

**AECOM****PADECO**dar al-handasah
shakir and partners**TYLIN**
INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Ref No: MTHL/GC/MMRDA/LT/QPR- 0000966/2019

20th September 2019

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

Sub: General Consultancy services for Mumbai Trans Harbour Link (MTHL) project -
Submission of Quarterly Progress Report (QPR) No. 9 for April - June 2019

Ref: MTHL/GC/MMRDA/LT/QPR – 923/ 2019 Dated 20th August 2019

Dear Sir,

With reference to the above subject, please find enclosed 1 hard copy of the corrected Quarterly Progress Report (QPR) No. 9 for the period of April to June 2019. You may forward the same to JICA at your earliest convenience.

Thanking you,

Yours faithfully,

M Sham 20 SEPTEMBER 2019

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



29/9/19

Encl: 1 copy of Quarterly Progress Report No. 9 (April - June 2019)

CC: Superintendent Engineer – MMRDA - Mr. Sakhalkar
Superintendent Engineer – MMRDA - Mr. Varaskar
Executive Engineer – MMRDA – Mr. Bhisikar
Executive Engineer – MMRDA – Mr. Vishal Jambhale
Executive Engineer – MMRDA – Mr. Deshpande

No.MMRDA/MTHL-PIU/JICA-QPR-9/741/09-2019

MTHL-PIU

Date: 18.09.2019

To,
Mr. Katsuo Matsumoto
Chief Representative
Japan International Cooperation Agency (JICA),
16th Floor, Hindustan Times House,
18-20, Kasturba Gandhi Marg,
New Delhi-110-001.

Sub: Mumbai Trans Harbour Link Project (I) (ID-P255)
- Quarterly Progress Report-9 (April 2019-June 2019)

Sir,

The loan agreement for the Official Development Assistance (ODA) Loan for the Mumbai Trans Harbour Link Project (I) is signed between Japan International Cooperation Agency (JICA) and Mumbai Metropolitan Region Development Authority (MMRDA) on 31st March 2017 with MMRDA as a direct borrower of the Loan.

The Quarterly Progress Report No.9 for the Mumbai Trans Harbour Link Project (I) for the period from April 2019 to June 2019 is enclosed herewith for information.

Encl.: QPR-9 (April 2019 – June 2019)

Thanking you,

Yours faithfully,


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

18.9.19

Mumbai Metropolitan Region Development Authority



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MMRDA

Mumbai Metropolitan Region Development Authority

Mumbai Trans Harbour Link Project

Quarterly Progress Report - No.9

(From 1st April 2019 to 30th June 2019)



**Mumbai Trans Harbour Link Project
Quarterly Progress Report No. 9
1st April 2019 to 30th June 2019
Loan Agreement No. ID-P255 (Tranche-I)**

ORGANIZATION INFORMATION

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

Details of JICA Loan

Source of Finance	JICA ODA Loan Portion:	238,572 million Japanese YEN (JPY)
	Tranche-I:	144,795 million Japanese YEN (JPY) (Loan Agreement signed on 31 st March 2017)
	Tranche-II:	66,909 Million Japanese YEN (JPY) (Loan Agreement to be signed)
Terms and Conditions of JICA ODA Loan (Tranche-1)	Interest Rate:	0.10533% (LIBOR-0.00533% + SPREAD RATE -0.1000%) from 20 th March 2019 to 19 th September 2019.
	Repayment Period:	30 years, including 10 years of grace period.

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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:

Demand Analysis

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

Table 1.3.1 Demand Projections Over the Period

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

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

- 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.
- 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

- 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.
- 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.
- 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).
- 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.
- 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-Classifer (ATCC) and Meteorological Data System (MDS), and Information Dissemination System including Variable message Sign (VMS).
15. CCTV Cameras shall be installed at around three places per 1 km, on Both side of main route and the monitoring of the traffic condition of the whole stretch of MTHL will be almost enabled in the Traffic Control Centre and VMS displays the appropriate information for road users on the collated information.
16. The Information collected by these devices shall be transmitted to the Command Control Centre through the medium of an Optical Fiber Cable laid in MTHL.

Actual (P/R, PCR)

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

2.0 PROJECT IMPLEMENTATION

2.1 Project Scope

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

Table 2.1.1 Comparison of Original and Actual location

Location	Original: (P/M) Mumbai Metropolitan Region Development Authority, Mumbai, State of Maharashtra	Actual: (P/R and PCR)
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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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> 2 Interchanges (State Highway-54, National Highway-4B) Viaduct superstructure (Marine Portion: PC Box Girder & Steel Box Girder with Steel Slab Land Portion: PC Box Girder & PC-I Girder & Steel Truss Girder for Rail-over-Bridges (ROB)) Viaduct Substructure (RC Concrete Structure) Viaduct Foundation (Bored piles) Cutting Section (6-lane with Slope Protection) Road Furniture and roadside facilities (Traffic Signs and Pavement Marking, Traffic Safety Devices, Crash Barrier, Drainage Structures, Noise Barriers, View Barriers) 	(P/R and PCR) Actual: No Noise Barriers & View Barriers

Items	Original	Actual
Package-4 ITS (Intelligent Transport System)	<ul style="list-style-type: none"> • 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-Classifer (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 style="text-align: center;"><i>(P/R and PCR)</i></p>
Consulting Services	<ul style="list-style-type: none"> • Tender Assistance • Construction Supervision • Facilitation of Implementation of Environmental Management Plan (EMP), Environmental Monitoring plan (EMoP). 	<p style="text-align: center;"><i>(P/R and PCR)</i></p>

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

Attachment: Package wise updated construction schedules at the end of second quarter (Apr-Jun 2019).

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

(P/R and PCR)

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

2.3 Project Cost

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

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

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

(Note) 1. Exchange Rate: US\$1=Rs. 71.9, US\$1=JPY 113.0, Rs.1 = JPY 1.57

2. Price Escalation (a) Foreign Currency Portion: 1.83% p.a.

(b) Local Currency Portion: 4.13% p.a.

3. Physical Contingency: 10%

4. Base Year for Cost Estimation: December 2018

* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696.

The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

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

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total (Rs. mil)	JICA Portion (Rs. mil)	Others (Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	4,365	4,365	-	10,269	10,269		20,038	20,038	
Package-2	3,705	3,705	-	7,225	7,225		14,121	14,121	
Package-3	72	72	-	927	927		1,558	1,558	
Package-4 (ITS)	-		-	-			-		
Package-5 (Geotechnical Investigation)	-			196		196	308		308
Dispute Boards (Package-1, 2, 3 & 4)	-			-			-		-
Price Escalation	-			4	4		6	6	-
Physical Contingency	-			-			-		-
Consulting Services	253	253		276	276		812	812	
Land Acquisition*	-			3,859		3,859	6,059		6,059
Administration Cost	-			1,410		1,410	2,214		2,214
GST	-			2,804		2,804	4,402		4,402
Import Tax	-			-			-		-
Interest during construction	-			-			-		-
Front End Fee	-			-			-		-
Total	8,395	8,394	-	26,970	18,700	8,269	49,518	36,535	12,982

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

2. Price Escalation (a) Foreign Currency Portion: 1.83% p.a.

(b) Local Currency Portion: 4.13% p.a.

3. Physical Contingency: 10%

4. Base Year for Cost Estimation: December 2018

* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696.

The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

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

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

(All Figures are in JPY mil)

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

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

(All Figures are in JPY mil)

Cost Breakdown	Total	JICA Portion				Others (MMRDA Portion)
		Tranche I	Tranche II	Tranche III	Sub Total	
FY 2017	13,738	9,232	-	-	9,232	4,506
FY 2018	26,813	21,695	-	-	21,695	5,118
FY 2019	8,966	5,608			5,608	3,358
FY 2020						
FY 2021						
FY 2022						
FY 2023						
FY 2024						
Total	49,517	36,535	-	-	36,535	12,982

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

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

Organization's Role

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

Project Implementation Unit (PIU)

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

Procurement

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

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

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

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

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

2.4.2.1 Procurement & Consultant

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

Contract Package	Selection Method		
	Original: (P/M)	Actual: (P/R and PCR)	
Construction Works			
1	<u>Package-1:</u> 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	<u>Package-2:</u> 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	<u>Package-3:</u> 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	<u>Package-4:</u> To install ITS (Toll Management System and Highway Traffic Management System)	International Competitive Bidding Process (With PQ, Single stage with two envelopes)	No Change
5	<u>Package-5:</u> 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:

April 2019:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-011 & IPC-011 (80% ad-hoc), IPC-011 (detailed verification)
 - ii) Package-2: IPC-009 (80% ad-hoc), IPC-007 & 008 (detailed verification)
 - iii) Package-3: IPC-004 (detailed verification) & Mobilization Advance – (Part-2)
- 2 JICA representatives visited MTHL Project on 26th & 27th April 2019 to review the yearly financial disbursement and Environmental & Social Rehabilitation monitoring. GC attended them, and the project progress status were briefed through various scheduled meetings and presentation.
- 3 JICA Representatives along with MMRDA & GC officials also visited all the three Packages' sites on 26th & 27th April 2018 to review the physical progress.
- 4 Monthly Progress Review Meetings with the Package-1, Package-2 & Package-3 Contractors were conducted on 5th April 2019 at the GC Office. GC prepared the MOM and forwarded to the concerned stakeholders for further action.

May 2019:

- 1 GC submitted a revised draft of Pre-Qualification Document for the Package-4 (Intelligent Transport System, ITS) on 28th May 2019 to MMRDA for their review and to seek JICA approval.
- 2 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-013 (80% ad-hoc) and IPC-012 (detailed verification)
 - ii) Package-2: IPC-010 (80% ad-hoc) and IPC-009 (detailed verification)
 - iii) Package-3: IPC-005 (80% ad-hoc & detailed verification)

June 2019:

- 1 GC coordinated and arranged a BNHS Workshop on 11th June 2019 at MMRDA office to have awareness on Avian and Benthic Species found in the ROW for the Package-1 & Package-2.
- 2 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-014 (80% ad-hoc) and IPC-013 (detailed verification)
 - ii) Package-2: IPC-011 (80% ad-hoc) and IPC-010 (detailed verification)
 - iii) Package-3: IPC-006 (80% ad-hoc)
- 3 A site-walk and project review for the Package-1 held at the Package-1's Site Office on 21st June 2019.
- 4 GC organized and celebrated "World Environment Day" on 5th June 2019 with all the 3 Package Contractors and participated in Tree Plantation at the casting yard areas.

Contractor's Progress:

Package-1 Physical Progress

S. No	Activity	Total Scope	Unit	Cumulative Work done Achieved	% of Work done Progress	Remarks
1	Geotechnical investigation (Field Works)					
1.1	Marine	202	No.	202	100%	
1.2	Intertidal	117	No.	117	100%	
1.3	Interchange (Land Section)	228	No.	225	99%	
	Total	547	No.	544	99%	
2	Gantry Track Foundation for PC Yard					
2.1	Gantry Track Foundation	1814	Rmt	1814	100%	Gantry & Railway Track Installation Works in progress
3	Temporary Access Bridge					
3.1	Piles	626	No.	480	77%	
3.2	Bridge Deck	2953	Rmt	1539	35%	
4	Test Pile					
4.1	Test Piles	5	No.	4	80%	
5	Permanent Bridge Works (Intertidal Zone)					
5.1	Piles	236	No.	54	22.9%	
5.2	Pile Caps	57	No.	6	10.5%	
5.3	Piers	113	No.	5	4.4%	
6	Permanent Bridge Works (Marine Zone)					
6.1	Piles	484	No.	54	11.2%	
6.2	Pile Caps	100	No.	3	3%	
6.3	Piers	198	No.	-	-	
7	Permanent Bridge Works (Land/ Interchange Zone)					
7.1	Piles	517	No.	70	13.5%	
7.2	Pile Caps	165	No.	2	1.2%	
7.3	Piers	228	No.	-	-	
8	Permanent Bridge Works (Total)					
8.1	Piles	1237	No.	178	14.38%	
8.2	Pile Caps	322	No.	11	3.41%	
8.3	Piers	539	No.	5	0.92%	

Package-2 Physical Progress

S. No	Activity	Total Scope	Unit	Cumulative Work done Achieved	% of Work done Progress	Remarks
1	Geotechnical investigation (Field Works)					
1.1	Marine	154	No.	154	100%	
1.2	Intertidal	34	No.	34	100%	
1.3	Interchange	116	No.	116	100%	
	Total	304	No.	304	100%	
2	Gantry Track Foundation for PC Yard					
2.1	Gantry Track Foundation	1480	Rmt	1480	100%	Gantry & Railway Track Installation Works in progress
3	Temporary Access Bridge					
3.1	Piles	889	No.	574	64%	
3.2	Bridge Deck	2682	Rmt	1086	41%	
4	Test Pile					
4.1	Test Piles	4	No.	2	50%	
5	Permanent Bridge Works (Intertidal Zone)					
5.1	Piles	274	No.	0	0%	
5.2	Pile Caps	68	No.	0	0%	
6	Permanent Bridge Works (Marine Zone)					
6.1	Piles	552	No.	40	7%	
6.2	Pile Cap	122	No.	0	0%	
7	Permanent Bridge Works (Land/ Interchange Zone)					
7.1	Open Foundations	113	No.	0	0%	
8	Permanent Bridge Works (Total)					
8.1	Piles	826	No.	40	4.84%	
8.2	Pile Caps	190	No.	0	0%	

Package-3 Physical Progress

S. No	Activity	Unit	Total Scope	Cumulative Work done Achieved	% of Work done Progress	Remarks
1	Survey Works					
1.1	Topography Survey	3.61	skm	3.26	90%	
1.2	Tree Survey	3.61	skm	3.61	100%	
2	Geotechnical Investigation Works					
2.1	Geotechnical Investigation Works (Field)	208	No.	200	96%	
3	Casting Yard Development					
3.1	Boundary Demarcation & Fencing for the Casting Yard	1100	Rmt	330	30%	
3.2	Gantry Track Foundation	1120	Rmt	894	80%	
4	Permanent Foundation Works					
4.1	Open Foundations	196	No.	19	10%	

Package-4 (ITS)

Pre-Qualification documents have been submitted to MMRDA on 28th May 2019 for review and to seek JICA's concurrence.

