

No. MMRDA/MTHL-PIU/CRZ/HYR-10/ 0184 /2021

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

Sub: Mumbai Trans Harbour Link Project

- Submission of Six-monthly compliance report **(July to December 2020)** of
CRZ Clearance for the project

Ref: CRZ Clearance Letter No.: F. No. 11-65/2012-IA.III dated 25th January, 2016

Sir/Madam,

1. The Mumbai Trans Harbour Link Project has received CRZ clearance vide the letter referred above.
2. As stipulated in the CRZ clearance, the six-monthly compliance report for the period of **July to December 2020** is attached herewith for information.

Thanking You,

Yours faithfully,


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

Encl.: As above

Mumbai Metropolitan Region Development Authority

Bandra-Kurla Complex, Bandra East, Mumbai 400 051

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<https://mmrda.maharashtra.gov.in>

**HALF YEARLY REPORT FOR MUMBAI
TRANS HARBOUR LINK**

**JULY TO
DECEMBER
2020**



Submitted to
Maharashtra Pollution Control Board (MPCB)

Submitted by



**एम एम आर डी ए
MMRDA**

Information of Project officer and Nodal officer

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

Photographs showing present progress of work

Please refer to the Quarterly Progress Report No. 13 and 14 for the photographs of the progress

Monitoring the Implementation of Environmental Safeguards

**Ministry of environmental & Forest
Western Region, Regional Office, Bhopal**

Monitoring Report

PART - I DATA SHEET

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

No.	Particular	Information
		<p>Mumbai Trans Harbour Link Project is 22 km long 6-lane bridge across the Mumbai bay connecting Sewri on Mumbai side to Chirle on Navi Mumbai side.</p> <p>Benefits:</p> <ul style="list-style-type: none"> • Saving in travel time, Vehicle Operating Cost and Fuel Savings • Accelerated growth of Navi Mumbai • Decongestion of island city of Mumbai • Connectivity to MbPT and JNPT Ports • Faster access to Navi Mumbai International Airport • Connectivity to Pune Expressway and to South India
	b) of the Environmental Management Plans	Various measures stipulated in the Environmental Management Plan mentioned in the CRZ clearance are being complied.
7.	<p>Breakup of the Project Area :</p> <p>a) Submergence area: forest & non forest</p>	<p>Total Area of Right of Way: 120.228 Ha</p> <p>Forest area: 47.417 Ha</p> <p>Non-Forest area: 72.811 Ha</p>
	b) Others	--
8.	<p>Breakup of the project affected population with the enumeration of those losing Houses / Dwelling units only, Agricultural Land & Landless Laborers / Artisans:</p> <p>a) SC, ST / Adivasi</p> <p>b) Others</p> <p>(please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey is carried out give details & year of survey)</p>	<p>Project affected population:</p> <p>Please refer to the Quarterly Progress Report No. 13 and 14 for the project affected population.</p>
9	<p>Financial Details: Project cost as originally planned and subsequent revised estimates and the year of price reference</p>	<p>The total cost of the project is Rs. 17,843 Crore</p> <p>Year of reference: 2016</p>
	b) Allocation made for	Allocation of Rs. 335 Crore has been made for the

No.	Particular		Information
	environmental management plans with item wise and year wise breakup		implementation of Environment Management Plan for the MTHL project. The item-wise cost breakup of the EMP is attached as Annexure-II.
c)	Benefit cost ratio/Internal rate of Return and the year of assessment	:	-
d)	Whether (c) includes the cost of environmental management as shown in the above	:	-
e)	Actual expenditure incurred on the project so far	:	Rs. 6652.6 Crore
f)	Actual expenditure incurred on the environmental management plans so far	:	Please refer Annexure-V for actual expenditure incurred on the environmental management plans so far.
10	Forest Land Requirement		
a)	The status of approval for diversion of forest land for non-forestry use	:	Stage - I clearance approval for diversion of forest land for non-forestry use has been received from MoEF & CC on 22 nd January 2016 vide letter F.No.8-89/2013-FC.
b)	The status of clearing felling	:	NOC from Hon. High Court for cutting of mangroves is received on 28 th November 2016. Working Permission from Forest Department received on 22 May 2017.
c)	The status of compensatory afforestation, if any Comments on the viability & sustainability of compensatory afforestation program in the light of actual field experience so far	:	Rs. 91.42 crores have been transferred to Mangrove cell of Mangroves & Marine Biodiversity Foundation, setup under Maharashtra State Forest Department for Compensatory Afforestation (CA). Mangrove cell, Mumbai submitted updated status report of plantation (Attached as Annexure-VII)
11	The status of clear felling in non-forest areas (such as submergence area or reservoir, approach roads.), if any with quantitative information required.	:	Commencement Letters have been issued to the Contractors of Package-1, Package-2 and Package-3 on 23 March 2018.

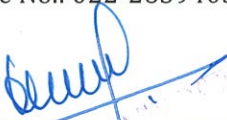
No.	Particular	Information
12	Status of construction (Actual&/or planned)	Commencement Letters have been issued to the Contractors of Package-1, Package-2 and Package-3 on 23 March 2018. Please refer to the Quarterly Progress Report No. 13 and 14 attached with this report as Annexure-VI .
a)	Date of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

Name: - Dr. D.T. Thube

Chief Engineer, MTHL Project Implementation Unit

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

Signature:


**CHIEF ENGINEER
(MTHL, PIU)
MMRDA**

Stamp:

HALF YEARLY COMPLIANCE REPORT

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

Compliance to the Conditions Recommended in CRZ Clearance-2013

S. No.	Condition of 2013 clearance	Compliance
7. Specific Conditions		
(i)	As per the CRZ Notification 2011, at least five times the number of mangroves destroyed/cut during the construction process shall be replanted. Mangrove plantation in an area of 30 ha shall be carried out as committed against loss of 0.1776 ha mudflats/mangroves. Permission from the High Court of Bombay shall be obtained with respect to mangrove cutting.	Noted, about 25 Crores have been contributed by MMRDA to Mangroves Fund, as an initiative by Govt. of Maharashtra for Conservation and Protection of Mangroves in Coastal areas. The amount is used for Survey & Demarcation of Notified areas. Purchase of vehicles and equipment for anti-Encroachment drives, etc. Permission copy of High court for mangrove cutting attached as Annexure-I
(ii)	Proponent shall provide lighting in consulting with the Bombay Natural History Society (BNHS) so as to minimize the likely impacts to the migratory birds.	Noted and being complied
(iii)	All the construction equipment's shall be provided with exhaust silencers as committed.	Noted, all the construction equipment used by contractors are provided with exhaust silencers to reduce noise. Photographic evidences of same attached as Annexure-III
(iv)	Noise containment barriers shall be provided on both sides of the bridge in mudflat areas (CRZ-IA) so as to minimize the likely impacts to the migratory birds as committed	Noise containment barriers have to be provided by the Package-I and Package-II on both sides of the bridges to minimize the likely impact to the migratory birds.
(v)	There shall be no dredging and reclamation for the project	The proposed project is for the construction of 6 lane road bridge across the Mumbai harbour between Sewari in MbPT area and Chirle in Navi Mumbai to improve connectivity and facilitate traffic decongestion and hence does not involve

S. No.	Condition of 2013 clearance	Compliance
		dredging and reclamation works
(vi)	Pre-stressed super structure shall be used in the mud flat area for construction as committed	Noted and is being proposed in the mudflat area
(vii)	The muck materials shall be analysed prior to dumping/disposal in the identified locations with the approval of the competent authority to ensure that it does not cause any impact to the environment.	Noted and is being complied. Muck materials are collected and analyzed prior to dumping/disposal at identified locations. Muck sample analysis report of Package-I and Package-II attached as Annexure-IV
(viii)	Proponent informed that there is no fishing activity in the area since it is a navigation channel for the nearby ports. However, navigational channel is provided with 25 m from ships and 9.1 m from fishing boats.	Noted and being complied
(ix)	All the recommendations of the MCZMA shall be strictly complied with.	Noted and being complied
(x)	There shall be no building construction beyond 20,000 sqm.	The proposed project is for the construction of 6 lane road bridge across the Mumbai Harbour between Sewri in MbPT area and Chirle in Navi Mumbai to improve connectivity and does not involve construction of buildings. However, during construction phase of the project temporary site offices and work camps will be constructed which will be well within 20,000 sqm area
(xi)	There shall be no water drawl in CRZ area.	The proposed project does not involve abstraction of the ground water in CRZ area. The water demand for the proposed project is being met through tanker water
(xii)	There shall be no disposal of solid or liquid waste on coastal area. Solid waste management shall be as per Municipal Solid (Management and Handling) Rules, 2000.	The project strictly complies with the new SWM rules 2016 and subsequent amendments and the solid and liquid waste and segregated at source, collected and disposed as per the abovesaid rules. Biodegradable waste is being used for

S. No.	Condition of 2013 clearance	Compliance
		composting at site and non-biodegradable waste will be handed over to authorized agencies for disposal.
(xiii)	Sewage shall be treated and Treatment Facility shall be provided in accordance with the Coastal Regulation Zone Notifications 2011, The disposal of treated water shall conform to the regulation of the State Pollution Control Board.	Noted and will be complied
(xiv)	The project proponent shall set up a separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of senior executive	<p>Noted and complied,</p> <p>An Environmental Monitoring Committee has been set up and the structure of the committee comprise experts from National Institute of Oceanography; Representative of BNHS; renowned expert in Ornithology; Director, Fisheries Institute, Versova, Andheri; Head of Coastal Engineering, IIT, Mumbai and Representative of Environment Department and Maharashtra Pollution Control Board. The officer of MMRDA is acting as a Member Secretary to coordinate the quarterly meetings of the committee.</p> <p>Periodical meetings of the committee / Cell are being held.</p>
(xv)	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purpose.	<p>Noted,</p> <p>Total fund allocated for the environmental management is 335 crores and till date 244.1949 Cr has been spent as a part of environmental management Plan.</p> <p>EMP expenditure details attached as Annexure-V</p>

S. No.	Condition of 2013 clearance	Compliance
8. General Conditions		
(i)	Full support shall be extended to the officers of the Ministry/Regional Office of Bhopal by the project proponent during inspection of the project for monitoring purpose by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities	Noted and being complied
(ii)	A six-monthly monitoring report shall need to be submitted by the project proponent to the regional office of this ministry at Bhopal regarding the implementation of the stipulated conditions	Noted and is being complied
(iii)	Ministry of Environment and Forest or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary, in the interest of environment and same shall be complied with	Noted and will be adhered
(iv)	The Ministry reserve the right to revoke this clearance if any of the conditions stipulated are not complied with to the satisfaction of the Ministry	Noted and will be adhered
(v)	In the event of a change in project profile or change in the implementation agency, afresh reference shall be made to the Ministry of Environment and Forests	Noted and will be adhered
(vi)	The project proponents shall inform to the Regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work	Noted and will be adhered
(vii)	A copy of the clearance letter shall be marked to concerned Panchayat/local NGO if any, from whom any suggestions/representations has been made a received while processing the	Noted and complied.

S. No.	Condition of 2013 clearance	Compliance
	proposal	
(viii)	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's office/Tehsildar's office for 30 days.	-----
9.	The above stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance Act), 1991 and EIA notification 1994 including the amendments and rules made thereafter	Noted and complied
10.	All other statutory clearances such as approvals for storage of diesel from Chief Controller of Explosive, Fire Department, Civil Aviation Department and clearances under the Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities	<p>Noted and Complied.</p> <p>Clearances under Forest Conservation Act, 1980 has been taken by MMRDA from MoEF & CC on 22nd January 2016 vide letter F.No.8-89/2013-FC.</p> <p>The project proponent had allotted the construction work to the Contractors through contract and the statutory clearances such as approvals for storage of diesel from Chief Controller of Explosive, Fire Department, Civil Aviation Department has been taken by them.</p>
11.	The project proponent shall advertise in at least two local newspapers widely circulate in the region, one of which shall be in a vernacular language informing that the project has been accorded CRZ Clearance and copies of the clearance letter are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forest at http://www.envfor.nic.in . The advertisement should be made within 10 days from the date of the receipt of the clearance letter and a copy of the same	<p>Noted and Complied.</p> <p>The advertisement for accord of the CRZ clearance was published in the (Lok Satta and Indian Express on 30.01. 2016)</p>

S. No.	Condition of 2013 clearance	Compliance
	should be forwarded to the Regional office of this ministry at Bhopal	
12	The clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004 as may be applicable to this project.	Noted
13	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010	Noted
14	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent on its website.	Noted and being complied The status of the compliance of stipulated CRZ conditions are uploaded on the website of MMRDA
15	A copy of the clearance letter shall be sent by the proponent to be concerned Panchayat, Zilla parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The Clearance letter shall also be put on the website of the company by the proponent.	Noted and Complied
16	The proponent shall upload the status of the compliance of stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF, the respective Zonal Office of CPCB and the SPCB	Noted and complied The status of the compliance of stipulated CRZ conditions, including results of monitored data are uploaded on the website of MMRDA and also submitted to Regional Office of the MoEF&CC, the respective Zonal Office of CPCB and the SPCB
17	The project proponent shall also submit six monthly reports on the status of the compliance of the stipulated EC conditions including results of monitoring data (both in hard copies as well as by e-mail) to the	Noted and being complied

S. No.	Condition of 2013 clearance	Compliance
	respective Zonal Office of CPCB and the SPCB	
18	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rule 1986 as amended subsequently, shall also be put on the website of the company along with the status of the compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF & CC by e-mail.	Noted and Complied

Compliance to the Conditions Recommended in CRZ Clearance-2016

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
i.	All the terms and conditions stipulated by the MCZMA in their letter No. CRZ 2015/CR236/TC 4 dated 26 th November 2015 shall be strictly complied with.	Noted. MMRDA is following the conditions stipulated in the CRZ Clearance.
ii.	All the terms and conditions as mentioned in the earlier CRZ Clearance dated 19 th July 2013, shall also be complied with in letter and spirit,	Noted. MMRDA is following the conditions stipulated in the CRZ Clearance dated 19 th July 2013.
iii.	The Environment Management Plan as presented during the meeting shall be implemented in consultation with all the stakeholders.	MMRDA is implementing the Environment Management plan as stipulated in CRZ clearance. The implementation plan with detailed EMP is attached as an Annexure V
iv.	The project/activity shall be carried out strictly be in accordance with the provisions of CRZ Notification, 2011, and shall not affect the coastal ecology of the area including flora and fauna.	Noted and is being complied
v.	The project proponent shall obtain all permissions from concerned authorities prior to commencement of the project and shall observe all safety requirements	Noted and will be complied

Sr. No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
	onshore and offshore.	
vi.	The project proponent shall not undertake any blasting/construction activities during night hours.	This condition has been revised by MoEF& CC vide letter dated 28 th August, 2017 having file no F. No. 11-65/2012-IA. III.
vii.	The proposal indicates the diversion of 47.417 ha forest land for which the proponent shall obtain the requisite Forest Clearance. The project may be executed in the entire stretch in non-forest land, and while making application to get the Forest Clearance, the execution of work on non-forest land shall not be cited as a reason for grant of FC and in case FC is declined, the forest land shall be maintained at its existing condition. The PP shall submit an undertaking to this effect at the earliest to the concerned Regional Office to this Ministry.	Stage - I clearance approval for diversion of forest land for non-forestry use has been received from MoEF & CC on 22nd January 2016 vide letter F.No.8-89/2013-FC. Stage - II application is submitted to Deputy Conservator of Forest vide MMRDA letter 6-3-2017 and latest compliance submitted on 10-09-2018.
viii.	All the wildlife mitigation measures as proposed by BNHS in their report dated 23.09.2015 for original alignment shall be implemented with the following modification	Noted and shall be complied
	a) Construction of jetty on both the ends passing through mud flats and mangroves must not exceed 30 months and construction of actual spans must not exceed more that further 12 months.	Noted
	b) The distance between the supporting pillars shall remain 50 m as currently proposed by the MMRDA.	The distance between the piers is maintained more than 50 m.
	c) MMRDA will partly bear the cost of setting of effluent treatment plant in the region as suggested by BNHS.	Noted and being complied
ix.	The project proponent shall not undertake any blasting/construction activities during night hours.	This condition has been revised by MoEF&CC vide letter dated 28 th August 2017 having file no F. No. 11-65/2012-IA. III.

Sr.No.	GENERAL CONDITIONS	COMPLIANCE STATUS
1	Adequate provision for infrastructure facilities including water supply, fuel and sanitation must be ensured for construction workers during the construction phase of the project to avoid any damage to the environment.	Noted and is being complied.
2	Full support shall be extended to the officers of this Ministry/Regional Office at Nagpur by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Noted and shall be complied.
3	A Six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Nagpur regarding the implementation of the stipulated conditions.	Noted and is being complied. List of Six-monthly compliance report uploaded are: <ol style="list-style-type: none"> 1. January to June 2016. 2. July to December 2016. 3. January to June 2017. 4. July to December 2017. 5. January to June 2018. 6. July to December 2018. 7. January to June 2019. 8. July to December 2019 9. January to June 2020
4	MoEF&CC or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary, in the interest of environment and the same shall be complied with.	Noted and shall be complied
5	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with to the satisfaction of the Ministry.	Noted.
6	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the MoEF & CC.	Noted.
7	The project proponents shall inform to the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Noted.
8	A copy of the clearance letter shall be marked to	Noted and complied

Sr.No.	GENERAL CONDITIONS	COMPLIANCE STATUS
	concerned Panchayat/ local NGO, if any, from whom any suggestion/ representation has been made received while processing the proposal	
9	A copy of the CRZ Clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The Clearance letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/Tehsildar's Office for 30 days.	Noted and complied.
10	The above stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Noted and will be complied.
11	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, and clearances under the Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	Noted and are being complied.
12	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest & Climate Change at. The advertisement should be made within Seven days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Nagpur.	Complied.
13	This Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ	Noted.

Sr.No.	GENERAL CONDITIONS	COMPLIANCE STATUS
	Petition (Civil) No.460 of 2004 as may be applicable to this project.	
14	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted.
15	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent on its website.	Stipulated environmental conditions as mentioned in CRZ are complied in six monthly compliance reports. Environmental Safeguards are incorporated in Environmental Management Plan which is being implemented as per the budgetary provisions mentioned in CRZ. Reports & Publications: Half Yearly Report (https://mmrda.maharashtra.gov.in)
16	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied.
17	The proponent Shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Noted. Six monthly reports on compliance & monitoring results of conditions stipulated in CRZ clearance is being submitted to MPCB Regional, sub regional office, Nagpur MPCB office, MCZMA & SEIAA.
18	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF & CC, the respective Zonal Office of CPCB and the SPCB.	Noted. Six monthly reports on compliance & monitoring results of conditions stipulated in CRZ clearance is being submitted to MPCB Regional, sub regional office, Nagpur MPCB office, MCZMA & SEIAA.
19	The environmental statement for each financial year ending 31st March in Form-V as is	Noted.

Sr.No.	GENERAL CONDITIONS	COMPLIANCE STATUS
	mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF & CC by e-mail.	Individual construction packages have obtained CTE for batching plant and casting yards and the stipulations are being adhered to and are uploaded on the website of MMRDA

Annexures

Annexure I	Permission copy of High court for mangrove cutting
Annexure II	Item wise cost breakup of the Environmental Management Plan
Annexure III	Photographic evidences of construction equipment used by contractors are provided with exhaust silencers to reduce noise
Annexure IV	Muck analysis report from Package-I and Package-II
Annexure V	EMP expenditure details
Annexure VI	Quarterly Progress Reports 13 & 14
Annexure VII	Status report on Mangrove plantation

BDPPS

**IN THE HIGH COURT OF JUDICATURE AT BOMBAY
ORDINARY ORIGINAL CIVIL JURISDICITON
NOTICE OF MOTION NO.307 OF 2016
IN
PUBLIC INTEREST LITIGATION NO.87 OF 2006**

Mumbai Metropolitan Region
Development Authority

..... Applicant.

In the matter between

Bombay Environment Action Group
and Another

.....Petitioners.

V/s

State of Maharashtra and Others.

.... Respondents.

Mr. Saket Mone a/w Mr. Subit Chakrabarti i/b Vidhi Partners for
applicant in Notice of Motion No. 307 of 2016 in PIL No.87 of 2016.

Mr. Navroz Seeryai, Senior Counsel a/w Ms. Shreya Parikh for the
Petitioner in PIL No.87 of 2006.

Mrs. P.H. Kantharia, AGP for Respondent/State in PIL No.87 of 2006.

Ms. Trupti Puranik for Respondent/BMC.

Ms. Sharmila Deshmukh for CRZ.

**CORAM: V. M. KANADE &
MS. NUTAN D. SARDESSAI, JJ.**

DATE: 28th November, 2016

P.C.:-

1. This Notice of Motion is taken out by the Applicant for carrying out construction of the proposed Mumbai Trans Harbour Link (a proposed 22 km freeway grade road bridge connecting the island city of Mumbai with Navi Mumbai).
2. The learned Counsel appearing on behalf of the Applicant submits that Applicant has obtained clearance from all the concerned authorities. He submitted that Ministry of Environment and Forest, Government of India has granted approval on 22/01/2016 and CRZ clearance has been granted on 25/01/2016. Applicant has given an undertaking in paras 12 and 27 of the affidavit in support of the Notice of Motion. The said undertaking is accepted. Applicant shall comply with all the conditions which are imposed in the said letters of sanction granted by both the authorities.
3. We are satisfied that the said project is public utility project and we grant leave in terms of prayer clause (a) of the Notice of Motion subject to conditions imposed by both the authorities.
4. Notice of Motion is accordingly allowed in terms of prayer clause (a) and disposed of.

(MS. NUTAN D. SARDESSAI, J.)**(V.M. KANADE, J.)**

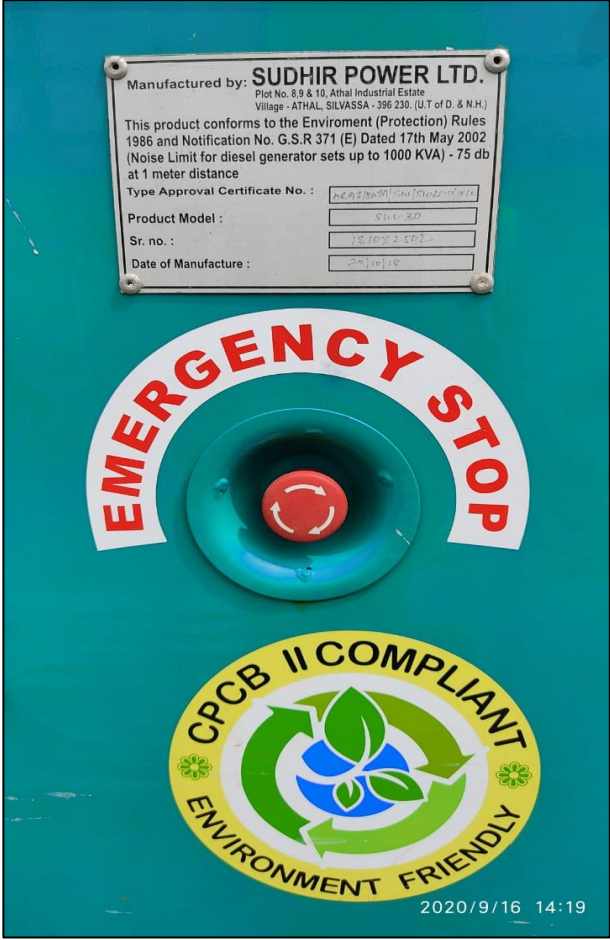
Annexure-II Environment Management Plan stipulated in CRZ clearance

Sr. No	Environmental attribute	Cost in Crores
1.	Environmental Monitoring- Air Act, Water Act, Noise levels	8
2.	Compensatory Restoration Plan (Mangroves)	25
3.	Implementation of the suggestions given by BNHS	25
4.	Noise barriers	45
5.	Mitigation of marine water pollution caused due to the surrounding industries and Sewage from Urban Bodies, by providing Funding and Capacity Building for Enabling Effluent Treatment	40
6.	<ul style="list-style-type: none"> • Contribution to Mangroves Fund, an initiative by Govt. of Maharashtra for Conservation and Protection of Mangroves in Coastal areas by depositing Seed Money. • This can be used for Survey & Demarcation of Notified areas • Purchase of vehicles and equipment for anti-Encroachment drives, etc. 	25
7.	Oil Spill Mitigation Plan	10
8.	Habitat quality assessment and monitoring Surveillance management and monitoring team for migratory birds, marine flora, turbidity in sea floor, etc Corpus fund for mudflat restoration program	20
9.	Appointment of Bird Monitor and his assistant till Restoration of Baseline data	4
10.	DMP, Firefighting, Risk Analysis	15
11.	Sustainable development including establishing Nature Interpretation Centre	10
12.	Safety and Security	15
13.	Energy conservation	10
14.	Landscaping-Plantation of trees, flower in plants etc.	8
15.	Compensation and Capacity Building of Fisher folks due to Temporary and Permanent Loss of Fishing round	75
		335 crores

Photographic evidences of construction equipment used by contractors are provided with exhaust silencers to reduce noise



Photographic evidences of construction equipment used by contractors are provided with exhaust silencers to reduce noise



Photographic evidences of construction equipment used by contractors are provided with exhaust silencers to reduce noise





TEST REPORT

Name of Organization : M/s. L & T Constructions				
Address : Gate No. 1 Sewri Timber Pond, Near Gadi Adda, Sewri(East), Mumbai.				
Sample Code : NIL/SO/08/20/008		Sample Location : Jeety MP-53		
Sample Source : Jeety MP-53		Sample Qty.& Packing : 1 Kg Zip Lock Bag		
Sample Type : Muck Sample		Sample Drawn By : Netel (India) Limited.		
Sampling Date		Sample Received Date		Date of Analysis
27.08.2020		28.08.2020		29.08.2020-07.09.2020
Report Date 09.09.2020				
Sr. No.	Test Parameter	Method	Unit	Result
General Analyzed Parameters				
1	Cadmium (Cd)	Lab SOP No:NIL/SOP/15 dt 01/07/14	mg/kg	0.78
2	Lead (Pb)	Lab SOP No:NIL/SOP/15 dt 01/07/14	mg/kg	6.5
3	Chromium (as Cr ⁶⁺)	APHA 3500-Cr-B	mg/kg	<0.05
4	Arsenic (As)	EPA 3050B & By FIAS	mg/kg	<0.01
5	Total Mercury (Hg)	EPA 3050B & By FIAS	mg/kg	<0.01
6	Copper (Cu)	Lab SOP No:NIL/SOP/15 dt 01/07/14	mg/kg	141.8
7	Dichloromethane	By GC-FID	mg/kg	<1
8	Carbon Tetrachloride	By GC-FID	mg/kg	<1
9	Benzene	APHA 6200-C	mg/kg	<1
10	Selenium (Se)	EPA 3050B & By FIAS	mg/kg	<0.01

Note :-

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- ❖ This Test Report refers only to the sample tested.
- ❖ Any correction in this certificate invalidates the certificate.
- ❖ The testing results reported reflects the quality of sample at the time of testing.
- ❖ The Complaint register is available with the Laboratory as per Environment Protection Act 1986.

Verified by:


Surekha Jamdar
Dy. Technical Manager

Issued by:


Shradha Kere
Technical Manager

End of Report

**TEST REPORT**

Name of Organization : M/s. L & T Constructions				
Address : Gate No. 1 Sewri Timber Pond, Near Gadi Adda, Sewri(East), Mumbai.				
Sample Code : NIL/SO/08/20/008		Sample Location : Jeety MP-53		
Sample Source : Jeety MP-53		Sample Qty.& Packing : 1 Kg Zip Lock Bag		
Sample Type : Muck Sample		Sample Drawn By : Netel (India) Limited.		
Sampling Date		Sample Received Date		Date of Analysis
27.08.2020		28.08.2020		29.08.2020-07.09.2020
Report Date				
09.09.2020				
Sr. No.	Test Parameter	Method	Unit	Result
				NIL/SO/08/20/008
TCLP Analyzed Parameters				
1	Cadmium (Cd)	EPA Method 1311	mg/lit	0.15
2	Lead (Pb)	EPA Method 1311	mg/lit	0.77
3	Chromium (as Cr ⁶⁺)	EPA Method 1311	mg/lit	0.4
4	Arsenic (As)	EPA Method 1311	mg/lit	<0.01
5	Total Mercury (Hg)	EPA Method 1311	mg/lit	<0.01
6	Copper (Cu)	EPA Method 1311	mg/lit	5.1
7	Dichloromethane	EPA Method 1311 & By GC-FID	mg/lit	<1
8	Silver (Ag)	EPA Method 1311	mg/lit	0.44
9	Zinc (Zn)	EPA Method 1311	mg/lit	4.1
10	Selenium (Se)	EPA Method 1311	mg/lit	<0.01
11	Antimony	EPA Method 1311	mg/lit	<1
12	Barium (as Ba)	EPA Method 1311	mg/lit	<1
13	Beryllium	EPA Method 1311	mg/lit	<1
14	Fluoride (F ⁻)	EPA Method 1311	mg/lit	9.8
15	Nitrate (NO ₃ ⁻)	EPA Method 1311	mg/lit	5.3
16	Ammonium Compound	EPA Method 1311	mg/lit	6.7
17	Chlorobenzene	EPA Method 1311 & By GC-FID	mg/lit	<1
18	Methyl Ethyl Ketone	EPA Method 1311 & By GC-FID	mg/lit	<1
19	Naphthalene	EPA Method 1311 & By HPLC	mg/lit	<1
20	Benzo (a) Pyrene	EPA Method 1311 & By HPLC	mg/lit	<1
21	Aldrin	EPA Method 1311	mg/lit	<0.01
22	Dieldrin	EPA Method 1311	mg/lit	<0.01
23	Chlordane	EPA Method 1311	mg/lit	<0.01
24	Dichlorodiphenyltrichloroethane (DDT)	EPA Method 1311	mg/lit	<0.01
25	Methoxychlor Dichlorodiphenyldichloroethylene (DDE)	EPA Method 1311	mg/lit	<0.01
26	Dichlorodipenyldichloroethane (DDD)	EPA Method 1311	mg/lit	<0.01
27	2,4-Dichlorophenoxyacetic Acid (2,4-D)	EPA Method 1311	mg/lit	<0.01
28	Endrin	EPA Method 1311	mg/lit	<0.01
29	Heptachlor	EPA Method 1311	mg/lit	<0.01



Netel (India) Limited

Sr. No.	Test Parameter	Method	Unit	Result
				NIL/SO/08/20/008
30	Lindance	EPA Method 1311	mg/lit	<0.01

Note :-

- ❖ This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
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- ❖ The testing results reported reflects the quality of sample at the time of testing.
- ❖ The Complaint register is available with the Laboratory as per Environment Protection Act 1986.

