oct-21	0%	0%	-85	-169	
MPR42.1.13.3 Marine Section	911 18-Sep-18	17-Jun-22	1588 14-Dec-18 A	29-Jul-24	93.78%	58.95%	-73	-646	-625
MPR42.1.13.3.1 Temporary Access Bridge Work -2 (MP70 to MP51- 21 Spans) MPR42.1.13.3.1.1 Loadout Berth -30 M x 6 M at MP 70	911 18-Sep-18 30 18-Sep-18	17-Jun-22 23-Oct-18	1227 14-Nov-19 A 91 22-Nov-20 A	29-Jul-24 10-Mar-21	0%	0%	-274 -509	-646 -568	-625
MPR42.1.13.3.1.2 Temporary Access Bridge (MP70 to MP51)	181 24-Oct-18	28-May-19	412 14-Nov-19 A	04-Oct-21	0%	0%	-244	-484	-188
MPR42.1.13.3.1.3 Removal of Temporary Access Bridge	90 05-Mar-22	17-Jun-22	90 13-Apr-24	29-Jul-24	0%	0%	-646	-646	-625
MPR42.1.13.3.2 Marine - Main Bridge	775 03-Nov-18	23-Feb-22	1491 14-Dec-18 A	05-Apr-24	93.78%	58.95%	-34	-646	-625
MPR42.1.13.3.2.1 Marine - Piling	564 03-Nov-18	15-Mar-21	962 14-Dec-18 A	20-Oct-21	100%	99.38%	-34	-105	19
MPR42.1.13.3.2.3 Marine - Pile Cap MPR42.1.13.3.2.4 Marine - Pier	572 23-Nov-18	12-Apr-21	1063 14-Jan-19 A	06-Jul-22	100%	81.57%	-43	-300	-184
MPR42.1.13.3.2.4 Marine - Pier Cap	590 22-Dec-18 576 21-Jan-19	02-Jun-21 14-Jun-21	844 12-Sep-19 A 755 26-Dec-19 A	31-Jan-23 11-Feb-23	100%	42.53% 35.75%	-146 -206	-429 -429	-342 -305
MPR42.1.13.3.2.5 Marine - Super Structure Erection	636 19-Apr-19	23-Feb-22	848 23-Jun-20 A	05-Apr-24	65.98%	1.32%	-276	-646	-625
MPR42.1.13.4 Precast Segments	778 06-Feb-19	21-Aug-21	1209 07-Aug-19 A	22-Nov-23	100%	40.33%	-154	-693	-363
MPR42.1.13.4.1 Precast Segement - Sewri Interchange	701 06-Feb-19	24-May-21	1066 20-Feb-20 A	30-Oct-23	100%	29.72%	-317	-750	-343 V-
MPR42.1.13.4.2 Precast Segement - Intertidal	753 28-Feb-19	14-Aug-21	785 18-Oct-19 A	20-Oct-22	100%	85.24%	-194	-359	<u>-296</u>
MPR42.1.13.4.3 Precast Segement - Marine	759 28-Feb-19	21-Aug-21	1209 07-Aug-19 A	22-Nov-23	100%	13.4%	-135	-693	-363
MPR42.1.13.5 Orthotropic Steel Deck (OSD) - Fabrication, Shipping, Assembly 8 MPR42.1.13.5.1 OSD - Fabrication	608 11-Jun-19 746 28-Sep-19	15-Mar-22 12-Oct-21	764 23-Sep-19 A 844 23-Sep-19 A	06-Apr-23 23-Jul-22	78.58% 0%	30.22%	-9	-325 -284	-165 -138
MPR42.1.13.5.1.1 Fabrication - Factory A	746 28-Sep-19	16-Sep-21	844 23-Sep-19 A	23-Jul-22 23-Jul-22	0%	0%	5	-310	-287
MPR42.1.13.5.1.2 Fabrication - Factory B	720 28-Sep-19	16-Sep-21	654 23-Sep-19 A	14-Jan-22	0%	0%	5	-120	52
MPR42.1.13.5.1.3 Fabrication - Factory C	660 23-Dec-19	12-Oct-21	584 27-Jan-20 A	22-May-22	0%	0%	-35	-222	-164
MPR42.1.13.52 OSD - Shipping	536 24-Jun-20	11-Dec-21	691 09-Jul-20 A	21-Sep-22	86.58%	39.28%	-15	-284	-107
MPR42.1.13.5.2.1 Shipping - Factory A	510 24-Jun-20	15-Nov-21	526 04-Dec-20 A	21-Sep-22	90.55%	19.39%	-163	-310	-107
MPR42.1.13.5.2.2 Shipping - Factory B MPR42.1.13.5.2.3 Shipping - Factory C	510 24-Jun-20 450 18-Sep-20	15-Nov-21 11-Dec-21	501 09-Jul-20 A 568 25-Oct-20 A	15-Mar-22 21-Jul-22	90.02% 78.39%	53.1% 47.01%	-15 -37	-120 -222	-140
MPR42.1.13.5.3 OSD - Custom Clearance and Inland Transport (Last Module)	482 07-Sep-20	01-Jan-22	721 13-Aug-20 A	21-Jui-22 21-Oct-22	76.91%	38.21%	25	-222	-140
MPR42.1.13.5.3.1 OSD 1 - MP50 to MP53 (320m)	CONTRACTOR DESCRIPTION OF THE PARTY OF THE P	20-Nov-20	269 13-Aug-20 A	19-May-21	100%	100%	25	-179	
MPR42.1.13.5.3.2 OSD 2 - MP69 to MP75 (683m)	274 17-Nov-20	17-Aug-21	470 07-Nov-20 A	14-Apr-22	100%	50%	10	-240	-133
MPR42.1.13.5.3.3 OSD 3 - MP75 to MP81 (770m)	377 21-Dec-20	01-Jan-22	302 24-Dec-21	21-Oct-22	68.7%	0%	-368	-293	-211
MPR42.1.13.5.3.4 OSD 4 - MP124 to MP128 (560m)	141 19-Jul-21	06-Dec-21	436 18-Jan-21 A	14-Sep-22	46.85%	41.07%	182	-281	-78
MPR42.1.13.5.4 OSD - Assembly MPR42.1.13.5.4.1 OSD 1 - MP50 to MP53 (320m)	337 07-Oct-20 80 07-Oct-20	16-Feb-22 11-Jan-21	499 25-Dec-20 A 43 27-Sep-21	20-Dec-22 16-Nov-21	67.05% 100%	10.78%	-66 -217	-257 -180	-96
MPR42.1.13.5.4.2 OSD 2 - MP69 to MP75 (683m)	252 17-Dec-20	13-Oct-21	392 25-Dec-20 A	11-May-22	97.68%	15.42%	-7	-176	-106
MPR42.1.13.5.4.3 OSD 3 - MP75 to MP81 (770m)	329 20-Jan-21	16-Feb-22	285 14-Jan-22	20-Dec-22	58.83%	0%	-301	-257	-209
MPR42.1.13.5.4.4 OSD 4 - MP124 to MP128 (560m)	142 18-Aug-21	04-Feb-22	443 06-Mar-21 A	15-Nov-22	22.14%	26.11%	140	-236	-65
MPR42.1.13.5.5 OSD - Erection		15-Mar-22	367 22-Jan-22	06-Apr-23	36.61%	0%	-566	-325	
MPR42.1.13.5.5.1 OSD 1 - MP50 to MP53 (320m) MPR42.1.13.5.5.2 OSD 2 - MP69 to MP75 (683m)		26-Feb-21	91 03-Sep-22	22-Dec-22	100%	0%	-543	-477	308
MPR42.1.13.5.5.3 OSD 3 - MP75 to MP81 (770m)	542 11-Jun-19 279 07-Jan-21	24-Dec-21 10-Mar-22	150 22-Jan-22 250 11-Jun-22	19-Jul-22 06-Apr-23	52.22% 23.03%	0%	-566 -358	-173 -329	-123 -281
MPR42.1.13.5.5.4 OSD 4 - MP124 to MP128 (560m)	185 05-May-21	15-Mar-22	186 13-May-22	22-Dec-22	0%	0%	-235	-236	-76
MPR42.1.13.6 Post Erection Segmental Stitch Concrete (incl. Bearing Installation	644 24-Apr-19	10-Mar-22	929 06-Feb-20 A	09-Apr-24	0%	0%	-163	-637	-473
MPR42.1.13.6.1 Stitch Concrete - Sewri Interchange		10-Mar-22	727 18-Dec-20 A	07-Feb-24	0%	0%	-349	-585	<u>421</u>
MPR42.1.13.6.2 Stitch Concrete - Intertidal		22-Dec-21	853 06-Feb-20 A	09-Jan-24	0%	0%	-58	-625	-619 A
MPR42.1.13.6.3 Stitch Concrete - Marine MPR42.1.13.7 Crash Barrier Works		26-Feb-22 11-Mar-22	723 25-Jun-21 A 728 30-Nov-21	09-Apr-24 18-Apr-24	0%	0%	-426 -501	-646 -644	-473 -481
MPR42.1.13.7.1 Crash Barrier - Sewri Interchange		11-Mar-22	667 06-Dec-21	12-Feb-24	0%	0%	-506	-544	401
MPR42.1.13.7.2 Crash Barrier - Intertidal		04-Jan-22	650 06-Dec-21	20-Jan-24	0%	0%	-445	-625	439
MPR42.1.13.7.3 Crash Barrier - Marine	THE RESERVE AND ADDRESS OF THE PARTY OF THE	09-Mar-22	728 30-Nov-21	18-Apr-24	0%	0%	-459	-646	<u>485</u> №
MPR42.1.13.7.4 Crash Barrier - Orthotropic Steel Deck		10-Mar-22	259 31-May-22	06-Apr-23	0%	0%	-361	-329	-170
MPR42.1.13.8 Bridge Deck (Superstructure) Water Proofing MPR42.1.13.8.1 Water Proofing - Sewri Interchange		16-Mar-22	719 15-Dec-21	23-Apr-24	0%	0%	-506	-644	485
MPR42.1.13.8.1 Water Proofing - Sewrinterchange	579 15-Oct-19 465 28-Dec-19	14-Mar-22 10-Jan-22	659 15-Dec-21 645 17-Dec-21	12-Feb-24 27-Jan-24	0%	0%	-506 -445	-586 -625	-425 -412
MPR42.1.13.8.3 Water Proofing - Marine		14-Mar-22	713 22-Dec-21	23-Apr-24	0%	0%	-459	-646	485
MPR42.1.13.8.4 Water Proofing - Orthotropic Steel Deck		16-Mar-22	302 07-Jun-22	03-Jun-23	0%	0%	-352	-373	-214
MPR42.1.13.9 Stone Mastic Asphalt Pavement		22-Mar-22	379 03-Feb-23	30-Apr-24	0%	0%	-340	-645	-547
MPR42.1.13.9.1 Sewri Interchange		21-Mar-22	117 30-Sep-23	17-Feb-24	0%	0%	-538	-585	486
MPR42.1.13.9.2 Main Bridge MPR42.1.13.10 Bridge Anclilaries and Misc. Works		22-Mar-22	379 03-Feb-23	30-Apr-24	0%	0%	-340	-645	-605
MPR42.1.13.10 Bridge Ancillaries and Misc. Works MPR42.1.13.10.1 Bridge Ancillaries		22-Jun-22 22-Jun-22	752 20-Jan-22 752 20-Jan-22	05-Jul-24 05-Jul-24	0%	0%	-445 -445	-622 -622	-547 -547
MPR42.1.15 Handing Over		22-Jun-22 22-Sep-22	159 06-Apr-24	14-Oct-24	0%	0%	-445 -618	-629	-630
MPR42.1.15.1 Testing and Handing Over		18-Aug-22	131 06-Apr-24	09-Sep-24	0%	0%	-618	-629	-630
MPR42.1.15.2 Final Handing Over		22-Sep-22	28 09-Sep-24	14-Oct-24	0%	0%	-629	-629	-630
MPR42.1.19.2 Final Handing Over MPR42.1.14 Invoice Schedule (Shows the Invoice items which are not covered in t	20 13 Aug 22	The second secon	THE R. P. LEWIS CO., LANSING, MICH. LANSING, MICH.	or the late of the	AND REAL PROPERTY.	-		State for the shift of the said	

Actual Level of Effort Remaining Work Actual Work

Critical Remaining Work summary

♦ Milestone

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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-04 proposal for the contractor's eligibility for extension of time.