Health & Safety and Environment (HSE)

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

Package-1 Safety Report

Sr. No	Description	For April to June 2019	Cumulative
1	Total Man Hours Since Inception	1286136	5306604
2	Number of Man-Hours (Accident Free Man-Hours)	1906632	5306604
3	Number of Man-Days	238329	663325
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	0
6	Number of Near Miss Incidents	7	16
7	Number of First Aid Cases	17	42
8	Number of Dangerous Occurrences	1	1
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	0	0
11	Number of Man-Days Lost	0	0
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	0
13	Number of Inspections done for Offices & Sites	67	159
14	Number of Training/ Induction done for Offices & Sites	21	90
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	5341	1035

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16	Details of Safety Committee meetings	3	13
17	No. of toolbox talks	2986	8668
18	No. of critical excavations.	0	0
19	Pre-employment Medical check-up	2784	6836
20	No. of Safety Walk down	12	63
21	No. of Safety Inductions completed	2402	6454

Package-2 Safety Report

Sr. No	Description	For April to June 2019	Cumulative
1	Total Man Hours Since Inception	519200	383295
2	Number of Man-Hours (Accident Free Man-Hours)	619454	383295
3	Number of Man-Days	84240	227374
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	2	2
6	Number of Near Miss Incidents	1	12
7	Number of First Aid Cases	7	28
8	Number of Dangerous Occurrences	1	2
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	517	836
11	Number of Man-Days Lost	47	76
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	0
13	Number of Inspections done for Offices & Sites	79	336
14	Number of Training/ Induction done for Offices & Sites	39	312
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	2808	526
16	Details of Safety Committee meetings	3	13
17	No. of toolbox talks	370	1114
18	No. of critical excavations.	0	0
19	Pre-employment Medical check-up	769	2703
20	No. of Safety Walk down	11	43
21	No. of Safety Inductions completed	1143	3286

Package-3 Safety Report

Sr. No	Description	For April to June 2019	Cumulative
1	Total Man Hours Since Inception	133584	384745
2	Number of Man-Hours (Accident Free Man-Hours)	192250	384745
3	Number of Man-Days	24031	48093
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	0
6	Number of Near Miss Incidents	1	2
7	Number of First Aid Cases	8	12
8	Number of Dangerous Occurrences	0	0
9	Number of Reportable Sick Cases	0	0

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10	Number of Man-Hours Lost	0	0
11	Number of Man-Days Lost	0	0
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	0
13	Number of Inspections done for Offices & Sites	18	78
14	Number of Training/ Induction done for Offices & Sites	21	54
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	575	1238
16	Details of Safety Committee meetings	3	11
17	No. of toolbox talks	421	972
18	No. of critical excavations.	0	0
19	Pre-employment Medical check-up	554	1121
20	No. of Safety Walk down	12	41
21	No. of Safety Inductions completed	556	1160

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

3.0 BENEFITS DERIVED FROM THE PROJECT (EFFECTIVENESS)

3.1 Operational and Physical Condition

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

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

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

Original Issues and Countermeasure(s)	Actual Issues and Countermeasure(s)
<p>3.2.1 General Issues</p> <p>1. Toll Arrangement/ Toll Rate Fixed toll rate as per the type of vehicle will be levied for the road users after the completion of the Project. An appropriate tolling policy/ rates will be finalized in consultation with the state government prior to the completion of Civil works.</p> <p>2. Operation and Maintenance MMRDA proposes to appoint separate agencies for Operation & Maintenance of the bridge and for Toll Management System. Both the agencies for O & M and Toll Management System may be appointed through open tendering process. Overall monitoring of the two agencies would be done by MMRDA in house through a separate cell which could be constituted for the purpose. MMRDA has confirmed to allocate adequate budget for engaging the Contractors.</p>	<p>(P/R and PCR)</p> <p>Appropriate Tolling Policy/ Rates will be finalized by December 2020.</p> <p>Single Operation and Maintenance Contractor will be appointed by December 2020.</p>
<p>3.2.2 Environmental and Social Consideration</p> <p>a. CRZ Clearance</p> <p>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.</p> <p>ii. Furthermore, renewed CRZ Clearance has been obtained in January 2016.</p> <p>iii. In accordance with the conditions for</p>	<p>(P/R and PCR)</p> <ul style="list-style-type: none"> • 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

<p>CRZ Clearance, appropriate measures shall be taken, and necessary budget shall be secured by MMRDA.</p>	<p>Biodiversity Foundation for bird monitoring and implementation of Flamingos and bird monitoring program for the MTHL project during the construction as well as the long-term monitoring after the construction.</p> <ul style="list-style-type: none"> • Rs 91.42 Crore has been transferred to Mangroves & Marine Biodiversity Foundation, Mumbai for the development & conservation of mangrove area and its afforestation. Such funds will be managed by the mangrove foundation of Maharashtra State. • As per the renewed CRZ clearance condition, IIT Mumbai has been appointed for the DPR study to develop a Mahul creek Effluent Treatment Plant (ETP). Rs 4.98 Crore was secured for IIT services. Draft DPR was submitted by IIT and has been under review by the “Environmental committee (EC)” of the MTHL CRZ clearance.
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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 /Transplantation	Respective Tree Authorities	Contractor for respective Packages	-	Pkg-1 Tree cutting/ Transplantation permission is awaited from Tree Authority. Pkg-2 Tree Cutting/ Transplantation permission obtained & completed. Pkg-3 Tree Survey completed, and the report submitted to the Forest Department for approval.
Consent to Establish	Maharashtra Pollution Control Board	Contractor for respective Packages	Pkg-1-18.07.2018 Pkg-2-16.08.2018	Pkg-3 has applied for obtaining the Consent to Establish to MPCB.

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)
<p>1. Establishment of Effective Environmental and Social Cell in PIU</p> <p>MMRDA confirmed that Social Development Cell (2 Officers), Land Cell (3 Officers), and Environmental Cell (2 Officers) had been set up.</p>	<p>Cell is established by MMRDA (Annexure III, Organization chart)</p>
<p>2. Rehabilitation and Land Acquisition Issues</p> <p>a. Affected Area and Population</p> <p>Due to the Project, 1282 non-titleholders will be involuntary resettled, and 108.09 ha of land will be handed over by CIDCO.</p>	<p>Sewri: Involuntary resettlement in Sewri section has been further validated by Social Development Cell of MMRDA. Out of 298 Project Affected Households (PAHs) have given consents as follows:</p> <ul style="list-style-type: none"> • 165 PAHs Kanjurmarg for residential • 25 PAHs Kanjurmarg for commercial • 7 PAHs (Satsangi Plot) Kanjurmarg for Commercial • 1 PAHs (commercial to residential) for Bhakti Park • 100 PAHs HDIL Kurla for residential <p>Navi Mumbai: CIDCO has been finalizing the land acquisition closely monitored by Land Cell of MMRDA. Except private land and forest, CIDCO has possessed all required land of 108.09 ha. Out of the 108.09 ha, 101.95 ha has been handed over by CIDCO to MMRDA. CIDCO has yet to acquire 6.14 Ha with the help of Collector, Raigad.</p>
<p>b. Entitlement Policy</p> <p>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) (“Guidelines”) (Attachment 2-5).</p>	<p>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.</p>

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

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
<p>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.</p>	<p>Updated Attachment 2-10 is enclosed in the report.</p>
<p>h. RAP Implementation Budget</p> <p>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.</p>	<p>As updated in Aid Memoire dated 14/12/18, the base cost Budget towards RAP Implementation is updated as Rs 1129.3 Cr.</p>
<p>i. Environmental Management Plan (“EMP”)</p> <p>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.</p>	<p>EMP will be updated, if required, in due course of construction activities/progress.</p>
<p>j. Environmental Monitoring Plan (“EMoP”)</p> <p>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 Status Report (PSR) by filling in the Reporting Form of Environmental</p>	<p>Updated Environmental Monitoring Plan with package wise updated cost is reported in Attachment 2-3.</p> <p>Environmental Monitoring Results during the construction phase are reported in Attachment 2-4.</p>

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
<p>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.</p>	
<p>k. Long Term Bird Monitoring</p> <p>MMRDA committed to conduct the long-term monitoring of birds and its habitat in Sewri mud-flats with the assistance of hired bird expert. During the long-term monitoring, MMRDA will share information and receive advices from external experts including the one from NGOs and civil society.</p>	<ul style="list-style-type: none"> • MMRDA has entrusted the work of bird monitoring and implementation of Flamingos and birds related mitigation measures & bird monitoring program to Mangrove and Marine Biodiversity Foundation. • Rs. 31.92 Crore deposited to Mangrove foundation, Mumbai for periodical disbursement to BNHS.

3.4 Qualitative and Quantitative Data of Monitoring Indicators

Operation and Effect Indicator EIRR and/ or FIRR

Supporting data for Computing EIRR and/ or FIRR

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

*1 Section on Sewri – Chirle

*2 Assumptions: average passengers of car and taxi (2.6 persons), bus (37.2 persons) based on JICA study. Number of passengers of LCV, HCV and MAV is assumed as 1 person each.

*3 Assumptions: the maximum capacity of respective vehicle (LCV: 1 ton, HCV and MAV: 15 tons) is used for estimation.

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

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:

<p>Original: (P/M and PCR)</p> <p><u>Monitoring Organization</u></p> <p>PIU shall be In-Charge of Monitoring activities for the Project.</p> <p><u>Submission of QPR and PCR</u></p> <p>The timely submission of the following documents is required by MMRDA.</p> <p>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.</p> <p>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.</p>
<p>Actual: (P/R and PCR)</p> <p>Monitoring Organization</p> <p>PIU for MTHL has been established for monitoring the Project.</p> <p>Submission of QPR and PCR</p> <p>This QPR No. 9 is submitted for a period of April to June 2019.</p>

3.6 Achievement of the Project Objective

(PCR)

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

4.1 O&M and Management

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

Original: (P/M)

Operation & Maintenance, Toll Management and ITS

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

Actual: (PCR)

4.2 O&M Cost and Budget

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

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

5.0 EVALUATION

5.1 JICA and Borrower / Executing Agency performance

JICA:

(PCR)

Borrower/ Executing Agency:

(PCR)

5.2 Overall Evaluation

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

(PCR)