Verified by:

Surekha Jamdar
Dy. Technical Manager

Issued by:

Shradha Kere
Technical Manager



TEST REPORT

Name of Organization : M/s. Daewoo-TPL-JV
Customer Address : MTHL Pkg-2, Daewoo – TPL JV, Shivaji Nagar Post Khar Kopar, Sector 8, Ulwe, Navi Mumbai - 410206

Date of Sampling	Sample Received Date	Analysis Start Date	Analysis Complete Date	Report on Date
29.09.2020	30.09.2020	30.09.2020	03.10.2020	05.10.2020

Sample Type : Muck	Sample Drawn By : Netel (India) Limited
Sample Container : Plastic Bag	Packaging Quantity : 2 Kgs
Sample Code : NIL/SO/09/20/012	Sampling Location : MP 202

Sr. No.	Test Parameter	Method	Unit	MDL*	Result
1	Organic Phosphorus	Leachate - Lab SOP* NIL/IHM/01 Analysis - APHA 4500-P-C	mg/kg	0.5	BDL
2	Cynide	APHA 4500-CN	mg/kg	0.005	BDL
3	Lead	Lab SOP* NIL/SOP/15	mg/kg	0.1	0.12
4	Cadmium	Lab SOP* NIL/SOP/15	mg/kg	0.1	BDL
5	Hexavalent Chromium	EPA 3050B	mg/kg	0.1	BDL
6	Copper	Lab SOP* NIL/SOP/15	mg/kg	0.1	36.3
7	Mercury	EPA 3050B / By FIAS	mg/kg	0.1	BDL
9	Selenium	EPA 3050B / By FIAS	mg/kg	0.1	BDL
10	Arsenic	EPA 3050B / By FIAS	mg/kg	0.1	BDL
11	Polychlorinated Biphenyls	GC ECD	mg/kg	0.01	BDL
12	Dichloromethane	GC FID	mg/kg	0.1	BDL
13	Carbon Tetrachloride	GC FID	mg/kg	0.1	BDL
14	1,2-Dichloroethane	EPA-8260 B	mg/kg	0.1	BDL
15	1,1-Dichloroethylene	EPA-8260 B	mg/kg	0.1	BDL
16	cis-1,2-Dichloroethylene	EPA-8260 B	mg/kg	0.1	BDL
17	1,1,1-Trichloroethane	EPA-8260 B	mg/kg	0.1	BDL
18	1,1,2-Trichloroethane	EPA-8260 B	mg/kg	0.1	BDL
19	Trichloroethylene	EPA-8260 B	mg/kg	0.1	BDL
20	Tetrachloroethylene	EPA-8260 B	mg/kg	0.1	BDL





Sample Code : NIL/SO/09/20/012		Sampling Location : MP 202			
Sr. No.	Test Parameter	Method	Unit	MDL*	Result
21	1,3-Dichloropropane	EPA-8260 B	mg/kg	0.1	BDL
22	Thiuram	GC-MS	mg/kg	0.1	BDL
23	Simazine	GC-MS	mg/kg	0.1	BDL
24	Thiobencarb	GC-MS	mg/kg	0.1	BDL
25	Benzene	GC FID	mg/kg	0.1	1.4
26	Oil & Grease	EPA Method 9071 B	mg/kg	1	1.8

Note :

1. MDL Method Detectible Limit.
2. BDL – Below Detectible Limit.
3. * Based on Manual of Soil testing in India, Ministry of Agriculture, GOI, 2011
4. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
5. This Test Report refers only to the sample tested.
6. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

Verified by:

Surekha Jamdar
Dy. Technical Manager

Issued by:

Shradha Kere
Technical Manager

End of Report



TEST REPORT

Name of Organization : M/s. Daewoo-TPL-JV					
Customer Address : MTHL Pkg-2, Daewoo – TPL JV, Shivaji Nagar Post Khar Kopar, Sector 8, Ulwe, Navi Mumbai - 410206					
Date of Sampling	Sample Received Date	Analysis Start Date	Analysis Complete Date	Report on Date	
29.09.2020	30.09.2020	30.09.2020	03.10.2020	05.10.2020	
Sample Type : Muck			Sample Drawn By : Netel (India) Limited		
Sample Container : Plastic Bag			Packaging Quantity : 2 Kgs		
Sample Code : NIL/SO/09/20/013			Sampling Location : MP 191		
Sr. No.	Test Parameter	Method	Unit	MDL*	Result
1	Organic Phosphorus	Leachate - Lab SOP* NIL/IHM/01 Analysis - APHA 4500-P-C	mg/kg	0.5	BDL
2	Cynide	APHA 4500-CN	mg/kg	0.005	BDL
3	Lead	Lab SOP* NIL/SOP/15	mg/kg	0.1	0.1
4	Cadmium	Lab SOP* NIL/SOP/15	mg/kg	0.1	BDL
5	Hexavalent Chromium	EPA 3050B	mg/kg	0.1	BDL
6	Copper	Lab SOP* NIL/SOP/15	mg/kg	0.1	18.2
7	Mercury	EPA 3050B / By FIAS	mg/kg	0.1	BDL
9	Selenium	EPA 3050B / By FIAS	mg/kg	0.1	BDL
10	Arsenic	EPA 3050B / By FIAS	mg/kg	0.1	BDL
11	Polychlorinated Biphenyls	GC ECD	mg/kg	0.01	BDL
12	Dichloromethane	GC FID	mg/kg	0.1	BDL
13	Carbon Tetrachloride	GC FID	mg/kg	0.1	BDL
14	1,2-Dichloroethane	EPA-8260 B	mg/kg	0.1	BDL
15	1,1-Dichloroethylene	EPA-8260 B	mg/kg	0.1	BDL
16	cis-1,2-Dichloroethylene	EPA-8260 B	mg/kg	0.1	BDL
17	1,1,1-Trichloroethane	EPA-8260 B	mg/kg	0.1	BDL
18	1,1,2-Trichloroethane	EPA-8260 B	mg/kg	0.1	BDL
19	Trichloroethylene	EPA-8260 B	mg/kg	0.1	BDL
20	Tetrachloroethylene	EPA-8260 B	mg/kg	0.1	BDL



Sample Code : NIL/SO/09/20/013		Sampling Location : MP 191			
Sr. No.	Test Parameter	Method	Unit	MDL*	Result
21	1,3-Dichloropropane	EPA-8260 B	mg/kg	0.1	BDL
22	Thiuram	GC-MS	mg/kg	0.1	BDL
23	Simazine	GC-MS	mg/kg	0.1	BDL
24	Thiobencarb	GC-MS	mg/kg	0.1	BDL
25	Benzene	GC FID	mg/kg	0.1	2.1
26	Oil & Grease	EPA Method 9071 B	mg/kg	1	2.1

Note :

1. MDL – Method Detectible Limit.
2. BDL – Below Detectible Limit.
3. * Based on Manual of Soil tooting in India, Ministry of Agriculture, COI, 2011
4. This Test Report shall not be reproduced except in full, without written approval of the Laboratory.
5. This Test Report refers only to the sample tested.
6. The complaint register is available with the Laboratory as per Environment Protection Act, 1986.

Verified by:

Surekha Jamdar
Dy. Technical Manager

Issued by:

Shradha Kere
Technical Manager

End of Report

Annexure-V

Sr. No	EMP break up for July to December 2020			Cumulative Expenditure (Rs. In Crore)
	Environmental attribute	Cost in crores (As stipulated in CRZ clearance) (Rs. in Crore)	Expenditure incurred on the environmental management plans (Rs. in Crore)	
1.	Environmental Monitoring- Air Act, Water Act, Noise levels	8	0.10	0.8101
2.	Compensatory Restoration Plan (Mangroves)	25	0	50.82
3.	Implementation of the suggestions given by BNHS	25	0	41.98
4.	Noise barriers	45	0.04	1.0876
5.	Mitigation of marine water pollution caused due to the surrounding industries and Sewage from Urban Bodies, by providing Funding and Capacity Building for Enabling Effluent Treatment	40	0	5.8
6.	Contribution to Mangroves Fund, an initiative by Govt. of Maharashtra for Conservation and Protection of Mangroves in Coastal areas by depositing Seed Money. This can be used for Survey & Demarcation of Notified areas. Purchase of vehicles and equipment for anti-Encroachment drives, etc.	25	0	25
7.	Oil Spill Mitigation Plan	10	0.26	1.1901
8.	Habitat quality assessment and monitoring Surveillance management and monitoring team for migratory birds, marine flora, turbidity in sea floor, etc Corpus fund for mudflat restoration program	20	0	0
9.	Appointment of Bird Monitor and his assistant till Restoration of Baseline data	4	0	0
10.	DMP, Firefighting, Risk	15	0.278	2.2003

EMP break up for July to December 2020				Cumulative Expenditure (Rs. In Crore)
Sr. No	Environmental attribute	Cost in crores (As stipulated in CRZ clearance) (Rs. in Crore)	Expenditure incurred on the environmental management plans (Rs. in Crore)	
	Analysis			
11.	Sustainable development including establishing Nature Interpretation Centre	10	0	10
12.	Safety and Security	15	2.71	12.25
13.	Energy conservation	10	0.18	3.0838
14.	Landscaping-Plantation of trees, flower in plants etc.	8	0.10	0.673
15.	Compensation and Capacity Building of Fisher folks due to Temporary and Permanent Loss of Fishing round	75	0	89.3
	TOTAL	335 Crores	3.6643	244.1949



AECOM

PADECO

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TYLIN
INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Ref No: MTHL/GC/MMRDA/LT/QPR-1856/2021

23rd January 2021

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

Sub: General Consultancy services for Mumbai Trans Harbour Link (MTHL) project -
Submission of Quarterly Progress Report (QPR) No. 13 for April - June 2020

Ref: MTHL/GC/MMRDA/LT/QPR – 1781/ 2020 dated 24th December 2020

Dear Sir,

With reference to the above subject, please find enclosed 1 hard copy of the corrected Quarterly Progress Report (QPR) No. 13 for the period of 1st April to 30th June 2020. In this report, we have incorporated all the corrections after your review of the draft report.

You may forward the same to JICA, India at your earliest convenience.

Thanking you,
Yours faithfully,

23 January 2021

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

Encl: 1 copy of Quarterly Progress Report No. 13 (April- May-June 2020)

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



एम एम आर डी ए
MMRDA

Mumbai Metropolitan Region Development Authority

Mumbai Trans Harbour Link Project

Quarterly Progress Report - No.13

(From 1st April 2020 to 30th June 2020)



**Mumbai Trans Harbour Link Project
Quarterly Progress Report No. 13
1st April 2020 to 30th June 2020
Loan Agreement No. ID-P255 (Tranche-I)**

ORGANIZATION INFORMATION

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

Details of JICA Loan

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

DOCUMENT VERIFICATION AND REVISION RECORD

PROJECT NAME		Mumbai Trans Harbour Link Project			
DOC NO.		13	DATE OF ISSUE		19/01/2021
DOC TITLE		Quarterly Progress Report No. 13			
REV No.	DATE OF ISSUE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY
R0	05/07/2017	Quarterly Progress Report No. 1 (Apr-Jun 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/10/2017	Quarterly Progress Report No. 2 (Jul-Sep 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/01/2018	Quarterly Progress Report No. 3 (Oct-Dec 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/04/2018	Quarterly Progress Report No. 4 (Jan-Mar 18)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	24/07/2018	Quarterly Progress Report No. 5 (Apr-Jun 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R0	10/10/2018	Quarterly Progress Report No. 6 (Jul-Sep 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R1	08/02/2019	Quarterly Progress Report No. 7 (Oct-Dec 18)	Prashant B	J Senthil/ Dr T K Sundaram	Dr Robin Sham
R0	05/04/2019	Quarterly Progress Report No. 8 (Jan-Mar 19)	Prashant B	J Senthil	V. D. Sharma/ Dr Robin Sham
R0	18/09/2019	Quarterly Progress Report No. 9 (Apr-Jun 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	13/11/2019	Quarterly Progress Report No. 10 (Jul-Sep 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	11/02/2020	Quarterly Progress Report No.11 (Oct-Dec 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	25/11/2020	Quarterly Progress Report No.12 (Jan-Mar 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	19/01/2021	Quarterly Progress Report No.13 (Apr-Jun 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham

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1.0 PROJECT DESCRIPTION

1.1 Project Objective

Original:

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

Actual (*P/R, PCR*)

There is no change in the Project Objective.

1.2 Necessity of the Project

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

Benefits from MTHL Project

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

Necessity of the Project

1. Although the urbanization in India has been rapidly progressing, infrastructure development in the urban areas has not caught up its progress. Particularly, the traffic congestion in the urban areas due to a lack of road network hinders the economic development. Thus, Government of India (GOI) places transport and connectivity as one of the “Growth Enablers” and plans to enhance road network in the “Three Year Action 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 Nagar Interchange			Between Shivaji Nagar Interchange and Chirle Interchange		
	2022	2032	2042	2022	2032	2042
Car	24,100	66,400	94,100	4,900	21,300	43,300
Taxi	2700	14,100	20,200	100	400	2,300
Bus	2,700	3,700	3,700	2,700	3,700	3,700
LCV	2,200	4,100	5,600	700	1,300	1,800
HCV	3,000	6,500	8,100	1,000	2,000	2,200
MAV	4,600	9,100	13,800	400	900	1,700
Total	39,300	103,900	145,500	9,800	29,600	55,000

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

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

Attachment 6, 7 & 8: Package wise construction schedules updated at the end of 1st quarter (April-June 2020).

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

(P/R and PCR)

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

2.3 Project Cost

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

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

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

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

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

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

3. Physical Contingency: 10%

4. Base Year for Cost Estimation: December 2018

* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696. The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

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

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total (Rs. mil)	JICA Portion (Rs. mil)	Others (Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	5,618	5,618	-	17,446	17,446		32,653	32,653	
Package-2	5,417	5,417	-	12,299	12,299		23,427	23,427	
Package-3	72	72	-	3,185	3,185		4,950	4,950	
Package-4 (ITS)	-		-	-			-		
Package-5 (Geotechnical Investigation)	-			196		196	308		308
Dispute Boards (Package-1, 2, 3 & 4)	-			-			-		-
Price Escalation	-			4	4		6	6	-
Physical Contingency	-			-			-		-
Consulting Services	253	253		362	362		899	899	
Land Acquisition*	-			6,014		6,014	9,442		9,442
Administration Cost	-			2,281		2,281	3,582		3,582
GST	-			4,639		4,639	7,283		7,283
Import Tax	-			-			-		-
Interest during construction	-			-			-		-
Front End Fee	-			-			-		-
Total	11,360	11,360	-	46,426	33,295	13,130	82,550	61,935	20,614

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

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

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

3. Physical Contingency: 10%

4. Base Year for Cost Estimation: December 2018

* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696. The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

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

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

(All Figures are in JPY mil)

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

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

(All Figures are in JPY mil)

Cost Breakdown	Total	JICA Portion				Others (MMRDA Portion)
		Tranche I	Tranche II	Tranche III	Sub Total	
FY 2017	13,738	9,232	-	-	9,232	4,506
FY 2018	26,813	21,695	-	-	21,695	5,118
FY 2019	40,404	31,008			31,008	9,396
FY 2020	1,594	-	-	-	-	1,594
FY 2021						
FY 2022						
FY 2023						
FY 2024						
Total	82,549	61,935	-	-	61,935	20,614

(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 2020:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-026 (80% ad-hoc) & IPC-027 (80% ad-hoc) and IPC-024 (20% detailed verification) & IPC-024 (20% detailed verification) – Mobilization Advance Recovery done for INR and EURO.
 - ii) Package-2: IPC-021 (20% detailed verification)
 - iii) Package-3: IPC-016 (80% ad-hoc) and IPC 015 (20% detailed verification) – Mobilization Advance Recovery done for INR
- 2 GC has prepared and submitted a total reimbursement claim of 3158.89 Million JPY to MMRDA / JICA in April 2020.
- 3 Due to Corona Virus Pandemic, countrywide lockdown has been implemented since 23rd March 2020. The construction activities were completely stopped across all the 3 Packages of MTHL. During this period, most of the GC staff were working from home.

May 2020:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: No AIPC certification done in May 2020
 - ii) Package-2: Recovery of Mobilization Advance after 6% legislation adjustment in IPC-023
 - iii) Package-3: No AIPC certification done in May 2020.
- 2 GC has prepared and submitted a total reimbursement claim of 1391.68 Million JPY to MMRDA / JICA in May 2020.
- 3 Due to Corona Virus Pandemic, there was a countrywide lockdown throughout May 2020. However, the construction works has been partially resumed since 26th April 2020 onwards with mobility restriction conditions. During this period, although the GC staff started working from home, the required number of staff were present at the site for the supervision purpose.

June 2020:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-26 (20% Detailed Verification) & IPC-27 (20% Detailed Verification) and IPC-28 (80% Ad-hoc) & IPC-29 (80% Ad-hoc).
 - ii) Package-2: IPC-22 (20% Detailed Verification) which was certified in May'20 is now superseded in June'20 (with updated submission as IPC-23)
 - iii) Package-3: IPC-16 (20% Detailed Verification) and IPC-18 (80% Ad-hoc).
- 2 GC has prepared and submitted a total reimbursement claim of 1472.03 Million JPY to MMRDA / JICA in June 2020.
- 3 Government announced some relaxation in the lockdown from 26th April 2020 for resumption of some critical and monsoon preparedness activities at the site.

Contractor's Progress:

Package-1 Physical Progress till 30th June 2020

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Temporary Access Bridge					
1.1	Bridge Deck	2953	Rmt	2953	100%	
2	Test Pile					
2.1	Test Piles	5	No.	4	80%	
3	Permanent Bridge Works - Land/ Interchange Zone					
3.1	Piles	524	No.	249	48%	
3.2	Pile Caps	158	No.	42	27%	
3.3	Piers	228	No.	81	36%	
3.4	Pier Caps	215	No.	0	0%	
4	Permanent Bridge Works - Intertidal Zone					
4.1	Piles	316	No.	206	65%	
4.2	Pile Caps	76	No.	44	58%	
4.3	Piers	148	No.	76	51%	
4.4	Pier Caps	148	No.	45	30%	
5	Permanent Bridge Works - Marine Zone					
5.1	Piles	399	No.	270	68%	
5.2	Pile Caps	79	No.	25	32%	
5.3	Piers	160	No.	7	4%	
5.4	Pier Caps	160	No.	3	2%	
6	Permanent Bridge Works - Total					
6.1	Piles	1239	No.	725	59%	
6.2	Pile Caps	313	No.	111	35%	
6.3	Piers	536	No.	164	31%	
6.4	Pier Caps	523	No.	48	9%	
7	Precast Segments					
7.1	Segment Casting	6713	No.	423	6%	
7.2	Segment Erection	446	Spans	3	1%	

Package-2 Physical Progress till 30th June 2020

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Temporary Access Bridge					
1.1	Bridge Deck	2682	Rmt	2682	100%	
2	Test Pile					
2.1	Test Piles	2	No.	2	100%	
3	Permanent Bridge Works - Land/ Interchange Zone					
3.1	Open Foundation	113	No.	70	62%	
3.3	Piers	119	No.	24	20%	
3.3	Pier Caps	104	No.	0	0%	
3.4	Portal Beams- Land	6	No.	0	0%	
3.5	Pier Head Segments -Land	42	No.	0	0%	
4	Permanent Bridge Works - Intertidal & CRZ Zone					
4.1	Piles	290	No.	270	93%	
4.2	Pile Caps	70	No.	37	53%	
4.3	Piers	70	No.	13	19%	
4.4	Pier Caps	18	No.	0	0%	
4.5	Pier Head Segments	52	No.	0	0%	
5	Permanent Bridge Works - Marine Zone					
5.1	Piles	514	No.	76	15%	
5.2	Pile Caps	122	No.	0	0%	
5.3	Piers	122	No.	0	0%	
5.4	Pier Caps	48	No.	0	0%	
5.5	Pier Head Segments	74	No.	0	0%	
6	Permanent Bridge Works - Total					
6.1	Open Foundation	113	No.	70	62%	
6.2	Piles	804	No.	346	43%	
6.3	Pile Caps	192	No.	37	19%	
6.4	Piers	311	No.	37	12%	
6.5	Pier Caps	170	No.	0	0%	
6.6	Portal Beams	6	No.	0	0%	
6.7	Pier Head Segments	168	No.	0	0%	
7	Precast Segments					
7.1	Segment Casting	3142	No.	151	5%	
7.2	Segment Erection	271	Spans	0	0%	

Package-3 Physical Progress till 30th June 2020

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Permanent Bridge Works					
1.1	Open Foundations	195	No.	132	68%	
1.2	Piers	195	No.	68	35%	
1.3	Pier Caps	189	No.	22	12%	
1.4	Segment Casting	750	No.	92	12%	
1.5	Segment Erection	53	Span	0	0%	

Package-4 (ITS) Progress till 30th June 2020

Preparation of Bid Documents for the Civil Works & ITS (Intelligent Transport system) system is in progress. GC has resolved the queries raised by the bidders during the PQ (Pre-Qualification) Stage. Employer received only one PQ Application from M/S Tata Projects Ltd & Efcon India Pvt Ltd (Joint Venture). Further line of action is under progress.

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

Health & Safety and Environment (HSE)

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

Package-1 Safety Report

Sr. No	Description	From April to June 2020	Cumulative
1	Total Man Hours Since Inception	4,33,734	15111282
2	Number of Man-Hours (Accident Free Man-Hours)	4,33,734	2601294
3	Number of Man-Days	54,217	1888909
4	Number of Reportable Fatal Accidents	0	2
5	Number of Non-Fatal Accidents	0	1
6	Number of Near Miss Incidents	11	55
7	Number of First Aid Cases	2	100
8	Number of Dangerous Occurrences	0	1
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	0	96448
11	Number of Man-Days Lost	0	12058
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	3
13	Number of Inspections done for Offices & Sites	354	597
14	Number of Training/ Induction done for Offices & Sites	38	248
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	1,213	1680
16	Details of Safety Committee meetings	0	21
17	No. of toolbox talks	1,423	27718
18	No. of critical excavations.	0	16
19	Pre-employment Medical check-up	151	14141
20	No. of Safety Walk down	0	119
21	No. of Safety Inductions completed	151	14141

Package-2 Safety Report

Sr. No	Description	From April to June 2020	Cumulative
1	Total Man Hours Since Inception	9,80,023	7028074
2	Number of Man-Hours (Accident Free Man-Hours)	4,37,173	560692
3	Number of Man-Days	39,743	640163
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	3
6	Number of Near Miss Incidents	0	33
7	Number of First Aid Cases	3	57
8	Number of Dangerous Occurrences	1	5
9	Number of Reportable Sick Cases	0	1
10	Number of Man-Hours Lost	88	924
11	Number of Man-Days Lost	8	97
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	3
13	Number of Inspections done for Offices & Sites	52	619
14	Number of Training/ Induction done for Offices & Sites	16	437
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	1,851	818
16	Details of Safety Committee meetings	2	24
17	No. of toolbox talks	314	3292
18	No. of critical excavations.	0	0
19	Pre-employment Medical check-up	95	6360
20	No. of Safety Walk down	3	72
21	No. of Safety Inductions completed	95	6570

Package-3 Safety Report

Sr. No	Description	From April to June 2020	Cumulative
1	Total Man Hours Since Inception	1,16,831	1309669
2	Number of Man-Hours (Accident Free Man-Hours)	1,16,831	1309669
3	Number of Man-Days	14,604	163709
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	0
6	Number of Near Miss Incidents	0	6
7	Number of First Aid Cases	3	43
8	Number of Dangerous Occurrences	0	0
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	0	0
11	Number of Man-Days Lost	0	0
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	0
13	Number of Inspections done for Offices & Sites	15	196
14	Number of Training/ Induction done for Offices & Sites	4	123
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	346	4024
16	Details of Safety Committee meetings	1	20
17	No. of toolbox talks	420	3134
18	No. of critical excavations.	0	3
19	Pre-employment Medical check-up	27	2899
20	No. of Safety Walk down	3	79
21	No. of Safety Inductions completed	27	2899

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 2021.</p> <p>Single Operation and Maintenance Contractor will be appointed by December 2021.</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. The Draft DPR has been reviewed and approved by MMRDA.
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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	-	<p>Pkg-1: Tree Cutting/ Transplantation permission is awaited from the Tree Authority.</p> <p>Pkg-2: Tree Cutting/ Transplantation permission obtained & completed.</p> <p>Pkg-3: Forest Department has issued a concurrence on 19/05/2019. CIDCO's permission for Tree Cutting/ Transplantation obtained on 25th November 2019.</p>
Consent to Establish	Maharashtra Pollution Control Board	Contractor for respective Packages	Pkg-1-18.07.2018 Pkg-2-16.08.2018 Pkg-3-29.05.2019	

3.3 Environmental and Social Impacts

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

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
<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 297 Project Affected Households (PAHs) have given consents as follows:</p> <ul style="list-style-type: none"> • 164 PAHs Kanjurmarg for residential • 25 PAHs Kanjurmarg for commercial • 7 PAHs (Satsangi Plot) Kanjurmarg for Commercial • 1 PAHs (commercial to residential) for Bhakti Park • 100 PAHs HDIL Kurla for residential <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, 106.345 ha has been handed over by CIDCO to MMRDA. CIDCO is going to acquire the balance 1.745 Ha with the help of Collector, Raigad.</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)</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>("Guidelines") (Attachment 2-5).</p>	
<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>

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
<p>g. Qualitative Independent Evaluation</p> <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 MOD dated 03/09/2019 for MTHL-II, 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</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>as a part of Progress Status Report (PSR) by filling in the Reporting Form of Environmental Monitoring Result. (Attachment 2-4). After completion of the construction, EMoP shall be implemented by MMRDA, and the results shall be submitted to the JICA India Office semi-annually until two years after complementation of construction. The required amount of estimated environmental monitoring budget is borne by MMRDA.</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	Original: 15.4% Cost: Project cost (excluding Price Escalation, Tax and Duties and Administration cost) O&M cost, Land Acquisition Benefit: Travel Time cost and Vehicle Operation cost Project Life: 32 Years	Actual: (PCR) _____% Cost: Benefit: Project Life: Attachment(s): Supporting data for computing EIRR
FIRR	Original: 1.5% Cost: Project Cost, O&M cost, Land Acquisition cost Benefit: Toll Revenue Project Life: 32 Years	Actual: (PCR) _____%

3.5 Monitoring Plan for the indicators

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

Original: (P/M and PCR)

Monitoring Organization

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

Submission of QPR and PCR

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

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

Actual: (P/R and PCR)

Monitoring Organization

PIU for MTHL has been established for monitoring the Project.

Submission of QPR and PCR

This QPR No. 13 is submitted for the period of 1st April to 30th June 2020.