Attachment 7- Package-2's Construction Programme Updated as on 25th September 2021



MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION 1 of 7 (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME ABSTRACT UNDER IDENTIFICATION NO MMRDA/ENG/000753 (PACKAGE-2) # Activity ID Original BL Project Start Duration Activity Name BL Project Finish | Actual Start Actual Finish Schedule MTHL-PKG2-DETAILED WORK PROGRAMME 25092021 APPROVED N 21-Sep-24 17-Nov-17 14-Jul-26 89.44% THE CONTRACTOR OF THE CONTRACT 2 PROJECT PRE-COMMENCEMENT ACTIVITY 126 17-Nov-17 22-Mar-18 17-Nov-17 16-Mar-18 17-Nov-17A 16-Mar-18A 0% 3 20-Mar-18A PRE-COMMENCEMENT ACTIVITY PRE-COMMENCEMENT ACTIVITY 55 15-Dec-17 07-Feb-18 15-Dec-17 20-Mar-18 15-Dec-17A 20-Mar-18A '0% 4 JV FORMATION AND REGISTRATION 20-Mar-18A, JV FORMATION AND REGISTRATION 55 15-Dec-17 07-Feb-18 15-Dec-17 20-Mar-18 15-Dec-17A 20-Mar-18A 0% 5 2480 23-Mar-18 PROJECT EVENT MILESTONE 21-Mar-23 23-Mar-18 23-Mar-18A 04-Jan-25 0% 6 PROJECT KEY MILESTONE 23-Mar-18A 2305 23-Mar-18 22-Sep-22 23-Mar-18 14-Jul-24 7 INTERFACE MILESTONE ERG19 2452 19-Apr-18 21-Mar-23 03-Apr-18 03-Apr-18A 04-Jan-25 8 PHYSICAL PROGRESS AND INTERFACE DATE ADD2-ATTACHMENT 25 2062 18-Sep-18 22-Jun-22 31-Aug-18 31-Aug-18A 12-May-24 9 CONSTRUCTION KEY MILESTONES 1168 03-Sep-18 06-Jul-21 25-Oct-18 25-Oct-18A 22-Aug-19A, MANAGEMENT 10 MANAGEMENT 613 20-Jan-18 18-Aug-18 12-Jan-18 12-Jan-18A 22-Aug-19A 0% 11 SITE ORGANISATION ▼ 07-Mar-18A SITE ORGANISATION 35 20-Jan-18 23-Feb-18 07-Mar-18 07-Mar-18 07-Mar-18A 07-Mar-18A 0% 12 DEVELOPMENT OF MANAGEMENT SYSTEM 27-May-18 20-Jan-18 22-Aug-19 20-Jan-18A 22-Aug-19A 21-Sep-18A. 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JMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KN (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR UNDER IDENTIFICATION NO MMRDA/ENG/000753	ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME_ABSTRACT (PACK AGE-2)									2 of		
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TEMPORARY BRDIGE TYPE 3_FROM MP207(14+870) - MP226(16+010) MATERIAL LOADING JETTY	566 24-Jul-18 680 31-Aug-18	12-Sep-19 08-Aug-19	16-Nov-18 08-Mar-19	15-Feb-20	16-Nov-18A 08-Mar-19A	15-Feb-20A 01-Nov-21	THE R. P. LEWIS CO., LANSING, MICH. 491-1403-1-1403	00%		10-Feb-2	OA, TEMPORARY BRO	01-Nov-21.M
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Project Baseline Bar Critical Remaining Work Summary	EMPLOYER:		6.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00 - 1.00				RACTOR:		Date 25-Sep-21	Revision R0	Checked	Approved
Actual Work ◆ Milestone		MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY DAEWOO - TPL JV							25-56p-21	170		
Remaining Work	(MMRDA)											