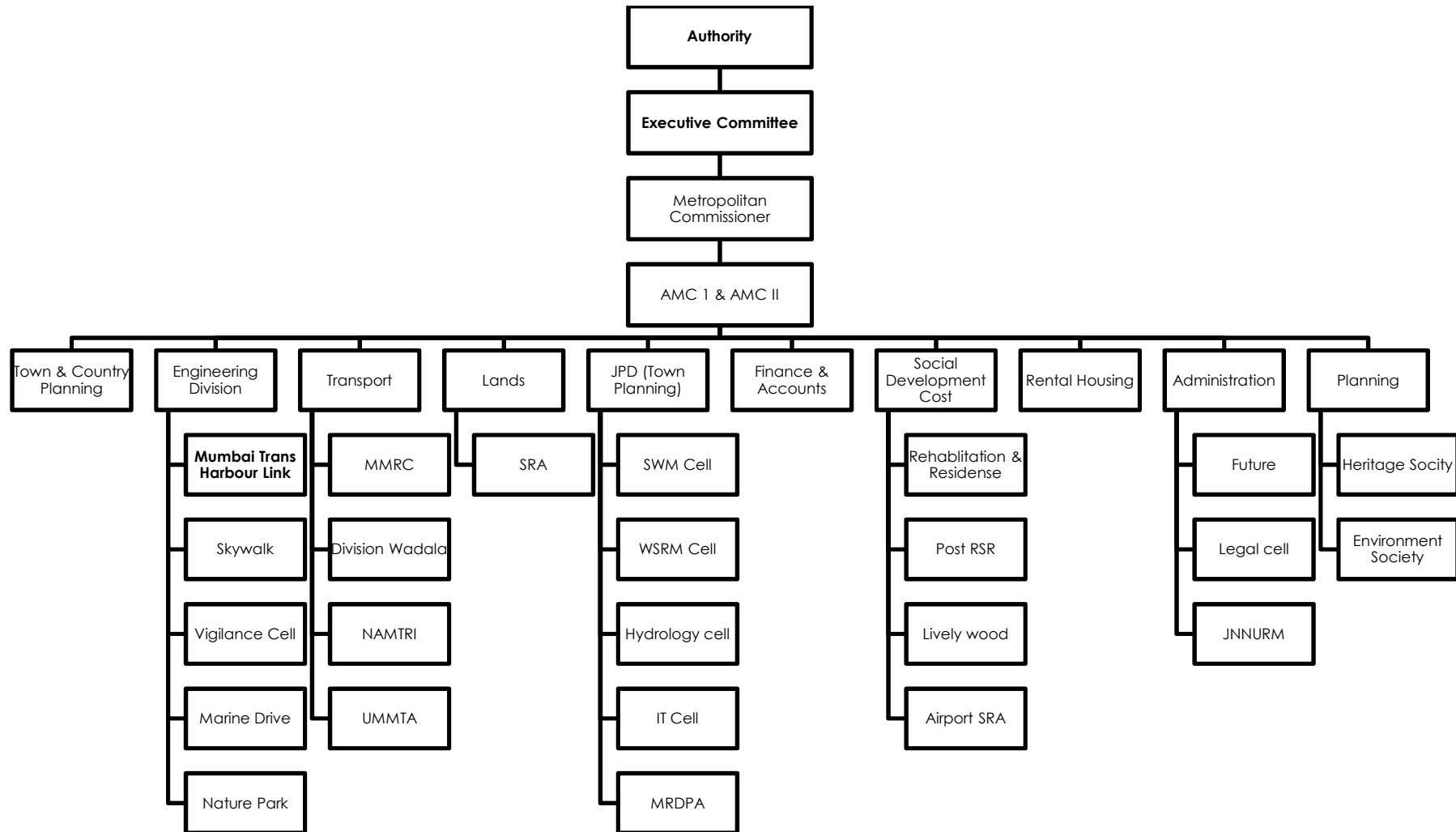
5.3 Lessons Learnt and Recommendations

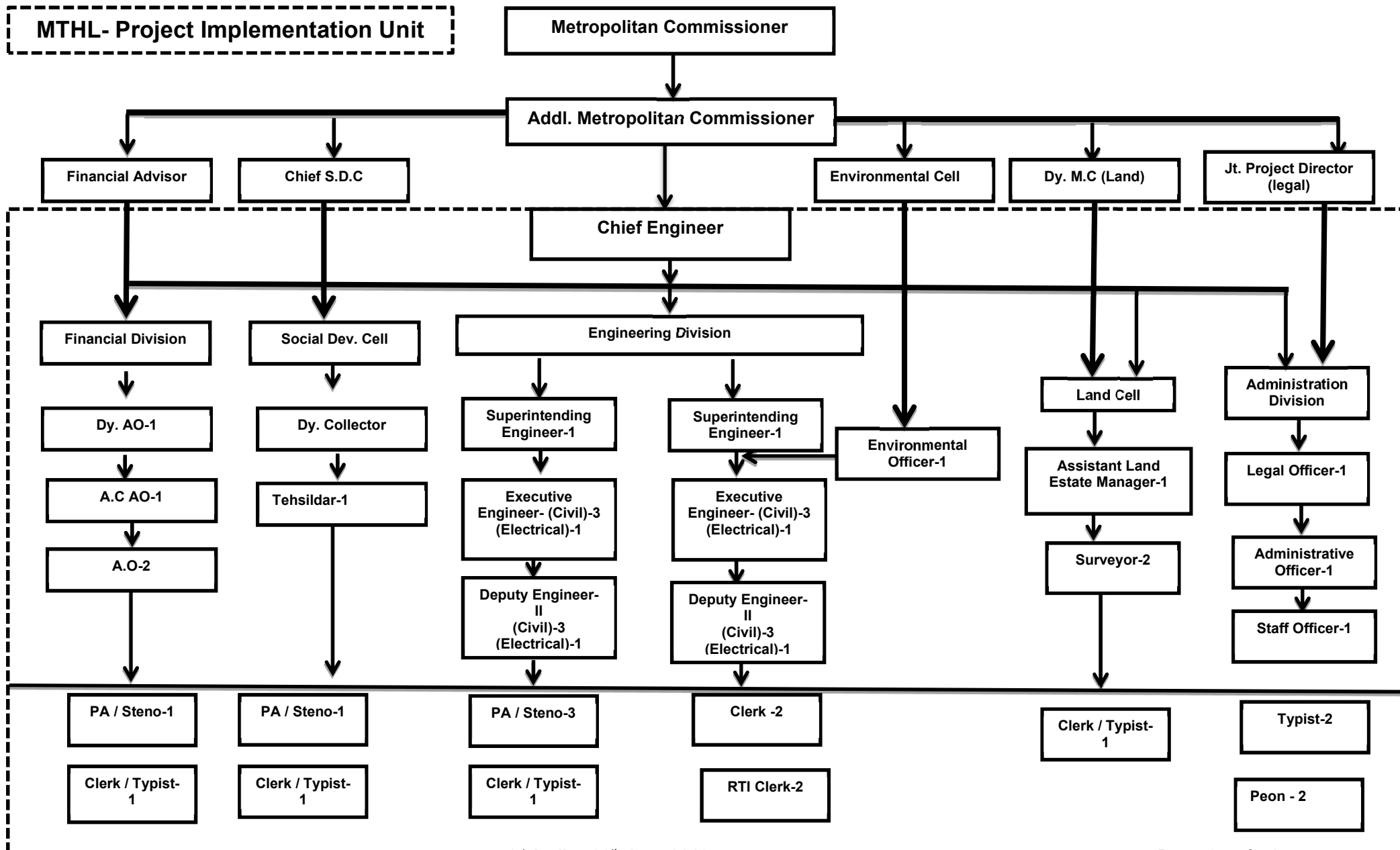
Please raise any lessons learned from the project experience, which might be valuable for the future JICA assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

(PCR)

Attachment 1- MMRDA & PIU Organization Chart

MMRDA Organization chart





Attachment 2- Environmental & Social Impacts Attachments

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

Updated Environmental Monitoring Plan with Packagewise Estimated Cost

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

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

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

Attachment 2-4

Monitoring Period - April to June 2019

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

1. Environmental Monitoring during Construction for 4.5 years

Area	No.	Item	Parameter	Location	Frequency a year	Item and Stanadard	Monitoring Result				Remark - reasons why the data is exceeding standard - counter measures when the data is exceeding							
							Location 1- Pkg 1	Location 2	Location 3- Pkg 3	Location 4								
Pollution	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	1. Sewri & Sewri bay area for package I	Quarterly monitoring ia conducted at all locations.	National Ambient Air Quality Standards (NAAQS) (Standard for 24hrs: Industrial and Residential)	Sewri	Shivaji Nagar	Chirle									
				2. Nhava temporary bridge & casting yard in	4 Times / Year													
				3. Gavhan & Chirle for package III	From march -2019 onwards monitoring is conducted quarterly as per MOEF and CPCB norms								1. SO ₂ : 80µg/m ³	BDL (DL =10)	BDL	23	BDL- Below Detectable Limit	
													2. NO ₂ : 80µg/m ³	13	34	42	PM10 is high due to the ancillary development taking place around the area around Pkg II & III (casting). During this period quarry and cnstruction activities are peek in extent to compare with other month near	
													3. PM ₁₀ : 100µg/m ³	147	140	107		
													4. PM _{2.5} : 60µg/m ³	20	21	53		
			5.CO:02mg/m3	0.88	1.7													
			6.VOCs	1.3	1.5		Benzene is analysed in ambient air											
	2	Water pollution	pH, BOD, DO, Turbidity and O&G	1. Sewri & Sewri bay area for package I	Quarterly	Marine water quality Standards – Class SW-IV Harbour Waters (MPCB)	Zone I	Zone II	Zone III									
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year									1. pH : 6.5-9	7.7	5.9	
				3. Gavhan & Chirle for package III	Not applicable									2. DO: 3 mg/l	5.1	6.9	NOT applicable For MTHL Package-03
														3. Turbidity: 30 NTU	6.2	12.8	
														4. BOD: 5 mg/l	2.9	BDL[DL=2]	
														5. O & G: 10 mg/l	BDL(DL=10)	BDL[DL=10]		
			6.COD	21	16													
	3	Waste	Volume of waste soil, cutting tree and domestic garbage	1. Sewri & Sewri bay area for package I	Daily	Municipal Soild Waste Management Rules, 2013	Sewri Camp Site	16	Chirle Camp Site									
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year									Generated waste soil (t) total	18258 T	Shivaji Nagar Camp Site	Exacavated soil shall be reused either for construction or else covering undulated area with in ROW of MTHL package -03	
				3. Gavhan & Chirle for package III	Once site clearing work/execution part of work start.									Generated cutting treel (ha) total	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting so far NIL	Total 1200 CuM of muck collected in jumbo bags and disposal done on the location allotted by MbPT	Tree cutting proposal has been submitted and approval from competent authority is awaited. Tree Cutting so far NIL. CIDCO need to be award/ premit for further activity.	
														Generated domestic waste (t/month) total	2.5 T/quarter. It is disposed through MCGM daily.		Labor Camp and site municipal waste is collected and disposed through CIDCO at Gavan area from May 2nd week. (4470 Kg/Month)	Labour camp is started at 0 point By the month of June-2019.
														Confirmation of adequate disposal (visualt survey)	Yes	Camp established , site municipal waste is collected and disposed by CIDCO	Yes	
Soil			Heavv Metals & Oil &	1. Sewri & Sewri bay area for package I	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year	Soil Pollution Standard in India (MOEF)	MP12 TAB Sewri, dated 4.4.2019	Yes	N/A									
				2. Nhava temporary bridge & casting yard in									1. Cadmium: 0.01 mg/l	0.02				
				3. Gavhan & Chirle for package III	*If any spillage/ leakage take place from chemical, fuel storage area. *One time grab sample to be collected during Bridge Construction *Pre & Post Monsoon at Storage area only								2. total cyanide : not detected 3. organic phosphorus: not detected				For package-03, Muck is not stalking yet at site, At diesel and other chemical storage area contain only soil. There is no availability of leachate at this stage. Therefore result will be as per CBCP it is complied in mg/Kg.	
													4. lead: 0.01mg/l	0.13				
													5. chromium (VI): 0.05mg/l	BDL				
													6. arsenic: 0.01mg/l or 15mg/kg (agri-land soil)	0.03				
													7. total mercury: 0.005mg/l	BDL				
													8. alkyl mercury: not detected					
													9. PCBs: not detected					

Regarding soil contamination/sedimentation, some items shall be selected from the total 25 standards items during the Detailed Design. Only the selected items shall be reported t

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

Attachment 2-4

Monitoring Period - April to June 2019

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

1. Environmental Monitoring during Construction for 4.5 years

Natural Environment	6	Protected Area	replantation/transplantation area 3. Monitoring of Mangrove Plantation area appointed by MoEF 4. Monitoring of sedimentation soil and ecological parameter (25 items on EIA main text Table 6.1.15 for soil and 7 items such as 1) Net primary productivity, 2) Chlorophyll-a, 3) Phosphate, 4) Nitrate, 5) Nitrite, 6) Particulate Organic Carbon, 7) SiO ₂)			(1) Number of species of mangrove		not required			
						(2) Density of mangrove (xx trees/10m x 10m)		not required			
						1-3: Benthos Survey		not required			
						(1) Number of species and quantity by species	153 Species and 152 No/m ²	not required			
						2-1: Cutting tree confirmation	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting NIL	not required			
						(1) Number of cutting tree and species		not required			920 numbers of trees surveyed and the proposal has been submitted to Forest / CIDCO Department - Pkg III
						3-1: Mangrove survey in the replant area		not required			
						(1) Number of species of mangrove		not required			
						(2) Density of mangrove (xx trees/10m x 10m)		not required			
						4. Ecological Parameter		not required			
						(1) Net primary Productivity : <1,500 mgC/m ³ /day at surface	600				
						(2) Chlorophyll-a: <4mg/m ³	3.3				
						(3) Phosphate: 0.1-90µg/l	15.6				
						(4) Nitrate: 1.0-500µg/l	23				
						(5) Nitrite: <125µg/l					
(6) Particulate Organic Carbon: 10-100mg/m ³											
(7) SiO ₂ : 10-5,000µg/l	92										
7	Hydrology	Flooding situation	Not applicable for Package I	4 Times / Year	Criteria for evaluation Project activities and structures does not cause flooding and impacts on tidal conditions	Sewri					
					Monitoring of flooding situation	No Flooding	Shivaji Nagar				
						No flooding					
8	Topography and Geology	Conditions in embankment area	2 Locations (1. Embankment of Inter Change in Shivaji Nagar and 2 Cutting area at toll gate in Chirle)	4 times / year x 4.5 years	Criteria for evaluation Embankment shall be stabilized without any landslide and cracks	Shivaji Nagar	Chirle	Chirle		Yet to be observed.	
					Monitoring of embankment						
9	Local conflict of interests	Construction worker's township	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	Criteria for evaluation Employment opportunity shall be provided fairly	Sewri Camp Site	Shivaji Nagar Camp Site	Chirle			
					Number of hired workers by community		100-125				
10	Infectious diseases such as HIV/AIDS	Number of infected patient	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	Criteria for evaluation Infection disease rate shall not be caused by the project	Sewri Camp Site	Shivaji Nagar Camp Site				
					Confirmation of health check record and inspect project site	Malaria and Dengue Detection Camp organised for Sub Contractor workers	Health Checks carried out but HIV/AIDS parameter is not there.	Health checks carried out near by tie up hospital @ ulwe. Form 28 and 29 is recorded by site doctor at present. HIV/ AIDS shall be carried out soon.			
11	Labour Environment	Construction worker's cond	2 Locations (major camp site in Sewri and Shivaji Nagar)	2 times / year x 4.5 years	Criteria for evaluation "Building And Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996", "The building and other construction worker's welfare cess Act, 1996" and international standards such as "IFC Performance Standard 2 Labor and Working Conditions"	Sewri Camp Site	Shivaji Nagar Camp Site	Gavan Camp site			
					Site Visual Inspection	All provisions as per BOCW	Conforming with BOCW Act 1996	Conforming with BOCW Act 1996 as per IM -26A checklist			
Other	12	Accident	Number of accidents	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	Criteria for evaluation Any accidents are not caused by construction	Sewri Camp Site	Shivaji Nagar Camp Site	Other area		

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

Attachment 2-4

Monitoring Period - April to June 2019
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This form is prepared for reporting the monitoring results to JICA India Office. Only minimum required parameters are included in this form, and not all parameters in EMoP are covered.

1. Environmental Monitoring during Construction for 4.5 years

○			Nagar)	Number of recorded accident	NIL	Nil	Nil	
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MTHL Land Acquisition Status (Attachment 2-6):

Total land required on Navi Mumbai side- 108.09 ha

Land in possession in MMRDA – 101.99 ha

Balance land acquisition- 6.10 ha

Note: The acquisition of 6.14 ha is in progress by CIDCO. The balance acquisition would be likely completed by the end of August 2019.