3.6 Achievement of the Project Objective

(PCR)

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

4.1 O&M and Management

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

Original: (P/M)

Operation & Maintenance, Toll Management and ITS

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

Actual: (PCR)

4.2 O&M Cost and Budget

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

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

5.0 EVALUATION

5.1 JICA and Borrower / Executing Agency performance

JICA:

(PCR)

Borrower/ Executing Agency:

(PCR)

5.2 Overall Evaluation

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

(PCR)

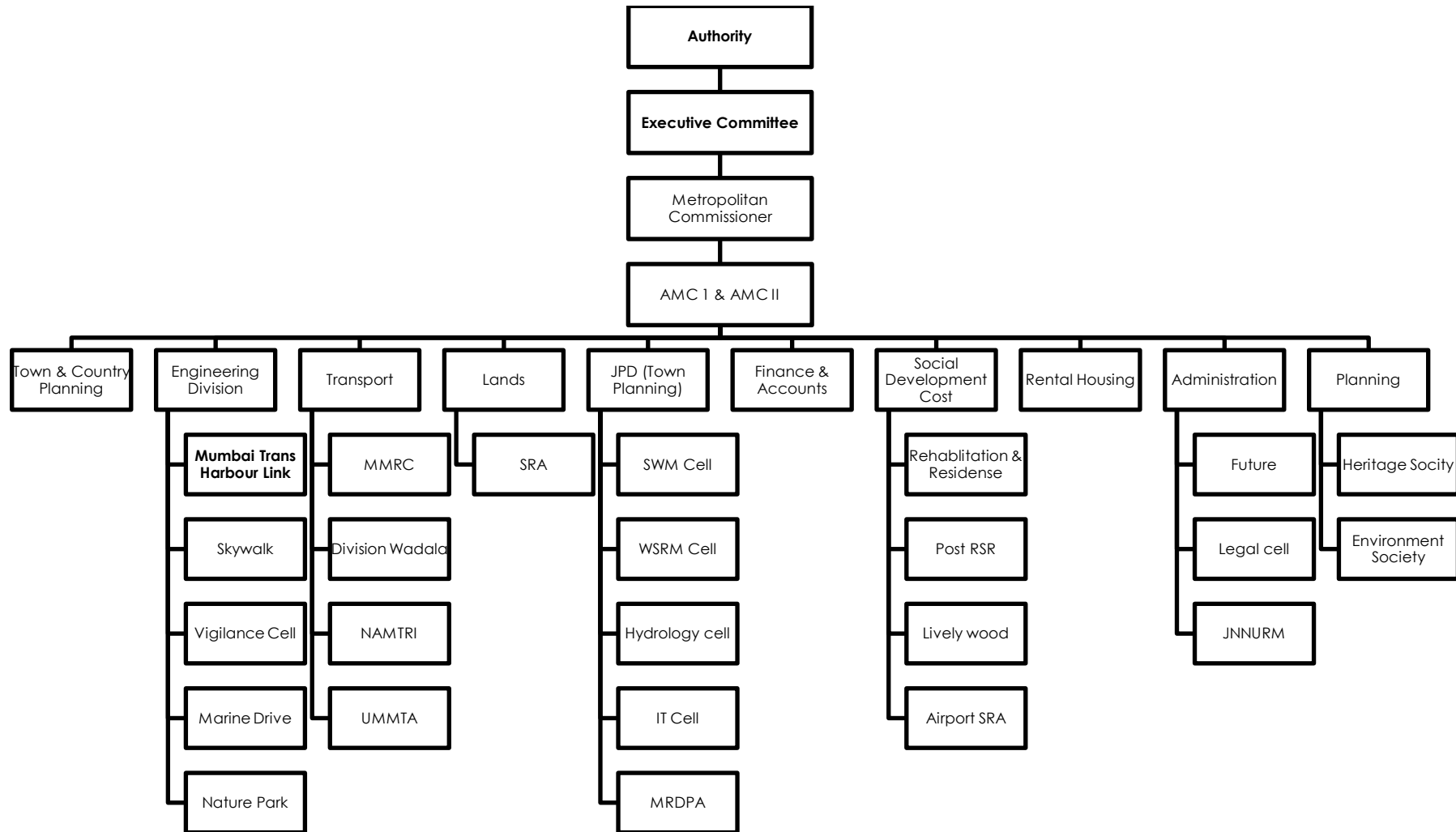
5.3 Lessons Learnt and Recommendations

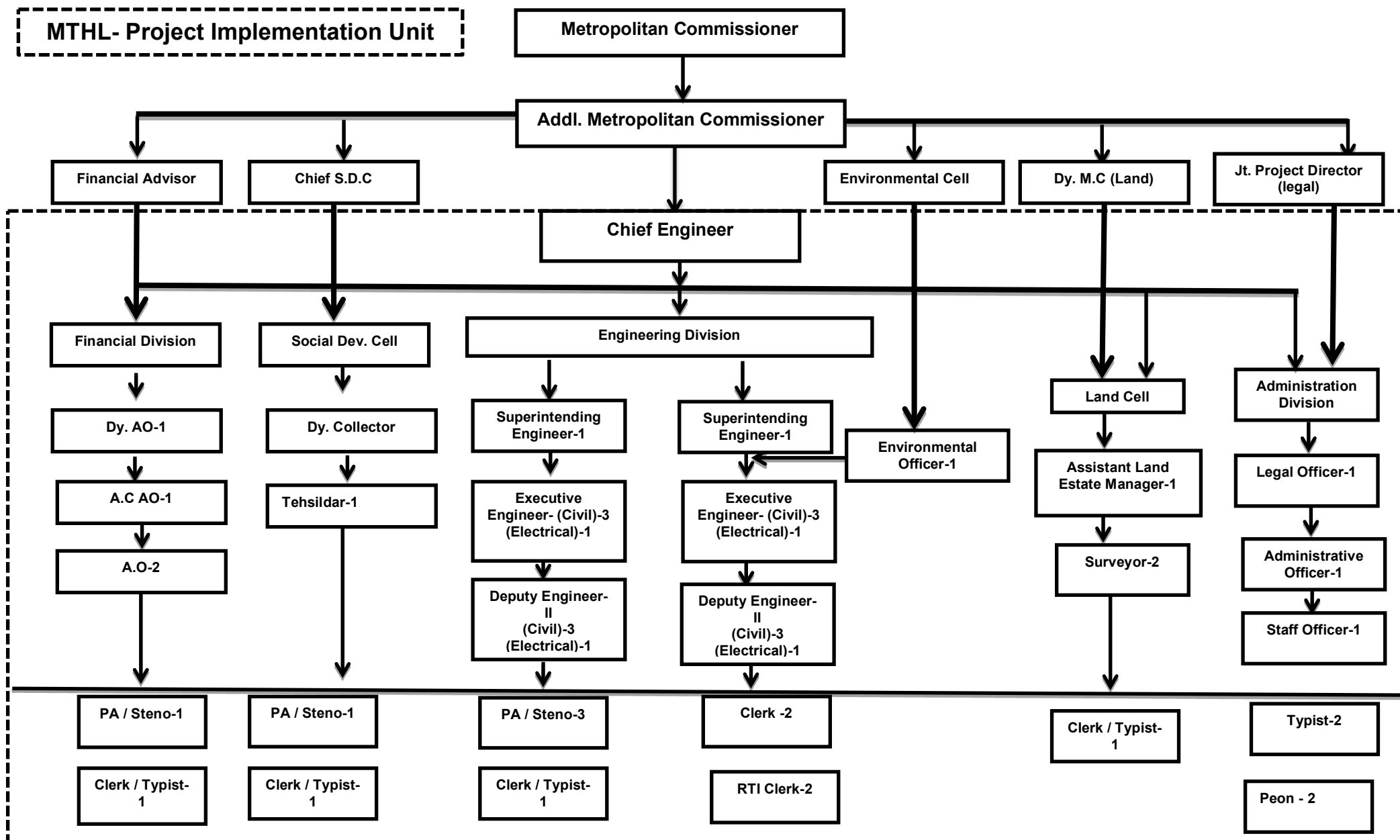
Please raise any lessons learned from the project experience, which might be valuable for the future JICA assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

(PCR)

Attachment 1- MMRDA & PIU Organization Chart

MMRDA Organization chart





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}}) Vibration (dB L10 or mm/sec)	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 1 Location Gavan area for package III	Fortnightly 2 Times / Year Fortnightly Half yearly	150,000 75,000	54,000 0	150,000 75,000	369,000 400,000	573,000 475,000	-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) - 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 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

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

Monitoring Period - April to June 2020
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1. Environmental Monitoring during Construction for 4.5 years

Area	No.	Item	Parameter	Location	Frequency a year	Item and Standard	Monitoring Result				Remark - reasons why the data is exceeding standard - counter measures when the data is exceeding						
							Location 1- Pkg 1	Location 2	Location 3- Pkg 3	Location 4							
Pollution	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	1. Sewri & Sewri bay area for package I	Quarterly monitoring is conducted at all locations.	National Ambient Air Quality Standards (NAAQS) (Standard for 24hrs: Industrial and Residential)	Sewri	Shivaji Nagar	Chirle								
				2. Nhava temporary bridge & casting yard in Gavhan for package II	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	Refer Remark	Refer Remark	Refer Remark		Due to COVID 19 Lockdown, Ambient air monitoring could not be conducted for this quarter.
												2. NO ₂ : 80µg/m ³					
												3. PM ₁₀ : 100µg/m ³					
												4. PM _{2.5} : 60µg/m ³					
			5.CO:02mg/m ³														
			6.VOCs														
	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			Due to COVID 19 Lockdown, water monitoring could not be conducted for this quarter.					
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year								1. pH : 6.5-9				
				3. Gavhan & Chirle for package III	Not applicable								2. DO: 3 mg/l	Refer Remark	Refer Remark	
													3. Turbidity: 30 NTU				
													4. BOD: 5 mg/l				
													5. O & G: 10 mg/l				
			6.COD														
	3	Waste	Volume of waste soil, cutting tree and domestic garbage	1. Sewri & Sewri bay area for package I	Daily	Municipal Solid Waste Management Rules, 2013	Sewri Camp Site	Shivaji Nagar Camp Site	Chirle Camp Site			The site work was restricted due to COVID 19 Lockdown in this period					
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year								Generated waste soil (t) total	117.02 m ³	Approx 1000 kg waste generated in total from the labour camp	NIL	
				3. Gavhan & Chirle for package III	Once site clearing work/execution part of work start.								Generated cutting tree (ha) total	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting so far NIL.		Permission from both CIDCO and forest department . Tree cutting so far is nil	
													Generated domestic waste (t/month) total	2.45 T for the quarter	0.750 T quarter is disposed through Gram panchayat.		
													Confirmation of adequate disposal (visual survey)				
4	Soil Contamination/sedimentation	Heavy Metals & Oil & Grease	1. Sewri & Sewri bay area for package I	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year	Soil Pollution Standard in India (MOEF)	Refer Remark					Muck analysis was conducted in April 2019, and report is already submitted to GC.						
			2. Nhava temporary bridge & casting yard in Gavhan for package II									1. Cadmium: 0.01mg/l					
			3. Gavhan & Chirle for package III	*If any spillage/ leakage take place from chemical, fuel storage area. *One time grab sample to be collected during Bridge Construction *Pre & Post Monsoon at Storage area only								2. total cyanide : not detected					
												3. organic phosphorus: not detected					
												4. lead: 0.01mg/l					
												5. chromium (VI): 0.05mg/l					
												6. arsenic: 0.01mg/l or 15mg/kg (agri-land soil)					
												7. total mercury: 0.005mg/l					
												8. alkyl mercury: not detected					
												9. PCBs: not detected					
												10. copper: 125mg/kg (only paddy field soil)					
												11. dichloromethane: 0.02mg/l					
												12. carbon tetrachloride: 0.002mg/l					
												13. 1,2-dichloroethane: 0.004mg/l					
												14. 1,1-dichloroethylene: 0.02mg/l					
												15. cis-1,2-dichloroethylene: 0.04mg/l					
												16. 1,1,1-trichloroethane: 1mg/l					
												17. 1,1,2-trichloroethane: 0.006 mg/l					
												18. trichloroethylene: 0.03mg/l					
												19. tetrachloroethylene: 0.01mg/l					
		20. 1,3-dichloropropene: 0.002mg/l															

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

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

Attachment 2-4

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Monitoring Period - April to June 2020
--

1. Environmental Monitoring during Construction for 4.5 years

Sl. No.	Category	Monitoring Parameter	Frequency	Standard	Location	Monitoring Results		Remarks		
						Value	Unit			
5	Noise and vibration	Ambient and road side noise (dB(A) LAeq)	1. Sewri & Sewri bay area for package I	Fortnightly	Construction area Standard 85 dB(A) daytime (Japan standard) Not construction area : Ambient Noise Standard in India (dB(A) LAeq)	Sewri (ST 200-500) (Industrial area)	Sea Section (ST5000-5500) Migratory Bird Area (no standard on sea section)	Shivaji Nagar (Commercial area)		
			2. Nhava temporary bridge & casting yard in Gavhan for package II	2 Times / Year	Day time : 6-22 hr (continuous) dB(A)	Refer Remark		66.8	Due to COVID 19 Lockdown, ambient noise monitoring could not be conducted for this quarter.	
			3. Gavhan & Chirle for package III	Fortnightly	Night time: 22-6 hr (continuous) dB(A) (only sea section)	Refer Remark		65.3		
					Day time : 6-22 hr (10 min during 9-17 hrs)					
					Night time: 22-6 hr (10 min 22-24 hr)					
					Note (standard values in Not construction area)					
					1. Industrial Area					
					Day Time: 75 (6-22hr)					
					Night Time: 70 (22-6hr)					
			2. Commercial Area:							
			Day Time: 65 (6-22hr)							
			Night Time: 55 (22-6hr)							
										Due to covid -19 lockdown april vibration monitoring was not conducted but in June we planned it again as suggested by GC but vendor denied due to covid-19 lockdown (same mail we sendto GC/ MMRDA along with letter). Ref letter No.0001810 Dated on 14.07.2020
			Vibration (dB) shall be converted from mm/s to dB	1 Location Gavan area for package III	Half yearly	Construction area Standard 75 dB daytime (Japan standard) Not construction area : Vibration Standard (Japan Standard along the road)	Sewri (ST 200-500) (Industrial area)	Shivaji Nagar (Commercial area)	Chirle	
						Day time : 6-22 hr (continuous)	Refer Remark			
Night time: 22-6 hr (continuous)										
Note (standard values in Not construction area)										
1. Commercial /Industrial Area										
Day Time: 70 (7-20hr)										
Night Time: 65 (20-7hr)										
							Regarding protected area (CRZ and Important Bird Area) and ecosystem, detailed long-term monitoring plan will be established during baseline survey of birds. This tentative monitoring form shall be updated based on the detailed long-term monitoring plan.			
1. Monitoring of mudflat conditions including fauna-flora 2. Monitoring of Cutting	Along MTHL alignment and mangrove replant area for Package I	Quarterly during the construction Period	Standard is not existing, but quantity and quality should not be worsen	Sewri side (ST500-5500)	Sea Section (ST5500-16000)	Shivaji Nagar side (app. ST16000-19000)	Mangrove Replantation area appointed by State Government			
			Along MTHL alignment and mangrove replant area for package II	4 Times / Year	1-1. Fauna-Flora (number of species and quantity)			N/A	N/A	
			(1) Number of species of bird							
			(2) Number of species of fish							
			(3) Estimated number of Flamingo							
1-2: Mangrove density and community survey										

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

Attachment 2-4

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

Monitoring Period - April to June 2020
--

1. Environmental Monitoring during Construction for 4.5 years

Natural Environment	6	Protected Area	Tree and 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) SiO2)			(1) Number of species of mangrove					
						(2) Density of mangrove (xx trees/10m x 10m)					
						1-3: Benthos Survey					
						(1) Number of species and quantity by species	Refer Remark				Due to COVID 19 Lockdown, marine biology sampling and monitoring could not be conducted for this quarter.
						2-1: Cutting tree confirmation	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting NIL	All the tree cutting and mangrove cutting had been carried out as per approval received from GC and MMRDA and job was completed in 2018 itself and after that no trees and mangroves have been cut till date	Nil		
						(1) Number of cutting tree and species					
						3-1: Mangrove survey in the replant area			Nil		
						(1) Number of species of mangrove					
						(2) Density of mangrove (xx trees/10m x 10m)					
						4. Ecological Parameter					
						(1) Net primary Productivity : <1,500 mgC/m3/day at surface					Due to COVID 19 Lockdown, marine biology sampling and monitoring could not be conducted for this quarter.
						(2) Chlorophyll-a: <4mg/m3					
(3) Phosphate: 0.1-90µg/l											
(4) Nitrate: 1.0-500µg/l											
(5) Nitrite: <125µg/l											
(6) Particulate Organic Carbon: 10-100mg/m ³											
(7) SiO2: 10-5,000µg/l											
7	Hydrology	Flooding situation	Not applicable for Package I		Criteria for evaluation Project activities and structures does not cause flooding and impacts on tidal conditions	Sewri	Shivaji Nagar				
			2 Locations (CRZ at Sewri and Shivaji Nagar) for Package II	4 Times / Year	Monitoring of flooding situation	No Flooding					
			Not applicable for Package III								
8	Topography and Geology	Conditions in embankment area	2 Locations (1. Embankment of Inter Change in Shivaji Nagar and 2 Cutting area at toll gate in Chirle)	4 times / year x 4.5 years	Criteria for evaluation Embankment shall be stabilized without any landslide and cracks	Shivaji Nagar	Chirle	Chirle			
					Monitoring of embankment						
9	Local conflict of interests	Construction worker's township	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	Criteria for evaluation Employment opportunity shall be provided fairly	Sewri Camp Site	Shivaji Nagar Camp Site	Chirle			
					Number of hired workers by community	165 in May 2020 and 260 in June 2020	Nil	Nil			
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	During this quarter three COVID 19 positive cases reported in this quarter who have been treated and discharged.	Nil	Nil			
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 have been provided. *900 nos. for Food (lunch & Dinner) provided to workmen from BOCW. * Face mask provided to workmen, * Calcium & Vitamins tablets provided to workmen to boost up the immunity of workmen, * Sanitizers & Liquids soaps also provides to different location for workmen.	All provisions as per BOCW have been provided.	All provisions as per BOCW have been provided.			
Other	12	Accident	Number of accidents	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	Criteria for evaluation Any accidents are not caused by construction	Sewri Camp Site	Shivaji Nagar Camp Site	Other area		
						Number of recorded accident	NIL				

MTHL Land Acquisition Status (Attachment 2-6):

Total land required on Navi Mumbai side- 108.09 ha

Land in possession in MMRDA – 106.5 ha

Balance land acquisition- 1.59 ha

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

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

***Portions of Private Land**

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

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 2020
b. Date of Preparing This form	30-06-2020
c. Person Preparing This form	Name: Robin Sham Position: Engineer and Team Leader Department/Organizations: General Consultants

2. Scale of Impact

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

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

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

2.2 Structures

Structures	Residential: 231 Commercial: 65 Residential + Commercial: 1 (counted in Commercial) Community: 9 (Religious Properties 6, Public Toilets 3) Government: 16 (MbPT Structures 9, Occupants of Leased Plots 6 & Police Chowky1) Total: 322
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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.)	178	52	230	Funds for 230 nos C1 category fishermen are transferred to Commissioner of Fisheries on 17.03.2020 for payment to the beneficiaries.

Attachment 2-8

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

2.4 Land Acquisition / Transfer

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

Attachment 2-8

3. Monitoring Results

3.1 Sewri Section

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

Attachment 2-8

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

SUMMARY OF FISHER FOLKS OF MTHL PROJECT (Influence Zone of 23 villages) Up to 30th June 2020.																																															
Sr. No.	Village Name	Total number of forms Received	Total approved eligible family units				No. of Rejected Applications																																								
			C1	C2	C3	Total																																									
1	2	3	6	7	8	10	11																																								
1	Bamandongri	273	1	0	25	26	230																																								
2	Belapur	110	0	5	14	19	86																																								
3	Belpada	1185	0	7	473	480	476																																								
4	Diwale	455	10	236	12	258	132																																								
5	Ganeshpuri	276	0	33	32	65	164																																								
6	Gavhan	2167	0	14	1305	1319	575																																								
7	Jasai	926	0	0	18	18	908																																								
8	Jawale	51	0	1	0	1	50																																								
9	Kombadbhuja	413	1	24	126	151	219																																								
10	Kopar	994	2	5	230	237	551																																								
11	Mahul	1198	129	170	600	899	190																																								
12	Moha	475	22	34	134	190	212																																								
13	Mora	466	0	75	213	288	175																																								
14	Morave	539	14	17	79	110	301																																								
15	Nhava	1646	0	32	304	336	1009																																								
16	Sarsole	266	0	30	83	113	135																																								
17	Sewri	305	0	1	70	71	234																																								
18	Shelghar	241	0	0	15	15	214																																								
19	Shivajinagar	200	1	4	61	66	133																																								
20	Trombay	1253	49	259	783	1091	121																																								
21	Ulwa	218	1	4	12	17	173																																								
22	Uran & Hanuman Koliwada	685	0	29	554	583	87																																								
23	Vahal	411	0	2	1	3	367																																								
Total		14753	230	982	5144	6356	6742																																								
<table border="1"> <tr> <td>Total applications</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>14753</td> </tr> <tr> <td>Duplicate/Repeated Application</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1655</td> </tr> <tr> <td>Net Applications</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>13098</td> </tr> <tr> <td>Approved applications</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6356</td> </tr> <tr> <td>Rejected application</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>6742</td> </tr> </table>								Total applications							14753	Duplicate/Repeated Application							1655	Net Applications							13098	Approved applications							6356	Rejected application							6742
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Approved applications							6356																																								
Rejected application							6742																																								

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

Grievance Redressal Committee (GRC) for Fisher-folk Compensation

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

Implementation Schedule for Fisher-folks Compensation & Land Acquisition in Navi Mumbai**A. Implementation Schedule for Fisher-folks Compensation: -**

Sr. No.	Task Designation	Approving authority	Start Date	Completion Date
1	Approval of fisher-folks' compensation Policy	Fisher-folks Compensation Committee (FCC)	08-10-2015	23-12-2015
2	Approval by MMRDA	MMRDA	10-12-2015	23-12-2015
3	Submission to JICA	MMRDA	--	04-01-2016
4	Detailed list of PAP and compensation plan	1. Detailed list of Fisher-folk PAP upto list 1 (1165 Nos) & 2 (1399 Nos) are finalized by the Fisheries Department. 2. From 2018, FEVC committee is the approval authority of PAF and approved C1- 230 Nos; C2-440 Nos and C3- 2580 Nos are approved.	23-12-2015	Up to 30.06.2020 1. Total up to date applications scrutinized = 13098 Nos. 2. Eligible = 6356 nos 3. Rejected = 6742 nos
5	Validation of compensation plan	Fisher-folks Compensation Committee (FCC)	23-12-2015	1. Approval to the Fisher-folk PAP list obtained from Fisheries Department for Fisherfolk from Sewri, Mahul & Trombay (Mumbai side) – 12th September 2017 and 20th November 2018 for C-2 & C3 Category only.

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

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

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

Implementation Schedule for SIA (Sewri Section)

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

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

Attachment 3- JICA's Concurrence Status

Status of JICA'S Concurrence

Sl. No.	Brief description	Procurement procedure	Bid Cost		JICA'S Concurrence on					
			Local Currency (Cr Rs.)	Total (Cr Rs)	PQ Documents	PQ Evaluation	Bid Documents	Technical Evaluation	Financial Evaluation	Contract
1.	Package-1 (CH 0+000 km to CH10+380 km)	ICB with PQ (2P)	7637.30	7637.30	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 22nd Dec 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 12th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence - 15th Feb 2018
2.	Package-2 (CH 10+380 km to CH18+187 km)	ICB with PQ (2P)	5612.61	5612.61	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 22nd Dec 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 12th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence - 15th Feb 2018
3.	Package-3 (CH18+187 to CH21+800)	ICB with PQ (2P)	1013.79	1013.79	JICA's Concurrence - 9th May 2016	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 4th Jan 2017	JICA's Concurrence - 15th Sep 2017	JICA's Concurrence - 12th Oct 2017	JICA's Concurrence - 15th Feb 2018
4.	Package-4 Intelligent Transport System	ICB with PQ (2P)	181.49	181.49	JICA's Concurrence - 23rd August 2019	JICA's Concurrence - 18th June 2020	-	-	-	-

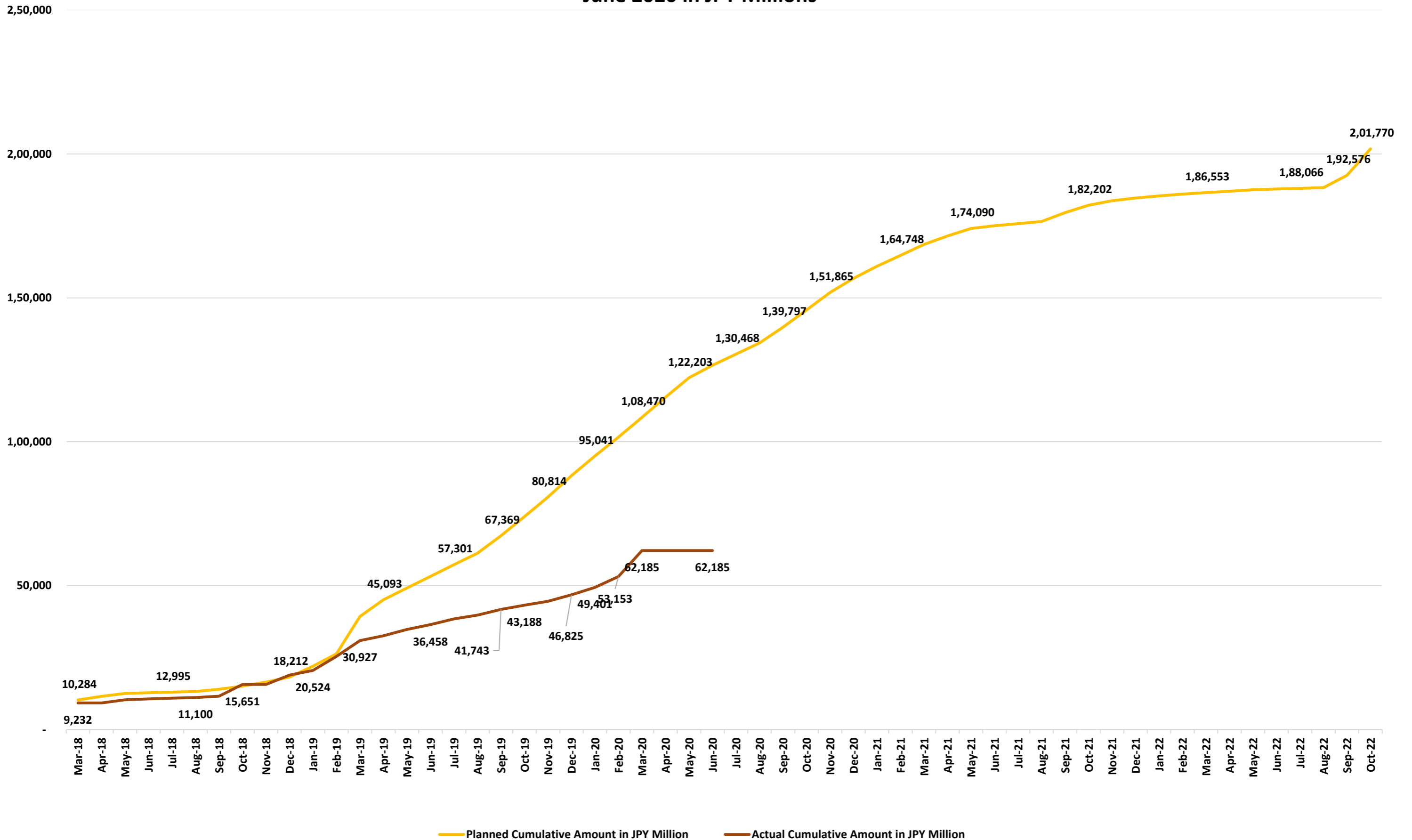
Attachment 4- Project Procurement and Financial Status till 30th June 2020

PROJECT PROCUREMENT AND FINANCIAL STATUS TILL 30th JUNE 2020

Type	Contract	Awarded or Estimated Value (in Rs. Crore)	Current Status	Contractors	Project Commencement Date	Stipulated Project Completion Date	% of Overall Project completion (Design/ Procurement/ Construction) till 25 th June 2020	% of Overall Financial Progress (Including Mobilization Advance) till 30 th June 2020
CIVIL	Package-1 (CH 0+000 km to CH 10+380 km)	7637.30	Awarded	L&T-IHI Consortium	March 2018	Sep 2022	26.92%	36.40%
	Package-2 (CH 10+380 km to CH18+187 km)	5612.61	Awarded	DAEWOO-TPL JV	March 2018	Sep 2022	21.01%	35.36%
	Package-3 (CH18+187 to CH21+800)	1013.79	Awarded	L&T	March 2018	Sep 2021	29.51%	44.91%
ITS	Package-4 Intelligent Transport System (ITS)	181.49 (Estimated)	Design Stage	--	June 2021 (Estimated)	Sep 2022	NA	NA

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

**Attachement 5 - S-Curve for Planned Vs Actual Cumulative Amount till
June 2020 in JPY Millions**



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



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



General Consultant for Mumbai Trans Harbour Link Project

Table with columns: Activity ID, Activity Name, BL1 Duration, BL1 Start, BL1 Finish, Original Duration, Start, Finish, Schedule % Complete, Performance % Complete, Variance - BL1 Start Date, Variance - BL1 Finish Date, Total Float, and a monthly Gantt chart grid from 2018 to 2023.

Legend for activity status: Actual Level of Effort, Remaining Work, Milestone, Actual Work, Critical Remaining Work, summary.

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



Main project schedule table with columns for Activity ID, Activity Name, BL1 Duration, BL1 Start, BL1 Finish, Original Duration, Start, Finish, Schedule % Complete, Performance % Complete, Variance - BL1 Start Date, Variance - BL1 Finish Date, Total Float, and monthly progress bars from 2018 to 2023.

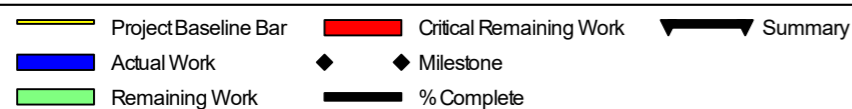
Legend table with icons and text for: Actual Level of Effort, Remaining Work, Milestone, Actual Work, Critical Remaining Work, summary.