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MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION 3 of 7 (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME_ABSTRACT UNDER IDENTIFICATION NO MMRDA/ENG/000753 (PACK AGE-2) # Activity ID Activity Name Original BL Project Start Bl. Project Finish | Actual Start Actual Finish Start Finish Performano Complete STEEL SPAN ASSEMBLY_MP180 - MP181_G1 73 02-Nov-20 25-Nov-20 15-Jan-21 03-May-21 15-Jan-21A 03-May-21A 100% 1009 122 STEEL SPAN ASSEMBLY MP180 - MP181 G2 04-Jun-21A STEEL SPANA 55 19-Dec-20 11-Jan-21 28-Dec-20 04-Jun-21 100% 100% 28-Dec-20A 04-Jun-21A 123 STEEL SPAN ASSEMBLY_MP181 - MP182_G1 23-Mar-21A STEEL SPANASSE 72 05-Sep-20 29-Sep-20 23-Nov-20 23-Mar-21 23-Nov-20A 23-Mar-21A 100% 100% 124 31-Mar-21A, STEEL SPAN ASSE STEEL SPAN ASSEMBLY MP181 - MP182 G2 78 22-Oct-20 14-Nov-20 08-Dec-20 31-Mar-21 08-Dec-20A 31-Mar-21A 100% 100% 125 STEEL MODULE A3 MP186 - MP183 (ASSEMBLY WORKS) 157 06-Jul-21 1: 07:Ahr! 23-Nov-21 25-May-21 25-May-21A 07-Apr-22 2474% 0% 126 STEEL SPAN ASSEMBLY MP182 - MP183 G1 23-Feb-22 44 09-Aug-21 18-Oct-21 03-Jan-22 23-Feb-22 0% 127 STEEL SPAN ASSEMBLY MP182 - MP183 G2 1 29-Mar-2 07-Mar-22 20 24-Aug-21 28-04-21 29-Mar-22 0% 128 STEEL SPAN ASSEMBLY MP183 - MP184 G1 07-Apr-2 64 04-Oct-21 28-Oct-21 21-Jan-22 07-Apr-22 0% 129 STEEL SPAN ASSEMBLY_MP183 - MP184_G2 28 01-Nov-21 07-Apr 23-Nov-21 07-Mar-22 07-Apr-22 0% 130 STEEL SPAN ASSEMBLY MP184 - MP185 G1 11-Feb-22 95 24-Jul-21 08-Oct-21 10-Jul-21 10-Jul-21A 11-Feb-22 10.42% 131 STEEL SPAN ASSEMBLY MP184 - MP185 G2 21-Feb-22 50 05-Aug-21 08-Oct-21 10.42% 24-Dec-21 21-Feb-22 09 132 STEEL SPAN ASSEMBLY MP185 - MP186 G1 15-Jan-22 S 89 06-Jul-21 16-Aug-21 25-May-21 25-May-21A 15-lan-22 100% 133 04-Feb-22 STEEL SPAN ASSEMBLY MP185 - MP186 G2 97 10-Jul-21 28-Sep-21 29-May-21 29-May-21A 04-Feb-22 77.08% 134 STEEL SPAN LOADING AND TRANSPORTING TO THE ERECTION ARE 135 MAIN BRIDGE 1928 03-Sep-18 08-Dec-18 4126% 08-Dec-18A 87.01% 05-Apr-24 136 MAIN BRIDGE FOUNDATION 137 MAIN BRIDGE PILE FOUNDATION 12-Jan-22: M 1177 03-Sep-18 23-Jan-21 08-Dec-18 08-Dec-18A 100% 93289 12-Jan-22 138 **PILE LOAD TEST** 11-Nov-19 A PILE LOADTEST 259 03-Sep-18 19-Nov-18 08-Dec-18 11-Nov-19 08-Dec-18A 11-Nov-19 A 100% 1009 139 MAIN BRIDGE PILE FOUNDATION LAND 17+414~18+187 FROM MP250 TO MP266 11- Irin-20 A MAIN BRIDGE PILE FOUNDATION I A 323 30-Nov-18 15-May-19 17-Jan-19 11-Jun-20 17-Jan-19A 11-Jun-20 A 100% 1009 140 MODULE-21 MP261 - MP257 :06-Mar-20 A, MODULE-21_MP261 - MP257 126 30-Nov-18 05-Mar-19 06-Mar-20 23-Aug-19 23-Aug-19A 06-Mar-20A 100% 1009 141 28-Jah-20A, MODULE-22_MP266 - MP262 MODULE-22 MP266 - MP262 167 06-Mar-19 15-May-19 17-Jan-19 28-Jan-20 17-Jan-19A 28-Jan-20A 100% 1009 142 19-Mar-20A MODULE-20 MP256 - MP255 MODULE-20 MP256 - MP255 32 05-Dec-18 1009 10-Jan-19 25-Sep-19 19-Mar-20 25-Sep-19A 19-Mar-20A 100% 143 MODULE-19 MP254 - MP250 11 Jun 20 A, MODULE 19 MP254 - MP250 199 11-Jan-19 16-Apr-19 05-Oct-19 100% 1009 11-Jun-20 05-Oct-19A 11-Jun-20 A 144 7 21-Feb-20A, MAIN BRIDGEPILE FOUNDATION_CRZ 15+8 MAIN BRIDGE PILE FOUNDATION CRZ 15+890~17+414 FROM MP226 TO MP250 268 20-Dec-18 27-Nov-19 12-Jun-19 21-Feb-20 12-Jun-19A 21-Feb-20A 100% 1009 145 21-Feb-20A MODULE-14 MP231 MP227 MODULE-14 MP231 - MP227 48 17-Aug-19 27-Nov-19 08-Nov-19 21-Feb-20 08-Nov-19A 21-Feb-20A 100% 1009 146 MODULE-15 MP236 - MP232 25-Dec-19A MODULE-15 MP236 - MP232 77 08-Mar-19 1009 26-Aug-19 08-Aug-19 25-Dec-19 08-Aug-19A 25-Dec-19A 100% 147 MODULE-16 MP240 - MP237 11-Nov-19 A. MODULE-16 MP240 - MP237 113 20-Dec-18 08-Mar-19 12-Jun-19 11-Nov-19 12-Jun-19A 100% 1009 11-Nov-19 A 148 MODULE-17 MP245 - MP241 04-Jan-20 A MODULE-17 MP245 - MP241 94 20-Mar-19 17-Jun-19 09-Oct-19 04-Jan-20 09-Oct-19A 04-Jan-20A 100% 1009 149 MODULE-18 MP249 - MP246 09:Feb-20'A; MODULE-18; MP249 - MP246 74 21-Jan-19 26-Mar-19 15-Oct-19 09-Feb-20 15-Oct-19A 09-Feb-20A 100% 1009 150 ▼ 26-Aug 20 A. MAIN BRIDGE PILE FOUNDATION MAIN BRIDGE PILE FOUNDATION INTERTIDAL 14+800~15+890 FROMMP206 TO MP225 417 27-Feb-19 06-Jun-20 15-Oct-19 26-Aug-20 15-Oct-19A 26-Aug-20A 100% 100% ▼ 18-Feb-20A, MODULE-10_MP211 MP207 151 MODULE-10 MP211 - MP207 243 12-Mar-20 06-Jun-20 01-Nov-19 18-Feb-20 01-Nov-19A 18-Feb-20A 100% 1009 152 MODULE-11 MP216 - MP212 24-Feb-20 A, MODULE-11_MP216 - MP212 277 27-Feb-19 1009 03-Apr-20 15-Oct-19 24-Feb-20 15-Oct-19A 24-Feb-20A 100% 153 MODULE-12 MP221 - MP217 26-Aug-20 A MODUL F-12 MP221 - MP217 225 06-Apr-19 30-Oct-19 25-Feb-20 100% 26-Aug-20 25-Feb-20A 26-Aug-20A 100% 154 MODULE-13 MP226 - MP222 7. 16-Jun-20A, MODULE-13, MP226 - MP222; 313 30-Oct-19 06-Feb-20 24-Jan-20 16-Jun-20 24-Jan-20A 100% 1009 16-Jun-20A 155 MAIN BRIDGE PILE FOUNDATION_MARINE 13+610~14+800 FROM MP187 TO MP205 03-Nov-21 MAIN 531 12-Dec-19 28-Nov-20 01-Oct-19 01-Oct-19A 03-Nov-21 100% 99.379 13-Oct20A, MODULE-09_MP206-MP202 156 MODULE-09 MP206 - MP202 340 12-Dec-19 06-Mar-20 01-Oct-19 13-Oct-20 01-Oct-19A 13-Oct-20A 100% 1009 157 MODULE-08 MP201-MP197 25-Dec-20A, MODULE-08_MP201 - MP 262 22-Feb-20 19-May-20 19-Feb-20 25-Dec-20 19-Feb-20A 100% 1009 25-Dec-20A 158 MODULE-07 MP196 - MP192 03-Nov-21 MODU 146 02-May-20 08-Sep-20 12-Oct-20 12-Oct-20A 03-Nov-21 100% 97749 159 10-Dec-20A, MODULE-06, MP.191 - MP MODULE-06 MP191 - MP187 82 21-Aug-20 10-Dec-20 28-Nov-20 31-Aug-20 31-Aug-20/ 10-Dec-20A 100% 1009 160 MAIN BRIDGE PILE FOUNDATION_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186 594 27-Nov-19 17-Mar-20 67.7% 23-Jan-21 17-Mar-20A 12-Jan-22 100% 161 STEEL MODULE-03_MP186 - MP183 15-Feb-21A STEEL MODULE-03 80 30-May-20 21-Nov-20 08-Oct-20 15-Feb-21 08-Oct-20A 1009 15-Feb-21A 100% 162 STEEL MODULE-02 MP182 - MP177 25-Jah-21 A, \$TEEL MODULE-02_M 336 27-Nov-19 10-Sep-20 17-Mar-20 25-Jan-21 17-Mar-20A 100% 1009 25-Jan-21A 163 STEEL MODULE-01_MP176 - MP171 115 30-Jul-20 12-Jan-22 ST 23-Jan-21 19-Apr-21 13.839 19-Apr-21A 12-Jan-22 100% 164 MAIN BRIDGE PILE FOUNDATION_MARINE 10+380~11+880 FROM MP146 TO MP170 ■ :03-Nov-2:1:MAINE 661 24-Nov-18 28-Dec-19 19-Feb-19 19-Feb-19A 03-Nov-21 100% 95.45% 165 MODULE-05 MP171 - MP167 :03-Nov-2:1:MODUI 130 19-Jun-19 16-Oct-19 24-Feb-21 24-Feb-21A 03-Nov-21 100% 73.759 166 MODULE-04 MP166 - MP162 20-Feb-21A MODULE-04 MP166 507 24-Nov-18 20-Feb-21 18-Feb-19 19-Feh-19 19-Feb-19A 20-Feb-21 A 100% 1009 167 25-Mar-21 A. MODULE-03 MP16 MODULE-03 MP161 - MP157 03-Apr-19A 393 22-Jan-19 18-Apr-19 03-Apr-19 25-Mar-21 100% 25-Mar-21A 100% 168 MODULE-02 MP156 - MP152 94 16-Apr-19 27-Jul-19 27-Mar-21 100% 21-Dec-20 21-Dec-20A 27-Mar-21A 100% 169 03-Apr-21A, MODULE-01 MP15 MODULE-01 MP151 - MP146 107 04-Oct-19 28-Dec-19 23-Dec-20 03-Apr-21 23-Dec-20A 03-Apr-21A 100% 1009 MAIN BRIDGE PILE CAP INSTALLATION 170 1048 22-Dec-18 23-Mar-21 01-May-19 01-May-19A 03-Jun-22 58.15% 100% 171 MAIN BRIDGE PILE CAP BOTTOM SLAB INSTALLATION ▼ 05-Feb-22 1 1007 22-Dec-18 17-Feb-21 19-Aug-19 19-Aug-19A 05-Feb-22 0% 0% 172 ₹ 28-May-20 A, WAIN BRIDGE PILE CAP BOTTOM SLA MAIN BRIDGE PILE CAP BOTTOM SLAB_CRZ 15+890~17+414 FROM MP226 TO MP250 356 17-Jan-19 12-Dec-19 19-Aug-19 28-May-20 19-Aug-19A 28-May-20A 28-May-20A, MDDULE-14 MP231 - MP227 173 MODULE-14 MP231 - MP227 168 28-Sep-19 12-Dec-1 24-Dec-19 174 MODULE-15_MP236 - MP232 71 05-Apr-19 11-Sep-19 21-Feb-20A, MODULE-15_MP236 MP232 21-Feb-20A 02-Nov-19A 175 MODULE-16_MP240 - MP237 23-Feb-20 A, MODULE-16_MP240 - MP237 142 17-Jan-19 20-Mar-19 23-Feb-20 19-Aug-19A 23-Feb-20A 0% 04-Jan-20A, MODULE-17_MP245-MP241 176 MODULE-17 MP245 - MP241 44 17-Apr-19 03-Jul-19 22-Oct-19 04-Jan-20 22-Oct-19A 04-Jan-20A 0% 177 MODULE-18_MP249 - MP246 10-Feb-20A MODULE-18 MP249 - MP246 63 19-Feb-19 08-Nov-19 10-Feb-20 08-Nov-19A 10-Feb-20A 0% MAIN BRIDGE PILE CAP BOTTOM SLAB_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225 178 ➡ 30-Nov-20 A, MAIN BRIDGE PILLE CAP BC 179 MODULE-10_MP211 - MP207 30-Sep-20A, MODULE:10 MP211:- MP207 30-Dec-19 180 MODULE-11_MP216 - MP212 128 06-Apr-19 19-Oct-20A; MODULE-11 MP216 - MP212 15-Apr-20 09-Mar-20 19-Oct-20 09-Mar-20A 19-Oct-20A 0% 181 MODULE-12_MP221 - MP217 30-Nov-20 A, MODULE-12_MP221 - MP2 74 10-May-19 11-Sep-20 11-Sep-20 A 182 MODULE-13_MP226 - MP222 26-Oct-20A, MODULE-13_MP226-MP222 59 03-Dec-19 27-Apr-20 27-Apr-20A 26-Oct-20A 0% 183 MAIN BRIDGE PILE CAP BOTTOM SLAB_MARINE 13+610~14+800 FROMMP187 TO MP205 11-Dec-21 MAIN 16-Nov-19 Date Revision Checked Approved Project Baseline Bar Critical Remaining Work EMPLOYER: CONTRACTOR: 25-Sep-21 R0 Actual Work Milestone MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY DAEWOO - TPL JV (MMRDA) Remaining Work % Complete