Land Required in ha		Land Acquired in ha		Balance Land to be acquired in ha	Anticipated date for Land Acquisition	Payment status (Payment made to Land Owners by CIDCO)	Remarks
Govt.	Private	Govt.	Private	Private*			
98.75	9.34	98.75	3.24	6.10	30/08/2019	--	1. The payment status to the land owners is awaited from CIDCO. The same would be communicated to JICA on receipt of the same.
Total		98.75	3.24	6.10			
108.09							

***Portions of Private Land**

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

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

1. General Information

a. RAP Implementation Monitoring Results:	Progress Status Report (PSR) of 2 nd quarter of 2019
b. Date of Preparing This form	30.06.2019
c. Person Preparing This form	Name: Robin Sham Position: Engineer and Team Leader Department/Organizations: General Consultants

2. Scale of Impact**2.1 Project Affected Households (PAHs) and Project Affected Persons (PAPs) for Sewri side**

Total Project Affected Households (PAHs)	298 Hhs	Titleholders: 0 Hhs Non-titleholders: 298 Hhs
Total PAPs	1,282 persons*	Titleholders: 0 persons Non-titleholders: 1,282 persons*
PAHs who need relocation (as residents)	232 Hhs	Titleholders: 0 persons Non-titleholders: 232 (1,088 persons) *
PAPs who do not need relocation (as residents)	0 persons	Titleholders: 0 persons Non-titleholders: 0 persons
Commercial PAPs who need relocation	66 (194 persons) *	Titleholders: 0 persons Non-titleholders: 53 (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: 66 Residential + Commercial: 1 (counted in Commercial) Community: 9 (Religious Properties 6, Public Toilets 3) Government: 16 (MbPT Structures 9, Occupants of Leased Plots 6 & Police Chowky1) Total: 323
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2.3 Fishery

Categories of Fisher-folks	Identified Number		Total	Remarks
	Mumbai side	Navi Mumbai side		
C1: Fishing stakes and nets in RoW (250 m.)	217 For Trombay, Sewri & Mahul in process of approval	Survey in progress	217	Nil
C2: Fishing Stakes and Nets within 500 m. of RoW (Southern side)	749	126	875	Scrutiny of the balance applications is in progress.
C3: Hand-pickers	416	1273	1689	

C4: Commercial and Artisanal Fisher-folks (Loss of Time and Increased Operating Costs)	Will be observed during construction period	Will be observed during construction period	---	Nil
C5: Fisher-folks with Loss due to Turbidity	Will be observed during construction period	Will be observed during construction period	---	Nil
C6: Fisher-folks with Damages due to Accidents	Will be observed during construction period	Will be observed during construction period	---	Nil

2.4 Land Acquisition / Transfer

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

3. Monitoring Results

3.1 Sewri Section

Activity	Indicator	Total Target	Progress till Last Quarter	Progress during reporting Quarter	Cumulative Progress till Current Quarter	Cumulative Achievement of Total Target (%)	Remarks, If Any
Resettlement	No. of Residential PAHs provided with Allotment Letters of Alternate Tenements	232	141	0	141	32%	
	No. of Residential PAHs given possession of Alternate Tenements	232	77	0	77	0%	
	No. of Commercial/R+C PAPs provided with Allotment Letters of Alternate Shops/Tenements	66	20	0	20	0%	
	No. of Commercial R+C PAPs given possession of Alternate Shops/Tenements	66	1	1	1	0%	

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 Occupants of MbPT Leased Plots provided Compensation	6	3	3	3	0%	
	No. of Religious properties Relocated / Removed	6	0	0	0	0%	Jivdani Mandir allotment letter given
	No. of Other Community properties Relocated / Removed	4	0	0	0	0%	
	No. of Structures in possession of MbPT Dismantled / Cleared	9	0	0	0	0%	
	No. of PAHs/PAPs provided Shifting Charges / Arrangement	298	0	0	0	0%	
Rehabilitation	No. of PAHs / PAPs identified for Livelihood Support in Post Resettlement Assessment						
	No. of PAHs / PAPs provided Livelihood Support under Program-I (to be identified)						
	No. of PAHs / PAPs provided Livelihood Support under Program-II (to be identified)						
	No. of PAHs / PAPs provided Livelihood Support under Program-III (to be identified)						
	No. of new enterprises started						
Grievance Redress	No. of Grievances Received by FLGRC	4					
	No. of Grievances Disposed by FLGRC	0					
	No. of Grievances Received by SLGRC	0					
	No. of Grievances Disposed by SLGRC	0					
Post Resettlement Assistance	No. of CHSs Registration helped						
	No. of CHSs provided Tenements for Social Amenities						
	No. of CHSs' Maintenance Fund Invested						

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 CHSs' Office Bearers provided training						

3.2 Fishery Compensation

Categories of Fisher-folks	Identified Number		Total	Remarks
	Mumbai side	Navi Mumbai side		
C1: Fishing stakes and nets in RoW (250 m.)	217 For Trombay, Sewri & Mahul in process of approval	Survey in progress	217	Nil
C2: Fishing Stakes and Nets within 500 m. of RoW (Southern side)	749	126	875	An amount of about 49 crores has been deposited with the Fisheries Department towards disbursement of compensation to 2564 Nos. of beneficiaries. Further, the Fisheries Department has started disbursing the amount to the individual PAPs on following due procedure. The scrutiny of the balance Nos. of applications of fisherfolk is in the process of scrutiny for deciding their eligibility for the compensation.
C3: Hand-pickers	416	1273	1689	
C4: Commercial and Artisanal Fisher-folks (Loss of Time and Increased Operating Costs)	Will be observed during construction period	Will be observed during construction period	---	Nil
C5: Fisher-folks with Loss due to Turbidity	Will be observed during construction period	Will be observed during construction period	----	Nil
C6: Fisher-folks with Damages due to Accidents	Will be observed during construction period	Will be observed during construction period	----	Nil

List as per C2 & C3 category

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

Note: MMRDA has received 13,112 new applications from Fishing families which are yet to be scrutinized.
 Note: The category of fishermen is as per the Fishermen Compensation Policy

Grievance Redressal Committee (GRC) for Fisher-folk Compensation

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

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

A. Implementation Schedule for Fisher-folks Compensation: -

Sr. No.	Task Designation	Approving authority	Start Date	Completion Date
1	Approval of fisher-folks' compensation Policy	Fisher-folks Compensation Committee (FCC)	08-10-2015	23-12-2015
2	Approval by MMRDA	MMRDA	10-12-2015	23-12-2015
3	Submission to JICA	MMRDA	--	04-01-2016
4	Detailed list of PAP and compensation plan	Detailed list of Fisher-folk PAP & disbursement is finalized by the Fisheries Department.	23-12-2015	<ol style="list-style-type: none"> 1. Total up to date applications scrutinized = 5881 nos 2. Eligible = 2564 nos 3. In-eligible = 06 nos 4. In process of approval = 2043 nos 5. Documents awaited = 1268 nos
5	Validation of compensation plan	Fisher-folks Compensation Committee (FCC)	23-12-2015	<ol style="list-style-type: none"> 1. Approval to the Fisher-folk PAP list obtained from Fisheries Department for Fisherfolk from Sewri, Mahul & Trombay (Mumbai side) – 12th September 2017 and 20th November 2018 for C-2 & C3 Category only.

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

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

Land Required in Ha.		Land Acquired in Ha.		Balance Land to be acquired in Ha	Anticipated date for Land Acquisition	Payment status (Payment made to Landowners by CIDCO)	Remarks
Govt.	Private	Govt.	Private	Private			
98.75	9.34	98.75	3.24	6.10	31/08/2019	--	1. CIDCO is the land acquisition authority for land acquisition for Navi Mumbai 2. MMRDA has paid an amount of INR 59.16 Cr to CIDCO as per their demand. 3. The payment status to the landowners is awaited from CIDCO. The same would be communicated to JICA on receipt of the same.
Total	108.09	101.99		6.10			

Implementation Schedule for SIA (Sewri Section)

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

Attachment 3- JICA's Concurrence Status

Status of JICA'S Concurrence

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

Attachment 4- Project Procurement and Financial Status till 30th June 2019

PROJECT PROCUREMENT AND FINANCIAL STATUS TILL 30th JUNE 2019

Type	Contract	Awarded or Estimated Value (in Rs. Crore)	Current Status	Contractors	Award Date/ As per PIP Mar- 2018	Actual/ Projected Completion as per PIP June-2019	Overall % completion up to June 2019	% of Project Amount Disbursement (including Mobilization Advance & Price Adjustment) till June 2019
CIVIL	Package-1 (CH 0+000 km to CH 10+380 km)	7637.30	Awarded	L&T-IHI Consortium	Nov 2017	Sep 2022	11.9%	21.12%
	Package-2 (CH 10+380 km to CH18+187 km)	5612.61	Awarded	DAEWOO-TPL JV	Nov 2017	Sep 2022	10.47%	20.34%
	Package-3 (CH18+187 to CH21+800)	1013.79	Awarded	L&T	Nov 2017	Sep 2021	6.19%	12.52%
ITS	Package-4 Intelligent Transport System	181.49 (Estimated)	Design Stage	--	Jul 2020 (Estimated)	Sep 2022	Nil	Nil

Attachment 5- Project Progress Photos

Package 1- Site Progress Photos



Photo No. 1: Casting Yard Development in progress



Photo No. 2: 1st Segment Mould Assembly in progress



Photo No. 3: C2P8-C1P34-BP45 Pile Cap Concreting in progress



Photo No. 4: C2P5 Pile Cap and Pier Works in progress



Photo No. 5: Piling Works at MP4 in progress



Photo No. 6: Pile Cap & Pier Works at MP6 in progress



Photo No. 7: Pile Cap & Pier Works at MP7 in progress



Photo No. 8: Pile Cap & Pier works at MP8 in progress



Photo No. 9: Pile Cap Concreting at MP9 in progress



Photo No. 10: Pile Cap Works at MP10 in Progress



Photo No. 11: Pile Cap rebar tying works at MP11 in progress



Photo No. 12: World Environment Day Celebration at the Package-1 Site

Package 2 – Site Progress Photos



Photo No. 1: Pile Concreting at MP 164/01 LHS in progress



Photo No. 2: Pile Cap Bottom formwork mock-up at Belapur jetty location



Photo No. 3: Pile head breaking at MP 162 LHS location in progress



Photo No. 4: Pile Boring at Finger location MP 231 in progress



Photo No. 5: Liner Driving at MP 238/01 RHS location in progress



Photo No. 6: Geotechnical Investigation works at location 172A LHS in progress



Photo No. 7: Pile Reinforcement Cage preparation at Casting Yard in progress



Photo No. 8: Gantry Crane erection works at Bay-3 location in progress



Photo No. 9: Survey Tower erection at Bay-2 in progress



Photo No. 10: Safety Toolbox Talk at Casting Yard

Package 3 – Site Progress Photos



Photo No. 1: Casting of Foundation at location LP 16



Photo No. 2: PCC works at location LP 08 in progress



Photo No. 3: Reinforcement inspection for Foundation at RMP 282 in progress



Photo No. 4: Coal Tar Epoxy coating and Foundation Backfilling at RMP 267



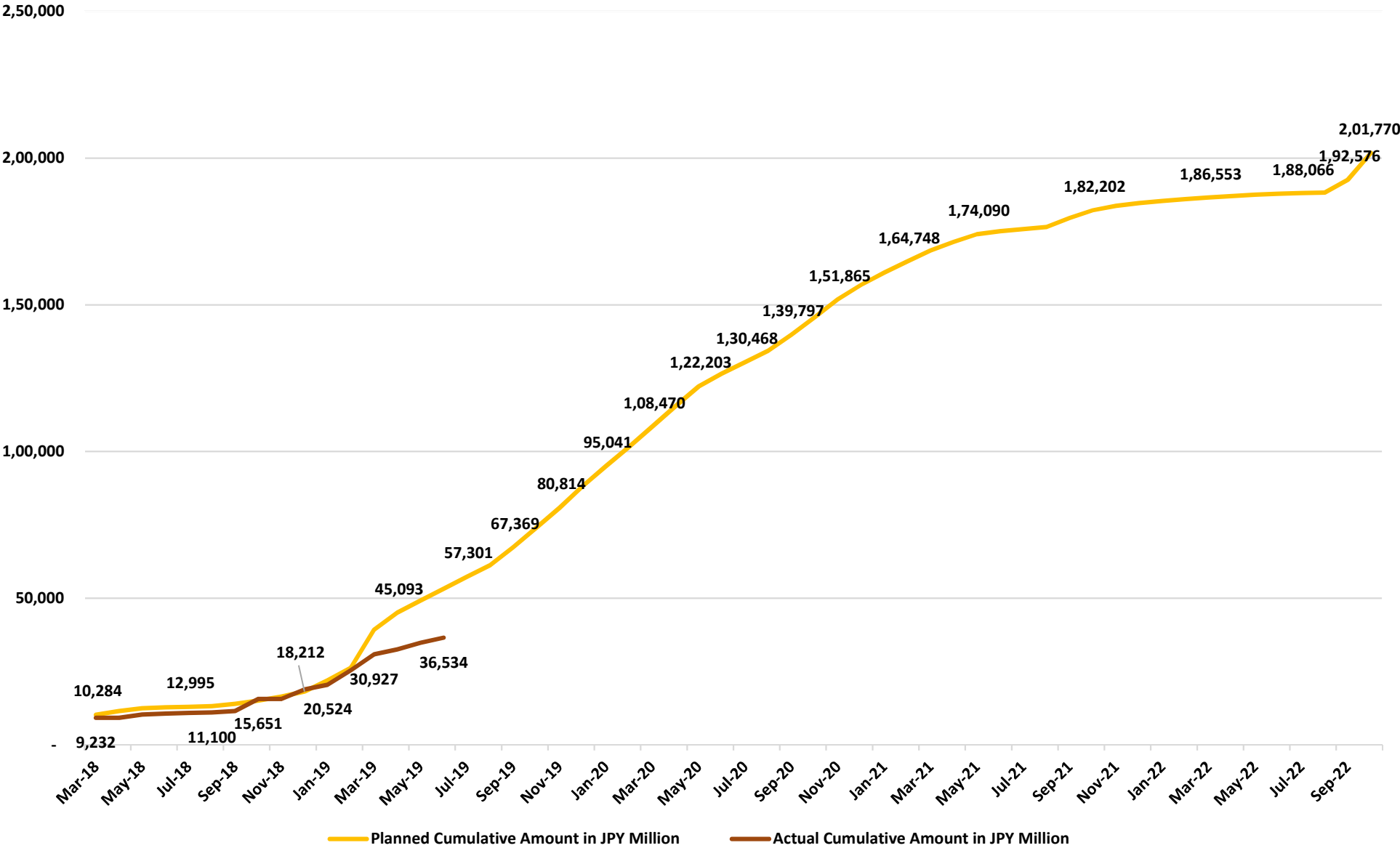
Photo No. 5: Casting Yard Establishment works in progress



Photo No. 6: Commissioning of Concrete Batching plant in progress

Attachment 6- S-Curve for Cumulative Planned Vs Actual Amount in JPY Million

Attachement 6 - S - Curve for Planned Vs Actual Cumulative Amount in JPY Millions



