BEFORE THE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE, PUNE.
ORIGINAL APPLICATION NO.64 OF 2021.

ZoruDarius Bhathena ...Applicants

Vs.
State of Maharashtra &Ors ... Respondents

INDEX

Sr. No.	Exhibit	Particulars	Page Nos.
1.		Affidavit in reply on behalf of the Respondent No.1;	
2.	A	Copy of the photographs showing magnitude of tidal waves and damages caused to the properties on the coast due to the tidal wave actions.	
3.	B	Copy of the report showing the current status of the project	
4.	C	Copy of the Photographs showing the current status of the said project.	
5.	D	Copy of the work order dated 12th October 2018 and letter dated 26th December 2018 issued by the Assistant Harbour Engineer stating that work has commenced with respect to the said project	
6.	E colly	Copies of the letters received by the Respondent No.1 from the representatives of the people requesting the Respondent No.1 to take action with respect to the flooding caused at the Versova Beach	
7.	F	Copy of the Minutes of the Meeting of the District Planning Committee (DPC) dated 28th January 2015 and 2nd November 2015.	
8.	G	Copy of the letter dated 8th March 2016 issued Respondent No.1 to CWPRS requesting for a suitable design for Coastal Protection at	

		Sagar Kutir to Hindu Smashambhoomi, Versova.	
9.	H	Copy of the letter dated 11th April 2016, along with the Report and design issued by CWPRS to Respondent No.1, providing suitable design for building coastal protection at Sagar Kutir to Hindu Smashambhoomi, Versova	
10.	I	Copy of the EIA study report prepared by the Respondent No.1 with respect to the said project	
11.	J	Copy of the application for grant of CRZ Clearance dated 27th December 2016 made by the Respondent No.1 to MCZMA	
12.	K	Copy of Form-I application along with maps dated 27th December 2016, submitted by the Respondent No.1 with respect to the said project	
13.	L	Copy of minutes of the 115th meeting dated 17th January 2017.	
14.	M	Copy the letter dated 17th January 2017 issued by the Respondent No.1 to the CWPRS requesting to consider the directions issued by the MCZMA in tis 115th meeting	
15.	N	Copy of the of the letter dated 24th January 2017, issued by CWPRS to Respondent No.1	
16.	O	Copy of the of the minutes of meeting dated 22nd March 2017 of the MCZMA considering the said project for grant of CRZ Clearance.	
17.	P	Copy of the letter dated 8th May 2017 issued by the Respondent No.1 to the CWPRS thereby forwarding the minutes of the 116th meeting of the MCZMA.	
18.	Q	Copy of the letter dated 12th June 2017 issued by the Respondent No.1 forwarding the letter of the CWPRS.	
19.	R	Copy of the letter dated 27th June 2017 issued by CWRPS to Respondent No.1	
20.	S	Copy of the 119th minutes of meeting of the MCZMA recommending the said project for	

		grant of CRZ clearance.	
21.	T	Copy of the letter dated 4th September 2019 issued by the Respondent No.1 to MCZMA showing compliance of all the conditions imposed by MCZMA in its 119th meeting	
22.	U	Copy of the letter dated 14th September 2017 issue by the Respondent No.1 to CWPRS requesting for recommendation with respect to the minutes of 119th meeting of MCZMA	
23.	V	Copy of the letter dated 25th October 2017 issued By CWRPS to the Respondent No.1, providing design in compliance with the minutes of 119th meeting of MCZMA	
24.	W	Copy of the CRZ clearance dated 18th September 2018 issued by SEIAA to Respondent No.1 for carrying out the said project.	
25.	X	Copy of the letter dated 13th March 2019 issued by the Respondent No.1 to CWRPS for considering the apprehension raised by the citizens residing around Versova beach.	
26.	Y	Copy of the letter dated 18th March 2019 issued by CWPRS to the Respondent No.1, providing deign after incorporating apprehension of the citizens	
27.	Y1	Copy of letters issued by the citizens residing around the said project, appreciating the work done by the Respondent No.1.	
28.	Z	Copy of the letter dated 17th March 2020 issued by the Respondent No.1 to the MMB	

Advocates for Defendants

BEFORE THE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE, PUNE.
ORIGINAL APPLICATION NO.64 OF 2021.

ZoruDarius Bhathena ...Applicants

Vs.

State of Maharashtra &Ors ... Respondents

AFFIDAVIT IN REPLY ON BEHAL OF THERESPONDENT NO.1;

I, Sushmah N. Gaikwaad, aged, 42 Yrs, Harbour Engineer the authorised signatory of the Respondent No.1, having my address at Harbour Engineering Division (N), Kokan Bhavan, Navi Mumbai, do hereby solemnly affirm and state as under:

1. I am the authorised signatory of the Respondent no.1, having my address as mentioned above. I am competent, authorised and able to depose the instant Affidavit in reply. I have perused and made myself conversant with the contents, factsand records pertaining to the captioned Application and I am even otherwise well aware of the facts and circumstances of the present case from personal knowledge as well as from office records available with the Respondent No.1. I say that I am filing the present Affidavit in reply for the limited purpose of opposing the reliefs as sought for by the Applicant in the captioned original application. I crave leave to file a further detailed Affidavit/Additional Affidavit along with supporting documents, if circumstances so warrant.

NOTARY Govt. of India

2. The Respondent No.1 is amidst carrying out construction anti sea erosion bund from Sagar Kutir to Hindu Smashan Bhoomi at Versova, Mumbai("**said project**"). The said project is being constructed as there are various existing buildings/structures/homes around the coast lines which are threatened by the tidal wave action which causes damages to the existing walls and houses along the coast. It is worth noting here that the Respondent No.1 is implementing a public project for the benefit of the public and is as such not a private party and/or executing a private project. Hereto marked and annexed as **Exhibit-A**is a copy of the photographs showing magnitude of tidal waves and damage caused to the properties on the coast due to the tidal wave actions.

3. At the outset, I deny each and every averment made in the captioned original application, which is contrary to and /inconsistent with that which is stated in the present affidavit and humbly submit that nothing contained in the Memo of Application shall be deemed to have been admitted by me or on behalf of Respondent No.1 merely for want of specific traverse. I clarify and submit that the averments made herein under are in alternative and without prejudice to one and another.

4. I state that this Hon'ble Tribunal ought to dismiss the captioned original application, at the threshold, without even going into the merits of the case on the following grounds:

LIMITATION

4.1. The Hon'ble Tribunal being a creature of a statue i.e. National Green Tribunal Act, 2010 (**"NGT Act"**), is bound by the provisions of the NGT Act. The captioned original application is filed under Section 14 read with Section 18 & 20 of the NGT Act. Section 14 of the NGT Act, prescribes a strict period of limitation;

> *"No.3. No application for adjudication of dispute under the Section shall be entertained by the Tribunal unless it is made within a period of 6 months from the date of which the cause of action for such dispute first arose; provided that the Tribunal may, if it is satisfied that the Applicant was prevented by sufficient cause from filing the application within the said period, allow it to be filed within a further period not exceeding 60 days".*

Thus, on a bare perusal of Section 14 of the NGT Act, it is abundantly clear that the legislature has imposed a strict timeline of 6 months from the date on which cause of action first arise. This Tribunal has powers to condone the delay only for a further period of 60 days from the expiry of 6 months, from the date when the cause of action first arose.

4.2. In the instant case, admittedly the original applicant has filed the captioned original application on 3rd September

2021. The Respondent No.1 states that the Respondent authorities envisaged constructing an anti-sea erosion bund from Sagarkutir to Hindu Smasan Bhoomi at Versova in the year 2016. In furtherance thereof, the Respondent No.1 took all the necessary steps for obtaining necessary permissions from the authorities. The State level environment Impact Authority ("SEIAA) was pleased to grant CRZ clearance to the Respondent No.1 for carrying out the said project on 18 the September 2018. In furtherance to the said CRZ clearance the Respondent No.1 has issued work order dated 12thOctober 2018 to the project proponent to commence the construction of the said project. It is worth noting that in the work order dated 12th October 2018, the Respondent No.1 has further requested the project proponent to commence construction. In furtherance to the said work order, the project proponent immediately commenced construction. The commencement of construction by the project proponent of the said project is also recorded in a letter issued by the Assistant Harbour Engineer dated 26th December 2018. In fact, as on date, the Project is on the verge of completion. Hereto annexed and marked as **Exhibit- B**is a copy of the report showing the current status of the project. Hereto annexed and marked as **Exhibit-C**is a copy of the Photographs showing the current status of the said project. Hereto annexed and marked as **Exhibit-D** is a copy of the work order dated 12th October 2018 and letter dated 26th December 2018 issued by the

NOTARY REKHA K. HOWALE Dist. Thane, Navi Mumbai & Raigad Regd. No.: 15074 Exp. Date 16/10/2024 Govt. of India

Assistant Harbour Engineer stating that work has commenced with respect to the said project.

4.3. In light of the facts stated as above, it is apparent that the cause of action to prefer the captioned original application, which challenges the construction of the said project, first arose on 12th October 2018, when the Respondent No.1 issued a work order to the Project Proponent and the Project Proponent commenced construction activity of the said project. Admittedly, the original application being filed beyond 6 months plus 60 days from the date on which the cause of action first arose i.e.12th October 2018, is barred by limitation and deserves to be dismissed at the threshold without going into the merits.

NO APPEAL AGAINST THE GRANT OF CRZ CLERANCE.

4.4. The Respondent No.1 states that admittedly, the Respondents have obtained CRZ clearance prior to commencement of the said Project. In fact, the original applicant has annexed the CRZ clearance at Exhibit-J (*at page of 65)* of the original application. In the instant original application, the Original Applicant has sought to raise various grievances and issues with respect to the said CRZ Clearance. The Respondent No.1 states that this Hon'ble Tribunal ought not entertain the original application, which raises issues relating to the CRZ

clearance granted by the authorities as the Original Applicant ought to have challenged the grant of CRZ under the NGT Act in order to agitate various grievances with respect to the grant of CRZ clearance.

4.5. In the instant case admittedly, the original applicant has not appealed against the grant of CRZ clearance dated 18th September 2018 to the Respondent No.1 for carrying out the construction activity of the said project. Thus, the original application which raises various issues and grievances with respect to the CRZ clearance dated 18th September 2018, deserves to be dismissed. Further the Original Application is not filed for any violation of terms of conditions of the CRZ clearance. Thus, in absence of any such averment the present Original Application as filed ought not to be entertained and deserves to be dismissed by this Hon'ble Court.

5. The Respondent No.1 states that, on the aforesaid grounds, the original application deserves to be dismissed without even going into the merits of the case. However, without prejudice to what is stated above, the Respondent No.1 states that even on merits, the original Applicant has failed to make out a cogent case which deserves any relief or interference from this Hon'ble Tribunal, in light of the following facts:

5.1. In and around the year 2015-16, the Respondent No.1 received requests from representatives of the people

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai
& Raigad
Regd. No.: 15074
Exp. Date
16/10/2024
Govt. of India

residing around Versova Beach stating that there is often flooding at the Versova Beach, causing huge losses to the property of such citizens. Therefore, the Respondent No.1 ought to immediately take necessary actions. Hereto annexed and marked as **Exhibit- EColly** are copies of the letters received by the Respondent No.1 from the representatives of the people requesting the Respondent No.1 to take action with respect to the flooding caused at the Versova Beach.

5.2. On 28th January 2015 and 2nd November 2015, the District Planning Committee (Mumbai Suburban Division) noted that the area of Sagar Kutir is often flooded causing losses to the people residing around. Therefore, there is a requirement of protection structures and no action has been taken in furtherance thereof. Hereto annexed and marked as **Exhibit-F** is a copy of the Minutes of the Meeting of the District Planning Committee (DPC) dated 28th January 2015 and 2nd November 2015.

5.3. On 8th March 2016, considering the urgent need of constructing a anti sea erosion bund, the Respondent No.1 issued a letter to the Central Water and Power Research Station Khadakwasla ("**CWPRS**"), requesting for a suitable design for providing coastal protection at Sagar Kutir to Hindu Smashan bhoomi, Versova. Hereto annexed and marked as **Exhibit-G** is a copy of the letter

NOTARY REKHA K. HOWALE Dist. Thane, Navi Mumbai & Raigad Regd. No.: 15074 Exp. Date 16/10/2024 Govt. of India

dated 8th March 2016 issued Respondent No.1 to CWPRS requesting for a suitable design for Coastal Protection at Sagar Kutirto Hindu Smashan bhoomi, Versova.

5.4. On 11thApril 2016, the CWPRS, in reply to the Respondent No.1's letter dated 8th March 2016, provided a suitable design (report) for constructing coastal protection at Sagar Kutir, Versova. Hereto annexed and marked as **Exhibit-H** is a copy of the letter dated 11thApril 2016, along with the Report and design issued by CWPRS to Respondent No.1, providing suitable design for building coastal protection at Sagar Kutir to Hindu Smashambhoomi, Versova.

5.5. In or around the year 2016, the Respondent No.1 conducted EIA studies with respect to the said project.Hereto annexed and marked as **Exhibit-I** is a copy of the EIA study report prepared by the Respondent No.1 with respect to the said project.

5.6. On 27th December 2016, the Respondent No.1 applied for CRZ Clearance from Maharashtra Coastal Zone Management Authority (MCZMA), for constructing the said project. Hereto annexed and marked as **Exhibit-J** is a copy of the application for grant of CRZ Clearance dated 27th December 2016 made by the Respondent No.1 to MCZMA.

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai & Raigad
Regd. No.: 15074
Exp. Date 16/10/2024
Govt. of India

5.7. On 27th December 2016, the Respondent No.1 provided form-I as required by the CRZ Notification along with maps showing the precise positioning of the said project in CRZ I(B) and CRZ II region. Hereto annexed and marked as **Exhibit-K** is a copy of Form-I application along with maps dated 27th December 2016, submitted by the Respondent No.1 with respect to the said project.

5.8. On 17th January 2017, the MCZMA in its 115th meeting was pleased to consider the Respondent No.1's application for grant of EC for the said project. In the said meeting, the MCZMA observed that there should be a combination of hard and soft solutions for arresting the sea erosion at Versova Beach stretch. Considering the same, the Respondent No.1 ought to revise the proposal incorporating soft engineering solutions and revert. In these terms, the MCZMA was pleased to defer the said proposal. Hereto annexed and marked as **Exhibit-L** is a copy of minutes of the 115th meeting dated 17th January 2017.

5.9. On 17th January 2017, the Respondent No.1, promptly and immediately issued a letter to CWPRS. In the said notice the Respondent No.1 brought to the notice of the CWPRS that the MCZMA has directed to explore combination of hard and soft solutions for arresting the sea erosion at

NOTARY REKHA K. HOWALE Dist. Thane, Navi Mumbai & Raigad Regd. No.: 15074 Exp. Date 16/10/2024 Govt. of India

Versova Beach Stretch. In furtherance, thereof, the Respondent No.1 requested the CWPRS to provide appropriate solution to the Respondent No.1. Hereto annexed and marked as **Exhibit-M** is a copy the letter dated 17th January 2017 issued by the Respondent No.1 to the CWPRS requesting to consider the directions issued by the MCZMA in its 115th meeting.

5.10. On 24th January 2017, the CWPRS issued a letter to the Respondent No.1. In the said letter the CWPRS has stated that in view of the higher waves, high tidal range and limited sediment movement, a soft solution in the form of sand nourishment of provision of sand dune or use of geotextile solutions, planation, vegetations will not be suitable for these types of densely populated areas. Furthermore, the soft solutions are recurring type and may last only for a short period. In view of the said facts the CWPRS has recommended that the design already provided by the CWPRS may be implemented which would provide a long-term solution and soft solution. Hereto annexed and marked as **Exhibit-N** is a copy of the of the letter dated 24th January 2017, issued by CWPRS to Respondent No.1 stating that the design provided by CWPRS will provide a long-term solution and soft solution would not be apt for constructing anti sea erosion bund at Versova.

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai
& Raigad
Regd. No.: 15074
Exp. Date
16/10/2024
Govt. of India

5.11. The Respondent No.1, accordingly, issued a letter to MCZMA forwarding the letter dated 24th January 2017 issued by the CWPRS. On 22nd March 2017, the MCZMA was pleased to consider the Respondent No.1's proposal for construction of the project in its 116th meeting. In the said meeting, the MCZMA noted that the CWPRS recommends that in view of the higher waves, high tidal range and limited sediment movement, a soft solution may not be suitable and/or a long-term solution. Furthermore, the MCZMA directed the Respondent No.1 to submit a detail design of the anti-erosion bund considering the mix of soft solution and hard structures by CWPRS. The MCZMA thereafter decided to defer the proposal for submission of compliance of the aforesaid directions. Hereto annexed and marked as **Exhibit-O** is a copy of the of the minutes of meeting dated 22nd March 2017 of the MCZMA considering the said project for grant of CRZ Clearance.

5.12. On 8th May 2017, the Respondent No.1 issued a communication to CWPRS thereby forwarding the 116th minutes of the meeting of the MCZMA and requesting further directions from the CWPRS.Hereto annexed and marked as **Exhibit-P** is a copy of the letter dated 8th May 2017 issued by the Respondent No.1 to the CWPRS thereby forwarding the minutes of the 116th meeting of the MCZMA.

NOTARY REKHA K. HOWALE Dist. Thane, Navi Mumbai & Raigad Regd. No.: 15074 Exp. Date 16/10/2024 Govt. of India

5.13. On 12th June 2017, the Respondent No.1 forwarded the letter of CWPRS dated 24th January 2017 to MCZMA for its consideration. Hereto annexed and marked as **Exhibit-Q** is a copy of the letter dated 12th June 2017 issued by the Respondent No.1 for considering the proposal in a meeting.

5.14. On 27th June 2017, the CWPRS issued a communication to the Respondent No.1. In the said communication the CWPRS has stated that the CWPRS has already submitted the design of the protection scheme and also has explained in detail the site of the conditions for design consideration vide its letter dated 25th January 2017. Hereto annexed and marked as **Exhibit-R** is a copy of the letter dated 27th June 2017 issued by CWPRS to Respondent No.1.

5.15. On 28th June 2017, the MCZMA in its 119th meeting was pleased to consider the Respondent No.1's proposal for construction of the said project in the said meting, the MCZMA has categorically noted that the recommendation of CWPRS was accepted by MCZMA during the meeting on 22nd March 2017 and decided to recommend the proposal of reconstruction of existing anti sea erosion wall to SEIAA subject to compliance of certain conditions.Hereto annexed and marked as **Exhibit-S** is a

copy of the 119th minutes of meeting of the MCZMA recommending the said project for grant of CRZ clearance.

5.16. On 4th September 2017, the Respondent No.1 issued a letter to the MCZMA. In the said letter, the Respondent No.1 has brought to the notice of MCZMA that all conditions imposed by MCZMA have been met with. Annexed hereto and marked as **Exhibit-T** is a copy of the letter dated 4th April 2019 issued by the Respondent No.1 to MCZMA showing compliance of all the conditions imposed by MCZMA in its 119th meeting.

5.17. On 14th September 2017, the Respondent No.1 issued a communication to the CWPRS. In the said letter, the Respondent No.1 forwarded MCZMA the 119th minutes of the meeting to CWPRS and has sought further guidance and recommendation on the same. Hereto annexed and marked as **Exhibit-U** is a copy of the letter dated 14th September 2017 issue by the Respondent No.1 to CWPRS requesting for recommendation with respect to the minutes of 119th meeting of MCZMA.

5.18. On 25th October 2017, the CWPRS issued a letter to Respondent No.1. In the said letter, CWPRS has considered the minutes of 119th meeting of the MCZMA and has accordingly provided a fresh design for carrying out the construction of the said project. Hereto annexed and

marked as **Exhibit-V** is a copy of the letter dated 25th October 2017 issued By CWRPS to the Respondent No.1, providing design in compliance with the minutes of 119th meeting of MCZMA.

5.19. On 27th August 2018, SEIAA in its 138th meeting was pleased to consider the Respondent No.1's proposal for grant of CRZ clearance. In the said meeting SEIAA noted that the Project Proponent has complied with all the conditions and points raised in the 119th meeting of the MCZMA. After due deliberation, SEIAA decided to grant CRZ clearance for construction of anti-erosion bund from Sagar Kutir to Hindu Smashan Bhoomi at Versova.

5.20. On 18th September 2018 the SEIAA was pleased to grant CRZ clearance to Respondent No.1 for carrying out construction of the said project. Hereto annexed and marked as **Exhibit-W** is a copy of the CRZ clearance dated 18th September 2018 issued by SEIAA to Respondent No.1 for carrying out the said project.

5.21. In or around the year 2019, the Respondent No.1 convened a meeting with the citizens residing around Versova beach. In the said meeting the citizens requested to optimize the size of the seawall to ensure maximum beach width for recreational activities.

5.22. On 13th March 2019, the Respondent No.1 issued a letter to the CWPRS for considering the apprehension received by the citizens residing around Versova Beach. Hereto annexed and marked as **Exhibit-X** is copy of the letter dated 13th March 2019 issued by the Respondent No.1 to CWPRS for considering the apprehension raised by the citizens residing around Versova beach.

5.23. On 18th March 2019, the CWPRS issued a communication to the Respondent No.1. in the said communication, the CWPRS considered the apprehension of raised by the residence of Versova Beach and provided solution for ensuring maximum beach space made available to the citizens for recreation activities. Hereto annexed and marked as **Exhibit-Y** is copy of the letter dated 18th March 2019 issued by CWPRS to the Respondent No.1, providing deign after incorporating apprehension of the citizens.

5.24. The citizens residing in and around the said project have issues various letters appreciating the work done by the Respondent No.1. The citizens have further requested to complete the project at the earliest. Hereto annexed and marked as **Exhibit-Y1** are copies of the letters issued by the citizens residing around the said project.

5.25. On 3rd March 2020, the Maharashtra Maritime Board issued letter to the Respondent No.1 stating that the

Respondent No.1 ought to obtain NOC from the Maharashtra Maritime Board prior to carrying out construction of the said project.

5.26. On 17th March 2020, the Respondent No.1 replied to the stop work of Maharashtra Maritime Board dated 3rd March 2020. In the said notice the Respondent No.1 has stated that due to erosion caused by waves there is heavy risk and losses to the properties of people residing around the Versova Beach. The Respondent No.1 has further stated that it is not required to obtain NOC from the Maharashtra Maritime Board. However, without prejudice to their rights and contentions, the Respondent No.1 has requested for NOC.Hereto annexed and marked as **Exhibit-Z** is a copy of the letter dated 17th March 2020 issued by the Respondent No.1 to the MMB.

6. The Respondents state that it has carried the work of the said project in accordance with law and in accordance with the permissions granted to the Respondent No.1 by the expert authorities.

7. The Respondents state that CWPRS is an expert body and the Respondent No.1 has carried out the construction of the said project as per the design provided by the CWPRS. Thus, the judicial review of a decision rendered by an expert body like the CWPRS is impermissible unless arbitrariness, *malafide* and perversity is shown. In the instant Original Application,

the Original Applicant has failed to even plead and/or aver arbitrariness, *malafide* and perversity in the decision making process. Therefore, this Hon'ble Court ought not interfere with the decision and design given by an expert body CWPRS and in effect the construction activities being carried out by the Respondent No.1 which is in consonance with the design provided by the CWPRS.

8. It is worth noting that the Respondent No.1 has till date spent amounts to the tune of Rs 40.52 Cr out of the public exchequer for implementing the said project. The Respondent No.1 further submits that this Hon'ble Tribunal ought not to grant any stay in the project as a single days delay will cost the Respondent No.1 a cost of Rs 10,000 / day.

9. The Respondent No.1 states that the Respondent No.1 has dealt with the all the allegations raised by the Original Applicant in the aforesaid manner and expressly craves leave to file a detailed para-wise reply, if circumstances so warrant.

10. In light of the facts stated above, the Respondents state that the captioned Original Application as filed is completely baseless, misconceived and deserves to be dismissed as evidently the Respondent No.1 has commenced and is continuing construction of the said project, which is a project of public importance,after duly and scrupulously following all the procedure as mandated by law. Therefore, this Hon'ble Tribunal ought not to grant any relief in the captioned Original

Application which will otherwise stall the implementation of a public construction. Thus, the Respondent No.1 prays that the Original Application deserves to be dismissed.

Solemnly affirmed at Mumbai)

This day of October 2021)

Sushmah Gaikwaad

Deponent

Advocates for the Respondent No.1

Before me

NOTARY Govt. of India REKHA K. HOWALE Dist. Thane, Navi Mumbai & Raigad Regd. No.: 15074 Exp. Date 16/10/2024

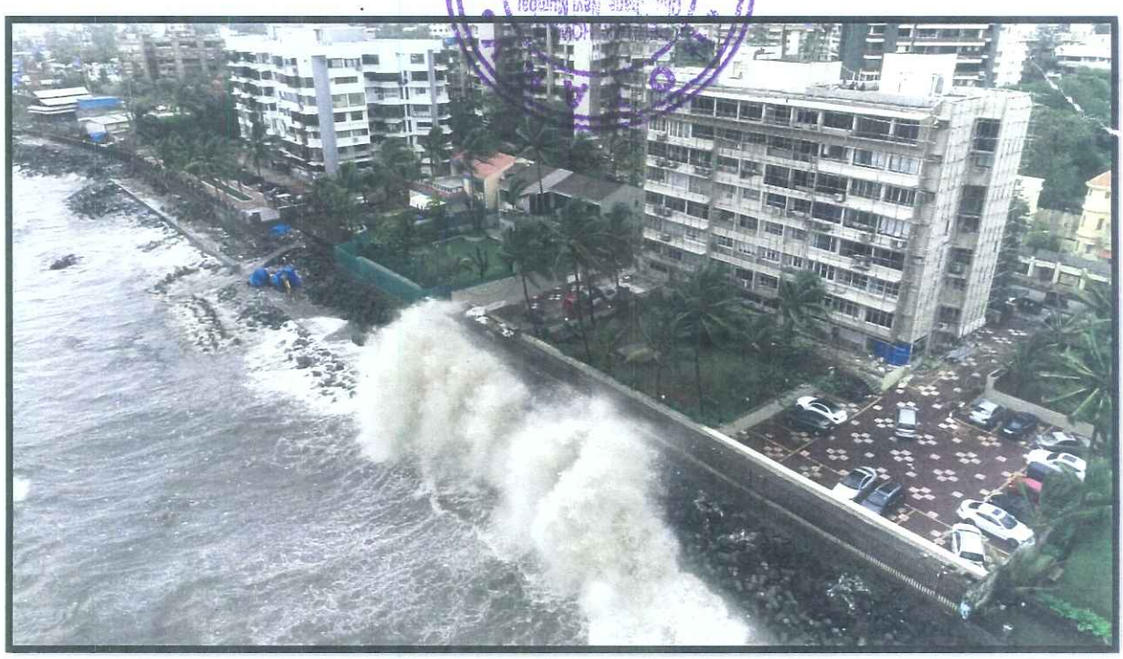
BEFORE ME
23/10/2021
REKHA KISHOR HOWALE
Advocate & Notary Public
Om Residency, Flot No. 204,
Diwale Village,
Sector-14, CBD-Belapur,
Navi Mumbai 400 614

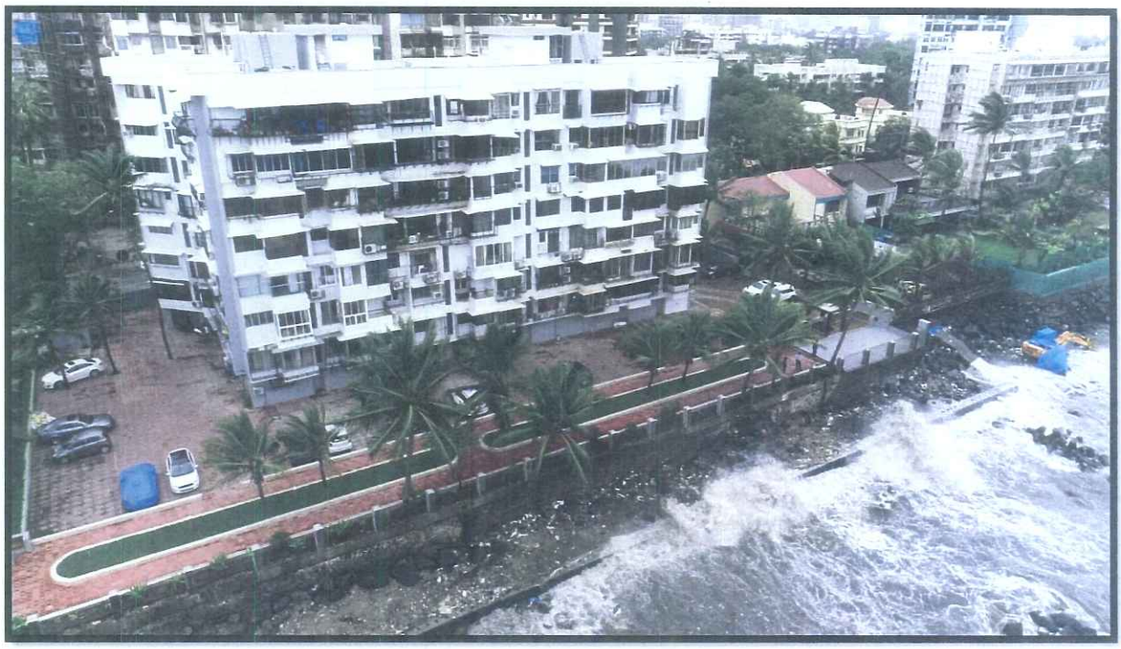
Serial No.....2020/2021
Page No.....103.....
Reg. No.....12.....

NOTARIAL NOTARIAL NOTARIAL NOTARIAL NOTARIAL

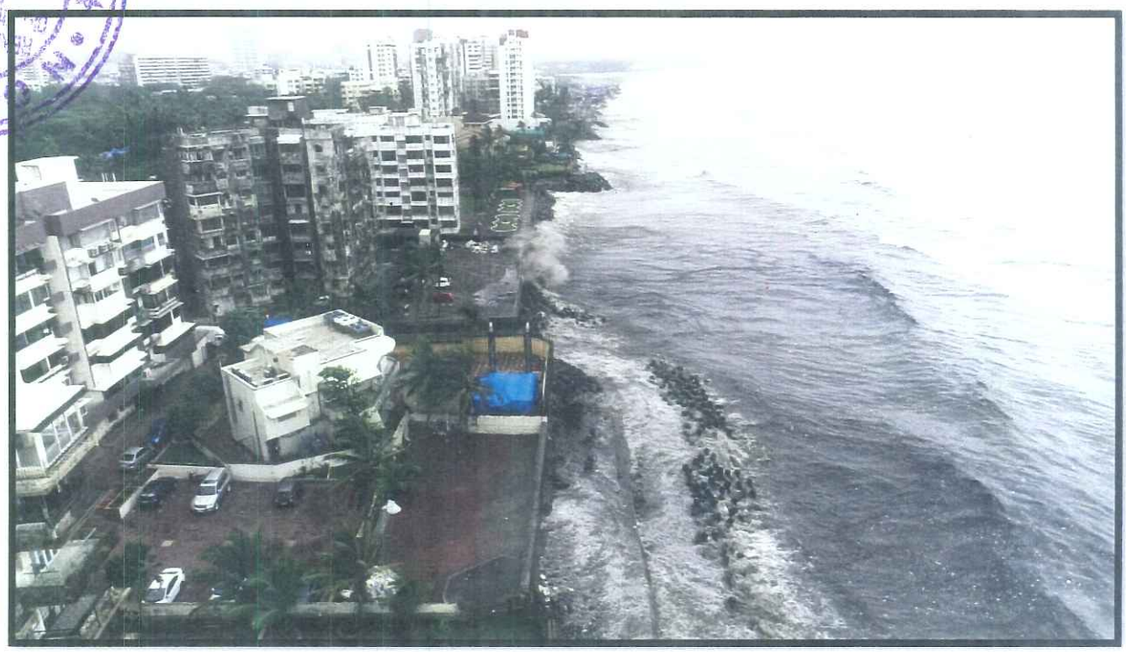
"EXHIBIT"-A

MAGNITUDE OF THE TIDAL WAVE ATTACK DURING MONSOON

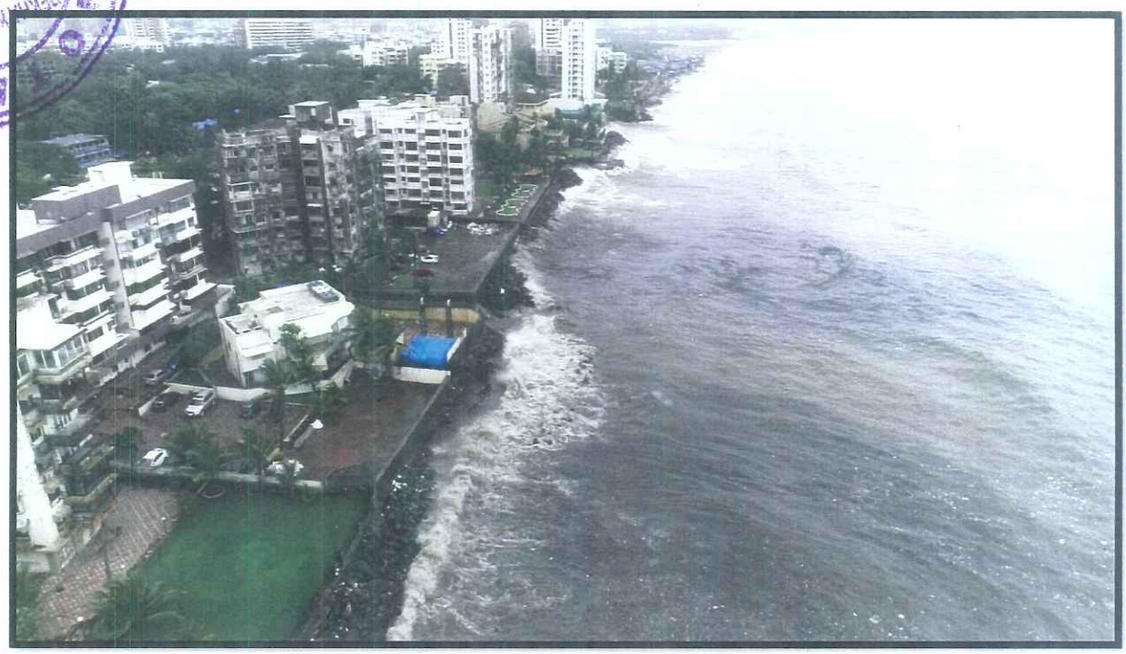




MAGNITUDE OF THE TIDAL WAVE ATTACK DURING MONSOON



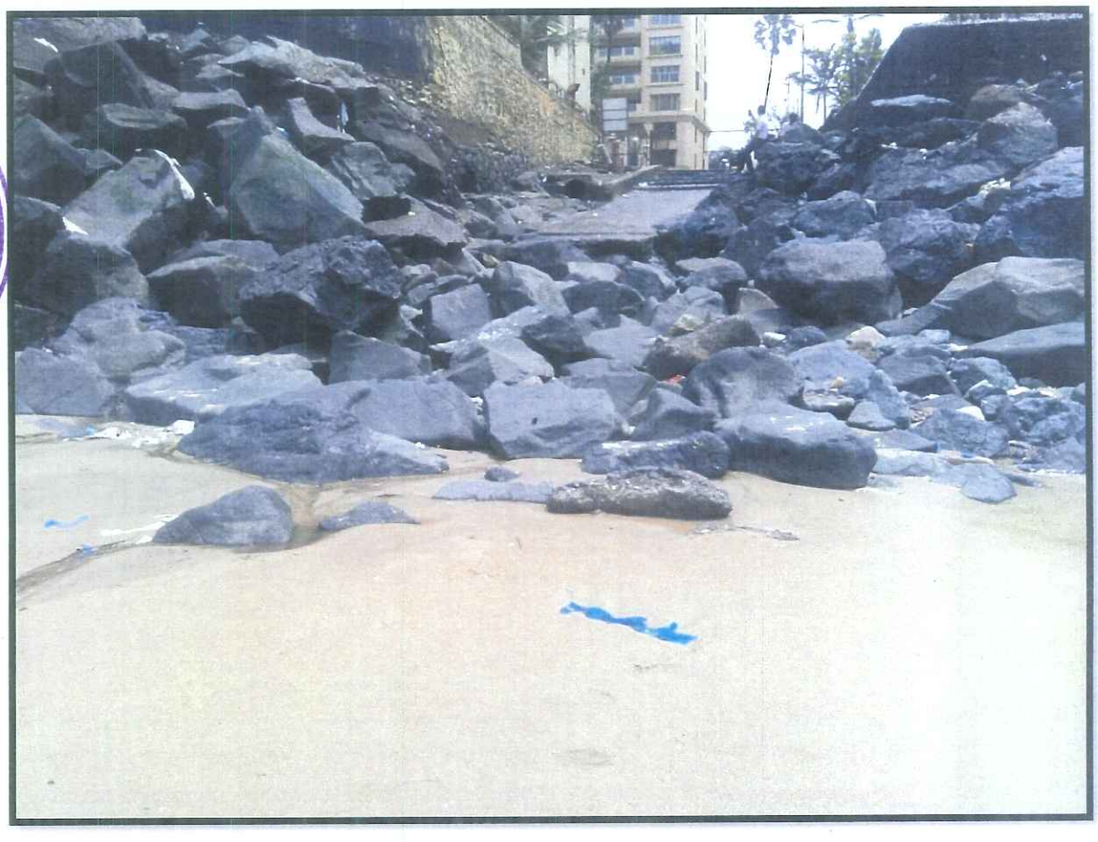
MAGNITUDE OF THE TIDAL WAVE ATTACK DURING MONSOON

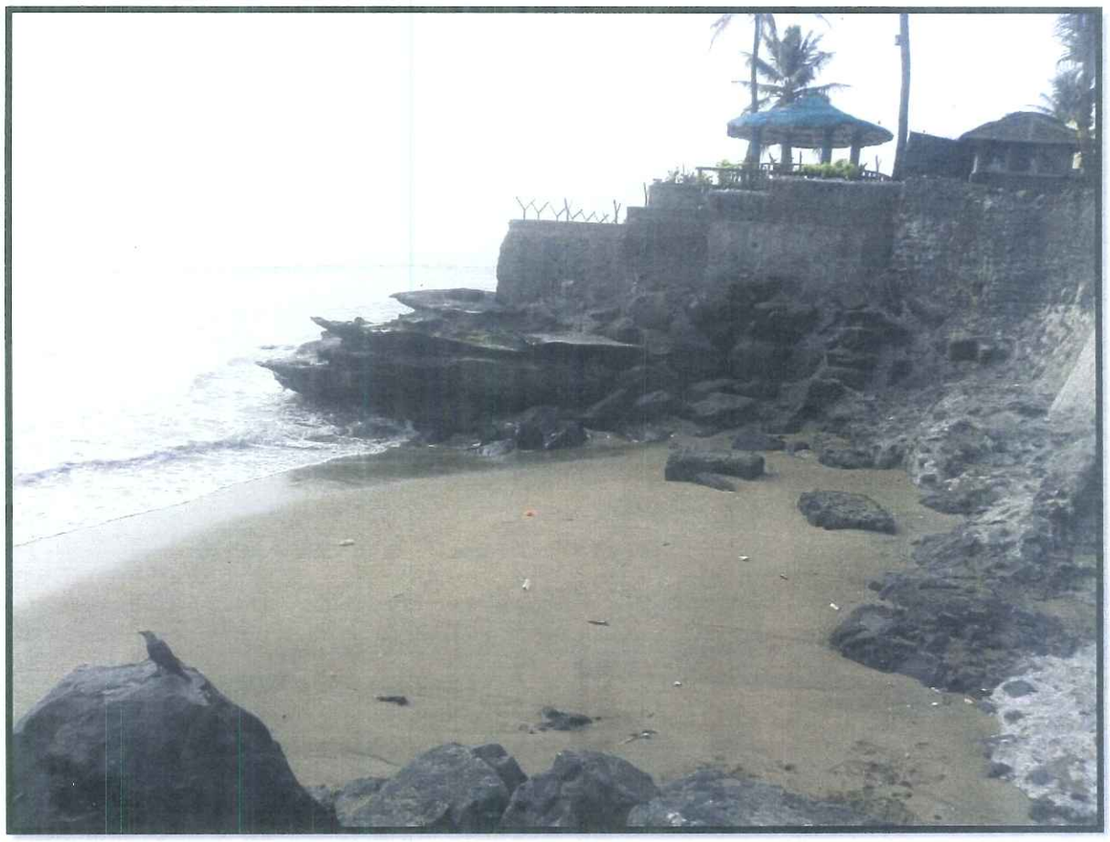


MAGNITUDE OF THE TIDAL WAVE ATTACK DURING MONSOON

HOUSES OF THE LOCAL RESIDENTS AT SAGAR KUTIR HAS BEEN DAMAGED DUE TO THE EROSION OF SANDY BEACH BY MORE THAN 3 METRE IN DEPTH DUE TO TIDAL ATTACK IN MONSOON SEASON

DAMAGED EXISTING SLOPING RAMPS DUE TO TIDAL WAVE ATTACK





CAVED FOUNDATIONS OF THE WALL DUE TO EROSION OF BEACH

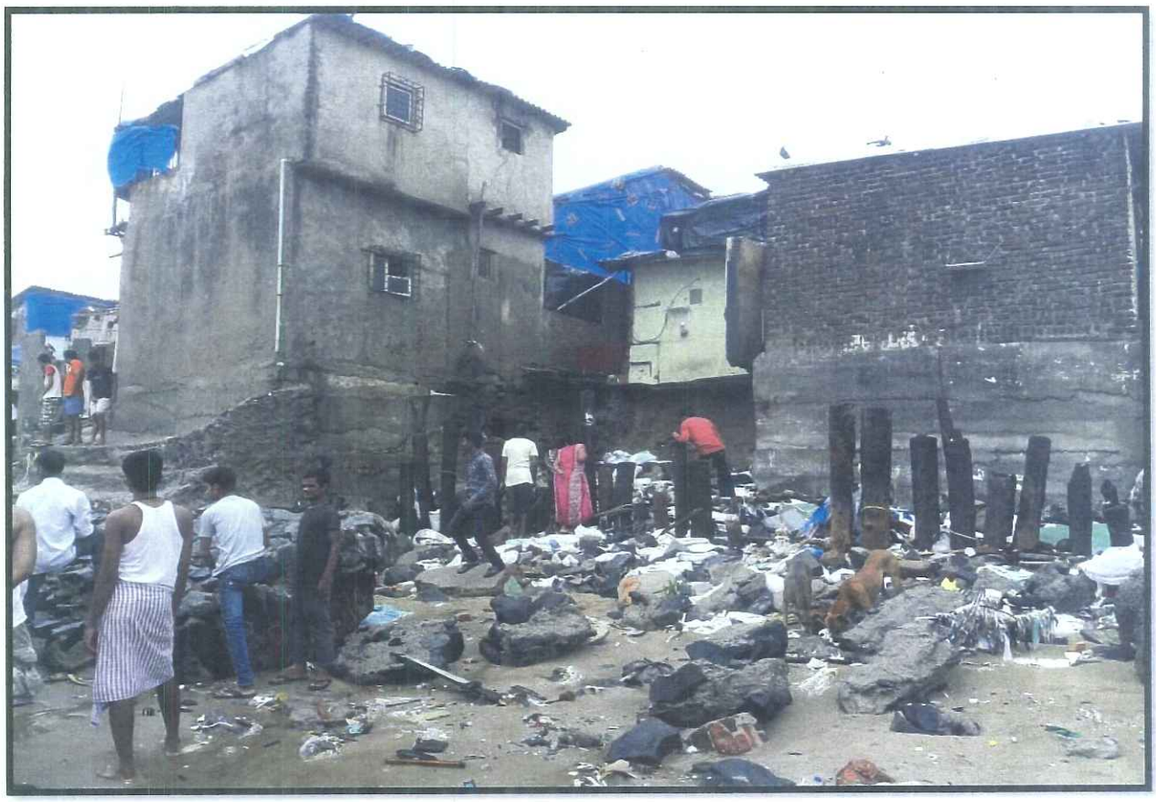
CAVITIES FORMED IN THE COMPOUND WALLS DUE TO TIDAL WAVES

CAVED FOUNDATIONS OF THE WALLS DUE TO TIDAL ATTACK

COMPOUND WALLS ARE CONSTRUCTED OVER THE DUMPED STONES

DAMAGED HOUSES AT SAGAR KUTIR DUE TO TIDAL WAVE ATTACK

HOUSES OF THE LOCAL RESIDENTS AT SAGAR KUTIR HAS BEEN DAMAGED DUE TO THE EROSION OF SANDY BEACH BY MORE THAN 3 METRE IN DEPTH DUE TO TIDAL ATTACK IN MONSOON SEASON



DAMAGED HOUSES AT SAGAR KUTIR DUE TO TIDAL WAVE ATTACK

"EXHIBIT" – B

To Whomsoever It may Concern

This is to certify that the Work order for the work of **"Construction of Anti Sea Erosion Bund From Sagar Kutir To Hindu Smashan Bhoomi"** was issued in Favor of Contractor M/s R. B. Chavan on dated 12/10/2018. Physically the work Commenced on dated 26/12/2018. As on date the 80% of Work is already completed on Site.