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MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION 4 of 7 (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME ABSTRACT UNDER IDENTIFICATION NO MMRDA/ENG/000753 (PACK AGE-2) Activity ID Activity Name Original BL Project Start BL Project Finish Actual Start Actual Finish % Complete 184 MODULE-09_MP206 - MP202 16-Nov-19A 11-Nov-20 A 0% 185 MODULE-08_MP201 - MP197 25-Feb-21 A, MODULE-08_MP201 50 23-Mar-20 30-May-20 11-Nov-20 11-Nov-20 A 25-Feb-21 A 186 MODULE-07 MP196 - MP192 11-Dec-21 MOL 153 30-May-20 08-Oct-20 15-Oct-20 15-Oct-20A 11-Dec-21 0% 26-Jan-21 A, MODULE-06_MP191 -187 MODULE-06_MP191 - MP187 77 08-Oct-20 10-Dec-20 20-Nov-20 20-Nov-20A 26-Jan-21A 0% 188 05-Feb-22,1 MAIN BRIDGE PILE CAP PRECAST SHELL_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP180 311 08-Jan-2 189 STEEL MODULE-01 MP176 - MP171 05-Feb-22,8 190 11-Oct-20 A 26-Feb-21 A 26-Feb-21A STEEL MODULE-02 STEEL MODULE-02 MP182 - MP177 118 08-Jan-20 11-Oct-20 26-Sep-20 0% 12 Nov-21, STEEL 191 STEEL MODULE-03 MP186 - MP183 137 07-Aug-20 03-Dec-20 19-Jan-21 19-Jan-21A 12-Nov-21 0% 192 MAIN BRIDGE PILE CAP BOTTOM SLAB MARINE 10+380~11+880 FROMMP146 TO MP170 11-Dec-21, MAIN 24-Nov-21, MODU 193 MODULE-05_MP171 - MP167 50 24-Aug-19 26-Mar-21 26-Mar-21A 24-Nov-21 9 00 00 2 1, MODULE 194 MODULE-04_MP166 - MP162 124 22-Dec-18 01-Mar-19 15-Feb-21 15-Feb-21A 09-Oct-21 15-Oct-21 MODULE 195 MODULE-03 MP161 - MP157 99 01-Mar-19 10-May-19 28-Jan-21A 15-Oct-21 28-Jan-21 53 15-May-19 17-May-21A MODULE-02 ME 196 MODULE-02_MP156 - MP152 15-Feb-21A 17-May-21A 16-Aug-19 15-Feb-21 0% 11-Dec-21 MOD 197 MODULE-01 MP151 - MP146 21-Jan-20 88 01-Nov-19 11-Feb-21 11-Feb-21 A 11-Dec-21 0% 198 MAIN BRIDGE PILE CAP INSTALLATION 199 MAIN BRIDGE PILE CAP_LAND 17+414~18+188 FROM MP251 TO MP266 377 27-Dec-18 01-May-19 01-May-19A 27-Jun-20A 100% 1009 200 MODULE-21 MP261 - MP257 27-Jun-20A, MODULE-21_MP261 - MP257 30-Mar-19 248 27-Dec-18 15-Oct-19 15-Oct-19A 16 May-20A, MODULE-22 MP266 - MP262 201 MODULE-22 MP266 - MP262 207 02-Apr-19 13-Jun-19 01-May-19 16-May-01-May-19A 16-May-20A 100% 1009 23-May-20A, MODULE-20_MP256 - MP255 202 MODULE-20 MP256 - MP255 54 01-Jan-19 06-Feb-19 29-Nov-19A 23-May-20A 29-Nov-19 23-May-100% 20-Jun-20A MODULE-19 MP254 - MP250 203 MODULE-19 MP254 - MP250 218 08-Feb-19 13-May-19 23-Nov-19 23-Nov-19A 20-Jun-20A 100% 1009 19-Sep-20A, MAINBRIDGEPILE CAP CRZ1 MAIN BRIDGE PILE CAP CRZ15+890~17+414 FROM MP226 TO MP250 204 205 MODULE-14_MP231 - MP227 19-Seb-20A, MODULE-14_MP231 - MP227 206 ■ 18 Sep-20A MODULE-15 MP236 - MP232 MODULE-15 MP236 - MP232 201 02-Sep-19 22-Nov-19 16-Nov-19 18-Sep-20 16-Nov-19A 18-Sep-20A 100% 1009 05-Mar 20 A, MODULE: 16_MP240-MP237 207 MODULE-16 MP240 - MP237 146 02-Jul-19 26-Sep-19 28-Aug-19 05-Mar-20 28-Aug-19A 05-Mar-20A 100% 100% 208 24-Jan-20A, MODULE-17_MP245 - MP241; MODULE-17 MP245 - MP241 98 29-Apr-19 16-Aug-19 17-Nov-19A 24-Jan-20A 17-Nov-19 24-Jan 20 100% MODULE-18_MP249 - MP246 14-Feb-20A MODULE-18 MP249 - MP246 209 84 04-Mar-19 10-May-19 13-Nov-19 14-Feb-20 13-Nov-19A 14-Feb-20A 100% 100% 07 Dec 20A, MAN BRIDGE PILE CAP III MAIN BRIDGE PILE CAP INTERTIDAL 14+800~15+890 FROM MP206 TO MP225 210 211 MODULE-10 MP211 - MP207 7:07-Oct-20A, MODULE-10_MP21:1-MP2D7 29-Jan-20 24-Oct-20A; MODULE-11_MP216-:MP212 212 MODULE-11 MP216 - MP212 157 18-Apr-19 13-May-20 31-Aug-20 31-Aug-20A 24-Oct-20A 100% 07-Dec-20A, MODULE-12: MP221 - MP2 213 MODULE-12_MP221 - MP217 111 22-May-19 09-Dec-19 17-Sep-20 17-Sep-20A 07-Dec-20A 07-Dec-2 100% 214 19-Nov-20A, MODULE-13_MP226 - MP22 MODULE-13_MP226 - MP222 94 14-Dec-19 17-Mar-20 16-Sep-20 19-Nov-20 16-Sep-20A 19-Nov-20A 100% 100% 215 MAIN BRIDGE PILE CAP MARINE 13+610~14+800 FROMMP187 TO MP205 109-Mar-2 20-Nov-20A MODULE-09 MP206 - MP2 216 MODULE-09_MP206 - MP202 288 01-Feb-20 13-Jan-20 217 04-Mar-21 A. MODULE-08 :MP201 MODULE-08 MP201 - MP197 63 03-Apr-20 06-101-20 23-Nov-20 04-Mag2 23-Nov-20A 04-Mar-21A 100% 218 09-Mar-2 MODULE-07 MP196 - MP192 126 15-Jun-20 11-Nov-20 01-Dec-20 01-Dec-20A 09-Mar-22 100% 219 MODULE-06_MP191 - MP187 90 21-Oct-20 100% 30-Jan-21A, MODULE-06_MP191 06-Jan-21 14-Dec-20 14-Dec-20A 30-Jan-21A 100% 220 MAIN BRIDGE PILE CAP MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186 221 STEEL MODULE-01 MP176 - MP171 23-Mar-21 222 STEEL MODULE-02 MP182 - MP177 08-Mar-21 A, STEEL MODULE-02 158 20-Jan-20 02-Nov-20 100% 18-Nov-20 08-Mat-2 18-Nov-20A 08-Mar-21A 100% 15-Dec-21, \$TE STEEL MODULE-03_MP186-MP183 223 159 27-Aug-20 07-Jan-21 28-Jan-21 28-Jan-21A 15-Dec-21 100% 1.689 MAIN BRIDGE PILE CAP_MARINE 10+380~11+880 FROM MP146 TO MP170 14 Feb. 22, N 14-Feb-22 224 225 MODULE-05_MP171 - MP167 MODULE-04 MP166 - MP162 226 147 03-Jan-19 29-Mar-19 01-Mar-2 01-Mar-21A 06-Nov-21 100% 12-Nov-21 MODU 227 MODULE-03 MP161 - MP157 119 14-Mar-19 08-Jun-19 08-Feb-21 08-Feb-21A 12-Nov-21 100% 27-May-21 A, MODULE-02_N 228 MODULE-02 MP156 - MP152 06-Mar-21A 27-May-21A 54 27-May-19 26-Sep-19 06-Mar-21 100% 14-Feb-22, 229 MODULE-01_MP151 - MP146 100 14-Nov-19 17-Feb-20 22-Feb-21A 14-Feb-22 22-Feb-21 100% 230 WAIN BRIDGE SUB-STRUCTUR 231 MAIN BRIDGE PIER INSTALLATION 1194 09-Jan-19 04-Nov-19A 03-Mar-23 63 43% 28-Jul-21 04-Nov-19 100% 27-Aug-21A, MAIN BRI 232 MAIN BRIDGE PIER LAND 17+414~18+188 FROM MB251 TO MB266 681 09-Jan-19 08-Nov-19 06-Nov-19 06-Nov-19A 27-Aug-21A 100% 1009 7:03-May-21A, MODULE-21_MP 233 MODULE-21_MP261 - MP257 301 14-Jan-19 03-May-21 12-Jul-19 27-May-20 27-May-20A 03-May-21A 100% 1009 7 02-Feb-21 A MODULE-22 MP266-234 MODULE-22_MP266 - MP262 315 04-May-19 08-Nov-19 06-Nov-19 02-Feb-21 06-Nov-19A 02-Feb-21A 100% 100% 235 21-Jun-21A MODULE-20 MODULE-20 MP256 - MP255 225 09-Jan-19 100% 17-May-19 11-May-20 11-May-20 A 100% 27-Aug-21A MODULE 236 MODULE-19_MP254 - MP250 336 28-Feb-19 20-Sep-19 15-Jun-20 27-Aug-21 15-Jun-20A 27-Aug-21A 100% 100% 237 MAIN BRIDGE PIER CRZ 15+890~17+414 FROM MB226 TO MB250 11-Aug-21:A; MAIN BRID 393 26-Mar-19 06-Feb-20 04-Nov-19 11-Aug-21 04-Nov-19A 11-Aug-21 A 100% 100% 22-Jan-21A, MODULE-14, MP231 - N 238 MODULE-14 MP231 - MP227 228 05-Dec-19 06-Feb-20 02-Feb-20 02-Feb-20A 100% 1009 239 MODULE-15_MP236 - MP232 7:06-Nov-20'A. MODULE-15: MP236 - MP23 134 16-Oct-19 19-Dec-19 06-Jan-20A 100% 06-Jan-20 06-Nov-20 06-Nov-20A 100% 27-Jun-20A, MODULE-16_MP240 - MP237 240 MODULE-16 MP240 - MP237 85 13-Aug-19 30-Oct-19 04-Nov-19 27-Jun-20 04-Nov-19A 27-Jun-20A 100% 100% 23-Jun-20A MODULE-17: MP245 MP241 241 MODULE-17 MP245 - MP241 171 22-May-19 25-Sep-19 24-Dec-19 24-Dec-19A 23-Jun-20A 100% 100% 242 11-Aug-21A, MODULE-MODULE-18 MP249 - MP246 238 26-Mar-19 11-Aug-21 A 06-Jun-19 02-Mar-20 11-Aug-21 02-Mar-20A 100% 100% 243 7:08-Juni-21 A, MAIN BRDIGE MAIN BRDIGE PIER INTERTIDAL 14+800~15+890 FROM MR206 TO MR225 417 11-May-19 16-Oct-20 10-Feb-20 08-Jun-21 10-Feb-20A 100% 08-Jun-21A 100% 7:03-Feb-21A MODULE-10 MP211 244 MODULE-10 MP211 - MP207 338 24-Feb-20 16-Oct-20 10-Feb-20 03-Feb-21 100% 1009 10-Feb-20A 03-Feb-21A 245 22-Mar-21A MODULE-11_MP210 MODULE-11 MP216 - MP212 386 11-May-19 17-Jul-20 13-Nov-20 22-Mar-21 13-Nov-20A 22-Mar-21A 100% 100% 246 7 08-Jun-21 A, MODULE-12_N MODULE-12_MP221 - MP217 97 17-Jun-19 03-Jan-20 30-Nov-20 100% 100% 08-Jun-21 30-Nov-20A 08-Jun-21A Revision Checked Date Approved Project Baseline Bar Critical Remaining Work Summary EMPLOYER: CONTRACTOR: RO 25-Sep-21 MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY Actual Work Milestone DAEWOO - TPL JV (MMRDA) Remaining Work % Complete

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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

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ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME_ABSTRACT
(PACK AGE-2)