Attachment 7- Package-1's Updated Construction Programme Till 25th June 2019



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



General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	Original Duration	BL1 Start	BL1 Finish	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
MPR15 MTHL - June'19 Month Progress											
	MPR15.1 Mumbai Trans Harbour Link - Package 1	1982	23-Mar-18	22-Sep-22	23-Mar-18 A	17-May-23	19.13%	11.9%	0	-237	-238
M10000	Commencement Date	0	23-Mar-18		23-Mar-18 A		100%	100%	0	0	
	MPR15.1.1 Key Milestones	1515	19-Sep-18	22-Sep-22	15-Feb-19 A	17-May-23	0%	0%	-148	-237	-238
	MPR15.1.2 Contractual Interface	1243	09-Oct-18	05-Mar-22	09-Oct-18 A	05-Mar-22	0%	0%	0	0	200
	MPR15.1.3 Access to Site	165	23-Mar-18	03-Sep-18	23-Mar-18 A	26-Jun-19	0%	0%	0	-295	-168
	MPR15.1.4 Document Submittals	180	23-Mar-18	18-Sep-18	23-Mar-18 A	24-Jul-19	0%	0%	0	-309	-295
	MPR15.1.5 Survey	73	23-Mar-18	03-Jun-18	23-Mar-18 A	03-Jun-18 A	0%	0%	0	0	
	MPR15.1.6 Geotechnical Investigation	374	23-Mar-18	03-Sep-18	23-Mar-18 A	25-Jun-19	0%	0%	0	-294	-265
	MPR15.1.6.1 Phase 1	60	23-Mar-18	21-May-18	23-Mar-18 A	21-May-18 A	0%	0%	0	0	
	MPR15.1.6.2 Phase 2	85	22-May-18	15-Jun-18	22-May-18 A	15-Jun-18 A	0%	0%	0	0	
	MPR15.1.6.3 Phase 3	50	16-Jun-18	04-Aug-18	16-Jun-18 A	30-Dec-18 A	0%	0%	0	-147	
	MPR15.1.6.4 Phase 4	230	21-Jul-18	03-Sep-18	05-Oct-18 A	25-Jun-19	0%	0%	-76	-294	-293
	MPR15.1.7 Infrastructure Facilities	343	23-Mar-18	05-Feb-19	23-Mar-18 A	12-Nov-19	0%	0%	0	-155	718
	MPR15.1.7.1 Project Site Office Construction (Contractor + Employer + GC)	120	04-Apr-18	27-Nov-18	04-Apr-18 A	25-Nov-18 A	0%	0%	0	2	
	MPR15.1.7.2 Casting Yard	319	20-Apr-18	05-Feb-19	20-Apr-18 A	12-Nov-19	0%	0%	0	-155	-46
	MPR15.1.7.3 Fabrication Yard	258	23-Mar-18	30-Nov-18	23-Mar-18 A	26-Apr-19 A	0%	0%	0	-122	
	MPR15.1.7.4 Rebar Yard	314	23-Mar-18	30-Nov-18	23-Mar-18 A	05-Oct-19	0%	0%	0	-181	-102
	MPR15.1.7.5 Batching Plant Installation - CP30 & CP60	164	20-Apr-18	05-Feb-19	08-Sep-18 A	08-Dec-18 A	0%	0%	-47	49	
	MPR15.1.8 Procurement Plan	1771	04-Apr-18	07-Sep-22	04-Apr-18 A	13-Apr-23	0%	0%	0	-218	-204
	MPR15.1.8.1 Plant & Machinery Deployment Plan	1771	04-Apr-18	07-Sep-22	04-Apr-18 A	13-Apr-23	0%	0%	0	-218	-204
	MPR15.1.8.4 Bulk Material Procurement Plan	1434	01-Sep-18	13-Jul-22	31-Aug-18 A	09-Mar-23	0%	0%	0	-239	-240
	MPR15.1.9 Design & Engineering (Civil)	805	23-Mar-18	21-Sep-19	23-Mar-18 A	04-Jun-20	0%	0%	0	-257	-171
	MPR15.1.9.1 Initial Design (General & Preliminary Design, DBR)	79	23-Mar-18	09-Jun-18	23-Mar-18 A	29-Nov-18 A	0%	0%	0	-172	
	MPR15.1.9.2 Finalization of Alignment	88	23-Mar-18	18-Jun-18	23-Mar-18 A	10-Sep-18 A	0%	0%	0	-83	
	MPR15.1.9.3 Detailed Design and Construction Design	805	01-May-18	21-Sep-19	01-May-18 A	04-Jun-20	0%	0%	0	-257	-171
	MPR15.1.10 Design, Engineering & Material Procurement (OSD)	913	23-Mar-18	17-Feb-20	23-Mar-18 A	20-Sep-20	0%	0%	0	-216	24
	MPR15.1.10.1 Initial Design	53	23-Mar-18	14-May-18	23-Mar-18 A	29-Nov-18 A	0%	0%	0	-198	
	MPR15.1.10.3 Aerodynamic Analysis	329	23-Mar-18	14-Aug-18	23-Mar-18 A	05-Jul-19	0%	0%	0	-325	-178
	MPR15.1.10.4 Technical Design	560	15-May-18	21-Mar-19	15-May-18 A	03-Oct-19	0%	0%	0	-196	-196
	MPR15.1.10.5 Construction Design	409	12-Oct-18	20-Sep-19	02-Feb-19 A	23-Apr-20	0%	0%	-113	-216	-129
	MPR15.1.10.6 Material Procurement (1st Lot)	314	02-Mar-19	17-Feb-20	01-Apr-19 A	20-Sep-20	0%	0%	-30	-216	24
	MPR15.1.11 Tree Cutting and Transplantation	591	23-Mar-18	02-Nov-18	23-Mar-18 A	04-Nov-19	0%	0%	0	-366	-290
	MPR15.1.12 Utility Diversion	601	19-Jun-18	14-Jan-19	01-Oct-18 A	14-Nov-19	0%	0%	-104	-303	9
	MPR15.1.13 Construction	1863	11-Jun-18	22-Jun-22	11-Jun-18 A	28-Feb-23	13.63%	3.12%	0	-250	-159
	MPR15.1.13.1 Sewri Interchange Section	1149	03-Nov-18	28-Feb-22	29-Mar-19 A	23-Nov-22	14.48%	1.89%	-146	-267	-62
	MPR15.1.13.1.1 Sewri Interchange - Work Front - 1	1135	03-Nov-18	28-Feb-22	18-May-19 A	15-Nov-22	14.29%	1.32%	-196	-259	-54
	MPR15.1.13.1.1.1 Sewri Interchange - Work Front - 1 - Piling	442	03-Nov-18	15-Dec-20	18-May-19 A	23-Sep-21	38.9%	9.94%	-163	-156	-5
	MPR15.1.13.1.1.1.1 Piling - Land Viaduct	54	13-Apr-19	16-Sep-19	18-Jan-20	23-Mar-20	98.15%	0%	-156	-156	-113
	MPR15.1.13.1.1.1.2 Piling - Ramp A	394	03-Nov-18	17-Oct-20	18-May-19 A	24-Apr-21	34.54%	12.31%	-163	-156	-53
	MPR15.1.13.1.1.1.3 Piling - Ramp E	36	20-Oct-20	01-Dec-20	24-Apr-21	07-Jun-21	0%	0%	-156	-156	-35
	MPR15.1.13.1.1.1.4 Piling - Ramp F	12	02-Dec-20	15-Dec-20	07-Jun-21	23-Sep-21	0%	0%	-156	-156	-5
	MPR15.1.13.1.1.2 Sewri Interchange - Work Front - 1 - Pile Cap	544	19-Nov-18	24-Mar-21	21-Jun-19 A	02-Feb-22	27.76%	0%	-175	-184	-44



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



General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	Original Duration	BL1 Start	BL1 Finish	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1 Start Date	Variance - BL1 Finish Date	Total Float
MPR15.1.13.1.1.2.1	Pile Cap - Land Viaduct	68	25-Apr-19	15-Oct-19	13-Mar-20	02-Jun-20	61.11%	0%	-192	-192	-149
MPR15.1.13.1.1.2.2	Pile Cap - Ramp A	488	19-Nov-18	15-Jan-21	21-Jun-19 A	26-Nov-21	25.81%	0%	-175	-184	-135
MPR15.1.13.1.1.2.3	Pile Cap - Ramp E	36	07-Jan-21	27-Feb-21	26-Nov-21	08-Jan-22	0%	0%	-192	-184	-24
MPR15.1.13.1.1.2.4	Pile Cap - Ramp F	20	01-Mar-21	24-Mar-21	08-Jan-22	02-Feb-22	0%	0%	-184	-184	-95
MPR15.1.13.1.1.3	Sewri Interchange - Work Front - 1 - Pier	580	12-Dec-18	20-May-21	11-Nov-19	09-Apr-22	16.87%	0%	-200	-192	-35
MPR15.1.13.1.1.3.1	Pier - Land Viaduct	52	29-May-19	30-Oct-19	15-Apr-20	18-Sep-20	20.37%	0%	-192	-192	-135
MPR15.1.13.1.1.3.2	Pier - Ramp A	496	12-Dec-18	09-Feb-21	11-Nov-19	29-Dec-21	25.81%	0%	-200	-192	-143
MPR15.1.13.1.1.3.3	Pier - Ramp E	96	27-Jan-21	20-May-21	15-Dec-21	09-Apr-22	0%	0%	-192	-192	-88
MPR15.1.13.1.1.3.4	Pier - Ramp F	83	23-Dec-20	01-Apr-21	03-Nov-21	10-Feb-22	0%	0%	-184	-184	14
MPR15.1.13.1.1.4	Sewri Interchange - Work Front - 1 - Pier Cap	579	05-Jan-19	11-Jun-21	04-Dec-19	02-May-22	13.88%	0%	-200	-192	120
MPR15.1.13.1.1.4.1	Pier Cap - Land Viaduct	49	16-Sep-19	14-Nov-19	04-May-20	02-Oct-20	0%	0%	-192	-192	-135
MPR15.1.13.1.1.4.2	Pier Cap - Ramp A	491	05-Jan-19	26-Feb-21	04-Dec-19	17-Jan-22	23.66%	0%	-200	-192	-143
MPR15.1.13.1.1.4.3	Pier Cap - Ramp E	100	13-Feb-21	11-Jun-21	03-Jan-22	02-May-22	0%	0%	-192	-192	120
MPR15.1.13.1.1.4.4	Pier Cap - Ramp F	86	31-Dec-20	13-Apr-21	11-Nov-21	22-Feb-22	0%	0%	-184	-184	30
MPR15.1.13.1.1.5	Sewri Interchange - Embankment Works - Ramp F	90	14-Apr-21	01-Nov-21	22-Feb-22	08-Jun-22	0%	0%	-184	-184	-35
MPR15.1.13.1.1.6	Sewri Interchange - Work Front - 1 - Super Structure Erection	964	04-May-19	28-Feb-22	26-Mar-20	15-Nov-22	2.24%	0%	-327	-259	-209
MPR15.1.13.1.1.6.1	Erection - Land Viaduct	96	19-Nov-19	11-Mar-20	06-Oct-20	30-Jan-21	0%	0%	-192	-192	-178
MPR15.1.13.1.1.6.2	Erection - Ramp A	484	04-May-19	09-Apr-21	26-Mar-20	28-Feb-22	3.95%	0%	-220	-218	-178
MPR15.1.13.1.1.6.3	Erection - Ramp E	146	10-Apr-21	02-Dec-21	28-Feb-22	19-Aug-22	0%	0%	-218	-218	-178
MPR15.1.13.1.1.6.4	Erection - Ramp F	52	28-Dec-21	28-Feb-22	14-Sep-22	15-Nov-22	0%	0%	-218	-218	-176
MPR15.1.13.1.2	Sewri Interchange - Work Front - 2	1149	03-Nov-18	11-Feb-22	29-Mar-19 A	23-Nov-22	18.4%	3%	-146	-284	-199
MPR15.1.13.1.2.1	Sewri Interchange - Work Front - 2 - Piling	492	03-Nov-18	01-Mar-21	29-Mar-19 A	16-Nov-21	36.08%	17.52%	-121	-138	-92
MPR15.1.13.1.2.1.1	Piling - Ramp C2	264	03-Nov-18	27-Feb-20	29-Mar-19 A	14-Nov-20	64.85%	49.13%	-121	-138	-92
MPR15.1.13.1.2.1.2	Piling - Ramp C1	140	03-Apr-19	18-Dec-19	21-Dec-19	05-Jun-20	44.29%	0%	-142	-142	-92
MPR15.1.13.1.2.1.3	Piling - Ramp B	84	21-Nov-20	01-Mar-21	06-May-21	16-Nov-21	0%	0%	-138	-138	-92
MPR15.1.13.1.2.2	Sewri Interchange - Work Front - 2 - Pile Cap	510	19-Nov-18	29-Apr-21	05-May-19 A	14-Jan-22	23.98%	3.36%	-140	-138	-76
MPR15.1.13.1.2.2.1	Pile Cap - Ramp C2	320	19-Nov-18	24-Apr-20	05-May-19 A	27-Feb-21	57.46%	15.19%	-140	-178	-90
MPR15.1.13.1.2.2.2	Pile Cap - Ramp C1	160	12-Apr-19	04-Feb-20	12-Feb-20	24-Nov-20	28%	0%	-178	-166	-80
MPR15.1.13.1.2.2.3	Pile Cap - Ramp B	131	25-Nov-20	29-Apr-21	10-May-21	14-Jan-22	0%	0%	-138	-138	-76
MPR15.1.13.1.2.3	Sewri Interchange - Work Front - 2 - Pier	528	12-Dec-18	21-May-21	09-Nov-19	05-Feb-22	21.96%	0%	-199	-138	45
MPR15.1.13.1.2.3.1	Pier - Ramp C2	332	12-Dec-18	09-May-20	09-Nov-19	15-Mar-21	58.09%	0%	-199	-178	-90
MPR15.1.13.1.2.3.2	Pier - Ramp C1	185	01-Apr-19	18-Feb-20	28-Jan-20	08-Dec-20	31.21%	0%	-175	-166	-64
MPR15.1.13.1.2.3.3	Pier - Ramp B	216	25-Apr-20	21-May-21	18-Feb-21	05-Feb-22	0%	0%	-170	-138	45
MPR15.1.13.1.2.4	Sewri Interchange - Work Front - 2 - Pier Cap	816	26-Dec-18	28-May-21	23-Nov-19	16-Feb-22	16.25%	0%	-332	-263	51
MPR15.1.13.1.2.4.1	Pier Cap - Ramp C2	335	26-Dec-18	27-May-20	23-Nov-19	01-Apr-21	57.93%	0%	-199	-178	-90
MPR15.1.13.1.2.4.2	Pier Cap - Ramp C1	189	18-Apr-19	12-Mar-20	14-Feb-20	30-Dec-20	16.79%	0%	-175	-166	-68
MPR15.1.13.1.2.4.3	Pier Cap - Ramp B	338	19-May-20	28-May-21	15-Mar-21	16-Feb-22	0%	0%	-300	-263	51
MPR15.1.13.1.2.5	Sewri Interchange - Embankment Works - Ramp C2	60	23-May-19	02-Nov-19	10-Mar-20	20-May-20	0%	0%	-166	-166	390
MPR15.1.13.1.2.6	Sewri Interchange - Work Front - 2 - Super Structure erection	998	18-Mar-19	11-Feb-22	29-Feb-20	23-Nov-22	9.47%	0%	-348	-284	-199
MPR15.1.13.1.2.6.1	Erection - Ramp C2	597	18-Mar-19	02-Nov-20	29-Feb-20	18-Oct-21	49.58%	0%	-348	-349	-262
MPR15.1.13.1.2.6.2	Erection - Ramp C1	194	08-Oct-19	26-May-20	19-Sep-20	11-May-21	0%	0%	-239	-239	-167
MPR15.1.13.1.2.6.3	Erection - Ramp B	316	28-Nov-20	11-Feb-22	12-Nov-21	23-Nov-22	0%	0%	-239	-239	-167
MPR15.1.13.1.3	Sewri Interchange - Work Front - 3 (Cast in situ Spans)	431	28-Feb-20	01-Feb-22	14-Nov-20	14-Jul-22	0%	0%	-138	-138	-42