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

#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete	Gantt Chart											
										2018	2019	2020	2021	2022							
1	MTHL-PKG2-DETAILED WORK PROGRAMME_25062020_APPROVED_MPR.27		2989.13	17-Nov-17	21-Sep-24	17-Nov-17		45.96%	21.01%	[Gantt Chart]											
2	PROJECT PRE-COMMENCEMENT ACTIVITY		126.00	17-Nov-17	22-Mar-18	17-Nov-17	16-Mar-18	0%	0%	[Gantt Chart]											
3	PRE-COMMENCEMENT ACTIVITY		55.00	15-Dec-17	07-Feb-18	15-Dec-17	20-Mar-18	0%	0%	[Gantt Chart]											
4	PROJECT EVENT MILESTONE		2279.50	23-Mar-18	21-Mar-23	23-Mar-18		0%	0%	[Gantt Chart]											
5	PROJECT KEY MILESTONE		2133.38	23-Mar-18	22-Sep-22	23-Mar-18		0%	0%	[Gantt Chart]											
6	INTERFACE MILESTONE_ERG19		2251.50	19-Apr-18	21-Mar-23	03-Apr-18		0%	0%	[Gantt Chart]											
7	PHYSICAL PROGRESS AND INTERFACE DATE_ADD2-ATTACHMENT 25		1890.38	18-Sep-18	22-Jun-22	31-Aug-18		0%	0%	[Gantt Chart]											
8	CONSTRUCTION KEY MILESTONES		974.50	03-Sep-18	06-Jul-21	25-Oct-18		0%	0%	[Gantt Chart]											
9	MANAGEMENT		613.00	20-Jan-18	18-Aug-18	12-Jan-18	22-Aug-19	0%	0%	[Gantt Chart]											
10	SITE ORGANISATION		35.00	20-Jan-18	23-Feb-18	07-Mar-18	07-Mar-18	0%	0%	[Gantt Chart]											
11	DEVELOPMENT OF MANAGEMENT SYSTEM		613.00	20-Jan-18	27-May-18	20-Jan-18	22-Aug-19	0%	0%	[Gantt Chart]											
12	COUMMUNICATION / DOCUMENT CONTROL SYSTEM		315.38	20-Jan-18	10-May-18	20-Jan-18	24-Oct-18	0%	0%	[Gantt Chart]											
13	QUALITY ASSURANCE AND MANAGEMENT SYSTEM		254.00	23-Mar-18	10-May-18	23-Mar-18	24-Oct-18	0%	0%	[Gantt Chart]											
14	HEALTH, SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEM		551.00	23-Mar-18	10-May-18	23-Mar-18	22-Aug-19	0%	0%	[Gantt Chart]											
15	INTERFACE MANAGEMENT SYSTEM		49.00	23-Mar-18	10-May-18	23-Mar-18	24-Oct-18	0%	0%	[Gantt Chart]											
16	RISK MANAGEMENT PLAN		66.00	23-Mar-18	27-May-18	23-Mar-18	24-Oct-18	0%	0%	[Gantt Chart]											
17	DEVELOPMENT OF WORK PROGRAMME		63.00	23-Mar-18	24-May-18	23-Mar-18	21-Sep-18	0%	0%	[Gantt Chart]											
18	CONTRACTOR'S WORK PROGRAMME		63.00	23-Mar-18	24-May-18	23-Mar-18	21-Sep-18	0%	0%	[Gantt Chart]											
19	OTHER CONTRACTUAL SUBMITTALS		28.00	24-Mar-18	20-Apr-18	24-Mar-18	23-Apr-18	0%	0%	[Gantt Chart]											
20	PERMIT & APPROVAL		389.00	20-Jan-18	18-Aug-18	12-Jan-18	03-Aug-19	0%	0%	[Gantt Chart]											
21	SURVEYING & GEOTECHNICAL INVESTIGATION		35.00	20-Jan-18	23-Feb-18	12-Jan-18	09-Feb-18	0%	0%	[Gantt Chart]											
22	CUTTING OF MANGROVES		70.00	20-Jan-18	30-Mar-18	25-Jan-18	23-Apr-18	0%	0%	[Gantt Chart]											
23	SETTING UP BATCHING PLANT		313.00	06-Apr-18	18-Aug-18	06-Apr-18	28-Nov-18	0%	0%	[Gantt Chart]											
24	PC YARD & CAMP		28.00	04-May-18	01-Jun-18	21-Mar-18	01-Oct-18	0%	0%	[Gantt Chart]											
25	CONNECTION FOR ELECTRICITY & WATER		63.00	18-May-18	20-Jul-18	06-Apr-18	03-Aug-19	0%	0%	[Gantt Chart]											
26	CUTTING OF TREES		35.00	23-Mar-18	26-Apr-18	10-May-18	02-Aug-18	0%	0%	[Gantt Chart]											
27	IMPORT PERMITS/LICENCES FOR EQUIPMENTS & GOODS		70.00	23-Mar-18	31-May-18	15-May-18	31-May-18	0%	0%	[Gantt Chart]											
28	NOC FOR PLANT & FACILITIES TO BE USED AT SITE		51.00	23-Mar-18	31-May-18	16-Aug-18	28-Nov-18	0%	0%	[Gantt Chart]											
29	TEMPORARY ACCESS ROAD FOR MAIN BRIDGE & INTERCHANGE		58.00	23-Mar-18	19-May-18	23-Mar-18	28-Jul-18	0%	0%	[Gantt Chart]											
30	DESIGN		1149.38	20-Jan-18	04-Sep-19	01-Jan-18		100%	96.03%	[Gantt Chart]											
31	EARLY STAGE DESIGN WORK / INFORMATION COLLECTION		678.38	20-Jan-18	17-Jul-18	01-Jan-18	12-Nov-19	100%	100%	[Gantt Chart]											
32	INDEPENDENT DESIGN CHECKER APPROVAL		35.00	20-Jan-18	23-Feb-18	20-Jan-18	13-Apr-18	0%	0%	[Gantt Chart]											
33	TOPOGRAPHIC SURVEY		116.33	20-Jan-18	16-May-18	01-Jan-18	20-Apr-18	0%	0%	[Gantt Chart]											
34	BATHYMETRIC SURVEY		75.00	20-Jan-18	04-Apr-18	25-Jan-18	20-Mar-18	0%	0%	[Gantt Chart]											
35	ADDITIONAL TIME FOR ONGC & BPCL PHYSICAL VERIFICATION		309.00			21-Mar-18	05-Aug-19	0%	0%	[Gantt Chart]											
36	GEOTECHNICAL INVESTIGATION		548.08	20-Jan-18	17-Jul-18	12-Jan-18	25-Jun-19	100%	100%	[Gantt Chart]											
37	ADDITIONAL WORKS FOR DESIGN INITIATION OF STEEL MODULE 1		63.00			26-Jun-19	12-Nov-19	0%	0%	[Gantt Chart]											
38	TEMPORARY WORK		975.17	22-Jan-18	01-Nov-18	20-Jan-18		100%	100%	[Gantt Chart]											
39	PROJECT OFFICE LAYOUT		241.13	04-May-18	02-Jun-18	04-May-18	17-Jul-18	0%	0%	[Gantt Chart]											
40	CASTING YARD LAYOUT		72.33	22-Jan-18	04-Apr-18	20-Jan-18	09-Oct-18	0%	0%	[Gantt Chart]											
41	TEMPORARY BRIDGE		94.33	26-Feb-18	31-May-18	24-Feb-18	30-Aug-18	100%	100%	[Gantt Chart]											
42	CASTING YARD STRUCTURE		199.38	10-May-18	10-Aug-18	20-Mar-18	20-Nov-18	0%	0%	[Gantt Chart]											
43	STEEL BRIDGE FABRICATION YARD		303.17	20-Jul-18	01-Nov-18	11-Nov-19		0%	0%	[Gantt Chart]											
44	CONCRETE MIX DESIGN		274.38	23-Mar-18	31-Aug-18	12-May-18	15-Nov-18	0%	0%	[Gantt Chart]											
45	JFE DESIGN PROGRAMME		1048.04	01-May-18	04-Sep-19	09-Apr-18		100%	88.86%	[Gantt Chart]											
46	PROCUREMENT, MANUFACTURING AND LOGISTICS		1305.38	20-Jan-18	23-Aug-20	22-Dec-17		100%	91.67%	[Gantt Chart]											
47	SURVEY & INVESTIGATION		72.33	20-Jan-18	02-Apr-18	22-Dec-17	04-Apr-18	0%	0%	[Gantt Chart]											
48	TEMPORARY WORK		933.33	20-Jan-18	20-Oct-18	20-Jan-18		0%	0%	[Gantt Chart]											
49	MAIN WORK SUBCONTRACT WORK		848.63	23-Mar-18	20-Jul-19	23-Mar-18		0%	0%	[Gantt Chart]											
50	EQUIPMENTS		975.00	23-Mar-18	12-Sep-19	23-Mar-18		100%	100%	[Gantt Chart]											
51	BATCHING PLANT		437.00	23-Mar-18	31-Jul-18	23-Mar-18	23-Mar-19	0%	0%	[Gantt Chart]											
52	RCD MACHINE		514.00	23-Mar-18	11-Nov-18	23-Mar-18	24-Aug-19	0%	0%	[Gantt Chart]											
53	GANTRY CRANE		975.00	23-Mar-18	08-Feb-19	23-Mar-18		100%	100%	[Gantt Chart]											
54	SEGMENT LAUNCHER		770.41	24-Jul-18	12-Sep-19	24-Jul-18	09-Mar-20	0%	0%	[Gantt Chart]											
55	PRECAST MOULD AND SYSTEM FORM		714.91	07-Aug-18	24-Mar-19	04-Sep-18		100%	83.33%	[Gantt Chart]											
56	PRECAST MOULD CASTING BED		332.00	20-Aug-18	24-Mar-19	03-Jun-19		100%	83.33%	[Gantt Chart]											
57	SYSTEM FORM		446.91	07-Aug-18	04-Mar-19	04-Sep-18		0%	0%	[Gantt Chart]											
58	MATERIAL SUPPLIERS		943.38	02-Jun-18	15-Oct-19	20-Apr-18		0%	0%	[Gantt Chart]											

<ul style="list-style-type: none"> Project Baseline Bar Actual Work Remaining Work 	<ul style="list-style-type: none"> Critical Remaining Work Milestone % Complete 	<ul style="list-style-type: none"> Summary 	EMPLOYER: MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)	CONTRACTOR: DAEWOO - TPL JV	Date: 25-Jun-20 Revision: R0	Checked: <input type="checkbox"/>	Approved: <input type="checkbox"/>
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#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete	2018												2019												2020												2021												2022											
										2018	2019	2020	2021	2022	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022																																			
120		MAIN BRIDGE PIER_MARINE 13+610~14+800 FROM MB187 TO MB205	217.00	19-Mar-20	18-Feb-21			30.17%	0%																																																												
121		MAIN BRIDGE PIER_MARINE (STEEL) 11+880~13+610 FROM MB171 TO MB186	452.00	17-Feb-20	28-Jul-21			12.51%	0%																																																												
122		MAIN BRIDGE PIER_MARINE 10+380~11+880 FROM MB146 TO MB170	269.00	07-Feb-19	13-Mar-20			100%	0%																																																												
123		MAIN BRIDGE PIER CAP INSTALLATION	568.75	08-Feb-19	27-Aug-21	25-Feb-20		69.86%	0.42%																																																												
124		MAIN BRIDGE PIER CAP_LAND 17+414~18+188 FROM MB251 TO MB266	73.13	08-Feb-19	23-Nov-19			100%	0%																																																												
125		MAIN BRIDGE PIER CAP_CRZ 15+890~17+414 FROM MB226 TO MB250	177.00	19-Apr-19	25-Feb-20	25-Feb-20		100%	2.22%																																																												
126		MAIN BRIDGE PIER CAP_INTERTIDAL 14+800~15+890 FROM MB206 TO MB225	434.00	06-Jun-19	05-Nov-20			71.67%	0%																																																												
127		MAIN BRIDGE PIER CAP_MARINE 13+610~14+800 FROM MB187 TO MB205	203.00	23-Apr-20	10-Mar-21			20.77%	0%																																																												
128		MAIN BRIDGE PIER CAP_MARINE (STEEL) 11+880~13+610 FROM MB171 TO MB186	421.00	30-Apr-20	27-Aug-21			7.42%	0%																																																												
129		MAIN BRIDGE PIER CAP_MARINE 10+380~11+880 FROM MB146 TO MB170	255.00	15-Mar-19	01-Apr-20			100%	0%																																																												
130		MAIN BRIDGE BEARING PAD AND BEARING INSTALLATION	776.00	22-Feb-19	24-Sep-21			89.26%	0%																																																												
131		MAIN BRIDGE SUPER STRUCTURE BOX GIRDER INSTALLATION	1026.83	12-Sep-19	01-Mar-22			30.29%	0%																																																												
132		MAIN BRIDGE CONCRETE GIRDER INSTALLATION	1015.83	12-Sep-19	02-Feb-22			35.48%	0%																																																												
133		MAIN BRIDGE PC GIRDER_LAND 15+890~17+414 FROM MP251 TO MP266	238.04	12-Sep-19	27-Feb-20			100%	0%																																																												
134		MAIN BRIDGE PRECAST GIRDER_CRZ 15+890~17+414 FROM MP226 TO MP250	146.13	04-Feb-20	25-Sep-20			85.61%	0%																																																												
135		MAIN BRIDGE PRECAST GIRDER_INTERTIDAL 14+800~15+890 FROM MP206 TO MP225	144.25	12-Sep-20	23-Jan-21			0%	0%																																																												
136		MAIN BRIDGE PRECAST GIRDER_MARINE 13+610~14+800 FROM MP187 TO MP205	126.00	12-Jan-21	10-Jun-21			0%	0%																																																												
137		MAIN BRIDGE PRECAST GIRDER_MARINE 10+380~11+880 FROM MP146 TO MP170	156.00	04-Jun-21	02-Feb-22			0%	0%																																																												
138		STITCH JOINT CASTING	674.00	07-Dec-19	12-Feb-22			0%	0%																																																												
139		MAIN BRIDGE STEEL GIRDER INSTALLATION	451.25	03-Oct-20	01-Mar-22			0%	0%																																																												
140		MAN BRIDGE STEEL GIRDER INSTALLATION_MARINE 11+880~13+610 FROM MP171 TO MP186	451.25	03-Oct-20	01-Mar-22			0%	0%																																																												
141		STEEL MODULE-01_MP176 - MP171 (INSTALLATION)	121.00	07-Dec-21	01-Mar-22			0%	0%																																																												
142		STEEL MODULE-02_MP182 - MP177 (INSTALLATION)	155.38	03-Oct-20	30-Sep-21			0%	0%																																																												
143		STEEL MODULE-03_MP186 - MP183 (INSTALLATION)	167.15	30-Sep-21	07-Dec-21			0%	0%																																																												
144		MISCELLANEOUS & FINISHING WORKS	663.51	16-May-19	24-May-22			14%	0%																																																												
145		INTERCHANGE	1257.21	24-Dec-18	28-Apr-22	09-Oct-19		72.21%	7.95%																																																												
146		INTERCHANGE FOUNDATION	599.08	24-Dec-18	22-Oct-20	09-Oct-19		98.34%	33.04%																																																												
147		INTERCHANGE RAMP PILE FOUNDATION	286.23	24-Dec-18	05-Mar-20	09-Oct-19		100%	33.89%																																																												
148		INTERCHANGE RAMP PILE_FDN_MA	83.50	05-Aug-19	03-Jan-20	09-Oct-19		100%	62.82%																																																												
149		INTERCHANGE RAMP PILE_FDN_AC	88.88	01-Oct-19	05-Mar-20	25-Oct-19		100%	69.51%																																																												
150		INTERCHANGE RAMP PILE_FDN_JM	143.00	03-Jan-19	05-Aug-19	26-Nov-19		100%	8.29%																																																												
151		INTERCHANGE RAMP PILE_FDN_MJ	104.00	03-Jan-19	01-Oct-19	04-Dec-19		100%	43.14%																																																												
152		INTERCHANGE RAMP PILE_FDN_CA	143.00	28-May-19	23-Jan-20	01-Nov-19		100%	8.29%																																																												
153		INTERCHANGE RAMP PILE_FDN_AM	143.23	24-Dec-18	27-May-19	07-Feb-20		100%	23.53%																																																												
154		INTERCHANGE RAMP PILE CAP INSTALLATION	329.00	08-Jan-19	22-Oct-20	22-Oct-19		95.94%	31.82%																																																												
155		INTERCHANGE RAMP PILE CAP_MA	88.00	06-Dec-19	15-May-20	22-Oct-19		100%	75%																																																												
156		INTERCHANGE RAMP PILE CAP_AC	145.00	15-Jan-20	22-Oct-20	02-Nov-19		73.97%	70%																																																												
157		INTERCHANGE RAMP PILE CAP_JM	187.00	18-Jan-19	06-Dec-19	11-Dec-19		100%	8.33%																																																												
158		INTERCHANGE RAMP PILE CAP_MJ	173.00	18-Jan-19	15-Jan-20	16-Dec-19		100%	28.57%																																																												
159		INTERCHANGE RAMP PILE CAP_CA	187.00	15-Oct-19	27-Jun-20	02-Dec-19		99.39%	8.33%																																																												
160		INTERCHANGE RAMP PILE CAP_AM	142.00	08-Jan-19	15-Oct-19	15-Feb-20		100%	20%																																																												
161		INTERCHANGE SUBSTRUCTURE & BEARING	620.88	29-Jan-19	31-May-21	19-Feb-20		66.8%	8.05%																																																												
162		INTERCHANGE RAMP PIER INSTALLATION	592.88	29-Jan-19	27-Apr-21	19-Feb-20		66.8%	8.05%																																																												
163		INTERCHANGE RAMP PIER_MA	111.00	18-Mar-20	29-Dec-21	19-Feb-20		32.08%	54.44%																																																												
164		INTERCHANGE RAMP PIER_AC	250.00	16-May-20	27-Apr-21			3.82%	0%																																																												
165		INTERCHANGE RAMP PIER_JM	300.00	08-Feb-19	18-Mar-20			100%	0%																																																												
166		INTERCHANGE RAMP PIER_MJ	342.88	08-Feb-19	16-May-20			100%	0%																																																												
167		INTERCHANGE RAMP PIER_CA	280.38	08-Jan-20	16-Feb-21	27-Apr-20		41.57%	8.81%																																																												
168		INTERCHANGE RAMP PIER_AM	225.00	29-Jan-19	08-Jan-20			100%	0%																																																												
169		INTERCHANGE BEARING INSTALLATION	595.88	27-Feb-19	31-May-21			0%	0%																																																												
170		INTERCHANGE SUPERSTRUCTURE INSTALLATION	632.13	20-Sep-19	15-Feb-22			27.16%	0%																																																												
171		INTERCHANGE BOX GIRDER INSTALLATION_MA	255.00	09-Jan-21	03-Jan-22			0%	0%																																																												
172		INTERCHANGE BOX GIRDER INSTALLATION_AC	210.03	27-Feb-21	27-Dec-21			0%	0%																																																												
173		INTERCHANGE BOX GIRDER INSTALLATION_JM	250.00	11-Mar-20	26-Feb-21			19.97%	0%																																																												
174		INTERCHANGE BOX GIRDER INSTALLATION_MJ	343.38	20-Sep-19	08-Jan-21			42.31%	0%																																																												
175		INTERCHANGE BOX GIRDER INSTALLATION_CA	342.13	30-Oct-20	15-Feb-22			0%	0%																																																												
176		INTERCHANGE BOX GIRDER INSTALLATION_AM	223.88	14-Oct-19	19-Aug-20			95.56%	0%																																																												
177		INTERCHANGE RETAINING STRUCTURE	374.75	11-Mar-19	06-Nov-20			80.14%	0%																																																												
178		MISCELLANEOUS & FINISHING WORKS	468.63	19-Aug-20	28-Apr-22			0%	0%																																																												
179		PROJECT HANDINGOVER	65.00	24-May-22	22-Sep-22			0%	0%																																																												
180		DEFECT LIABILITY PERIOD (DLP)	763.88	22-Sep-22	21-Sep-24			0%	0%																																																												
181		PRICE SCHEDULE	2313.13	23-Mar-18	21-Mar-23	23-Mar-18		59.83%	32.01%																																																												



EMPLOYER:
MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY (MMRDA)

CONTRACTOR:
DAEWOO - TPL JV

Date	Revision	Checked	Approved
25-Jun-20	R0		

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

Activity ID	Activity Name	Original Duration	BL1 Start	BL1 Finish	Start	Finish	Activity % Complete	Schedule % Complete	Performance % Complete	Budgeted Total Cost	Actual Total Cost	Schedule Performance Index	Cost Performance Index	Planned Value Cost	Earned Value Cost
MTHL Pkg 3_Construction Schedule Jun"20		1493	23-Mar-18	21-Sep-21	23-Mar-18 A	27-May-23		85.84%	29.51%	Rs10,137,901,022.17	Rs2,601,274,496.15	0.34	1.18	Rs8,959,138,364.66	Rs3,080,097,215.30
Procurement of Mumbai Trans Harbour Link Proj		1493	23-Mar-18	21-Sep-21	23-Mar-18 /	27-May-23		85.84%	29.51%	Rs10,137,901,022.17	Rs2,601,274,496.15	0.34	1.18	Rs8,959,138,364.66	Rs3,080,097,215.30
t	Commencement Date (CD)	0			23-Mar-18 /		100%	0%	100%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
Physical Milestones		979	18-Sep-18	21-Sep-21	20-Sep-20	27-May-23		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
KD1001	KD1 [Construction programme, completion of Soil Investigatic	0	18-Sep-18	18-Sep-18	20-Sep-20	20-Sep-20	0%	100%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
KD1002	KD 2 [NOC for technical design doc & drawing for foundation,	0	17-Dec-18	17-Dec-18	06-Nov-20	06-Nov-20	0%	100%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
KD1003	KD 3 [NOC for Good for construction drawing for foundation, &	0	15-Jun-19	15-Jun-19	22-Mar-21	22-Mar-21	0%	100%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
KD1004	KD 4 [Substantial completion of foundation, piles (if applicable)	0	21-Mar-20	21-Mar-20	04-Sep-21	04-Sep-21	0%	100%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
KD1005	KD 5 [Substantial completion of pile caps (if applicable), piers	0	19-Sep-20	19-Sep-20	21-Dec-21	21-Dec-21	0%	0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
KD1006	KD 6 [Substantial completion superstructure (PC/CIS/SS) & i	0	20-Mar-21	20-Mar-21	09-Nov-22	09-Nov-22	0%	0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
KD1007	KD 7 [Substantial completion of kerb/traffic signs, Marking & i	0	24-Jul-21	24-Jul-21	19-Apr-23	19-Apr-23	0%	0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
KD1008	KD 8 [Final completion & handing over]	0	21-Sep-21	21-Sep-21	27-May-23	27-May-23	0%	0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
Financial Milestone		758	18-Sep-18	21-Sep-21	23-Mar-18 /	21-Sep-21		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
Interface Milestone		867	17-Dec-18	06-Mar-21	25-Jun-20	09-Nov-22		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
Document Submittals		45	23-Mar-18	06-May-18	06-Apr-18 A	25-Jun-20		100%	80%	Rs74,992,895.00	Rs59,994,316.00	0.80	1.00	Rs74,992,895.00	Rs59,994,316.00
Employer's Obligation / Land Handover		151	19-Apr-18	18-Sep-18	23-Mar-18 /	29-Jun-20		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
ROW 75 Ha [CD +180 days]		0	19-Apr-18	18-Sep-18	23-Mar-18 /	29-Jun-20		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
E Oblt	ROW 24 Ha (from ch 18+187 to 18+930 and ch 20+170 to 21+187)	0	19-Apr-18	19-Apr-18	23-Mar-18 /	29-Jun-20	90%	100%	90%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
E Oblt	ROW [51 Ha, unencumbered (Part 1) from ch 21+232 to 21+422]	0	16-May-18	16-May-18	23-Mar-18 /	25-Jun-20	65%	100%	65%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
E Oblt	ROW [51 Ha, unencumbered (Part 2) from ch 18+930 to 20+180]	0	18-Sep-18	18-Sep-18	23-Mar-18 /	29-Jun-20	97%	100%	97%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
CASTING YARD 9.16 Ha [CD+120 days]		0	20-Jul-18	20-Jul-18	20-Dec-18 /	21-Dec-18		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
E Oblt	Unobstructed access to casting yard with fence [4.08 Ha (45%)]	0	20-Jul-18	20-Jul-18	20-Dec-18 /	21-Dec-18	100%	100%	100%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
Employer Office (Sch 01- General Item)		801	20-Aug-18	16-Sep-21	25-Jan-19 A	02-Feb-22		90.49%	87.54%	Rs142,351,965.01	Rs124,615,965.01	0.97	1.00	Rs128,808,688.89	Rs124,615,965.01
Survey & Geotechnical Investigation Works		346	19-Apr-18	22-Oct-18	19-Apr-18 A	20-Sep-20		100%	95.75%	Rs242,300,772.92	Rs181,725,579.44	0.96	1.28	Rs242,300,944.92	Rs232,003,161.23
Design Works		558	07-May-18	14-Jun-19	25-Apr-18 A	22-Mar-21		100%	79.35%	Rs159,122,500.00	Rs99,962,833.96	0.79	1.26	Rs159,123,270.04	Rs126,266,665.85
Design Basis Report		48	07-May-18	30-Jun-18	25-Apr-18 A	08-Dec-18		100%	100%	Rs0.00	Rs0.00	1.00	0.00	Rs51.00	Rs51.00
Preliminary Design		47	02-Jul-18	25-Aug-18	26-Jul-18 A	25-Jun-20		100%	80%	Rs296,875.00	Rs296,875.00	0.80	0.80	Rs296,875.00	Rs229,500.00
Geotechnical Interpretative Report Submission & GC Approval (NON)		24	11-Sep-18	08-Oct-18	07-Dec-18 /	24-Sep-20		100%	91%	Rs0.00	Rs0.00	0.91	0.00	Rs42.00	Rs38.22
Plan & Profile Alignment		77	06-Jun-18	14-Aug-18	25-Jun-18 A	03-Jul-20		100%	80%	Rs0.00	Rs0.00	0.80	0.00	Rs102.00	Rs81.60
Superstructure Design		458	16-Aug-18	26-Feb-19	06-Mar-19 /	21-Dec-20		100%	69.03%	Rs85,075,000.00	Rs43,007,599.58	0.69	1.37	Rs85,075,144.00	Rs68,729,192.38
Drawing Submissions		380	16-Aug-18	24-Nov-18	06-Mar-19 /	19-Sep-20		100%	43.75%	Rs0.00	Rs0.00	0.44	0.00	Rs144.00	Rs63.00
GC Approval (NONO)		369	09-Sep-18	15-Dec-18	22-Jul-19 A	10-Oct-20		100%	73.25%	Rs78,603,750.00	Rs41,855,717.06	0.73	1.38	Rs78,603,750.00	Rs57,577,246.88
Issue of GFC Drawings		223	01-Oct-18	26-Feb-19	26-Feb-20 /	21-Dec-20		100%	17.8%	Rs6,471,250.00	Rs1,151,882.50	0.18	1.00	Rs6,471,250.00	Rs1,151,882.50
Foundation & Pier		324	05-Oct-18	14-Jun-19	06-Nov-18 /	22-Mar-21		100%	83.66%	Rs28,434,375.04	Rs13,147,734.38	0.84	1.81	Rs28,434,435.04	Rs23,786,988.34
Phase 1 [24 Ha (from ch 18+187 to 18+930 and ch 20+170 to 21+232)]		54	05-Oct-18	01-Dec-18	06-Nov-18 /	21-Sep-20		100%	89%	Rs12,791,250.00	Rs12,791,250.00	0.89	0.89	Rs12,791,280.00	Rs11,384,239.20
Phase 1 [24 Ha (from ch 18+187 to 18+930 and ch 20+170 to 21+232)]		141	03-Dec-18	19-Mar-19	08-Dec-18 /	30-Nov-20		100%	64.33%	Rs1,069,453.14	Rs685,484.38	0.64	1.93	Rs1,069,453.14	Rs688,014.85
Phase 2 [51 Ha (rest area)], Drawing Submissions & GC Approval		47	09-Oct-18	05-Dec-18	14-Mar-19 /	14-Oct-20		100%	83%	Rs12,791,250.00	Rs0.00	0.83	0.00	Rs12,791,280.00	Rs10,616,762.40
Phase 2 [51 Ha (rest area)], Issue of GFC Drawings		248	06-Dec-18	14-Jun-19	30-Aug-19 /	22-Mar-21		100%	61.6%	Rs1,782,421.90	Rs0.00	0.62	0.00	Rs1,782,421.90	Rs1,097,971.89
Abutment & Foundation		255	15-Oct-18	16-Jan-19	31-Dec-18 /	14-Sep-20		100%	81.48%	Rs0.00	Rs0.00	0.81	0.00	Rs81.00	Rs66.00
Pier Cap		439	24-Oct-18	11-Jan-19 A	10-May-19 /	18-Mar-21		100%	42.52%	Rs0.00	Rs0.00	0.43	0.00	Rs290.00	Rs123.31
Phase 1 [24 Ha (from ch 18+187 to 18+930 and ch 20+170 to 21+232)]		323	24-Oct-18	04-Apr-19	11-Jan-19 A	24-Feb-21		100%	49.74%	Rs0.00	Rs0.00	0.50	0.00	Rs139.00	Rs69.14
Phase 2 [51 Ha (rest area)]		376	15-Nov-18	10-May-19	02-Apr-19 A	18-Mar-21		100%	35.87%	Rs0.00	Rs0.00	0.36	0.00	Rs151.00	Rs54.17
Bearings & Drainage		266	17-Nov-18	03-Apr-19	21-Jan-19 A	06-Jan-21		100%	89.97%	Rs18,005,625.00	Rs16,200,000.00	0.90	1.00	Rs18,005,625.00	Rs16,200,000.00
DES10 Drawing Submissions & GC Approval (NONO)		30	17-Nov-18	16-Dec-18	21-Jan-19 A	10-Feb-20		100%	100%	Rs16,200,000.00	Rs16,200,000.00	1.00	1.00	Rs16,200,000.00	Rs16,200,000.00
Issue of GFC Drawings		166	17-Dec-18	03-Apr-19	28-Nov-19 /	08-Jan-21		100%	0%	Rs1,805,625.00	Rs0.00	0.00	0.00	Rs1,805,625.00	Rs0.00
Pavement Design		71	01-Jul-18	27-Aug-18	15-Oct-18 /	18-Feb-19		100%	100%	Rs27,320,625.00	Rs27,320,625.00	1.00	1.00	Rs27,320,625.00	Rs27,320,625.00
Procurement Works		1120	12-Sep-18	08-Jun-21	15-Feb-19 /	23-Mar-23		90.17%	9.31%	Rs1,387,160,466.00	Rs44,849,203.01	0.10	3.50	Rs1,519,472,020.61	Rs156,879,722.11
For Main Bridge		1126	12-Sep-18	08-Jun-21	15-Feb-19 /	23-Mar-23		81.13%	6.38%	Rs877,933,218.00	Rs27,990,308.01	0.08	2.00	Rs712,281,063.00	Rs55,960,814.01
Launching Girder with factory testing.....(Using Underslung)		180	22-Jan-19	23-Aug-19	26-Nov-19 /	18-Jun-21		100%	50%	Rs0.00	Rs0.00	0.50	0.00	Rs180.00	Rs90.00
Segments Moulds		60	12-Dec-18	21-Feb-19	26-Apr-19 A	02-Jul-19 A		100%	100%	Rs0.00	Rs0.00	1.00	0.00	Rs60.00	Rs60.00
Steel Structure		300	08-Dec-18	30-Nov-19	26-Oct-20	18-Oct-21		100%	0%	Rs203,366,072.00	Rs0.00	0.00	0.00	Rs203,366,072.00	Rs0.00
Steel for superstructure		68	16-Oct-18	26-Dec-18	22-Aug-19 /	24-Oct-20		100%	11%	Rs508,914,691.00	Rs27,990,308.01	0.11	2.00	Rs508,914,691.00	Rs55,960,616.01
Formwork & staging requirement		104	12-Sep-18	23-Nov-18	15-Feb-19 /	03-Oct-20		100%	80%	Rs0.00	Rs0.00	0.80	0.00	Rs0.00	Rs48.00