Date: 27/09/2021

Place: CBD Belapur

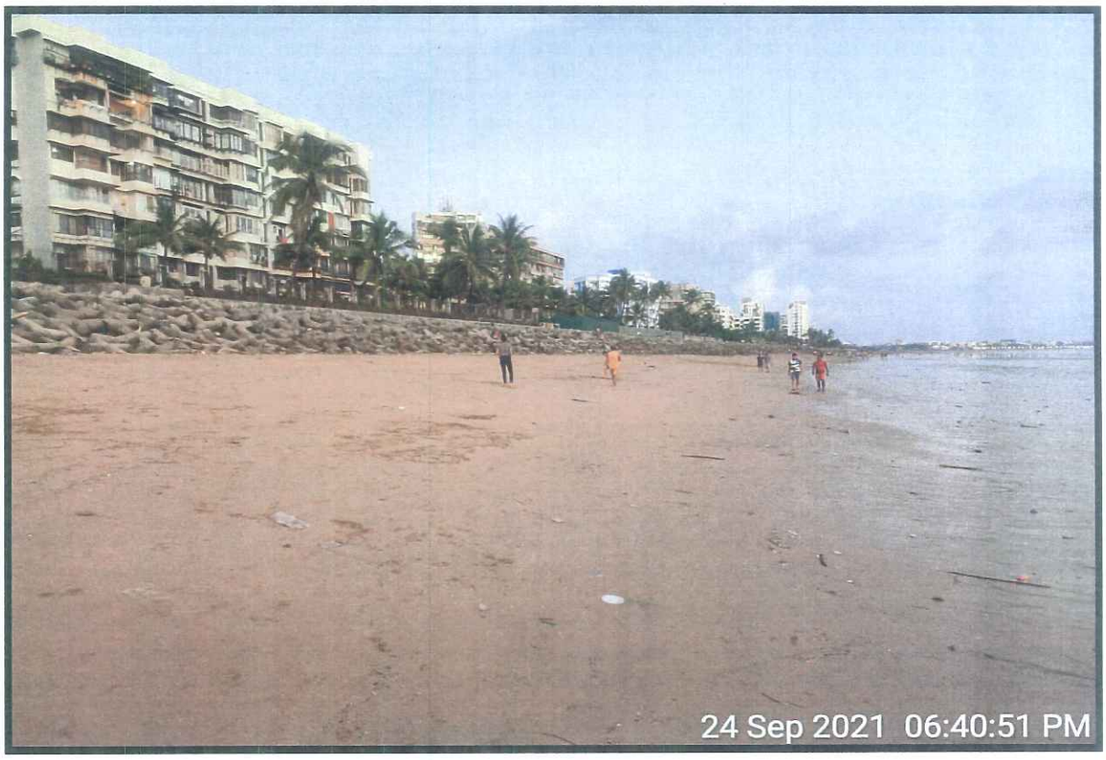
Harbour Engineer
Harbour Engineering Division (North)
Konkan Bhavan Navi Mumbai.

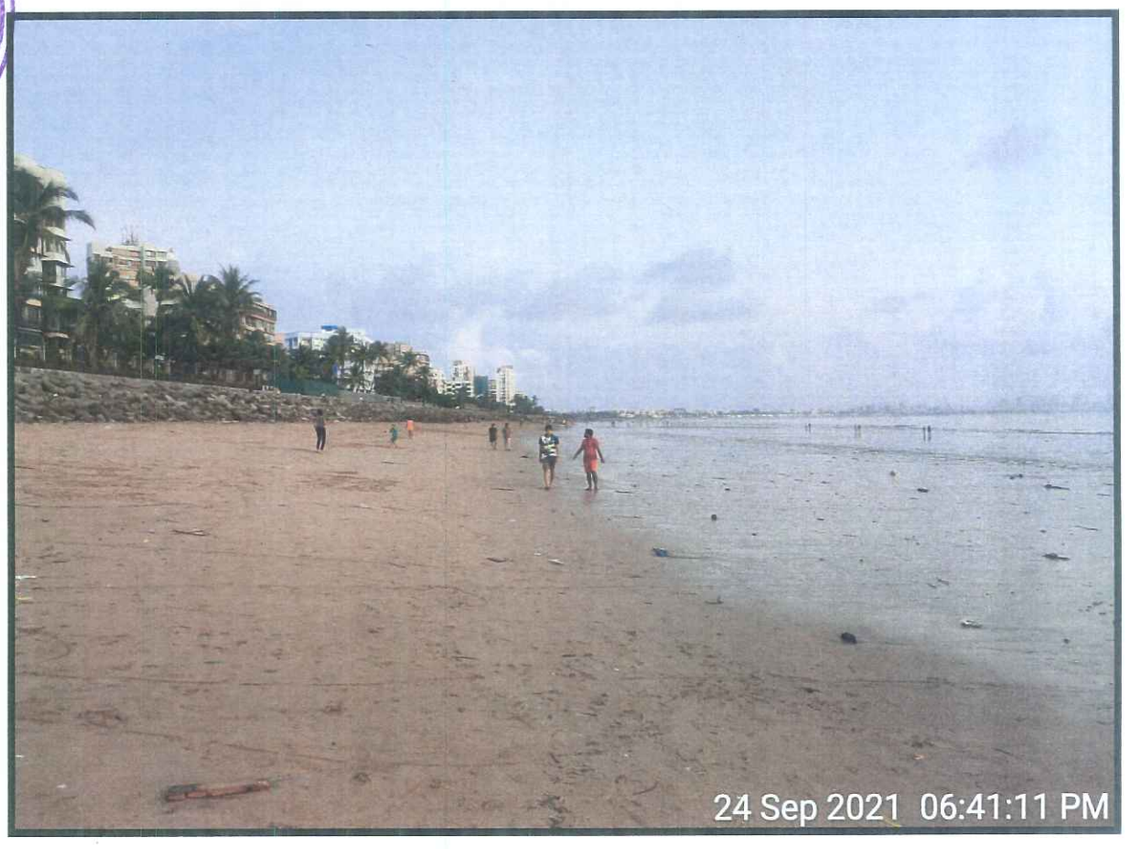
TRUE COPY

For Vidhii Partners
Advocates

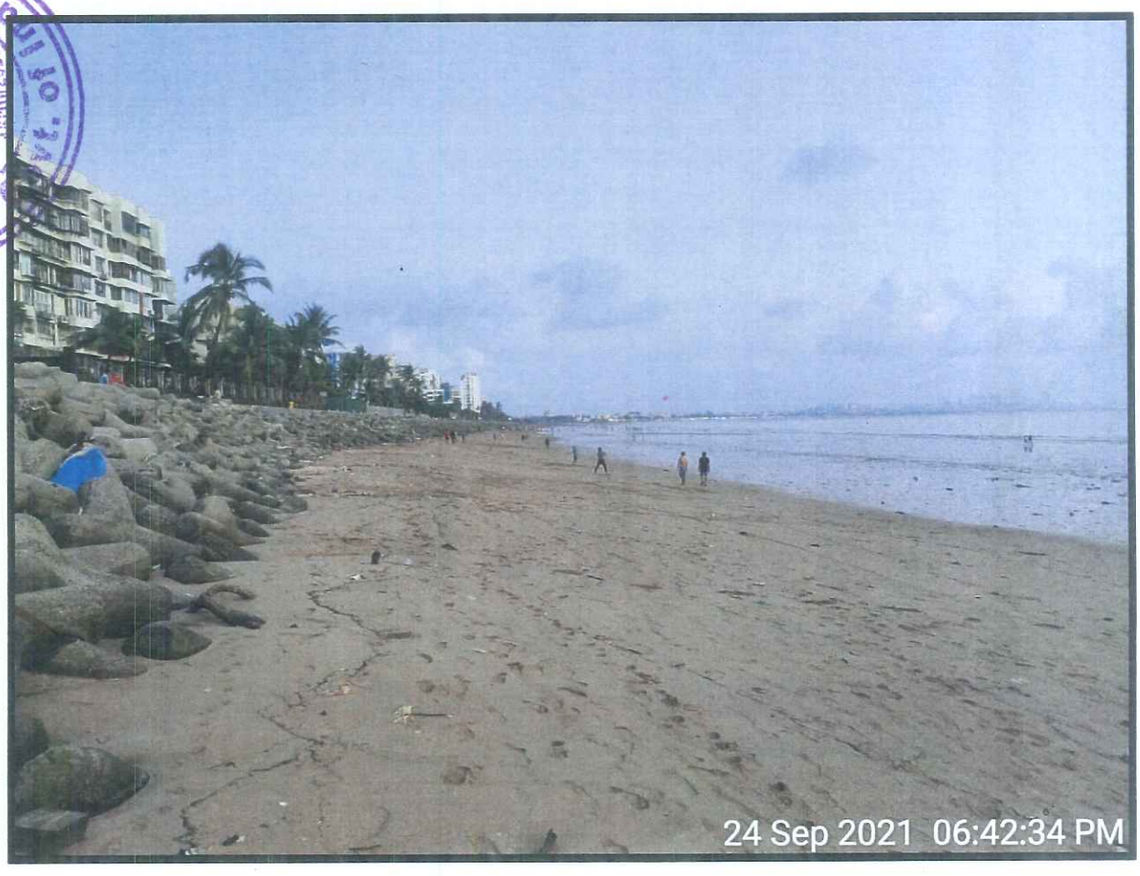
NOTARY
REKHA K. KOKARE
Dist. Thane, Navi Mumbai
& Raigad
Regd. No.: 15074
Exp. Date
16/10/2024
Govt. of India

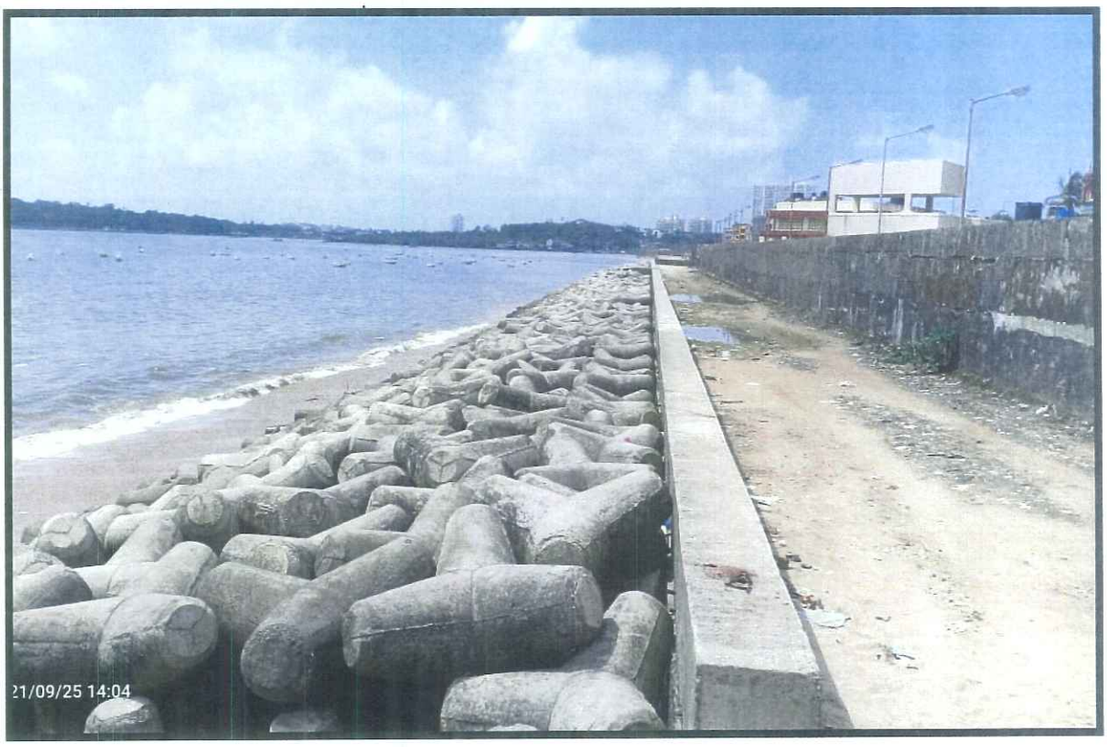
"EXHIBIT" - C

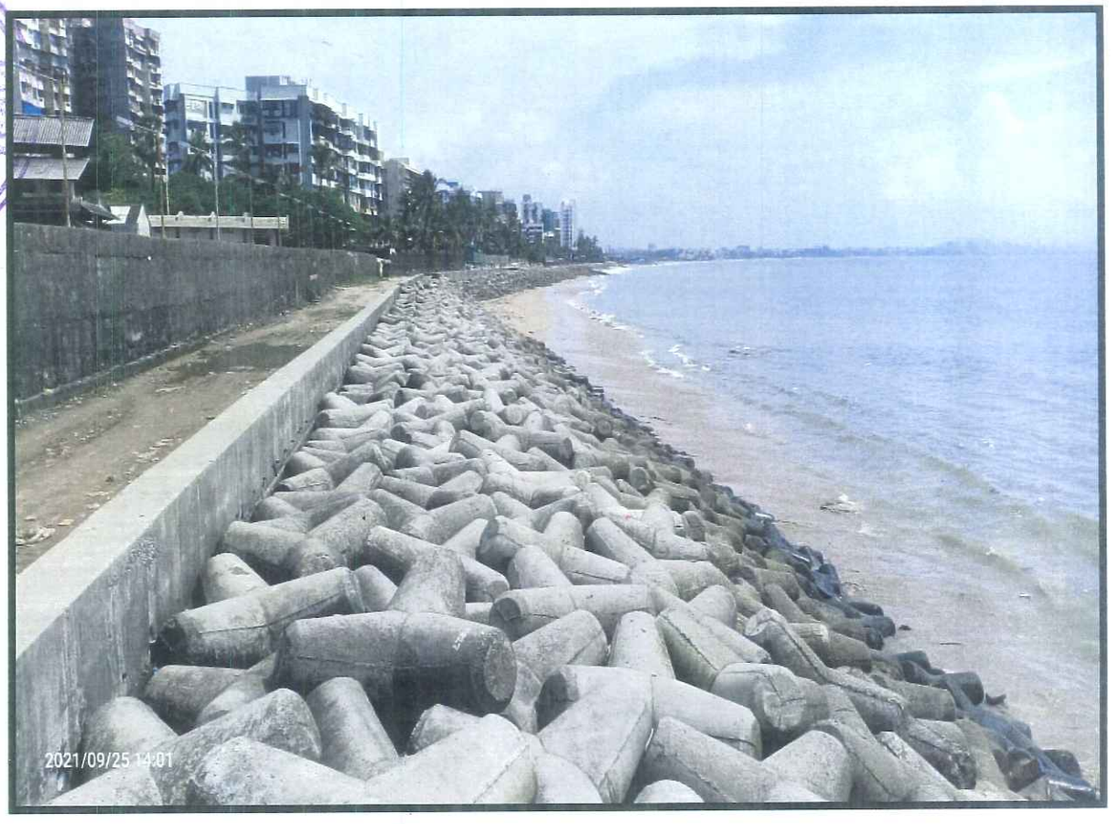


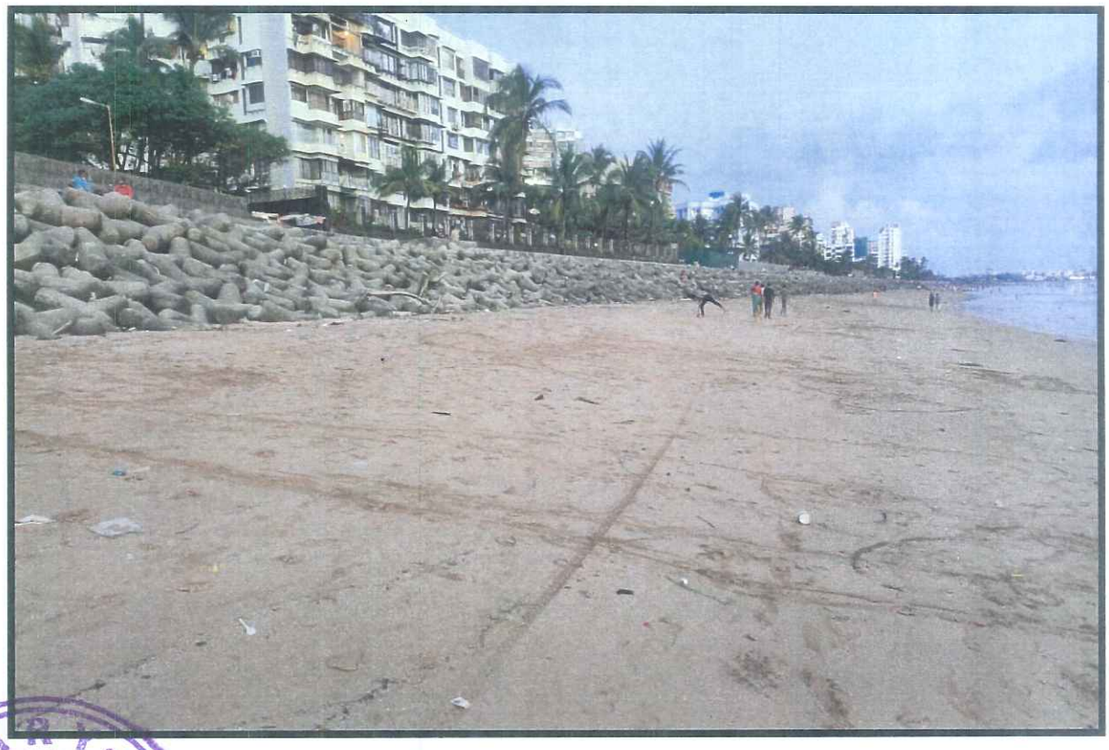



24 Sep 2021 06:42:53 PM

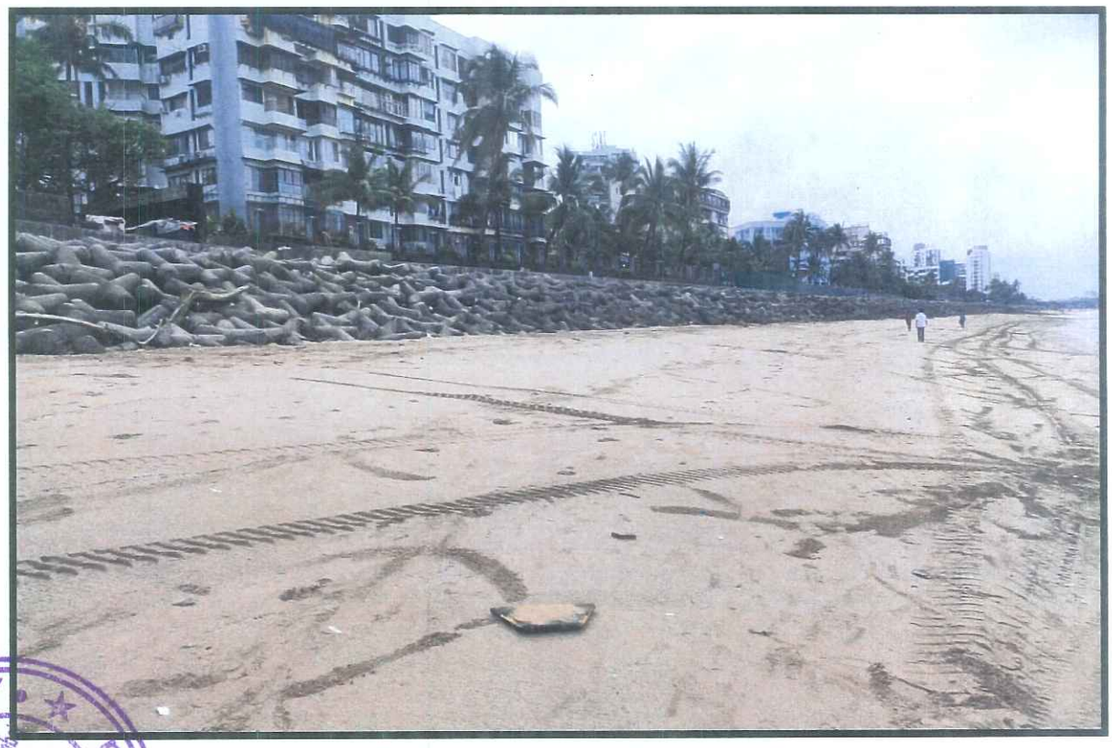

24 Sep 2021 06:42:34 PM


21/09/25 14:04


2021/09/25 14:01



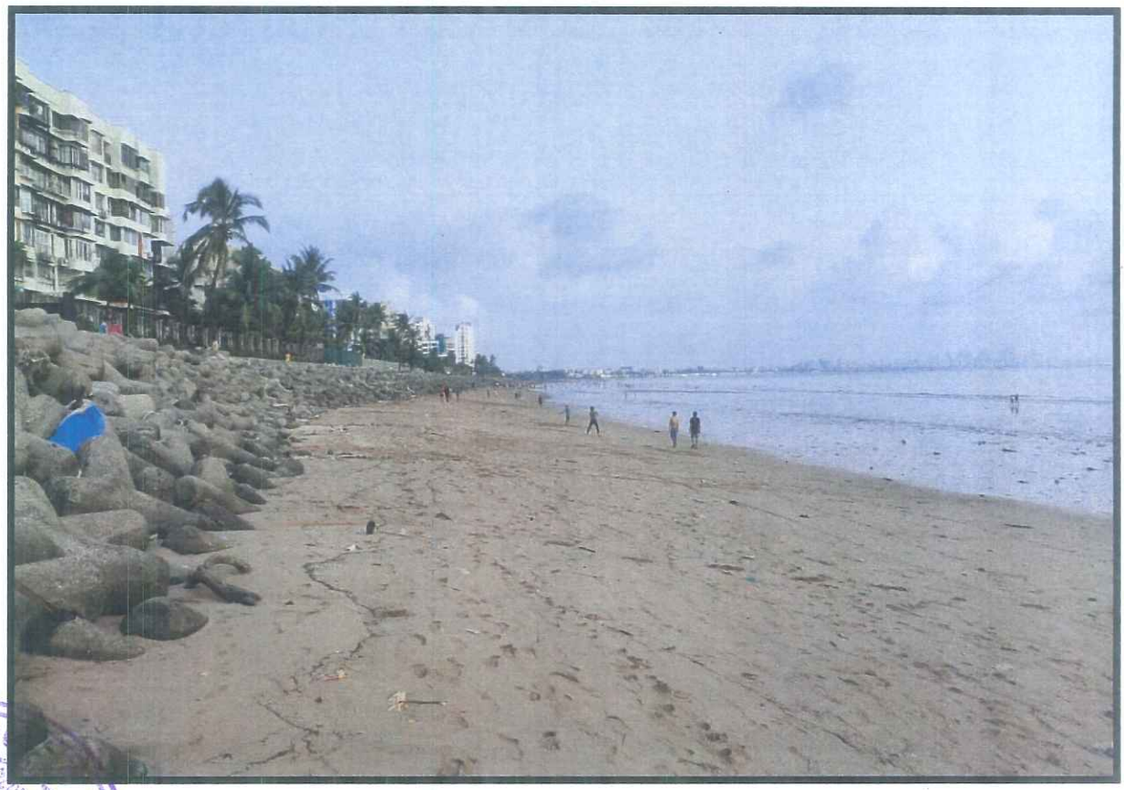

24 Sep 2021 08:57:50 AM



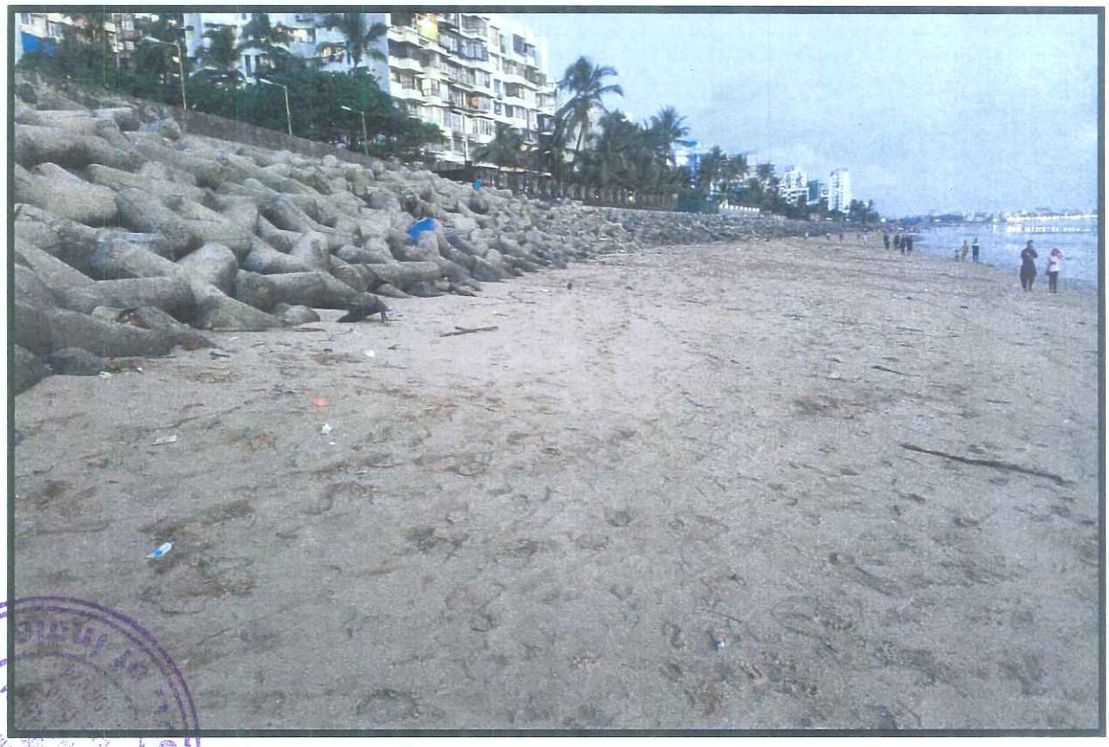

24 Sep 2021 08:55:26 AM


21/09/25 14:11


24 Sep 2021 08:54:42 AM




24 Sep 2021 06:41:54 PM



"EXHIBIT"- D

GOVERNMENT OF MAHARASHTRA
PUBLIC WORKS DEPARTMENT
OFFICE OF THE HARBOUR ENGINEER
HARBOUR ENGINEERING DIVISION (NORTH)
KONKAN BHAVAN NAVI MUMBAI

e-mail –harbournkb.ee@mahapwd.com web site –www.mahapwd.com Tel. No- 022 27571534

Outward No;- NHD /AB/ TC/ 3466 /2018 Date- 12 OCT 2018

To,
M/s. R.B.CHAVAN
1605, Kalpataru-Vanrai,
Goregoan (East)
Mumbai-400 069

Sub: - 1) Construction of Anti Sea Erosion bund at Sagar Kutir, Versova, in Mumbai Suburban. (Ch.0/0 to 60 Metre)
2) Construction of Anti Sea Erosion bund from Sagar Kutir to Machhalimar at Versova, in Mumbai Suburban. (Ch.0/0 to 330 Metre)
3) Improvement in Vesave village, jetty and approach road in Mumbai Suburban. (Ch.330 to 900 Metre)

Ref: 1) शासन सा.बां.विभाग,मंत्रालय,मुंबइ यांचे ज्ञापन क्र. निविदा-२०१७/प्र.क्र.५१/रा.म.-२, दि.१८/०८/२०१७.
2) Chief Engineer (S.P.) Mumbai's Lett. No. CE (SP)/ Tender / 2594/2017, Dt. 13/10/2017
3) Coastal Engineer Mumbai Lett. No. COE/Tender/1265/Dt. 28/09/2017
4) This office letter No. NHD/AB/TC/1589 Dated 25/10/2016
5) Your letter dated 26/10/2017
6) This office letter No. NHD /AB/ TC/1602/2017 Dt.30/10/2017
7) उपसचिव (रा.म.) सा.बां.विभाग,मंत्रालय,मुंबइ यांचे शासन ज्ञापन क्र. निविदा-२०१७/प्र.क्र.५१/ रा.म.-२ दि.३०/०१/२०१८
8) Coastal Engineer Mumbai Lett. No. COE/Tender/1094/Dt. 26/09/2018

The work order issued previously vide referred Sr .No 6 is hereby superseded as per Governments Letter referred Sr. No. 7.& 8

Since you have furnished the Security Deposit amounting to Rs. 1, 00, 31,500/- Rs. One Crore thirty one thousand five hundred only) in the form of Bank Guarantee No. 08161GPER005617Dt 26/10/2017(Validity period is up to 31/10/2019) of Bank of Baroda, Goregoan (West), Mumbai Branch and Performance Security Deposit of Rs

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai & Raigad
Regd. No.: 15074
Exp. Date 16/10/2024
Govt. of India

50,20,000/- (Rs Fifty lakh twenty Thousand Only) in the form of DD No. 924098 Dt. 30/10/2017 of Bank of Baroda Goregaon Mumbai. The gross total of which is Rs 1,50,51,500/-

Your tender offer for the above work is at 4% below of the cost put to tender of Rs. 50,15,66,177/- (Rs. Fifty Crore fifteen lakh sixty six thousand one hundred seventy seven only) i.e. Rs.48,15,03,530/-(Rs. Forty eight Crore fifteen lakh three thousand five hundred thirty only) is hereby accepted by Govt. of Maharashtra vide reference No.7

The calculation of price escalation current Index will be consider as per previous work order issued and G.S.T. will be calculated as per No.GST /1017/PRK.156/Taxation -1/G.R. dated 11.09.2017 is applicable.

You are, therefore requested to start the work as stated above under the instruction of the Asst. Harbour Engineer. Harbour Subdivision, Andheri and complete the same within the stipulated time limit of **24 (Twenty four) Calendar months including monsoon. Under following terms and condition**

The date of commencement of the work will be reckoned from the date of issue this letter.

The work is registered in this office under No.-B-1/HE/12 of 2018-2019

You are also requested to take Insurance Policy as detailed in Clause 57 page No.70 of the tender agreement.

Please acknowledge the receipt of the same.

Thanking you,

(R.D.Misal)
Harbour Engineer,
Harbour Engineering Dn. (N),
Konkan Bhavan, Navi Mumbai

Copy submitted to Chief Engineer (SP) PWD Mumbai for favour of information please.
Copy submitted to Coastal Engineer, Mumbai for favour of information please.
Copy to the Asst. Harbour Engineer. Harbour subdivision, Andheri for information and necessary action.
Copy to Divisional Accounts Officer /Project Branch /Andheri Auditor for of information please

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai & Raigad
Regd. No.: 15074
Exp. Date 18/10/2026
Govt. of India

महाराष्ट्र शासन
सार्वजनिक बांधकाम विभाग
सहाय्यक पत्तन अभियंता,पत्तन उपविभाग अंधेरी यांचे कार्यालय,
नवीन प्रशासकीय इमारत,तळमजला,दादाभाई नौरोजी रोड,अंधेरी (पश्चिम) मुंबई-५८

ई मेल-harbourandheri.de@mahapwd.com		दूरध्वनी क्रमांक ०२२ २६२३५१४२
जा.क्र. सपअ/अंधेरी/प्रशा/ 373		दिनांक :- २६/१२/२०१८

प्रति,
पत्तन अभियंता,
पत्तन अभियांत्रिकी विभाग(उ),
कोकण भवन, नवी मुंबई.

विषय :- १) सागर कुटीर, वर्सोवा, मुंबई उपनगर येथे समुद्र धुपप्रतिबंधक बंधारा बांधणे. (सा.क्र. ० ते ६० मी.)
२) सागर कुटीर ते मछलीमार वर्सोवा, मुंबई उपनगर येथे समुद्र धुपप्रतिबंधक बंधारा बांधणे.(सा.क्र. ० ते ३३० मी.)
३) वेसावे, मुंबई उपनगर येथील जेट्टी रस्त्याची पोचमार्गासह सुधारणा करणे. (सा.क्र. ३३० ते ९०० मी)

संदर्भ :- १) या कार्यालयाचे पत्र क्र. सपअ/अंधेरी/प्रशा/२८६,दि.२०/१०/२०१८
२) आपले पत्र क्र पअऊ/प्रशा/३/१८५३,दि.२४/१२/२०१८

उपरोक्त विषयांकित कामाबाबत या कार्यालयाचे संदर्भिय पत्र क्र.१ अन्वये विनंती केल्यानूसार सदर कामासाठी CWPRS पूणे यांचेकडून प्राप्त झालेल्या सुधारीत लेआऊट व काटछेदानुसार सदर काम करुन घेणेबाबत संदर्भिय पत्र क्र.२ अन्वये कळविले आहे.

त्याअनुसरुन या कार्यालयाने सदर कामांच्या कंत्राटदारास सुधारीत लेआऊट व काटछेदानुसार काम करण्याच्या सुचना दिलेल्या असून तद्अनुषंगाने कंत्राटदाराने प्रत्यक्षात जागेवरती दि. २६/१२/२०१८ पासून कामास सुरुवात केलेली आहे.

तथापी, सुधारीत लेआऊट व काटछेदानुसार निविदेतील काही बाबींच्या परिमाणामध्ये अधिक्य / वचत होत असल्यास त्याबाबतचा तुलनात्मक तक्ता लवकरच सादर करण्यात येईल, हे आपल्या माहिती व पुढील कार्यवाहीस्तव सविनय सादर

NOTARY REKHA K. HOWALE Dist. Thane, Navi Mumbai & Raigad Regd. No. 15074 Exp. On 15/10/2020 Govt. of India

सहाय्यक पत्तन अभियंता
पत्तन उपविभाग, अंधेरी,
मुंबई-५८

प्रत- मास्टर फाईल.

GOVERNMENT OF MAHARASHTRA
PUBLIC WORKS DEPARTMENT
ASSISTANT HARBOUR ENGINEER, OFFICE OF HARBOUR SUBDIVISION, ANDHERI
New Administrative Building, Ground Floor, DadabhaiNouroji Road, Andheri (West), Mumbai-58.

Email- harbourandheri.de@mahapwd.com	Phone No.-022 26235182
Out. No.AHE/ANDHERI/PB/343	Date: 26/12/2018

To,
The Harbour Engineer,
Harbour Engineering Division,
Konkan Bhavan, Navi Mumbai.

Sub: 1. Construction of Anti Sea Erosion Bund at Sagar Kutir, Versova, Andheri.(S. No. 0 to 60 meters)
2. Construction of Anti Sea Erosion Bund from Sagar Kutir to Machalimar, Versova, Mumbai Suburban. (S. No. 0 to 330 meters)
3. Improvement in Vesave Villag, jetti and aproach road in Mumbai Suburban (Ch.330 to 900 Metre).

Ref: 1. Letter No.AHE/Andheri/PB/286 dated 20/10/2018 of this office.
2. Your Letter No.HEN/PB/3/1853 dated 24/12/2018.

As per the request made by reference letter no.1 of this office regarding above subject work, you are informed vide reference letter no.2 to get complete the said work as per modified layout and the cross section received from (CWPRS), Pune.

Accordingly, the office has instructed the contractors to work according to the revised layout and the cross section and accordingly, the contractors actually have started the work from 26/12/2018.

However, if there is excess/saving in some of the items of the tender as per revised layout and cross section, a comparative chart will be presented soon. This is for your information and further action.

NOTARY REKHA K. HOWAL Dist. Thane, Navi Mumbai & Raigad Reg. No. Exp. Date Govt. of India

TRUE COPY
For Vidhii Partners
Advocates

Sd/-

Assistant HarbourEngineer
Harbour Subdivision Andheri,
Mumbai-58.

"EXHIBIT" - 'E' colly

E
Colly

महाराष्ट्र विधानसभा

विधान सभा
महाराष्ट्र

आमदार
डॉ. भारती लव्हेकर
एम.ए.,एम.फील.,बी.जे.,पीएच.डी.

निवास : 1504, बिल्डींग नं. 7 ए, फॉर्च्युन 59, न्यू म्हाडा कॉम्प्लेक्स, लोखंडवाला सर्कल जवळ, अंधेरी (पश्चिम), मुंबई - 400 053.
भ्रमणध्वनी : 9820286137 • ई-मेल : bharatilavekar@gmail.com

दिनांक : २८/०१/२०१६

प्रती,
किनारी अभियंता,
मुंबई.

विषय : केंद्रीय मार्ग निधी अंतर्गत वेसावे गांव, जोडरस्त्याची सुधारणा व जेट्टीची लांबी वाढविणे या कामाचा प्रस्ताव सादर करणेबाबत..

संदर्भ : आपले समवेत दिनांक २६/०१/२०१६ रोजी केलेली साईटची संयुक्त पाहणी.

महोदय,

माझ्या मतदारसंघातील वेसावे येथील स्थानिक मच्छिमार तसेच नागरीकांच्या सोईसुविधांसाठी मी केंद्रीय मार्ग निधी अंतर्गत या कामासाठी निधी उपलब्ध होणेसाठी पाठपुरावा करीत असुन सदर कामास केंद्र शासनाकडून तत्वत: मान्यता प्राप्त झालेली आहे.

सदर योजनेअंतर्गत मच्छिमारांच्या सोईसाठी स्मशानभुमीजवळील अस्तीत्वातील जेट्टीची लांबी वाढविणे तसेच इतर स्थानिक नागरीकांच्या सोईकरीता मछलीमार पासुन स्मशानभुमीपर्यंत प्रोपोनेडचे बांधकाम करुन त्यास संरक्षण देणे व त्यासाठीच्या जोडरस्त्याची सुधारणा करणे ही कामे या प्रस्तावात समाविष्ठ करावीत. याबाबत आपणांस दि. २६/०१/२०१६ रोजीच्या संयुक्ती पाहणी दरम्यान निर्देश दिलेले आहेत. त्यानुसार केंद्रीय मार्ग निधी अंतर्गत या कामाचा प्रस्ताव तात्काळ राज्य शासनाच्या मंजुरीकरीता सादर करावा व तसे मला अवगत करावे, ही विनंती.

NOTARY
REKHA K. HOWALE
Dist. Thane Navi Mumbai
Regd. No. 15074
Exp. Date
19/10/2024
Govt. of India

आपली,

भारती लव्हेकर

[redacted]

महाराष्ट्र विधानसभा

विधान सभा महाराष्ट्र

आमदार
डॉ. भारती लव्हेकर
एम.ए,एम.फील,बी.जे,पीएच.डी.

निवास : 1504, बिल्डींग नं. 7 ए, फॉर्च्युन 59, न्यू म्हाडा कॉम्प्लेक्स, लोखंडवाला सर्कल जवळ, अंधेरी (पश्चिम), मुंबई - 400 053.
भ्रमणध्वनी : 9820286137 • ई-मेल : bharatilavekar@gmail.com

दि. १८/१/२०१६

मा. ना. श्री. देवेंद्रजी फडणवीस साहेब
मुख्यमंत्री,
महाराष्ट्र राज्य.

19 JAN 2016
1449291

विषय : अर्थसंकल्पीय अधिवेशन २०१५-१६ मध्ये ~~खालील कामे~~ समावेश करणेबाबत.....

मुख्यमंत्री
महाराष्ट्र राज्य

महोदय,

माझ्या वर्सोवा मतदार संघातील खालील लोकोपयोगी कामे करणे अत्यंत गरजेचे आहे. तरी सदरच्या कामांना अर्थसंकल्पीय अधिवेशन २०१५-१६ मध्ये निधी उपलब्ध करुन मंजूरी द्यावी, हि विनंती.

अ.क्र.	कामांचे नाव	अंतर	किंमत
१	सागर कुटीर ते स्मशानभुमी, वर्सोवा मुंबई येथे धुपप्रतिबंधक बंधारा तसेच नागरीकांच्या सोयीसाठी पाथवे व सुशोभिकरण करणे.	११०० मी. लांब	३४.०० कोटी
२	सागर कुटीर, वर्सोवा येथे धुपप्रतिबंधक बंधारा बांधणे.	३६०.०० मी. लांब	५.४० कोटी

Secretary to Chief Minister
Mantralaya Mumbai - 400 032.

आपली

(डॉ. भारती लव्हेकर)

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai & Raigad
Regd. No.: 15074
Exp. Date 16/10/2024
Govt. of India

जा. क्र. किशा/प्रशा/का-२/२२...
किशोरी शिक्षण यांचे कार्यालय,
प्रशासकीय इमारत, ३ रा मजला,
बांद्रा (पूर्व), मुंबई-४०० ०५१.
दिनांक :- २६/१/१६

गजानन कीर्तिकर

खासदार (लोकसभा)
नेते–शिवसेना
27, मुंबई उत्तर–पश्चिम लोकसभा
सदस्य
लोकलेखा समिती
रेल्वे स्थायी समिती

10, श्रेयस कॉलनी, आरे मार्ग,
गोरेगांव (पूर्व), मुंबई–400063
दूरध्वनी : 022-29270262, 29270362
ई–मेल : gajanan.kirtikar@yahoo.com
वेबसाईट: www.gajanankirtikar.com
दिल्ली :
बी–७०२, एम.एस. फ्लॅटस्, थी.के.एस. मार्ग
नवी दिल्ली-110 001
दूरध्वनी : 011-23326556

पत्रक क्र. जीके/खासदार/.....688...../16 दिनांक :- 14/06/2016

प्रति,
मा. अधिक्षक अभियंता (किनारी),
सार्वजनिक बांधकाम विभाग,
बान्द्रा परिमंडळ, मुंबई.
यांसी,

विषय : सागर कुटीर, वर्सोवा, मुंबई येथील समुद्र किनारी उर्वरीत संरक्षक बंधारा बांधणेबाबत.

महोदय,

माझ्या 27-मुंबई उत्तर पश्चिम लोकसभाच्या क्षेत्राच्या अंतर्गत वर्सोवा समुद्र किनारी वसलेल्या सागर कुटीर वसाहतीत दरवर्षी पावसाळ्यात भरतीचे वेळीस समुद्राचे पाणी शिरते. त्यामुळे मोठ्या प्रमाणात नागरिकांचे आर्थिक नुकसान होते व जिवीतास धोका उत्पन्न होतो. याबाबत खासदार झाल्यापासून गेली 2 वर्षे सातत्याने मी पाठपुरावा करीत आहे. दि. 17/05/2016 रोजी याठिकाणी पाहणी दौरा आयोजित केला होता. त्याप्रसंगी आपल्या विभागाचे श्री. मोरे, सहाय्यक पतन अभियंता, अंधेरी हे उपस्थित होते. परिस्थितीचे गांभीर्य लक्षात घेऊन त्यांनी तात्काळ उपलब्ध असलेल्या निधीपैकी 60 मीटर लांबीचा धूपप्रतिबंधक बंधारा बांधण्याबाबत प्रस्ताव तयार करुन आजमितीस निविदा मागविण्याच्या प्रक्रियेपर्यंत कार्यवाही करण्यात आली आहे. त्याबद्दल येथील नागरिकांच्या वतीने मी आपल्या विभागाचे अभिनंदन करुन आभार व्यक्त करतो.