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MPR15.1.13.1.3.1	Sewri Interchange - Work Front - 3 - Piling	144	28-Feb-20	20-Nov-20	14-Nov-20	06-May-21	0%	0%	-138	-138	-92
MPR15.1.13.1.3.1.1	Piling - Ramp B	54	28-Feb-20	02-May-20	14-Nov-20	18-Jan-21	0%	0%	-138	-138	-92
MPR15.1.13.1.3.1.2	Piling - Ramp E	54	04-May-20	07-Oct-20	18-Jan-21	24-Mar-21	0%	0%	-138	-138	-92
MPR15.1.13.1.3.1.3	Piling - Ramp C1	36	08-Oct-20	20-Nov-20	24-Mar-21	06-May-21	0%	0%	-138	-138	-92
MPR15.1.13.1.3.2	Sewri Interchange - Work Front - 3 - Pile Cap	159	07-Mar-20	15-Dec-20	21-Nov-20	31-May-21	0%	0%	-138	-138	73
MPR15.1.13.1.3.2.1	Pile Cap - Ramp B	81	07-Mar-20	10-Jun-20	21-Nov-20	26-Feb-21	0%	0%	-138	-138	31
MPR15.1.13.1.3.2.2	Pile Cap - Ramp E	81	11-May-20	17-Nov-20	25-Jan-21	03-May-21	0%	0%	-138	-138	97
MPR15.1.13.1.3.2.3	Pile Cap - Ramp C1	45	23-Oct-20	15-Dec-20	07-Apr-21	31-May-21	0%	0%	-138	-138	62
MPR15.1.13.1.3.3	Sewri Interchange - Work Front - 3 - Pier	216	18-Mar-20	05-Mar-21	02-Dec-20	19-Nov-21	0%	0%	-138	-138	22
MPR15.1.13.1.3.3.1	Pier - Ramp B	135	18-Mar-20	27-Nov-20	02-Dec-20	13-May-21	0%	0%	-138	-138	-17
MPR15.1.13.1.3.3.2	Pier - Ramp E	135	21-May-20	01-Feb-21	05-Feb-21	18-Oct-21	0%	0%	-138	-138	49
MPR15.1.13.1.3.3.3	Pier - Ramp C1	90	18-Nov-20	05-Mar-21	03-May-21	19-Nov-21	0%	0%	-138	-138	11
MPR15.1.13.1.3.4	Sewri Interchange - Work Front - 3 - Pier Cap	196	24-Apr-20	19-Mar-21	09-Jan-21	03-Dec-21	0%	0%	-138	-138	22
MPR15.1.13.1.3.4.1	Pier Cap - Ramp B	115	24-Apr-20	11-Dec-20	09-Jan-21	27-May-21	0%	0%	-138	-138	-17
MPR15.1.13.1.3.4.2	Pier Cap - Ramp E	132	08-Jun-20	15-Feb-21	23-Feb-21	02-Nov-21	0%	0%	-138	-138	49
MPR15.1.13.1.3.4.3	Pier Cap - Ramp C1	77	17-Dec-20	19-Mar-21	01-Jun-21	03-Dec-21	0%	0%	-138	-138	11
MPR15.1.13.1.3.5	Sewri Interchange - Work Front - 3 - Super Structure	360	23-May-20	01-Feb-22	08-Feb-21	14-Jul-22	0%	0%	-138	-138	-42
MPR15.1.13.1.3.5.1	Super Structure - Ramp B	132	23-May-20	30-Jan-21	08-Feb-21	16-Oct-21	0%	0%	-138	-138	-28
MPR15.1.13.1.3.5.2	Super Structure - Ramp E	132	16-Jan-21	24-Sep-21	02-Oct-21	10-Mar-22	0%	0%	-138	-138	-28
MPR15.1.13.1.3.5.3	Super Structure - Ramp C1	120	09-Jun-21	01-Feb-22	23-Feb-22	14-Jul-22	0%	0%	-138	-138	-42
MPR15.1.13.2	Intertidal Section	1572	11-Jun-18	23-Oct-21	11-Jun-18 A	13-May-22	20.01%	8.11%	0	-201	-169
MPR15.1.13.2.1	Intertidal - Temporary Access Bridge Work	459	11-Jun-18	26-Sep-20	11-Jun-18 A	16-Sep-20	0%	0%	0	8	171
MPR15.1.13.2.1.1	Access Bridge	449	11-Jun-18	12-Jun-20	11-Jun-18 A	03-Jun-20	0%	0%	0	8	171
MPR15.1.13.2.1.1.1	Access Bridge - Piling	379	11-Jun-18	05-Jun-20	11-Jun-18 A	27-Jan-20	0%	0%	0	110	278
MPR15.1.13.2.1.1.2	Access Bridge - Decking	449	06-Oct-18	12-Jun-20	14-Jul-18 A	03-Jun-20	0%	0%	16	8	171
MPR15.1.13.2.1.2	Fingers	459	13-Oct-18	26-Sep-20	26-Sep-18 A	16-Sep-20	0%	0%	16	8	171
MPR15.1.13.2.1.2.1	Fingers - Piling	455	13-Oct-18	22-Sep-20	26-Sep-18 A	10-Jun-20	0%	0%	16	8	171
MPR15.1.13.2.1.2.2	Fingers - Decking	459	01-Nov-18	26-Sep-20	06-Oct-18 A	16-Sep-20	0%	0%	22	8	171
MPR15.1.13.2.2	Intertidal - Main Bridge Work	1572	14-Dec-18	23-Oct-21	14-Nov-18 A	13-May-22	20.01%	8.11%	30	-201	-169
MPR15.1.13.2.2.1	Intertidal - Main Bridge Work - Piling	1250	14-Dec-18	16-Mar-21	14-Nov-18 A	24-Jun-21	39.83%	22.37%	30	-100	-61
MPR15.1.13.2.2.2	Intertidal - Main Bridge Work - Pile Cap	562	29-Dec-18	06-Apr-21	17-Jan-19 A	01-Dec-21	23.73%	10.18%	-15	-121	-92
MPR15.1.13.2.2.3	Intertidal - Main Bridge Work - Pier	545	17-Jan-19	25-May-21	29-Mar-19 A	04-Jan-22	20.62%	3.54%	-59	-108	-81
MPR15.1.13.2.2.4	Intertidal - Main Bridge Work - Pier Cap	553	30-Jan-19	05-Jun-21	19-Sep-19	15-Jan-22	15.75%	0%	-117	-108	-81
MPR15.1.13.2.2.5	Intertidal - Main Bridge Work - Super Structure Erection	599	18-Apr-19	23-Oct-21	22-Nov-19	13-May-22	0%	0%	-104	-169	-142
MPR15.1.13.2.3	Intertidal - Finger Removal & Reuse	396	07-Mar-19	29-Dec-20	07-Oct-19	26-Apr-21	0%	0%	-102	-98	-13
MPR15.1.13.3	Marine Section	1484	18-Sep-18	17-Jun-22	14-Dec-18 A	06-Jan-23	14.97%	3.98%	-87	-202	-177
MPR15.1.13.3.1	Temporary Access Bridge Work -2 (MP70 to MP51- 21 Spans)	854	18-Sep-18	17-Jun-22	16-Sep-19	06-Jan-23	0%	0%	-226	-169	-148
MPR15.1.13.3.1.1	Loadout Berth -30 M x 6 M at MP 70	30	18-Sep-18	23-Oct-18	16-Sep-19	22-Oct-19	0%	0%	-226	-226	-115
MPR15.1.13.3.1.2	Temporary Access Bridge (MP70 to MP51)	181	24-Oct-18	28-May-19	23-Oct-19	25-May-20	0%	0%	-226	-226	-8
MPR15.1.13.3.1.3	Removal of Temporary Access Bridge	90	05-Mar-22	17-Jun-22	22-Sep-22	06-Jan-23	0%	0%	-169	-169	-148
MPR15.1.13.3.2	Marine - Main Bridge	1368	03-Nov-18	23-Feb-22	14-Dec-18 A	12-Sep-22	14.97%	3.98%	-41	-200	-174
MPR15.1.13.3.2.1	Marine - Piling	639	03-Nov-18	15-Mar-21	14-Dec-18 A	25-Oct-21	27.21%	11.64%	-34	-109	10
MPR15.1.13.3.2.3	Marine - Pile Cap	539	23-Nov-18	12-Apr-21	14-Jan-19 A	15-Jan-22	17.98%	3.23%	-43	-155	-39



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MPR15.1.13.3.2.4	Marine - Pier	868	22-Dec-18	02-Jun-21	06-Nov-19	22-Mar-22	13.22%	0%	-319	-293	-97
MPR15.1.13.3.2.2	Marine - Pier Cap	850	21-Jan-19	14-Jun-21	05-Dec-19	02-Apr-22	10.79%	0%	-318	-292	-50
MPR15.1.13.3.2.5	Marine - Super Structure Erection	641	19-Apr-19	23-Feb-22	03-Feb-20	12-Sep-22	0%	0%	-164	-169	-148
MPR15.1.13.4	Precast Segments	759	06-Feb-19	21-Aug-21	04-Nov-19	28-Apr-22	12.25%	0%	-227	-208	122
MPR15.1.13.4.1	Precast Segement - Sewri Interchange	693	06-Feb-19	24-May-21	12-Nov-19	16-Feb-22	16.32%	0%	-232	-224	183
MPR15.1.13.4.2	Precast Segement - Intertidal	753	28-Feb-19	14-Aug-21	04-Nov-19	21-Apr-22	12.96%	0%	-208	-208	-145
MPR15.1.13.4.3	Precast Segement - Marine	759	28-Feb-19	21-Aug-21	04-Nov-19	28-Apr-22	10.24%	0%	-208	-208	122
MPR15.1.13.5	Orthotropic Steel Deck (OSD) - Fabrication, Shipping, Assembly & Erection -	918	11-Jun-19	15-Mar-22	04-Jun-20	08-Dec-22	0%	0%	-359	-268	-78
MPR15.1.13.5.1	OSD - Fabrication	758	28-Sep-19	12-Oct-21	15-Jun-20	12-Jul-22	0%	0%	-261	-273	-215
MPR15.1.13.5.1.1	Fabrication - Factory A	720	28-Sep-19	16-Sep-21	15-Jun-20	04-Jun-22	0%	0%	-261	-261	-238
MPR15.1.13.5.1.1.1	OSD 01 - RHS Fabrication - MP50 to MP53 (320m)	330	28-Sep-19	22-Aug-20	15-Jun-20	10-May-21	0%	0%	-261	-261	-110
MPR15.1.13.5.1.1.2	OSD 03 - RHS Fabrication - MP75 to MP81 (770m)	450	26-Jan-20	19-Apr-21	13-Oct-20	05-Jan-22	0%	0%	-261	-261	-156
MPR15.1.13.5.1.1.3	OSD 04 - RHS Fabrication - MP124 to MP128 (560m)	360	22-Sep-20	16-Sep-21	10-Jun-21	04-Jun-22	0%	0%	-261	-261	-238
MPR15.1.13.5.1.2	Fabrication - Factory B	720	28-Sep-19	16-Sep-21	15-Jun-20	04-Jun-22	0%	0%	-261	-261	-197
MPR15.1.13.5.1.2.1	OSD 01 - LHS Fabrication - MP50 to MP53 (320m)	330	28-Sep-19	22-Aug-20	15-Jun-20	10-May-21	0%	0%	-261	-261	-131
MPR15.1.13.5.1.2.2	OSD 02 - RHS Fabrication - MP69 to MP75 (683m)	450	26-Jan-20	19-Apr-21	13-Oct-20	05-Jan-22	0%	0%	-261	-261	-180
MPR15.1.13.5.1.2.3	OSD 04 - LHS Fabrication - MP124 to MP128 (560m)	360	22-Sep-20	16-Sep-21	10-Jun-21	04-Jun-22	0%	0%	-261	-261	-197
MPR15.1.13.5.1.3	Fabrication - Factory C	660	23-Dec-19	12-Oct-21	21-Sep-20	12-Jul-22	0%	0%	-273	-273	-215
MPR15.1.13.5.1.3.1	OSD 02 - LHS Fabrication - MP69 to MP75 (683m)	420	23-Dec-19	14-Feb-21	21-Sep-20	14-Nov-21	0%	0%	-273	-273	-138
MPR15.1.13.5.1.3.2	OSD 03 - LHS Fabrication - MP75 to MP81 (770m)	420	19-Aug-20	12-Oct-21	19-May-21	12-Jul-22	0%	0%	-273	-273	-215
MPR15.1.13.5.2	OSD - Shipping	548	24-Jun-20	11-Dec-21	12-Mar-21	10-Sep-22	0%	0%	-261	-273	-96
MPR15.1.13.5.2.1	Shipping - Factory A	510	24-Jun-20	15-Nov-21	12-Mar-21	03-Aug-22	0%	0%	-261	-261	-58
MPR15.1.13.5.2.1.1	OSD 01 - RHS Shipping - MP50 to MP53 (320m)	120	24-Jun-20	21-Oct-20	12-Mar-21	09-Jul-21	0%	0%	-261	-261	-110
MPR15.1.13.5.2.1.2	OSD 03 - RHS Shipping - MP75 to MP81 (770m)	240	22-Oct-20	18-Jun-21	10-Jul-21	06-Mar-22	0%	0%	-261	-261	-100
MPR15.1.13.5.2.1.3	OSD 04 - RHS Shipping - MP124 to MP128 (560m)	180	20-May-21	15-Nov-21	05-Feb-22	03-Aug-22	0%	0%	-261	-261	-58
MPR15.1.13.5.2.2	Shipping - Factory B	510	24-Jun-20	15-Nov-21	12-Mar-21	03-Aug-22	0%	0%	-261	-261	-197
MPR15.1.13.5.2.2.1	OSD 01 - LHS Shipping - MP50 to MP53 (320m)	120	24-Jun-20	21-Oct-20	12-Mar-21	09-Jul-21	0%	0%	-261	-261	57
MPR15.1.13.5.2.2.2	OSD 02 - RHS Shipping - MP69 to MP75 (683m)	240	21-Nov-20	18-Jul-21	09-Aug-21	05-Apr-22	0%	0%	-261	-261	-210
MPR15.1.13.5.2.2.3	OSD 04 - LHS Shipping - MP124 to MP128 (560m)	180	20-May-21	15-Nov-21	05-Feb-22	03-Aug-22	0%	0%	-261	-261	-197
MPR15.1.13.5.2.3	Shipping - Factory C	450	18-Sep-20	11-Dec-21	18-Jun-21	10-Sep-22	0%	0%	-273	-273	-191
MPR15.1.13.5.2.3.1	OSD 02 - LHS Shipping - MP69 to MP75 (683m)	210	18-Sep-20	15-Apr-21	18-Jun-21	13-Jan-22	0%	0%	-273	-273	-109
MPR15.1.13.5.2.3.2	OSD 03 - LHS Shipping - MP75 to MP81 (770m)	210	16-May-21	11-Dec-21	13-Feb-22	10-Sep-22	0%	0%	-273	-273	-191
MPR15.1.13.5.3	OSD - Custom Clearance and Inland Transport (Last Module)	494	07-Sep-20	01-Jan-22	26-May-21	01-Oct-22	0%	0%	-261	-273	-96
MPR15.1.13.5.3.1	OSD 1 - MP50 to MP53 (320m)	75	07-Sep-20	20-Nov-20	26-May-21	08-Aug-21	0%	0%	-261	-261	57
MPR15.1.13.5.3.2	OSD 2 - MP69 to MP75 (683m)	262	17-Nov-20	17-Aug-21	17-Aug-21	05-May-22	0%	0%	-273	-261	-191
MPR15.1.13.5.3.3	OSD 3 - MP75 to MP81 (770m)	389	21-Dec-20	01-Jan-22	08-Sep-21	01-Oct-22	0%	0%	-261	-273	-191
MPR15.1.13.5.3.4	OSD 4 - MP124 to MP128 (560m)	141	19-Jul-21	06-Dec-21	06-Apr-22	24-Aug-22	0%	0%	-261	-261	-58
MPR15.1.13.5.4	OSD - Assembly	428	07-Oct-20	16-Feb-22	16-Sep-21	17-Nov-22	0%	0%	-344	-274	-84
MPR15.1.13.5.4.1	OSD 1 - MP50 to MP53 (320m)	43	07-Oct-20	11-Jan-21	16-Sep-21	06-Nov-21	0%	0%	-209	-172	15
MPR15.1.13.5.4.2	OSD 2 - MP69 to MP75 (683m)	241	17-Dec-20	13-Oct-21	16-Sep-21	29-Jun-22	0%	0%	-229	-218	-148
MPR15.1.13.5.4.3	OSD 3 - MP75 to MP81 (770m)	339	20-Jan-21	16-Feb-22	08-Oct-21	17-Nov-22	0%	0%	-219	-229	-181
MPR15.1.13.5.4.4	OSD 4 - MP124 to MP128 (560m)	144	18-Aug-21	04-Feb-22	06-May-22	25-Oct-22	0%	0%	-218	-220	-49
MPR15.1.13.5.5	OSD - Erection	611	11-Jun-19	15-Mar-22	04-Jun-20	08-Dec-22	0%	0%	-223	-226	-66