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Activity ID Activity Name BL Project Finish | Actual Start Actual Finish inish Schedule Performance Complete 247 MODULE-13 MP226 - MP222 15-May-20 29-Oct-20 20-Feb-21 29-Oct-20A 20-Feb-21A 100% 1009 248 MAIN BRIDGE PIER_MARINE 13+610~14+800 FROMMB187 TO MB205 274 19-Mar-20 18-Feb-21 04-Jan-21 04-Jan-21A 03-Mar-23 100% 55.15% 249 MODULE-06 MP191 - MP187 150 13-Nov-20 18-Feb-21 26-Aug-22 03-Mar-23 100% 250 MODULE -07 MP196 - MP192 150 17-Jul-20 19-Dec-20 28-Apr-21 28-Apr-21A 04-Jan-23 100% 46029 251 MODULE-08 MP201 - MP197 162 25-Apr-20 03-Sep-20 04-Jan-21 04-Jan-21A 12-Oct-22 100% 9469 252 MODULE-09 MP206 - MP202 66 19-Mar-20 23-May-20 18-Mai-21:A; MODULE-09: MR20 18-Jan-21 18-Jan-21A 18-Mar-21 100% 1009 253 MAIN BRIDGE PIER_MARINE (STEEL) 11+880~13+610 FROM MB171 TO MB186 397 17-Feb-20 28-Jul-21 08-Feb-21 08-Feb-21A 27-Sep-22 100% 2903% 254 STEEL MODULE-01 MP176 - MP171 205 23-Dec-20 28-Jul-21 18-Dec-21 100% 255 STEEL MODULE-02_MP182 - MP177 170 17-Feb-20 15-Oct-21 STEEL 15-Jan-21 08-Feb-21A 15-Oct-21 100% 77 42% 256 STEEL MODULE-03 MP186 - MP183 150 06-Oct-20 19-Apr 03-Apr-2 23-Oct-21 19-Apr-22 100% 257 268 07-Feb-19 13-Mar-20 100% 0% 25-Sep-21 16-Sep-22 258 MODULE-01 MP151 - MP146 105 10-Dec-19 13-Mar-20 09-Apr-22 16-Sep-22 100% 259 MODULE-02 MP156 - MP152 64 11-Jul-19 04-Nov-19 13-Apr 27-Jan-22 13-Apr-22 100% 260 MODULE-03 MP161 - MP157 64 22-Apr-19 01-Aug-19 11-Feb-22 27-Nov-21 11-Feb-22 100% 261 MODULE-04 MP166 - MP162 13-Dec-21, MOI 64 07-Feb-19 06-May-19 25-Sep-21 13-Dec-21 0% 100% 262 MODULE-05 MP171 - MP167 64 10-Oct-19 31-Dec-19 29-Mar-22 16-Jun-22 100% 263 MAIN BRIDGE PIER CAP INSTALL ATION 944 08-Feb-19 27-Aug-21 25-Feb-20A 22-Mar-23 100% 4127% 264 MAIN BRIDGE PIER CAP LAND 17+414~18+188 FROM MB251 TO MB266 13-Oct 21 MAINBE 238 08-Feb-19 13-Nov-20 23-Nov-19 13-Nov-20A 13-Oct-21 100% 7576% 265 MODULE-21_MP261 - MP257 7: 13-Oct-21, MODULE 137 13-Feb-19 05-Aug-19 11-Feb-21 11-Feb-21 A 13-Oct-21 100% 266 MODULE-22_MP266 - MP262 13-Mar-21A MODULE-22 MP26 114 03-Jun-19 23-Nov-19 13-Nov-20 13-Nov-20A 13-Mar-21A 100% 100% 267 MODULE-20 MP256 - MP255 13 Oct 21, MODULE 160 08-Feb-19 01-Jun-19 07-Jan-21 07-Jan-21A 13-Oct-21 100% 75% 268 MODULE-19 MP254 - MP250 13-Oct-21 MODULE 137 30-Mar-19 09-Oct-19 01-Mar-21 01-Mar-21A 13-Oct-21 100% 44 44% 269 MAIN BRDIGE PIER CAP CRZ 15+890~17+414 FROM MB226 TO MB250 405 19-Apr-19 25-Feb-20 25-Feb-20 24-Sep-21 25-Feb-20A 100% 100% 24-Sep-21 A. MAIN B 24-Sep-21A 270 MODULE-14 MP231 - MP227 28-May-21A, MODULE-14 83 30-Dec-19 25-Feb-20 27-Dec-20 28-May-21 27-Dec-20A 28-May-21A 100% 1009 271 MODULE-15 MP236 - MP232 22-Feb-21A MODULE-15 MP236 64 11-Nov-19 07-Jan-20 12-Oct-20 22-Feb-21 12-Oct-20A 22-Feb-21A 100% 100% 272 MODULE-16 MP240 - MP237 132 21-Sep-19 23-Dec-20A, MODULE-16_MP240 - MF 19-Nov-19 14-May-20 23-Dec-20 14-May-20A 100% 100% 23-Dec-20A 273 MODULE-17 MP245 - MP241 163 05-Jul-19 16-Oct-19 22-Dec-20A, MODULE-17, MP245 - MF 25-Feb-20 100% 22-Dec-20 25-Feb-20A 22-Dec-20A 100% 274 MODULE-18 MP249 - MP246 24-\$ep-21 A, MODUL 201 19-Apr-19 02-101-19 22-Oct-20 24-Sep-21 22-Oct-20A 24-Sep-21A 100% 100% 275 MAIN BRIDGE PIER CAP INTERTIDAL 14+800~15+890 FROM MR206 TO MR229 268 06-Jun-19 05-Nov-20 04-Feb-21 60.45% 04-Feb-21A 29-Apr-22 100% 276 MODULE-10 MP211 - MP207 180 20-Mar-20 05-Nov-20 02-Aug-21 02-Aug-21A 29-Apr-22 100% 17 14 277 MODULE-11 MP216 - MP212 193 06- lun-19 18-Aug-20 21-Jun-21 105-Abr-2 21-Jun-21A 05-Apr-22 100% 278 MODULE-12 MP221 - MP217 24-Sep-21 A, MODUL 100 24-Jul-19 22-Jan-20 01-Mar-21 24-Sep-21 100% 01-Mar-21A 24-Sep-21A 100% 279 MODULE-13 MP226 - MP222 187 30-Jan-20 07-Jul-21A, MODULE-13 04-Jun-20 04-Feb-21 07-Jul-21 04-Feb-21A 07- Jul-21 Δ 100% 1000 280 MAIN BRIDGE PIER CAP_MARINE 13+610~14+800 FROM MB187 TO MB205 208 23-Apr-20 10-Mar-21 03-May-21 03-May-21A 22-Mar-23 100% 523% 281 MODULE-06 MP191 - MP187 136 18-Dec-20 10-Mar-21 12-Oct-22 22-Mar-23 100% 282 MODULE-07 MP196 - MP192 136 10-Sep-20 07-Jan-21 18-Jul-22 21-Jan-23 100% 283 MODULE-08_MP201 - MP197 112 01-Jun-20 29-Sep-20 03-May-21 03-May-21A 30-Nov-22 100% 284 MODULE-09 MP206-MP202 50 23-Apr-20 15-Jun-20 25-Aug-22 04-Nov-22 100% 285 MAIN BRIDGE PIER CAP MARINE (STEEL) 11+880~13+610 FROM MB171 TO MB186 305 30-Apr-20 27-Aug-21 23-Aug-21 23-Aug-21A 04-Nov-22 100% 1.72% 286 STEEL MODULE-01_MP176 - MP171 174 08-Mar-21 27-Aug-21 03-Mar-22 04-Nov-22 100% 287 STEEL MODULE-02 MP182 - MP177 36 30-Apr-20 10-Nov-21 STEEL 04-Feb-21 23-Aug-21 458% 23-Aug-21A 10-Nov-21 100% 288 STEEL MODULE-03_MP186 - MP183 104 19-Dec-20 09 Ma 22-Anr-21 04-Jan-22 09-May-22 100% 289 MAIN BRIDGE PIER CAP_MARINE 10+380~11+880 FROMMB146 TO MB170 254 15-Mar-19 01-Apr-20 03-Nov-21 10-Oct-22 100% 290 MAIN BRIDGE BEARING PAD AND BEARING INSALLATION 753 22-Feb-19 24-Sep-21 14-Sep-20 14-Sep-20A 18-Feb-23 100% 16% 291 MAIN BRIDGE BEARING_LAND 17+414~18+188 FROM MB251 TO MB266 10-Nov-21: MAIN! 138 22-Feb-19 22-Aug-19 24-Feb-21 24-Feb-21A 12.5% 10-Nov-21 100% 292 MAIN BRIDGE BEARING CRZ15+890~17+414 FROM MB226 TO MB250 22-Odt-21, MAIN BR 270 08-May-19 20-Feb-20 14-Sep-20 14-Sep-20A 22-Oct-21 100% 50% 293 MAIN BRIDGE BEARING_INTERTIDAL 14+800~15+890 FROM MB206 TO MB225 28-Feb-22 156 29-Jun-19 14-Sep-20 25-Sep-21 28-Feb-22 100% 294 MAIN BRIDGE BEARING_MARINE 13+610~14+800 FROM MB187 TO MB205 392 07-Apr-20 09-Feb-21 18-Feb-23 100% 295 MAIN BRIDGE BEARING MARINE (STEEL) 11+880~13+610 FROM MB171 TO MB186 433 19-May-20 24-Sep-21 25-Sep-21 02-Dec-22 100% 296 MAIN BRIDGE BEARING_MARINE 10+380~11+880 FROM MB146 TO MB170 317 25-Apr-19 18-Apr-20 20-Nov-21 03-Oct-22 100% 297 MAIN BRIDGE SUPER STRUCTURE BOX GIRDER INSTALL ATIO 298 MAIN BRIDGE CONCRETE GIRDER INSTALL ATION 1150 12-Sep-19 02-Feb-22 20-Jul-20 20-Jul-20A 26-Oct-23 7989% 299 MAIN BRIDGE PC GIRDER_LAND 15+890~17+414 FROM MP251 TO MP266 22-Feb-22 539 12-Sep-19 27-Feb-20 20-Jul-20 20-Jul-20A 2109% 22-Feb-22 100% 300 CN.LGA.1000 Assembly of Structural Parts in Launching Gantry 1 35 12-Sep-19 17-Oct-19 12-Nov-20 17-Feb-21 12-Nov-20A 17-Feb-21A 100% 100% Assembly of Structural Parts in Laur 301 ON.LGA.1005 Assembly of Mechanical Parts in Launching Gantry_1 15 17-Oct-19 01-Nov-19 05-Feb-21 06-Mar-21 05-Feb-21A 06-Mar-21A 100% 100% Assembly of Mechanical Parts in La 302 **CNLGA 1010** Assembly of Structural Parts in Launching Gantry 2 35 12-Sep-19 17-Oct-19 20-Jul-20 25-Dec-20 20-Jul-20A 25-Dec-20A 100% 100% Assembly of Structural Parts in Launchin 303 **CNI GA 1015** Assembly of Mechanical Parts in Launching Gantry_2 15 17-Oct-19 01-Nov-19 28-Sep-20 100% 30-Dec-20 28-Sep-20A 100% 30-Dec-20A nbly of Mechanical Parts in Laun 304 MODULE-22 MP266 - MP262 90 01-Nov-19 18-Dec-21, MOD 25-Dec-19 02-Jul-21 02-Jul-21A 100% 60% 18-Dec-21 305 MODULE-21 MP261 - MP257 17-Jan-22, MC 63 02-Dec-19 23-Jan-20 18-Sep-21 18-Sep-21A 17-Jan-22 100% 7.5% 306 MODULE-20 MP256 - MP255 29-Jan-22, M 38 31-Dec-19 04-Feb-20 100% 15-Dec-21 307 MODULE-19 MP254 - MP250 42 11-Jan-20 22-Feb-22, 27-Feb-20 03-Jan-22 22-Feb-22 100% 308 MAIN BRIDGE PRECAST GIRDER_CRZ 15+890~17+414 FROM MP226 TO MP250 126 04-Feb-20 7: 12-Apri-2 30-Dec-20 25-Sep-20 30-Dec-20A 12-Apr-22 100% 62.4% 309 MODULE-18 MP249 - MP246 28-Mar-20 43 04-Feb-20 24-Mar-2 Project Baseline Bar Critical Remaining Work Revision Checked Approved EMPLOYER: CONTRACTOR: 25-Sep-21 RO Actual Work Milestone MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY DAEWOO - TPL JV (MMRDA) Remaining Work % Complete

MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION 6 of 7 (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME_ABSTRACT UNDER IDENTIFICATION NO MMRDA/ENG/000753 (PACKAGE-2) Activity ID Activity Name Actual Finish Original BL Project Start BL Project Finish | Actual Start Finish Schedule Performance Complete 310 MODULE-17 MP245 - MP241 74 05-Mar-20 27-Apr-20 30-Dec-20 16-May-21 30-Dec-20A 16-May-21A 100% 03-Aug-21A MODULE 311 MODULE-16 MP240 - MP237 37 03-Apr-20 21-May-20 13-Apr-21A 100% 100% 13-Apr-21 03-Aug-21 03-Aug-21A 22-Sep-21A MODUL 312 MODULE-15 MP236 - MP232 31 27-Apr-20 06-Jul-21A 22-Sep-21A 100% 100% 19-Jun-20 06-Jul-21 22-Sep-21 12-Apr 313 MODULE-14 MP231 - MP227 2667% 31 27-May-20 25-Sen-20 27-Aug-21 27-Aug-21A 12-Anr-22 100% 314 MAIN BIDGE PRECAST GIRDER INTERTIDAL 14+800~15+890 FROM MP206 TO MP225 106 12-Sep-20 100% 0% 23-Jan-21 05-Apr-22 10-Oct-22 315 MODULE-13 MP226 - MP222 26 12-Sep-20 21-Oct-20 05-May-22 100% 05-Apr-22 316 MODULE-12 MP221 - MP217 31 08-Oct-20 20-Nov-20 28-Apr-22 03-Jun-22 100% 317 MODULE-11 MP216 - MP212 100% 31 09-Nov-20 19-Dec-20 27-May-22 02-Sep-22 318 MODULE-10 MP211 - MP207 36 08-Dec-20 10-Oct-22 100% 23-Jan-21 25-Jun-22 319 MAIN BRIDGE PRECAST GIRDER MARINE 13+610~14+800 FROM MP187 TO MP205 0% 185 12-Jan-21 10-Jun-21 03-Oct-22 10-May-23 100% Dismantling of Launching Gantry_1 320 **CN.LGD.1000** 20 18-May-21 10-Jun-21 10-Apr-23 03-May-23 100% 321 QNI GD 1010 Dismantling of Launching Gantry_2 20 12-May-21 03-Jun-21 17-Apr-23 10-May-23 100% 0% 322 MODULE-09 MP206 - MP202 100% 48 12-Jan-21 17-Feb-21 03-Oct-22 01-Dec-22 323 MODULE-08 MP201 - MP197 31 05-Feb-21 19-Mar-2 24-Nov-22 30-Dec-22 100% 324 MODULE-07 MP196 - MP192 64 08-Mar-21 100% 17-Apr-21 23-Dec-22 08-Mar-23 325 MODULE-06 MP191 - MP187 63 12-Apr-21 18-May-21 02-Feb-23 17-Anr-23 100% 326 MAIN BRIDGE PRECAST GIRDER_MARINE 10+380~11+880 FROM MP146 TO MP170 151 04-Jun-21 02-Feb-22 26-Oct-23 03-May-23 15.21% 327 QNI GA 1020 Assembling of Launching Gantry 1 20 10-Jun-21 03-Sep-21 03-May-23 26-May-23 100% 0% 20 04-Jun-21 328 QNI GA 1030 Assembling of Launching Gantry_2 100% 26-Jun-21 10-May-23 02-Jun-23 329 MODULE-05 MP171 - MP167 31 28-Dec-21 02-Feb-22 20-Sep-23 26-Oct-23 0% 330 MODULE-04_MP166 - MP162 31 29-Nov-21 03-Jan-22 22-Aug-23 27-Sep-23 0% 331 MODULE-03 MP161 - MP157 31 30-Oct-21 04-Dec-21 24-Jul-23 29-Aug-23 0% 332 MODULE-02 MP156 - MP152 31 29-Sep-21 05-Nov-21 31-Jul-23 0% 333 MODULE-01 MP151 - MP146 31 28-Jun-21 01-Jul-23 06-Oct-21 26-May-23 76.06% 334 STITCH JOINT CASTING 615 07-Dec-19 12-Feb-22 12-Jan-21 12-lan-21A 06-Nov-23 0% 0% 335 122 07-Dec-19 MAIN BRIDGE STITCH JOINT CASTING_LAND 15+890~17+414 FROM MP251 TO MP26 08-Jul-21 16-Mar-20 08-Jul-21A 11-Mar-22 0% 0% 11-Mar-2 336 MODULE-19 MP254 - MP250 27 10-Feb-20 11-Mar-22 16-Mar-20 07-Feb-22 0% 337 15-Feb-22 MODULE-20 MP256 - MP255 31 17-Jan-20 20-Feb-20 08-Jan-22 15-Feb-22 0% 03-Feb-22 338 MODULE-21_MP261 - MP257 37 06-Jan-20 08-Feb-20 23-Sep-21 23-Sep-21A 03-Feb-22 0% 339 :04-Jan-22 MC MODULE-22 MP266 - MP262 67 07-Dec-19 10-Jan-20 08-Jul-21 08-Jul-21A 04-Jan-22 0% 340 MAIN BRDIGE STITCH JOINT CASTING CRZ 15+890~17+414 FROM MP226 TO MP250 99 11-Mar-20 13-Oct-20 12-Jan-21 12-Jan-21A 28-Apr-22 0% 341 MODULE-14_MP231 - MP227 29 19-Sep-20 13-Oct-20 02-Sep-21 02-Sep-21A 28-Apr-22 342 20-Seb-21A, MODUL MODULE-15 MP236 - MP232 19 02-Jun-20 20-Sen-21 10-Jul-21A 20-Sep-21A 0% 09-111-20 10-Jul-21 343 31-Jul-21A MODULE-16 MODULE-16 MP240 - MP237 19 04-May-20 06-Jun-20 23-Apr-21 31-Jul-21 23-Apr-21A 31-Jul-21A 0% 12 May-21 A MODULE-17 ME 344 MODULE-17_MP245 - MP241 41 09-Apr-20 14-May-20 12-May-21 12-May-21A 0% 12-Jan-21 12-Jan-21A 04-Apr-2 345 MODULE-18_MP249 - MP246 27 11-Mar-20 04-Apr-22 0% 14-Apr-20 03-Mar-22 346 MAIN BRIDGE STITCH JOINT CASTING INTERTIDAL 14+800~15+890 FROM MP206 TO MP225 128 14-Oct-20 10-Feb-21 04-May-22 27-Oct-22 0% 347 MODULE-10 MP211 - MP207 15 18-Jan-21 10-Feb-21 08-Oct-22 27-Oct-22 0% 348 MODULE-11 MP216 - MP212 0% 15 14-Dec-20 05-Jan-21 01-Sep-22 21-Sep-22 349 MODULE-12 MP221 - MP217 15 14-Nov-20 07-Dec-20 0% 02-Jun-22 20-Jun-22 350 MODULE-13 MP226 - MP222 15 14-Oct-20 21-May-22 0% 06-Nov-20 04-May-22 351 MAIN BRIDGE STITCH JOINT CASTING MARINE 13+610~14+800 FROM MP187 TO MP20 147 11-Feb-21 0% 21-Jun-21 30-Nov-22 20-May-23 0% 352 MODULE-06 MP191 - MP187 15 04-Jun-21 21-Jun-21 03-May-23 20-May-23 353 MODULE-07 MP196 - MP192 38 17-Apr-21 05-May-21 08-Feb-23 24-Mar-23 0% 354 MODULE-08 MP201 - MP197 15 13-Mar-2 05-Apr-21 29-Dec-22 16-Jan-23 0% 355 MODULE-09 MP206 - MP202 15 11-Feb-21 06-Mar-21 17-Dec-22 30-Nov-22 0% 356 MAIN BRIDGE STITCH JOINT CASTING MARINE 10+380~11+880 FROM MP146 TO MP170 0% 110 06-Oct-21 0% 12-Feb-22 30-Jun-23 06-Nov-23 357 MODULE-01 MP151 - MP146 15 06-Oct-21 23-Oct-21 30-Jun-23 18-Jul-23 358 MODULE-02_MP156 - MP152 15 05-Nov-21 22-Nov-21 29-Jul-23 16-Aug-23 359 MODULE-03_MP161 - MP157 0% 15 04-Dec-21 21-Dec-21 28-Aug-23 14-Sep-23 0% 360 MODULE-04 MP166 - MP162 15 03-Jan-22 19-Jan-22 26-Sep-23 13-Oct-23 0% 0% 361 MODULE-05_MP171 - MP167 15 27-Jan-22 12-Feb-22 19-Oct-23 06-Nov-23 362 MAIN BRIDGE STEEL GIRDER INSTALLATION 37.92% 540 03-Oct-20 01-Mar-22 27-Dec-21 25-Nov-23 0% 363 MAN BRIDGE STEEL GIRDER INSTALLATION. MARINE 11+880~13+610 FROMMP171 TOMP 186 540 03-Oct-20 01-Mar-22 27-Dec-21 25-Nov-23 37.92% 0% 364 STEEL MODULE-01_MP176 - MP171 (INSTALLATION) 133 07-Dec-21 01-Mar-22 25-Nov-23 23-Jun-23 365 STEEL MODULE-02_MP182 - MP177 (INSTALLATION) 0% 96 03-Oct-20 30-Sep-21 27-Dec-21 19-Apr-22 9479% STEEL MODULE-03_MP186 - MP183 (INSTALLATION) 366 64 30-Sep-21 07-Dec-21 10-Apr-23 23-Jun-23 0% 0% 367 MISCELLANEOUS & FINISHING 368 CRASH BARRIER & GURARD RAILS MILL W. 07-Mar-22 0% 529 20-Feb-20 17-Feb-22 19-Dec-23 70.83% 369 WATER PROOFING 520 26-Mar-20 17-Mar-22 28-Mar-22 13-Jan-24 66.67% 0% 370 PAVEMENT APHILLI I 602 16-Mar-20 51.42% 24-May-22 14-Mar-22 05-Apr-24 0% 371 **EXPANSION JOINT** 531 27-May-20 21-Apr-22 04-May-22 04-Mar-24 37 33% 0% 30-Mar-**SUBSTATION** 96 16-May-19 15-Apr-21 05-Apr-21 05-Apr-21A 30-Mar-22 100% Date Revision Checked Approved Project Baseline Bar Critical Remaining Work EMPLOYER: **CONTRACTOR:** 25-Sep-21 RO MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY Actual Work Milestone DAEWOO - TPL JV (MMRDA) Remaining Work % Complete