कृपया सागर कुटीर येथे एकूण 300 मीटर लांबीचा धूपप्रतिबंधक बंधारा बांधणे आवश्यक आहे. पैकी 60 मीटर लांबीच्या बंधा-याच्या बांधकामास आपण मंजुरी दिलीच आहे. उर्वरीत 240 मीटर लांबीचा बंधारा बांधण्याबाबतचा आराखडा व खर्चाचे अंदाजपत्रक तात्काळ तयार करुन मला अवगत करावे. मा.मुख्यमंत्री, महाराष्ट्र राज्य यांचेशी संपर्क साधून आगामी पावसाळी अधिवेशनात पुरवणी मागण्यांच्या वेळीस आवश्यक असणारा निधी मंजूर करुन घेण्यासाठी सोयीस्कर ठरेल.

धन्यवाद।

आपला नम्र,

(गजानन कीर्तिकर)
शिवसेना खासदार

गजानन कीर्तिकर

खासदार (लोकसभा)
नेते–शिवसेना
27, मुंबई उत्तर–पश्चिम लोकसभा
सदस्य
लोकलेखा समिती
रेल्वे स्थायी समिती

102, स्नेहदीप, पहिला मजला, आरे मार्ग,
गोरेगांव (पूर्व), मुंबई–400063
दूरध्वनी : 022-29270262, 29270362
ई–मेल : gajanan.kirtikar@yahoo.com
वेबसाईट : www.gajanankirtikar.com
दिल्ली :
बी–702, एम.एस. फ्लॅटस्, बी.के.एस्. मार्ग
नवी दिल्ली–110 001
दूरध्वनी : 011-23326556

दिनांक : ०५/११/२०१९

प्रति,
मा. जिल्हाधिकारी,
मुंबई उपनगर जिल्हा,
प्रशासकीय इमारत, १० वा मजला,
वांद्रे (पूर्व), मुंबई–४०० ०५१.

विषय : सागर कुटीर, वर्सोवा, अंधेरी (पश्चिम) येथील ५० नागरिकांचे प्रकल्पग्रस्त म्हणून कायमस्वरुपी पुनर्वसन करणेबाबत.

महोदय,

माझ्या २७–मुंबई उत्तर पश्चिम लोकसभेतील वर्सोवा विधानसभा अंतर्गत गेल्या ५० वर्षापासून सागर कुटीर ही वसाहत वसली आहे. पावसाळ्यात भरतीच्या वेळेस या विभागात पाणी शिरून दरवर्षी वित्तहानी होते. सन २०१४ साली खासदार म्हणून सदर बाब माझ्या लक्षात आल्यानंतर महाराष्ट्र मेरिटाईम बोर्ड, महाराष्ट्र मत्स्यव्यवसाय आयुक्त यांचेकडे मी सातत्याने पाठपुरावा केला व मला यश मिळालं.

१०८ मीटर लांबीचा धूपप्रतिबंधक बंधारा बांधण्याचे काम सागरी किनारी अभियंता, सार्वजनिक बांधकाम विभाग, अंधेरी पश्चिम यांचेमार्फत प्रगतीपथावर आहे. या बंधा–यामध्ये बाधीत होणा–या अंदाजे ६० नागरिकांचे प्रकल्पग्रस्त म्हणून पुनर्वसन करणे गरजेचे आहे. त्यांचेकडे १९९५ पूर्वीपासूनचे सर्व रहिवासी प्रमाणपत्र (पुरावे) उपलब्ध आहेत. याबाबत अग्रक्रमाने कार्यवाही करून केलेल्या कार्यवाहीचा अहवाल अवगत करावा, ही विनंती.

कळावे.

आपला नम्र,

(गजानन कीर्तिकर)
शिवसेना खासदार

प्रत रवाना :–
१)मा. अमित साटम, भाजपा आमदार, अंधेरी–पश्चिम विधानसभा क्षेत्र, अंधेरी (पश्चिम), मुंबई.
२)मा. सागरी किनारा अभियंता, सार्वजनिक बांधकाम विभाग, अंधेरी (पश्चिम), मुंबई.
३)मा. आयुक्त, मत्स्यव्यवसाय विभाग, महाराष्ट्र राज्य, तारापोरवाला मत्स्यालय, चर्नीरोड, मुंबई.
४)मा. मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरिटाईम बोर्ड, बेलार्ड इस्टेट, मुंबई.
५)मा. अतिरिक्त आयुक्त, अति/निष्कां., पश्चिम उपनगरे, प्रशासकीय इमारत, ९ वा मजला, वांद्रे (पूर्व), मुंबई.
६)मा. सहाय्यक आयुक्त, के/पश्चिम विभाग, मुंबई महानगरपालिका, अंधेरी (पश्चिम), मुंबई.

TRANSLATED COPY

Member of Legislative Assembly
Dr. Bharti Lavekar
M.A. M. Phil. B.J. PHD.

Residence: 1504, Building No.7A, Fortune 59, New MHADA Complex, Near Lokhandwala Circle, Andheri (West), Mumbai – 400 053. Mo. 9820286137. Email – bharatilavekar@gmail.com

Date: 28/01/2016

To,
The Coastal Engineer,
Mumbai.

Sub: Regarding submission of Proposal of Vesave Gaon, improvement to approach roads and extension of jetty under Central Road Fund.

Ref: Joint inspection of the site made with you on 26/01/2016.

Sir,

For the convenience of local fishermen as well as citizens at Vesave in my constituency, I am pursuing the availability of funds for this work under the Central Roads Fund, which has been principally approved by the Central Government.

Under this scheme, the length of the existing jetties near the Smashan Bhoomi should be increased for the convenience of local fishermen and the construction of promenade from Fisherman Colony to Smashan Bhoomi should be done and protected and for that improvement to approach road for the convenience of other local persons should be included in this proposal. You have been instructed in this regard during the joint inspection dated 26/01/2016. Accordingly, I request you to immediately submit a proposal for this work under the Central Roads Fund for the approval of the State Government and inform me accordingly.

Yours,

Sd/-

Bharati Lavekar

Member of Legislative Assembly
Dr. Bharti Lavekar
M.A. M. Phil. B.J. PHD.
Residence: 1504, Building No.7A, Fortune 59, New MHADA Complex, Near Lokhandwala Circle, Andheri (West), Mumbai – 400 053. Mo. 9820286137. Email – bharatilavekar@gmail.com

Date: 28/01/2016

To,

Ho'ble Shri. Devendraji Fadanvis Sir,

Chief Minister, Maharashtra State.

Sub: Regarding the inclusion of the following works in the Budget Session 2015-16.

Sir,

In my Versova Constituency, it is very necessary to do the following public works. However, it is requested that these works be sanctioned by providing funds in the budget session 2015-16.

Sr. NO.	Name of Work	Length	Amount
1.	Construction of Anti Sea Erosion Bund from Sagar Kutir to Smashan Bhoomi at Versova, Mumbai and pathway and beautification for the convenience of the public.	1100 meters length	34.00 Crores
2.	Construction of Anti Sea Erosion Bund at Sagar Kutir, Versova.	360.00 meters length	5.40 Crores

Yours,

Sd/-

(Dr. Bharati Lavekar)

GAJANAN KIRTIKAR

MP, (Lok Sabha)
Leader – Shivsena
27, Mumbai North-West Loksabha Member
Public Accounts Committee
Railway Standing Committee

10, Sheyas Colony,
Aarey Road, Goregaon (E),
Mumbai – 400063.

Mail. Gajanan.kirtikar@yahoo.com
website – www.gajanankirtikar.com
Delhi:
B-702, M.S. Flats, B.K.S. Road,
New Delhi – 110 001.
Phone: 011 – 23326556

Outward No.GK/MP/688/16

Date: 14/06/2016

To,
Hon'ble Superintendent Engineer (Coastal),
Public Works Department,
Bandra Circle, Mumbai.

Sub: Regarding construction of remaining Anti Sea Erosion Bund at coast at Sagar Kutir, Versova, Mumbai.

Sir,

During every monsoon season, in the Sagar Kutir area in my 27-Mumbai North-West Loksabha Constituency flood water enters during high tide. Because of which heavy financial losss occurs and endangers lives. I am following up regarding the same since last 2 years as an MP. The inspection tour was conducted at this area on 17/05/2016. Shri. More, Assistant Harbour Engineer, Andheri was present at that time from your department. Considering the seriousness of the situation, he immediately prepared a proposal regarding construction of 60 meters Anti Sea Erosion Bund by the available funds and the process of inviting tenders has been completed till today. On behalf of the citizens here, I congratulate and thank your department for that.

It is necessary to construct the Bund of 300 meters at Sagar Kutir. Out of the same, you have already sanctioned the construction of 60 meters bund. Immediately prepare that plan and estimate of cost for the construction of remaining 240 meters bund and inform to me. It will be convenient to contact the Hon'ble Chief Minister, Maharashtra State and get the required funds at the time of supplementary demands in the forthcoming monsoon session.

Thanking you,

Your's sincerely,

Sd/-
(Gajanan Kirtikar)
MP Shivsena

GAJANAN KIRTIKAR

MP, (Lok Sabha)
Leader – Shivsena
27, Mumbai North-West Loksabha Member
Public Accounts Committee
Railway Standing Committee

102, Shehdeep, 1st Floor,
Aarey Road, Goregaon (E),
Mumbai – 400063.

Mail. Gajanan.kirtikar@yahoo.com
website – www.gajanankirtikar.com
Delhi:
B-702, M.S. Flats, B.K.S. Road,
New Delhi – 110 001.
Phone: 011 – 23326556

Date: 08/11/2019

To,
Hon'ble District Collector,
Mumbai Suburban District,
Administrative Building, 10th Floor,
Bandra (East), Mumbai – 400 051.

Sub: Regarding permeant rehabilitation of 50 citizens of Sagar Kutir, Versova, Andheri (West) as project affected persons.

Sir,

The Sagar Kutir colony is settled since last 50 years in my 27-Mumbai North-West under Versova Loksabha Assembly. During the monsoon season, high tide water enters in this area cause financial loss every year. In the year 2014, after came to know about this matter as an MP, I followed up with Maharashtra Maritime Board, Fisheries Commissioner and I succeeded.

The construction work of 108 meters Anti Sea Erosion Bund is in progress through Coastal Engineer, Public Works Department, Andheri (West). The rehabilitation of 60 citizen affected because of the said Bund is necessary as project affected persons. They have all the domicile certificates(evidence) prior to 1995. It is requested to take the action in this regard as a matter of priority and inform the report of the action.

Thanking you,

Your's faithfully,

Sd/-
(Gajanan Kirtikar)
MP Shivsena

Copy to:

1) Shri. Amit Satam, BJP MLA, Andheri-West Assembly Constituency, Andheri (West), Mumbai.
2) Coastal Engineer, Public Works Department, Andheri (West), Mumbai.
3) Commissioner, Fisheries Department, State of Maharashtra, Taraporwala Fishery, Charni road, Mumbai.
4) Chief Executive Officer, Maharashtra Maritime Board, Ballard Estate, Mumbai.
5) Additional Commissioner, Encroachment, Western Suburban, Administrative Building, 9th Floor, Bandra (East), Mumbai.
6) Assistant Commissioner, K/West Ward, Mumbai Municipal Corporation, Andheri (West), Mumbai.

"EXHIBIT" - F

F

सत्यमेव जयते

महाराष्ट्र शासन

जिल्हाधिकारी मुंबई उपनगर जिल्हा

जिल्हा नियोजन समिती
मुंबई उपनगर जिल्हा

प्रशासकीय इमारत ९ वा माळा वांद्रे पुर्व मुंबई ४०० ०५१

जिल्हा नियोजन समितीच्या
दिनांक: २८ जानेवारी,२०१५ रोजी
झालेल्या बैठकीचे इतिवृत्त

NOTARY Govt. of India
Rekha K. HOWALE
Dist. Thane, Navi Mumbai
Regd. No.: 15074
Exp. Date
16/10/2024

[redacted]

	५. व्यायामशाळा बांधण्याकरीता निधीची तरतूद करणे	जिल्हा क्रिडा अधिकारी
	६. दहिसर मुंबई येथील एमएसआरडीसी फ्लाय ओव्हरच्या खालील भागाचे सुशोभिकरण करण्यासाठी निधीची तरतूद करणे.	मुख्य अभियंता, महामार्ग रस्ते विकास महामंडळ
	७. महिला मंडळांना अनुदान तसेच महिला स्वयंरोजगार योजनेखाली शिलाईमशीन, पापड-यंत्र सामुग्री, मसाला कापडयंत्र, सामुहिक किचन, ऑईल बॉक्स, घरघंटीसाठी निधीची तरतूद करणे.	जिल्हा महिला व बाल कल्याण अधिकारी, महिला व बालकल्याण विभाग चेंबूर
	८. अंगणवाड्या बांधकामासाठी निधीची तरतूद करणे	जिल्हा महिला व बाल कल्याण अधिकारी, महिला व बालकल्याण विभाग चेंबूर
	९. सार्वजनिक जमिनीवरील अतिक्रमण रोखण्यासाठी अशा जागांभोवती संरक्षक भिंत बांधण्याकरीता निधीची तरतूद करणे.	उपजिल्हाधिकारी, जिल्हाधिकारी कार्यालय / महसूल शाखा
	१०. नाविन्यपूर्ण योजनामध्ये दहिसर नदीचे सौदर्यीकरण करण्याकरीता निधीची तरतूद करणे.	जिल्हा नियोजन समिती
मा.श्री. उदेश शांताराम पाटेकर नगरसेवक	दहिसर पूर्व घरटनपाडा नं.१ व २ मध्ये पाईप गॅस सुरू करण्याबाबत.	व्यवस्थापक महानगर गॅस कंपनी /मा.आयुक्त बृहन्मुंबई महानगरपालिका
	दहिसर पूर्व येथील अवैध रेतीसाठ्यावर कारवाई करण्याबाबत.	उपविभागिय अधिकारी पश्चिम उपनगरे खनिकर्म शाखा
डॉ.श्री.अजंता यादव,	१. To Construct Necessary Neat and clean with essential Amenities Toilet Blocks on Every २ KM distance under Fly over Bridges on Westem Express Highway and Estern Express Highway Mumbai	मा.आयुक्त बृहन्मुंबई महानगरपालिका
	२. To Repair the Existing Pipeline at Gautam Nagar Kandivali East Mumbai – १०१.	मा.आयुक्त बृहन्मुंबई महानगरपालिका
मा.खा.श्री. गजानन किर्तीकर	१. मुंबई महानगरपालिका क्षेत्रातील सी.आर.झेड हद्दी निश्चित करणेबाबत महानगरपालिका व महसुल प्रशासन यांची संयुक्तरीत्या कार्यवाही चालू आहे. त्याबाबत सद्यस्थितीची माहिती देण्यात यावी.	मा.आयुक्त बृहन्मुंबई महानगरपालिका /
	२. वर्सोवा-मढ जेट्टी दुरूस्ती व नव्याने बांधणे बाबत केंद्र शासनाकडे राज्य शासनाकडे राज्य शासनाने केलेल्या पाठपुरव्या बाबतची माहिती देण्यात यावी.	मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरीटाईम बोर्ड
	३. वर्सोवा बंदर येथे घाऊक दराने मासे विक्री केली जाते. उन-पावसात उघडयावर लिलाव विक्री करावी लागते. त्यांना घाऊक मासे विक्रीसाठी जागा निश्चित करून शेड बांधून देणेसाठी आर्थिक तरतूद करण्यात यावी.	मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरीटाईम बोर्ड/ सहाय्यक आयुक्त मत्स्य व्यवसाय विभाग
	४. मोठ्या प्रमाणात मासेमारीच्या बोटी या किना-यावर येतात. वर्सोवा खाडीतील गाळ न पसल्यामुळे अनेक बोटी रूतून बसतात व त्यांचे आर्थिक नुकसान होते. सदर गाळ उपसा युद्धपातळीवर करणे गरजेचे आहे. तसेच वर्सोवा येथून मढकडे प्रवास करणा-या प्रवासी बोटींना देखील अडथळा होत आहे. मेरीटाईम बोर्ड गाळ उपसण्यासाठी अक्षम्य दिरंगाई करीत आहेत. याबावत राज्य शासनाने कोणतीही कार्यवाही केली आहे. ?	मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरीटाईम बोर्ड

	५. अंधेरी पश्चिम, वर्सोवा येथील किनाऱ्याकडी, शिरपाल्ली, गाल्ली, बंदर किनारी, गल्ली, फेरीबोटी करता या ठिकाणी स्वच्छतागृह बांधणेकरीता आर्थिक तरतूद करण्यात यावी.	मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरीटाईम बोर्ड/ मा.आयुक्त बृहन्मुंबई महानगर पालिका
	६. वर्सोवा परिसरात अनेक ठिकाणी सांकुले झाल्यामुळे पर्यटनाच्या दृष्टीने देखील समुद्रकिना-याची साफसफाई करून सुशोभिकरण करणे गरजेचे आहे. तसेच वॉटर स्पोर्टस, किना-यावर खेळाचे साहित्य, वाहनतळ, स्वच्छतागृह विकसित करणेसाठी महाराष्ट्र पर्यटन विकास महामंडळाला भूखंड हस्तांतरीत करून आर्थिक तरतूद करण्यात यावी.	मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरीटाईम बोर्ड/ व्यवस्थापक महाराष्ट्र पर्यटन विकास महामंडळ
	७. सागर कुटीर या समुद्र किना-यालगतच्या वसाहतीत अनेकदा पावसाळ्यात भरतीचे वेळीस समुद्राचे पाणी शिरते. सदर ठिकाणी संरक्षक भिंत (सिमेंट बोल्ट) बांधणेबाबत आर्थिक तरतूद करण्यात यावी.	मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरीटाईम बोर्ड, मा.आयुक्त बृहन्मुंबई महानगरपालिका
	८. वर्सोवा समुद्र किनारी डिझेल, बर्फ व माशांची वाहतूक करण्यासाठी जोडरस्ता बांधून देण्याबाबत मेरीटाईम बोर्ड यांचेकडे प्रस्ताव सादर करावा.	मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरीटाईम बोर्ड
	९. मुंबई महापालिकेच्या मासळी मार्केटचा विकास खाजगी बिल्डरकडे न देता तो मासळीविक्री करणा-या महिलांच्या संस्थांना देण्यात यावा व त्यांना शासनाने अर्थ सहाय्य देण्याबाबत नियमावली तयार करण्यात यावी.	मा.आयुक्त बृहन्मुंबई महानगरपालिका
	१०. मुंबई महानगरपालिकेच्या मासळी बाजारात बसणा-या कोळी महिलांच्या मासेविक्रीवर आकारण्यात येणारा सर्विस टॅक्स रद्द करण्यात यावा.	मा.आयुक्त बृहन्मुंबई महानगरपालिका
	११. वेसावा कोळी समाज पब्लिक ट्रस्टच्या मालकीच् न.भ.क्र.१०४८. सर्व्हे क्र.९४/ब, वर्सोवा बस स्टॉपसमोर या भुखंडावर अनधिकृत बांधकाम झाले आहे. अनेक तक्रारी करून देखील निष्कासन केले जात नाही.	मा.आयुक्त बृहन्मुंबई महानगरपालिका
	१२. सर्व्हे क्र.१२/२८ ही जागा (आरक्षित फिश गोडावून) वर्सोवा चर्चच्या बाजुची जागा वर्सोवा मच्छिमार संघटनेला देण्याबाबत.	सहाय्यक आयुक्त मत्स्य व्यवसाय विभाग
	१३. वर्सोवा/मढ खाडीवरील फ्लायओव्हर व स्कायवॉक विषयी सद्यपरिस्थिती काय आहे, याबाबतची माहिती देण्यात यावी.	मा. महानगर आयुक्त, मुंबई महानगर प्रदेश विकास प्राधिकरण
	१४. जुहू मोरागांव येथील जेट्टी व जेट्टी पर्यंत जाण्याकरीता पोहोचरस्ता मेरीटाईम बोर्डामार्फत बनविण्याबाबत प्रस्ताव सादर करण्यात यावा.	मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरीटाईम बोर्ड
	१५. मोरागांव परिसरातील भकितवेदांत मार्गावरील पावसाळ्यातील पूरपरिस्थिती रोखण्यासाठी गेट काढून नदी मुखाच्या बाजूने पंपींग स्टेशन बनवून ५०० मीटर अंतरावर नविन फ्लाड गेट उभारल्याने मोरागांवात पूरपरिस्थिती निर्माण होत असल्यामुळे नुकसान थांबविण्यासाठी उपाययोजना करण्याबाबत.	मा.आयुक्त बृहन्मुंबई महानगरपालिका
	१६. बांद्रा-बोरीवली ६ वी लाईन प्रकल्पात बाधीत होणा-या पात्र झोपडपट्टी धारकांचे पुनर्वसनाबाबत निश्चित केलेली जागा याबाबत एमएमआरडीए प्रशासनाने खुलासा करावा.	मुंबई महानगर प्रदेश विकास प्राधिकरण
	१७. अंधेरी-गोरेगाव हार्बर लाईन प्रकल्पात बाधीत होणा-या पात्र गाळेधारकांचे पुनर्वसनाबाबत निश्चित केलेली जागा याबाबत एमएमआरडीए प्रशासनाने खुलासा करावा.	मुंबई महानगर प्रदेश विकास प्राधिकरण
	१८. ओशिवरा रेल्वे स्थानकाचे बांधकाम पूर्ण करण्यासाठी लगतचे राम मंदिर रेल्वे क्रॉसिंग बंद करणे आवश्यक आहे. तोपर्यंत बांधकाम करता येत नाही व फाटक बंद करावयाचे असल्यास बांद्रेकरवाडी व निर्लॉन	मा.आयुक्त बृहन्मुंबई महानगरपालिका

सत्यमेव जयते

महाराष्ट्र शासन

जिल्हाधिकारी मुंबई उपनगर जिल्हा

जिल्हा नियोजन समिती
मुंबई उपनगर जिल्हा

प्रशासकीय इमारत ९ वा माळा वांद्रे पुर्व मुंबई ४०० ०५१

जिल्हा नियोजन समितीच्या
दिनांक: ०२ नोव्हेंबर,२०१५ रोजी
झालेल्या बैठकीचे इतिवृत्त

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai
& Raigad
Regd. No.: 15074
Exp. Date
16/10/2024
Govt. of India

⑦

- पत्राव्दारे प्राप्त मुद्दे-

मा.खासदार / आमदाराचे नाव	मुद्दे	कार्यान्वयिन यंत्रणा
मा.खा.श्री. गजानन किर्तीकर	१. मुंबई महानगरपालिका क्षेत्रातील सी.आर.झेड. हद्दी निश्चित करणेबाबत महानगरपालिका व महसूल प्रशासन यांची संयुक्तरित्या कार्यवाही चालू आहे. केंद्रीय पर्यावरण मंत्री मा.ना.प्रकाश जावडेकर यांचेकडे मुंबईतील खासदारांची संयुक्त बैठक देखील घेण्यात आली होती. लवकरच याबाबत राज्य शासनाला निर्देश दिले जातील असे सांगितले. राज्य शासनाने केंद्र शासनाकडे पाठपुरावा केला असल्यास सद्यपरिस्थितीची माहिती देण्यात यावी.	महानगरपालिका / जिल्हाधिकारी कार्यालय
	२.वर्सोवा – मढ जेट्टी दुरूस्ती व नव्याने बांधणे बाबत मी स्वत: मा.ना.नितीन गडकरी, केंद्रीय मंत्री यांचेकडे पाठपुरावा केला होता. केंद्र शासनाने या कामासाठी रू. ४० कोटीचा निधी राज्य शासनाकडे वर्ग केल्याची माहिती त्याचे कार्यालयाकडून मिळाली. सदर निधी राज्य शासनाकडे जमा झाला का? व कामास केव्हा प्रारंभ होणार याबाबतची माहिती देण्यात यावी.	महाराष्ट्र मेरीटाईम बोर्ड
	३. वर्सोवा बंदर येथे घाऊक दराने मासळी विक्री केली जाते. उन- पावसात उघड्यावर लिलाव विक्री करावी लागते. त्यांना घाऊक मासे विक्रीसाठी जागा निश्चित करून शेड बांधून देणेसाठी सन २०१५-१६ मध्ये किती रूपयांच्या निधीची तरतूद करण्यात आली आहे?	सहाय्यक आयुक्त, मत्स्यव्यवसाय
	४. मोठ्या प्रमाणात मासेमारीच्या बोटी या किना-यावर येतात. वर्सोवा खाडीतील गाळ न उपसल्यामुळे अनेक बोटी रूतून बसतात व त्यांचे आर्थिक नुकसान होते. सदर गाळ उपसा युद्धपातळीवर करणे गरजेचे आहे. तसेच वर्सोवा येथून मढकडे प्रवास करणा-या प्रवासी बोटींना देखील अडथळा होत आहे. मेरीटाईम बोर्डने गाळ उपसण्यासाठी राज्य शासनाने चालू आर्थिक वर्षात किती कोटींची तरतूद केली आहे? व कामास केव्हा प्रारंभ होईल याबाबतची माहिती देण्यात यावी.	सहाय्यक आयुक्त, मत्स्यव्यवसाय / मेरीटाईम बोर्ड
	५. अंधेरी पश्चिम, वर्सोवा येथील डिसोझावाडी, शिवगल्ली, बाजारगल्ली, बंदर किनारी, मांडवी गल्ली, फेरीबोटी जवळ या ठिकाणी स्वच्छतागृह बांधणे बाबत अद्याप कोणत्याही विभागाने माझ्याशी संपर्क साधलेला नाही. तात्काळ आर्थिक तरतूद करून कामास प्रारंभ करण्यात यावा.	सहाय्यक आयुक्त, मत्स्यव्यवसाय
	६. वर्सोवा परिसरात अनेक निवासी संकुले झाल्यामुळे पर्यटनाच्या दृष्टीने देखील समुद्रकिना-याची साफसफाई करून सुशोभिकरण करणे गरजेचे आहे. तसेच वॉटर स्पोर्टस, किना-यावर खेळाचे साहित्य, वाहनतळ, स्वच्छतागृह विकसित करणेसाठी महाराष्ट्र पर्यटन विकास महामंडळाला भूखंड हस्तांतरीत करून आर्थिक तरतूद करण्यात यावी.	महाराष्ट्र पर्यटन विकास महामंडळ
	७. सागर कुटीर या समुद्रकिना-यालगतच्या वसाहतीत अनेकदा पावसाळ्यात भरतीचे वेळीस समुद्राचे पाणी शिरते. सदर ठिकाणी संरक्षक भिंत (सिमेंट बोल्ट) बांधणेबाबत किनारी अभियंता, सार्वजनिक बांधकाम विभाग यांचेकडे अद्याप कोणतीही कार्यवाही झालेली नाही.	किनारी अभियंता, सा.बां. विभाग
	८. वर्सोवा समुद्र किनारी डिझेल, बर्फ व माश्यांची वाहतूक करण्यासाठी गोड रस्ता बांधून देण्याबाबत मेरीटाईम बोर्ड यांचेकडून माझ्याशी कोणताही संपर्क झालेला नाही व कार्यवाही प्रलंबित आहे.	मेरीटाईम बोर्ड
	९. मुंबई महापालिकेच्या मासळी मार्केटचा विकास खाजगी बिल्डरकडे न देता तो मासळीविक्री करणा-या महिलांच्या संस्थांना देण्यात यावा व त्यांना यासाठी अर्थ सहाय्य देण्याबाबत नियमावली तयार करण्याबाबत मी सूचना केली होती. याकरीता महानगरपालिका धोरण तयार करणार आहे. त्याबाबतच्या सद्यपरिस्थितीची माहिती देण्यात यावी.	महानगरपालिका

Submitted by [redacted]

TRANSLATED COPY

Government of Maharashtra

DISTRICT COLLECTOR, MUMBAI SUBURBAN DISTRICT

DISTRICT PLANNING COMMITTEE

MUMBAI SUBURBAN DISTRICT

Administrative Building, 9th Floor, Bandra (East), Mumbai – 400 051.

MINUTES OF THE MEETING OF DISTRICT PLANNING COMMITTEE HELD ON 28TH JANUARY 2015

Points raised

Hon. MP. Shri. Gajanan Kirtikar	7.	The coastal adjacent area of Sagar Kutir is often flooded with sea water during the rainy season due to high tide in sea. Financial provision should be made for construction of protection (cement bolts) at this place.	Chief Executive Officer, Maharashtra Maritime Board. Hon. Commissioner, Brihanmumbai Municipal Cororation.

Government of Maharashtra

DISTRICT COLLECTOR, MUMBAI SUBURBAN DISTRICT

DISTRICT PLANNING COMMITTEE
MUMBAI SUBURBAN DISTRICT
Administrative Building, 9th Floor, Bandra (East), Mumbai – 400 051.

MINUTES OF THE MEETING OF DISTRICT PLANNING COMMITTEE HELD ON 2nd NOVEMBER 2015

Points Raised

Hon. MP. Shri. Gajanan Kirtikar	7.	The coastal adjacent area of Sagar Kutir is often flooded with sea water during the rainy season due to high tide in sea. No action has been taken till today with Coastal Engineer, Public Works Department for the construction of protection (cement bolts) at this place.	Coastal Engineer, P.W.D.

"EXHIBIT"-G

माहितीचा अधिकार	Office of the Assistant Harbour Engineer, Harbour Subdivision, New Administrative Building Gr. Floor, P.W.D.Compound, Dadabhai Nauroji Road, Andheri (West) Mumbai - 400058	
	Visit us www. mahapwd. com	Telephone No. 022 26235142
	Outward No. AHE/M/Versova/ 95	Date : 08/08/2016

To,
The Director,
Central Water & Power Research Station
Khadakwasla, Pune 411024.

Subject : Design of coastal protection at Sagar Kutir, Versova and from Sagar Kutir to Smashanbhoomi alongwith promenade at Versova, in Mumbai Suburban.

Reference: Hon. MLA, Versova, Dr. Bharti Lavekar's letter to Hon. Chief Minister, Maharashtra State, dated 28/01/2016.

Sir,

The aforesaid coastal protection work is proposed by Hon. MLA Versova Dr. Bharti Lavekar for inclusion in the Budget. Hon. MLA has requested for coastal protection at Sagar Kutir, Versova and also demanded for promenade along the sea shore from Sagar Kutir to Smashanbhoomi.

It is noticed that there is proposal of Fishing Harbour near the Smashanbhoomi. The survey and investigation work of the proposed Fishing Harbour is in progress. Accordingly, this office requests you to visit the site at the earliest.

The beach profile and other related data of the proposed site is submitted herewith. Considering the above facts, it is requested to provide the suitable design for the above site please.

Thanking You.

Yours Sincerely,

D.A.:- Reference Letter

NOTARY • Govt. of India • REKHA K. HONALE Dist. Thane, Navi Mumbai & Raigad Regd. No.: 15074 Exp. Date 16/10/2024

(M. S. More)
Assistant Harbour Engineer,
Harbour Sub Division,
Andheri.

Copy submitted to : Harbour Engineer, Harbour Engineering Division (N), Konkanbhavan, Navi Mumbai for the information please.

Shri AVM, Sc.D
Shri BRT, Sc.B.

TRUE COPY
For Vidhii Partners
Advocates

H

"EXHIBIT" - H

भारत सरकार
जल संसाधन, नदी विकास
और गंगा संरक्षण मंत्रालय
केन्द्रीय जल और विद्युत अनुसंधान शाला
खडकवासला, पुणे 411024

Government of India
Ministry of Water Resources,
River Development & Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION
Khadakwasla, Pune - 411 024

☎:020-24103421,24103224,24103469 🖷:020-24381004✉:kudale_md@cwprs.gov.in🖳:www.cwprs.gov.in

No: 130/7/71-CE

Date: 11.04.2016

Harbour Engineer,
Harbour Engineering Division (N)
Government of Maharashtra,
5th floor, Konkan Bhavan,
Navi Mumbai- 400 614

Sub: Design of coastal protection works at Versova in Mumbai Suburban.

Ref: AHE letter No. AHE/M/Verosva/95 dated 08.03.2016

Sir,

This has reference to letter dated 08.03.2016 from Assistant Harbour Engineer, Andheri, regarding proposed coastal protection works from Sagar Kutir to Machhalimar and upto Smashanbhumi at Versova in Mumbai Suburban. The project officials informed that seaside portion of the important premises in this region is threatened by the wave action. The vertical faces of old building/compound wall may leads to reflection of the waves and promote scouring of the sea bed. In this connection, Harbour Engineering Division sought advice of CWPRS for the design of coastal protection works.

Accordingly, desk studies were conducted for evolving the cross-section of coastal protection in the form rubblemound seawall based on the data such as beach profiles, tides, waves and the existing site conditions. The following design conditions are considered for the design of coastal structures :

1) Highest High Water Level (HHWL) =+ 5.40 m
2) Mean High Water Level (MHWL)= + 4.50 m
3) Mean Sea Level (MSL) =+ 2.50 m
4) Low Water Level (LWL) of +0.00 m
5) The wave period is between 10 to 12 seconds.

NOTARY REKHA K. HOWALE Dist. Thane, Navi Mumbai Regd. No. 15074

The maximum waves in the shallow zone are breaking and design of protection works is carried out considering maximum breaking wave height of 3.0 m at HWL in front of the structure. The computations for the weight of armour stones is carried out using Hudson's formula shown below:

$$W = \frac{w_r . H_b^{\,3}}{K_D \times (Sr - 1)^3 . \cot\theta}$$

Where,

W	=	Weight of armour units (kg)
w_r	=	Unit weight of armour block (kg/cum)
H_b	=	Breaking wave height(m)
K_D	=	Stability Coefficient for breaking wave height
Ww	=	Unit weight of sea water
S_r	=	Specific gravity of armour relative to water at the structure (wr/Ww)
θ	=	Angle of armour slope

The promenade with concrete protection wall is proposed along with coastal protection in the form of rubblemound seawall of about 1200m length from Sagar Kutir to Machhalimar and upto Smashanbhumi at Versova in Mumbai Suburban as shown in Fig.s 1 & 2. The design cross-sections of coastal protection in the form of rubblemound seawall for different stretches are as shown in Fig.s 3 to 5.

i) Cross-section of coastal protection for straight portion from Ch. 0 m to Ch. 900m

The section is designed for the coastal protection in the form of rubblemound seawall from Ch. 0. m. to Ch. 900 m as shown in Fig. 3. The section consists of 2 t tetrapods in the armour from el. +3.2 m to + 8.0 m with 1:2 slope. A 4.0 m wide toe-berm consisting of 2 to 3 t stones are provided at el. +3.2 m. A secondary layer consists of 200 to 300 kg stone provided below the armour layer. Core consists of 20 to 50 kg stones are proposed. A layer of geo-fabric filter is provided at the base of the seawall in order to avoid leaching of the sand.

ii) Cross-section of coastal protection for rounded from Ch. 0 m to Ch. 900m.

The section is designed for the coastal protection for rounded in the form of rubblemound seawall from Ch. 0. m. to Ch. 900 m as shown in Fig. 4. The section consists of 3 t tetrapods in the armour from el. 3.2 m to +8.0 m with 1:2 slope. A 4.0 m wide toe-berm consisting of 2 to 3 t stones are provided at el. +3.2 m. A secondary layer consists of 200 to 300 kg stone provided below the armour layer. Core consists of 20 to 50 kg stones are proposed. A layer of geo-fabric filter is provided at the base of the seawall in order to avoid leaching of the sand.

iii) Cross-section of coastal protection for straight portion from Ch. 0 m to Ch. - 300m.

The section is designed for the coastal protection in the form of rubblemound seawall from Ch. 0. m. to Ch. -300 m as shown in Fig. 5. The section consists of 2 t tetrapods in the armour from el. +3.2 m to + 8.0 m with 1:2 slope on seaside and 1 to 2 t stones on the crest. A 4.0 m wide toe-berm consisting of 2 to 3 t stones are provided at el. +3.2 m. A secondary layer consists of 200 to 300 kg stone provided below the armour layer. Core consists of 20 to 50 kg stones are proposed. A layer of geo-fabric filter is provided at the base of seawall in order to avoid leaching of the sand.

A minor modification, if any, would be suggested based on the bed profiles at the time of execution of the work.

It is presumed that the above would meet with your requirements.

Thanking You,

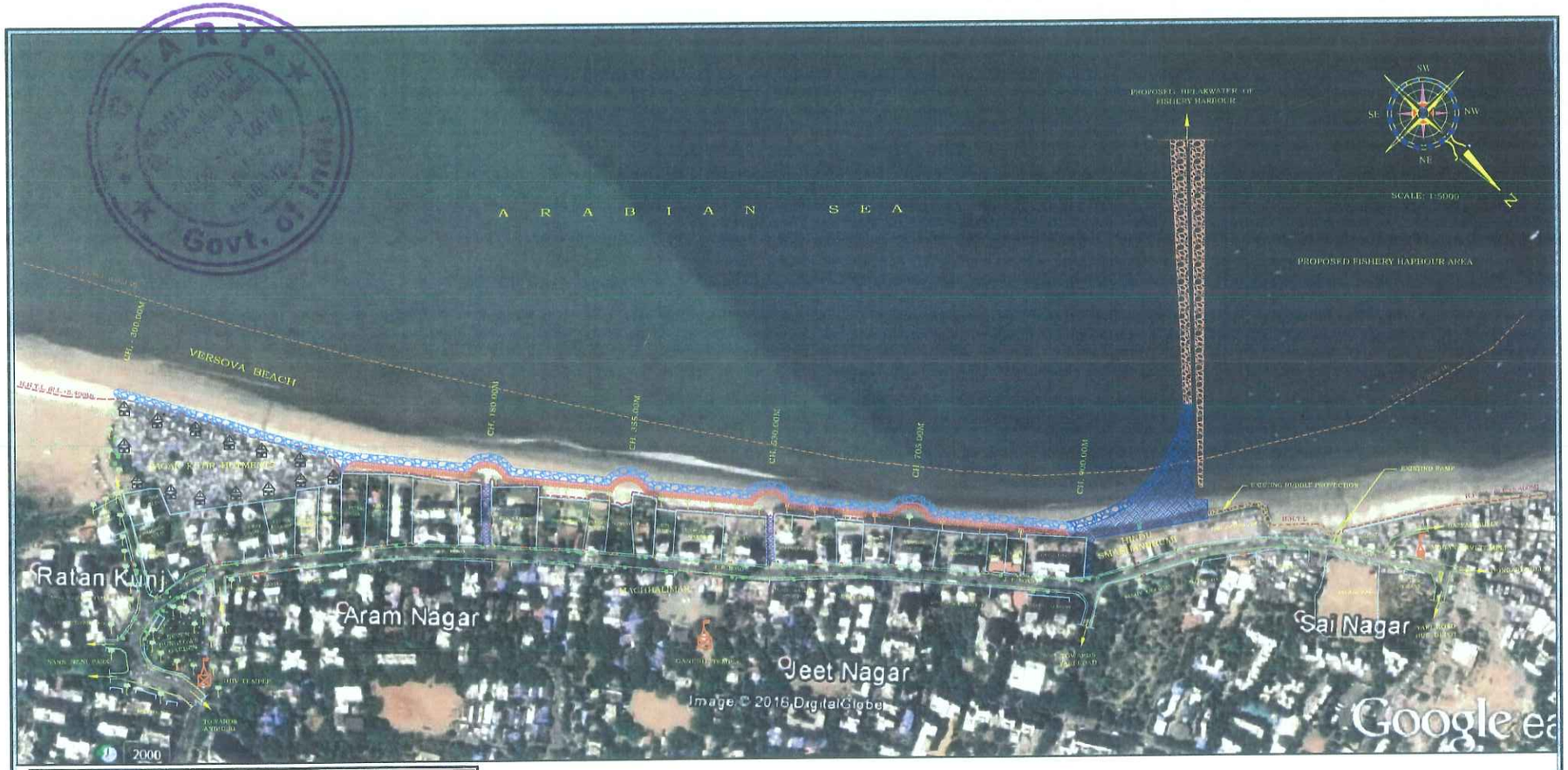
Govt. of India
REKHA K. HOWALE
Dist. Thane, Navi Mumbai
& Raigad
Regd. No.: 15074
Exp. Date
16/10/2024

Yours faithfully,

11/4/16

(M.D. Kudale)
Additional Director

Encl: Fig.1 to 5

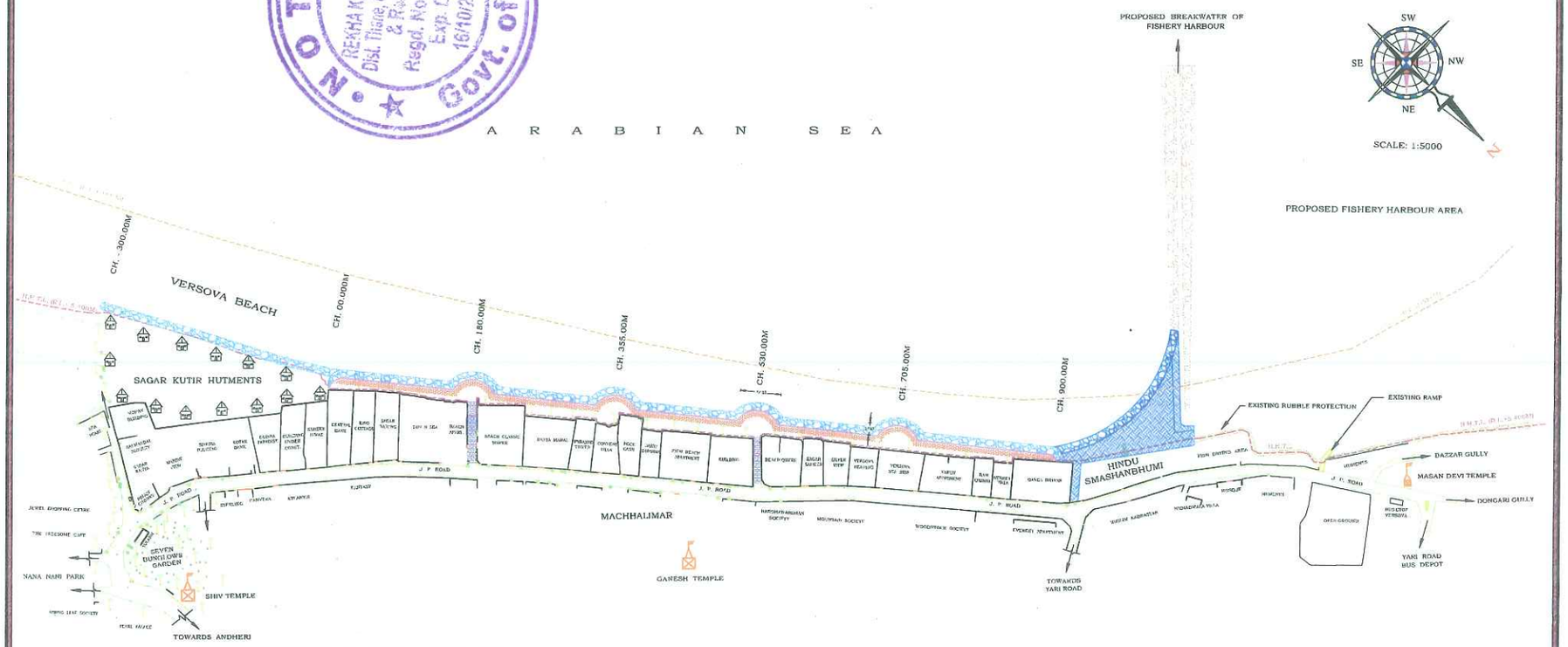


LEGENDS :