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MPR15.1.13.5.5.1	OSD 1 - MP50 to MP53 (320m)	137	21-May-20	26-Feb-21	18-May-21	29-Jan-22	0%	0%	-223	-203	-34
MPR15.1.13.5.5.2	OSD 2 - MP69 to MP75 (683m)	497	11-Jun-19	24-Dec-21	04-Jun-20	23-Jul-22	0%	0%	-223	-178	-128
MPR15.1.13.5.5.3	OSD 3 - MP75 to MP81 (770m)	388	07-Jan-21	10-Mar-22	01-Jun-21	08-Dec-22	0%	0%	-122	-230	-182
MPR15.1.13.5.5.4	OSD 4 - MP124 to MP128 (560m)	288	05-May-21	15-Mar-22	23-Dec-21	01-Dec-22	0%	0%	-117	-220	-60
MPR15.1.13.6	Post Erection Segmental Stitch Concrete (incl. Bearing Installation and Prestres	658	24-Apr-19	10-Mar-22	01-Apr-20	01-Dec-22	0%	0%	-209	-223	-59
MPR15.1.13.6.1	Stitch Concrete - Sewri Interchange	652	24-Apr-19	10-Mar-22	08-Apr-20	01-Dec-22	0%	0%	-215	-223	-59
MPR15.1.13.6.2	Stitch Concrete - Intertidal	519	29-Nov-19	22-Dec-21	01-Apr-20	17-Jun-22	0%	0%	-104	-148	-142
MPR15.1.13.6.3	Stitch Concrete - Marine	568	21-Oct-19	26-Feb-22	04-May-20	16-Sep-22	0%	0%	-164	-169	4
MPR15.1.13.7	Crash Barrier Works	652	05-Oct-19	11-Mar-22	18-Apr-20	12-Dec-22	0%	0%	-164	-231	-68
MPR15.1.13.7.1	Crash Barrier - Sewri Interchange	601	05-Oct-19	11-Mar-22	21-Sep-20	12-Dec-22	0%	0%	-215	-231	-68
MPR15.1.13.7.2	Crash Barrier - Intertidal	514	17-Dec-19	04-Jan-22	18-Apr-20	29-Jun-22	0%	0%	-104	-148	38
MPR15.1.13.7.3	Crash Barrier - Marine	546	26-Nov-19	09-Mar-22	08-Jun-20	27-Sep-22	0%	0%	-164	-169	-8
MPR15.1.13.7.4	Crash Barrier - Orthotropic Steel Deck	313	23-Dec-20	10-Mar-22	02-Dec-21	09-Dec-22	0%	0%	-209	-231	-72
MPR15.1.13.8	Bridge Deck (Superstructure) Water Proofing	647	15-Oct-19	16-Mar-22	30-Apr-20	17-Dec-22	0%	0%	-166	-232	-73
MPR15.1.13.8.1	Water Proofing - Sewri Interchange	598	15-Oct-19	14-Mar-22	30-Sep-20	17-Dec-22	0%	0%	-215	-234	-73
MPR15.1.13.8.2	Water Proofing - Intertidal	509	28-Dec-19	10-Jan-22	30-Apr-20	05-Jul-22	0%	0%	-104	-148	65
MPR15.1.13.8.3	Water Proofing - Marine	531	18-Dec-19	14-Mar-22	02-Oct-20	01-Oct-22	0%	0%	-164	-169	-8
MPR15.1.13.8.4	Water Proofing - Orthotropic Steel Deck	303	11-Jan-21	16-Mar-22	20-Dec-21	15-Dec-22	0%	0%	-209	-231	-72
MPR15.1.13.9	Stone Mastic Asphalt Pavement	202	23-Dec-21	22-Mar-22	27-Apr-22	23-Dec-22	0%	0%	-104	-232	-134
MPR15.1.13.9.1	Sewri Interchange	111	27-Dec-21	21-Mar-22	11-Aug-22	23-Dec-22	0%	0%	-192	-233	-134
MPR15.1.13.9.2	Main Bridge	200	23-Dec-21	22-Mar-22	27-Apr-22	20-Dec-22	0%	0%	-104	-230	-190
MPR15.1.13.10	Bridge Ancillaries and Misc. Works	680	31-Jan-20	22-Jun-22	03-Jun-20	28-Feb-23	0%	0%	-104	-209	-134
MPR15.1.13.10.1	Bridge Ancillaries	680	31-Jan-20	22-Jun-22	03-Jun-20	28-Feb-23	0%	0%	-104	-209	-134
MPR15.1.13.10.1.1	Noise Barrier, View Barrier and Safety Fence	636	31-Jan-20	26-May-22	03-Jun-20	06-Jan-23	0%	0%	-104	-188	-90
MPR15.1.13.10.1.1.1	Noise Barrier	611	31-Jan-20	19-May-22	03-Jun-20	08-Dec-22	0%	0%	-104	-169	-65
MPR15.1.13.10.1.1.2	View Barrier	440	13-Oct-20	26-May-22	28-Apr-21	06-Jan-23	0%	0%	-164	-188	-178
MPR15.1.13.10.1.1.3	Safety Fence	185	27-Oct-21	28-Feb-22	12-Apr-22	17-Nov-22	0%	0%	-140	-220	-136
MPR15.1.13.10.1.2	Traffic Signages and Marking	94	17-Mar-22	22-Jun-22	09-Nov-22	28-Feb-23	0%	0%	-199	-209	-134
MPR15.1.15	Handing Over	148	31-Mar-22	22-Sep-22	23-Nov-22	17-May-23	0%	0%	-199	-199	-200
MPR15.1.15.1	Testing and Handing Over	120	31-Mar-22	18-Aug-22	23-Nov-22	13-Apr-23	0%	0%	-199	-199	-200
MPR15.1.15.2	Final Handing Over	28	19-Aug-22	22-Sep-22	14-Apr-23	17-May-23	0%	0%	-199	-199	-200
MPR15.1.14	Invoice Schedule (Shows the Invoice items which are not covered in the above Cons	1907	23-Mar-18	22-Sep-22	23-Mar-18 A	17-May-23	23.37%	18.66%	0	-237	-238