MTHL Pkg 3_Construction Schedule Jun'20

Baseline schedule update as on 25th Jun 2020

29-Jun-20 14:53

Activity ID	Activity Name	Original Duration	BL1 Start	BL1 Finish	Start	Finish	Activity % Complete	Schedule % Complete	Performance % Complete	Budgeted Total Cost	Actual Total Cost	Schedule Performance Index	Cost Performance Index	Planned Value Cost	Earned Value Cost
	Bearings, Expansion joint, Water proofing with factory test	180	27-Jun-20	27-Jan-21	18-May-22	13-Dec-22		0%	0%	Rs165,652,455.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Painting with testing	141	22-Dec-20	06-Jun-21	11-Oct-22	23-Mar-23		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	For Road Works	709	04-Apr-19	13-Jan-21	01-Mar-19 /	08-Jul-22		71.43%	18.07%	Rs0.00	Rs0.00	0.25	0.00	Rs300.00	Rs75.90
	Earthwork / Cut & Fill	502	04-Apr-19	24-Apr-20	01-Mar-19 /	22-Nov-21		100%	25.3%	Rs0.00	Rs0.00	0.25	0.00	Rs300.00	Rs75.90
	Asphalt	120	19-Aug-20	13-Jan-21	18-Feb-22	08-Jul-22		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Imported Procurement	350	22-Jan-19	10-Aug-19	04-Dec-19 /	04-Jun-21		100%	12.5%	Rs509,227,248.00	Rs16,858,901.00	0.13	5.98	Rs807,190,657.61	Rs100,888,832.20
	Prestressed strand	350	22-Jan-19	10-Aug-19	04-Dec-19 /	04-Jun-21		100%	12.5%	Rs509,227,248.00	Rs16,858,901.00	0.13	5.98	Rs807,190,657.61	Rs100,888,832.20
	Co-ordinated Fabrication & Manufacturing Works	713	27-Sep-18	10-Feb-20	21-Feb-19 /	28-Dec-21		100%	0%	Rs390,605,952.99	Rs0.00	0.00	0.00	Rs390,605,952.99	Rs470.00
	Permanent Works fabrication	683	27-Sep-18	06-Jan-20	21-Feb-19 /	23-Nov-21		100%	0%	Rs390,605,952.99	Rs0.00	0.00	0.00	Rs390,605,952.99	Rs230.00
	Segments Moulds	45	17-Jan-19	29-Mar-19	26-Apr-19 A	25-Oct-20		100%	100%	Rs0.00	Rs0.00	1.00	0.00	Rs60.00	Rs60.00
	Foundation Shutters	66	27-Sep-18	28-Dec-18	21-Feb-19 /	07-Nov-20		100%	100%	Rs0.00	Rs0.00	1.00	0.00	Rs60.00	Rs60.00
	Pier & Pier Cap shutters	238	27-Sep-18	06-Feb-19	10-Jul-19 A	15-Feb-20		100%	0%	Rs0.00	Rs0.00	1.00	0.00	Rs110.00	Rs110.00
	Steel Structure	255	19-Feb-19	06-Jan-20	22-Dec-20	23-Nov-21		100%	0%	Rs390,605,952.99	Rs0.00	0.00	0.00	Rs390,605,952.99	Rs0.00
	Permanent Works Assembly	683	22-Oct-18	10-Feb-20	25-Feb-19 /	28-Dec-21		100%	44.44%	Rs0.00	Rs0.00	0.44	0.00	Rs540.00	Rs240.00
	Segments Moulds	95	22-Feb-19	04-May-19	26-Jun-19 A	10-Dec-19		100%	100%	Rs0.00	Rs0.00	1.00	0.00	Rs60.00	Rs60.00
	Foundation Shutters	66	02-Nov-18	04-Feb-19	25-Feb-19 /	09-Nov-20		100%	100%	Rs0.00	Rs0.00	1.00	0.00	Rs60.00	Rs60.00
	Pier & Pier Cap shutters	248	22-Oct-18	13-Mar-19	16-Jul-19 A	25-Feb-20		100%	100%	Rs0.00	Rs0.00	1.00	0.00	Rs120.00	Rs120.00
	Steel Structure	255	27-Mar-19	10-Feb-20	28-Jan-21	28-Dec-21		100%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs300.00	Rs0.00
	Construction Works	1254	20-Jul-18	23-Jul-21	26-Sep-18 /	18-Apr-23		85.53%	33.41%	Rs7,063,465,446.22	Rs2,070,126,592.74	0.39	1.14	Rs6,041,258,906.32	Rs2,359,584,149.10
	Preconstruction Activity	619	20-Jul-18	01-Jul-19	26-Sep-18 /	01-Mar-21		100%	49.56%	Rs0.00	Rs0.00	0.50	0.00	Rs565.00	Rs280.00
	Sub Structures (Open Foundation, Pier ,Pier Cap)	886	08-Dec-18	07-Nov-20	30-Sep-18 /	18-Mar-22		87.34%	50.9%	Rs3,392,806,949.20	Rs1,721,116,823.34	0.58	1.00	Rs2,963,422,182.96	Rs1,726,855,525.88
	Main Carriageway	754	08-Dec-18	24-Jan-20	06-Dec-18 /	13-Oct-21		100%	43.62%	Rs1,821,401,625.36	Rs788,821,806.22	0.44	1.01	Rs1,821,401,625.36	Rs794,560,508.76
	SH 54 Ramps	297	27-Feb-19	06-Mar-20	18-Dec-18 /	06-Sep-21		100%	82.41%	Rs232,139,422.84	Rs191,316,439.20	0.82	1.00	Rs232,139,422.84	Rs191,316,439.20
	Chirle NH 4B Ramps	414	20-May-19	05-Sep-20	30-Sep-18 /	18-Mar-22		96.36%	46.64%	Rs874,987,055.32	Rs408,094,298.80	0.48	1.00	Rs843,138,292.83	Rs408,094,298.80
	Chirle NH 4B Loops	302	09-Sep-19	07-Nov-20	21-Aug-19 /	15-Feb-22		14.38%	71.7%	Rs464,278,845.68	Rs332,894,279.12	4.99	1.00	Rs66,742,841.93	Rs332,894,279.12
	Super Structures	767	27-Feb-19	12-Apr-21	11-Sep-19 /	08-Nov-22		76.04%	4.87%	Rs1,408,927,165.15	Rs59,387,195.25	0.06	1.16	Rs1,071,340,085.93	Rs68,626,858.92
	Segments Precasting	503	30-Mar-19	09-Nov-20	11-Sep-19 /	11-Jan-22		80.31%	8.98%	Rs760,156,099.20	Rs59,387,195.25	0.11	1.15	Rs610,502,022.17	Rs68,295,455.44
	Segments Erection	495	26-Aug-19	20-Jan-21	06-Mar-20 /	08-Nov-22		69.69%	0.47%	Rs70,899,409.92	Rs0.00	0.01	0.00	Rs49,268,701.29	Rs331,403.48
	Cast In Situ	597	27-Feb-19	12-Apr-21	21-Sep-20	27-Sep-22		64.73%	0%	Rs464,334,354.02	Rs0.00	0.00	0.00	Rs300,555,151.10	Rs0.00
	Steel Structure	390	10-May-19	17-Nov-20	04-Mar-21	08-Jul-22		97.61%	0%	Rs113,737,302.01	Rs0.00	0.00	0.00	Rs111,014,191.00	Rs0.00
	Bearings & Expansion Joints	210	03-Aug-20	12-Apr-21	22-Jun-22	21-Feb-23		0%	0%	Rs10,454,692.06	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Precast Segments	180	03-Aug-20	17-Mar-21	22-Jun-22	17-Jan-23		0%	0%	Rs3,699,893.08	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	CIS	180	07-Sep-20	12-Apr-21	27-Jul-22	21-Feb-23		0%	0%	Rs3,699,893.08	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Steel Structure	142	12-Oct-20	30-Mar-21	31-Aug-22	11-Feb-23		0%	0%	Rs3,074,910.90	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Bridge Ancillaries & Miscellaneous Item	412	12-Aug-20	23-Jul-21	24-Dec-21	18-Apr-23		0%	0%	Rs180,921,987.01	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Crash Barrier & Safety fence	364	12-Aug-20	12-Apr-21	24-Dec-21	21-Feb-23		0%	0%	Rs38,328,597.01	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Painting works	133	28-Jan-21	07-Jul-21	15-Nov-22	18-Apr-23		0%	0%	Rs39,808,055.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	kerb, traffic Sign & pavement marking	188	03-Mar-21	23-Jul-21	24-Aug-22	30-Mar-23		0%	0%	Rs56,849,390.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Restoration of removed structure and As-built doc & maintenance	174	08-Apr-21	07-Jul-21	28-Sep-22	18-Apr-23		0%	0%	Rs5,935,955.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	RE Wall	529	27-Feb-19	18-Feb-21	23-Oct-20	12-Aug-22		97.5%	0%	Rs461,687,248.20	Rs0.00	0.00	0.00	Rs460,167,535.00	Rs0.00
	RAFT	232	27-Feb-19	06-Feb-20	23-Oct-20	23-Aug-21		100%	0%	Rs71,575,695.00	Rs0.00	0.00	0.00	Rs71,575,695.00	Rs0.00
	RE wall with backfill	243	10-May-19	24-Apr-20	04-Jan-21	22-Nov-21		100%	0%	Rs378,591,600.00	Rs0.00	0.00	0.00	Rs378,591,720.00	Rs0.00
	GSB & WMM	120	20-Jan-20	09-Jun-20	06-Sep-21	27-Jan-22		100%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs120.00	Rs0.00
	Asphalt pavement	120	29-Sep-20	18-Feb-21	26-Mar-22	12-Aug-22		0%	0%	Rs11,519,953.20	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Road Work	970	20-Apr-19	18-May-21	16-Feb-19 /	03-Feb-23		96.75%	35.07%	Rs1,608,667,399.60	Rs289,622,574.15	0.36	1.95	Rs1,556,328,557.80	Rs564,101,484.30
	For At Grade work	829	20-Apr-19	02-Mar-21	16-Feb-19 /	24-Aug-22		99.34%	36.01%	Rs1,556,696,138.68	Rs289,622,574.15	0.36	1.95	Rs1,556,328,557.80	Rs564,101,484.30
	For Bridge and ramps	45	25-Mar-21	18-May-21	14-Dec-22	03-Feb-23		0%	0%	Rs41,971,260.92	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Completion of Interface Activity	634	19-Sep-20	06-Mar-21	19-Sep-20	09-Nov-22		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	Provisional Sum	954	23-Apr-18	23-Aug-21	30-Nov-18 /	25-Mar-23		59.24%	3.05%	Rs677,901,024.00	Rs20,000,000.00	0.05	1.04	Rs402,574,915.90	Rs20,752,736.00
	Testing & Commissioning Works	33	26-Jul-21	20-Sep-21	19-Apr-23	26-May-23		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	ToC1000 Testing & Commissioning Works	25	26-Jul-21	11-Sep-21	19-Apr-23	17-May-23		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	ToC1001 Safety Test & Auditing	6	13-Sep-21	18-Sep-21	18-May-23	24-May-23		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00
	ToC1002 TOC	2	19-Sep-21	20-Sep-21	25-May-23	26-May-23		0%	0%	Rs0.00	Rs0.00	0.00	0.00	Rs0.00	Rs0.00

Attachment 9- Project Progress Photos

Package 1- Site Progress Photos



Photo No. 1: C2P9 S Pier Head Reinforcement Works at Interchange in Progress



Photo No. 2: EP-15 Pier Concreting – Interchange Area in progress



Photo No. 3: AP-44 Pier Final Lift Concreting in progress



Photo No. 4: MP15-16 N Pier Head Erection at Intertidal Section in progress



Photo No. 5: MP29 N Pedestal, Shear Key Concreting in progress



Photo No. 6: MP 15-16 Pier Head Erection Intertidal Section In Progress



Photo No. 7:- MP 44 N1 Pile Concreting - Intertidal Section in progress



Photo No. 8: MP 02 N Pile Cap Concreting in progress



Photo No. 9: MP 44 S1 Pile Concreting – Intertidal in progress



Photo No. 10: MP84 N Pier Works- Marine Section



Photo No. 11: Marine Section- Progress View looking at MP 81-85

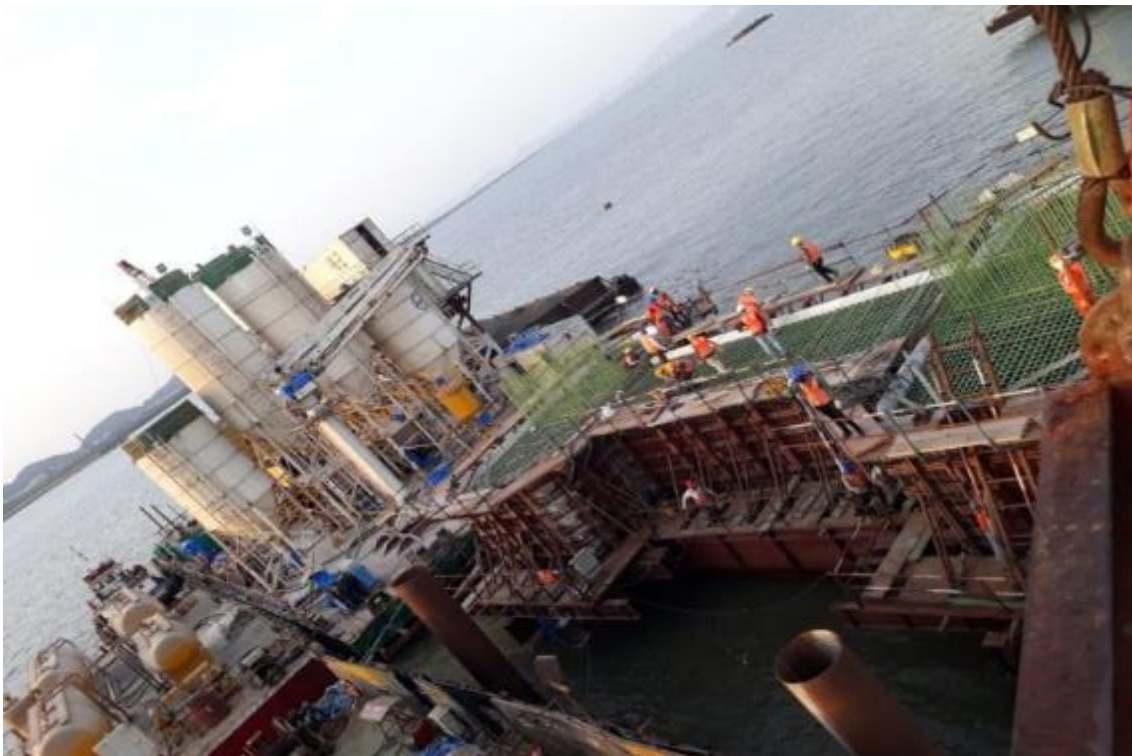


Photo No. 12: MP102 Pile Cap Works in progress

Package 2 – Site Progress Photos



Photo No. 1: Concreting at Open Foundation MP 259 RHS in progress



Photo No. 2: Pier final lift concreting at MP 242 LHS in progress



Photo No. 3: Pier cap formwork at MP238 LHS and RHS in progress



Photo No. 4: Formwork for Pier Head Segment at MP 237 LHS and RHS in progress



Photo No. 5: Excavation at Open Foundation MAA2 in progress



Photo No. 6: Segment concreting at Bay-2 in progress



Photo No. 7: Pile drilling at MP 219 RHS in progress



Photo No. 8: Frame erection for Launching Girder in progress



Photo No. 9: Pile concreting at MP 220/02 RHS in progress



Photo No. 10: Open foundation concreting at MP 251 RHS in progress



Photo No. 11: Pier reinforcement tying at MP 233 LHS in progress



Photo No. 12: Segment Mould erection at Bay-3 in progress

Package 3 – Site Progress Photos



Photo No. 1: PCC for Foundation No. MPP-05 (Chirle) completed



Photo No. 2: Chirle RP 01 LHS foundation reinforcement work is in progress



Photo No. 3: Concreting Works at Foundation No. RP 01 LHS in progress



Photo No. 4: Concreting Works at Foundation No. LP 38 at Chirle in progress

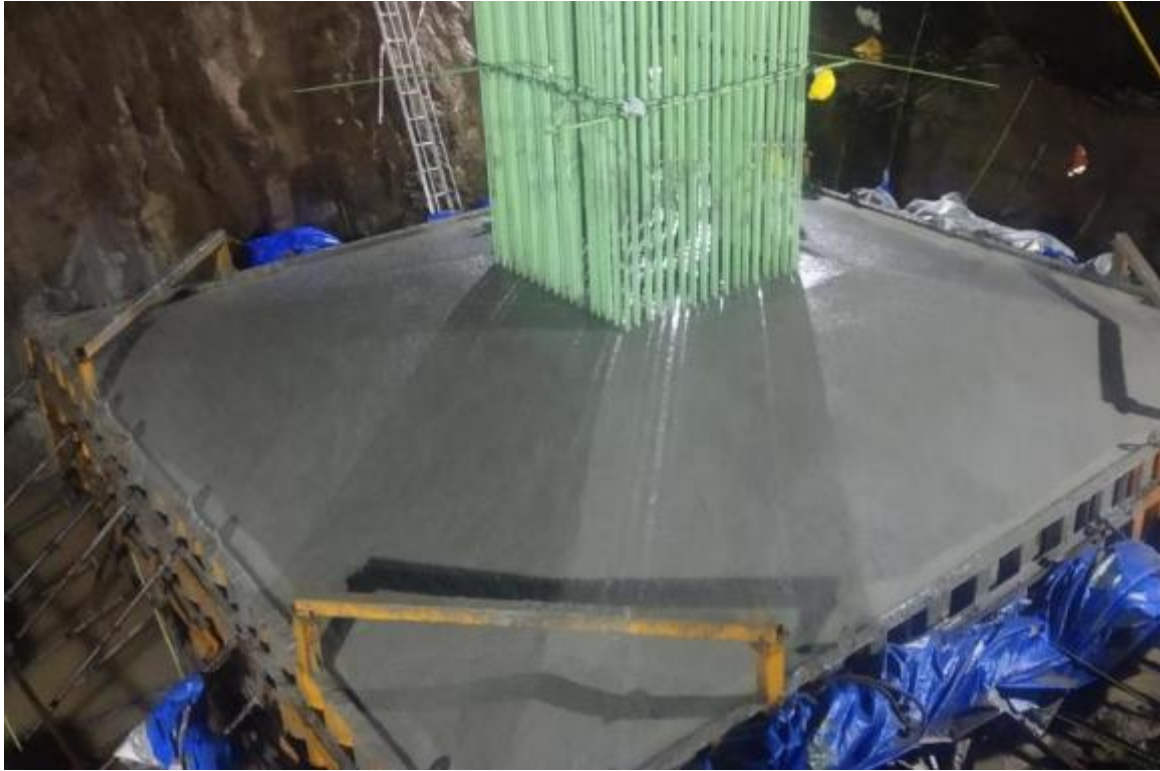


Photo No. 5: Concrete pouring at Foundation No. LP 38, Chirle completed



Photo No. 6: Annular filling at Foundation RP-33 LHS (Chirle) in progress



Photo No. 7: Final lift concrete pouring at Pier No. PMP-13 (Chirle) in progress



Photo No. 8: Final lift (8.135M) concrete pouring AT Pier No. LP-31 (Chirle) in progress



Photo No. 9: Reinforcement inspection for Segment N (15) in progress



Photo No. 10: Segment Profile checking in progress



Photo No. 11: Segment concrete pouring at bay 2, precast yard in progress



Photo No. 12: Stacking of HT strand in Jasai Godown



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INTERNATIONAL

General Consultant for Mumbai Trans Harbour Link Project

Ref No: MTHL/GC/MMRDA/LT/QPR-1953/2021

1st March 2021

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

Sub: General Consultancy services for Mumbai Trans Harbour Link (MTHL) project -
Submission of Quarterly Progress Report (QPR) No. 14 for July to September 2020

Ref: MTHL/GC/MMRDA/LT/QPR – 1813/ 2021 dated 12th January 2021

Dear Sir,

With reference to the above subject, please find enclosed 1 hard copy of the corrected Quarterly Progress Report (QPR) No. 14 for the period of 1st July to 30th September 2020. In this report, we have incorporated all the corrections after your review of the draft report.

You may forward the same to JICA, India at your earliest convenience.

Thanking you,
Yours faithfully,

1 March 2021

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

Encl: 1 copy of Quarterly Progress Report No. 14 (July - September 2020)

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



एम एम आर डी ए
MMRDA

Mumbai Metropolitan Region Development Authority

Mumbai Trans Harbour Link Project

Quarterly Progress Report - No.14

(From 1st July 2020 to 30th September 2020)



**Mumbai Trans Harbour Link Project
Quarterly Progress Report No. 14
1st July 2020 to 30th September 2020
Loan Agreement No. ID-P255 (Tranche-I)**

ORGANIZATION INFORMATION

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

Details of JICA Loan

Source of Finance	JICA ODA Loan Portion:	238,572 million Japanese YEN (JPY)
	Tranche-I:	144,795 million Japanese YEN (JPY) (Loan Agreement signed on 31 st March 2017)
	Tranche-II:	66,909 Million Japanese YEN (JPY) (Loan Agreement signed on 27 th March 2020)
Terms and Conditions of JICA ODA Loan (Tranche-1)	Repayment Period:	30 years, including 10 years of grace period.

DOCUMENT VERIFICATION AND REVISION RECORD

PROJECT NAME		Mumbai Trans Harbour Link Project			
DOC NO.		14	DATE OF ISSUE	06/01/2021	
DOC TITLE		Quarterly Progress Report No. 14			
REV No.	DATE OF ISSUE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY
R0	05/07/2017	Quarterly Progress Report No. 1 (Apr-Jun 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/10/2017	Quarterly Progress Report No. 2 (Jul-Sep 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/01/2018	Quarterly Progress Report No. 3 (Oct-Dec 17)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	05/04/2018	Quarterly Progress Report No. 4 (Jan-Mar 18)	J Senthil	Dr T K Sundaram	Dr Robin Sham
R0	24/07/2018	Quarterly Progress Report No. 5 (Apr-Jun 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R0	10/10/2018	Quarterly Progress Report No. 6 (Jul-Sep 18)	Prashant B	Dr T K Sundaram	Dr Robin Sham
R1	08/02/2019	Quarterly Progress Report No. 7 (Oct-Dec 18)	Prashant B	J Senthil/ Dr T K Sundaram	Dr Robin Sham
R0	05/04/2019	Quarterly Progress Report No. 8 (Jan-Mar 19)	Prashant B	J Senthil	V. D. Sharma/ Dr Robin Sham
R0	18/09/2019	Quarterly Progress Report No. 9 (Apr-Jun 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	13/11/2019	Quarterly Progress Report No. 10 (Jul-Sep 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	11/02/2020	Quarterly Progress Report No.11 (Oct-Dec 19)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	25/11/2020	Quarterly Progress Report No.12 (Jan-Mar 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	15/12/2020	Quarterly Progress Report No.13 (Apr-Jun 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham
R0	06/01/2021	Quarterly Progress Report No.14 (Jul-Sept 20)	Prashant B	Mr. Som Ghosh	Dr Robin Sham

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1.0 PROJECT DESCRIPTION

1.1 Project Objective

Original:

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

Actual (*P/R, PCR*)

There is no change in the Project Objective.

1.2 Necessity of the Project

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

Benefits from MTHL Project

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

Necessity of the Project

1. Although the urbanization in India has been rapidly progressing, infrastructure development in the urban areas has not caught up its progress. Particularly, the traffic congestion in the urban areas due to a lack of road network hinders the economic development. Thus, Government of India (GOI) places transport and connectivity as one of the “Growth Enablers” and plans to enhance road network in the “Three Year Action 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 Nagar Interchange			Between Shivaji Nagar Interchange and Chirle Interchange		
	2022	2032	2042	2022	2032	2042
Car	24,100	66,400	94,100	4,900	21,300	43,300
Taxi	2700	14,100	20,200	100	400	2,300
Bus	2,700	3,700	3,700	2,700	3,700	3,700
LCV	2,200	4,100	5,600	700	1,300	1,800
HCV	3,000	6,500	8,100	1,000	2,000	2,200
MAV	4,600	9,100	13,800	400	900	1,700
Total	39,300	103,900	145,500	9,800	29,600	55,000

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

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

Attachment 6, 7 & 8: Package wise construction schedules (progress) updated at the end of 2nd quarter (July-September 2020).

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

(P/R and PCR)

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

2.3 Project Cost
2.3.1.a Comparison of Originally Planned and Actually Incurred Cost BY ITEM
Table 2.3.1.a.(i) Originally Planned Cost BY ITEM

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

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

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

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

3. Physical Contingency: 10%

4. Base Year for Cost Estimation: December 2018

* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696. The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

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

Cost Breakdown	Foreign Currency Portion			Local Currency Portion			Total		
	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)	Total (Rs. mil)	JICA Portion (Rs. mil)	Others (Rs. mil)	Total (JPY mil)	JICA Portion (JPY mil)	Others (JPY mil)
Package-1	6,030	6,030	-	18,573	18,573		34,308	34,308	
Package-2	5,003	5,003	-	12,578	12,578		24,152	24,152	
Package-3	72	72	-	3,494	3,494		4,950	4,950	
Package-4 (ITS)	-		-	-			-		
Package-5 (Geotechnical Investigation)	-			196		196	308		308
Dispute Boards (Package-1, 2, 3 & 4)	-			-			-		-
Price Escalation	-			4	4		6	6	-
Physical Contingency	-			-			-		-
Consulting Services	253	253		362	362		899	899	
Land Acquisition*	-			6,014		6,014	9,442		9,442
Administration Cost	-			2,515		2,515	3,949		3,949
GST	-			4,964		4,964	7,794		7,794
Import Tax	-			-			-		-
Interest during construction	-			-			-		-
Front End Fee	-			-			-		-
Total	11,358	11,358	-	48,701	35,011	13,690	85,808	64,315	21,493

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

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

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

3. Physical Contingency: 10%

4. Base Year for Cost Estimation: December 2018

* Base Cost for Land Acquisition considered in the year 2016 was INR 9,062,669,696. The base cost has been revised to INR 11,293 million considering Price Escalation and 10% Physical Contingency.

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

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

(All Figures are in JPY mil)

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

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

(All Figures are in JPY mil)

Cost Breakdown	Total	JICA Portion				Others (MMRDA Portion)
		Tranche I	Tranche II	Tranche III	Sub Total	
FY 2017	13,738	9,232	-	-	9,232	4,506
FY 2018	26,813	21,695	-	-	21,695	5,118
FY 2019	40,404	31,008	-	-	31,008	9,396
FY 2020	3,648	1,175	-	-	1,175	2,473
FY 2021						
FY 2022						
FY 2023						
FY 2024						
Total	84,603	63,110	-	-	63,110	21,493

(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:

July 2020:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-28 & IPC-29 Detailed Verification and IPC-30 80% Ad-hoc.
 - ii) Package-2: IPC-24 80% Ad-hoc.
 - iii) Package-3: IPC-17 & IPC-18 Detailed Verification and IPC-19 & IPC-20 80% Ad-hoc.
- 2 GC has prepared and submitted a total reimbursement claim of 422.7 Million JPY to MMRDA / JICA in July 2020.

August 2020:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-30 Detailed Verification and IPC-31 R1 80% Ad-hoc.
 - ii) Package-2: IPC-24 Detailed Verification and IPC-25 80% Ad-hoc
 - iii) Package-3: IPC-19 & IPC-20 Detailed Verification and IPC-21 80% Ad-hoc
- 2 GC has prepared and submitted a total reimbursement claim of 315.48 Million JPY to MMRDA / JICA in August 2020.

September 2020:

- 1 GC scrutinized & certified the following invoices claimed by the Contractors:
 - i) Package-1: IPC-30 & IPC-031 Detailed Verification and IPC-32 80% Ad-hoc
 - ii) Package-2: IPC-24A Detailed Verification and IPC-26 80% Ad-hoc.
 - iii) Package-3: Nil. Detailed Verification of IPC-021 and IPC-022 80% Ad-hoc

Contractor's Progress:

Package-1 Physical Progress till 30th September 2020

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Temporary Access Bridge					
1.1	Bridge Deck	2953	Rmt	2953	100%	
2	Test Pile					
2.1	Test Piles	5	No.	4	80%	
3	Permanent Bridge Works - Land/ Interchange Zone					
3.1	Piles	524	No.	249	48%	
3.2	Pile Caps	158	No.	44	28%	
3.3	Piers	228	No.	81	36%	
3.4	Pier Caps	215	No.	5	2%	
4	Permanent Bridge Works - Intertidal Zone					
4.1	Piles	316	No.	223	71%	
4.2	Pile Caps	76	No.	48	63%	
4.3	Piers	148	No.	85	57%	
4.4	Pier Caps	148	No.	56	38%	
5	Permanent Bridge Works - Marine Zone					
5.1	Piles	399	No.	283	71%	
5.2	Pile Caps	79	No.	28	35%	
5.3	Piers	160	No.	10	6%	
5.4	Pier Caps	160	No.	4	3%	
6	Permanent Bridge Works - Total					
6.1	Piles	1239	No.	755	61%	
6.2	Pile Caps	313	No.	120	38%	
6.3	Piers	536	No.	176	33%	
6.4	Pier Caps	523	No.	65	12%	
7	Precast Segments					
7.1	Segment Casting	6713	No.	591	8.8%	
7.2	Segment Erection	446	Spans	5	1.1%	

Package-2 Physical Progress till 30th September 2020

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Temporary Access Bridge					
1.1	Bridge Deck	2682	Rmt	2682	100%	
2	Test Pile					
2.1	Test Piles	2	No.	2	100%	
3	Permanent Bridge Works - Land/ Interchange Zone					
3.1	Open Foundation	113	No.	81	72%	
3.3	Piers	119	No.	32	28%	
3.3	Pier Caps	104	No.	5	4%	
3.4	Portal Beams- Land	6	No.	2	33%	
3.5	Pier Head Segments -Land	42	No.	0	0%	
4	Permanent Bridge Works - Intertidal & CRZ Zone					
4.1	Piles	290	No.	288	99%	
4.2	Pile Caps	72	No.	49	68%	Scope of Works has been revised
4.3	Piers	72	No.	18	25%	Scope of Works has been revised
4.4	Pier Caps	18	No.	0	0%	
4.5	Pier Head Segments	54	No.	0	0%	Scope of Works has been revised
5	Permanent Bridge Works - Marine Zone					
5.1	Piles	514	No.	111	22%	
5.2	Pile Caps	122	No.	0	0%	
5.3	Piers	122	No.	0	0%	
5.4	Pier Caps	48	No.	0	0%	
5.5	Pier Head Segments	74	No.	0	0%	
6	Permanent Bridge Works - Total					
6.1	Open Foundation	113	No.	81	72%	
6.2	Piles	804	No.	399	50%	
6.3	Pile Caps	194	No.	49	25%	Scope of Works has been revised
6.4	Piers	313	No.	50	16%	Scope of Works has been revised
6.5	Pier Caps	170	No.	5	1.6%	
6.6	Portal Beams	6	No.	2	33%	
6.7	Pier Head Segments	170	No.	0	0%	Scope of Works has been revised
7	Precast Segments					
7.1	Segment Casting	3142	No.	177	5.63%	
7.2	Segment Erection	271	Spans	0	0%	

Package-3 Physical Progress till 30th September 2020

S. No	Activity	Total Scope	Unit	Cumulative Achieved Works	% of Work done Against the Total Scope	Remarks
1	Permanent Bridge Works					
1.1	Open Foundations	195	No.	137	70%	
1.2	Piers	195	No.	92	47%	
1.3	Pier Caps	189	No.	41	22%	
1.4	Segment Casting	750	No.	131	15%	
1.5	Segment Erection	53	Span	0	0%	

Package-4 (ITS) Progress till 30th September 2020

Preparation of Bid Documents for the Package-4 – ITS (Intelligent Transport System) Works is in progress. The GC has resolved the queries raised by the bidders. MMRDA has received only one PQ Application from M/S Tata Projects Ltd & EFCON India Pvt Ltd (JV). Accordingly, as recommended by the GC and based on the suggestions received from the prospective bidder, MMRDA requested JICA to allow them to go for direct bidding without PQ Stage process. Concurrence for the same is awaited from JICA.