1. ALIGNMENT OF PROPOSED C. C. PROTECTION WALL SHOWN THUS
2. ALIGNMENT OF PROPOSED ANTI SEA EROSION BUND SHOWN THUS
3. LOCATION OF PROPOSED APPROACHES TO PROMENADE SHOWN THUS
4. ALIGNMENT OF PROPOSED PATHWAY / PROMENADE SHOWN THUS
5. SPACE FOR PROPOSED BEAUTIFICATION ALONG PATHWAY SHOWN THUS
6. LOCATION OF BREAKWATER OF PROPOSED HARBOUR SHOWN THUS
7. LOCATIONS OF TEMPORARY BENCH MARK (T.B.M.) SHOWN THUS
8. ALIGNMENT OF EXISTING ROAD TO VERSOVA VILLAGE SHOWN THUS
9. COMPOUND WALL BOUNDARY OF EXISTING BUILDINGS SHOWN THUS
10. ALIGNMENT OF EXISTING RUBBLE PROTECTION WORK SHOWN THUS
11. HIGHEST HIGH TIDE LINE / LEVEL (R.L + 5.400M) SHOWN THUS
12. LOWEST LOW TIDE LINE / LEVEL (R.L + 0.000M) SHOWN THUS

FIG. 1 : LAYOUT PLAN OF COASTAL PROTECTION WORK ALONGWITH PROMENADE FROM SAGAR KUTIR TO MACCHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN (CH. - 300 M to CH. 900 M)

CENTRAL WATER AND POWER RESEARCH STATION, KHADAKWASLA, PUNE-24

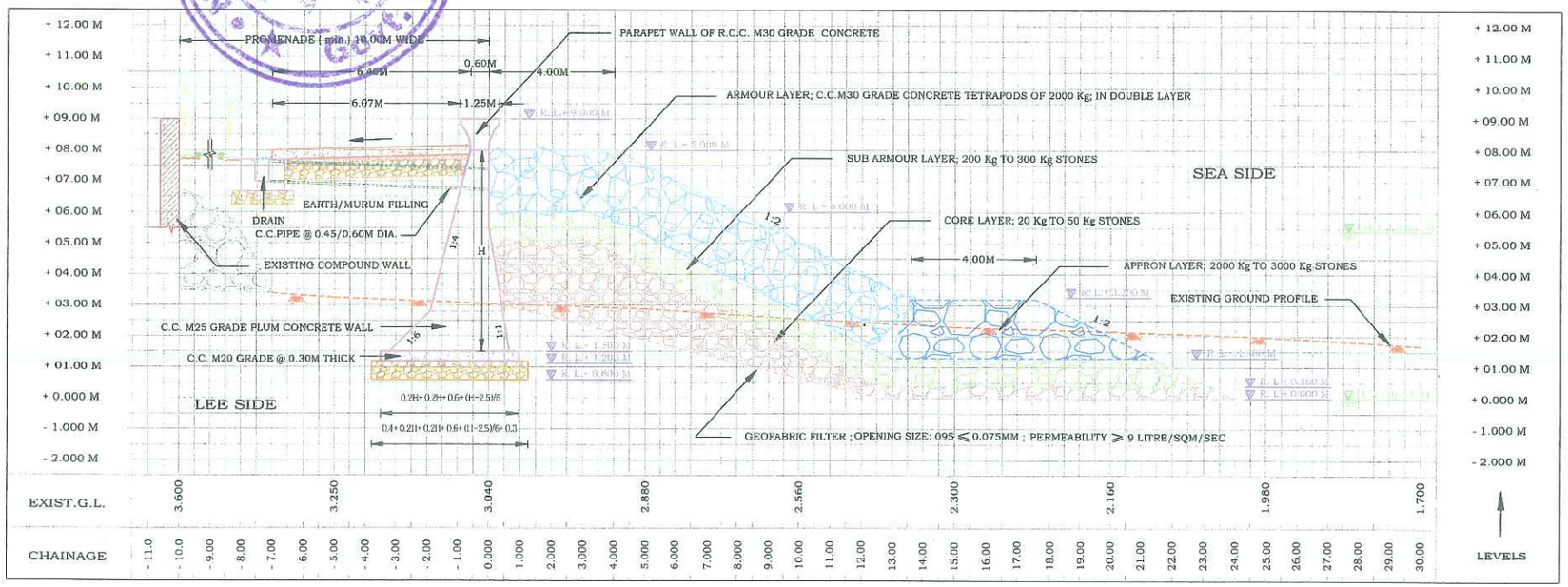


LEGENDS :

1. ALIGNMENT OF PROPOSED C. C. PROTECTION WALL SHOWN THUS
2. ALIGNMENT OF PROPOSED ANTI SEA EROSION BUND SHOWN THUS
3. LOCATION OF PROPOSED APPROACHES TO PROMENADE SHOWN THUS
4. ALIGNMENT OF PROPOSED PATHWAY / PROMENADE SHOWN THUS
5. SPACE FOR PROPOSED BEAUTIFICATION ALONG PATHWAY SHOWN THUS
6. LOCATION OF BREAKWATER OF PROPOSED HARBOUR SHOWN THUS
7. LOCATIONS OF TEMPORARY BENCH MARK (T.B.M.) SHOWN THUS
8. ALIGNMENT OF EXISTING ROAD TO VERSOVA VILLAGE SHOWN THUS
9. COMPOUND WALL BOUNDARY OF EXISTING BUILDINGS SHOWN THUS
10. ALIGNMENT OF EXISTING RUBBLE PROTECTION WORK SHOWN THUS
11. HIGHEST HIGH TIDE LINE / LEVEL (R.L + 5.400M) SHOWN THUS
12. LOWEST LOW TIDE LINE / LEVEL (R.L + 0.000M) SHOWN THUS

FIG. 2 : LAYOUT PLAN OF COASTAL PROTECTION WORK ALONGWITH PROMENADE FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN
(CH. - 300 M to CH. 900 M)

CENTRAL WATER AND POWER RESEARCH STATION, KHADAKWASLA, PUNE-24



TYPICAL CROSS SECTION AT CH. 630.00 M

SCALE 1: 200

GRADATION OF STONES :

2000Kg TO 3000Kg STONES ..... 50% MORE THAN 2500Kg STONES

200Kg TO 300Kg STONES ..... 50% MORE THAN 250Kg STONES

20Kg TO 50Kg STONES ..... 50% MORE THAN 35Kg STONES

NOTES :

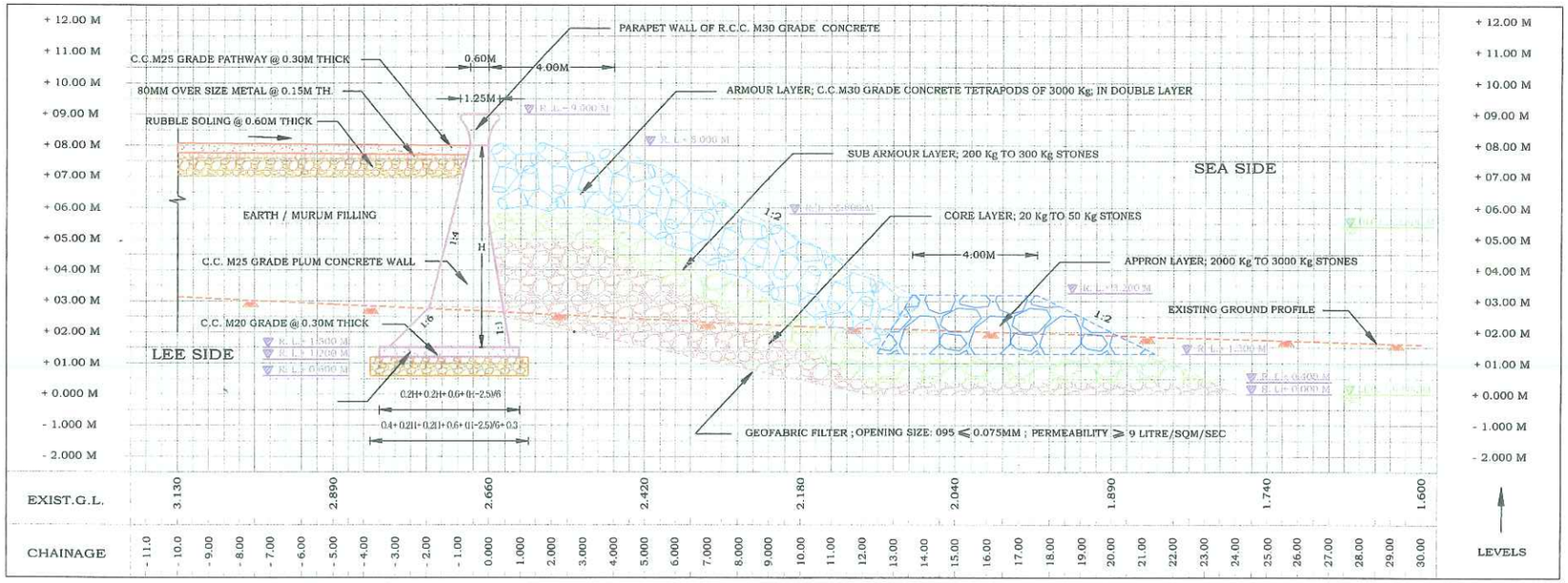
ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN METRES

ALL LEVELS SHOWN ARE WITH RESPECT TO CHART DATUM

FIG. 3 : DESIGN OF COASTAL PROTECTION WORK ALONGWITH PROMENADE FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN.

(CH. 0M to CH. 900M) [FOR STRAIGHT PORTION]

CENTRAL WATER AND POWER RESEARCH STATION, KHADAKWASLA, PUNE - 24



TYPICAL CROSS SECTION AT CH. 530.00 M

SCALE 1: 200

GRADATION OF STONES :

2000Kg TO 3000Kg STONES ..... 50% MORE THAN 2500Kg STONES

200Kg TO 300Kg STONES ..... 50% MORE THAN 250Kg STONES

20Kg TO 50Kg STONES ..... 50% MORE THAN 35Kg STONES

NOTES :

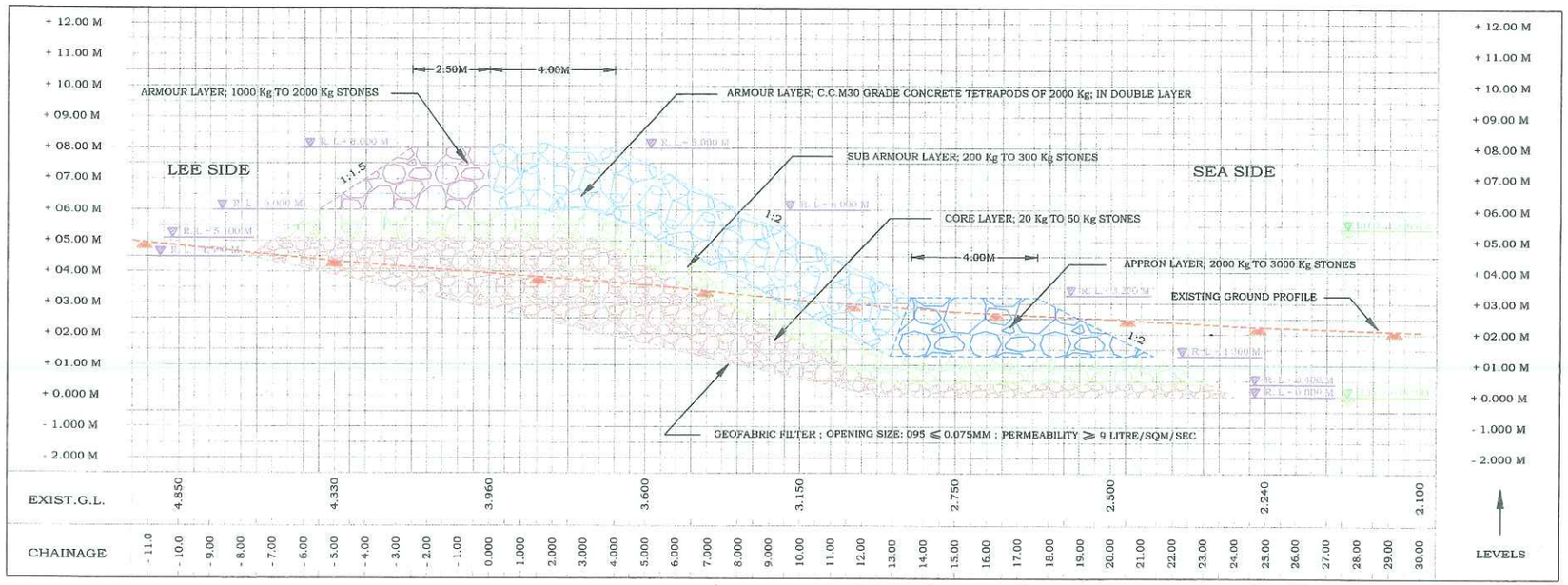
ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN METRES

ALL LEVELS SHOWN ARE WITH RESPECT TO CHART DATUM

FIG. 4 : DESIGN OF COASTAL PROTECTION WORK ALONGWITH PROMENADE FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN.

(CH. 0M to CH. 900M) [FOR ROUNDED PORTION]

CENTRAL WATER AND POWER RESEARCH STATION, KHADAKWASLA, PUNE - 24



TYPICAL CROSS SECTION AT CH. - 30.00 M

SCALE 1: 200

GRADATION OF STONES :

2000Kg TO 3000Kg STONES	.....	50% MORE THAN 2500Kg STONES
1000Kg TO 2000Kg STONES	.....	50% MORE THAN 1500Kg STONES
200Kg TO 300Kg STONES	.....	50% MORE THAN 350Kg STONES
20Kg TO 50Kg STONES	.....	50% MORE THAN 35Kg STONES

NOTES :

ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN METRES

ALL LEVELS SHOWN ARE WITH RESPECT TO CHART DATUM

FIG. 5 : DESIGN OF COASTAL PROTECTION WORK OF SAGAR KUTIR AT VERSOVA, IN MUMBAI SUBURBAN.

(CH. 0M to CH. - 300M)

CENTRAL WATER AND POWER RESEARCH STATION, KHADAKWASLA, PUNE - 24

I

"EXHIBIT" - I

RAPID ENVIRONMENTAL IMPACT ASSESSMENT REPORT

FOR

PROPOSED CONSTRUCTION OF ANTI SEA EROSION BUND AT [redacted]

BEACH FROM SAGAR KUTIR TO HINDU SAMSHANBHOOMI

PROJECT BY

PWD- HARBOUE ENGINEERING DIVISION, GOVERNMENT OF MAHARASHTRA.

PREPARED BY

FINE ENVIROTECH ENGINEERS

102, HIREN INDUSTRIAL ESTATE, MOGUL LANE, MAHIM (WEST), MUMBAI – 400 016

JANUARY 2017

Table of Contents

CHAPTER 01

CHAPTER 01
INTRODUCTION TO REPORT

1.1 INTRODUCTION

Public Works Department has a glorious history in the state of over 150 years. It is mainly entrusted with construction and maintaince of roads, bridges and government buildings. The department also acts as the technical advisor to the State Government. Initially, the works pertaining to Irrigation, Roads and Bridges as well as constructions cum maintenance of Public Buildings were entrusted to this department In the year 1960 a separate "State of Maharashtra" came in to existence and thereafter this department by way of reorganization divided into two distinct Departments viz. Irrigation Department & Building and Communication Department. In the year 1980 the housing function were looked after by yet another separate Department and existing Public Works Department continued to get established.

Public Works Department of Govt. of Maharashtra primarily executes the following different vivid development works.

- Construction of New Roads & Bridges.
- Maintenance and repairs of existing Roads and Bridges.
- Construction of Govt. buildings.
- Maintenance and Repairs of existing Govt. buildings.
- Undertaking Deposit Contribution works relating to different Departments of Govt. of Maharashtra as well as of other Local Bodies
- Resettlement works due to Natural calamities like flood, earthquakes etc.
- Construction of Road's under Employment Guarantee Scheme.
- Construction of Helipads for Very Very Important Person's visits wherever required.
- Fixation of rent of Private premises requisitioned for housing Govt. offices.
- Designs, construction, maintenance and repairs of runway relating to the Aviation Department.
- Development of Parks and Gardens in the vicinity of important Public Buildings and landscaping of grounds in order to transform into garden
- Reservation of Govt. Rest Houses and Circuit Houses.
- To undertake auction sale of fruit trees along the roadsides.

- To permit construction of approaches on both sides of roads to private individual, other institutions, factories, Petrol Pumps etc.
- To allow irrigation drains, electricity lines, telephone duct cables etc. along and across the roads.
- To evacuate the encroachment coming along the road sides
- Issue of certificates periodically to Cinema Houses about stability of structures / arrangement related to electrical fittings conforming to Cinema Regulation Act.
- Issues of certificate for lift operating in Private Buildings.
- To lease out the Govt. land for Exhibition/Circus or other purposes etc. temporarily.
- Plantation of trees along both sides of the road

1.2 ABOUT PROJECT

The Anti Sea Erosion Bund project will be implemented by Public Works Department – Harbour Engineering Division (N), Konkan Bhavan. The Anti Sea Erosion Bund, Approach road work is proposed to be developed from Sagar Kutir to Hindu Smashanbhumi at Versova in the suburbs of Mumbai. The length of the project is approximately 1.2 km.

1.3 SIGNIFICANCE OF THE EIA STUDY

Environmental Impact Assessment (EIA) of a project ensures accountability of all the environmental impacts of the various project activities right from the stages of project initiation. The study incorporates the various environmental issues into planning and design stages of the project. It further guarantees the initiation of the various steps for minimization of the identified project impacts and assures a careful consideration of the different project alternatives. An exhaustive EIA process is inclusive of the various steps as described below:

a) Screening
b) Scoping and consideration of alternatives
c) Baseline data collection
d) Impact prediction
e) Assessment of alternatives, delineation of mitigation measures and environmental impact statement
f) Environmental Management Plan
g) Decision – making
h) Monitoring the clearance conditions

The Rapid EIA of the proposed project is undertaken to achieve the following goals:

- Identification of the various project activities and their potential impacts on the Environment.
- Generation of a comprehensive information database for the project planning team on the nature of Environmental risks posed by the project activities, such as human health effect, habitat loss, pollution levels, and change in land use pattern among other issues.
- Improving the overall decision-making process and ensuring that project options under consideration, are environmentally sound and sustainable.

The key objectives of the study are delineated as follows:

- Including the viable environmental options into micro planning of the project.
- Providing mitigation measures required for the successful implementation of the overall project.
- Providing an Environment Management Plan for the site, considering the likely environmental issues and mitigative action plans in the near future.
- Providing a Disaster Management Plan for making sound arrangements for emergency preparedness at the time of natural or man-made disasters.

1.4 SCOPE OF WORK

Following inception meeting and various site surveys, the study area for the EIA project was defined. An area within radii of 10 kilometers from the centre point of the project has been fixed to conduct the EIA study.

The EIA study is primarily based on collection of baseline information and assessment of short-term as well as long-term impacts. In order to fulfill these objectives a three-phased approach to the study was followed:

Phase I Data Collection and Description of the Baseline Environment;

Phase II Assessment and Evaluation of potential Environmental Impact of the project;

Phase III: Development of recommendations including an EMP and Disaster Management Plan (DMP) for improving the environmental features of the project on a long term.

The three phases of the Environmental Impact Assessment study includes the various activities/tasks for exhaustive coverage of the various issues and concerns for the project site. The description of each task has been done in the following sections in accordance with the Environmental Impact Assessment guidelines of Ministry of Environment & Forests, Government of India.

1.5 APPROACHES AND METHODOLOGY

The general approach followed for carrying out the EIA for the project is summarized in the enclosed flow chart on the following page.

1.5.1 Baseline study

Baseline study comprised generation of primary data and collection of secondary data. Primary survey including environmental monitoring conducted for above period to gather information on the following environmental attributes.

- Air quality in respect of SPM, NO_x, SO_2, CO and RSPM
- Noise Levels
- Water Quality of key physico-chemical parameters
- Soil Quality
- Ecology and Bio- diversity

Secondary data were collected on the following aspects to supplement the primary information in order to assess the baseline environmental setup.

- Geological and physiological characteristics
- Meteorological data – rainfall, humidity, temperature, wind speed and wind direction
- Landuse
- Flora and Fauna (Ecology & Bio- Diversity)

1.5.2 Project Impact Assessment

Impacts of the project on environment both during construction phase and operational phase were assessed against the baseline Bio-physical information and traffic data. Baseline information along with predicted air quality and noise levels data were compared with the National Standards stipulated by regulatory agencies like CPCB and MoEF&CC. Qualitative assessment of the impacts of increased noise level, water and soil pollution due to project on public health, animal and surrounding vegetation has been assessed.

1.5.3 Formulation of Mitigative Measures

The standard MoEF&CC and other guidelines were considered to suggest different / alternative mitigative measures. Trade –off and multi –alternative analysis was to arrive at the most appropriate measures to minimize the negative impacts of the project.

1.5.4 Environmental Management Plan

Environmental Management Plan (EMP) is drawn after identifying, predicting and evaluating the significant impacts on each component of the environment with a view to maximizing the benefits from the project. Post-project Environmental Monitoring programme is also delineated in the report.

1.6 GENERAL STRUCTURE OF ENVIRONMENT IMPACT ASSESSMENT REPORT

Chapter - 1	**Introduction**	This chapter provides purpose of the EIA report, background information of the project, stage of EIA report preparation, and scope, methodology and brief outline of EIA report.
Chapter – 2	**Description of the Project**	This chapter provides the following details: ▪ Type of project ▪ Need for the project ▪ Project location ▪ Project details including associated activities required for the project.
Chapter - 3	**Baseline Environmental Status**	This chapter presents the information on study area, information on existing environmental resources, findings of field studies undertaken to establish the baseline environmental status and has been organized into the following sub-sections: ➢ Air Environment ➢ Biological Environment ➢ Noise Environment ➢ Socio-economic Environment ➢ Water Environment ➢ Land Environment

Chapter - 4	**Anticipated Environmental Impacts & Mitigation Measures**	This chapter details the identification, prediction and evaluation of impacts on each resource. The impacts of "the project" are predicted using available computer models during construction and operational phase. The significance of impacts is determined based on applicable environmental guidelines. It describes the overall impacts of the proposed project and identifies the areas of concern, which need mitigation measures.
Chapter - 5	**Environmental Monitoring Program**	Technical aspects of monitoring the effectiveness of mitigation measures (Measurement methodologies, frequency, location, data analysis, reporting schedules, emergency procedures, detailed budget and procurement schedules)
Chapter - 6	**Additional Studies**	This chapter includes Disaster management Plan; Risk Assessment.
Chapter - 7	**Project Benefits**	This chapter explains the improvements in the physical infrastructure and social infrastructure and employment potential.
Chapter - 8	**Environmental Management Plan (EMP)**	This chapter provides recommendations for Environmental Management Plan (EMP) including mitigation measure for minimizing the negative environmental impacts of the project. Environmental monitoring requirements for effective implementation of mitigation measures during construction as well as operation of the project has also been delineated along with required institutional arrangements for their implementation. Budgetary cost proposed for pollution mitigation and environmental management are also provided.
Chapter- 9	**Summary of Observations and**	This Chapter summarizes the key issues and certain recommendations based on EIA study for successful implementation & execution of the proposed project.

	Recommendations	
Chapter - 10	**Disclosure of the Consultants Engaged**	This chapter explains the names of the consultants engaged with the brief resume and the nature of the consultancy engaged.

CHAPTER 02

CHAPTER 02
PROJECT DESCRIPTION

2.1 INTRODUCTION

Coastal erosion is the wearing away of land and the removal of beach or dune sediments by wave action, tidal currents, drainage or high winds. Waves generated by storms, wind or fast moving motor craft, cause coastal erosion, which may take the form of long-term losses of sediment and rocks, or merely the temporary redistribution of coastal sediments; erosion in one location may result in accretion nearby. To overcome this situation and to reduce erosion it is essential to construct an Anti Sea Erosion Bund at the site.

Harbor Engineering division, Versova, have proposed to construct Anti Sea Erosion Bund on Versova coast under State Finance and Sought advice of CWPRS for the design of coastal protection works.

2.2 NEED FOR THE PROJECT

Due to high tidal condition erosion occurs in large quantity at Versova beach. There exists old bund at site which now seems completely damaged. The bund is no longer in condition to protect the adjacent structure and locality. The stretches from Sagar Kutir to Hindu Shamshanbhoomi seems completely disturbed. This has lead to erosion of beach resulting in damage to compound wall of adjoin buildings. During high tides, there is risk of entering of waves to the adjoin buildings causing damages.

2.3 PROJECT DETAILS

Anti Sea Erosion (ASE) Bund is to be constructed from Sagar Kutir to Hindu Samshanbhoomi with approach road. Total Length of ASE bund is 1200 meter and Project area = 48000 sq. m. The proposed sea bund will be start from Sagar kutir hutments (CH. – 300.00M) and End at Hindu smashanbhoomi (CH. 900.00). If possible, the loose stones from the existing protection near in front of the compound walls has been proposed to reutilize by shifting towards sea side of proposed concrete sea wall and laying as per the design of coastal protection work received from CWPRS Pune. Futher the coastal protection design from CWPRS had been finalize (Fig 2.1). Based on the design, the following provisions are considered in the detailed estimate.

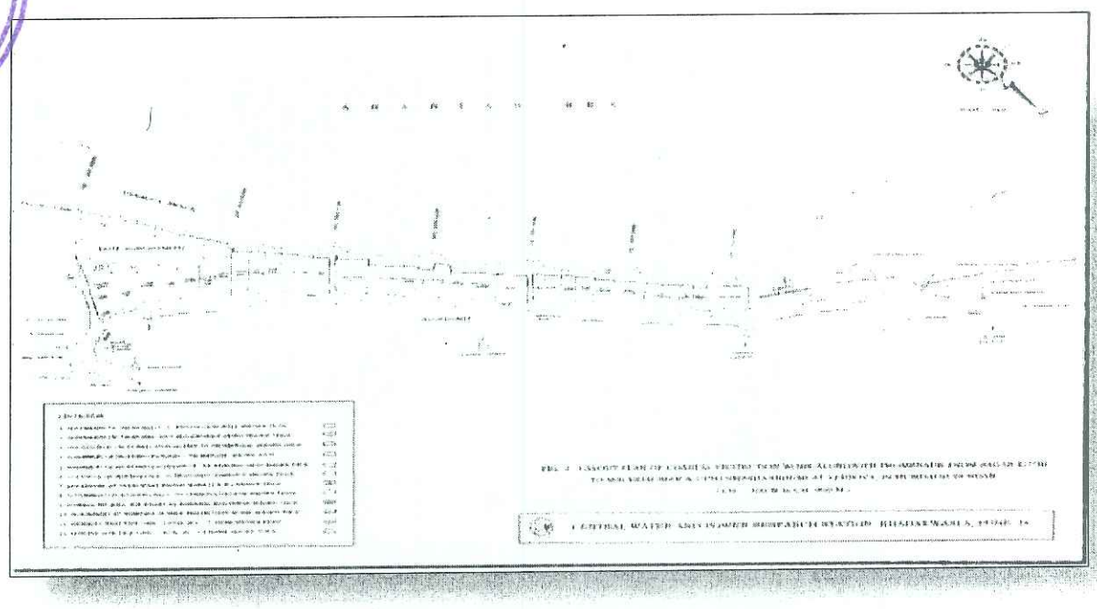


Figure 12.1 The coastal protection design from CWPRS.

Based on the design, the following provisions are considered in the detailed estimate. Provisions are as follows-

- Excavation for foundation in earth, soil of all type, sand, gravel and soft murum.
- Construction of cement Concrete protection wall.
- Supplying and spreading geofabric filter layer of Geo-textile of polypropylene multifilament woven
- Supplying and lying trap stone weighing up to 200 kg to 300 kg for Sub armout laying.
- Providing Laying trap stone weighing 1000 to 3000 kg for apron/Armour layer.
- Providing / laying 2 to 3 MT C.C.Tetra Pod for armour layer.
- Construction of C.C pathway (promenade) along sea shore.

2.3.1 Project Location

Proposed Anti Sea Bund Alignment starts from Sagar Kutir to Hindu Shamshanbhoomi at Versova beach as shown in Fig 2.2 below.

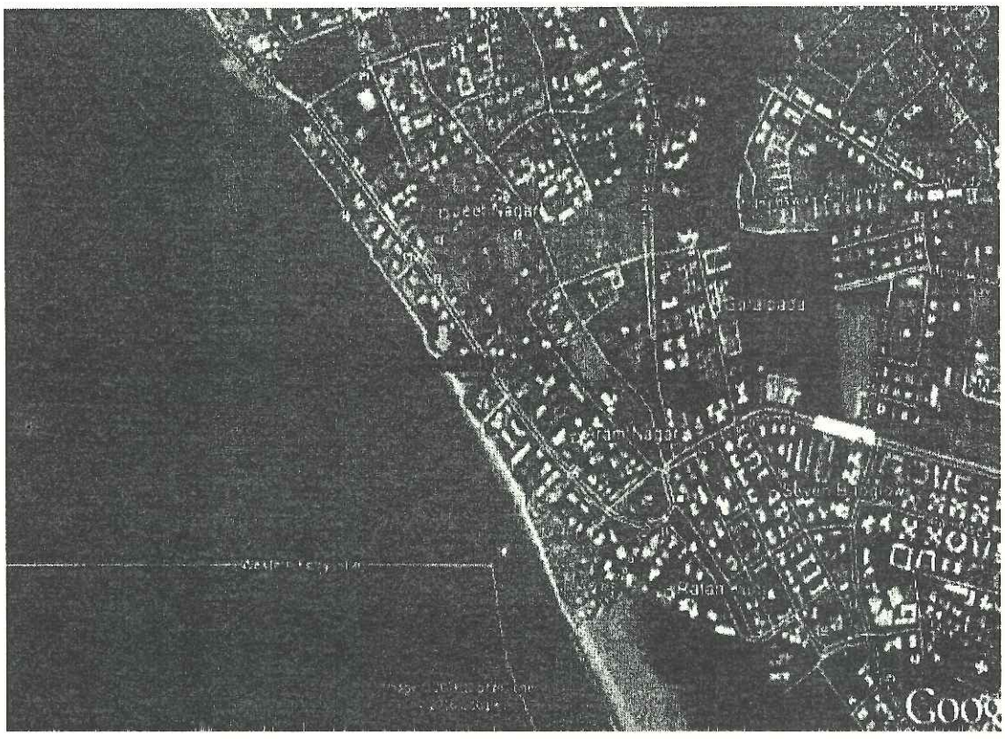


Figure 2.2 – Location of proposed Anti Sea Erosion Bund

2.3.2 Project Description

2.3.2.1 Project Layout

The Proposed Anti Sea Erosion Bund will be constructed along the western coast on Versova Beach from Sagar Kutir to Hindu Samshanbhoomi with approach road (CH. - 300.00M TO CH. 900.00M). The length of the alignment is around 1200 meters with two approach road. Comprising an area of 48000 sq. m. The superimposed Google image of proposed location is given as Fig 2.3 below.

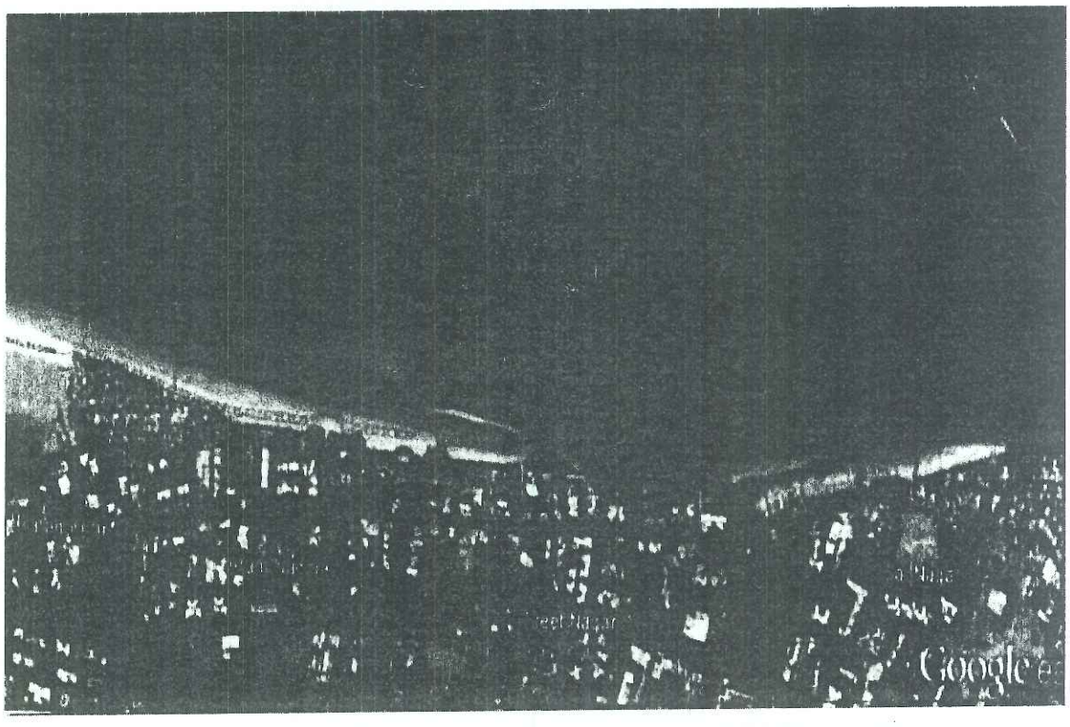


Figure 2.3 - Google image showing Anti sea erosion bund layout Plan

The design of the coastal protection wall along with promade from Sagar kutir to Smashanbhumi at Versova. (CH. 0M to CH. 900M) (For Rounded Portion) A and (For Straight Portion) B show in Figure 2.4 A & B respectively.

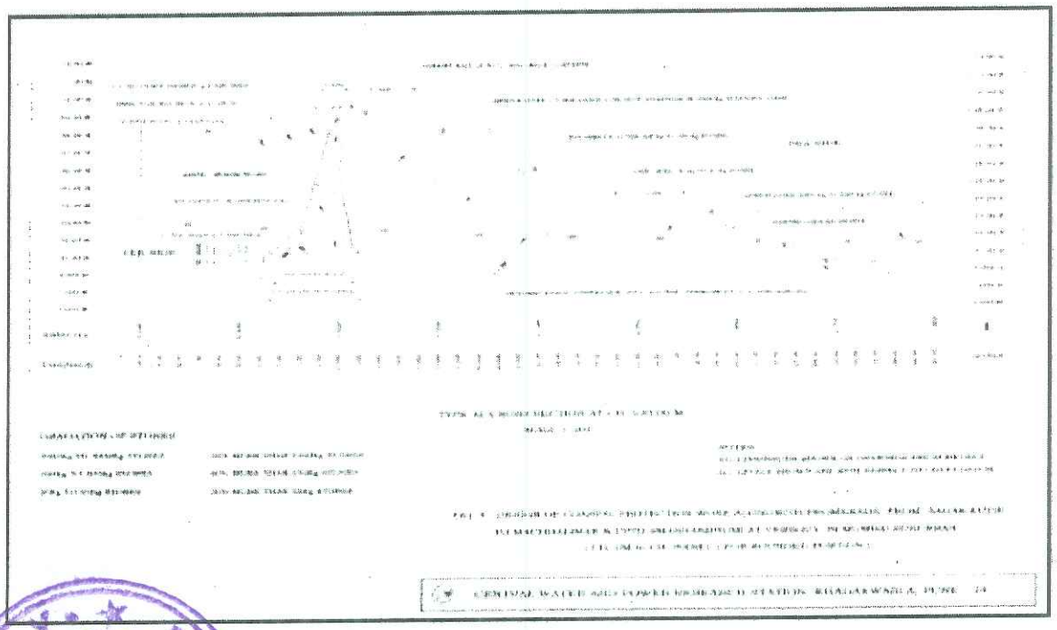


Figure 2.4 A layout plan Typical Section at CH. 530.00M (For Rounded Portion)

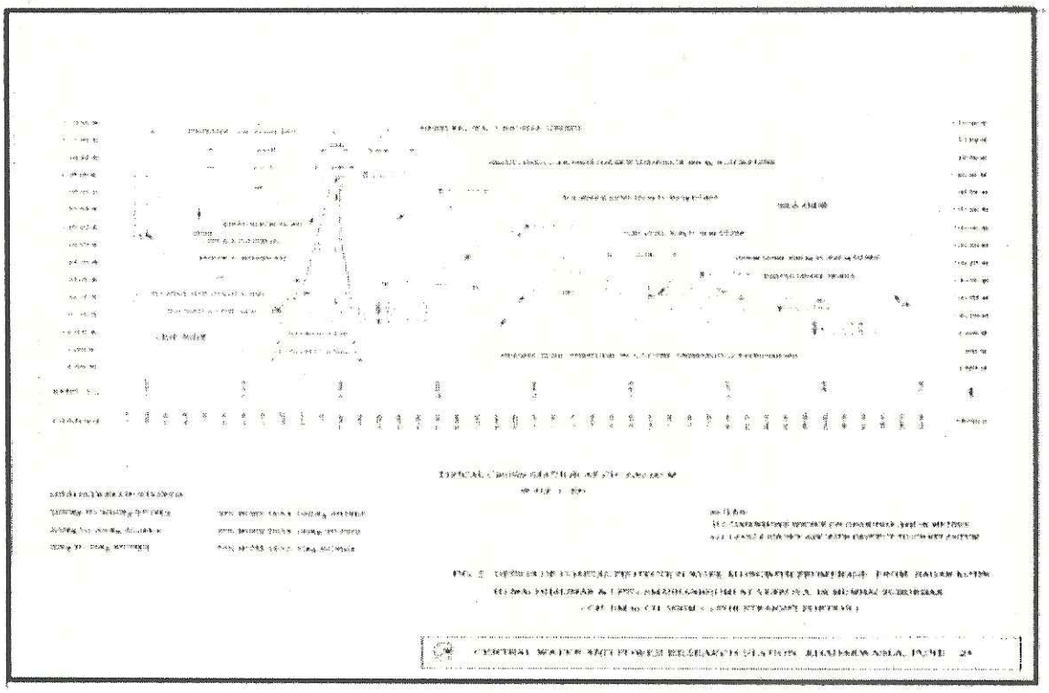


Figure 2.4 B layout plan Typical Section at CH. 630.00M (For Straight Portion)

The existing approach road at CH. 180.00M and CH. 530.00M will be renovate according to layout plan. Fig 2.5 shows the typical Section of Approach road.

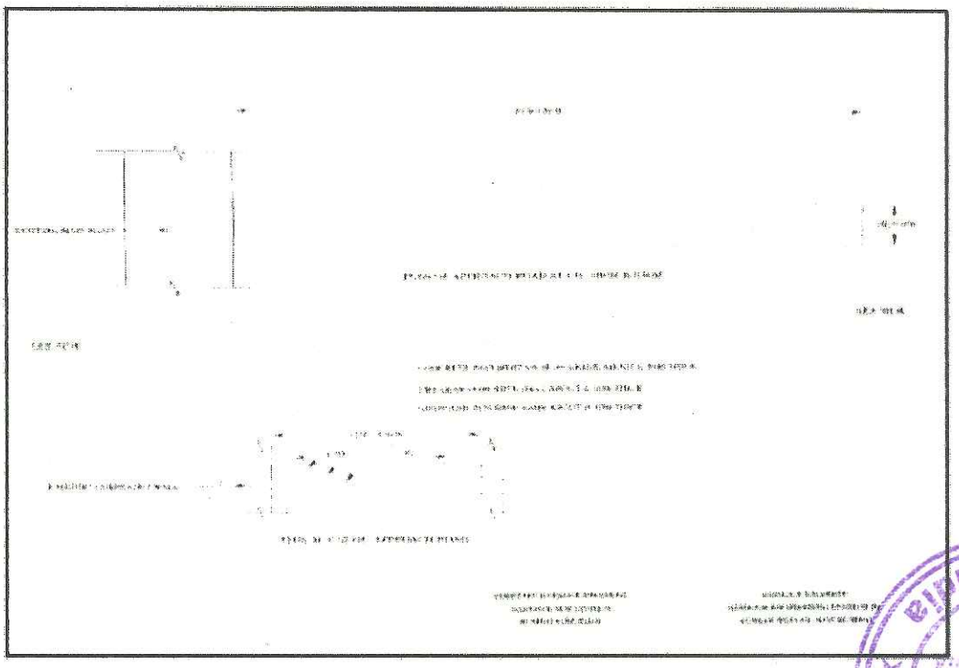


Figure 2.5 - Typical Section of Approach Plan

2.3.3 CRZ Status

The proposed project falls under CRZ I and CRZ II. The proposed anti sea bund falls under CRZ I area while the approach road connected between beach and existing Versova - JP road falls under the CRZ II. The CRZ map of proposed sea bund is given as Fig 2.6.

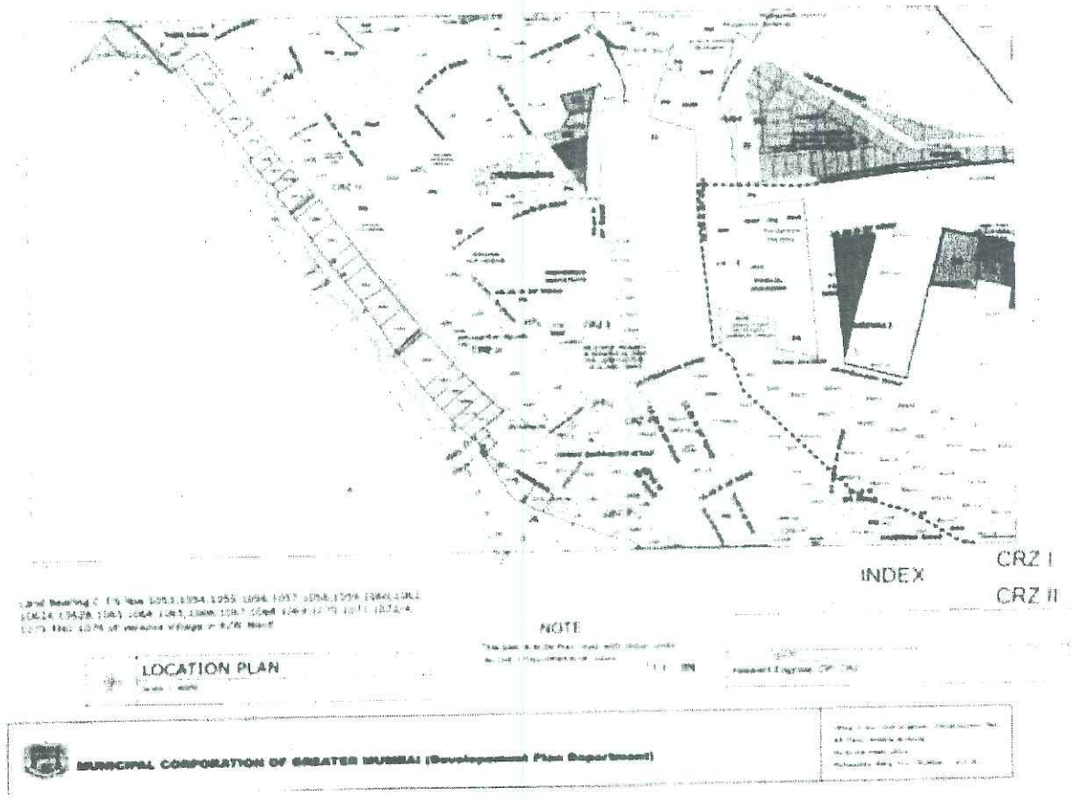


Figure 2.6 – CRZ Map of proposed Sea Erosion Bund

2.3.4 Project cost

The estimated cost of the project of Anti Sea Erosion Bund at Versova is 55 cr.

2.4 UTILITIES

2.5.1 Raw Materials

- **Geofabric filter layer of Geo-textile of polypropylene multifilament woven**
  Supplying and spreading geofabric filter layer of Geo-textile of polypropylene multifilament woven to the line, level and grade with pore size less than 0.075 mm and permeability greater than 9.5 liter/ sq.m./sec.

- **Filter of polythene cement bags filled with sand**
  Providing and spreading Filter of polythene cement bags filled with sand obtain from excavation of foundation including conveying and placing in proper line, level.