7 of 7 MUMBAI TRANS HARBOUR LINK PROJECT (PACKAGE 2) CONSTRUCTION OF 7.807 KM LONG BRIDGE SECTION ANNEXURE-5 CONSTRUCTION UPDATED PROGRAMME_ABSTRACT (CH 10+380 - CH 18+187) ACROSS THE MUMBAI BAY INCL SHIVAJI NAGAR INTERCHANGE UNDER IDENTIFICATION NO MMRDA/ENG/000753 (PACK AGE-2) # Activity ID BL Project Finish | Actual Start Activity Name Original BL Project Start Duration Actual Finish Start Schedule Performance 2010 2017 2018 2018 2019 2017 % Complete Complete 373 NOISE BARRIER 372 16-Mar-20 14-Sep-21 14-Mar-22 12- lul-23 100% 19-Aug-22 374 FENDER INSTALLATION 80 24-Jul-21 24-Nov-21 10-Dec-22 40% 375 DRAINAGE WORKS 511 16-Mar-20 09-Mar-22 14-Mar-22 21-Dec-23 70.37% 376 SIGN BOARDS 60 12-Feb-22 23-Apr-22 11-Nov-23 20-Jan-24 0% 377 INTERCHANGE 1444 24-Dec-18 08-Apr-24 ■ 26-May-21A NTERCHANGE 378 INTERCHANGE FOUNDATION 13-May-21 A, NTERCHANGE 379 INTERCHANGE RAMP PILE FOLINDATION 475 24-Dec-18 05-Mar-20 09-Oct-19 13-May-21 09-Oct-19A 100% 1009 7 13 May-21 A NTERCHANGE 380 INTERCHANGE RAMP PILE FON MA 182 05-Aug-19 03-Jan-20 09-Oct-19 13-May-21 09-Oct-19A 13-May-21A 100% 16 Aug-20A, INTERCHANGE RAMP PILE FON 381 INTERCHANGE RAMP PILE FON AC 100% 100% 107 01-Oct-19 05-Mar-20 25-Oct-19 16-Aug-20 25-Oct-19A 16-Aug-20A 382 INTERCHANGE RAMP PILE FON JM 178 03-Jan-19 05-Aug-19 26-Nov-19 07-May-21 26-Nov-19A 07-May-21A 100% 100% 27-Nov-20A, INTERCHANGE RAMP PL 383 INTERCHANGE RAMP PILE FON_MJ 79 03-Jan-19 01-Oct-19 04-Dec-19 27-Nov-20 04-Dec-19A 27-Nov-20A 100% 27-Apr 21A, INTEROHANGER 384 100% INTERCHANGE RAMP PILE FON CA 100% 100 28-May-19 23-Jan-20 01-Nov-19 27-Apr-21 01-Nov-19A 27-Apr-21A 04-Jan-21 A, INTERCHANGERAMP PI 385 INTERCHANGE RAMP PILE FON_AM 290 24-Dec-18 27-May-19 100% 100% 06-Feb-20 04-Jan-21 06-Feb-20A 04-Jan-21A 26-May-21A, NTEROHANGE 386 INTERCHANGE RAMP PILE CAP INSTALLATION 525 08-Jan-19 22-Oct-19A 26-May-21A 100% 100% 22-Oct-20 22-Oct-19 26-May-21 26-May-21A NTERCHANGE 387 100% INTERCHANGE RAMP PILE CAP MA 182 06-Dec-19 15-May-20 22-Oct-19 26-May-21 22-Oct-194 26-May-21A 100% 07-Sep-20'A, NTERCHANGE RAMP PILE CAP 388 INTERCHANGE RAMP PILE CAP_AC 183 15-Jan-20 100% 100% 22-Oct-20 02-Nov-19 07-Sep-20 02-Nov-19A 25-May-21A, NTERCHANGE 389 INTERCHANGE RAMP PILE CAP_JM 136 18-Jan-19 11-Dec-19 A 25-May-21 A 100% 100% 06-Dec-19 11-Dec-19 25-May-21 19-Dec-20A INTERO ANGERAMP PIL 390 100% INTERCHANGE RAMP PILE CAP MJ 145 18-Jan-19 15-Jan-20 16-Dec-19 19-Dec-20 16-Dec-19A 19-Dec-20A 100% 05-May-21A NTERCHANGER 391 INTERCHANGE RAMP PILE CAP CA 158 15-Oct-19 27-Jun-20 02-Dec-19 05-May-21 02-Dec-19A 100% 100% 13-Jan-21A, INTERCHANGE RAMP F 392 INTERCHANGE RAMP PILE CAP AM 15-Oct-19 15-Feb-20 13-Jan-21 15-Feb-20A 13-Jan-21A 100% 100% 245 08-Jan-19 ▼ 10-Ded-21 INTE 393 INTERCHANGE SUBSTRUCTURE & BEARING 68 43 394 INTERCHANGE RAMP PIER INSTALLATION 68.43% 596 29-Jan-19 27-Apr-21 24-Dec-19 24-Dec-19A 08-Nov-21 18-Sep-21A, NTERO 395 INTERCHANGE RAMP PIER MA 169 18-Mar-20 18-Sep-21 24-Dec-19A 18-Sep-21A 100% 100% 29-Dec-20 24-Dec-19 ■ 08-Nov-21: INTER 396 INTERCHANGE RAMP PIER AC 249 16-May-20 27-Apr-21 19-May-20 19-May-20A 08-Nov-21 100% 73259 25-Sep-21 INTERCH 397 INTERCHANGE RAMP PIER JM 138 08-Feb-19 18-Mar-20 15-Jan-20 15-Jan-20A 25-Sep-21 100% 55.949 08-Nov-21 INTER 398 INTERCHANGE RAMP PIER MJ 7378% 234 08-Feb-19 16-May-20 07-Sep-20 07-Sep-20A 08-Nov-21 100% **1** 06-Nov-21 NTERC 399 INTERCHANGE RAMP PIER CA 230 08-Jan-20 16-Feb-21 27-Apr-20 27-Apr-20A 06-Nov-21 100% 6034% 29-Sep-21, INTEROH 400 INTERCHANGE RAMP PIER AM 268 29-Jan-19 08-Jan-20 26-Sep-20 26-Sep-20A 29-Sep-21 100% 56.14% 10-Dec-21; INTE 401 INTERCHANGE BEARING INSTALL ATION 08-Sep-21A 10-Dec-21 62 27-Feb-19 31-May-21 08-Sep-21 0% 0% 402 INTERCHANGE SUPERSTRUCTURE INSTALL ATIO 403 INTERCHANGE BOX GIRDER INSTALLATION_MA 18-Sep-21A 20-Apr-23 60% 248 09-Jan-21 18-Sep-21 03-Jan-22 404 INTERCHANGE BOX GIRDER INSTALLATION AC 262 27-Feb-21 01-Nov-22 04-Sep-23 61 11% 27-Dec-21 267 11-Mar-20 405 INTERCHANGE BOX GIRDER INSTALLATION_JM 26-Feb-21 06-Apr-22 11-Apr-23 100% 406 INTERCHANGE BOX GIRDER INSTALLATION_MJ 290 20-Sep-19 30-Nov-21 02-Jan-23 100% 0% 08-Jan-21 407 INTERCHANGE BOX GIRDER INSTALLATION CA 27-lan-24 58.5% 335 30-Oct-20 15-Feb-22 02-lan-23 0% 26-Api 408 INTERCHANGE BOX GIRDER INSTALLATION_AM 147 14-Oct-19 03-Nov-21 100% 19-Aug-20 26-Apr-22 ₹ 23-Apr-409 INTERCHANGE RETAINING STRUCTURE 23-Apr-410 INTERCHANGE RETAINING STRUCTURE AC 69 24-Jun-20 06-Nov-20 15-May-21A 23-Anr-22 100% 3803% 27-Nov-21, INTER 411 INTERCHANGE RETAINING STRUCTURE_JM 50 11-Mar-19 25-Sep-21 27-Nov-21 100% 07-Jan-22, INT 412 INTERCHANGE RETAINING STRUCTURE MJ 100% 35 09-May-19 11-Jul-19 27-Nov-21 07-Jan-22 0% 13-Apr-2 413 INTERCHANGE RETAINING STRUCTURE CA 39 06-Feb-20 24-Mar-20 25-Feb-22 13-Anr-22 100% 0% 25-Feb-22 414 INTERCHANGE RETAINING STRUCTURE_AM 41 12-Jul-19 24-Oct-19 07-Jan-22 25-Feb-22 100% 415 416 EXPANSION JOINT 540 01-Oct-20 24-May-22 02-Apr-24 417 CRASH BARRIER & GURARD RAILS 512 19-Aug-20 21-Feb-22 27-Apr-22 02-Feb-24 418 WATER PROOFING * 512 10-Sep-20 08-Mar-22 11-May-22 16-Feb-24 50% 0% 419 PAVEMENT .558 07-Sep-20 28-Apr-22 09-May-22 08-Apr-24 50% 0% 420 DRAINAGE WORKS 512 28-Aug-20 26-Feb-22 03-May-22 08-Feb-24 50% 421 65 24-May-22 0% 0% PROJECT HANDINGOVER 22-Sep-22 08-Apr-24 08-Jul-24 422 65 24-May-22 08-Jul-24 08-Apr-24 423 736 22-Sep-22 21-Sep-24 08-Jul-24 14-Jul-26 0% DEFECT LIABILITY PERIOD (DLP) 424 39.5% 2485 23-Mar-18 21-Mar-23 23-Mar-18 23-Mar-18A 10-Jan-25 81 48% PRICE SCHEDULE 425 2485 23-Mar-18 21-Mar-23 3-Mar-18 23-Mar-18A SCHEDULE-1 77.95% 426 SCHEDULE-2 1644 23-Mar-18 22-Sep-2: 23-Mar-18 23-Mar-18A 1-4-Jul-24 427 1644 23-Mar-18 23-Mar-18A 14-Jul-24 77.95% 63.17% SCHEDULE-3 22-Sen-2 23-Mar-18 77.95% 75.939 428 SCHEDULE-12 1644 23-Mar-18 22-Sep-22 23-Mar-18 23-Mar-18A 14-Jul-24 429 1644 23-Mar-18 22-Sep-22 23-Mar-18 23-Mar-18A 14-Jul-24 77.95% 0289 Date Revision Checked Approved Project Baseline Bar Critical Remaining Work EMPLOYER: CONTRACTOR: Summar 25-Sep-21 RO MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY Actual Work Milestone DAEWOO - TPL JV (MMRDA) Remaining Work % Complete