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

Health & Safety and Environment (HSE)

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

Package-1 Safety Report

Sr. No	Description	From July to September 2020	Cumulative
1	Total Man Hours Since Inception	20,11,844	1,71,23,126
2	Number of Man-Hours (Accident Free Man-Hours)	20,11,844	46,13,138
3	Number of Man-Days	2,51,480	21,40,389
4	Number of Reportable Fatal Accidents	0	2
5	Number of Non-Fatal Accidents	0	1
6	Number of Near Miss Incidents	15	70
7	Number of First Aid Cases	10	110
8	Number of Dangerous Occurrences	0	1
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	0	96,448
11	Number of Man-Days Lost	0	12,058
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	3
13	Number of Inspections done for Offices & Sites	564	1,161
14	Number of Training/ Induction done for Offices & Sites	85	333
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	5,291	6,204
16	Details of Safety Committee meetings	2	23
17	No. of toolbox talks	4,250	31,968
18	No. of critical excavations.	2	18
19	Pre-employment Medical check-up	3,498	17,639
20	No. of Safety Walk down	8	125
21	No. of Safety Inductions completed	3,498	17,639

Package-2 Safety Report

Sr. No	Description	From July to September 2020	Cumulative
1	Total Man Hours Since Inception	9,60,729	79,88,803
2	Number of Man-Hours (Accident Free Man-Hours)	9,60,729	15,21,368
3	Number of Man-Days	87,429	7,27,592
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	3
6	Number of Near Miss Incidents	1	34
7	Number of First Aid Cases	8	65
8	Number of Dangerous Occurrences	0	5
9	Number of Reportable Sick Cases	0	1
10	Number of Man-Hours Lost	0	924
11	Number of Man-Days Lost	0	97
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	3
13	Number of Inspections done for Offices & Sites	77	696
14	Number of Training/ Induction done for Offices & Sites	38	478
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	3,503	834
16	Details of Safety Committee meetings	3	27
17	No. of toolbox talks	578	3,970
18	No. of critical excavations.	0	0
19	Pre-employment Medical check-up	1,489	7,849
20	No. of Safety Walk down	11	83
21	No. of Safety Inductions completed	1,496	8,066

Package-3 Safety Report

Sr. No	Description	From July to September 2020	Cumulative
1	Total Man Hours Since Inception	2,66,860	15,77,178
2	Number of Man-Hours (Accident Free Man-Hours)	2,66,860	15,77,178
3	Number of Man-Days	33,357	1,97,147
4	Number of Reportable Fatal Accidents	0	0
5	Number of Non-Fatal Accidents	0	0
6	Number of Near Miss Incidents	0	6
7	Number of First Aid Cases	8	51
8	Number of Dangerous Occurrences	0	0
9	Number of Reportable Sick Cases	0	0
10	Number of Man-Hours Lost	0	0
11	Number of Man-Days Lost	0	0
12	Number of Reportable Accidents per 100,000 Man-Hours Worked	0	0
13	Number of Inspections done for Offices & Sites	34	230
14	Number of Training/ Induction done for Offices & Sites	16	139
15	Daily Average Manpower (Including all Workmen & Staff) for the Month	786	4,810
16	Details of Safety Committee meetings	3	23
17	No. of toolbox talks	501	3,635
18	No. of critical excavations.	0	3
19	Pre-employment Medical check-up	745	3,644
20	No. of Safety Walk down	9	88
21	No. of Safety Inductions completed	745	3,644

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 2021.</p> <p>Single Operation and Maintenance Contractor will be appointed by December 2021.</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. The Draft DPR has been reviewed and approved.
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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	-	<p>Pkg-1: Tree Cutting/ Transplantation permission is awaited from the Tree Authority.</p> <p>Pkg-2: Tree Cutting/ Transplantation permission obtained & completed.</p> <p>Pkg-3: Forest Department has issued a concurrence on 19/05/2019. CIDCO's permission for Tree Cutting/ Transplantation obtained on 25th November 2019.</p>
Consent to Establish	Maharashtra Pollution Control Board	Contractor for respective Packages	Pkg-1-18.07.2018 Pkg-2-16.08.2018 Pkg-3-29.05.2019	

3.3 Environmental and Social Impacts

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

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
<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 297 Project Affected Households (PAHs) have given consents as follows:</p> <ul style="list-style-type: none"> • 164 PAHs Kanjurmarg for residential • 25 PAHs Kanjurmarg for commercial • 7 PAHs (Satsangi Plot) Kanjurmarg for Commercial • 1 PAHs (commercial to residential) for Bhakti Park • 100 PAHs HDIL Kurla for residential <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, 106.345 ha has been handed over by CIDCO to MMRDA. CIDCO is going to acquire the balance 1.745 Ha with the help of Collector, Raigad.</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)</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>("Guidelines") (Attachment 2-5).</p>	
<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>

Issue(s)	Action or countermeasure(s) taken and remaining problem(s)
<p>g. Qualitative Independent Evaluation</p> <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 MOD dated 03/09/2019 for MTHL-II, 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</p>	<p>Environmental Monitoring Plan with the package wise budgeted 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>as a part of Progress Status Report (PSR) by filling in the Reporting Form of Environmental Monitoring Result. (Attachment 2-4). After completion of the construction, EMoP shall be implemented by MMRDA, and the results shall be submitted to the JICA India Office semi-annually until two years after complementation of construction. The required amount of estimated environmental monitoring budget is borne by MMRDA.</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	Original: 15.4% Cost: Project cost (excluding Price Escalation, Tax and Duties and Administration cost) O&M cost, Land Acquisition Benefit: Travel Time cost and Vehicle Operation cost Project Life: 32 Years	Actual: (PCR) _____% Cost: Benefit: Project Life: Attachment(s): Supporting data for computing EIRR
FIRR	Original: 1.5% Cost: Project Cost, O&M cost, Land Acquisition cost Benefit: Toll Revenue Project Life: 32 Years	Actual: (PCR) _____%

3.5 Monitoring Plan for the indicators

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

<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. 14 is submitted for the period of 1st July to 30th September 2020.</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)

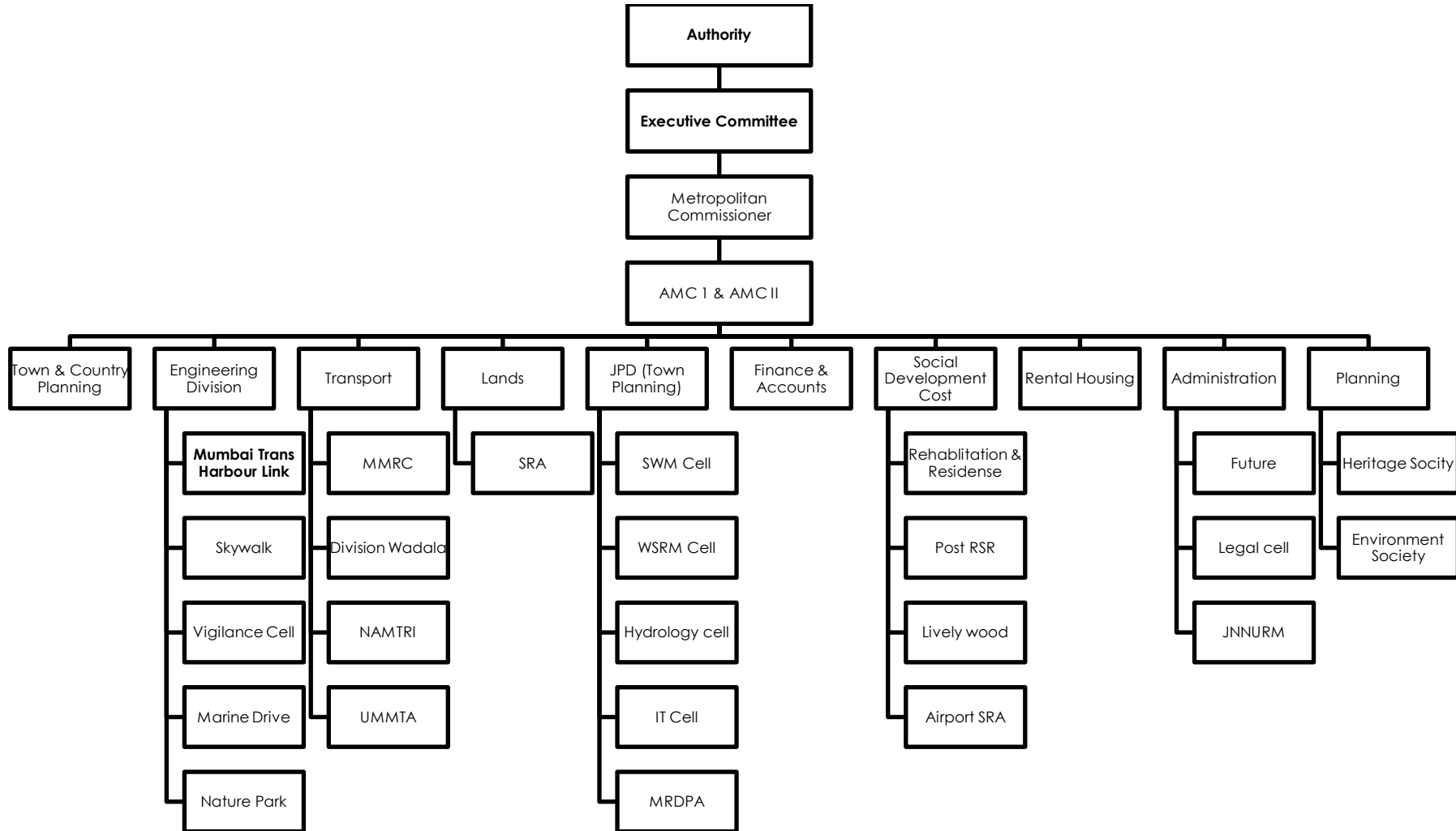
5.3 Lessons Learnt and Recommendations

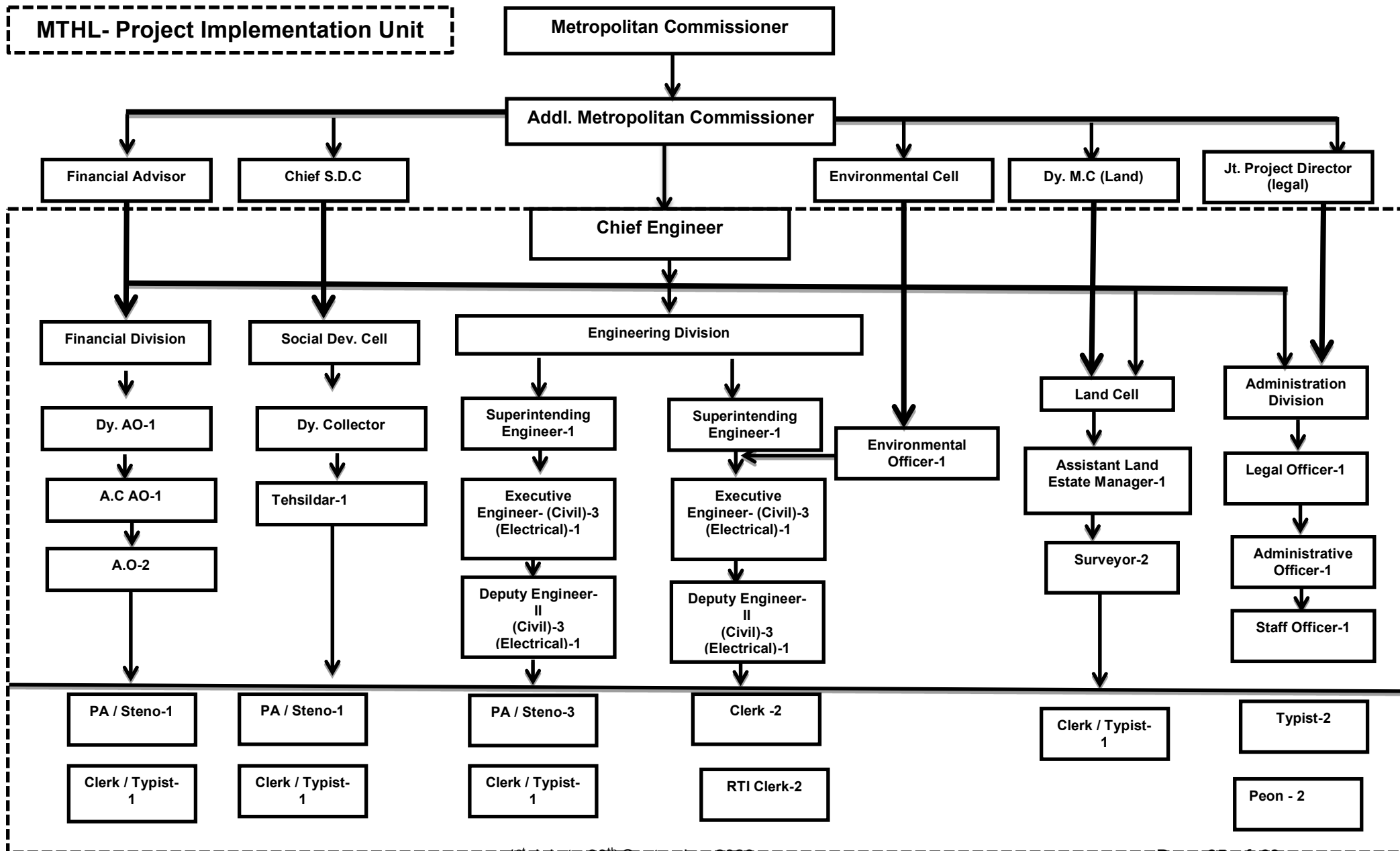
Please raise any lessons learned from the project experience, which might be valuable for the future JICA assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

(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

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}}) Vibration (dB L10 or mm/sec)	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 1 Location Gavan area for package III	Fortnightly 2 Times / Year Fortnightly Half yearly	150,000 75,000	54,000 0	150,000 75,000	369,000 400,000	573,000 475,000	-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) - 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

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 EMOF are covered.

Monitoring Period - July to September 2020

1. Environmental Monitoring during Construction for 4.5 years

Area	No.	Item	Parameter	Location	Frequency a year	Item and Standard	Monitoring Result				Remark - reasons why the data is exceeding standard - counter measures when the data is exceeding			
							Location 1- Pkg 1	Location 2	Location 3- Pkg 3	Location 4				
Pollution	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀ , PM _{2.5}	1. Sewri & Sewri bay area for package I	Quarterly monitoring is conducted at all locations.	National Ambient Air Quality Standards (NAAQS) (Standard for 24hrs: Industrial and Residential)	Sewri	Shivaji Nagar	Chirle					
				2. Nhava temporary bridge & casting yard in Gavhan for package II	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	BDL	20
					2. NO ₂ : 80µg/m ³							23	28	34
					3. PM ₁₀ : 100µg/m ³							58	86	96
					4. PM _{2.5} : 60µg/m ³							24	34	56
			5.CO:02mg/m ³	1.1	1.3	0.45								
			6.VOCs	1.11	1.8	3.05								
	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									
				3. Gavhan & Chirle for package III	Not applicable									
					1. pH : 6.5-9							7.4	7.9	Not applicable
					2. DO: 3 mg/l							5.7	5.9	Not applicable
					3. Turbidity: 30 NTU							23	22	Not applicable
					4. BOD: 5 mg/l							4	BDL	Not applicable
		5. O & G: 10 mg/l	BDL (DL=2)		Not applicable									
			6.COD	18	12	Not applicable								
	3	Waste	Volume of waste soil, cutting tree and domestic garbage	1. Sewri & Sewri bay area for package I	Daily	Municipal Solid Waste Management Rules, 2013	Sewri Camp Site	Shivaji Nagar Camp Site	Chirle Camp Site					
				2. Nhava temporary bridge & casting yard in Gavhan for package II	4 Times / Year									
3. Gavhan & Chirle for package III				Once site clearing work/execution part of work start.										
				Generated waste soil (t) total	2322.1 m ³							App. 14000 CuM Collected in jumbo bags and Disposed off in EBB Location and Casting Yard	NA	
				Generated cutting tree (ha) total	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting so far NIL							306 Trees are cut		
	Generated domestic waste (t/month) total	2.53 T for the quarter	3.5 T/quarter. It is disposed through CIDCO daily.	0.990 m ³ for quarter										
4	Soil Contamination/sedimentation	Heavy Metals & Oil & Grease	1. Sewri & Sewri bay area for package I	1. Muck: 1 Time / Year 2. Sediments: 4 Times / Year	Soil Pollution Standard in India (MOEF)	Muck Soil at Mudflat(MP53)		Not applicable		Frequency is Once in a year.If any minor or major incident has not occur at storage area. (Package-III)				
			2. Nhava temporary bridge & casting yard in											
			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										
				1. Cadmium: 0.01mg/l							0.03	BDL		
				2. total cyanide : not detected								BDL		
				3. organic phosphorus: not detected										
				4. lead: 0.01mg/l							0.23	0.12	Not applicable for package-3	
				5. chromium (VI): 0.05mg/l							<0.05	BDL		
				6. arsenic: 0.01mg/l or 15mg/kg (agri-land soil)							<0.01	BDL		
				7. total mercury: 0.005mg/l							<0.01	BDL		
				8. alkyl mercury: not detected										
				9. PCBs: not detected								BDL		
				10. copper: 125mg/kg (only paddy field soil)							4.86	36.3		
				11. dichloromethane: 0.02mg/l							<1	BDL		
				12. carbon tetrachloride: 0.002mg/l							<1	BDL		
	13. 1,2-dichloroethane: 0.004mg/l		BDL											
	14. 1,1-dichloroethylene: 0.02mg/l		BDL											
	15. cis-1,2-dichloroethylene: 0.04mg/l		BDL											

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

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

Attachment 2-4

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

Monitoring Period - July to September 2020

1. Environmental Monitoring during Construction for 4.5 years

						16. 1,1,1-trichloroethane: 1mg/l			BDL			
						17. 1,1,2-trichloroethane: 0.006 mg/l			BDL			
						18. trichloroethylene: 0.03mg/l			BDL			
						19. tetrachloroethylene: 0.01mg/l			BDL			
						20. 1,3-dichloropropene: 0.002mg/l			BDL			
						21. thiuram: 0.006mg/l			BDL			
						22. simazine: 0.003mg/l			BDL			
						23. thiobencarb: 0.02mg/l			BDL			
						24. benzene: 0.01mg/l	<1		1.4			
						25. selenium: 0.01mg/l	<0.01		BDL			
5	Noise and vibration	Ambient and road side noise (dB(A)LAeq)	1. Sewri & Sewri bay area for package I	Fortnightly	Construction area Standard 85 dB(A) daytime (Japan standard) Not construction area : Ambient Noise Standard in India (dB(A) LAeq)	Sewri (ST 200-500) (Industrial area)	Sea Section (ST5000-5500) Migratory Bird Area(no standard on sea section)	Shivaji Nagar (Commercial area)				
			2. Nhava temporary bridge & casting yard in Gavhan for package II	2 Times / Year	Day time : 6-22 hr (continuous) dB(A)		70.1	66.8	68.8	Due to monsoon season, ambient noise monitoring could not be conducted for this quarter (Package-I)		
			3. Gavhan & Chirle for package III	Fortnightly	Night time: 22-6 hr (continuous) dB(A) (only sea section) Day time : 6-22 hr (10 min during 9-17 hrs) Night time: 22-6 hr (10 min 22-24 hr)		60.7	65.3	64.9			
			<u>Note (standard values in Not construction area)</u>									
			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)									
			1.Location Gavan area for package III									
			Half yearly									
			Construction area Standard 75 dB daytime (Japan standard) Not construction area : Vibration Standard (Japan Standard along the road)									
			Day time : 6-22 hr (continuous)									
Night time: 22-6 hr (continuous)												
<u>Note (standard values in Not construction area)</u>												
1. Commercial /Industrial Area Day Time: 70 (7-20hr) Night Time: 65 (20-7hr)												
Not Applicable												
Not applicable												
There is no reference standard in India for Vibration monitoring in marine area. GC has confirmed that vibration monitoring is not required for the project (Package-1)												
Due to covid -19 lockdown, since March 2020, vibration monitoring was not conducted at the Package-3 Site. GC sent a letter to the Package-3 Contractor (& a copy to MMRDA) but the Vendor denied to carry out the works. (Please Refer letter No.0001810 Dated 14.07.2020)												
			Along MTHL alignment and mangrove replant area for Package I	Quarterly during the construction Period	Standard is not existing, but quantity and quality should not be worsen	Sewri side (ST500-5500)	Sea Section (ST5500-16000)	Shivaji Nagar side (app. ST16000-19000)	Mangrove Replantation area appointed by State Government			
			Along MTHL alignment and mangrove replant area for package II	4 Times / Year	1-1. Fauna-Flora (number of species and quantity)			N/A	N/A			
		1. Monitoring of mudflat conditions including fauna-flora 2. Monitoring of Cutting Tree and replantation/transplantation area			(1) Number of species of bird					Regarding protected area (CRZ and Important Bird Area) and ecosystem, detailed long-term monitoring plan will be established during baseline survey of birds. This tentative monitoring form shall be updated based on the detailed long-term monitoring plan.		
					(2) Number of species of fish							
					(3) Estimated number of Flamingo							
					1-2: Mangrove density and community survey							

**The Project for Construction of Mumbai Trans Harbour Link
Reporting Form of Environmental Monitoring during Construction**

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Monitoring Period - July to September 2020

1. Environmental Monitoring during Construction for 4.5 years

Natural Environment	6	Protected Area	3. Monitoring of Mangrove Plantation area appointed by MoEF 4. Monitoring of sedimentation soil and ecological parameter (25 items on EIA main text Table 6.1.15 for soil and 7 items such as 1) Net primary productivity, 2) Chlorophyll-a, 3) Phosphate, 4) Nitrate, 5) Nitrite, 6) Particulate Organic Carbon, 7) SiO2)			(1) Number of species of mangrove					
						(2) Density of mangrove (xx trees/10m x 10m)					
						1-3: Benthos Survey					
						(1) Number of species and quantity by species	470 Species and 298 No/m2				Due to COVID 19 Lockdown, marine biology sampling and monitoring could not be conducted for this quarter (Package-1)
						2-1: Cutting tree confirmation	Tree cutting proposal has been submitted and approval from MCGM is awaited. Tree Cutting NIL				
						(1) Number of cutting tree and species					
						3-1: Mangrove survey in the replant area				Nil	
						(1) Number of species of mangrove					
						(2) Density of mangrove (xx trees/10m x 10m)					
						4. Ecological Parameter					
						(1) Net primary Productivity : <1,500 mgC/m3/day at surface	733				Due to COVID 19 Lockdown, marine biology sampling and monitoring could not be conducted for this quarter (Package-1)
						(2) Chlorophyll-a: <4mg/m3	4.4				
(3) Phosphate: 0.1-90µg/l	385										
(4) Nitrate: 1.0-500µg/l	684										
(5) Nitrite: <125µg/l											
(6) Particulate Organic Carbon: 10-100mg/m ³											
(7) SiO2: 10-5,000µg/l	5716										
7	Hydrology	Flooding situation	Not applicable for Package I 2 Locations (CRZ at Sewri and Shivaji Nagar) for Package II	4 Times / Year	Criteria for evaluation Project activities and structures does not cause flooding and impacts on tidal conditions	Sewri	Shivaji Nagar				
					Monitoring of flooding situation	No Flooding	No flooding	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			
					Monitoring of embankment	done					
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	400 in July 2020, 385 in August 2020 and 324 in September in 2020	125-150				
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	During this quarter 39 , COVID 19 positive cases reported who have been treated and discharged.	Health Checks carried out but HIV/AIDS parameter is not there.	Health Checkups conducted by site doctor. HIV AIDS awareness programme has conducted in 2019 by NGO.			
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 have been provided. *1150 nos. for Food (lunch & Dinner) provided to workmen from BOCW, * Face mask provided to workmen, * Calcium & Vitamins tablets provided to workmen to boost up the immunity of workmen, * Sanitizers & Liquids soaps also provides to different location for workmen. *Daily temperature Check of workmen at site and colony is conducted. Daily sanitisation at work site, of working equipment and the buses used for commuting is conducted.	Conforming with BOCW Act 1996	Conforming with BOCW Act 1996			

**The Project for Construction of Mumbai Trans Harbour Link
Reporting Form of Environmental Monitoring during Construction**

Attachment 2-4

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Monitoring Period - July to September 2020
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1. Environmental Monitoring during Construction for 4.5 years

Other	12	Accident	Number of accidents	2 Locations (major camp site in Sewri and Shivaji Nagar)	4 times / year x 4.5 years	Criteria for evaluation Any accidents are not caused by construction	Sewri Camp Site	Shivaji Nagar Camp Site	Other area	
						Number of recorded accident	NIL	NIL	Nil	

MTHL Land Acquisition Status (Attachment 2-6):

Total land required on Navi Mumbai side- 108.09 ha

Land in possession in MMRDA – 106.5 ha

Balance land acquisition- 1.59 ha

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

Land Required in ha		Land Acquired in ha		Balance Land to be acquired in ha	Anticipated date for Land Acquisition	Payment status (Payment made to Land Owners by CIDCO)	Remarks
Govt.	Private	Govt.	Private	Private*			
98.75	9.34	98.75	7.595	1.745	31-12-2020	--	The payment status to the land owners are awaited from CIDCO. The same would be communicated to JICA on receipt of the same.
Total		98.75	7.595	1.745			
108.09							

***Portions of Private Land**

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

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

1. General Information

a. RAP Implementation Monitoring Results:	Progress Status Report (PSR) of 3 rd quarter of 2020
b. Date of Preparing This form	30-09-2020
c. Person Preparing This form	Name: Robin Sham Position: Engineer and Team Leader Department/Organizations: General Consultants

2. Scale of Impact

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

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

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

2.2 Structures

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

2.3 Fishery

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

QPR No. 14 (July to September 2020)
Attachment 2-8

C2: Fishing Stakes and Nets within 500 m. of RoW (Southern side)	429	566	995	1. Funds for 496 nos C2 category fishermen are transferred to Commissioner of Fisheries in the 2017-18. 2. The list of balance 499 Nos. of C2 category fishermen are submitted to ACF Raigad, ACF Thane and ACF Mumbai suburban for their verifications.
C3: Hand Pickers	1453	3690	5143	Funds for 4206 nos of C3 category fishermen are already transferred to Commissioner of Fisheries and balance 937 Nos. of C3 category fishermen are in process of transfer to Commissioner of Fisheries.
C4: Commercial and Artisanal Fisher-folks (Loss of Time and Increased Operating Costs)	Will be observed during construction period	Will be observed during construction period	---	Nil
C5: Fisher-folks with Loss due to Turbidity	Will be observed during construction period	Will be observed during construction period	----	Nil
C6: Fisher-folks with Damages due to Accidents	Will be observed during construction period	Will be observed during construction period	----	Nil

2.4 Land Acquisition / Transfer

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

QPR No. 14 (July to September 2020)
Attachment 2-8

3. Monitoring Results

3.1 Sewri Section

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

QPR No. 14 (July to September 2020)
Attachment 2-8

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

SUMMARY OF FISHER FOLKS OF MTHL PROJECT (Influence Zone of 23 villages) Up to 30-09-2020						
Sr. No.	Village Name	Total number of forms Received	Total approved eligible family units			
			C1	C2	C3	Total
1	Bamandongri	273	1	0	25	26
2	Belapur	110	0	5	14	19
3	Belpada	1185	0	7	473	480
4	Diwale	455	10	237	12	259
5	Ganeshpuri	276	0	33	32	65
6	Gavhan	2162	0	14	1304	1318
7	Jasai	926	0	0	18	18
8	Jawale	51	0	1	0	1
9	Kombadbhuja	413	1	24	126	151
10	Kopar	994	2	5	230	237
11	Mahul	1198	129	170	599	898
12	Moha	475	22	35	134	191
13	Mora	471	0	83	213	296
14	Morave	539	14	17	79	110
15	Nhava	1646	0	32	304	336
16	Sarsole	266	0	30	83	113
17	Sewri	305	0	1	70	71
18	Shelghar	241	0	0	15	15
19	Shivajinagar	202	1	4	61	66
20	Trombay	1253	49	258	784	1091
21	Ulwa	218	1	4	12	17
22	Uran & Hanuman Koliwada	683	0	33	554	587
23	Vahal	411	0	2	1	3
Total		14753	230	995	5143	6368
Total applications						14753
Duplicate/Repeated Application						1643
Net Applications						13110
Approved applications						6368

Grievance Redressal Committee (GRC) for Fisher-folk Compensation

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

Implementation Schedule for Fisher-folks Compensation & Land Acquisition in Navi Mumbai**A. Implementation Schedule for Fisher-folks Compensation: -**

Sr. No.	Task Designation	Approving authority	Start Date	Completion Date
1	Approval of fisher-folks' compensation Policy	Fisher-folks Compensation Committee (FCC)	08-10-2015	23-12-2015
2	Approval by MMRDA	MMRDA	10-12-2015	23-12-2015
3	Submission to JICA	MMRDA	--	04-01-2016
4	Detailed list of PAP and compensation plan	1. Detailed list of Fisher-folk PAP upto list 1 (1165 Nos) & 2 (1399 Nos) are finalized by the Fisheries Department. 2. From 2018, FEVC committee is the approval authority of PAF and approved C1- 230 Nos; C2-440 Nos and C3- 2580 Nos are approved.	23-12-2015	Up to 30.09.2020 1. Total up to date applications scrutinized = 13110 Nos. 2. Eligible = 6368 nos 3. Rejected = 6742 nos
5	Validation of compensation plan	Fisher-folks Compensation Committee (FCC)	23-12-2015	1. Approval to the Fisher-folk PAP list obtained from Fisheries Department for Fisherfolk from Sewri, Mahul & Trombay (Mumbai side) – 12th September 2017 and 20th November 2018 for C-2 & C3 Category only.