- **Laying trap stone weighing up to 20 kg for Filter/core layer.**
  Supplying and laying trap stone up to 20 kg for filter/ core layer including quarrying conveying with all the leads, lift, laying in required line, level

- **Laying trap stone weighing 50 kg to 100 kg for core laying**
  Supplying and laying trap stone 50 to 100 kg for apron/Armour layer including quarrying conveying with all the leads, lift, laying in required line, level, slope including necessary equipments and machinery, such as cranes for adequate capacity & boom length

- **Laying trap stone weighing 500 to 1000 kg for apron/Armour layer.**
  Supplying and laying trap stone 500 to 1000 kg for apron/Armour layer including quarrying conveying with all the leads, lift, laying in required line, level, slope including necessary equipments and machinery, such as cranes for adequate capacity & boom length

2.5.2 Land Requirement

Total Length of ASE bund is 1200 meter and Project area is 48000 sq. m. The proposed sea bund will be start from Sagar Kutir hutments (CH. – 300.00M) and End at Hindu Smashanbhoomi (CH. 900.00).

2.5.3 Water Requirement

Total water requirement for construction work is 16m3/day which will be

2.5.4 Power Requirement

DG sets will be used for power generation

CHAPTER 03

CHAPTER 03
BASELINE ENVIRONMENT

3.1 SCOPE OF WORK

This section of the report gives description of the existing Environmental Studies within the project area, which constitutes the baseline for the study. Natural conditions are often critical when designing and constructing infrastructure works. The assessment of baseline studies of the appropriate environmental parameters, which may be affected by the project implementation, is a pre-requisite for any Environmental Impact Assessment (EIA) study.

In order to investigate likely impacts due to commissioning of proposed project, the consultants, **M/s Fine Envirotech Engineers** carried out estimation of impacts based on data generated, secondary data as well as literature studies.

M/s Envirocare Labs. Pvt. Ltd., MoEF approved laboratory have been engaged to carry out environmental monitoring and analysis. The monitoring surveys of the study area (project area) has been carried out for one season i.e. from March, 2016 to May, 2016. Field monitoring for meteorological conditions, ambient air quality, water quality, noise quality, etc. has been carried out, which constitutes major portion of the baseline environmental studies.

The impact due to construction of Anti Sea Erosion Bund on existing baseline of environmental parameter will be Negligible and of temporary in nature. These are further controlled and minimized by adopting various mitigative measures. These aspects have been studied with reference to the proposed project and baseline data has been presented in this chapter. These details have been given in the following sections.

EIA is often mandatory requirement for planning of infrastructure and marine structures. The EIA determines the environmental consequences of the project prior to construction, assessment of environmental impact due to construction, its impact on existing baseline environmental parameters and also importantly on land use and socio-economic parameters. The entire data has been collected through actual physical surveys and observations, literature surveys, interaction with locals, government agencies and departments. This chapter

describes the baseline environment settings in the area and will throw light, its effect on day-to-day environment.

3.2 BASELINE ENVIRONMENTAL STATUS

In order to assess the existing environmental status in the project area, primary and secondary data on various environmental attributes viz. air quality, noise levels, water quality, soil, ecology, land use etc. have been collected and presented in the following paragraphs. The entire project area is divided in to various environmental segments in order to establish baseline environmental study. The various locations selected on the merits of environmental settings are indicated in the following **Table 3.1.**

Table 3.1: Environmental study area

SR. NO.	STUDY LOCATION
1.	Versova Beach
2.	Seven Bungalow (Near police chowky)
3.	Near Renaissance Club
4.	Juhu Koliwada
5	St Josept High school
6	Perry Road
7	Daravali village
8	Mukteshwar mandir

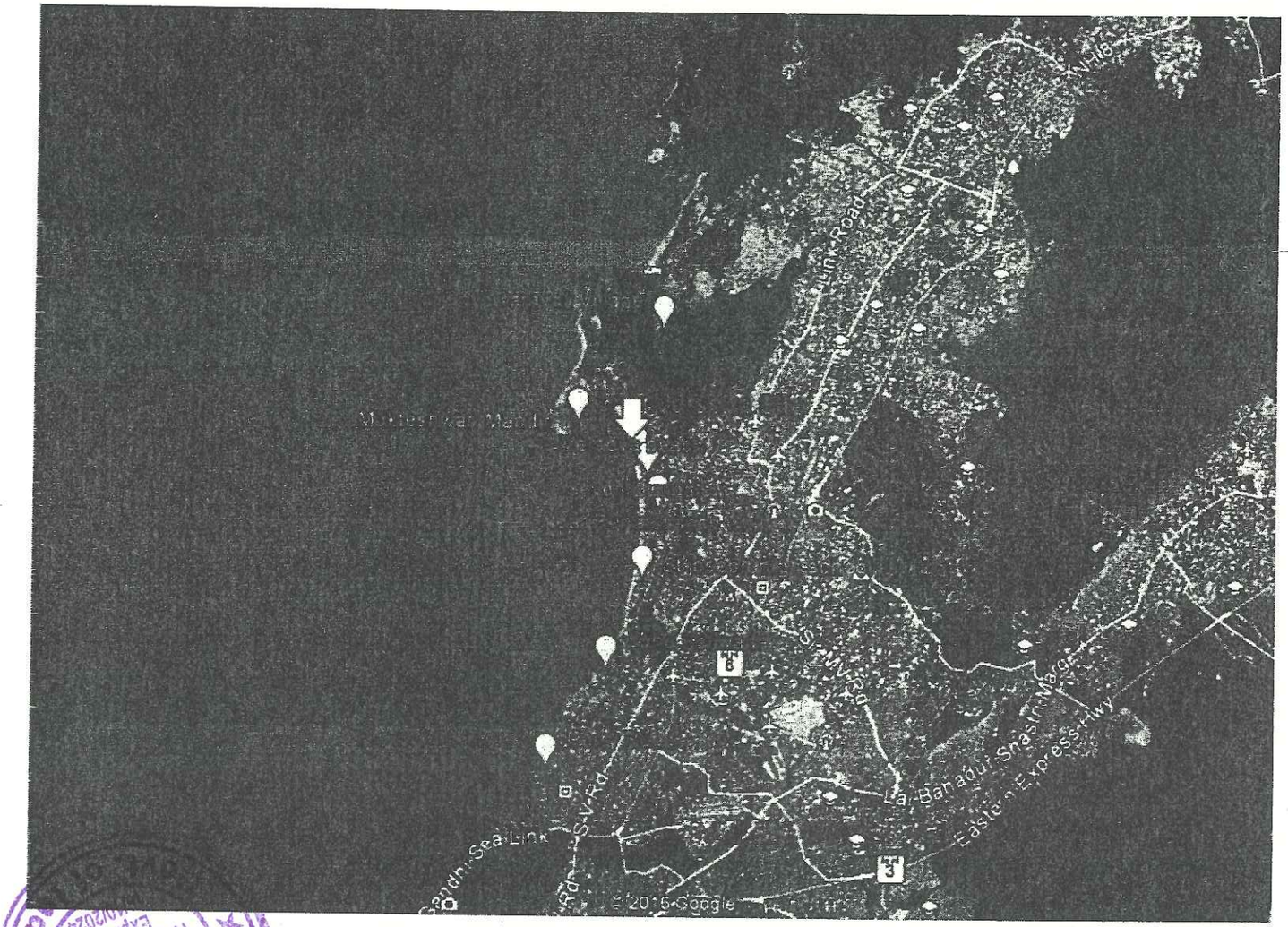


Fig 3.1: Sampling locations

Table 3.2: Environmental Settings

Sr. No	Parameters	
1.	Air	PM 10, PM 2.5, SO_X, NO_X, CO
2.	Water	pH, DO, PO_4, NO_3, Phytoplankton, zooplankton
3.	Noise	Noise Levels

3.3 TOPOGRAPHY & GEOLOGY

3.3.1 Topography

The proposed Anti Sea bund alignment is start from sagar kutir to Hindu smashaan bhoomi on the versova coast of Mumbai. The Versova beach is relatively flat from the entrance (i.e. access road) to the high water mark. The gradual slope appears to continue out to sea for some distance.

3.3.2 Geology

Geology of Mumbai is part of the geology of the Deccan traps that formed by the eruptions to rapidly cover a large part of the Indian Peninsula (at present extends over 500,000 sq. kms.) the volcanic eruptions around the Mumbai area occurred in shallow lagoon conditions and thus most of the lava flows. Due to sub-aqueous eruptions of the lava, the basalt was converted to spilite, as a result of the metasomatic changes. Some of the lava flows developed pillow structure and some became brecciated to form volcanic breccia. Such sub-aqueous volcanic breccia may be described as Hyaloclastic. There were intermediate and acid rocks formed as trachyte intrusive and rhyolie flows.

In the study area, sandy beach is present with small patches of rock along the coast of versova. Prominent beaches could be seen along the coastline. Sediment thicknesses in these beaches are not very high.

3.3.3 Climate

The historical data collected from India Meteorological Department (IMD) and other secondary sources to represent the metrological conditions of the project area has been reviewed and presented below for various attributes such as Temperature, Wind, Cloud cover, Humidity, Rainfall, Cyclone, and Visibility.

3.3.4 Temperature

India Meteorological Department (IMD) records indicate that the area experiences tropical coastal climate. The moderating effects of the nearby sea and the fairly high amount of relative humidity in the atmosphere have restricted the variability. The seasonal variations of temperature follow closely the course of the sun. January is invariably the coldest month and May the warmest. With the onset of monsoon in early June there is a reversal of the temperature curve and the temperature during the period of monsoon remains very nearly uniform at about 27^0C. The slight rise in temperature in October falls gradually till it reaches the coldest month in January. Based on past data, the mean daily temperature during the year varies from 24^0C to 33^0C. Highest recorded temperature is 40.6^0C.

During the study period the temperature recorded along the transect for one season. In December the minimum temperature recorded was 19.1 °C and maximum was 36.9 °C. In January the temperature minimum was 18.1 °C and maximum 34.1 °C. No much difference was observed in the month of February the max was 18.0 °C and minimum 33.9 °C.

3.3.5 Humidity

The Relative Humidity (RH) ranges between 61% to 87% in the monsoon period. Between November to January i.e. in the winter months, the relative humidity varies from 57% to 72%. The Relative Humidity generally is higher than 60% throughout the year.

The humidity during December varied from minimum 55% to maximum 80% while in January it was minimum 57% to maximum 82 % and in February the variation in humidity was observed from a minimum 55% to maximum 81%.

3.3.6 Cloud Cover

Skies are mostly overcast during the monsoon months i.e. starting from May right till September. During the winter and the post monsoon season's skies are generally clear. Maximum numbers of overcast days are observed during the month of May.

3.3.7 Rainfall

Monsoon generally sets in around the second week of June and continues till late September. July and August are the wettest months all over the region. There is hardly a day without rain,

in these two months. Towards the later part of the season, there are breaks in between, when the oppressive hot weather is associated with high humidity along the coast. The average rainfall in the region is nearly 2000 mm.

3.3.8 Visibility

The visibility in this area is normally good except high peaks of hills which are not visible clearly from a distance of more than 5 km. Foggy condition prevail during winter and heavy rains. As per the atmospheric visibility data obtained from IMD, the number of days during which visibility is poor (upto 4 km) are very few. Visibility is 4 to 10 km during 25% of the days in the year. The number of days with poor visibility is maximum during the month of December.

3.4 AIR QUALITY

The Anti sea erosion bund is proposed to be constructed from sagar kutir to shamshaan bhoomi to protect the building compound walls along the versova coast from erosion. The baseline Ambient Air Quality data of the region has been obtained. Air quality monitoring was carried out at Eight locations along the proposed project area in one season.

a) Selection of Monitoring Stations

The Versova Anti sea eroision bund is proposed to be constructed from sagar kutir to shamshaan bhoomi along the Versova coast on existing Sea bund. The stations selected were the along the western coast of Mumbai with in 10km radius of proposed project.

b) Monitoring Methodology

Monitoring of ambient air quality was carried out as per CPCB guidelines. The analysis of various air parameters were carried out using Indian Standards. The method used for analysis of Particulate Matter (PM10) is IS 5182 (part IV), for Respiratory suspended particulate matter (PM2.5) is IS 5182 (part-23). The concentration of SO2, NOx and CO was analyzed carried out as per IS 5182 (part II), IS 5182 (part VI) and IS 5182 (part X). the analysis of Pb is done as per the method in APHA P&CAM 155. Ambient Air Quality Standards stipulated by CPCB are presented in **Table 3.2**

Table 3.3: Ambient Air Quality Monitoring Standards

Pollu tant	Time Weighted Average	Concentration in Ambient Air	
		Industrial, Residential, Rural and other areas	Ecologically Sensitive areas notified by Central Government
Sulphur Dioxide (SO_2) ($\mu g/m^3$)	Annual Average*	50	20
	24 hours**	80	80
Oxides of Nitrogen (NOx) ($\mu g/m^3$)	Annual Average*	40	30
	24 hours**	80	80
Particulate Matter (PM10) ($\mu g/m^3$)	Annual Average*	60	60
	24 hours**	100	100
Particulate matter (PM2.5) ($\mu g/m^3$)	Annual Average*	40	40
	24 hours**	60	60
Carbon Monoxide (CO) (mg/m^3)	8 hours**	02	02
	1 hour	04	04
Lead (Pb) ($\mu g/m^3$)	Annual Average*	0.50	0.50
	24 hours**	1.0	1.0

Table 3.4: Average Ambient Air Quality Monitoring Results

Station Code	AAQM Station	PM_{10} (µg/m3)	$PM_{2.5}$ (µg/m3)	Sox (µg/m3)	Nox (µg/m3)	CO (µg/m3)	Pb (µg/m3)
AQ1	Versova beach	85.20	42.6	26.14	23.34	<0.40	<0.01
AQ2	Seven Bungalow	88.20	39.10	24.50	28.96	<0.40	<0.01
AQ3	Near Renaissance Club	73.40	49.58	29.40	27.12	<0.40	<0.01
AQ4	Juhu Koliwada	58.40	51.32	29.52	22.14	<0.40	<0.01
AQ5	St Josept high school	50.00	41.90	25.10	28.12	<0.40	<0.01

AQ6	Perry road	64.11	39.85	22.31	25.63	<0.40	<0.01
AQ7	Daravali Village	59.80	40.59	24.87	27.13	<0.40	<0.01
AQ8	Mukteshwar mandir	45.45	46.24	21.84	23.65	<0.40	<0.01
Permissible Limits		100.00	60.00	80.0	80.00	2.00	1.00

The air quality monitoring was done at all the locations mentioned above for 48 hours. The data presented is average for 24 hours. The average of the suspended particulate matter (PM 10) along the alignment is 158.20 $\mu g/m^3$ with a minimum of 145.45$\mu g/m^3$ near Mukteshwar mandir and maximum of 189.4 $\mu g/m^3$ near Juhu Koliwada.

The average respiratory suspended particulate matter ($PM_{2.5}$) along the alignment was 72.6 $\mu g/m^3$. The highest average values were 79.8 $\mu g/m^3$ near Perry road and average minimum of 66.2 $\mu g/m^3$ near Mukteshwar mandir.

The average SO_x and NO_x values at project site were 25.4 $\mu g/m^3$ and 25.7 $\mu g/m^3$ respectively. The recorded values of NOx and SOx along the transect is much below the permissible limits.

The CO values recorded at all the locations is < 0.4 mg/m^3 while lead was < 0.01 $\mu g/m^3$. These parameters are well below their permissible values. Their presence in the air shall be further reduced as vehicular emission will be reduced as there will not be any congestion on the road.

3.5 WATER QUALITY

Marine ecosystem covers a major part of Mumbai island. The marine waters are an important ecological environment. The marine waters harbor vast varieties of plant (mainly algae), animals like zooplanktons, shrimps, oyster, fishes etc. This system receives huge quantity of untreated domestic as well as industrial waste from terrestrial system directly from coastal region and indirectly by rivers from inland region.

The detailed marine ecological survey carried out to establish the existing status of marine waters. The studies were carried out along the transect in the month of March 2016, April 2016 and May 2016. Water was collected at the prime locations that the entry and exit point of the proposed construction and at the locations where dispersal points at planned.

3.5.1 Physico Chemical Parameters

The physico chemical characteristics were observed at various location along the transect. The data is representated in the Table 3.5.

Table 3.5: Average Physico Chemical Water Quality

Parameters	Versova Beach	Juhu Koliwada	Mukteshwar mandir
pH	7.61	7.75	7.32
Total Dissolved Solids (mg/lit)	40920	41120	40241
Dissolved Oxygen (mg/lit)	3.2	3.9	3.4
Biological Oxygen Demand (mg/lit)	13.6	13.1	12.7
Chemical Oxygen Demand (mg/lit)	32	28	30
Phosphates (µg/lit)	2.5	2.1	2.2

The pH of the waters observed along the transect is in the range of 7.32 to 7.75. No variation is observed in the waters along the transect. This could be due to mixing of the water.

The dissolved oxygen (DO) levels in water samples ranged from 3.2 mg/l to 3.9 mg/l. the variation may be due to biological and chemical process in the sea. The BOD and COD in the water with a maximum BOD of 13.6 mg/l and minimum 12.7 mg/l while COD levels recorded at was max 32 mg/l and min 28 mg/l.

3.6 NOISE QUALITY

The noise level monitoring has been carried out at eight locations mentioned below in table no.3.6. The average values for the season along the study area are given below. The table indicates that the noise level is below the standard levels.

Table 3.6: Permissible Noise Level (CPCB Standards)

Area	Category of Area	Permissible Limit	
		L_{eq} Day time	L_{eq} Night time

A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Table 3.7: Average Noise Levels observed along project site

Station Code	Location	Day time dB(A)	Night Time dB(A)
NL 1	**Versova beach**	64.23	54.85
NL 2	**Seven Bungalow**	61.02	53.56
NL 3	**Near Renaissance Club**	65.74	58.52
NL 4	**Juhu Koliwada**	62.56	56.51
NL 5	**St Josept high school**	58.15	56.32
NL 6	**Perry road**	65.23	54.12
NL 7	**Daravali Village**	64.85	55.14
NL 8	**Mukteshwar mandir**	64.56	55.37

3.7 BIOLOGICAL CHARACTERISTICS

The study of biological characteristics of a water body is important as it determines the standing crop biomass and productivity of the water body. As a part of the study, the bacterial count, phytoplankton and zooplankton were studied along the transect. The results are shown in the table 3.8.

Table 3.8: Average plankton population density

Parameters	Phytoplankton / 100ml	Zooplankton / 100ml	Total Viable Count
Versova Beach	2.8	24	2.3
Juhu Koliwada	3.1	21	5.3
Mukhteshwar Mandir	3.0	21	5.1

- **Phytoplankton**

The study of phytoplankton is important as they are the primary producers in the water body. They are the autotrophs of the sea that entrap the sunlight in their chloroplast and produce energy through the process of photosynthesis. The phytoplankton production is necessary for zooplankton productivity as well as fisheries. The phytoplankton population observes along the transect ranged from 2.8 x 10^2/ l to 3.1 x 10^2/l. The most dominant species observed were *Nitzschia spp. Skeletonema spp* and *Navicula.*

A total of 11 genera of phytoplankton were recorded. The most dominat species observed are *Skeletonema costatum* and *Nitzschia closterium* which are known pollution indicators of the sewage water.

Table 3.9: Phytoplanktons observed along project site

Sr. no.	Phytoplankton
1.	Skeletonema costatum
2.	Nitzschia closterium
3.	Oscillatoria cholrina
4.	Thalassiosira subtilis
5.	Spirulina major
6.	Chaetoceros decipiens
7.	Melosira sulcata
8.	Asterionella japonica
9.	Navicula spp
10.	Ditylum
11.	Gyrosigma

- **Zooplankton**

Zooplankton community comprises a heterogeneous assemblage of many animals of various taxonomic groups in a marine ecosystem. The distribution of zooplankton varies with the physico chemical factors of the environment in which they thrive.

Zooplankton are microscopic free floating animal component of the plankton community. The zooplankton population observed during the study period ranged from 21/l to 24./l . The zooplankton species observed were Copepods, foraminiferans, fish larvae.

Table 3.10 : Zooplankton observed along project site

Sr. No.	Name of the species
I	**Copepoda**
1	Acartia sipinicuda
2	A centrura
3	A pacifia
4	Paracalanus aculeatus
5	Eucalanus spp
II	**Decapods**
1	Lucifer
2	Acetes
3	Penaeid larvae
4	Zoea larva
5	Megalopa larva
III	**Chaetoganths**
1	Sagitta spp
IV	**Others**
1	Foramoniferans Fish eggs
2	Fish larvae
3	Isopods
4	Salps
5	Siphonophores

- **Benthos**

The intertidal zone is dynamic zone at the interface between sea and terrestrial environment. The life in the zone is influenced by the physical factors like waves, temperature and light and by anthropogenic disturbances. The low population density of the benthic organisms around Mumbai has been recorded. The main attributes for the low population is the

increasing level of anthropogenic stresses that has restricted the number of fauna in Mumbai coast.

Impact during construction phase

During construction of Sea bund disturbance to the sea bottom is unavoidable. However this disturbance would be temporary and limited to intertidal region only. Construction of such structure modifies the relationships of benthic communities, changing the existing biodiversity in the area and creating a new local ecosystem. Change in the substrate causes change in the benthic ecology. The Benthic organism found in the study area includes the commonly occurring local species. Moreover proper mitigation measures shall be taken such as soft-scraping of the upper layer of sea-bottom and relocation to another site, which is conducive for reproduction of benthic fauna.

The construction work phase would increase temporarily the water turbidity. This could affect marine flora (Phytoplankton specially) because of a decrease in the possible received light. There may be temporary decrease or change in the faunal population due to disturbance caused by construction activities. Therefore during construction phase minimum and temporary impact is envisaged on the local benthic species at the project site which are reversible in nature.

Impact during Operational phase:

Ceasing of disturbance after completion of construction activities restores the benthic life gradually. Change in bottom surface changes benthic ecology. Construction of sea bund would replace sandy bottom with hard rock structure and provide a new artificial substrate which helps to develop a new habitat for marine organisms. This would help colonize species that require hard surface to grow upon. These structures can attract specific benthos species generating changes in the previous benthic associations by the colonization of these new substrates. Infaunal habitat may get replaced by epifaunal community of organisms such as barnacles, oysters, sponges and other marine invertebrates associated with hard bottom habitat. Therefore operational phase would not pose significant impact on benthic fauna.

- **Total Viable Count**

Total Viable Count (TVC) gives a quantitative idea about the presence of microorganisms i.e the number of colony forming units in the sample. The total viable count was in the range of 2.3 to 5.3.

- **Fishery Potential**

The fishery data of the region has been collected through secondary sources only. Versova is one of the landing centres in Mumbai. The fish landed along the coast are generally belonging to *Mugil spp, Cynoglossuss spp, Sillago sihama*, sciaenids, cat fish and prawn. Reports and studies carried out by CMFRI have reported a decrease in the fishery potential of the Versova creek. This is mainly due to discharge of sewage into the creek area. The indiscriminate discharges have changed the colour of the water and reduced the oxygen content in the waters. Low oxygen content was also observed in our studies. Thus there is no major fishery potential in the study transect.

3.7 SOCIO-ECONOMIC FACTOR

The project being construction of anti erosion sea bund would not alter socio-economic situation of the region. However the sea bund will stand as an effective measure of protection for people residing in the coastal region and structures from high waves caused during bad weather.

CHAPTER 04

CHAPTER 04
ENVIRONMENTAL IMPACT ASSESSMENT

4.1 INTRODUCTION

This chapter deals with the assessment of project impacts on environment. Mitigative measures are suggested to minimize the likely negative impacts. An environmental management plan is also suggested along with an estimate of environmental costs as an input for evaluation the economic feasibility of the project.

The project will have impacts of varying magnitude on different environmental components. These impacts could be categorized as

- Primary impacts, i.e. impacts which occur as a direct result of the project activities,
- Secondary and tertiary impacts, i.e. impacts that occur as a result of primary impacts.

Impacts could occur during the construction phase as well as during the operational phase. Impacts during these phases are discussed separately in this chapter.

SIGNIFICANT ENVIRONMENTAL IMPACTS AND MITIGATIVE MEASURES

In view of the above study, we will sub divide the key environmental factors into 2 groups:-

- In respect of existing status
- In respect of construction phase

4.2 AIR ENVIRONMENT

During construction phase, suspended particulate matter is the main pollutant generated during the site development activities such as excavation activity, transportation of construction material to the project site from various sources, operation of DG sets etc.

Mitigation Measures

Ambient air quality at all the sites was monitored for baseline conditions. The results are already presented in the report. Looking in to the results it is estimated that air quality may not be further deteriorated due to development of this project.

- Barricades along the periphery of the site.

- Covering the trucks to control the Fugitive emission (SPM).
- Proper measures such as sprinkling of water on the ground at regular intervals to reduce the spreading of the dust particles.
- Water sprinkling during construction phase to reduce spreading of dust particles.
- DG set as per CPCB norms, Proper Maintenance, proper & safe storage of fuel.

4.3 NOISE ENVIRONMENT

The major source of noise during the construction phase is operation of construction equipment and pilling work. The operation of this equipment will generate noise ranging between 70-85 dB (A). The significant source of noise pollution is the machinery used for construction and vehicular movement.

Mitigation Measures

Hence, no significant impact is envisaged due to the operation of the noise generating equipment at the project site, if suitable mitigation measures are adopted.

- Noise barriers in will be provided around construction site
- Signboards along the approach roads to avoid unusual use of horns and also for avoiding idling noise.
- Ear Plugs for Laborers.
- Work was carried out only during day time to avoid noise pollution at night times.
- DG set: as per CPCB norms, acoustic enclosure for noise control.

4.5 WATER ENVIRONMENT

During construction phase, water required for construction of structures, sprinkling on roads for dust suppression, that too only during daytime. Construction water requirement met through local authority and drinking water requirement for workers is provided through drinking water tanker.

Mitigation Measures

To prevent degradation and maintain the quality of the water source, adequate control measures have been proposed to check the surface run-off, as well as uncontrolled flow of water into any water body.

- Proper construction methodologies were adopted in order to avoid turbidity problem.

- No discharge of wastewater to soil and ground water body.

4.6 ECOLOGY AND BIODIVERSITY

There will not be any major impact on the terrestrial ecology of the project site due to construction activities. However, it will prevent coastal erosion at the Versova beach.

4.7 SOCIO-ECONOMIC ENVIRONMENT

The stretches from Sagar kutir to Hindu Shamshanbhoomi seems completely disturbed. This has lead to erosion of beach resulting in damage to compound wall of adjoin buildings. During high tides, there is risk of entering of waves to the adjoin buildings causing damages.

4.8 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

CONSTRUCTION PHASE			
Sr. No	**Project Related Issue**	**Action to be Taken**	**Responsible Organisation**
1	Noise Level	➢ Stationary equipment will be placed as far as possible form inhabited areas to minimize objectionable noise impacts ➢ Proper maintenance machinery and vehicles ➢ Construction activities to be prohibited between 10 pm and 6 am near habitation ➢ Provision of ear plugs to workers being exposed to high noise levels from construction equipments ➢ Solid barrier along habitation.	Contractor and PWD
2	Air Quality	➢ Vehicles and machineries will be regularly maintained so that emissions conform to National and State Standards. ➢ Vehicles carrying construction material will be covered by traps to avoid spilling and blowing by wind ➢ DG sets will be provided with stack of appropriate height ➢ Site will be barricaded in order to control dust	Contractor and PWD

OPERATION PHASE
Operation phase would not cause any major impact on environment. Sea bund in turn would protect coastal population, structures from damage caused by high waves during bad weathers. Moreover it would also protect beach from erosion. Therefore construction of Anti erosion Sea bund may cause minimum environmental impact only during construction phase and would not attract need for environmental management after completion of construction activity.

4.9 EVALUATION OF IMPACT

The type and magnitude of the impacts is entirely site specific. In order to logically analyze situation on a probable scale, following standards have been devised for the project under consideration to quantify the impact:

0 = No Impact
- 1 = Negligible
- 2 = Mild
- 3 = Moderate
- 4 = Significant
- 5 = Severe

Utility of the above noted qualitative scale is that it can be used as a method to approximately indicate varying order of caution while dealing with different stretches of the project.

TABLE 4.2
List of Possible Environment Impacts due to Proposed Project

Sr. No.	Attributes	Proposed Development Impact Marks	Mitigative measures
1	Project Location	0	No change in land use
2	Soil Slippage	0	Proper soil engineering and foundation designs and structural protection
3	Rock Quarrying	0	Material will be obtained from authorized agencies
4	Air quality	1	Provision of adequate monitoring during operational phase, no changes

			in this line during construction period due to proper mitigative measures.
5	Water Quality	1	No Wastewater generation
6	Noise Quality	1	Proper noise control management plan during construction period, noise barriers in terms of thick vegetation proposed.
7	Land use	0	No change in land use pattern
8	Reduction in built habitation of structures	0	Not Applicable
9	Displacement of population	0	No displacement
10	Heritage / Archaeology	0	No such structures within the project area.
11	Socio - economy	0	No impact on socio-economic condition
12	Loss of Environmental Aesthetics	0	Positive impact due to control of sea erosion

Note: The total negative impact is only 3 where severe most could have been 5 x 12 = 60. So negative impact is 5% to positive impact is 95%. As the total negative impact of the project is only 5%, therefore, it can be concluded that this is an environment friendly project.

CHAPTER 05


NOTARY
Govt. of India
REKHA K. MOHALE
Dist. Thane Regd. Mumbai
& Raigad
Regd. No.: 15074
Exp. Date:
16/10/2024

CHAPTER 05
ENVIRONMENTAL MONITORING PROGRAMME

5.1 THE NEED

Monitoring is an essential component for sustainability of any developmental project. It is an integral part of any environmental assessment process. Any development project introduces complex inter-relationships in the project area between people, various natural resources, biota and the many developing Forces. Thus, a new environment is created. It is very difficult to predict with complete certainty the exact post-project environmental scenario; hence, monitoring of critical parameters is essential in the post-project phase.

Monitoring of environmental indicators signal potential problems and facilitate timely prompt implementation of effective remedial measures. It will also allow for validation of the assumptions and assessments made in the present study. Monitoring becomes essential to ensure that the mitigation measures planned for environmental protection function effectively during the entire period of projects Operation. The data so generated also serves as a data bank for prediction of post-project scenarios in similar projects.

Environmental monitoring during the construction phase shall comprise checking:

- Appropriate permits, certificates, authorizations and
- Compliance with the EMP and governmental regulations

This can be ensured through use of checklists for:

- Site Establishment.
- Monthly Audit.
- Site Closure.
- Environmental Management Plan implementation monitoring during the construction phase.

Monitoring Checklists are given below:

TABLE 5.1

Project Start-Up Checklists

ENVIRONMENTAL ASPECTS	YES/NO	COMMENTS
Personnel on site are environmental aware of various issues of interest		
Telephone numbers of emergency services are available on site		
Solid waste management system has been established at both construction site and labor camp		
Wastewater management system has been establish at both construction site and labor camp		
Necessary fire fighting equipment is available and in good working order.		

Weekly Checklists

ENVIRONMENTAL ASPECTS	YES/NO	COMMENTS
Construction camp is neat and tidy and the laborers facilities are of the acceptable standard.		
Waste collection and removal system is being monitored.		
All construction vehicles are in good working order and have a valid PUC certificates.		
Dust control measures (wherever necessary) are in place and are in working efficiently.		
Noise control measures (wherever necessary) are in place and are effective in controlling erosion.		
Erosion control measures (wherever necessary) are in place and effective in controlling erosion.		

Monthly Checklists

ENVIRONMENTAL ASPECTS	YES/NO	COMMENTS
Environmental Management is reviewed in the monthly review project review meeting at site.		
All new personnel on site are imparted training on Environmental Awareness.		
Construction activities are undertaken according to the approved method statements.		
Fuel flammable material storage areas comply with general fire safety requirements.		
Public complaints have been recorded and dealt with the satisfactory manner.		

5.2 AREAS OF CONCERN

From the monitoring point of view, the important parameters are ambient air quality, noise marine water quality, etc. An attempt is made to establish early warning system, which indicates the stress on the environment, suggested monitoring parameters and programmers are described in the subsequent sections.

5.3 WATER QUALITY

The chemical characteristics of the water quality should be monitored as well as the biological, parameters must be checked for its life sustainability. The parameters to be monitored are as follows:

Water Quality

Physico-chemical parameters

- pH
- Salinity
- Conductivity
- TDS
- Turbidity

- D.O.
- BOD
- Phosphates
- Nitrates
- Sulphates
- Chlorides

Biological parameters

- Phytoplanktons (No. of species and their density)
- Zooplanktons (No. of species and their density)

5.4 AMBIENT AIR QUALITY

Ambient air quality monitoring is recommended to be monitored at eight stations close to the construction sites. The monitoring can be conducted for one season. Monitoring can be conducted twice a week for 4 consecutive weeks. The parameters to be monitored are PM_{10}, $PM_{2.5}$, $S0_2$, NOx, CO, Pb, NH_3, C_6H_6, O_3, As, Ni, B-(a)-P.

5.5 NOISE

Personnel involved in the work areas, where high noise levels are likely to be observed during project construction and operation phases. For such in-plant personnel, audiometric examination should be arranged at least once per year Neighborhood (up to radius of 1 km). It is recommended that during project operation phase, monitoring of sensitive areas like schools and Medicare centers be conducted within a distance of 1 km radius of the site to ascertain noise levels at receptors.

5.6 SUMMARY OF ENVIRONMENTAL MONITORING PROGRAMME

The summary of Environmental Monitoring Program for implementation during Project construction phaseis given in **Tables 5.2**

TABLE 5.2
THE SUMMARY OF ENVIRONMENTAL MONITORING PROGRAM FOR IMPLEMENTATION DURING PROJECT CONSTRUCTION

Sr. No.	Aspects	Parameters to be monitored	Frequency of monitoring	Location
1.	Water	pH, dissolved oxygen,	Once in three months	Boripakhadi

		phosphates, nitrates,		creek
2.	Ambient air quality	PM_{10}, $PM_{2.5}$, $S0_2$, NOx, CO, Pb, NH_3, C_6H_6, O_3, As, Ni, B-(a)-P.	Summer, post monsoon & winter seasons Twice a week for four consecutive weeks per season	8 location
3.	Ambient Noise Quality.	Equivalent noise Levels	During peak construction activities	8 locations
4.	Biological parameters	Phytoplankton Zooplankton	Once in a year	Boripakhadi Creek
5.	Greenbelt Development	Rate of Survival and Growth Of Various Species	Once per Month	Various sites

CHAPTER 06

CHAPTER 06
DISASTER MANAGEMENT PLAN

6.1 INTRODUCTION

A major emergency in a works is one, which has the potential to cause injury or loss of life. It may cause extensive damage to the property and serious disruption both inside and outside the works. It would normally require the assistance of outside emergency services to handle it effectively. Although the emergency may be caused by a number of different factors viz. Plant failure, human error, earthquake, vehicle crash or sabotage, it will normally manifest itself in three basic forms: fire, explosion or toxic release.

6. 2 SCOPE

An important element of mitigation is emergency planning, i.e. recognizing that accidents are possible, assessing the consequences of such accidents and deciding on the emergency procedures, both onsite and offsite, that would need to be implemented in the event of an emergency. Emergency plans are likely to be separate for on as well as off site matters, but they must be consistent with each other, i.e. they must be related to the same assessed emergency conditions. While an on-site plan will always be the responsibility of the works management, different legislation may place the responsibility for the off-site plan elsewhere.

6.3 OBJECTIVE

The overall objectives of the emergency plan will be:

- To localize the emergency and, if possible eliminate to; and
- To minimize the effects of the accidents on people and property.

Elimination will require prompt action by operators and works emergency staff using, for example, fire-fighting equipment, emergency due to collision and submergence etc.

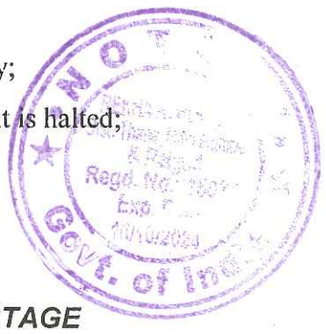
Minimizing the effects may include rescue, first aid, evacuation, rehabilitation and giving information promptly to people living nearby.

6.4 IDENTIFICATION AND ASSESSMENT OF HAZARDS

This stage is very crucial to both on-site as well as off-site emergency planning and requires works management systematically to identify what emergencies could arise in their plant. These would range from small events, which can be dealt with by works personnel without Outside help to the largest event for which it is practical to have a plan.

The assessment of possible incidents should produce a report indicating:

- The worst events considered;
- The route to those worst events;
- The time scale to lesser events along the way;
- The size of lesser events if their development is halted;
- The relative likelihood of events;
- The consequences of such events



6.5 PLANNING DURING CONCEPTUAL STAGE

Proper planning of a DMP at the conceptual stage, although this is also responsibility of individual industry, helps in enhancing the safety of the equipment and worker. This eventually helps to minimize the loss of life and property, which are the direct consequences of accidents. In order to achieve this, following things need to be taken into account

- Risk associated with the proposed facility
- Safety measures
- Siting of facility
- Layout of the facility
- Emergency preparedness and
- Compliance with the regulatory requirements
- Centralized control room
- LAN connecting to all safety concerns

6.6 EMERGENCY PLANNING AND RESPONSE PROCEDURES

Emergency rarely occurs. Therefore, activities during emergencies require coordination of higher order than for planned activities, carried out according to fixed time schedule or on a routine day-to-day basis. To effectively coordinate emergency response activities, an organizational approach to planning is required. The important areas of emergency planning are Organization, Responsibilities, Procedures, Communication and Transport, Resource

Requirements and Control Centre. Developer level emergency plan requires additional planning over and above those considered under above plans, which should be properly integrated to ensure better coordination. The emergency planning includes anticipatory action for emergency, maintenance and streamlining of emergency preparedness and ability for sudden mobilization of all forces to meet any calamity.

6.7 DISASTERS AND RISKS

6.7.1 Introduction

Disasters or risks involved in this project are more likely to occur during construction phase only. This disaster could be natural as well as related to other sources. It is always important to chalk out strategies and planning to overcome these disasters at any given time.

Disasters (Events usually characterized by negative given impact and exceptional demands for intervention) are inevitable. Impact can be substantially reduced the by adequate response, early warning and disaster responses. Disaster Management encompasses out aspects of planning for and responding to disasters and risks including hazard analysis vulnerability reduction (preparedness) prevention, mitigation, response, recovery and rehabilitation. Contingency planning relates to events, which major may not occur and potential responses put in place to prevent or respond to an emergency situation. It applies to management of both risks and consequences of disasters.

Mitigation is action to reduce the consequences of disasters while it may not be possible to prevent disasters, the effects can be modified or a reduced if appropriate steps are taken. Responses can be divided early and late phases. Early responses are rescuing a relief whereas later responses are Rehabilitation and Reconstruction. The first people respond to any disaster are communities/ institution themselves. Their resourcefulness is the key to disaster mitigation.

Thus there is inter- connection between Disaster Management and sustainable development while good Disaster planning minimizes interruption to development, poor responses can divert scares resources, increase dependency and actually increase vulnerability to further disasters.

6.7.2 Anticipated Emergencies or Disasters

The disasters can be classifieds manmade or artificial and natural. Both type of disasters causes' loss of life as well as properties. The anticipated disasters are:

- Accidents Or Medical Emergencies
- Local/Civil Disturbance
- Utility Failure
- Violent Crime Or Behavior
- Health Emergency (Epidemic)
- Weather – Monsoon

6.8 SAFETY MANAGEMENT IN CONSTRUCTION PHASE

- Good housekeeping should be maintained at all situations.
- Safety hemlets, shoes, belts should be given to the workers to avoid the causes of injuries
- Do not interfere with firefighting equipment and electrical circuits
- Proper drinking water and sanitary facilities should be provided to the labour
- Create safety cell with Health and First aid facilities.
- Adequate budget for safety measures for construction phase shall be earmarked
- Standard, quality & timely supply of personnel protective equipment.
- Neat based and adequate safety auditing and training to site management team & others
- Organization for housekeeping and deployment of qualified person.
- Incident and injury free work place.
- Safety promotional activities.
- Availability of recognized health care center.
- Adequate provision of fire prevention systems.
- No child labour.
- No smoking.
- Appropriate badges for identification of staffs, contractors and others.
- Formation of safety committee.
- Monitoring of implementation

6.9 ROLE & RESPONSIBILITIES

6.9.1 Safety Engineer

- Before commencing any work on site, Safety Officer is appointed who will ensure the safety measures at site
- The safety measures to be adopted at the site will be the responsibilities of the Engineer executing the work
- The safety officer will go for safety rounds all over the site every day and advise the concerned Supervisor regarding any unsafe act or condition and the remedial action required will be implemented.
- Safety trainings will be conducted to all workers and staff before they start their work and as well as at regular intervals.
- Those records of trainings will be maintained by safety officer.

6.9.2 Safety Supervisors

Supervisors' play an important part in creating and maintaining safe and healthful work practices, policies, and procedures. It is the supervisor's responsibility to identify potential hazards, identify methods to control or eliminate the hazards, ensure employees engage in safe and healthful work practices, and ensure employees receive safety and health training to do their work. Safety and health performance will be part of our supervisors' evaluations.

6.10 VARIOUS SCENARIOS OF RISKS AND DISASTER IN THE PROJECT

6.10.1 Health hazard during operation of heavy equipment.

Health hazard or accident situation may occur during operation of heavy equipments or stone lifting cranes etc. Proper care needs to be taken during handling of such equipments. Useful instructions, training and guidance to equipment operators need to be provided. However construction activities need to be monitored and coordinated by a key person to avoid unexpected situations.

6.11 IMPORTANT FEATURES OF THE DISASTER MANAGEMENT PLAN

As mentioned above are the few important Disaster scenarios which could bring an emergency in system. The risks involved are of varied nature and requires an immediate attention. Rescue and Relief are two important and early parameters, which are responsive action to any disaster.

6.11.1 Emergency Telephones

Emergency Telephones will be stand-alone and will be available throughout construction of the project. Communication system plays an important role during accident scenario to obtain medical help.

6.11.2 Training and Operational Support

Adequate OHS training will be given to workers for avoiding accidents during construction activity. During construction stage activities will be monitored by responsible key person from safety point of view. Operation of the heavy equipment will be guided by trained person to avoid mishaps.