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Attachment 8- Package-3's Construction Programme Updated as on 25th September 2021



seline Schedule						Cla	assic Schedul	e Layout			05-Oct-2
ty ID	Activity Name	Original BL1 Start Duration	BL1 Finish	Start	Finish	Activity %	Schedule '6	erformance %	Planned Value Cost	Earned Value Cost	
MTHL Pkg	3_Construction Schedule Sep'21	1708 23-Mar-18	21-Sep-21	23-Mar-18A	02-Feb-24		100%	61.38%	Rs10,437,570,645	Rs6,406,575,098	V 02-Feb÷24, MTHL Pkg/3≟Construction Schedule:
Procuren	nent of Mumbai Trans Harbour Link Proje	1708 23-Mar-18	21-Sep-21	23-Mar-18A	02-Feb-24		100%	61.38%	Rs10,437,570,645	Rs6,406,575,098	
<u> </u>	Commencement Date (CD)	0		23-Mar-18 A		100%	0%	100%	Rs0	Rs0	Commencement Date (CD), 23-Mar-18 A
Physical	Milestones	860 18-Sep-18	21-Sep-21	25-Sep-21	02-Feb-24		0%	0%	Rs0	Rs0	
Financial	Milestone	1622 18-Sep-18	21-Sep-21	23-Mar-18 A	02-Feb-24		0%	0%	Rs0	Rs0	02-Feb-24, Financial Milestone
Interface	Milestone	904 17-Dec-18	06-Mar-21	17-Sep-18A	18-Jul-23		0%	0%	Rs0	Rs0	18-Jul-23,Intérface Milestone
Documen	nt Submittals	45 23-Mar-18	06-May-18	06-Apr-18 A	30-Sep-19/		100%	100%	Rs74,992,895	Rs74,992,895	nt Submittals:
Employer	r's Obligation / Land Handover	151 19-Apr-18	18-Sep-18	23-Mar-18 A	25-Sep-21		0%	0%	Rs0	Rs0	25-Sep-21, Employer's Obligation / Land Handover
	r Office (Sch 01-General Item)	801 20-Aug-18	16-Sep-21	25-Jan-19 A	08-Apr-22		100%	95.85%	Rs142,351,995	Rs136,439,995	
-	Geotechnical Investigation Works	346 19-Apr-18	22-Oct-18	19-Apr-18A	30-Sep-19/		100%	100%	Rs242,300,945	Rs242,300,945	Geofechnical Investigation Works
Design W		729 07-May-18	14-Jun-19	25-Apr-18 A	06-Dec-21		100%	99.62%	Rs159,123,270		🔻 05-Dec-21, Design Works
	nent Works	1312 12-Sep-18	08-Jun-21	15-Feb-19A	26-Oct-23		100%	78.07%	Rs1,685,124,737	Rs1,315,528,616	26-Oct-23, Procurement Warks
	ated Fabrication & Manufracturing Works	994 27-Sep-18		21-Feb-19A	21-Nov-22		100%	50%	Rs390,606,723	Rs195,303,446	21-Nov-22; Co-ordinated Fabrication & Manufracturing Works
Construc		1469 20-Jul-18	23-Jul-21	26-Sep-18A	26-Dec-23		100%	59.46%	Rs7,063,471,551	Rs4,199,982,334	
The same of the sa	estruction Activity	887 20-Jul-18	01-Jul-19	26-Sep-18A	26-Apr-22		100%	72.92%	Rs565		
	ructures (Open Foundation, Pier Pier Cap)	966 08-Dec-18	07-Nov-20	05-Dec-18A	20-Api-22 20-Jun-22		100%	81.41%	Rs3,392,806,949	Rs2,762,006,900	26-Apr-22: Preconstruction Activity. 20-Jun-22: Sub Structures (Open Foundation, Pier, Pier Cap.):
	Carriageway	902 08-Dec-18	24-Jan-20	05-Dec-18A	06-Apr-22		100%	82.67%	Rs1,821,401,625	Rs1,505,662,861	
·	i4 Ramps	388 27-Feb-19	06-Mar-20	25-Apr-19A	24-Dec-21		100%	93.4%	Rs232,139,423	The second second second second	
Chirl	le NH 4B Ramps	494 20-May-19	05-Sep-20	07-May-19A	20-Jun-22		100%	74.49%	Rs874,987,055	Rs651,767,601	20-Jun-22, Chirle NH4B Ramps
Chirl	le NH 4B Loops	262 09-Sep-19	07-Nov-20	21-Aug-19A	03-May-22		100%	83.52%	Rs464,278,846	Rs387,747,752	.03-May-22; Chirle NH4B Loops
Super S	Structures	977 27-Feb-19	12-Apr-21	11-Sep-19A	11-Jul-23		100%	35.06%	Rs1,408,931,773	Rs494,039,643	▼ 11:Jul-23; Super Structures;
	ments Precasting	703 30-Mar-19	09-Nov-20	11-Sep-19A	25-Aug-22		100%	50%	Rs760,158,019	Rs380,079,010	
The state of the s	ments Erection	549 26-Aug-19	20-Jan-21	06-Mar-20 A	02-Jun-23		100%	18.75%	Rs70,699,560	Rs13,256,139	02-Jun-23; Segments Erection
	t In Situ	559 27-Feb-19		01-May-20A	11-Jul-23		100%	21.69%	Rs464,336,802	Rs100,704,494	11-Jul-23; Castin Situ √ 10-Apr-23; Steel/Structure
	IStructure	390 10-May-19	17-Nov-20	11-Jan-22	10-Apr-23		100%	0%	Rs113,737,392	Rs0	23-Sep-23; Bearings & Expansion Joints
	gs & Expansion Joints		12-Apr-21	11-Nov-20 A	23-Sep-23		100%	11.88%	Rs10,454,697		
RE Wall	Ancillaries & Miscellaneous Item	479 12-Aug-20 582 27-Feb-19		15-Jun-22	26-Dec-23		100%	0%	Rs180,922,099	Rs0	v i31-Aug-23, RE Wall
Road W		1168 20-Apr-19	18-Feb-21 18-May-21	20-Oct-21 16-Feb-19A	31-Aug-23 23-Sep-23		100%	0% 58.6%	Rs461,687,488 Rs1,608,667,980	Pe042 603 114	23-Sep-23: Road Work
	on of Interface Activity	564 19-Sep-20	The second secon	25-Sep-21	18-Jul-23		0%	0%	Rs0	Rs0	
Provision		1087 23-Apr-18	23-Aug-21	30-Nov-18 A	28-Aug-23		100%	12.29%	Rs679,598,496	Rs83,505,472	√ 18-Jut-23, Completion of Interface Activity ✓ 28-Jug-23, ProVisional Sum
	Commissioning Works	33 26-Jul-21		26-Dec-23	02-Feb-24		100%	0%	Rs33		
	0 Testing & Commissioning Works		-			00/				Rs0	
			11-Sep-21		24-Jan-24	0%	100%	0%	Rs25	Rs0	lesting & Commissioning Works
	1 Safety Test & Auditing			24-Jan-24	31-Jan-24	0%	100%	0%	Rs6	RSU	Sarety lest & Auditing
iii 10C100.	2 TOC	2 19-Sep-21	20-Sep-21	31-Jan-24	02-Feb-24	0%	100%	0%	Rs2	Rs0	Testing: & Commissioning Works Testing: & Commissioning Works Safety Test & Auditing
					*						

Actual Level of Effort

Actual Work

Remaining Work Milestone Page 1 of 1 Baseline Schedule

Critical Remaining Work Summary



Attachment 9- Project Progress Photos for September 2021



Package 1- Site Progress Photos



Photo No. 1: LG-05 Installation at C1P24 - Interchange Section in progress



Photo No. 2: LG-7 Installation LPN3-LPN4 - Interchange Section in progress





Photo No. 3: EP08 Pile Cap - Interchange Section in progress



Photo No. 4: AP58 Pier Head Reinforcement - Interchange Section in progress





Photo No. 5: Cast In Situ at BP49-BP51 - Interchange Section in progress



Photo No. 6: MP 65 Pile Cap Bottom Shutter - Intertidal Section Completed





Photo No.7: MP 60 Pile Cap Reinforcement Work - Intertidal Section in progress



Photo No. 8: MP63 Pile Cap Shuttering Work - Intertidal Section in progress





Photo No. 9: OSD MP 70 Protection Ring Lowering - Intertidal Section Completed



Photo No. 10: MP 58 N Pier Reinforcement - Intertidal Section in progress





Photo No. 11: MP 125 N Pier works - Marine Section in progress



Photo No. 12: - OSD Assembly works - at the Assembly Yard in progress



Package 2 - Site Progress Photos

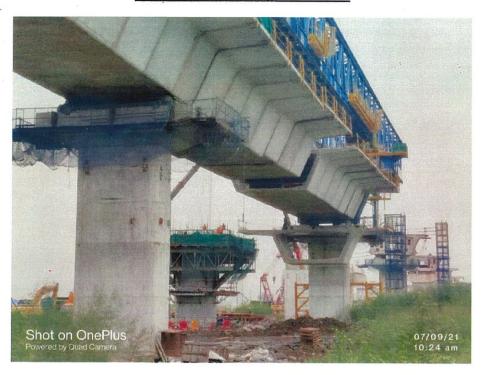


Photo No. 1: LG-3 Segment gluing at Span MP 261-262 LHS in progress



Photo No. 2: MMRDA Officials along with the GC's and Contractor's Staff visited Pkg-2 Site dated 7th September 2021





Photo No. 3: LG-2 Segment lifting at Span MP 231-232 LHS in progress



Photo No. 4: Integral Pier head segment concreting at MP 212 RHS in progress





Photo No. 5: Pile concreting at MP 176 RHS in progress



Photo No. 6: Pile cap formwork alignment at MP 160 RHS in progress





Photo No. 7: 3m dia pile boring at MP 173A LHS in progress



Photo No. 8: Pier cap concreting at MP 201 RHS in progress





Photo No. 9: Pier head segment concreting at MP 246 LHS in progress



Photo No. 10: Pier cap reinforcement tying at MAP-1 in progress





Photo No. 11: Pier lift concreting at MP 198 RHS in progress



Photo No. 12: Retaining wall raft concreting at Ramp AC in progress



Package 3 - Site Progress Photos



Photo No. 1: Span LP 04-05 Erection Works completed



Photo No. 2: Span LP 04-05, 1st stage prestressing work in progress





Photo No. 3: Span LMP 281-282 under slung trestle & soffit erection work in progress



Photo No. 4: 1st stage prestressing work at CIS Span RP 03-02 in progress



Photo No. 5: RMP 275 foundation excavation work in progress



Photo No. 6: Foundation RP 27 R pre-pour inspection in progress





Photo No. 7: Pile RP34/3 concrete pouring in progress



Photo No. 8: LP 27 L Foundation concrete completed





Photo No. 9: MPP 09 Pier Cap concrete pouring in progress





Photo No. 10: LP-38-MJP-01(Chirle) Portal Pier Cap concrete pouring in progress

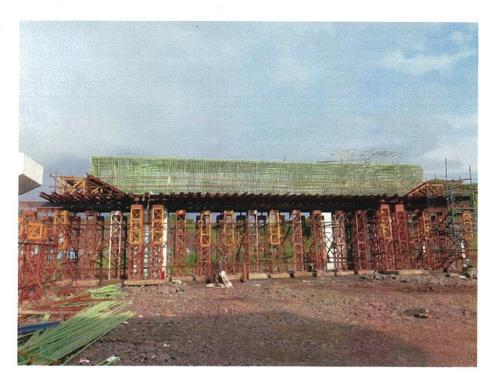


Photo No. 11: RP-38 Reinforcement Works are in progress



Photo No. 12: Span JMP 01-02 (SH-54 Ramp) CIS single cell box girder Bottom soffit work