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

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

Land Required in Ha.		Land Acquired in Ha.		Balance Land to be acquired in Ha	Anticipated date for Land Acquisition	Payment status (Payment made to Landowners by CIDCO)	Remarks
Govt.	Private	Govt.	Private	Private			
98.75	9.34	98.75	7.595	1.745	31-12-2020	--	1. CIDCO is the land acquisition authority for land acquisition for Navi Mumbai 2. MMRDA has paid an amount of INR 59.16 Cr to CIDCO as per their demand. 3. The payment status to the landowners is awaited from CIDCO. The same would be communicated to JICA on receipt of the same.
Total	108.09	106.345		1.745			

Implementation Schedule for SIA (Sewri Section)

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

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

Attachment 3- JICA's Concurrence Status

Status of JICA'S Concurrence

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

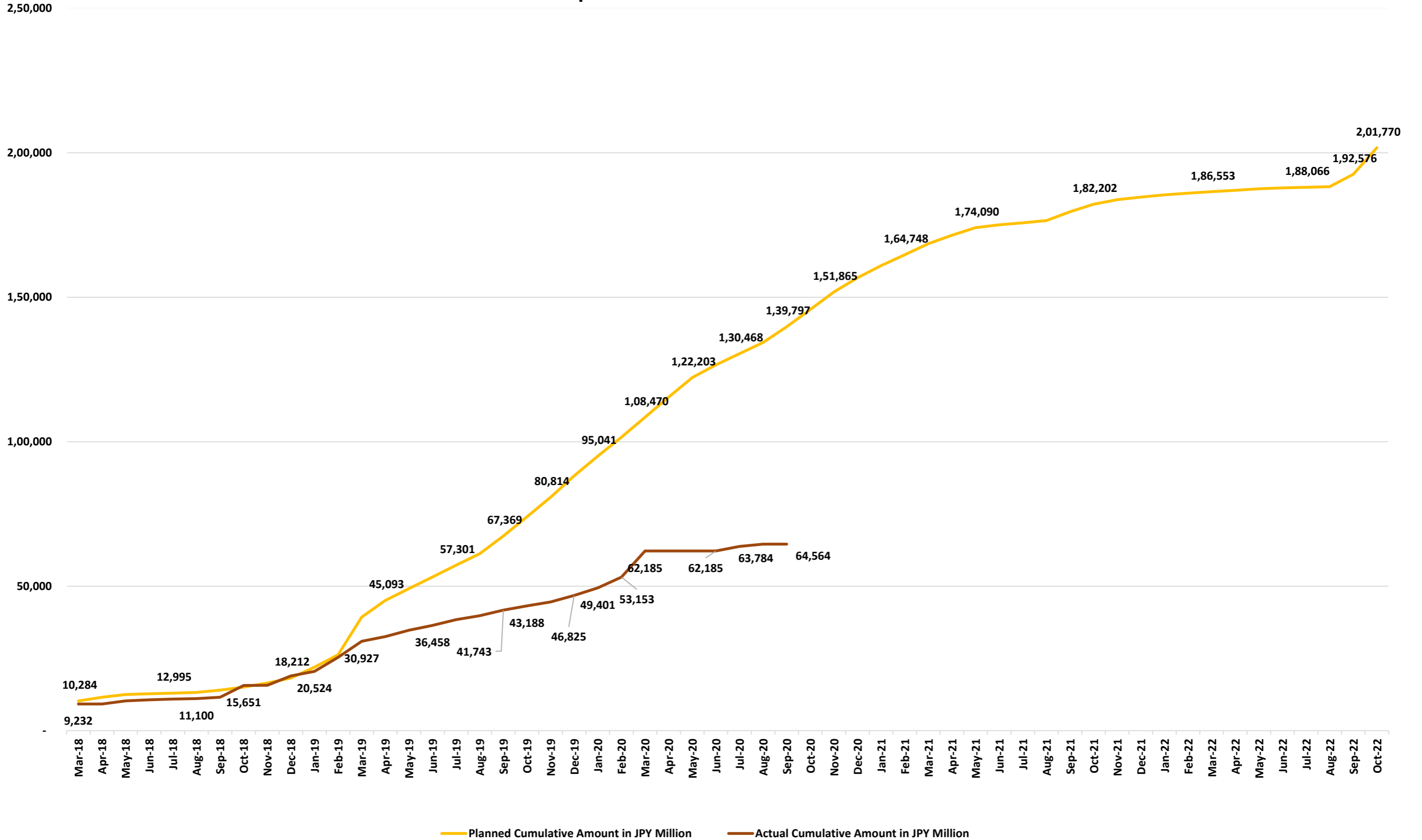
Attachment 4- Project Procurement and Financial Status till 30th September 2020

PROJECT PROCUREMENT AND FINANCIAL STATUS TILL 30th SEPTEMBER 2020

Type	Contract	Awarded or Estimated Value (in Rs. Crore)	Current Status	Contractors	Project Commencement Date	Stipulated Project Completion Date	% of Overall Project completion (Design/ Procurement/ Construction) till 25 th September 2020	% of Overall Financial Progress (Including Mobilization Advance) till 30 th September 2020
CIVIL	Package-1 (CH 0+000 km to CH 10+380 km)	7637.30	Awarded	L&T-IHI Consortium	March 2018	Sep 2022	28.96%	37.13%
	Package-2 (CH 10+380 km to CH18+187 km)	5612.61	Awarded	DAEWOO-TPL JV	March 2018	Sep 2022	23.96%	37.23%
	Package-3 (CH18+187 to CH21+800)	1013.79	Awarded	L&T	March 2018	Sep 2021	40.05%	49.64%
ITS	Package-4 Intelligent Transport System (ITS)	181.49 (Estimated)	Design Stage	--	June 2021 (Estimated)	Sep 2022	NA	NA

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

Attachement 5 - S-Curve for Planned Vs Actual Cumulative Amount till September 2020 in JPY Millions



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



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



AECOM

PADECO

dar al-handisah

TYLIN

General Consultant for Mumbai Trans Harbour Link Project

Activity ID	Activity Name	BL1 Start	BL1 Finish	BL1 Duration	Original Duration	Start	Finish	Schedule % Complete	Performance % Complete	Variance - BL1	Start Date	Finish Date	Total Float	Timeline											
														2018	2019	2020	2021	2022	2023	2024					
MPR30.1.13.2.2.1	Intertidal - Main Bridge Work - Piling	14-Dec-18	16-Mar-21	531	686	14-Nov-18 A	19-Jun-21	78.95%	91.53%	26	-76	-42	[Gantt bar chart for Piling work]												
MPR30.1.13.2.2.2	Intertidal - Main Bridge Work - Pile Cap	29-Dec-18	06-Apr-21	536	913	17-Jan-19 A	14-Jun-22	74.09%	82.46%	-15	-285	-256	[Gantt bar chart for Pile Cap work]												
MPR30.1.13.2.2.3	Intertidal - Main Bridge Work - Pier	17-Jan-19	25-May-21	562	941	29-Mar-19 A	16-Jul-22	71.33%	74.47%	-19	-272	-245	[Gantt bar chart for Pier work]												
MPR30.1.13.2.2.4	Intertidal - Main Bridge Work - Pier Cap	30-Jan-19	05-Jun-21	562	691	10-Aug-19 A	28-Jul-22	69.56%	49.56%	-115	-272	-245	[Gantt bar chart for Pier Cap work]												
MPR30.1.13.2.2.5	Intertidal - Main Bridge Work - Super Structure Erection	18-Apr-19	23-Oct-21	534	783	29-Nov-19 A	28-Apr-23	43.98%	4.65%	-110	-464	-437	[Gantt bar chart for Super Structure Erection work]												
MPR30.1.13.2.3	Intertidal - Finger Removal & Reuse	07-Mar-19	29-Dec-20	400	371	20-Jun-19 A	28-May-21	0%	0%	-85	-125	-40	[Gantt bar chart for Finger Removal & Reuse work]												
MPR30.1.13.3	Marine Section	18-Sep-18	17-Jun-22	911	1406	14-Dec-18 A	22-Dec-23	60.17%	24.78%	-73	-464	-443	[Gantt bar chart for Marine Section work]												
MPR30.1.13.3.1	Temporary Access Bridge Work -2 (MP70 to MP51- 21 Spans)	18-Sep-18	17-Jun-22	911	1045	14-Nov-19 A	22-Dec-23	0%	0%	-274	-464	-443	[Gantt bar chart for Temporary Access Bridge Work work]												
MPR30.1.13.3.2	Marine - Main Bridge	03-Nov-18	23-Feb-22	775	1309	14-Dec-18 A	29-Aug-23	60.17%	24.78%	-34	-464	-443	[Gantt bar chart for Marine - Main Bridge work]												
MPR30.1.13.3.2.1	Marine - Piling	03-Nov-18	15-Mar-21	564	962	14-Dec-18 A	03-Jun-22	74.37%	60.62%	-34	-296	-178	[Gantt bar chart for Marine - Piling work]												
MPR30.1.13.3.2.1.1	Piling - Stretch - 1 - OSD-1 MP51 to MP53 (320m)	20-Sep-19	22-Jan-20	104	80	21-Jul-20 A	28-Dec-21	100%	23.08%	-225	-434	-298	[Gantt bar chart for Piling - Stretch - 1 work]												
MPR30.1.13.3.2.1.2	Piling - Stretch - 2 - Marine - MP54 to MP68 (856m)	25-Feb-19	13-Oct-20	344	340	16-Aug-20 A	03-Jun-22	93.33%	5%	-321	-422	-234	[Gantt bar chart for Piling - Stretch - 2 work]												
MPR30.1.13.3.2.1.3	Piling - Stretch - 3 - OSD-2&3 MP69 to MP80 (1.5 Km)	10-Dec-18	26-Feb-21	521	370	25-Sep-20 A	25-Apr-22	65.77%	0%	-392	-275	-197	[Gantt bar chart for Piling - Stretch - 3 work]												
MPR30.1.13.3.2.1.4	Piling - Stretch - 4 - Marine MP81 to MP123 (2.6 Km)	03-Nov-18	21-Apr-20	370	489	14-Dec-18 A	22-Feb-20 A	100%	100%	-34	50		[Gantt bar chart for Piling - Stretch - 4 work]												
MPR30.1.13.3.2.1.5	Piling - Stretch - 5 - OSD-4 MP124 to MP128 (600m)	22-Apr-20	16-Jan-21	147	112	04-Feb-20 A	19-Dec-20	35.37%	72.62%	66	24	132	[Gantt bar chart for Piling - Stretch - 5 work]												
MPR30.1.13.3.2.1.6	Piling - Stretch - 6 - Marine MP129 to MP148 (1.2 Km)	25-May-19	15-Mar-21	395	148	06-Dec-19 A	10-Feb-21	25.83%	93.75%	-85	28	146	[Gantt bar chart for Piling - Stretch - 6 work]												
MPR30.1.13.3.2.2	Marine - Pile Cap	23-Nov-18	12-Apr-21	572	1023	14-Jan-19 A	22-Oct-22	63.48%	26.53%	-43	-390	-274	[Gantt bar chart for Marine - Pile Cap work]												
MPR30.1.13.3.2.2.1	Pile Cap - Stretch - 1 - OSD-1 MP51 to MP53 (320m)	25-Dec-19	23-Mar-20	75	75	29-Dec-21	29-Mar-22	100%	0%	-458	-458	-348	[Gantt bar chart for Pile Cap - Stretch - 1 work]												
MPR30.1.13.3.2.2.2	Pile Cap - Stretch - 2 - Marine - MP54 to MP68 (856m)	28-Mar-19	20-Jan-21	400	400	01-Apr-21	22-Oct-22	60.53%	0%	-458	-458	-337	[Gantt bar chart for Pile Cap - Stretch - 2 work]												
MPR30.1.13.3.2.2.3	Pile Cap - Stretch - 3 - OSD-2&3 MP69 to MP80 (1.5 Km)	28-Jan-19	27-Mar-21	505	354	23-Dec-20	23-May-22	62.15%	0%	-426	-275	-197	[Gantt bar chart for Pile Cap - Stretch - 3 work]												
MPR30.1.13.3.2.2.4	Pile Cap - Stretch - 4 - Marine MP81 to MP123 (2.6 Km)	23-Nov-18	10-Nov-20	444	637	14-Jan-19 A	17-Apr-21	89.62%	60.45%	-43	-133	-81	[Gantt bar chart for Pile Cap - Stretch - 4 work]												
MPR30.1.13.3.2.2.5	Pile Cap - Stretch - 5 - OSD-4 MP124 to MP128 (600m)	11-Nov-20	08-Apr-21	125	125	06-Apr-21	04-Dec-21	0%	0%	-123	-123	-58	[Gantt bar chart for Pile Cap - Stretch - 5 work]												
MPR30.1.13.3.2.2.6	Pile Cap - Stretch - 6 - Marine MP 129 to MP 148 (1.2 Km)	08-Jun-19	12-Apr-21	407	218	05-Nov-20	27-Oct-21	20.67%	0%	-275	-86	30	[Gantt bar chart for Pile Cap - Stretch - 6 work]												
MPR30.1.13.3.2.4	Marine - Pier	22-Dec-18	02-Jun-21	590	791	12-Sep-19 A	26-Dec-22	57.55%	5.09%	-146	-401	-315	[Gantt bar chart for Marine - Pier work]												
MPR30.1.13.3.2.4.1	Pier - Stretch - 1 - OSD-1 MP51 to MP53 (320m)	24-Jan-20	21-Apr-20	75	75	29-Jan-22	27-Apr-22	100%	0%	-458	-458	-338	[Gantt bar chart for Pier - Stretch - 1 work]												
MPR30.1.13.3.2.4.2	Pier - Stretch - 2 - Marine - MP54 to MP68 (856m)	26-Apr-19	26-Mar-21	429	429	30-Apr-21	26-Dec-22	53.89%	0%	-458	-458	-341	[Gantt bar chart for Pier - Stretch - 2 work]												
MPR30.1.13.3.2.4.3	Pier - Stretch - 3 - OSD-2&3 MP69 to MP80 (1.5 Km)	26-Feb-19	24-Apr-21	504	354	21-Jan-21	20-Jun-22	57.64%	0%	-425	-275	-197	[Gantt bar chart for Pier - Stretch - 3 work]												
MPR30.1.13.3.2.4.4	Pier - Stretch - 4 - Marine MP81 to MP123 (2.6 Km)	22-Dec-18	12-Jan-21	472	519	12-Sep-19 A	05-Feb-22	81.85%	11.54%	-146	-247	-146	[Gantt bar chart for Pier - Stretch - 4 work]												
MPR30.1.13.3.2.4.5	Pier - Stretch - 5 - OSD-4 MP124 to MP128 (600m)	13-Jan-21	02-Jun-21	118	146	28-Jan-22	19-Jul-22	0%	0%	-240	-267	-230	[Gantt bar chart for Pier - Stretch - 5 work]												
MPR30.1.13.3.2.4.6	Pier - Stretch - 6 - Marine MP129 to MP148 (1.2 Km)	27-Sep-19	28-Apr-21	419	258	24-Nov-20	16-Dec-21	15.63%	0%	-288	-127	0	[Gantt bar chart for Pier - Stretch - 6 work]												
MPR30.1.13.3.2.2	Marine - Pier Cap	21-Jan-19	14-Jun-21	576	727	26-Dec-19 A	06-Jan-23	54.78%	2.02%	-206	-401	-277	[Gantt bar chart for Marine - Pier Cap work]												
MPR30.1.13.3.2.2.1	Pier Cap - Stretch - 1 - OSD-1 MP51 to MP53 (320m)	04-Feb-20	16-May-20	87	87	09-Feb-22	21-May-22	100%	0%	-458	-458	-238	[Gantt bar chart for Pier Cap - Stretch - 1 work]												
MPR30.1.13.3.2.2.2	Pier Cap - Stretch - 2 - Marine - MP54 to MP68 (856m)	27-May-19	07-Apr-21	414	414	31-May-21	26-May-23	48.67%	0%	-458	-458	-341	[Gantt bar chart for Pier Cap - Stretch - 2 work]												
MPR30.1.13.3.2.2.3	Pier Cap - Stretch - 3 - OSD-2&3 MP69 to MP80 (1.5 Km)	28-Mar-19	17-May-21	497	348	19-Feb-21	11-Jul-22	50%	0%	-424	-275	-197	[Gantt bar chart for Pier Cap - Stretch - 3 work]												
MPR30.1.13.3.2.2.4	Pier Cap - Stretch - 4 - Marine MP81 to MP123 (2.6 Km)	21-Jan-19	23-Jan-21	458	454	26-Dec-19 A	17-Feb-22	78.13%	4.64%	-206	-247	-146	[Gantt bar chart for Pier Cap - Stretch - 4 work]												
MPR30.1.13.3.2.2.5	Pier Cap - Stretch - 5 - OSD(4) MP124 to MP128 (600m)	12-Feb-21	14-Jun-21	103	131	26-Feb-22	30-Jul-22	0%	0%	-240	-267	-230	[Gantt bar chart for Pier Cap - Stretch - 5 work]												
MPR30.1.13.3.2.2.6	Pier Cap - Stretch - 6 - Marine MP129 to MP148 (1.2 Km)	12-Oct-19	11-May-21	403	243	09-Dec-20	28-Dec-21	20.82%	0%	-275	-115	38	[Gantt bar chart for Pier Cap - Stretch - 6 work]												
MPR30.1.13.3.2.5	Marine - Super Structure Erection	19-Apr-19	23-Feb-22	636	775	23-Jun-20 A	29-Aug-23	39.73%	0%	-276	-464	-443	[Gantt bar chart for Marine - Super Structure Erection work]												
MPR30.1.13.3.2.5.1	Erection - Main Concrete Viaduct	19-Apr-19	23-Feb-22	636	775	23-Jun-20 A	29-Aug-23	39.1%	0%	-276	-464	-443	[Gantt bar chart for Erection - Main Concrete Viaduct work]												
MPR30.1.13.3.2.5.2	Rescue Span (MP98 to MP99)	07-Mar-20	29-Oct-20	120	120	13-Oct-21	07-Mar-22	75.83%	0%	-332	-332	-11	[Gantt bar chart for Rescue Span work]												
MPR30.1.13.4	Precast Segments	06-Feb-19	21-Aug-21	778	1021	07-Aug-19 A	17-Apr-23	62.21%	9%	-154	-505	-175	[Gantt bar chart for Precast Segments work]												
MPR30.1.13.4.1	Precast Segement - Sewri Interchange	06-Feb-19	24-May-21	701	817	20-Feb-20 A	11-Jan-23	74.45%	3.28%	-317	-501	-94	[Gantt bar chart for Precast Segement - Sewri Interchange work]												
MPR30.1.13.4.2	Precast Segement - Intertidal	28-Feb-19	14-Aug-21	753	744	18-Oct-19 A	30-Nov-22	68.66%	22.54%	-194	-394	-331	[Gantt bar chart for Precast Segement - Intertidal work]												
MPR30.1.13.4.3	Precast Segement - Marine	28-Feb-19	21-Aug-21	759	1021	07-Aug-19 A	17-Apr-23	53.22%	1.83%	-135	-505	-175	[Gantt bar chart for Precast Segement - Marine work]												
MPR30.1.13.5	Orthotropic Steel Deck (OSD) - Fabrication, Shipping, Assembly & Erection -	11-Jun-19	15-Mar-22	608	809	23-Sep-19 A	29-May-23	7.75%	3.36%	-9	-370	-210	[Gantt bar chart for Orthotropic Steel Deck work]												
MPR30.1.13.5.1	OSD - Fabrication	28-Sep-19	12-Oct-21	746	925	23-Sep-19 A	12-Oct-22	0%	0%	5	-365	-307	[Gantt bar chart for OSD - Fabrication work]												
MPR30.1.13.5.1.1	Fabrication - Factory A	28-Sep-19	16-Sep-21	720	925	23-Sep-19 A	12-Oct-22	0%	0%	5	-391	-368	[Gantt bar chart for Fabrication - Factory A work]												
MPR30.1.13.5.1.1.1	OSD 01 - RHS Fabrication - MP50 to MP53 (320m)	28-Sep-19	22-Aug-20	330	363	23-Sep-19 A	29-Mar-21	0%	0%	5	-219	-68	[Gantt bar chart for OSD 01 - RHS Fabrication work]												
MPR30.1.13.5.1.1.2	OSD 03 - RHS Fabrication - MP75 to MP81 (770m)	26-Jan-20	19-Apr-21	450	450	29-Jun-21	22-Sep-22	0%	0%	-521	-521	-416	[Gantt bar chart for OSD 03 - RHS Fabrication work]												
MPR30.1.13.5.1.1.3	OSD 04 - RHS Fabrication - MP124 to MP128 (560m)	22-Sep-20	16-Sep-21	360	307	25-Mar-20 A	12-Oct-22	0%	0%	181	-391	-368	[Gantt bar chart for OSD 04 - RHS Fabrication work]												
MPR30.1.13.5.1.2	Fabrication - Factory B	28-Sep-19	16-Sep-21	720	678	23-Sep-19 A	07-Feb-22	0%	0%	5	-144	-80	[Gantt bar chart for Fabrication - Factory B work]												
MPR30.1.13.5.1.2.1	OSD 01 - LHS Fabrication - MP50 to MP53 (320m)	28-Sep-19	22-Aug-20	330	379	23-Sep-19 A	28-Aug-20 A	0%	0%	5	-5		[Gantt bar chart for OSD 01 - LHS Fabrication work]												
MPR30.1.13.5.1.2.2	OSD 02 - RHS Fabrication - MP69 to MP75 (683m)	26-Jan-20	19-Apr-21	450	432	07-Sep-20 A	07-Feb-22	0%	0%	-225	-294	-213	[Gantt bar chart for OSD 02 - RHS Fabrication work]												
MPR30.1.13.5.1.2.3	OSD 04 - LHS Fabrication - MP124 to MP128 (560m)	22-Sep-20	16-Sep-21	360	214	24-Jan-20 A	31-Jan-22	0%	0%	242	-137	-73	[Gantt bar chart for OSD 04 - LHS Fabrication work]												
MPR30.1.13.5.1.3	Fabrication - Factory C	23-Dec-19	12-Oct-21	660	558	27-Jan-20 A	26-Apr-22	0%	0%	-35	-196	-138	[Gantt bar chart for Fabrication - Factory C work]												
MPR30.1.13.5.1.3.1	OSD 02 - LHS Fabrication - MP69 to MP75 (683m)	23-Dec-19	14-Feb-21	420	318	27-Jan-20 A	29-Aug-21	0%	0%	-35	-196	-61	[Gantt bar chart for OSD 02 - LHS Fabrication work]												
MPR30.1.13.5.1.3.2	OSD 03 - LHS Fabrication - MP75 to MP81 (770m)	19-Aug-20	12-Oct-21	420	420	03-Mar-21	26-Apr-22	0%	0%	-196	-196	-138	[Gantt bar chart for OSD 03 - LHS Fabrication work]												
MPR30.1.13.5.2	OSD - Shipping	24-Jun-20	11-Dec-21	536	772	09-Jul-20 A	11-Dec-22	11.27%	4.8%	-15	-365	-188	[Gantt bar chart for OSD - Shipping work]												
MPR30.1.13.5.2.1	Shipping - Factory A	24-Jun-20	15-Nov-21	510	663	16-Feb-21	11-Dec-22	15.3%	0%	-238	-391	-188	[Gantt bar chart for Shipping - Factory A work]												
MPR30.1.13.5.2.1.1	OSD 01 - RHS Shipping - MP50 to MP53 (320m)	24-Jun-20	21-Oct-20	120	102	16-Feb-21	28-May-21	78.91%	0%	-238	-219	-68	[Gantt bar chart for OSD 01 - RHS Shipping work]												
MPR30.1.13.5.2.1.2	OSD 03 - RHS Shipping - MP75 to MP81 (770m)	22-Oct-20	18-Jun-21	240	240	26-Mar-22	21-Nov-22	0%	0%	-521	-521	-360	[Gantt bar chart for OSD 03 - RHS Shipping work]												
MPR30.1.13.5.2.1.3	OSD 04 - RHS Shipping - MP124 to MP128 (560m)	20-May-21	15-Nov-21	180	110	23-Aug-22	11-Dec-22	0%	0%	-461	-391	-188	[Gantt bar chart for OSD 04 - RHS Shipping work]												
MPR30.1.13.5.2.2	Shipping - Factory B	24-Jun-20	15-Nov-21	510	525	09-Jul-20 A	08-Apr-22	16.15%	14.33%	-15	-144	-80	[Gantt bar chart for Shipping - Factory B work]												
MPR30.1.13.5.2.2.1	OSD 01 - LHS Shipping - MP50 to MP53 (320m)	24-Jun-20	21-Oct-20	120	77	09-Jul-																			

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

#	Activity ID	Activity Name	Original Duration	BL Project Start	BL Project Finish	Actual Start	Actual Finish	Schedule % Complete	Performance % Complete	2018												2019												2020												2021												2022																													
										J	F	A	J	J	A	S	N	J	F	A	J	J	A	S	N	J	F	A	J	J	A	S	N	J	F	A	J	J	A	S	N	J	F	A	J	J	A	S	N	J	F	A	J	J	A	S	N	J	F	A	J	J	A	S	N	J	F	A	J	J	A	S	N	J	F	A	J	J	A	S	N	J	F	A	J	J	A
1		MTHL-PKG2-DETAILED WORK PROGRAMME_25092020_APPROVED_MPR.30	3097.17	17-Nov-17	21-Sep-24	17-Nov-17		53.6%	23.96%																																																																														
2		PROJECT PRE-COMMENCEMENT ACTIVITY	126.00	17-Nov-17	22-Mar-18	17-Nov-17	16-Mar-18	0%	0%																																																																														
3		PRE-COMMENCEMENT ACTIVITY	55.00	15-Dec-17	07-Feb-18	15-Dec-17	20-Mar-18	0%	0%																																																																														
4		JV FORMATION AND REGISTRATION	55.00	15-Dec-17	07-Feb-18	15-Dec-17	20-Mar-18	0%	0%																																																																														
5		PROJECT EVENT MILESTONE	2421.50	23-Mar-18	21-Mar-23	23-Mar-18		0%	0%																																																																														
6		PROJECT KEY MILESTONE	2241.50	23-Mar-18	22-Sep-22	23-Mar-18		0%	0%																																																																														
7		INTERFACE MILESTONE_ERG19	2393.50	19-Apr-18	21-Mar-23	03-Apr-18		0%	0%																																																																														
8		PHYSICAL PROGRESS AND INTERFACE DATE_ADD2-ATTACHMENT 25	1983.50	18-Sep-18	22-Jun-22	31-Aug-18		0%	0%																																																																														
9		CONSTRUCTION KEY MILESTONES	972.34	03-Sep-18	06-Jul-21	25-Oct-18		0%	0%																																																																														
10		MANAGEMENT	613.00	20-Jan-18	18-Aug-18	12-Jan-18	22-Aug-19	0%	0%																																																																														
11		SITE ORGANISATION	35.00	20-Jan-18	23-Feb-18	07-Mar-18	07-Mar-18	0%	0%																																																																														
12		DEVELOPMENT OF MANAGEMENT SYSTEM	613.00	20-Jan-18	27-May-18	20-Jan-18	22-Aug-19	0%	0%																																																																														
13		COUMMUNICATION / DOCUMENT CONTROL SYSTEM	315.38	20-Jan-18	10-May-18	20-Jan-18	24-Oct-18	0%	0%																																																																														
14		QUALITY ASSURANCE AND MANAGEMENT SYSTEM	254.00	23-Mar-18	10-May-18	23-Mar-18	24-Oct-18	0%	0%																																																																														
15		HEALTH, SAFETY AND ENVIRONMENTAL MANAGEMENT SYSTEM	551.00	23-Mar-18	10-May-18	23-Mar-18	22-Aug-19	0%	0%																																																																														
16		INTERFACE MANAGEMENT SYSTEM	49.00	23-Mar-18	10-May-18	23-Mar-18	24-Oct-18	0%	0%																																																																														
17		RISK MANAGEMENT PLAN	66.00	23-Mar-18	27-May-18	23-Mar-18	24-Oct-18	0%	0%																																																																														
18		DEVELOPMENT OF WORK PROGRAMME	63.00	23-Mar-18	24-May-18	23-Mar-18	21-Sep-18	0%	0%																																																																														
19		CONTRACTOR'S WORK PROGRAMME	63.00	23-Mar-18	24-May-18	23-Mar-18	21-Sep-18	0%	0%																																																																														
20		OTHER CONTRACTUAL SUBMITTALS	28.00	24-Mar-18	20-Apr-18	24-Mar-18	23-Apr-18	0%	0%																																																																														
21		PERMIT & APPROVAL	389.00	20-Jan-18	18-Aug-18	12-Jan-18	03-Aug-19	0%	0%																																																																														
22		SURVEYING & GEOTECHNICAL INVESTIGATION	35.00	20-Jan-18	23-Feb-18	12-Jan-18	09-Feb-18	0%	0%																																																																														
23		CUTTING OF MANGROVES	70.00	20-Jan-18	30-Mar-18	25-Jan-18	23-Apr-18	0%	0%																																																																														
24		SETTING UP BATCHING PLANT	313.00	06-Apr-18	18-Aug-18	06-Apr-18	28-Nov-18	0%	0%																																																																														
25		PC YARD & CAMP	28.00	04-May-18	01-Jun-18	21-Mar-18	01-Oct-18	0%	0%																																																																														
26		CONNECTION FOR ELECTRICITY & WATER	63.00	18-May-18	20-Jul-18	06-Apr-18	03-Aug-19	0%	0%																																																																														
27		CUTTING OF TREES	35.00	23-Mar-18	26-Apr-18	10-May-18	02-Aug-18	0%	0%																																																																														
28		IMPORT PERMITS/LICENCES FOR EQUIPMENTS & GOODS	70.00	23-Mar-18	31-May-18	15-May-18	31-May-18	0%	0%																																																																														
29		NOC FOR PLANT & FACILITIES TO BE USED AT SITE	51.00	23-Mar-18	31-May-18	16-Aug-18	28-Nov-18	0%	0%																																																																														
30		TEMPORARY ACCESS ROAD FOR MAIN BRIDGE & INTERCHANGE	58.00	23-Mar-18	19-May-18	23-Mar-18	28-Jul-18	0%	0%																																																																														
31		DESIGN	1139.00	20-Jan-18	04-Sep-19	01-Jan-18		100%	100%																																																																														
32		EARLY STAGE DESIGN WORK / INFORMATION COLLECTION	678.38	20-Jan-18	17-Jul-18	01-Jan-18	12-Nov-19	100%	100%																																																																														
33		INDEPENDENT DESIGN CHECKER APPROVAL	35.00	20-Jan-18	23-Feb-18	20-Jan-18	13-Apr-18	0%	0%																																																																														
34		TOPOGRAPHIC SURVEY	116.33	20-Jan-18	16-May-18	01-Jan-18	20-Apr-18	0%	0%																																																																														
35		BATHYMETRIC SURVEY	75.00	20-Jan-18	04-Apr-18	25-Jan-18	20-Mar-18	0%	0%																																																																														
36		ADDITIONAL TIME FOR ONGC & BPCL PHYSICAL VERIFICATION	309.00			21-Mar-18	05-Aug-19	0%	0%																																																																														
37		GEOTECHNICAL INVESTIGATION	548.08	20-Jan-18	17-Jul-18	12-Jan-18	25-Jun-19	100%	100%																																																																														
38		ADDITIONAL WORKS FOR DESIGN INITIATION OF STEEL MODULE 1	63.00			26-Jun-19	12-Nov-19	0%	0%																																																																														
39		TEMPORARY WORK	1037.17	22-Jan-18	01-Nov-18	20-Jan-18	20-Aug-20	100%	100%																																																																														
40		PROJECT OFFICE LAYOUT	241.13	04-May-18	02-Jun-18	04-May-18	17-Jul-18	0%	0%																																																																														
41		CASTING YARD LAYOUT	72.33	22-Jan-18	04-Apr-18	20-Jan-18	09-Oct-18	0%	0%																																																																														
42		TEMPORARY BRIDGE	94.33	26-Feb-18	31-May-18	24-Feb-18	30-Aug-18	100%	100%																																																																														
43		CASTING YARD STRUCTURE	199.38	10-May-18	10-Aug-18	20-Mar-18	20-Nov-18	0%	0%																																																																														
44		STEEL BRIDGE FABRICATION YARD	365.17	20-Jul-18	01-Nov-18	11-Nov-19	20-Aug-20	0%	0%																																																																														
45		CONCRETE MIX DESIGN	274.38	23-Mar-18	31-Aug-18	12-May-18	15-Nov-18	0%	0%																																																																														
46		JFE DESIGN PROGRAMME	1037.67	01-May-18	04-Sep-19	09-Apr-18		100%	100%																																																																														
47		PROCUREMENT, MANUFACTURING AND LOGISTICS	1305.38	20-Jan-18	23-Aug-20	22-Dec-17		100%	100%																																																																														
48		SURVEY & INVESTIGATION	72.33	20-Jan-18	02-Apr-18	22-Dec-17	04-Apr-18	0%	0%																																																																														
49		TOPOGRAPHIC SURVEY AGENT	21.00	20-Jan-18	09-Feb-18	01-Jan-18	22-Jan-18	0%	0%																																																																														
50		BATHYMETRIC SURVEY / UTILITY SURVEY AGENT	21.00	20-Jan-18	09-Feb-18	01-Jan-18	23-Jan-18	0%	0%																																																																														
51		GEOTECHNICAL INVESTIGATION AGENCY	48.00	22-Jan-18	02-Apr-18	22-Dec-17	04-Apr-18	0%	0%																																																																														
52		TEMPORARY WORK	964.33	20-Jan-18	20-Oct-18	20-Jan-18	11-May-20	0%	0%																																																																														
53		MAIN WORK_SUBCONTRACT WORK	903.25	23-Mar-18	20-Jul-19	23-Mar-18		0%	0%																																																																														
54		EQUIPMENTS	1067.00	23-Mar-18	12-Sep-19	23-Mar-18		100%	100%																																																																														
55		BATCHING PLANT	437.00	23-Mar-18	31-Jul-18	23-Mar-18	23-Mar-19	0%	0%																																																																														
56		RCD MACHINE	514.00	23-Mar-18	11-Nov-18	23-Mar-18	24-Aug-19	0%	0%																																																																														
57		GANTRY CRANE	1067.00	23-Mar-18	08-Feb-19	23-Mar-18		100%	100%																																																																														
58		SEGMENT LAUNCHER	770.41	24-Jul-18	12-Sep-19	24-Jul-18	09-Mar-20	0%	0%																																																																														