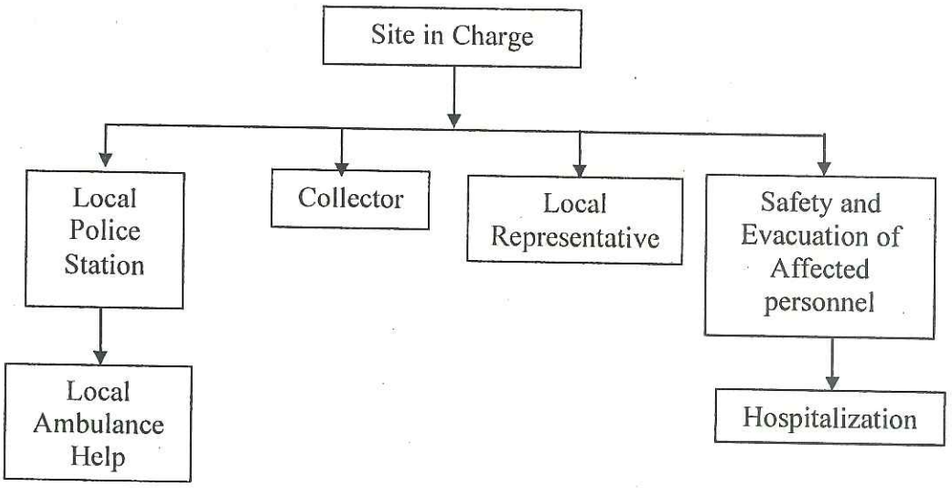


Fig: 6.1 DMP FOR ACCIDENT RISK SCENARIO

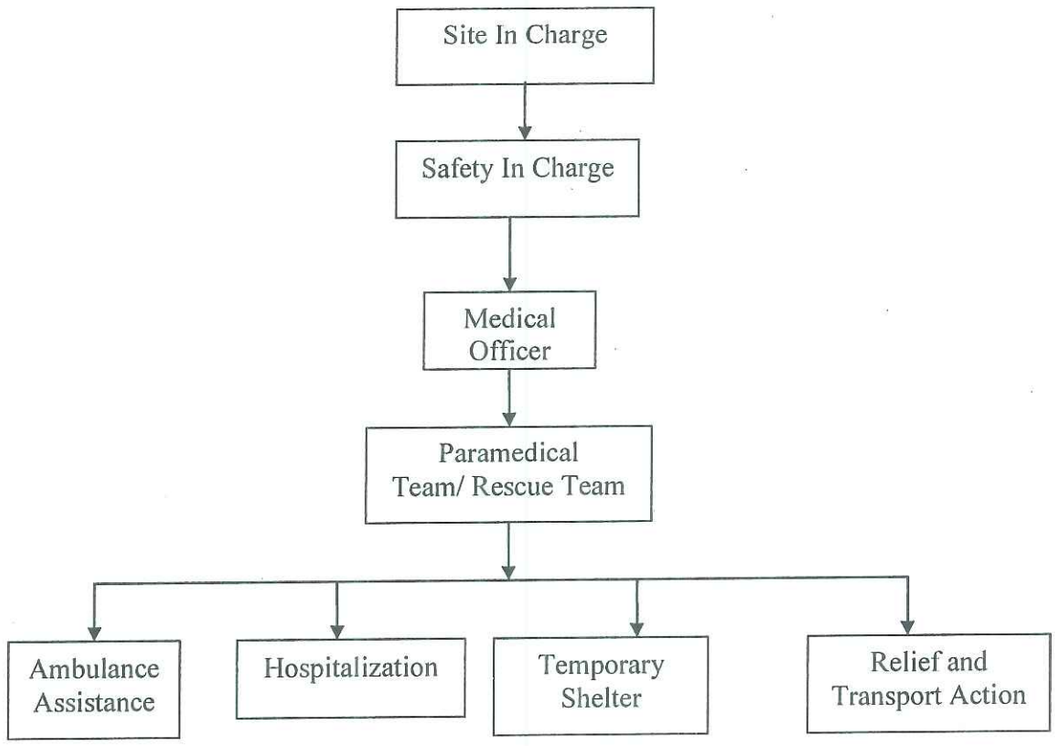


Fig: 6.2 DMP FOR MEDICAL SAFETY SCENARIO

6.12 CONCLUSION

From the type of project and construction methodology it can be concluded that only during construction stage there could be possibility of construction related disasters. Such disasters can be effectively avoided by carrying out construction carefully, guided and monitored by trained personnel. However Sea bund itself is an Disaster Management Plan against emergency situations caused by bad weather conditions. The Anti erosion sea bund will protect the shore from erosion as well as inhabitants and coastal structures from high waves.

CHAPTER 07

CHAPTER 07
PROJECT BENEFITS

7.1 INTRODUCTION

Coastal erosion is the wearing away of land and the removal of beach or dune sediments by wave action, tidal currents, drainage or high winds. Waves generated by storms, wind or fast moving motor craft, cause coastal erosion, which may take the form of long-term losses of sediment and rocks, or merely the temporary redistribution of coastal sediments; erosion in one location may result in accretion nearby. To overcome this situation and to reduce erosion it is essential to construct an Anti Sea Erosion Bund at the site.

Harbor Engineering division, Versova, have proposed to construct Anti Sea Erosion Bund on Versova coast under State Finance and Sought advice of CWPRS for the design of coastal protection works.

7.2 NEED FOR THE PROJECT

Due to high tidal condition erosion occurs in large quantity at Versova beach. There exists old bund at site which now seems completely damaged. The bund is no longer in condition to protect the adjacent structure and locality. The stretches from Sagar Kutir to Hindu Shamshanbhoomi seems completely disturbed. This has lead to erosion of beach resulting in damage to compound wall of adjoin buildings. During high tides, there is risk of entering of waves to the adjoin buildings causing damages.

7.3 PROJECT BENEFITS

Construction of Anti Sea Erosion Bund from Sagar Kutir to Hindu Smashanbhumi, will have following benefits:

- Project will provide protection from the waves and tides to the above said coast.
- Project will prevent coastal erosion at the Versova beach.
- Anti Sea Erosion Bund will prevent the entry of sea water inside the compound wall present on versova coast.

CHAPTER 08

CHAPTER 08
ENVIRONMENTAL MANAGEMENT PLAN

8.1 INTRODUCTION

Impact assessment helps in identifying potentially damaging aspects of a proposed project. Based on the findings of the impact assessment, Environment Management Plan is devised to minimize adverse impacts and enumerated various steps to be taken for improvement of the environment.

However due to no major adverse impact on the Air, Water, Land, Biological Environment due to the project, the Environment Management Plan shall not be very complicated.

All persons working near the noise generation equipments shall use Personal Protective Equipment such as earplugs, earmuffs and closely monitored for implementation. All workers should be made aware of adverse effect high noise levels through training program; this will ensure proper implementation of mitigation majors.

Environmental Management Plan (EMP) is the key to ensure a safe and clean environment. A project may have identified proper mitigation measures but without a management plan to execute it, the desired results may not be obtained. The present chapter on Environment Management Plan envisages proper implementation of mitigation measures to reduce the adverse impacts arising out of the project activities.

The EMP is proactive in nature and should be upgraded if new facilities or modification of existing facilities, with environmental concerns, come up at a larger stage.

EMP included four major elements:

1. Commitment and policy: the project will strive to provide and implement the Environmental Management Plan that incorporates all issues related to air, land and water
2. Planning: this includes identification of environmental impacts, legal requirements, and setting environmental objectives.
3. Implementation: this comprises of resources available to the developers, accountability of contractors, training of operational staff associated with environmental control facilities and documentation of measures to be taken.
4. Measurement and Evaluation: this includes monitoring, corrective actions, and record keeping.

8.2 SUMMARY OF PROBABLE IMPACTS/ ISSUES

Proposed project pertains to construction of anti sea erosion bund at Versova. The construction activities will impact have Air & Noise environment for temporary period. The anticipated impacts due to construction activities are represented in Table 8.1 below.

Table- 8.1 Probable Impacts / Issues

Sr. No	Issues	Description
1.	Ambient Air Quality	During construction air and noise pollution may increase and would require mitigation.
2.	Ambient Noise Level	However, measures would be taken to contain pollution due to increased vehicular traffic near the project area.

In the Environmental Management Plan (EMP), impact mitigation and monitoring requirements are specified and the institutional arrangements for implementation of the project identified. The EMP also includes the cost of implementing mitigation and monitoring requirements. The EMP for the proposed project is represented in Table 8.2 below.

Table 8.2 Reporting of Major- Parameters and Responsible Organization

CONSTRUCTION PHASE

Sr. No	Project Related Issue	Action to be Taken	Responsible Organisation
1	Noise Level	➢ Stationary equipment will be placed as far as possible form inhabited areas to minimize objectionable noise impacts ➢ Proper maintenance machinery and vehicles ➢ Construction activities to be prohibited between 10 pm and 6 am near habitation ➢ Provision of ear plugs to workers being exposed to high noise levels from construction equipments ➢ Solid barrier along habitation.	Contractor and PWD
2	Air Quality	➢ Vehicles and machineries will be regularly maintained so that emissions conform to National and State Standards.	Contractor and PWD

		➢ Vehicles carrying construction material will be covered by traps to avoid spilling and blowing by wind ➢ DG sets will be provided with stack of appropriate height ➢ Site will be barricaded in order to control dust	

OPERATION PHASE

Operation phase would not cause any major impact on environment. Sea bund in turn would protect coastal population, structures from damage caused by high waves during bad weathers. Moreover it would also protect beach from erosion.

Therefore construction of Anti erosion Sea bund may cause minimum environmental impact only during construction phase and would not attract need for environmental management after completion of construction activity.

8.3 BUDGETS FOR ENVIRONMENTAL MANAGEMENT PLAN

The mitigative measures suggested in the preceding chapters forms costs related to measures incorporated into engineering design; project scheduling, site planning and preparation of tender documents. The cost on this account will be covered with the construction budget and should not be seen as items of cost for implementing Environmental Management Plan. The estimated environmental cost considered here includes:

a) During Construction phase
   1. Provision of air, noise, and dust vegetative barrier/ special screens- both side of project area
   2. Dust suppression
   3. Solid barrier to check noise pollution for sensitive receptors like school etc.
   4. Solid waste management due to construction activity.

Table 8.2: Budget for Environmental Management Plan

	Stations	Tests	Cost (INR)
Air	8	1. Wind speed(m/sec) 2. Wind direction 3. Relative humidity 4. PM10 5. PM2.5 6. SO_2 7. NO_x 8. NH_3 9. TVOC 10. Benzene	1,60,000/-
Noise	8	Ambient noise levels- dB(A) Leq Day Leq Night	16,000/-
	Total cost		**1,76,000.00/-**

The environmental cost is consists of monetary value of the mitigative measures adopted to minimize the negative impact of project on environment. Environmental cost is divided into two categories, i.e. capital cost and operation and maintenance cost. Capital cost is the cost of all the structural measures proposed for environmental protection during construction phase while the operation an maintenance cost include the cost of monitoring air, noise, soil and water and maintaining the structural measures over project life. As said above in Operation phase would not cause any major impact on environment so only EMP should be done during Construction phase only.

CHAPTER 09

CHAPTER 09
EXECUTIVE SUMMARY

9.1 INTRODUCTION

Coastal erosion is the wearing away of land and the removal of beach or dune sediments by wave action, tidal currents, drainage or high winds. Waves generated by storms, wind or fast moving motor craft, cause coastal erosion, which may take the form of long-term losses of sediment and rocks, or merely the temporary redistribution of coastal sediments; erosion in one location may result in accretion nearby. To overcome this situation and to reduce erosion it is essential to construct an Anti Sea Erosion Bund at the site.

Harbor Engineering division, versova, have proposed to construct Anti Sea Erosion Bund on versova coast under State Finance and Sought advice of CWPRS for the design of coastal protection works.

9.2 NEED FOR THE PROJECT

Due to high tidal condition erosion occurs in large quantity at Versova beach. There exists old bund at site which now seems completely damaged. The bund is no longer in condition to protect the adjacent structure and locality. The stretch from Sagar Kutir to Hindu Shamshanbhoomi seems completely disturbed. This has lead to erosion of beach resulting in damage to compound wall of adjoin buildings. During high tides, there is risk of entering of waves to the adjoin buildings causing damages.

9.3 PROJECT DETAILS

Anti Sea Erosion (ASE) Bund is to be constructed from Sagar Kutir to Hindu Samshanbhoomi with approach road. Total Length of ASE bund is 1200 meter and Project area = 48000 sq. m. The proposed sea bund will be start from Sagar kutir hutments (CH. – 300.00M) and End at Hindu Smashanbhoomi (CH. 900.00). If possible, the loose stones from the existing protection near in front of the compound walls has been proposed to reutilize by shifting towards sea side of proposed concrete sea wall and laying as per the design of coastal protection work received from CWPRS Pune. Futher the coastal protection design from CWPRS had been finalize (Fig 9.1). Based on the design, the following provisions are considered in the detailed estimate.

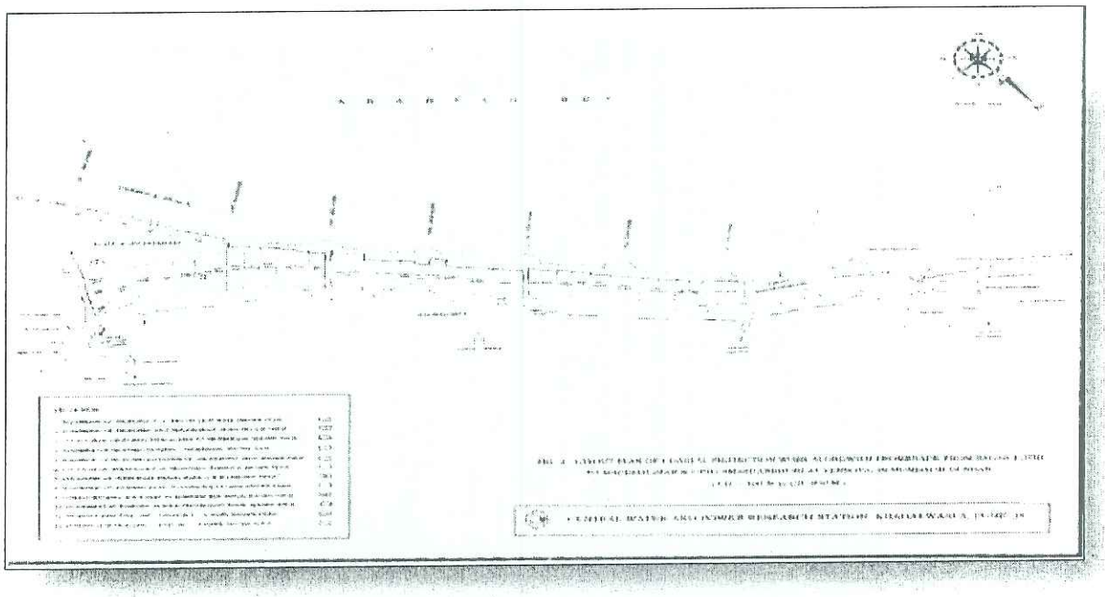


Figure 9.1 - The coastal protection design from CWPRS.

Based on the design, the following provisions are considered in the detailed estimate. Provisions are as follows-

- Excavation for foundation in earth, soil of all type, sand, gravel and soft murum.
- Construction of cement Concrete protection wall.
- Supplying and spreading geofabric filter layer of Geo-textile of polypropylene multifilament woven
- Supplying and lying trap stone weighing up to 200 kg to 300 kg for Sub armout laying.
- Providing Laying trap stone weighing 1000 to 3000 kg for apron/Armour layer.
- Providing / laying 2 to 3 MT C.C. Tetra Pod for armour layer.
- Construction of C.C pathway (promenade) along sea shore.

9.3.1 Project Location

Proposed Anti Sea Bund Alignment starts from Sagar Kutir to Hindu Shamshanbhoomi at Versova beach as shown in Fig 9.2 below.

Figure 9.2 – Location of proposed Anti Sea Erosion Bund

9.3.2 Project Description

The Proposed Anti Sea Erosion Bund will be constructed along the western coast on Versova Beach from Sagar Kutir to Hindu Samshanbhoomi with approach road (CH. - 300.00M TO CH. 900.00M). The length of the alignment is around 1200 meters with two approach road. Comprising an area of 48000 sq. m. The superimposed Google image of proposed location is given as Fig 9.3 below.

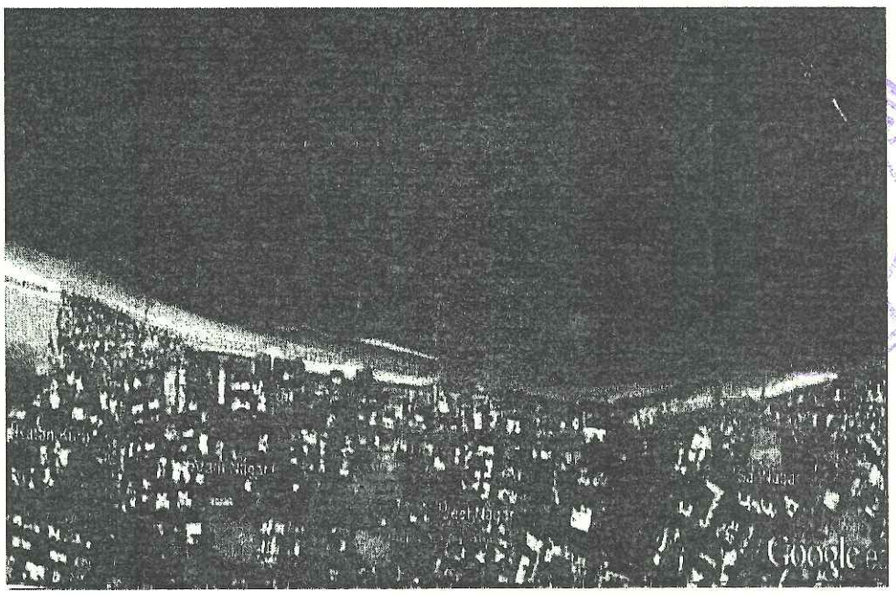


Figure 9.3 - Google image showing Anti sea erosion bund layout Plan

9.3.3 CRZ Status

The proposed project falls under CRZ I and CRZ II. The proposed anti sea bund falls under CRZ I area while the approach road connected between beach and existing Versova - JP road falls under the CRZ II. The CRZ map of proposed sea bund is given as Fig 9.4.

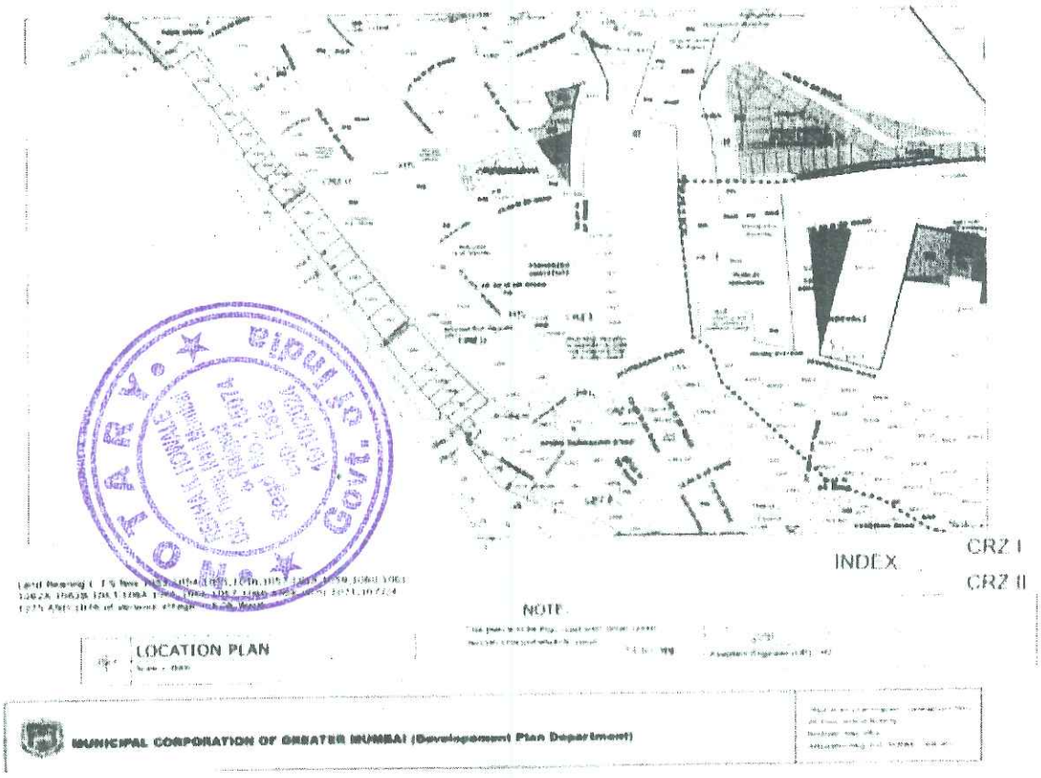


Figure 9.4 – CRZ Map of proposed Sea Erosion Bund

9.3.4 Project cost

The estimated cost of the project of Anti Sea Erosion Bund at Versova is 55 cr.

9.4 PROJECT BENEFITS

Construction of Anti Sea Erosion Bund from Sagar Kutir to Hindu Smashanbhumi, will have following benefits:

- Project will provide protection from the waves and tides to the above said coast.
- Project will prevent coastal erosion at the Versova beach.
- Anti Sea Erosion Bund will prevent the entry of sea water inside the compound wall present on versova coast.

9.5 UTILITIES

9.5.1 Raw Materials

- **Geofabric filter layer of Geo-textile of polypropylene multifilament woven**

  Supplying and spreading geofabric filter layer of Geo-textile of polypropylene multifilament woven to the line, level and grade with pore size less than 0.075 mm and permeability greater than 9.5 liter/ sq.m./sec.

- **Filter of polythene cement bags filled with sand**

  Providing and spreading Filter of polythene cement bags filled with sand obtain from excavation of foundation including conveying and placing in proper line, level.

- **Laying trap stone weighing up to 20 kg for Filter/core layer.**

  Supplying and laying trap stone up to 20 kg for filter/ core layer including quarrying conveying with all the leads, lift, laying in required line, level

- **Laying trap stone weighing 50 kg to 100 kg for core laying**

  Supplying and laying trap stone 50 to 100 kg for apron/Armour layer including quarrying conveying with all the leads, lift, laying in required line, level, slope including necessary equipments and machinery, such as cranes for adequate capacity & boom length

- **Laying trap stone weighing 500 to 1000 kg for apron/Armour layer.**

  Supplying and laying trap stone 500 to 1000 kg for apron/Armour layer including quarrying conveying with all the leads, lift, laying in required line, level, slope including necessary equipments and machinery, such as cranes for adequate capacity & boom length

9.5.2 Land Requirement

Total Length of ASE bund is 1200 meter and Project area is 48000 sq. m. The proposed sea bund will be start from Sagar Kutir hutments (CH. – 300.00M) and End at Hindu Smashanbhoomi (CH. 900.00).

9.5.3 Water Requirement

Total water requirement for construction work is 16m3/day which will be

9.5.4 Power Requirement

DG sets will be used for power generation

9.6 BASELINE ENVIRONMENTAL MONITORING

In order to assess the existing environmental status in the project area, primary and secondary data on various environmental attributes viz. air quality, noise levels, water quality, soil, ecology, land use etc. have been collected and presented in the following paragraphs. The entire project area is divided in to various environmental segments in order to establish baseline environmental study. The various locations selected on the merits of environmental settings are indicated in the following **Table 9.1.**

Table 9.1: Environmental study area

SR. NO.	STUDY LOCATION
1.	Versova Beach
2.	Seven Bungalow (Near police chowky)
3.	Near Renaissance Club
4.	Juhu Koliwada
5	St Josept High school
6	Perry Road
7	Daravali village
8	Mukteshwar mandir

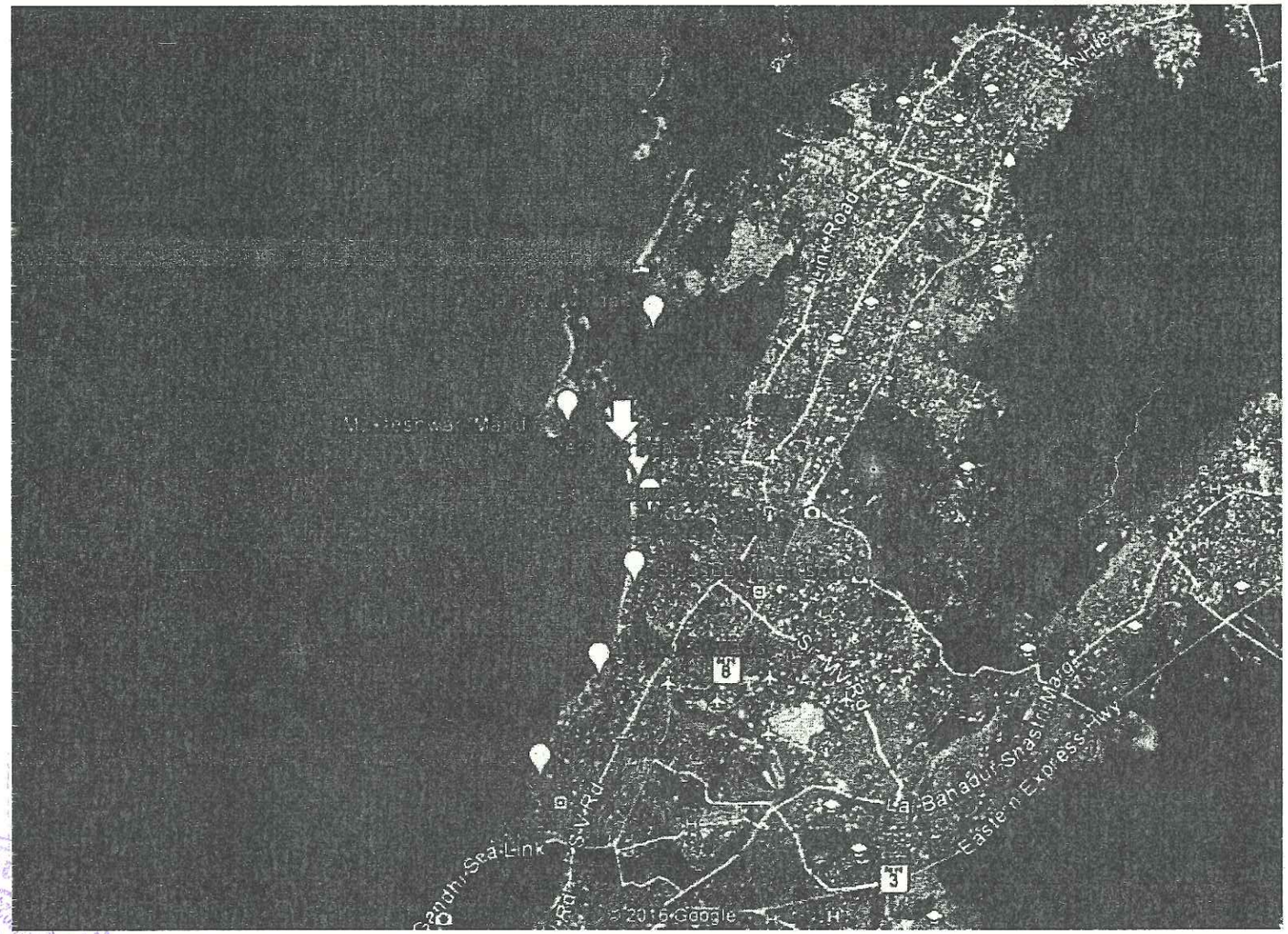


Fig 9.5: Sampling locations

9.6.1 AIR QUALITY

The Anti sea erosion bund is proposed to be constructed from Sagar Kutir to Shamshaan bhoomi to protect the building compound walls along the Versova coast from erosion. The baseline Ambient Air Quality data of the region has been obtained. Air quality monitoring was carried out at Eight locations along the proposed project area in one season.

b) Selection of Monitoring Stations

The Versova Anti sea eroision bund is proposed to be constructed from sagar kutir to shamshaan bhoomi along the Versova coast on existing Sea bund. The stations selected were the along the western coast of Mumbai with in 10 km radius of proposed project.

b) Monitoring Methodology

Monitoring of ambient air quality was carried out as per CPCB guidelines. The analysis of various air parameters were carried out using Indian Standards. The method used for analysis of Particulate Matter (PM10) is IS 5182 (part IV), for Respiratory suspended particulate matter (PM2.5) is IS 5182 (part-23). The concentration of SO2, NOx and CO was analyzed carried out as per IS 5182 (part II), IS 5182 (part VI) and IS 5182 (part X). the analysis of Pb is done as per the method in APHA P&CAM 155.

Table 9.2 : Average Ambient Air Quality Monitoring Results

Station Code	AAQM Station	PM_{10} (µg/m3)	$PM_{2.5}$ (µg/m3)	Sox (µg/m3)	Nox (µg/m3)	CO (µg/m3)	Pb (µg/m3)
AQ1	Versova beach	158.20	72.6	26.14	23.34	<0.40	<0.01
AQ2	Seven Bungalow	188.20	79.10	24.50	28.96	<0.40	<0.01
AQ3	Near Renaissance Club	155.40	69.58	29.40	27.12	<0.40	<0.01
AQ4	Juhu Koliwada	189.40	71.32	29.52	22.14	<0.40	<0.01
AQ5	St Josept high school	150.00	71.90	25.10	28.12	<0.40	<0.01
AQ6	Perry road	164.11	79.85	22.31	25.63	<0.40	<0.01
AQ7	Daravali Village	169.80	70.59	24.87	27.13	<0.40	<0.01
AQ8	Mukteshwar mandir	145.45	66.24	21.84	23.65	<0.40	<0.01
	Permissible Limits	100.00	60.00	80.0	80.00	2.00	1.00

The air quality monitoring was done at all the locations mentioned above for 48 hours. The data presented is average for 24 hours. The average of the suspended particulate matter (PM 10) along the alignment is 158.20 $\mu g/m^3$ with a minimum of 145.45$\mu g/m^3$ near Mukteshwar mandir and maximum of 189.4 $\mu g/m^3$ near Juhu Koliwada.

The average respiratory suspended particulate matter ($PM_{2.5}$) along the alignment was 72.6 $\mu g/m^3$. The highest average values were 79.8 $\mu g/m^3$ near Perry road and average minimum of 66.2 $\mu g/m^3$ near Mukteshwar mandir.

The average SO_x and NO_x values at project site were 25.4 $\mu g/m^3$ and 25.7 $\mu g/m^3$ respectively. The recorded values of NOx and SOx along the transect is much below the permissible limits.

The CO values recorded at all the locations is < 0.4 mg/m^3 while lead was < 0.01 $\mu g/m^3$. These parameters are well below their permissible values. Their presence in the air shall be further reduced as vehicular emission will be reduced as there will not be any congestion on the road.

9.6.2 WATER QUALITY

Marine ecosystem covers a major part of Mumbai island. The marine waters are an important ecological environment. The marine waters harbor vast varieties of plant (mainly algae), animals like zooplanktons, shrimps, oyster, fishes etc. This system receives huge quantity of untreated domestic as well as industrial waste from terrestrial system directly from coastal region and indirectly by rivers from inland region.

The detailed marine ecological survey carried out to establish the existing status of marine waters. The studies were carried out along the transect in the month of March 2016, April 2016 and May 2016. Water was collected at the prime locations that the entry and exit point of the proposed construction and at the locations where dispersal points at planned.

9.6.2.1 Physico Chemical Parameters

The physico chemical characteristics were observed at various location along the transect. The data is representated in the Table 9.3.

Table 9.3: Average Physico Chemical Water Quality

Parameters	Versova Beach	Juhu Koliwada	Mukteshwar mandir
pH	7.61	7.75	7.32
Total Dissolved Solids (mg/lit)	40920	41120	40241
Dissolved Oxygen (mg/lit)	3.2	3.9	3.4
Biological Oxygen Demand (mg/lit)	13.6	13.1	12.7
Chemical Oxygen Demand (mg/lit)	32	28	30
Phosphates (µg/lit)	2.5	2.1	2.2

The pH of the waters observed along the transect is in the range of 7.32 to 7.75. No variation is observed in the waters along the transect. This could be due to mixing of the water.

The dissolved oxygen (DO) levels in water samples ranged from 3.2 mg/l to 3.9 mg/l. the variation may be due to biological and chemical process in the sea. The BOD and COD in the water with a maximum BOD of 13.6 mg/l and minimum 12.7 mg/l while COD levels recorded at was max 32 mg/l and min 28 mg/l.

9.6.3 NOISE QUALITY

The noise level monitoring has been carried out at eight locations mentioned below in table no.9.4. The average values for the season along the study area are given below.

Table 9.4: Average Noise Levels observed along project site

Station Code	Location	Day time dB(A)	Night Time dB(A)
NL 1	**Versova beach**	64.23	54.85
NL 2	**Seven Bungalow**	61.02	53.56
NL 3	**Near Renaissance Club**	65.74	58.52
NL 4	**Juhu Koliwada**	62.56	56.51

NL 5	**St Josept high school**	58.15	56.32
NL 6	**Perry road**	65.23	54.12
NL 7	**Daravali Village**	64.85	55.14
NL 8	**Mukteshwar mandir**	64.56	55.37

9.6.4 BIOLOGICAL CHARACTERISTICS

The study of biological characteristics of a water body is important as it determines the standing crop biomass and productivity of the water body. As a part of the study, the bacterial count, phytoplankton and zooplankton were studied along the transect. The results are shown in the table 9.5

Table 9.5 : Average plankton population density

Parameters	Phytoplankton / 100ml	Zooplankton / 100ml	Total Viable Count
Versova Beach	2.8	24	2.3
Juhu Koliwada	3.1	21	5.3
Mukhteshwar Mandir	3.0	21	5.1

- **Phytoplankton**

The study of phytoplankton is important as they are the primary producers in the water body. They are the autotrophs of the sea that entrap the sunlight in their chloroplast and produce energy through the process of photosynthesis. The phytoplankton production is necessary for zooplankton productivity as well as fisheries. The phytoplankton population observes along the transect ranged from 2.8 x 10^2/ l to 3.1 x 10^2/l. The most dominant species observed were *Nitzschia spp. Skeletonema spp* and *Navicula.*

A total of 11 genera of phytoplankton were recorded. The most dominat species observed are *Skeletonema costatum* and *Nitzschia closterium* which are known pollution indicators of the sewage water.

Table 9.5: Phytoplanktons observed along project site

Sr. no.	Phytoplankton
12.	Skeletonema costatum
13.	Nitzschia closterium
14.	Oscillatoria cholrina
15.	Thalassiosira subtilis
16.	Spirulina major
17.	Chaetoceros decipiens
18.	Melosira sulcata
19.	Asterionella japonica
20.	Navicula spp
21.	Ditylum
22.	Gyrosigma

- **Zooplankton**

Zooplankton community comprises a heterogeneous assemblage of many animals of various taxonomic groups in a marine ecosystem. The distribution of zooplankton varies with the physico chemical factors of the environment in which they thrive.

Zooplankton are microscopic free floating animal component of the plankton community. The zooplankton population observed during the study period ranged from 21/l to 24./l . The zooplankton species observed were Copepods, foraminiferans, fish larvae.

Table 9.6 : Zooplankton observed along project site

Sr. No.	Name of the species
I	**Copepoda**
1	Acartia sipinicuda
2	A centrura
3	A pacifia
4	Paracalanus aculeatus
5	Eucalanus spp
II	**Decapods**
1	Lucifer

2	Acetes
3	Penaeid larvae
4	Zoea larva
5	Megalopa larva
III	**Chaetoganths**
1	Sagitta spp
IV	**Others**
1	Foramoniferans Fish eggs
2	Fish larvae
3	Isopods
4	Salps
5	Siphonophores

- **Benthos**

The intertidal zone is dynamic zone at the interface between sea and terrestrial environment. The life in the zone is influenced by the physical factors like waves, temperature and light and by anthropogenic disturbances. The low population density of the benthic organisms around Mumbai has been recorded. The main attributes for the low population is the increasing level of anthropogenic stresses that has restricted the number of fauna in Mumbai coast.

9.7 SUMMARY OF PROBABLE IMPACTS/ ISSUES

Proposed project pertains to construction of anti sea erosion bund at Versova. The construction activities will impact have Air & Noise environment for temporary period. The anticipated impacts due to construction activities are represented in Table 8.1 below.

Table- 9.7 Probable Impacts / Issues

Sr. No	Issues	Description
1.	Ambient Air Quality	During construction air and noise pollution may increase and would require mitigation.
2.	Ambient Noise Level	However, measures would be taken to contain pollution due to increased vehicular traffic near the project area.

In the Environmental Management Plan (EMP), impact mitigation and monitoring requirements are specified and the institutional arrangements for implementation of the project identified. The EMP also includes the cost of implementing mitigation and monitoring requirements. The EMP for the proposed project is represented in Table 8.2 below.

Table 9.8 Reporting of Major- Parameters and Responsible Organization

CONSTRUCTION PHASE

Sr. No	Project Related Issue	Action to be Taken	Responsible Organisation
1	Noise Level	➢ Stationary equipment will be placed as far as possible form inhabited areas to minimize objectionable noise impacts ➢ Proper maintenance machinery and vehicles ➢ Construction activities to be prohibited between 10 pm and 6 am near habitation ➢ Provision of ear plugs to workers being exposed to high noise levels from construction equipments ➢ Solid barrier along habitation.	Contractor and PWD
2	Air Quality	➢ Vehicles and machineries will be regularly maintained so that emissions conform to National and State Standards. ➢ Vehicles carrying construction material will be covered by traps to avoid spilling and blowing by wind ➢ DG sets will be provided with stack	Contractor and PWD

		of appropriate height ➢ Site will be barricaded in order to control dust	

OPERATION PHASE

Operation phase would not cause any major impact on environment. Sea bund in turn would protect coastal population, structures from damage caused by high waves during bad weathers. Moreover it would also protect beach from erosion.

Therefore construction of Anti erosion Sea bund may cause minimum environmental impact only during construction phase and would not attract need for environmental management after completion of construction activity.

9.8 DISASTERS AND RISKS

9.8.1 Introduction

Disasters or risks involved in this project are more likely to occur during construction phase only. This disaster could be natural as well as related to other sources. It is always important to chalk out strategies and planning to overcome these disasters at any given time.

Disasters (Events usually characterized by negative given impact and exceptional demands for intervention) are inevitable. Impact can be substantially reduced the by adequate response, early warning and disaster responses. Disaster Management encompasses out aspects of planning for and responding to disasters and risks including hazard analysis vulnerability reduction (preparedness) prevention, mitigation, response, recovery and rehabilitation. Contingency planning relates to events, which major may not occur and potential responses put in place to prevent or respond to an emergency situation. It applies to management of both risks and consequences of disasters.

Mitigation is action to reduce the consequences of disasters while it may not be possible to prevent disasters, the effects can be modified or a reduced if appropriate steps are taken. Responses can be divided early and late phases. Early responses are rescuing a relief whereas later responses are Rehabilitation and Reconstruction. The first people respond to any disaster are communities/ institution themselves. Their resourcefulness is the key to disaster mitigation.

Thus there is inter- connection between Disaster Management and sustainable development while good Disaster planning minimizes interruption to development, poor responses can divert scares resources, increase dependency and actually increase vulnerability to further disasters.

9.8.2 Anticipated Emergencies or Disasters

The disasters can be classifieds manmade or artificial and natural. Both type of disasters causes' loss of life as well as properties. The anticipated disasters are:

- Accidents Or Medical Emergencies
- Local/Civil Disturbance
- Utility Failure
- Violent Crime Or Behavior
- Health Emergency (Epidemic)
- Weather – Monsoon

9.8.3 SAFETY MANAGEMENT IN CONSTRUCTION PHASE

- Good housekeeping should be maintained at all situations.
- Safety hemlets, shoes, belts should be given to the workers to avoid the causes of injuries
- Do not interfere with firefighting equipment and electrical circuits
- Proper drinking water and sanitary facilities should be provided to the labour
- Create safety cell with Health and First aid facilities.
- Adequate budget for safety measures for construction phase shall be earmarked
- Standard, quality & timely supply of personnel protective equipment.
- Neat based and adequate safety auditing and training to site management team & others
- Organization for housekeeping and deployment of qualified person.
- Incident and injury free work place.
- Safety promotional activities.
- Availability of recognized health care center.
- Adequate provision of fire prevention systems.
- No child labour.
- No smoking.
- Appropriate badges for identification of staffs, contractors and others.
- Formation of safety committee.

- Monitoring of implementation

9.8.4 ROLE & RESPONSIBILITIES

9.8.4.1 Safety Engineer

- Before commencing any work on site, Safety Officer is appointed who will ensure the safety measures at site
- The safety measures to be adopted at the site will be the responsibilities of the Engineer executing the work
- The safety officer will go for safety rounds all over the site every day and advise the concerned Supervisor regarding any unsafe act or condition and the remedial action required will be implemented.
- Safety trainings will be conducted to all workers and staff before they start their work and as well as at regular intervals.
- Those records of trainings will be maintained by safety officer.

9.8.4.2 Safety Supervisors

Supervisors' play an important part in creating and maintaining safe and healthful work practices, policies, and procedures. It is the supervisor's responsibility to identify potential hazards, identify methods to control or eliminate the hazards, ensure employees engage in safe and healthful work practices, and ensure employees receive safety and health training to do their work. Safety and health performance will be part of our supervisors' evaluations.

9.9 VARIOUS SCENARIOS OF RISKS AND DISASTER IN THE PROJECT

9.9.1 Health hazard during operation of heavy equipment.

Health hazard or accident situation may occur during operation of heavy equipments or stone lifting cranes etc. Proper care needs to be taken during handling of such equipments. Useful instructions, training and guidance to equipment operators need to be provided. However construction activities need to be monitored and coordinated by a key person to avoid unexpected situations.

9.10 IMPORTANT FEATURES OF THE DISASTER MANAGEMENT PLAN

As mentioned above are the few important Disaster scenarios which could bring an emergency in system. The risks involved are of varied nature and requires an immediate attention. Rescue and Relief are two important and early parameters, which are responsive action to any disaster.

9.10.1 Emergency Telephones

Emergency Telephones will be stand-alone and will be available throughout construction of the project. Communication system plays an important role during accident scenario to obtain medical help.

9.10.2 Training and Operational Support

Adequate OHS training will be given to workers for avoiding accidents during construction activity. During construction stage activities will be monitored by responsible key person from safety point of view. Operation of the heavy equipment will be guided by trained person to avoid mishaps.

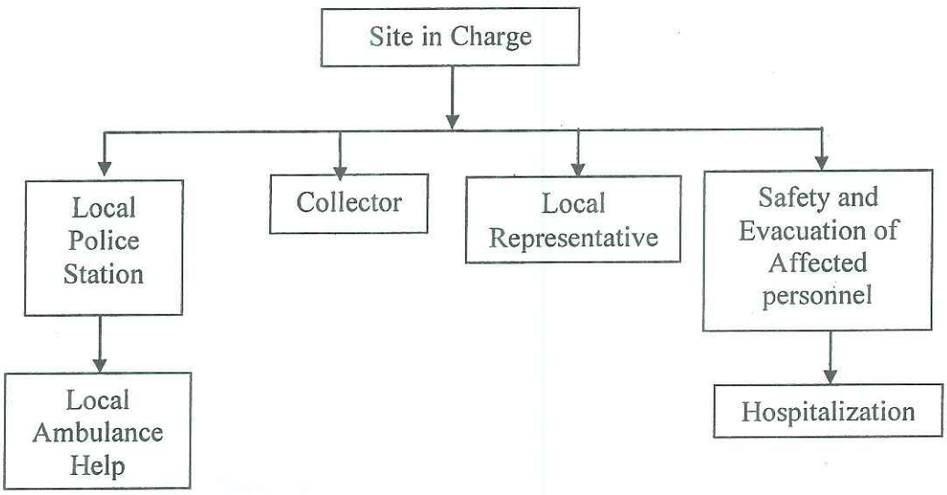


Figure 9.6 - DMP FOR ACCIDENT RISK SCENARIO

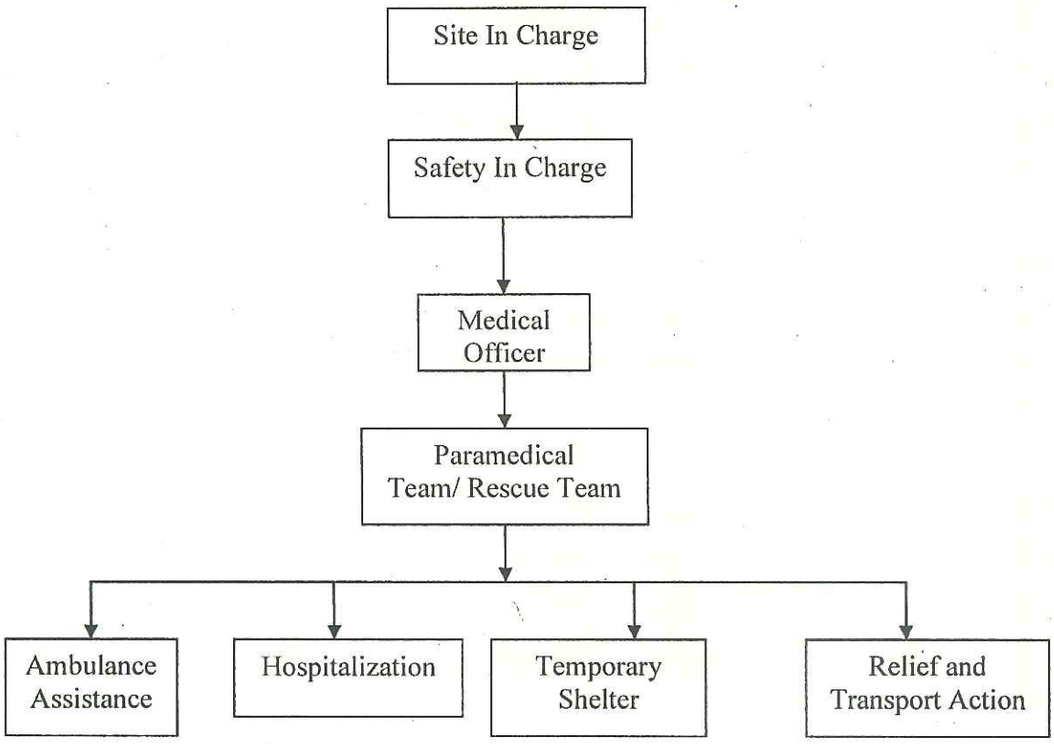


Figure 9.7 - DMP FOR MEDICAL SAFETY SCENARIO

9.11 CONCLUSION

From the type of project and construction methodology it can be concluded that only during construction stage there could be possibility of construction related disasters. Such disasters can be effectively avoided by carrying out construction carefully, guided and monitored by trained personnel. However Sea bund itself is an Disaster Management Plan against emergency situations caused by bad weather conditions. The Anti erosion sea bund will protect the shore from erosion as well as inhabitants and coastal structures from high waves.