Attachment 8- Package-2's Updated Construction Programme Till 25th June 2019

#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete	Gantt Chart (2018-2022)											
										2018	2019	2020	2021	2022							
59	MAIN WORK SUBCONTRACT WORK		623	23-Mar-18	20-Jul-19	23-Mar-18		0%	0%	18-Mar-20, MAIN WORK SUBCONTRACT WORK											
60	EQUIPMENTS		832	23-Mar-18	12-Sep-19	23-Mar-18		100%	100%	01-Jul-20, EQUIPMENTS											
61	BATCHING PLANT		437	23-Mar-18	31-Jul-18	23-Mar-18	23-Mar-19	0%	0%	23-Mar-19A, BATCHING PLANT											
62	RCD MACHINE		543	23-Mar-18	11-Nov-18	23-Mar-18		0%	0%	16-Sep-19, RCD MACHINE											
63	GANTRY CRANE		609	23-Mar-18	08-Feb-19	23-Mar-18		100%	100%	21-Nov-19, GANTRY CRANE											
64	SEGMENT LAUNCHER		708	24-Jul-18	12-Sep-19	24-Jul-18		0%	0%	01-Jul-20, SEGMENT LAUNCHER											
65	PRECAST MOULD AND SYSTEM FORM		539	07-Aug-18	24-Mar-19	04-Sep-18		100%	0%	27-Jan-20, PRECAST MOULD AND SYSTEM FORM											
66	PRECAST MOULD_CASTING BED		217	20-Aug-18	24-Mar-19			100%	0%	27-Jan-20, PRECAST MOULD_CASTING BED											
67	SYSTEM FORM		460	07-Aug-18	04-Mar-19	04-Sep-18		0%	0%	10-Nov-19, SYSTEM FORM											
68	MATERIAL SUPPLIERS		682	02-Jun-18	15-Oct-19	20-Apr-18		0%	0%	14-Apr-20, MATERIAL SUPPLIERS											
69	MATERIAL PROCUREMENT		0			08-Aug-18		0%	0%	22-Sep-20, MATERIAL PROCUREMENT											
70	TEMPORARY BRIDGE		0			08-Aug-18		0%	0%	22-Sep-20, TEMPORARY BRIDGE											
71	PERMANENT WORKS		0			25-Mar-19		0%	0%	25-Jun-19, PERMANENT WORKS											
72	PROCUREMENT OF STEEL GIRDER		482	07-May-19	23-Aug-20			0%	0%	31-May-21, PROCUREMENT OF S											
73	STEEL PLATE FOR (RHS STEEL MOUDLE-2_MP177 - MP182)		405	04-Jun-19	13-Jul-20			0%	0%	18-May-21, STEEL PLATE FOR (R											
74	STEEL PLATE FOR (LHS STEEL MOUDLE-2_MP177 - MP182)		345	07-May-19	16-Apr-20			0%	0%	19-Feb-21, STEEL PLATE FOR (LHS STE											
75	STEEL PLATE FOR (RHS STEEL MOUDLE-3_MP183 - MP186)		315	01-Jul-19	10-May-20			0%	0%	15-Mar-21, STEEL PLATE FOR (RHS ST											
76	STEEL PLATE FOR (LHS STEEL MOUDLE-3_MP183 - MP186)		315	04-Jun-19	14-Apr-20			0%	0%	17-Feb-21, STEEL PLATE FOR (LHS STE											
77	STEEL PLATE FOR (RHS STEEL MOUDLE-1_MP176 - MP171)		390	30-Jul-19	23-Aug-20			0%	0%	28-Feb-21, STEEL PLATE FOR (RHS STE											
78	STEEL PLATE FOR (LHS STEEL MOUDLE-1_MP176 - MP171)		390	02-Jul-19	26-Jul-20			0%	0%	31-May-21, STEEL PLATE FOR (L											
79	CONSTRUCTION		1857	02-Apr-18	21-Jun-22	02-Apr-18		19.37%	8.26%												
80	TEMPORARY WORK		1843	02-Apr-18	21-Jun-22	02-Apr-18		94.12%	69.5%												
81	PREPARATION WORK		368	02-Apr-18	16-Jan-19	02-Apr-18		0%	0%	18-Sep-19, PREPARATION WORK											
82	ESTABLISHMENT OF EMPOLYER & CONTRACTOR OFFICE		194	20-Jun-18	27-Nov-18	27-Jun-18	18-Jan-19	100%	100%	18-Jan-19A, ESTABLISHMENT OF EMPOLYER & CONTRACTOR OFFICE											
83	ESTABLISHMENT OF LABOUR CAMP		464	20-Jun-18	05-Apr-19	03-Jul-18	04-Apr-19	0%	0%	04-Apr-19A, ESTABLISHMENT OF LABOUR CAMP											
84	ESTABLISHMENT OF CONCRETE CASTING YARD		657	04-May-18	25-Apr-19	14-Jun-18		100%	87.46%	20-Feb-20, ESTABLISHMENT OF CONCRETE CASTING YARD											
85	ESTABLISHMENT OF STEEL SPAN ASSEMBLY YARD		342	02-Nov-18	06-Mar-20			0%	0%	08-Feb-21, ESTABLISHMENT OF STEEL S											
86	TEMPORARY BRIDGE		1791	20-May-18	21-Jun-22	27-Jul-18		89.94%	56.57%												
87	A13700	Removal of Temporary Bridge & Casting Yard	365	21-Jun-21	21-Jun-22			0%	0%												
88	TEMPORARY BRIDGE FACILITY-EQUIPMENT MOBILIZATION		372	20-May-18	19-Oct-18	27-Jul-18	25-Apr-19	0%	0%	25-Apr-19A, TEMPORARY BRIDGE FACILITY-EQUIPMENT MOBILIZATION											
89	TEMPORARY BRIDGE TYPE 1_FROM MP226(16+010) -MP249(17+320)		468	04-Jun-18	17-Aug-19	08-Aug-18		91.44%	100%	14-Oct-19, TEMPORARY BRIDGE TYPE 1_FROM MP226(16+010) -MP249(17											
90	TEMPORARY BRIDGE TYPE 3_FROM MP207(14+870) -MP226(16+010)		544	24-Jul-18	12-Sep-19	16-Nov-18		93.39%	40.81%	22-Sep-20, TEMPORARY BRIDGE TYPE 3_FROM MP											
91	MATERIAL LOADING JETTY		289	31-Aug-18	08-Aug-19	08-Mar-19		100%	56.7%	11-Apr-20, MATERIAL LOADING JETTY											
92	PERMANENT WORK		1590	03-Sep-18	24-May-22	08-Dec-18		9.6%	0.25%												
93	PRE-FABRICATION AND ASSEMBLY		1020	18-Apr-19	19-Feb-22			1.27%	0%												
94	MAIN BRIDGE		1590	03-Sep-18	24-May-22	08-Dec-18		13.69%	0.68%												
95	MAIN BRIDGE FOUNDATION		1187	03-Sep-18	23-Mar-21	08-Dec-18		30.23%	2.14%	26-Mar-22, M											
96	MAIN BRIDGE PILE FOUNDATION		1066	03-Sep-18	23-Jan-21	08-Dec-18		39.89%	4.18%	25-Nov-21, MAIN BR											
97	PILE LOAD TEST		193	03-Sep-18	19-Nov-18	08-Dec-18		100%	50%	29-Oct-19, PILE LOAD TEST											
98	MAIN BRIDGE PILE FOUNDATION_LAND 17+414~18+187 FROM MP250 TO MP266		140	30-Nov-18	15-May-19			100%	0%	23-Apr-20, MAIN BRIDGE PILE FOUNDATION_LAND 17+414~18											
99	MAIN BRIDGE PILE FOUNDATION_CRZ 15+890~17+414 FROM MP226 TO MP250		359	20-Dec-18	27-Nov-19	18-Jun-19		71.51%	0.59%	21-Nov-20, MAIN BRIDGE PILE FOUNDATION_C											
100	MAIN BRIDGE PILE FOUNDATION_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225		480	27-Feb-19	06-Jun-20			16.5%	0%	12-Jun-21, MAIN BRIDGE PILE FO											
101	MAIN BRIDGE PILE FOUNDATION_MARINE 13+610~14+800 FROM MP187 TO MP205		261	12-Dec-19	28-Nov-20			0%	0%	18-Jun-21, MAIN BRIDGE PILE F											
102	MAIN BRIDGE PILE FOUNDATION_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186		355	27-Nov-19	23-Jan-21			0%	0%	25-Nov-21, MAIN BR											
103	MAIN BRIDGE PILE FOUNDATION_MARINE 10+380~11+880 FROM MP146 TO MP170		326	24-Nov-18	28-Dec-19	19-Feb-19		59.27%	20.71%	31-Jul-20, MAIN BRIDGE PILE FOUNDATION_MARINE 10											
104	MAIN BRIDGE PILE CAP INSTALLATION		671	22-Dec-18	23-Mar-21			20.14%	0%	26-Mar-22, M											
105	MAIN BRIDGE PILE CAP BOTTOM SLAB INSTALLATION		629	22-Dec-18	17-Feb-21			0%	0%	04-Feb-22, MAI											
106	MAIN BRIDGE PILE CAP BOTTOM SLAB_CRZ 15+890~17+414 FROM MP226 TO MP250		313	17-Jan-19	12-Dec-19			0%	0%	15-Dec-20, MAIN BRIDGE PILE CAP BOTTOM											
107	MAIN BRIDGE PILE CAP BOTTOM SLAB_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225		458	06-Apr-19	18-Jul-20			0%	0%	28-Jun-21, MAIN BRIDGE PILE C											
108	MAIN BRIDGE PILE CAP BOTTOM SLAB_MARINE 13+610~14+800 FROM MP187 TO MP205		235	21-Jan-20	10-Dec-20			0%	0%	23-Jul-21, MAIN BRIDGE PILE											
109	MAIN BRIDGE PILE CAP PRECAST SHELL_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186		379	08-Jan-20	17-Feb-21			0%	0%	04-Feb-22, MAI											
110	MAIN BRIDGE PILE CAP BOTTOM SLAB_MARINE 10+380~11+880 FROM MP146 TO MP170		250	22-Dec-18	21-Jan-20			0%	0%	29-Sep-20, MAIN BRIDGE PILE CAP BOTTOM SLAB											
111	MAIN BRIDGE PILE CAP INSTALLATION		661	27-Dec-18	23-Mar-21			20.14%	0%	26-Mar-22, M											
112	MAIN BRIDGE PILE CAP_LAND 17+414~18+188 FROM MP251 TO MP266		139	27-Dec-18	13-Jun-19			100%	0%	20-May-20, MAIN BRIDGE PILE CAP_LAND 17+414~18+188											
113	MAIN BRIDGE PILE CAP_CRZ 15+890~17+414 FROM MP226 TO MP250		319	04-Mar-19	08-Jan-20			27.38%	0%	11-Jan-21, MAIN BRIDGE PILE CAP_CRZ 15											
114	MAIN BRIDGE PILE CAP_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225		479	18-Apr-19	05-Sep-20			10%	0%	25-Aug-21, MAIN BRIDGE P											
115	MAIN BRIDGE PILE CAP_MARINE 13+610~14+800 FROM MP187 TO MP205		248	01-Feb-20	06-Jan-21			0%	0%	04-Sep-21, MAIN BRIDGE P											
116	MAIN BRIDGE PILE CAP_MARINE (STEEL) 11+880~13+610 FROM MP171 TO MP186		411	20-Jan-20	23-Mar-21			0%	0%	26-Mar-22, M											
117	MAIN BRIDGE PILE CAP_MARINE 10+380~11+880 FROM MP146 TO MP170		263	03-Jan-19	17-Feb-20			44.48%	0%	28-Oct-20, MAIN BRIDGE PILE CAP_MARINE 10+											
118	MAIN BRIDGE SUB-STRUCTURE		1057	09-Jan-19	24-Sep-21			18.83%	0%												
119	MAIN BRIDGE PIER INSTALLATION		735	09-Jan-19	28-Jul-21			21.56%	0%	03											
120	MAIN BRIDGE PIER_LAND 17+414~18+188 FROM MB251 TO MB266		197	09-Jan-19	08-Nov-19			66.76%	0%	05-Sep-20, MAIN BRIDGE PIER_LAND 17+414~18+1											

<ul style="list-style-type: none"> Project Baseline Bar Critical Remaining Work Summary Actual Work Milestone Remaining Work % Complete 	<p>EMPLOYER: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)</p>	<p>CONTRACTOR: DAEWOO - TPL JV</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Date</th> <th>Revision</th> <th>Checked</th> <th>Approved</th> </tr> <tr> <td>25-Jun-19</td> <td>R0</td> <td></td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	Date	Revision	Checked	Approved	25-Jun-19	R0						
Date	Revision	Checked	Approved												
25-Jun-19	R0														

Attachment 9- Package-3's Updated Construction Programme Till 25th June 2019

Activity ID	Activity Name	Original Duration	BLT Start	BLT Finish	Start	Finish	Variance-BL Project Finish	Schedule % Complete	Activity % Complete	Performance % Complete	Budgeted Value Cost	Actual Value Cost	Cost Performance Index	Schedule Performance Index	Planned Value Cost	Earned Value Cost	Actual Duration	BLT Start	Free Float
MTHL Pkg 3_Construction Schedule Jun'19																			
Procurement of Mumbai Trans Harbour Link Project (Package-3)-Construct																			
2	Commencement Date (CD)	23Mar18	21Sep21	23Mar18A	11Jul22		-249d	36.0%	0%	0%	₹10,137,901,023.78	₹92,980,226.05	1.09	0.16	₹3,856,644,337.42	₹27,486,536.06	376d	0d	0d
Gantt chart showing project progress from 2018 to 2023. Key milestones include: Commencement Date (CD) 23Mar18A, Physical Milestones, Financial Milestones, Interface Milestones, Document Submittals, Employer's Obligations / Land Handover, Construction of Employer office, Facility, Survey & Geotechnical Investigation Works, Design Works, Foundation & Pier, Main Bridge, For Road Works, Imported Procurement, Co-ordinated Fabrication & Manufacturing Works, Construction Works, Preconstruction Activity, Sub Structures (Open Foundation, Pier /Per Cap), Main Carriageway, R/S-Section 1, R/S-Section 2, SH 54 Ramps, R/S-JNPT to Mumbai, R/S-Mumbai to Parvdi, Choke NH 4B Ramps, R/S-JNPT to Mumbai, R/S-Mumbai to Parvdi, Choke NH 4B Loops, R/S-Mumbai to JNPT, R/S-Parvdi to Mumbai, Super Structures.																			

█ Actual Level of Effort █ Remaining Work ◆ Milestone
 Primary Baseline █ Critical Remaining Work summary
 Actual Work ◆ Baseline Milestone

Activity ID	Activity Name	Original Duration	BLT Start	BLT Finish	Start	Finish	Variance-BL Project Finish (hrs)	Schedule % Complete	Activity % Complete	Performance % Complete	Budgeted Total Cost	Actual Total Cost	Cost Performance Index	Schedule Performance Index	Planned Value Cost	Earned Value Cost	Actual Duration	Total Float	Free Float	Gantt Chart (2018-2023)																																															
3000	Segments Precasting	420d	30/Mar/19	9/Nov/20	7/Dec/19	31/May/21	-169d	68%	0%	0%	₹60,156,099.20	₹0.00	0.00	0.00	₹52,280,751.82	₹0.00	0d	113d	0d	31/May/21 Segments Precasting																																															
4000	Segments Erection	400d	26/Aug/19	20/Jun/21	23/Jun/20	24/Dec/21	-250d	0%	0%	0%	₹70,669,401.92	₹0.00	0.00	0.00	₹0.00	₹0.00	0d	108d	0d	24/Dec/21 Segments Erection																																															
6470	Cast In Situ	647d	27/Feb/19	12/Apr/21	19/Oct/19	25/Jun/22	-216d	1233%	0%	0%	₹464,334,354.02	₹0.00	0.00	0.00	₹57,234,366.27	₹0.00	0d	110d	0d	25/Jun/22 Cast In Situ																																															
3000	Steel Structure	300d	10/May/19	17/Nov/20	14/Mar/20	9/Aug/21	-205d	100%	0%	0%	₹113,737,302.01	₹0.00	0.00	0.00	₹114,033,674.09	₹0.00	0d	151d	0d	9/Aug/21 Steel Structure																																															
1950	Bearings & Expansion Joints	195d	3/Aug/20	12/Apr/21	20/Jun/21	21/Mar/22	-203d	0%	0%	0%	₹10,454,687.00	₹0.00	0.00	0.00	₹0.00	₹0.00	0d	64d	0d	21/Mar/22 Bearings & Expansion Joints																																															
3000	Bridge Ancillaries & Miscellaneous Item	300d	12/Aug/20	23/Jun/21	7/May/21	3/Jun/22	-249d	0%	0%	0%	₹180,921,967.01	₹0.00	0.00	0.00	₹0.00	₹0.00	0d	0d	0d	3/Jun/22 Bridge Ancillaries & Miscellaneous Item																																															
5160	RE Wall	516d	27/Feb/19	18/Feb/21	11/Dec/19	18/Oct/21	-175d	67%	0%	0%	₹461,687,248.00	₹0.00	0.00	0.00	₹31,144,143.79	₹0.00	0d	129d	0d	18/Oct/21 RE Wall																																															
6990	Road Work	699d	20/Apr/19	18/May/21	16/Feb/19A	18/Feb/22	-206d	2237%	424%	0%	₹1,608,667,369.60	₹34,073,244.02	2.00	0.19	₹359,893,955.18	₹68,146,488.04	108d	43d	0d	18/Feb/22 Road Work																																															
3000	Completion of Interface Activity	300d	19/Sep/20	0/Mar/21	19/Sep/20	24/Dec/21	-219d	0%	0%	0%	₹0.00	₹0.00	0.00	0.00	₹0.00	₹0.00	0d	173d	0d	24/Dec/21 Completion of Interface Activity																																															
8000	Provisional Sum	800d	23/Apr/18	23/Aug/21	25/Jun/19	30/Apr/22	-206d	5612%	0%	0%	₹677,501,024.00	₹0.00	0.00	0.00	₹33,983,209.12	₹0.00	0d	59d	0d	30/Apr/22 Provisional Sum																																															
300	Testing & Commissioning Works	30d	28/Jun/21	21/Sep/21	3/Jun/22	11/Jun/22	-246d	0%	0%	0%	₹0.00	₹0.00	0.00	0.00	₹0.00	₹0.00	0d	0d	0d	11/Jun/22 Testing & Commissioning Works																																															

- Actual Level of Effort
- Remaining Work
- Primary Baseline
- Critical Remaining Work
- Actual Work
- Baseline Milestone
- Milestone
- summary