Project Baseline Bar
 Critical Remaining Work
 Summary

Actual Work
 ◆ ◆ Milestone
 Remaining Work
 % Complete

EMPLOYER:
 MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY
 (MMRDA)

CONTRACTOR:
 DAEWOO - TPL JV

Date	Revision	Checked	Approved
25-Sep-20	R0		

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

			Classic Schedule Layout																							
Activity ID	Activity Name	BL1 Start	BL1 Finish	BL1 Start	Finish	Activity % Complete	Schedule % Complete	Performance % Complete	Budgeted Total Cost	Actual Total Cost	Schedule Performance Index	Cost Performance Index	Planned Value Cost	Earned Value Cost	G N D J F M A M J J J A S O N D J F M A M J J A S O N D J F M A M J											
MTHL Pkg 3 Construction Schedule Sep'20																										
Procurement of Mumbai Trans Harbour Li																										
t Commencement Date (CD)																										
Physical Milestones																										
KD1002	KD 2 [NOC for technical design c	17-Dec-18	17-Dec-18	0	29-Dec-20	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	KD 2 [NOC for technical design doc & drawing for foundation; Sub											
KD1003	KD 3 [NOC for Good for construc	15-Jun-19	15-Jun-19	0	04-Feb-21	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	KD 3 [NOC for Good for construction drawing for foundation; Sub											
KD1004	KD 4 [Substantial completion of f	21-Mar-20	21-Mar-20	0	03-Nov-21	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	KD 4 [Substantial completion of foundation,											
KD1005	KD 5 [Substantial completion of	19-Sep-20	19-Sep-20	0	18-Dec-21	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	KD 5 [Substantial completion of pile cap											
KD1006	KD 6 [Substantial completion sur	20-Mar-21	20-Mar-21	0	24-Dec-22	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	KD 6 [Subst											
KD1007	KD 7 [Substantial completion of l	24-Jul-21	24-Jul-21	0	03-Jun-23	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0												
KD1008	KD 8 [Final completion & handi	21-Sep-21	21-Sep-21	0	11-Jul-23	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0												
KD1001	KD1 [Construction programme, c	18-Sep-18	18-Sep-18	0	30-Oct-20	0%	100%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	KD1 [Construction programme, completion of Soil Investigation, Submit											
Financial Milestone																										
FM1010	Completion of the works amounti	22-Mar-19	22-Mar-19	0	23-Mar-18 A	100%	100%	100%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	e works amounting to 25% of the Accepted Contract Amount											
FM1020	Completion of the works amounti	23-Sep-19	23-Sep-19	0	23-Mar-18 A	100%	100%	100%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	of the works amounting to 40% of the Accepted Contract Amount											
FM1030	Completion of the works amounti	21-Mar-20	21-Mar-20	0	23-Mar-18 A	100%	100%	100%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	tion of the works amounting to 50% of the Accepted Contract Amount											
FM1000	Completion of the works amounti	18-Sep-18	18-Sep-18	0	23-Mar-18 A	100%	100%	100%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	ning to 7% of the Accepted Contract Amount											
FM1040	Completion of the works amounti	21-Mar-21	21-Mar-21	0	21-Mar-21	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	Completion of the works amounting to 85% of											
FM1060	Final Completion and Handing ov	21-Sep-21	21-Sep-21	0	08-May-22	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0												
FM1050	Substantial completion of all Wo	24-Jul-21	24-Jul-21	0	09-Oct-21	0%	0%	0%	Rs0	Rs0	0.00	0.00	Rs0	Rs0	Substantial completion of all Wor											
Interface Milestone																										
Document Submittals																										
Employer's Obligation / Land Handover																										
ROW 75 Ha [CD +180 days]																										
Casting Yard 9.16 Ha [CD+120 days]																										
Employer Office (Sch 01- General Item)																										
Construction of Employer office																										
Facility																										
Survey & Geotechnical Investigation Works																										
Topographical Survey																										
Geotechnical Investigation work																										
Design Works																										
Design Basis Report																										
Preliminary Design																										
Geotechnical Interpretative Report Submission & GC																										
Plan & Profile Alignment																										
Superstructure Design																										
Foundation & Pier																										
Abutment & Foundation																										
Pier Cap																										
Bearings & Drainage																										
Pavement Design																										
Procurement Works																										
For Main Bridge																										
For Road Works																										
Imported Procurement																										
Co-ordinated Fabrication & Manufacturing Works																										
Permanent Works fabrication																										
Permanent Works Assembly																										
Construction Works																										
Preconstruction Activity																										
Sub Structures (Open Foundation, Pier ,Pier Cap)																										
Super Structures																										
Bearings & Expansion Joints																										
Bridge Ancillaries & Miscellaneous Item																										
RE Wall																										
Road Work																										
Completion of Interface Activity																										
Provisional Sum																										
Testing & Commissioning Works																										

█ Actual Level of Effort
 █ Remaining Work
 ◆ Milestone
█ Actual Work
 █ Critical Remaining Work
 ⇐ summary

Attachment 9- Project Progress Photos

Package 1- Site Progress Photos



Photo No. 1: High altitude view of MTHL – Package-1



Photo No. 2: LG-2 Erection - Intertidal Section in progress



Photo No. 3: MP 43 Pile Cap Bottom Reinforcement Inspections - Intertidal in progress



Photo No. 4: AP 39 Pile Cap Concreting in progress



Photo No. 5: MP 108 Pile Cap pre-pour inspection in progress



Photo No. 6: Trial Assembly of OSD Girder Bridge P1-OS04-NG (Lot6) / Seg. 28~32 in Vietnam in progress



Photo No. 7: Transportation of OSD Girder Bridge P1-OS01-NG Package to Port for Shipment-3 in progress



Photo No. 8: Slip Check After 24 Hrs of Stressing at MP17-18 N Tendons in progress



Photo No. 9: MP 19 N Pier Cap Pre-Pour checking in progress



Photo No. 10: MP 126 N2 Top Cage Welding - Marine Area in progress



Photo No. 11: AP 39 Pile Cap concreting in progress



Photo No. 12: MP-19 N Pier Head Segment Erection - Intertidal Section in progress

Package 2 – Site Progress Photos

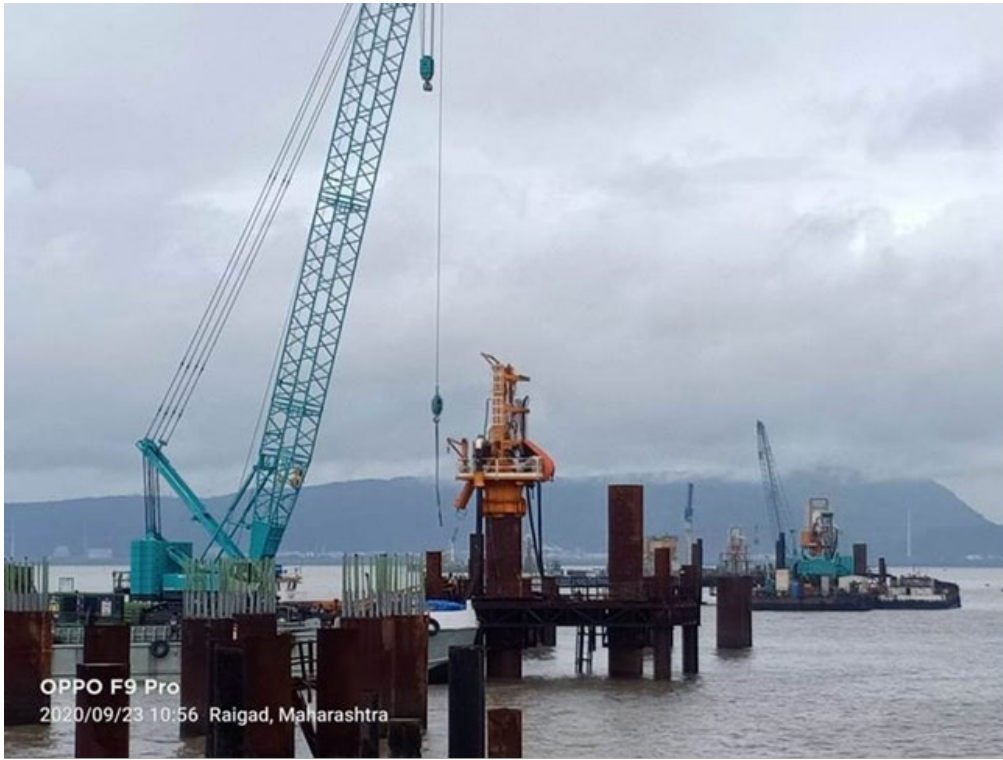


Photo No. 1: Pile drilling at MP 202 LHS in progress



Photo No. 2: Pile Cap Reinforcement Works at MP 216 RHS in progress



Photo No. 3: Pile concreting at MP 181 LHS in progress



Photo No. 4: Pier Cap bottom formwork preparatory works at MP 241 LHS and RHS in progress



Photo No. 5: Segment Reinforcement Cage Works at Bay-1 in progress



Photo No. 6: Pier Formwork fixing at MP 265 LHS in progress



Photo No. 7: Pier Cap concreting at MP 243 LHS in progress



Photo No. 8: LG assembling works in progress



Photo No. 9: Pier final lift concreting at MP 206 RHS in progress



Photo No. 10: Pile Cap curing Works at MP 212 LHS and RHS in progress



Photo No. 11: Pile Cap concreting at MP 212 RHS in progress

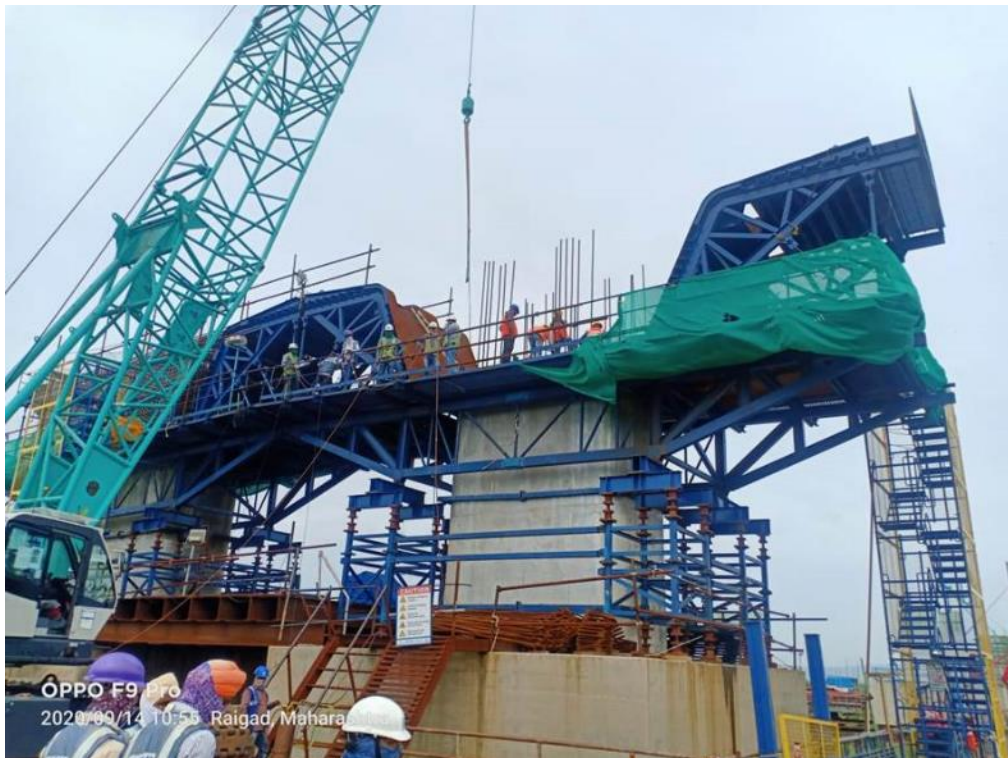


Photo No. 12: Pier Head Segment Reinforcement Works in progress at MP 237 LHS in progress

Package 3 – Site Progress Photos



Photo No. 1: Foundation RP-38 (Chirle) concrete pouring completed



Photo No. 2: JMP-10 (Chirle) Pier reinforcement inspection completed



Photo No. 3: MPP12 Pier concrete pouring in progress



Photo No. 4: LP-06 (Jasai) Pier Cap Pre-pour inspection completed



Photo No. 5: LP06 Pier cap concrete pouring in progress



Photo No. 6: JMP02 (Jasai) Pier Cap concreting in progress



Photo No. 7: Pier Cap PMP-08 (Chirle) Pre-pour inspection completed



Photo No. 8: RMP 281 Pier Cap concrete pouring in progress



Photo No. 9: A View taken from RMP 281 Pier



Photo No. 10: RP 03 Portal Pier Cap reinforcement in progress

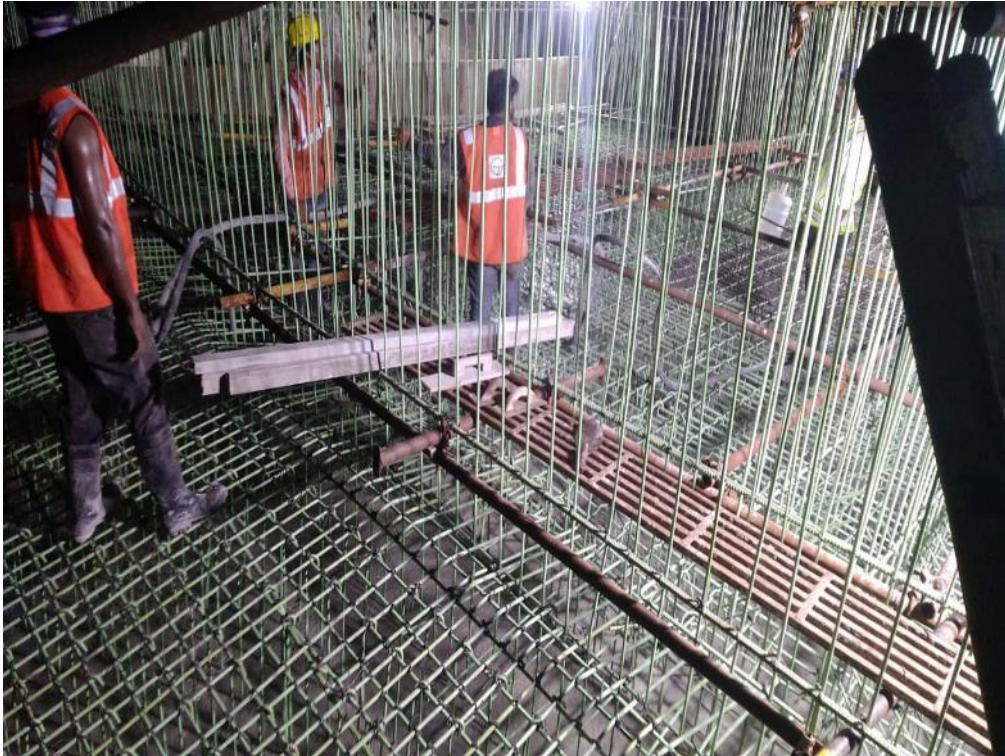


Photo No. 11: LMP A2 Abutment Foundation concrete pouring in progress



Photo No. 12: Staging Arrangement for Cast in-situ voided slab of span MJP-7 to 8 (Chirle) in progress



Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra
(An Autonomous Body under Revenue & Forests Department, Government of Maharashtra)
302, 3rd Floor, Wakefield House, Above Britannia & Co. Restaurant,
Ballard Estate, Fort, Mumbai - 400 001.

Phone: 022 - 22694984 / 22694985, email id : ad.finance.mfn@gmail.com / mangrovefn@gmail.com

MFN/ 2020-21 / 262

Date: 04-12-2020

To,

Executive Engineer

Mumbai Metropolitan Region Development Authority

Bandra Kurla Complex, Bandra (E)

Mumbai - 400051

Subject: Regarding Expenditure status on implementation of Mangrove & Marine Biodiversity Conservation Plan, Nature Interpretation Centre and Corpus Funds referred in MTHL Project

Reference:

1. Letter from this office - Letter no. MFN/Finance/105/2020-21 dated 11-09-2020
2. Letter from your office - Letter no. ED/MTHL/CCF Mangroves/Master Conservation Plan/Status/20/PIU-MTHL dated 07-09-2020

With reference to the above subject and referred letters, the information on expenditure status on implementation of Master Plan by Mangrove Foundation for the FY 2017-18, FY 2018-19 and FY 2019-20 is as follows. The detailed Expenditure Report has been enclosed in Annexure - I.

	Particulars	MMRDA Funds Budget	Expenditure (in Rs. Lakhs)			
			FY 2017-18	FY 2018-19	FY 2019-20	Total
1	Mangrove Protection Framework	2,296	0.06	43.13	300.35	343.55
2	High Resolution Mapping of Mangrove Forests Of MMR	200	-	-	-	-
3	Mangrove Conservation/Removal of Stressors	300	-	-	-	-

4	Community Driven Sustainable Management of Mangrove Forests	-	-	-	-	-
5	Creeklet Drainage Assessment	100	-	-	-	-
6	Mangrove Research and Training Centre	1,675	-	-	-	-
7	Policy Interventions	-	-	-	-	-
8	Generation of Knowledge Base	100	-	-	-	-
9	Mangrove Sanctuary	460	11.86	10.35	-	22.21
10	Mangrove and Marine Ecosystem Interpretation Centre	1,000	-	-	-	-
11	Corpus fund to Mangrove Foundation As per the mandate of the Mangrove Foundation, this Corpus Fund cannot be expended and has been kept in Fixed Deposit. The interest generated on it is utilized for implementation of the objectives of the Mangrove Foundation	2,500	2,500.00	-	-	2,500.00
Total		8,631	2,511.92	53.48	300.35	2,865.75
Total Expenditure (Excluding Corpus Funds)		6,131	11.92	53.48	300.35	365.75

Your office is requested to record these facts and advise this office for further action, if any.



V. Tiwari
Virendra Tiwari
 Executive Director
 Mangrove Foundation

Enclosures:

1. Utilization Certificates
2. Annexure - I - Expenditure Report till FY 2019-20

Annexure - I


			Component / Sub-component	Particulars	Expenditure (in Rs. Lakhs)				
					MMRDA Funds Budget	FY 2017-18	FY 2018-19	FY 2019-20	Total
1	1A	1	Component	Mangrove Protection Framework					
1	1A	1A	Sub-component	Protective Wall Construction At Areas Which Are Likely To Get Encroached	1,225	-	43.13	257.49	300.62
1	1B	1B	Sub-component	Board Walks/ Promenads/ Joggers Path In Selected Critical Areas	500	-	-	-	-
1	1C	1C	Sub-component	Mangrove Stations	260	0.06	-	32.41	32.48
1	1D	1D	Sub-component	Mangrove Watch Towers	185	-	-	10.45	10.45
1	1E	1E	Sub-component	Centralised Wireless Station and Sub-stations and Protection Gear For Field Staff This setup can be integrated with in Mangrove Stations. No infrastructure charges have been calculated here	126	-	-	-	-
1	1F	1F	Sub-component	Mangrove Legal Cell	-	-	-	-	-
1	1G	1G	Sub-component	Mangrove Intelligence And Protection Network	-	-	-	-	-
				Sub Total	2,296	0.06	43.13	300.35	343.55

2	2A	2	Component	High Resolution Mapping Of Mangrove Forests Of MMR					
2	2A	2A	Sub-component	Analysis Of High Resolution Maps Of Mangrove Forests Of MMR	200	-	-	-	-
				Sub Total	200	-	-	-	-

3	3A	3	Component	Mangrove Conservation/Removal Of Stressors					
3	3A	3A	Sub-component	Developing Mangrove Park	100	-	-	-	-
3	3B	3B	Sub-component	Protection Elevation Appropriate IUCN Category Or Other Protection Status	-	-	-	-	-
3	3C	3C	Sub-component	Mangrove Nurseries	-	-	-	-	-
3	3D	3D	Sub-component	Removal Of Non- Mangrove Flora	200	-	-	-	-
3	3E	3E	Sub-component	Removal Of Garbage from Mangrove Forests Collaboration to be Established with BMC	-	-	-	-	-
3	3F	3F	Sub-component	Mangrove Plantation INR 2.5 Lacks Per Hectare For 5 Years	-	-	-	-	-
				Sub Total	300	-	-	-	-

4	4	4	Component	Community Driven Sustainable Management Of Mangrove Forests					
4	4A	4A	Sub-component	Development Of Strategy For Active Participation	-	-	-	-	-
4	4B	4B	Sub-component	Education For Sustainable Development In Schools Collaboration to be Established with Education Department	-	-	-	-	-
4	4C	4C	Sub-component	Electronic Media Campaign and Public Private Community Partnership (PPCP) Collaborations with Print Media, Electronic Media and Digital Networks	-	-	-	-	-
				Sub Total	-	-	-	-	-

5	5A	5	Component	Creeklet Drainage Assessment					
5	5A	5A	Sub-component	Drainage Model Generation This management Intervention will be done in Selected Areas and Later on will be Up-scaled by the Mangrove Cell	100	-	-	-	-
				Sub Total	100	-	-	-	-


Executive Director
Mangrove and Marine Biodiversity
Conservation Foundation of Maharashtra

			Component / Sub-component	Particulars	Expenditure (in Rs. Lakhs)				
					MMRDA Funds Budget	FY 2017-18	FY 2018-19	FY 2019-20	Total
6	6A	6	Component	Mangrove Research And Training Centre					
6	6A	6A	Sub-component	Hardware	1,000	-	-	-	-
6	6B	6B	Sub-component	Software	675	-	-	-	-
				Sub Total	1,675	-	-	-	-

7	7A	7	Component	Policy Interventions	-				
7	7A	7A	Sub-component	Environment Rehabilitation Tax Restricted to Areas where Infrastructure has been Built or is Supposed to be Built	-	-	-	-	-
7	7B	7B	Sub-component	Mangrove and Coastal Zone Crime Control Bureau	-	-	-	-	-
				Sub Total	-	-	-	-	-

8	8A	8	Component	Generation Of Knowledge Base					
8	8A	8A	Sub-component	Permanent Plots For Long Term Ecosystem Monitoring Collaboration to be Established with Mangrove Foundation	-	-	-	-	-
8	8B	8B	Sub-component	Study Of The Pressures On Mangrove Ecosystem In MMR Collaboration to be Established with Mangrove Foundation	100	-	-	-	-
8	8C	8C	Sub-component	Mangrove Field Guide Collaboration to be Established with Mangrove Foundation	-	-	-	-	-
8	8D	8D	Sub-component	Assessment Of Ecosystem Services Provided By Mangrove Collaboration to be Established with Mangrove Foundation	-	-	-	-	-
				Sub Total	100	-	-	-	-

9	9	9	Component	Mangrove Sanctuary	460	11.86	10.35	-	22.21
				Sub Total	460	11.86	10.35	-	22.21

10	10	10	Component	Mangrove And Marine Ecosystem Interpretation Centre	1,000	-	-	-	-
				Sub Total	1,000	-	-	-	-

10	10	10	Component	Corpus fund to Mangrove Foundation As per the mandate of the Mangrove Foundation, this Corpus Fund cannot be expended and has been kept in Fixed Deposit. The interest generated on it is utilized for implementation of the objectives of the Mangrove Foundation	2,500	2,500.00	-	-	2,500.00
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				Grand Total	8,631	2,511.92	53.48	300.35	2,865.75
				Total Expenditure (Excluding Corpus Funds)	6,131	11.92	53.48	300.35	365.75


Executive Director
Mangrove and Marine Biodiversity
Conservation Foundation of Maharashtra

ANNEXURE XVI

FORM GFR 19-A

[See Government of India's Decision (1) under Rule 150]

Utilization Certificate

Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra

Sr. No	Letter No. & Date	Amount	Particulars
1	Executive Director Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra Letter No. MFN/2020-21/ dated	2500 Lakhs	Certified that Rs. 2500 Lakhs received towards Corpus Fund of the Mangrove Foundation from Mumbai Metropolitan Region Development Authority as referred in MTHL Project is utilized and being treated as Corpus Funds of the Mangrove Foundation from FY 2017-18.
	Total	2500 Lakhs	Expenditure / Funds transferred are Rs. 2500 Lakhs and balance is Rs. 0.

Certified that I have satisfied myself that the conditions on which the grants-in aid was sanctioned have been duly fulfilled/are being fulfilled and that I have exercised the due diligent checks to see that the money was actually utilized for the purpose for which it was sanctioned.



[Handwritten Signature]

Executive Director

Mangrove and Marine Biodiversity
Conservation Foundation of Maharashtra
& Additional Principal Chief Conservator of Forest
Mangrove Cell, Mumbai

ANNEXURE XVI

FORM GFR 19-A

[See Government of India's Decision (1) under Rule 150]

Utilization Certificate

Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra

Sr. No	Letter No. & Date	Amount	Particulars
1	Executive Director, Mangrove and Marine Biodiversity Conservation Foundation of Maharashtra Letter No. MFN/2020-21/ dated	6131.00 Lakhs	Certified that out of Rs. 6131.00 Lakhs (Non-Corpus Funds) received from Mumbai Metropolitan Region Development Authority as referred in MTHL Project Rs. 365.75 Lakhs has been expended and till FY 2019-20 and balance is Rs. 5765.25 Lakhs
	Total	6131.00 Lakhs	Expenditure / Funds transferred are 365.75 Lakhs and balance is Rs. 5765.25 Lakhs

Certified that I have satisfied myself that the conditions on which the grants-in aid was sanctioned have been duly fulfilled/are being fulfilled and that I have exercised the due diligent checks to see that the money was actually utilized for the purpose for which it was sanctioned.



[Handwritten Signature]

Executive Director

Mangrove and Marine Biodiversity
Conservation Foundation of Maharashtra
& Additional Principal Chief Conservator of Forest
Mangrove Cell, Mumbai