CHAPTER 10

CHAPTER 10
DISCLOSURE OF CONSULTANT ENGAGED

"HARBOUR ENGINEERING DIVISION – PUBLIC WORKS DEPARTMENT" has appointed "Fine Envirotech Engineers" for carrying out the above mention study have entrusted.

We are one of the leading environmental and environmentally related infrastructure project consultants and completed no. of prestigious projects in the country. It includes Rs. 6,000 crore project of Sewri- Nhava Sheva sea link i.e. Mumbai Trans Harbour Link project, Rs. 500 crore of Inland Passenger Water Transport (IPWT) project. We have been also associated with major industrial houses in India, which includes ELDER PHARMA, DUPHAR GROUP, RUNWAL GROUP (ARIANE PHARMA), VINATI ORGANICS, ETC. along with FINOLEX group, CABOT India, NITCO group, ISPAT group, INDIAN OIL CORPORATION LTD., SAHARA group, etc.

We have been also associated with various commercial development projects and companies. This includes RUNWAL GROUP, MATOSHREE REALTORS, FRAVASHI GROUP, SOLITUDE, PWD DEPT., etc. This project consultancy includes designing and commissioning of Sewage Recycling plants, Green Belt development, storm water design, etc.

We have our **Lead Office** in Mumbai at:
102, HIREN INDUSTRIAL ESTATE,
MOGUL LANE, MAHIM
MUMBAI - 400 016.
MAHARASHTRA.

To cater the needs of Industrial Corporate Houses in remaining part of the state, we have offices at **Pune** and **Aurangabad**. We also have presence in the state of Goa and have office at Ponda. We also have our liasoning offices with our staff at Solapur, Kolhapur, Satara and Nagpur.

We have full-fledged office consisting of total of 5 Nos. of Computers operated by engineers themselves along with all the infrastructure facilities. The computers are loaded with different types of programs to cater various requirements.

The technical team is led by **Dr. U. S. Kulkarni** and is assisted by 5 nos. of Engineers. There are 3 nos. of field teams for carrying out various Surveys, Monitoring Programs, Operation and Maintenance. We also have resident engineers who are responsible for their regions. In all **FINE ENVIRO** is fully self-sufficient, technically competent and therefore can handle any project irrespective of its size and capacity.

A.2. ABOUT OUR ENGINEERING/ARCHITECT OFFICES:

FINE ENVIRO's entire Engineering and Architectural work is being carried out at 2 separate offices in Mulund, Mumbai and also at Pune. Both the offices have their locational advantage with respect to peripheral industrial developments and are very well connected by the State Highways and by Airports. These offices have their own Team Leaders and they independently handle the Engineering and Architectural drawings with the help of their strong technical team. These engineering offices carry out following jobs in general.

- Preparation of all drawings viz. layout, hydraulic, GA, RCC etc.
- Preparation of Summary Sheets for bill of quantities
- Preparation of Comparative Statements
- Design of columns, beams, slabs, etc.

We have facility to carry out Detailed Designing, Structural Designing, and Fabrication Drawings at our above offices.

A.3. ABOUT OUR LABORATORY:

This is our heart of the Consultancy Services as we carry out various feasibility and treatability studies before designing a particular project. The laboratory is fully sophisticated and computerized and moreover it is FDA approved laboratory. One can carry out any no. of chemical, physico-chemical analysis of water and wastewater using various analytical instruments. Such a facility of water, wastewater, air monitoring and noise measurements is also available in Pune.

CURRICULUM VITAE

OF

DR. UMESH S. KULKARNI

(M.Sc., Ph.D)

CURRICULUM VITAE

NAME & ADDRESS	:	**DR. UMESH SHIVANAND KULKARNI** **Expert : Environment, Ecology & Health** 102, Hiren Industrial Estate, Mogul Lane, Mahim, Mumbai – 400 016, Maharashtra, India. Resi. : 2445 21 63 / 2444 58 36 Office:2444 08 33 Fax :2444 58 37 Mobile : 98200 63632 E-mail : feefce@bom3.vsnl.net.in
PROFESSIONAL QUALIFICATION	:	**Ph.D.** (Treatment of Industrial Wastewater) Chemical Engineering Dept. University of Dept. of Chemical Technology (UDCT), University of Mumbai. **M. Sc.** (Physical Chemistry), University of Mumbai **B. SC**. (Chemistry), University of Mumbai. Mumbai, **B. SC**. (Chemistry), University of Mumbai`
NATIONALITY	:	Indian
DATE OF BIRTH	:	12 / 03 / 1964, Mumbai
PROFESSIONAL AFFILIATION	:	a. Associate Member – FICCI b. American Solid Waste Association (ASWA) c. Indian Water Works Association (IWWA) d. Water Environment Federation (WEF) e. Indian Institute of Environment Sciences(IIES) f. International Eco – Tourism Society (IETS) g. Associate member – Indo Brazilian Society h. Member - Maharashtra Economic Development Corporation (MEDC)

PROFESSIONAL EXPERTISE :

1. Environmental Infrastructure Projects
2. Public Health and Bio-Medical Waste Sciences
3. Environment & Ecological Sciences
4. Hazardous Waste Management / Municipal Waste Management
5. Eco – Tourism
6. Development of Large Industrial Areas pertaining to Environmental Aspects
7. Environment Impact Assessment (EIA)
8. ISO 14001
9. Water Audit and Water Conservation
10. Lake Ecology and Restoration

PROFESSIONAL ACHIEVEMENTS :

a. Appointed as Expert member on Steering Committee of **FICCI,** Western Region

b. Appointed as **Expert Member** on Advisory Committee of National Hydro-Electric Power Corporation **(NHPC)** on the Environmental Aspects, **Ministry of Power**, New Delhi.

c. Nominated as **Expert Member** on Committee Formulation of **Bio-Medical Rules – 1998** by Ministry of Environment and Forest, New Delhi, **(MoEF)**

d. Appointed as Technical Board Member of ***Maharashtra Pollution Control Board*** **MPCB)**, Government of Maharashtra.

e. Nominated as an **Expert member** of Indian Institute of Rural Development **(IIRD)** (Joint Venture with Govt. of Rajasthan, WHO, UNDP etc.)

f. **Member** – Industrial and Environment Committee of Indian Merchant's Chambers

(IMC).

g. Nominated as **Expert Member** on Environment Committee of Maharashtra Economic Development Corporation (**MEDC**)

h. Appointed as **Hon. Secretary of Indo-Brazilian Society** by The Ho. Consul Of Brazil

ASSOCIATED CORPORATES : 1. **Director** – Ashok Alco-Chem Ltd.

2. **Director** – Ashok Alco Bio-Chem Ltd

3. **Director** – Vivid Chemicals Ltd.

4. **CEO** – International Infrastructure Projects and Labs. (IIPL)

Professional expertise includes Doctorate Degree in the field of Environment and Pollution Control form Chemical Engineering Department of University Department of Chemical Technology (UDCT), University of Mumbai.

Associated with no. of Govt. & Departments such as **NHAI, MSRDC, MIDC, MMRDA, MPCB, Dept. of Health, Water Resources** etc., **MoEF, MNES, NHPC, WAPCOS, NEERI.**

Also associated with no. of professional bodies such as **IMC, BCCI, FCCI, CII, TERI, WHO, UNDP** and also associated with no of Universities for their curriculum in the field of Environment and Ecology.

Recently developing Marine Bio – Technology Department in Ruparel College, Mumbai.

PUBLICATIONS AND VISITS:

No. of research papers have been published in India and Foreign Journals including Indian Journal of Environment, American Chemical Society, Journal of Public Health etc.

Also delivered and presented no of research papers in person at various International level conferences at USA and Singapore

Recently presented research paper at **5TH European Conference on Environment and Ecology at Prague, Czech Republic, in Oct.-2001.**

Attended no. of Conferences and Exhibitions at Singapore in the past.

PATENT:

Involved in application of an Indian Patent for "Separation and Recovery of micro level Lignin from Bagasse (Pulp Effluents)"

Recently selected as qualified for Government of Maharashtra for carrying out Water and Energy audits as per World Bank standards.

NOTARY Govt. of India

TRUE COPY
For Vidhii Partners
Advocates

J

"EXHIBIT" - J

Government of Maharashtra

Public Works Departemnt,

Harbour Engineer, Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai.

Visit us: www.mahapwd.com	Phone No. 02227571534, 02227560696
No. HE(N)/PB/CRZ /Versova/ 1760	Date: 27/12/2016

To,
The Member Secretary,
Maharashtra Coastal Zone Management Authority,
Environmental Department,
Room No. 217, Annex Building,
Mantralaya, Mumbai - 400 032.

Subject: CRZ Clearance for Proposed Construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova, in Mumbai Suburban.

Reference: Administratively Approved by Government of Maharashtra vide orders viz:

1) No. PLN-2016/CR-(546)/PLN-3, Mantralaya, Mumbai, dtd, 16/02/2016.
2) No. PLN-2016/CR-(547)/PLN-3, Mantralaya, Mumbai, dtd, 16/02/2016.
3) No. PLN-2016/CR-(1727)/PLN-3, Mantralaya, Mumbai, dtd, 10/03/2016.

The above subjected work has been administratively approved by Government of Maharashtra vide references cited above. The design of the proposed coastal protection work (Anti Sea Erosion Bund) has been received from CWPRS, Pune vide their letter dated 11/04/2016 (copy attached).

As per the CRZ Notification of 6th January 2011, it is necessary to obtain the CRZ Clearance from MCZMA before commencement of the work.

Accordingly, this office submitting herewith duly filled in application (Part A & Part B) along with all the relevant enclosure for obtaining CRZ Clearance. The said application is as per the revised CRZ Notification of 6th January 2011.

We sincerely request you to include our project in the forth coming MCZMA meeting and grant us the required clearance at the earliest and oblige.

Thanking you,

Encl: CRZ Clearance Proposal

NOTARY ... Govt. of India

(R.D.Misal)
Harbour Engineer,
Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai.

Copy submitted to Chief Engineer, Special project (Sp.Pr.), Bandhkam Bhavan,Marzban Road, Fort, Mumbai for information please.

Copy submitted to Coastal Engineer,P.W. Circle, Bandra (E), Mumbai for information please.

Copy forwared to Assistant Harbour Engineer,Harbour Sub Division, Andheri, Mumbai Suburban.

TRUE COPY
For Vidhii Partners
Advocates

K

"EXHIBIT" - K

GOVERNMENT OF MAHARASHTRA

PUBLIC WORKS DEPARTMENT

CHIEF ENGINEER

SPECIAL PROJECT (P.W.) REGION, MUMBAI

COASTAL ENGINEER, P.W.CIRCLE, BANDRA (E), MUMBAI

Proposal for CRZ Clearance

Name of work

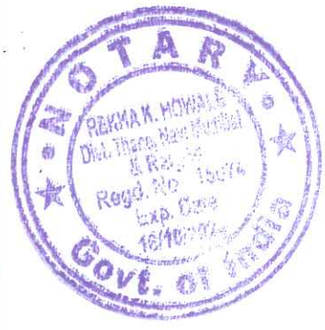
CRZ Clearance for Proposed Construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova, in Mumbai Suburban.

Harbour Engineer,
Harbour Engineering Division (North),
Konkan Bhavan, Navi Mumbai

Name of the work

Construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova, in Mumbai Suburban

INDEX



Form-I for seeking clearance for project attracting CRZ notification

Basic information: Construction of Anti Sea Erosion Bund is proposed by Public Works Department from Sagar Kutir to Hindu Smashanbhumi with Approach road at Versova, Mumbai. The existing buildings along the coastline are protected by compound walls with rocks/ boulders dumped intermittently in front of the compound wall. The sea side portion of the premises in this region is threatened by the wave action. To safeguard premises along the coastline from further damages caused by the tidal action, it is necessary to protect the shore by constructing anti sea erosion bund.

Name of the Project: Construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova, in Mumbai Suburban.

Location or site alternatives under consideration: NA

Size of the project (in terms of total area): 48000 sq.m.

CRZ classification of the area: - CRZ-I (B), CRZ-II.

Expected cost of the project: Rs. 55 cr

Contact Information:-

Name of project proponent: R.D. Misal

Mobile Number : 9970743999

Email for communication : harbournkb.ee@mahapwd.com

(II) Activity

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, and the like)

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	Yes	The Construction of Anti Sea Erosion Bund will be constructed along the versova coast from Sagar Kutir to Hindu Samshanbhoomi with approach road. No Resettlement & Rehabilitation of people is needed for its construction and all necessary DCR will be adopted fully.
1.2	Details of CRZ classification as per the approved Coastal Zone Management Plan?	Yes	CRZ-I(B), CRZ II.
1.3	Whether located in CRZ-I area?	Yes	The proposed Anti Sea bund is located on Versova Coast – (Seashore area)
1.4	The distance from the CRZ-I areas.	Yes	The proposed project lies within CRZ-I area
1.5	Whether located within the hazard zone as	No	Not applicable

NOTARY REKHA K. HOWALE Dist. Thane, Navi Mumbai & Raigad Regd. No.: 15074 Exp. Date 16/10/2024 Govt. of India

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
	mapped by Ministry of Environment and Forests/National Disaster Management Authority?		
1.6	Whether the area is prone to cyclone, tsunami, tidal surge, subduction, earthquake etc.?	No	The project site is not prone to cyclone, tsunami, tidal surge, subduction & earthquake.
1.7	Whether the area is prone for saltwater ingress?	Yes	The proposed Sea bund is located on Versova Coast – (Seashore area) from Sagar kutir till Machhlimar at Versova.
1.8	Clearance of existing land, vegetation and buildings?	No	There is no vegetation and buildings in project site.
1.9	Creation of new land uses?	No	Not applicable
1.10	Pre-construction investigations e.g. bore hole, soil testing?	No	No Pre-construction investigation is envisaged.
1.11	Construction works?	Yes	ASE bund of 1200 m approx length is proposed to be constructed. Protection wall and Promenade development is proposed alongside Sea bund and renovation of approach road.
1.12	Demolition works?	No	Not applicable
1.13	Temporary sites used for construction works or housing of construction workers?	No	No worker camp at site is envisaged for this project.
1.14	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	Excavation for foundation of structures, rubble stone soling, pathway concreting, over promenade is envisaged
1.15	Underground works including mining or tunneling?	No	No mining or tunneling will be envisaged in the project.
1.16	Reclamation works?	Yes	An excavated material is proposed to be utilized in back filling for construction of promenade and landscaping.
1.17	Dredging/reclamation/land filling/ disposal of dredged material etc.?	Yes	As said above
1.18	Offshore structures?	No	Not Applicable
1.19	Production and manufacturing processes?	No	No Production and manufacturing process is involved in the proposed project.
1.20	Facilities for storage of goods or materials?	Yes	Goods or material will be stored in empty space near Sagar kutir.
1.21	Facilities for treatment or disposal of solid waste or liquid effluents?	No	NA
1.22	Facilities for long term housing of operational workers?	No	NA
1.23	New road, rail or sea traffic during construction or operation?	No	--

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.24	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	--
1.25	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	NA
1.26	New or diverted transmission lines or pipelines?	No	NA
1.27	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	NA
1.28	Stream and river crossings?	No	NA
1.29	Abstraction or transfers of water from ground or surface waters?	No	NA
1.30	Changes in water bodies or the land surface affecting drainage or run-off?	No	NA
1.31	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Workers will be brought from the nearby areas whereas construction material will be procured from nearby quarries.
1.32	Long-term dismantling or decommissioning or restoration works?	No	NA
1.33	Ongoing activity during decommissioning which could have an impact on the environment?	No	NA
1.34	Influx of people to an area in either temporarily or permanently?	NA	NA
1.35	Introduction of alien species?	No	--
1.36	Loss of native species or genetic diversity?	No	NA
1.37	Any other actions?	No	--

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

S. No.	Information/checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	No	No agricultural land is utilized for proposed construction
2.2	Water (expected source & competing users) unit: KLD	Yes	16 KLD from Local body (MCGM)
2.3	Minerals (MT)	No	No minerals are proposed to be used in the project.

2.4	Construction material – stone, aggregates, sand/soil (expected source – MT) (source, competing users) Unit: fuel (MT), energy (MW)	Yes	The material required during the construction phase will be procured from the authorized quarry/sources. Dry trap / Rubble stones, plain cement concrete, trap stones, Geofabric filter layer of Geo-textile of polypropylene multifilament.
2.5	Forests and timber (source – MT)	No	No wood is proposed to be used in the project.
2.6	Energy including electricity and fuels	Yes	DG sets will be use during construction.
2.7	Any other natural resources (use appropriate standard units)	No	No other natural resource will be utilized during construction or operation phase.

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

Sr. No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities/rates, wherever possible) with source of information data**
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	No	No hazardous substances/material expected to be formed/used during the construction of the project
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	During construction or operation of the project occurrence of disease causing vectors will not happen. Appropriate measures will be taken to avoid their presence. e.g. preventing water logging to avoid spread of mosquitoes.
3.3	Affect the welfare of people e.g. by changing living conditions?	No	--
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	The proposed Sea bund is located in intertidal zone from Sagar kutir till Machhlimar at Versova. So it will not affect any residential area and sensitive receptors.
3.5	Any other causes	No	--

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

S. No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities/rates, wherever possible) with source of information data**

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes.	No	Not applicable
4.2	Municipal waste (domestic and or commercial wastes)	No	Not applicable
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	No	Not applicable
4.4	Other industrial process wastes.	No	Not applicable
4.5	Surplus product	No	Not applicable
4.6	Sewage sludge or other sludge from effluent treatment	No	Not applicable
4.7	Construction or demolition wastes	Yes	During Construction phase solid waste will be generated during excavation. Which will be utilized for back filling work for promenade.
4.8	Redundant machinery or equipment	No	Not applicable
4.9	Contaminated soils or other materials	No	Not applicable
4.10	Agricultural wastes	No	Not applicable
4.11	Other solid wastes	No	Not applicable

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	The emissions like smoke are expected from DG sets and the vehicles carrying construction material. CNG operated vehicles will be used for carrying cargos.
5.2	Emissions from production processes	No	Not applicable
5.3	Emissions from materials handling including storage or transport	Yes	Material handling during construction would generate Particulate Matter as well as gaseous emissions will be generated from construction vehicles and DG sets used. Necessary care will be taken so that during construction as well as operational

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
			phases pollutants do not exceed Standards stipulated by CPCB. Well maintained instruments and vehicles will be used during construction to reduce the emission.
5.4	Emissions from construction activities including plant and equipment	Yes	Well maintain construction vehicle and instruments to marginalize vehicular and instrumental emission.
5.5	Dust or odors from handling of materials including construction materials, sewage and waste	Yes	Material handling during construction would generate Particulate Matter. Water sprinklers will be used to reduce dust emission.
5.6	Emissions from incineration of waste	No	Not applicable
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	Not applicable
5.8	Emissions from any other sources	No	Not applicable

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S. No.	Information/checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Noise levels are expected to increase during construction phase due to operation of construction equipment, movement of vehicles and other construction activities at are project site. During construction phase noise levels will be addressed by providing mufflers and earplugs to the persons working at the project site and by putting barrier tin sheets around the construction site to reduce noise in the surrounding areas. Acoustic enclosures will be provided to the machinery.
6.2	From industrial or similar processes	No	Not applicable.
6.3	From construction or demolition	Yes	Some noise is expected from loading and unloading operations of construction materials, equipments, operations etc. However, those are not significant. Wherever required the workers will be provided with personal protective

			equipment. The machinery used will be properly maintained to avoid noise pollution.
6.4	From blasting or piling	No	NA
6.5	From construction or operational traffic	No	Noise levels are expected to increase during construction phase due to operation of construction equipment, movement of vehicles and other construction activities at are project site. Proper signage will be installed to reduce honking
6.6	From lighting or cooling systems	No	Not applicable.
6.7	From any other sources	No	Not anticipated.

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S. No.	**Information/checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
7.1	From handling, storage, use or spillage of hazardous materials	No	NA
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	No sewage or other effluents will be generated since worker camp is not required in this project.
7.3	By deposition of pollutants emitted to air into the land or into water	No	Not expected
7.4	From any other sources	No	Not expected
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	Not expected

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S. No.	**Information/checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	Disaster and risk management plan will be prepared and implemented. There is no use/generation of hazardous material in the proposed project.

8.2	From any other causes	No	Not applicable
8.3	Could the project be affected by natural disasters causing environmental damage (e.g., floods, earthquakes, landslides, cloudburst etc)?	Yes	The project will be designed by taking into consideration these factors as per relevant codes and standards. The proposed project site has not reported any kind of natural disasters like earthquake, floods. Tsunami etc. However, a proper DMP will be prepared and executed in case of any such eventualities.

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S. No.	Information/checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
9.1	Lead to development of supporting. facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) housing development extractive industries supply industries other	No	Will not have adverse impact on environment
9.2	Lead to after-use of the site, which could have an impact on the environment	No	--
9.3	Set a precedent for later developments	No	--
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	No similar project is planned in this area.

III. Environmental Sensitivity

S. No.	Areas	Name/ Identity	Aerial distance (within 15 km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	--	--

S. No.	Areas	Name/ Identity	**Aerial distance (within 15 km.) Proposed project location boundary**
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	CRZ- I	The anti sea bund is proposed to be constructed on the sea shore at versova beach.
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	Not Applicable
4	Inland, coastal, marine or underground waters	Coastal	The anti sea bund is proposed to be constructed on the sea shore at versova beach.
5	State, National boundaries	No	Not Applicable
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	Not Applicable
7	Defense installations	No	Not Applicable
8	Densely populated or built-up area	No	Not Applicable
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	No	Not Applicable
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	No	Not Applicable
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	No	Not Applicable
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions)	No	Not Applicable

CHECKLIST FOR SUBMISSION OF APPLICATION FOR PRIOR CRZ CLEARANCE UNDER CRZ NOTIFICATION 2011

FOR

Preparing REIA study report for CRZ clearance from MCZMA for the work of Construction of Anti Sea Erosion Bund, from Sagar Kutir to Hindu Samshanbhoomi.

BY

Harbour Engineer, Harbour Engineering Division (N), Konkan Bhavan, Navi Mumbai

SUBMITTED TO

MAHARASHTRA COASTAL ZONE MANAGEMENT AUTHORITY

DECEMBER 2016

Checklist for Submission of Application for prior CRZ Clearance Under CRZ Notification 2011

PART – A

Sr. No.		Details	Page No.
1		Executive Summary of the project.	Enclosed as **Annexure I**
2		Duly filled Form I as annexure IV of CRZ Notification 2011. (Compulsory for all Projects)	Refer enclosed Form 1
3		Whether proposed project covered under EIA Notification 2006.	No
	a	If yes, duly filled Form I & IA (As per provision 4(i) (d) and 4(ii)(a) of CRZ Notification, 2011)	NA
	b	CRZ map indicating HTL & LTL demarcated by one of the authorized agency in 1:4000 scale (as per para (2) of CRZ Notification, 2011) / on the approved CZMP of the area showing the site under consideration.	As per the CRZ notification 2011, it is permitted to use the existing CZMP of the district to indicate HTL & LTL of the area. The project falls under CRZ I(B), CRZ II. CRZ map is enclosed as Annexure II
4		**Introduction of the Project/ Background information indicating following:**	
	i	Identification of the project & project proponent, land ownership indicating CTS No. / Survey Nos. etc.	Name of Proponent: Mr. R. D. Misal, Harbour Engineer, Harbour Engineering Division (N), Konkan Bhavan, Navi Mumbai, Govt. of Maharashtra The Proposed Anti Sea Erosion Bund will be constructed along the versova coast (Seashore area) from Sagar Kutir to Hindu Samshanbhoomi with approach road. Approx length- 1200 m.
	ii	Brief description of nature of the project with details including, Layout Plan, Building Floor Plane etc.	The Proposed Anti Sea Erosion Bund will be constructed along the versova coast (Seashore area) from Sagar Kutir to Hindu Samshanbhoomi with approach

			road. Approx length =1200 m. and area of the project = 48000 sq. m. Provisions are as follows- • Excavation for foundation in earth, soil of all type, sand, gravel and soft murum. • Construction of cement Concrete protection wall. • Supplying and spreading geofabric filter layer of Geo-textile of polypropylene multifilament woven • Supplying and lying trap stone weighing up to 200 kg to 300 kg for Sub armout laying. • Providing Laying trap stone weighing 1000 to 3000 kg for apron/Armour layer. • Providing / laying 2 to 3 MT C.C.Tetra Pod for armour layer. • Construction of C.C pathway (promenade) along sea shore. Project site approved layout is enclosed as **Annexure III**
	iii	Need for the project & its importance.	Due to wave action the protection structure which provided earlier with stone was damaged at Versova beach. Thus, the site is suffering erosion due to the wave action during high tide, which causes damage to the local resident located near the shoreline. The existing stones which are dumped in front of compound wall of building are inadequate to protect the structures. The stretch seems completely disturbed. This has lead to erosion of beach resulting in damage to compound of resident buildings. Hence there is an emergency to do this work.
	iv	Demand supply gap or information on similar projects in the region.	NA
5	i	Location of the project showing general location, specific location, Project boundary, project site approved layout with coordinates from competent Authority	The proposed project is planned on versova coast (Seashore) from Sagar Kutir to Hindu Samshanbhoomi with approach road from CH. –300.0M to CH. 900.00M Project site approved layout is enclosed

			as **Annexure III**
	ii	Details of the alternative sites considered from environmental point of view.	Not Applicable
6		**Site Analysis**	
	i	Area of the project site (in sq. m.)	Project area = 48000 sq. m.
	ii	Connectivity	The proposed project is planned on versova coast (Seashore) from Sagar Kutir to Hindu Samshanbhoomi with approach road which intermit connected to Versova – JP road.
	iii	Land form, land use, Land ownership	The proposed project is planned on versova coast (Seashore area) and land belongs to Government.
	iv	Topography(along with map)	Toposheet of the area is attached as **Annexure IV.**
	v	Existing land use pattern(agriculture, non-agriculture, forest, water bodies shortest distances from the periphery of the project to periphery of the forest, national park, wild life sanctuary, eco-sensitive area, water bodies (distance from the HFL of the river).In case of notified industrial area, a copy of the Gazette notification should be given	Existing land consist area of damaged bund and sea shore.
	vi	Social Infrastructure available	- - -
7		**Planning Brief**	
	i	Planning concept (type of industries, facilities, transportation etc) Town & Country planning / Development Authority Classification.	Construction of Anti Sea Erosion bund along with promenade is proposed by, Harbour Engineering Division (N), Government of Maharashtra. In consultation with CWPRS – PUNE for recreational.
	ii	Population projection	Not Applicable
	iii	Land use planning (breakup along with green belt etc)	No private or agricultural land is utilized for proposed work. Excavated material shall be reuse during construction of bund.
	iv	Assessment of Infrastructure Demand (Physical & Social)	NA
	v	Amenities/Facilities(existing &	NA

		proposed)	
	vi	Proposed use	The purpose of the project is to reduce erosion of shoreline and also utilize for recreational purpose.
	vii	FSI proposed to be consumed	NA
	vii	Whether lift, lobby, staircase etc. are claimed free of FSI & if so whether they are permissible (if so mention the provision of DCR)	NA
8		**Proposed Infrastructure**	
	i	Industrial area (Processing Area)	NA
	ii	Residential Area (Non processing Area)	NA
	iii	Green Belt / Afforestation details	For Green belt 1000 sq.m area is purpose in the project.
	iv	Social Infrastructure	NA
	v	Connectivity (Traffic & Transportation Road / Rail /Metro /Water ways etc)	The proposed project is planned on versova coast (Seashore) from Sagar Kutir to Hindu Samshanbhoomi with approach road which connect to Versova – JP road.
	vi	Drinking Water Management (Source & supply of Water)	Water will be required only in construction phase. Water supply will be obtained from local authority (MCGM)
	vii	Sewerage System.	No sewage will be generated since labor camp will not be provided at site. Under no circumstances treated or untreated liquid waste will be poured with marine water.
	viii	Industrial Waste Management	NA
	ix	Solid Waste Management	An excavated material is proposed to be utilize for back filling for construction of promenade and landscaping.
	x	Power requirement & Supply / Source	In construction phase the power requirement will be fulfilled by providing the mobile source (DG sets).
9		**Rehabilitation & Resettlement (R & R)Plan**	
	i	Policy to be adopted (central / state) in respect of the project affected persons including home oustees, land oustees & landless laborers (a brief out line to be	NA

		given)	
	ii	Proposed detailed action plan for mangroves replantation (if any)	NA
10		**Project Schedule & Cost Estimates**	
	i	Likely date of start of construction & likely date of completion (Time schedule for the project to be given)	The work shall commence after obtaining CRZ clearance will completed within 24 month s from date of CRZ clearance.
	ii	Estimated project cost along with analysis in terms of economic viability of the project.	The estimated cost of the project is Rs. 55 Cr.
	iii	Share holding of the developer	NA
	iv	Share holding of the state government	100%
11		**Analysis of proposal (Final Recommendations)**	
	i	Environmental cost benefit analysis including financial & social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area.	The project is proposed further damages of valuable adjacent properties located along the shoreline.
12	i	Rapid EIA report including marine & terrestrial component except for construction projects listed under 4(c), 4(d) of CRZ Notification, 2011.**(Not applicable for building proposal)**	EIA studies including marine and terrestrial component will be carried out as per the guidelines.
	ii	Comprehensive EIA with cumulative studies for projects in the stretches classified as low & medium eroding by MoEF based on scientific studies & in consultation with the State Governments and Union Territory Administration(as per provision of 4.2 (c) of CRZ Notification, 2011) **(Not applicable for building proposal)**	NA
	iii	Disaster Management Report, Risk Assessment Report & Management Plan (As per provision of 4.2(d) of CRZ Notification, 2011)	Disaster Management Report, Risk Assessment Report & Management Plan will be prepared as a part of EIA report.
	iv	Photographs & Google images of the	Google image showing existing status of

		site indicating existing status & location of the site.	the project location and site is enclosed as **Annexure** V
	v	CRZ map indicating HTL and LTL and CRZ classification by one of the authorized agencies by MoEF in 1:4000 scales and project layout superimposed on the above map of CZMP (As per provision 4.2(e) and (f) of CRZ Notification, 2011)	CRZ map is enclosed as **Annexure II**
	vi	The CRZ map normally covering 7km radius around the project (for ports, harbours, jetties, infrastructure projects) (as per provision 4.2(g) of CRZ Notification, 2011)	NA
	vii	NOC from MPCB for projects involving significant discharge of effluents, solid wastes, sewage and the like (As per provision 4.2(i) of CRZ Notification, 2011)	NA
13		**Attached following No Objection Certificates (if applicable)**	
	i	Heritage Conservation	NA
	ii	State Ground Water Board	NA
	iii	Maharashtra Pollution Control Board	NOC will be obtained once after got the CRZ clearance from MCZMA.
	iv	High Court	NA
	v	Maritime board	NA
	vi	Port Trust	NA
	vii	Civil Aviation	NA
	viii	High Rise Committee	NA
		Applicable for SRA / Cessed / Dilapidated /Unsafe Building	
14		Undertaking of the Project proponent for the development through Slum Rehabilitation Scheme along with the state Government to ensure that all	NA

		legally regularized tenants are provided houses in situ or as per norms laid down by the State Government in this regard (as per the provision of 8 (V) (2) (iii) of CRZ Notification, 2011)	
15		Undertaking of the Project proponent to agree to be covered under the Right to Information Act 2005 (as per the provision 8 (V) (c) (d) (v) of CRZ Notification, 2011)	NA
16		Public consultation Report (As per provision 8 (v) (4) of CRZ Notification, 2011)	NA
17		Stake of the State Govt. or its parastatal entities (which should not be less that 51%) in the project (As per provision 8 (V) (1) (ii) (b) (2) (i) of CRZ Notification, 2011)	NA
18		Any other information relevant to the proposal	NA

Declaration

I hereby declare that the information mentioned above is true to the best of my knowledge. I fully understand that any information furnished above, if proved incorrect or false will render me liable for any penal action or other consequences as may be prescribed in law or otherwise warranted. Further, I hereby state that I will also submit half yearly compliance report in soft & hard format, on 1st June & 31st December of each calendar year to the CZMA as per the rule 4.2 (v) of the CRZ Notification, 2011 issued under the Environment Protection Act,1986. I will pay the requisite fees to MCZMA for processing the application placed before it.

Date: 27.12.2016

Signature of Applicant

Place: Konkan Bhavan, Navi Mumbai

Under CRZ Notification 2011

PART – B

			Particulars	Page No.
1	a		Whether the project site falls in CRZ-I, II, III & IV	Yes, The proposed project falls under CRZ-I(B), CRZ II.
	b		CRZ map indicating HTL & LTL demarcated by one of the authorized agency in 1:4000 scale (as per para (2) of CRZ Notification, 2011)/ on the approved CZMP of the area showing the site under consideration.	CRZ map is enclosed as **Annexure II**
	c		Project layout superimposed on the above map indicated at (b) above.	CRZ map is enclosed as **Annexure II**
	d		CRZ map covering 7 Km radius around the project site & indicating CRZ-I, II, III & IV areas including other notified ecologically sensitive areas.	NA
	e		If Project Site falls in CRZ-I A/CRZ-I B, then submit the following	
		i	Distance of the project site from mangroves /HTL	The major part of the project lies within HTL area.
		ii	Density of mangroves & extent of 50 meter zone from project site	NA
	f		If Project Site falls in CRZ-II	
		i	Whether project site is on seaward side of the existing road as on 19.02.1991	The Proposed Anti Sea Erosion Bund will be constructed along the versova coast (Seashore area) from Sagar Kutir to Hindu Samshanbhoomi with approach road.
		ii	Whether project site is on landward side of the existing road constructed prior to 19.02.1991.	NA
		A	If yes, certificate from Competent Authority indicating approval of road on development plan & date of construction.	NA
		B	Width of road.	
		iii	Whether project site is on seaward / landward side of the Hazard line.	NA
	g		If Project Site falls in CRZ III, distance of project site from HTL & mangroves, if any	NA
2			**Zoning, Land use & Development Plan remarks form the Competent Authority indicating the following**	

			details: (As per the provision 8(i) (I), (II) & (III) of CRZ Notification, 2011)	
		i	Identification of the project & project proponent, landownership indicating CTS No. / Survey Nos. etc.	Name of Proponent: Mr. R. D. Misal, Harbour Engineer, Harbour Engineering Division (N), Konkan Bhavan, Navi Mumbai, Govt. of Maharashtra The Proposed Anti Sea Erosion Bund will be constructed along the versova coast (Seashore area) from Sagar Kutir to Hindu Samshanbhoomi with approach road. Approx length- 1200 m.
		ii	Brief description of nature of the project with details including Layout Plan, Building Floor Plan etc.	The Proposed Anti Sea Erosion Bund will be constructed along the versova coast (Seashore area) from Sagar Kutir to Hindu Samshanbhoomi with approach road. Approx length =1200 m. and area of the project = 48000 sq. m. Provisions are as follows- • Excavation for foundation in earth, soil of all type, sand, gravel and soft murum. • Construction of cement Concrete protection wall. • Supplying and spreading geofabric filter layer of Geo-textile of polypropylene multifilament woven • Supplying and lying trap stone weighing up to 200 kg to 300 kg for Sub armout laying. • Providing Laying trap stone weighing 1000 to 3000 kg for apron/Armour layer. • Providing / laying 2 to 3 MT C.C.Tetra Pod for armour layer. • Construction of C.C pathway (promenade) along sea shore. Project site approved layout is enclosed as **Annexure III**
		iii	Information of the project site with respect to the CTS No., Survey No. total area etc.	NA
		iv	Copy of approved CTS plan from Land Records Department/ City Survey Office.	NA
		v	Status of land Freehold / Leasehold	---
		vi	Copy of Property Card	---
		vii	Zoning remarks for the project site as per development plan existing & enforce as on 19.02.1991.	NA
		viii	Zoning remarks for the project site as per current / prevailing development plan as	NA

		ix	Permissible height as per DCR enforce as on 19.02.1991	NA
		x	Permissible height as per current prevailing DCR	NA
		xi	FSI calculated as permissible in DCR existing on 19.02.1991 indicating eligible FSI in the proposed project.	NA
		a	Proposed use	The purpose of the project is to reduce erosion of shoreline and prevent further damages and utilize for recreational purpose.
		b	FSI proposed to be consumed	NA
		c	Whether lift, lobby , staircase etc. are claimed free of FSI & if so whether they are permissible (If so mention the provision of DCR)	NA
		xii	Permissibility of proposed use as per development plan & DCR as on 19.02.1991.	NA
		xiii	Development plan of the area indicating site under reference, zoning, reservation etc.	NA
		xiv	Land use change, if any, in the project.	NA
		xv	Designated reservations, if any, as per development plan/ Regional plan as on 19.02.1991 and as per current prevailing development plan of the area	NA
		xvi	Specific power of Authority enabling relaxation in height, use & another provision of D. C. Regulations.	NA
3			**Proposed project Detail including Layout Plan, Building Floor Plan etc.** (As per provision 8(II) & (III) of CRZ Notification, 2011)	Layout plan is attached (Annexure III)
4			**Details of Existing structure/ Infrastructure on site from Competent Authority indicating following details.** (As per provision 8(II) & (III) of CRZ Notification, 2011)	NA
	i		Occupation certificate.	NA
	ii		Commencement certificate	NA
	iii		Authorized plinth map from land records/ city survey office.	NA
	iv		FSI consumed & approved building plan of the existing structure from Planning Authority.	NA

	v		Remarks indicating existing use of the structure.	NA
	vi		Details of court cases/legal matters if any with respect to proposed matter.	NA
	vi		Details of complaints, if any	NA
5			Additional information for reconstruction of Houses in Koliwada (As per provision 8(V) (4) (g) of CRZ Notification, 2011)	NA
	a		Details of notified fishing settlement areas / Koliwadas as per development plan existing as on 19.02.1991 from competent Authority.	NA
	b		Certificate from competent Authority indicating, traditional Fisherman communities / other local coastal communities as per the Govt. records if personal belongs to Koliwadas.	NA
6			**SRA/CESS/Dilapidated / Unsafe Building** (As per provision 8(V) of CRZ Notification, 2011)	NA
	a		Slum area declaration Notification along with list of eligible tenants	NA
	b		Public consultation Report.	NA
	c		CESS/Dilapidated /dangerous / Unsafe building certificate from Competent Authority	NA
	d		Stake of the State Govt. or its parastatal entities (Which should not be less that 51%) in the SRA scheme projects (As per provision 8(V) (1)(ii) (b)(2)(i) of CRZ Notification, 2011)	NA
7			**Detailed remarks of the Planning Authority on the proposed project.**	--

Signature

Authorized Signatory,
Harbour Engineer,
Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai,
Govt. of Maharashtra

Date: 27.12.2016

Place: Mumbai

Annexure I

Annexure I

EXECUTIVE SUMMARY

1. PROJECT NAME

Construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova, in Mumbai Suburban.

2. INTRODUCTION

Coastal erosion is the wearing away of land and the removal of beach or dune sediments by wave action, tidal currents, drainage or high winds. Waves generated by storms, wind or fast moving motor craft, cause coastal erosion, which may take the form of long-term losses of sediment and rocks, or merely the temporary redistribution of coastal sediments; erosion in one location may result in accretion nearby. To overcome this situation and to reduce erosion it is essential to construct an Anti Sea Erosion Bund at the site.

Harbor Engineering division, versova, have proposed to construct Anti Sea Erosion Bund on versova coast under State Finance and Sought advice of CWPRS for the design of coastal protection works.

3. PROJECT DESCRIPTION

Anti Sea Erosion (ASE) Bund is to be constructed from Sagar Kutir to Hindu Samshanbhoomi with approach road. Total Length of ASE bund is 1200 meter and Project area = 48000 sq. m. The proposed sea bund will be start from Sagar kutir hutments (CH. – 300.00M) and End at Hindu smashanbhoomi (CH. 900.00). If possible, the loose stones from the existing protection near in front of the compound walls has been proposed to reutilize by shifting towards sea side of proposed concrete sea wall and laying as per the design of coastal protection work received from CWPRS Pune. Futher the coastal protection design from CWPRS had been finalize (Fig 1.1). Based on the design, the following provisions are considered in the detailed estimate.

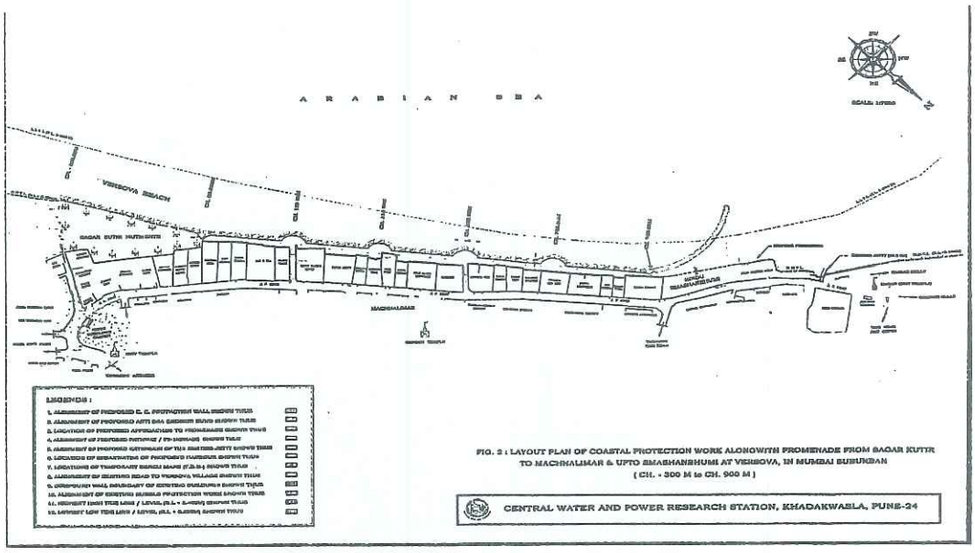


Figure 1.1 The coastal protection design from CWPRS.

Provisions are as follows-

- Excavation for foundation in earth, soil of all type, sand, gravel and soft murum.
- Construction of cement Concrete protection wall.
- Supplying and spreading geofabric filter layer of Geo-textile of polypropylene multifilament woven
- Supplying and lying trap stone weighing up to 200 kg to 300 kg for Sub armout laying.
- Providing Laying trap stone weighing 1000 to 3000 kg for apron/Armour layer.
- Providing / laying 2 to 3 MT C.C.Tetra Pod for armour layer.
- Construction of C.C pathway (promenade) along sea shore.

4. NEED OF THE PROJECT

Due to high tidal condition erosion occurs in large quantity at versova beach. There exists old bund at site which now seems completely damaged. The bund is no longer in condition to protect the adjacent structure and locality. The stretches from Sagar kutir to Hindu Shamshanbhoomi seems completely disturbed. This has lead to erosion of beach resulting in damage to compound wall of adjoin buildings. During high tides, there is risk of entering of waves to the adjoin buildings causing damages.

5. ABOUT THE PROJECT

5.1 Project Location:

Proposed Anti Sea Bund Alignment starts from Sagar kutir to Hindu Shamshanbhoomi at Versova beach. Shown in fig 1.2

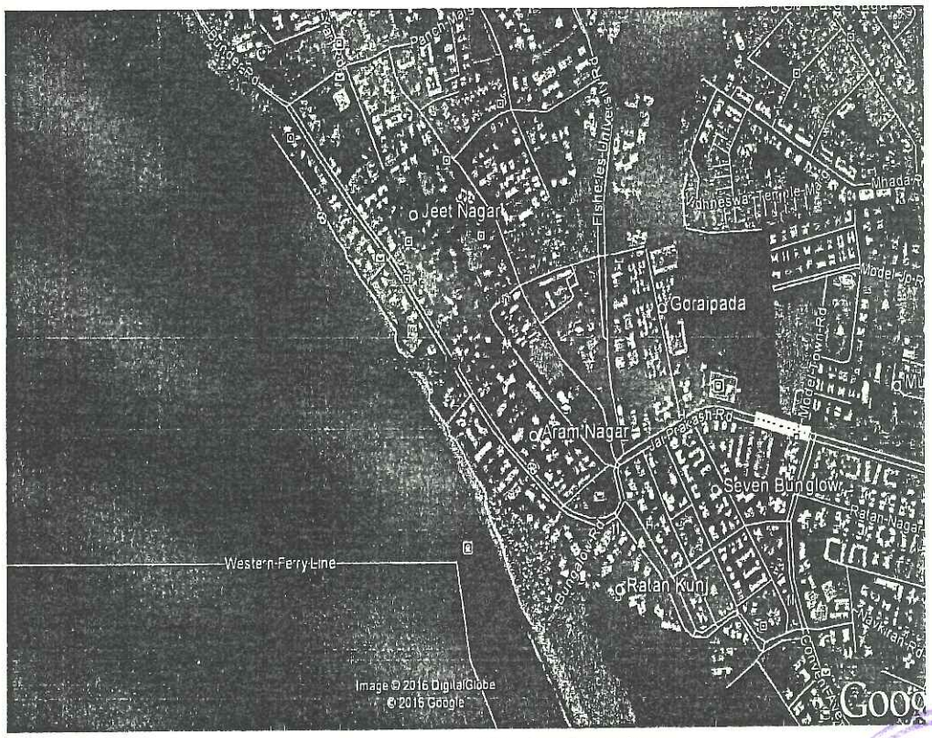


Figure 1.2: Proposed Project Location

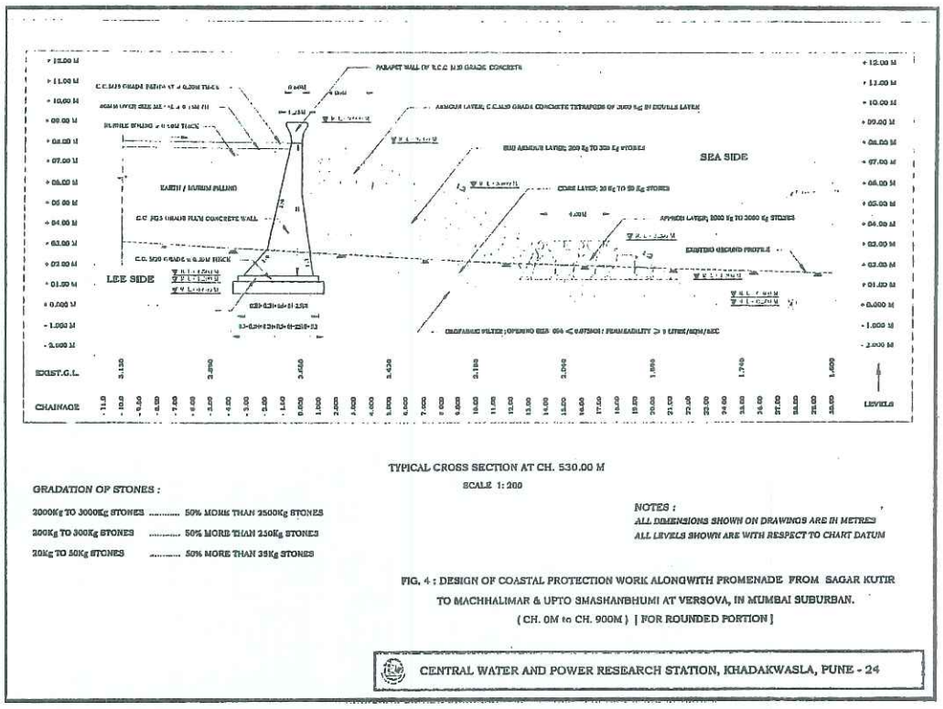


Fig 1.4 (A) layout plan Typical Section at CH. 530.00M (For Rounded Portion)

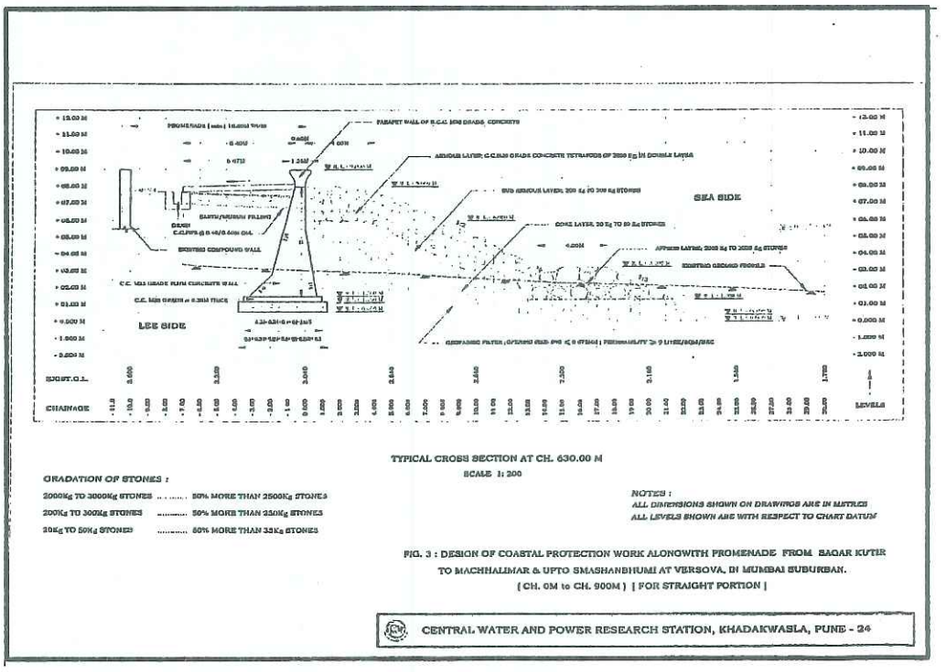


Fig 1.4 (B) layout plan Typical Section at CH. 630.00M (For Straight Portion)

5.2 CRZ Status: The proposed project falls under CRZ I and CRZ II

The proposed anti sea bund falls under CRZ I area while the approach road connected between beach and existing versova - JP road falls under the CRZ II.

5.3 Project layout

The Proposed Anti Sea Erosion Bund will be constructed along the western coast on Versova Beach from Sagar Kutir to Hindu Samshanbhoomi with approach road (CH. -300.00M TO CH. 900.00M). The length of the alignment is around 1200 meters with two approach road. Comprising an area of 48000 sq. m.

Fig 1.3 shows Plan layout Superimposed on google map.

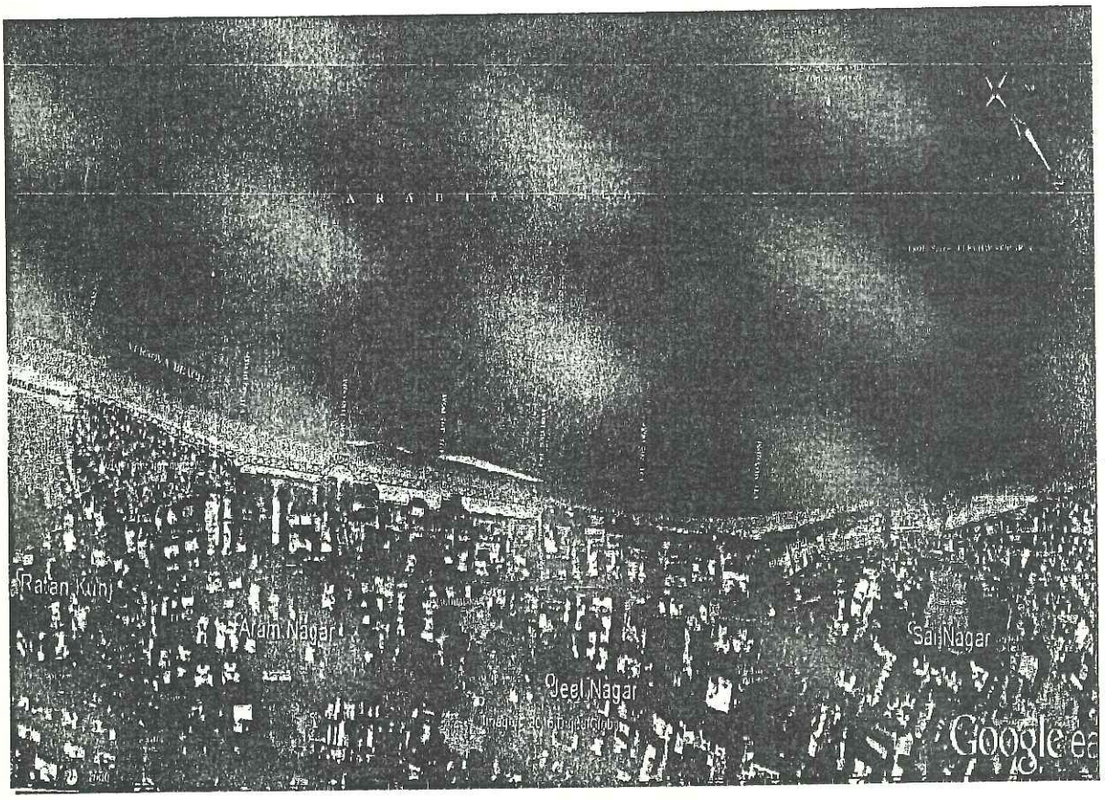


Fig 1.3: Showing Anti sea erosion bund layout Plan

The design of the coastal protection wall alongwith promade from sagar kutir to smashanbhumi at versova. (CH. 0M to CH. 900M) [For **Rounded Portion**]A and [For **Straight Portion**]B show in fig 1.4 A & B respectively

The existing approach road at CH. 180.00M and CH. 530.00M will be renovate according to layout plan. Fig 1.5 shows the typical Section of Approach road.

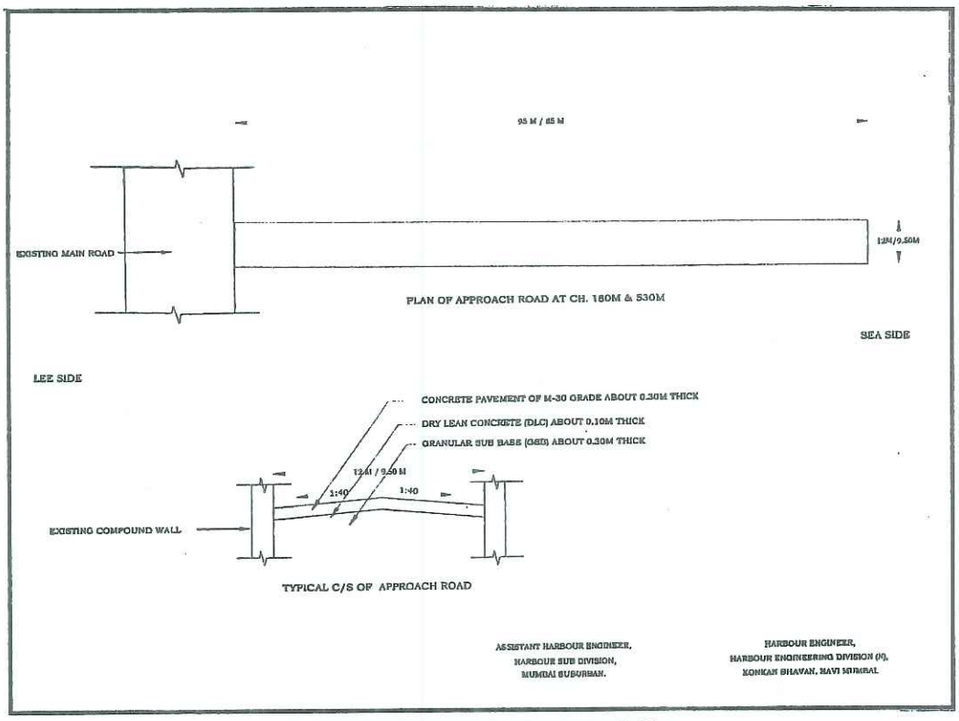


Fig 1.5 Typical Section of Approach Plan

5.4 Material Specification

- **Geofabric filter layer of Geo-textile of polypropylene multifilament woven**
  Supplying and spreading geofabric filter layer of Geo-textile of polypropylene multifilament woven to the line, level and grade with pore size less than 0.075 mm and permeability greater than 9.5 liter/ sq.m./sec.

- **Filter of polythene cement bags filled with sand**
  Providing and spreading Filter of polythene cement bags filled with sand obtain from excavation of foundation including conveying and placing in proper line, level.

- **Laying trap stone weighing up to 20 kg for Filter/core layer.**
  Supplying and laying trap stone up to 20 kg for filter/ core layer including quarrying conveying with all the leads, lift, laying in required line, level

- **Laying trap stone weighing 50 kg to 100 kg for core laying**
  Supplying and laying trap stone 50 to 100 kg for apron/Armour layer including quarrying conveying with all the leads, lift, laying in required line, level, slope including necessary equipments and machinery, such as cranes for adequate capacity & boom length

- **Laying trap stone weighing 500 to 1000 kg for apron/Armour layer.**
  Supplying and laying trap stone 500 to 1000 kg for apron/Armour layer including quarrying conveying with all the leads, lift, laying in required line, level, slope including necessary equipments and machinery, such as cranes for adequate capacity & boom length

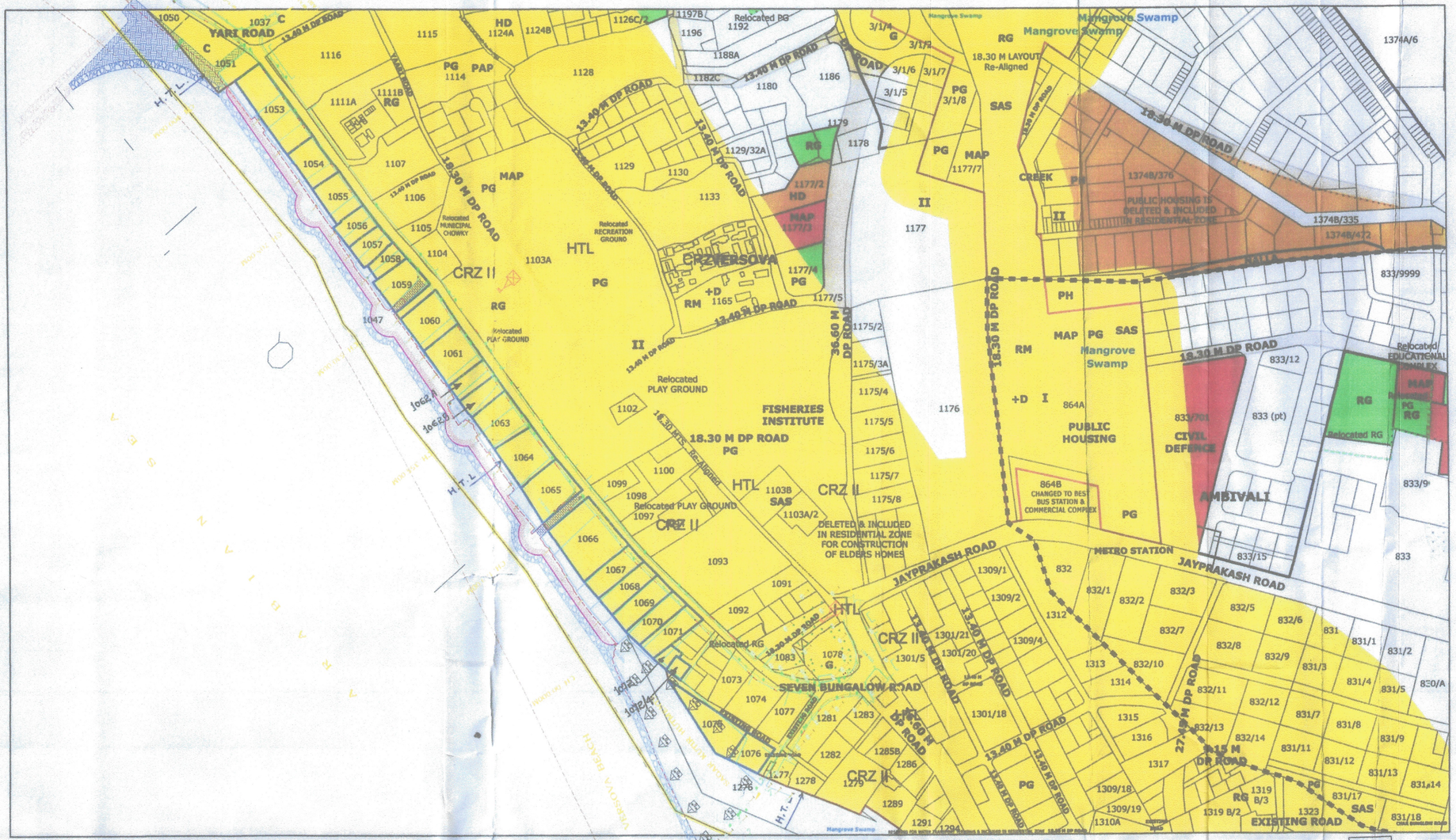
6. **DESCRIPTION OF THE ENVIRONMENT**
   EIA will be prepared as per the guidelines of MoEF & CC to assess the impact of the project on surrounding environment. Environment Management plan & monitoring plan will be prepared upon the impacts identified. Disaster and risk management plan will also be incorporated in EIA report.

7. **PROJECT BENEFITS**
   Construction of Anti Sea Erosion Bund from Sagar Kutir to Hindu Smashanbhumi, will have following benefits:
   - Project will provide protection from the waves and tides to the above said coast.
   - Project will prevent coastal erosion at the Versova beach.
   - Anti Sea Erosion Bund will prevent the entry of sea water inside the compound wall present on versova coast.

8. **PROJECT COST:**
   The estimated cost of the project is 55 cr.

9. **CONCLUSION:**
   Sea bund construction is necessary to protect the coastal structures, to reduce coastal erosion and prevent entry of sea water on land during high waves.

NOTARY
REKHA R. KOWALE
Dist. Thane, Navi Mumbai & Raigad
Regd. No.: 15074
Exp. Date 16/10/2024
Govt. of India



INDEX

CRZ I

CRZ II

Land Bearing C.T.S.Nos.1053,1054,1055,1056,1057,1058,1059,1060,1061, 1062A,1062B,1063,1064,1065,1066,1067,1068,1069,1070,1071,1072/4, 1075 AND 1076 of Versova Village in K/W Ward

NOTE:

This plan is to be Plan read with letter under No.CHE/27593/DPWS/K/W Dated: 26 DEC 2016

Assistant Engineer (DP) CRZ

LOCATION PLAN

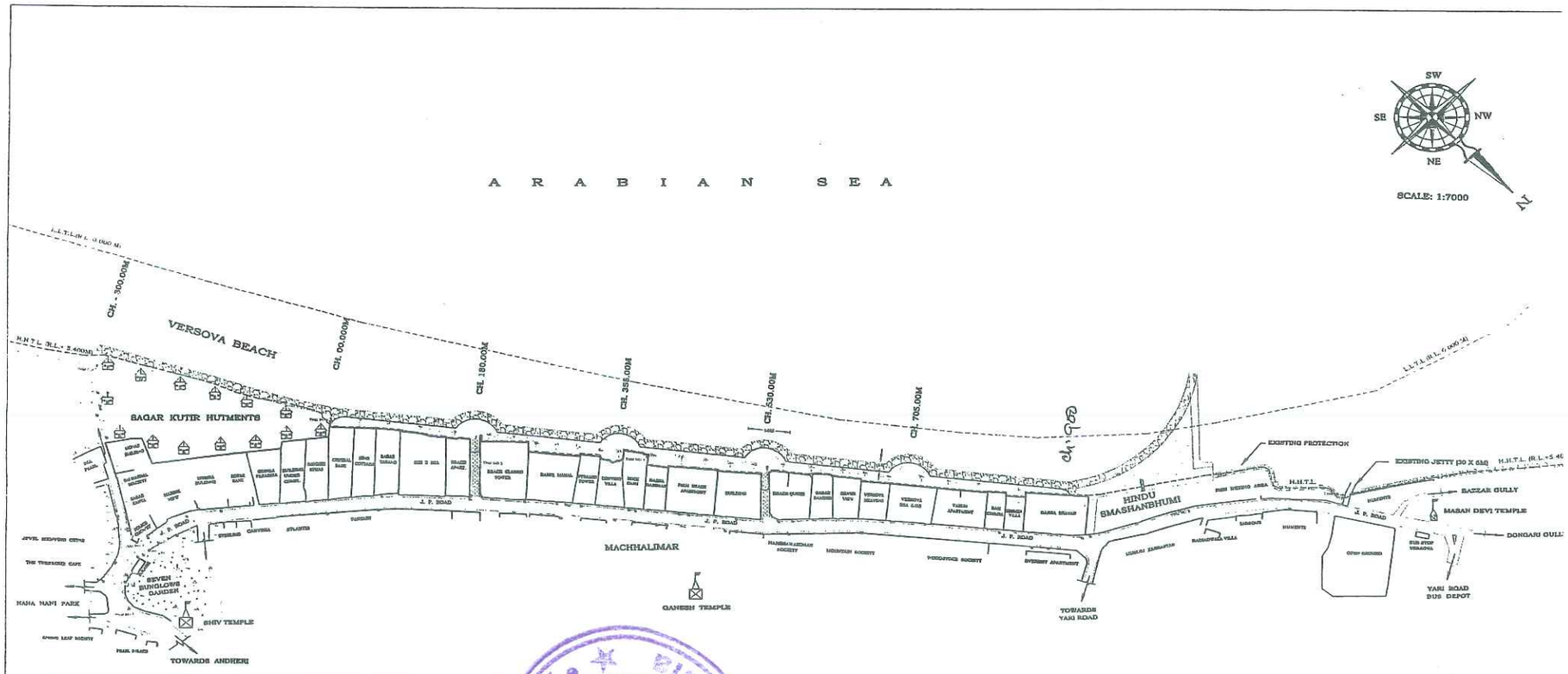
Scale 1:4000

MUNICIPAL CORPORATION OF GREATER MUMBAI (Developement Plan Department)

Office of the Chief Engineer (Development Plan)
4th Floor, Annexe Building,
Municipal Head Office,
Mahapalika Marg, Fort, MUMBAI - 400 001.

Annexure II

Annexure III



LEGENDS :

1. ALIGNMENT OF PROPOSED C. C. PROTECTION WALL SHOWN THUS
2. ALIGNMENT OF PROPOSED ANTI SEA EROSION BUND SHOWN THUS
3. LOCATION OF PROPOSED APPROACHES TO PROMENADE SHOWN THUS
4. ALIGNMENT OF PROPOSED PATHWAY / PROMENADE SHOWN THUS
5. ALIGNMENT OF PROPOSED EXTENSION OF THE EXISTING JETTY SHOWN THUS
6. LOCATION OF BREAKWATER OF PROPOSED HARBOUR SHOWN THUS
7. LOCATIONS OF TEMPORARY BENCH MARK (T.B.M.) SHOWN THUS
8. ALIGNMENT OF EXISTING ROAD TO VERSOVA VILLAGE SHOWN THUS
9. COMPOUND WALL BOUNDARY OF EXISTING BUILDINGS SHOWN THUS
10. ALIGNMENT OF EXISTING RUBBLE PROTECTION WORK SHOWN THUS
11. HIGHEST HIGH TIDE LINE / LEVEL (R.L + 5.400M) SHOWN THUS
12. LOWEST LOW TIDE LINE / LEVEL (R.L + 0.000M) SHOWN THUS

FIG. 2 : LAYOUT PLAN OF COASTAL PROTECTION WORK ALONGWITH PROMENADE FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN
(CH. - 300 M to CH. 900 M)

CENTRAL WATER AND POWER RESEARCH STATION, KHADAKWASLA, PUNE-24

RESTRICTED

BOMBAY CITY, BOMBAY SUBURBAN AND THĀNE DISTRICTS.

Surveyed 1963-66

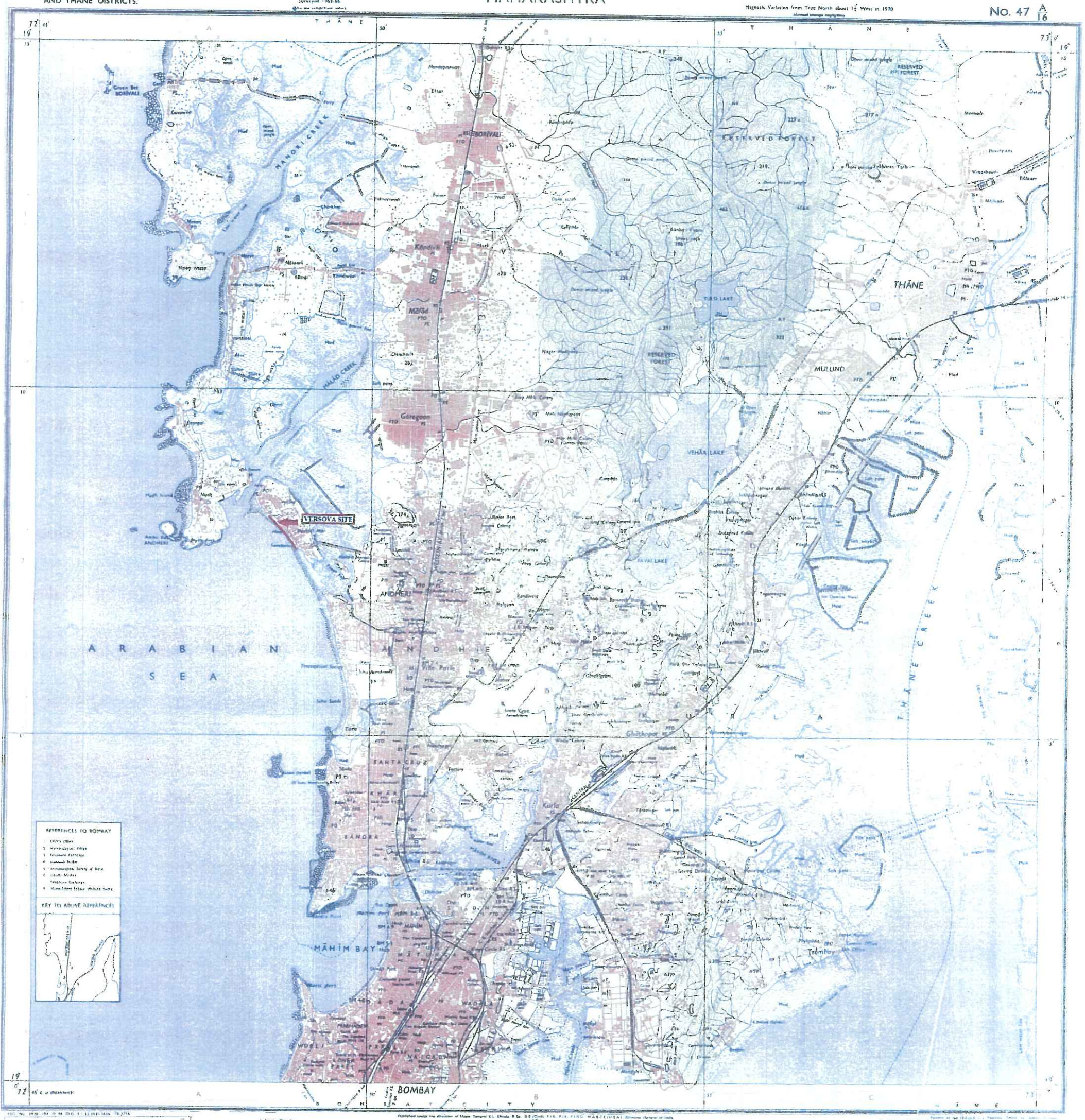
MAHĀRĀSHTRA

FIRST EDITION

Magnetic Variation from True North about 1° West in 1970

REFER TO THIS MAP AS — INDIA 50 000
SHEET 47 A/16 FIRST EDITION

No. 47 A/16



REFERENCES TO BOMBAY

1. CMO's Office
2. Meteorological Office
3. Telegraph Exchange
4. Observatory Station
5. Hydrographical Survey of India
6. Lloyd's Master
7. Telephone Exchange
8. Mahārāshtra Tribune Wireless Station

KEY TO ADJOINING REFERENCES

Index to Sheets

Published under the direction of Major General E.L. Shields B.Sc. (Civil) FIE, FIS, FRGS (USA) Surveyor General of India.

1976

1:50.000

100 m to 1 cm — 2 cm to 1 km

Administrative Index

1 THANE
2 BOMBAY CITY.

HEIGHTS & CONTOURS IN METRES

CONTOUR INTERVAL 20 METRES

Water features are shown in blue where they generally contain water. Coniferous areas are coloured yellow. The outer boundaries of areas of Reserved and Protected Forests are shown by green ribbing.

Contours are approximate. A relative indication of the steepness of the ground is given by the closeness of the contours. Where the top and bottom of a steep escarpment are coloured brown. Where just other impassable areas are given, prominent landmarks such as Stone

The kilometre stone numbers along roads and railways are shown as short type e.g. '31' whereas milestone numbers are shown in upright type, e.g. '31'.

The Central Railway is inter-lined brown from Bombay to Kalyān and electrified from Bombay to Pune.

The Western Railway is two-lined from Bombay to Borivli and electrified from Bombay to Virār.

The pre-feature line has been taken from Admiralty Chart, No. I. (D-3) 127 WEST COAST OF INDIA—AANJA I. TO ENANDRIM I.), dated 1954 (1967 with corrections to 1969).

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.

REFERENCES

Hosp. Hospital. Disp. Dispensary.
LIC Life Insurance Corporation of India. NH 3 National Highway No. 3.

COMPILATION INDEX

A Photoprint surveys 1964-66.
B Compiled from 1:10,000 survey, 1963-64.

Roads and Railways

Cart tracks, Pack track and bare Foot path with bridge
Bridges: with piers without Causeway, Ford or Ferry
Streams: with track on bank undefined, Canal
Plains: cultivated permanent, Waste
Rocky hard as shelving, steep, 5 to 8 metres, over 8 metres deep with water channel, with island & waste land in river, Submerged rocks, Shoal, Swamp, Roads
Wells, lined, without, Tubewell Spring, Tanks perennial, dry
Embankments, made or natural, tank, Broken ground
Railways, broad gauge, double or with station, under construction, abandoned, dismantled
Other gauges: [illegible]
Mineral line or tramway, Telegraph line, Cutting, Road tunnel
Contours with rock features, Rocky slopes, Cliffs
Sand features, Shifting dunes, Stabilised dunes

Towns or Villages, inhabited, ruins, Fort
Public monument, temple, Mosque, Church, Mosque, Dargah, Tomb, Graveyard
Lighthouse, Light, Fire Beacon, Signal, unmanned, Anchorage
Vine, Vine on trellis, Orchard, Scrub
Palms, palmyra, other, Plantain, Conifer, Bamboo, Other trees
Boundary, international
Boundary, state, demarcated, undemarcated
Boundary, district, subdivision, taluk or tāluka, forest
Boundary, not fully surveyed, of feature, with tripjunction
Heights, triangulated, station points, approximate
Permanent, seasonal, tanks, canal
Post office, telegraph office, combined office, Police station
Bungalow, Rest house, Serai, Inspection, Forest house
Cemetery, Sati, Caves, Ancient ground, Forest, reserved, protected
Sparsely timbered, with scrub, scrubby, Bushy

Price [illegible] Rupees

RESTRICTED

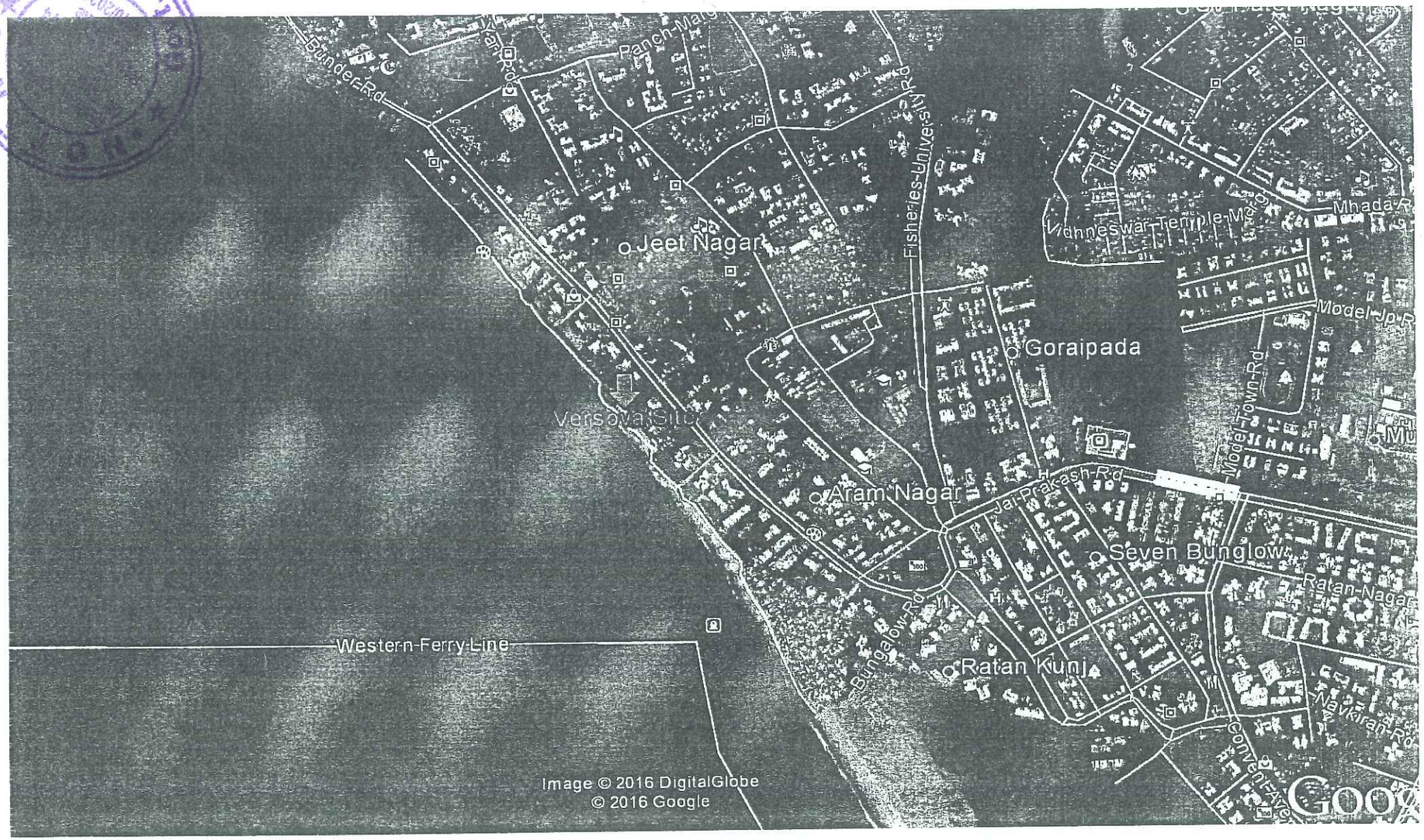
REFER TO THIS MAP AS — 1 50,000
SHEET 47 A/16 FIRST EDITION

INDIA

Annexure IV

Annexure V

GOOGLE IMAGE SHOWING PROPOSED ANTI SEA EROSION BUND PROJECT LOCATION SITE



Annexure VI

NAME OF WORK :- Improvement in Vesave village, jetty and approach road in Mumbai Suburban.

RECAPITULATION SHEET

Cost of Work portion.....	i.e.- Rs.	330456648.00
Add 3% Contingencies Charges.....	i.e. Rs.	9913699.00
Add 5% Work Charge Estt.	i.e. Rs.	4956850.00
Add 1 % Insurance Charges	i.e. Rs.	3304566.00
Add for CWPRS Study, CRZ and Rapid EIA Clearence (As per quotation attached.).....	i.e. Rs.	1368000.00
	Total Rs.	349999763.00
	Say Rs.	35,00,00,000/-

Assistant Harbour Engineer,
Harbour Sub Division,
Mumbai Suburban.

Harbour Engineer,
Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai.

Coastal Engineer,
P.W. Department,
Mumbai.

Chief Engineer
Special Projects, P. W. D.,
Mumbai.

प्रशासकीय मान्यता मिळालेल्या शा. नि. चा.
क्र. विपाप्रक-२०१४/सवि.क्र-(७५७७)/वि-३
दिनांक - 30/3/2015
रु 34,00,00,000 करिता
(सा.बां. प्रस्ताव कोटी भाग)
का.अ.
सा.बां. विभाग, मंत्रालय

प्रशासकीय मान्यता

मुंबई उपनगर जिल्ह्यातील सागर कुटीर, वर्सोवा येथे समुद्र धुप प्रतिबंधक बंधारा बांधणे

महाराष्ट्र शासन
सार्वजनिक बांधकाम विभाग
शासन निर्णय क्रमांक- पिएलएन-२०१६/सीआर-(५४६)/नि-३
मंत्रालय, मुंबई-४०० ०३२
दिनांक - १६/०२/२०१६

शासन निर्णय:- मुंबई उपनगर जिल्ह्यातील सागर कुटीर, वर्सोवा येथे समुद्र धुप प्रतिबंधक बंधाग बांधणे या रुपये २,५०,००,०००/- (रु.दोन कोटी पन्नास लक्ष मात्र) अंदाजित खर्चाच्या बांधकामास याद्वारे प्रशासकीय मान्यता देण्यात येत आहे. सदर कामाचा वाव खालीलप्रमाणे आहे:-

१) दगडी धुप प्रतिबंधक बंधारा *२) टेट्रापॉड्स* *३)संकीर्णबाबी*

१. क्षेत्रिय अधिकाऱ्यांनी या कामाच्या प्रत्यक्ष बांधकामास सुरूवात करण्यापूर्वी हे काम कोणत्याही पाटबंधारे / जलविद्युत पाणी पुरवठा प्रकल्पाच्या जलाशयाखाली जाण्याची शक्यता नाही किंवा अशा प्रकल्पामुळे या कामावर कोणताही परिणाम होणार नाही याची खात्री करून घेतली पाहिजे या अटीवरच ही प्रशासकीय मान्यता देण्यात येत आहे.

२. सदरहू कामाचा प्रस्ताव तयार करताना कामाचे समर्थन, जिल्हास्तरीय कामासाठी जिल्हा नियोजन व विकास मंडळाची मान्यता निकष, आवश्यकता इत्यादीने वेळोवेळी निर्गमित केलेल्या परिपत्रकातील / पत्रातील सूचनांचे अनुपालन, या सर्व बाबींचा क्षेत्रीय पातळीवर विचार करण्यात आलेला आहे व प्रस्तावाची क्षेत्रीय पातळीवर सर्व तांत्रिक दृष्टीकोनातून छाननी करण्यात आलेली आहे, अशी धारणा आहे. तथापि, तांत्रिक मंजूरी देण्यापूर्वी या सर्व बाबींची पुन्हा एकदा खातरजमा करून घेण्यात यावी.

३. प्रस्तुत कामास तांत्रिक मंजूरी देण्यापूर्वी व काम सुरू करण्यापूर्वी पुढील बाबींची पुर्तता करण्यात यावी या अटीवरच ही प्रशासकीय मान्यता देण्यात येत आहे.

i. सदर काम केंद्रीय जल व विद्युत संशोधन स्थानक, पुणे (Central Water and Power Research Station, Pune) यांचेकडून मंजूरी प्राप्त /वेळोवेळी सुधारणा केलेल्या काटछेदानूसार (Cross Section) करणे बंधनकारक राहील.

ii. सदर कामासाठी मंजूर निधीच्या मर्यादेच्या अधिन राहूनच खर्च करण्यात यावा.

iii. सदर काम हे शासनाच्या मालकीच्या जागेवरच करण्यात यावे. खाजगी किंवा इतर मालकींच्या जागेत करावयाचे झाल्यास त्याचे प्रचलीत भूसंपादन नियमानुसार लागणारी जमिन संपादीत करुन नंतरच तांत्रिक मंजूरीबाबत कार्यवाही करण्यात यावी.

iv. अंदाजपत्रकातील दराबाबत सार्वजनिक बांधकाम विभागाचे परिपत्रक क्रमांक-डिएसआर१०९०/सीआर-६४५३/नियो-३, दिनांक-१४/०७/१९९३ व जीईएन-१०२००१/सीआर-३/नियोजन-३, दिनांक २२ फेब्रुवारी २००१ मधील तरतूदींचे अनुपालन झाले असल्याबद्दल खात्री करून घेण्यात यावी.

v. सदरील कामांस वनजमीन /पर्यावरण विभागाची आवश्यकता असल्यास संबंधीत विभागाच्या पूर्वपरवानगी घेतल्याशिवाय काम हाती घेण्यात येऊ नये.

vi. काँक्रीटच्या संकल्पनास तांत्रिक मंजूरी प्राधिकाऱ्याची मंजूरी घ्यावी.

vii. तांत्रिक मान्यता प्रदान करण्यापूर्वी द्रविक गणिते पुनश्च: तपासण्यात यावीत. त्याप्रमाणे संकल्पन निश्चित करण्यात यावे.

४. प्रशासकीय मान्यतेच्या अंदाजपत्रकात प्रत्येक दराचे वर्णन/दर/दर पृथ:करणातील गृहीत धरलेली अंतरे व अनुषंगिक इतर बाबी तांत्रिक मान्यता प्रदान करण्यास सक्षम अधिकाऱ्यांनी त्यांच्या पातळीवर तपासणे अनिवार्य आहे. या संदर्भात शासनाचे कोणतेही उत्तरदायित्व असणार नाही.

५. तांत्रिक मान्यता प्रदान करतांना प्रशासकीय मान्यतेतील वाव अन्य कोणत्याही योजनेत/कार्यक्रमात समाविष्ठ नाही, याची खातरजमा तांत्रिक मान्यता प्रदान करण्यास सक्षम अधिकाऱ्यांने करावी.

६. सदर कामावरील खर्च " *४७११ पूर नियंत्रण प्रकल्प यावरील भांडवली खर्च, ०२ समुद्रधुप प्रतिबंधक प्रकल्प, ८०० इतर खर्च* " या शिर्षाखाली दाखवण्यात यावा.

७. या कामासाठी अर्थसंकल्पात विशिष्ठ तरतूद असल्याशिवाय हे काम सुरू करण्यात येवू नये.

८. हा शासन निर्णय, सार्वजनिक बांधकाम विभागातील आंतर वित्तीय सल्लागार व उप सचिव यांच्या अनुमतीने काढण्यात येत आहे.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नांवाने,

(मि.दे.बच्चीवार)
कार्यासन अधिकारी

प्रत,
महालेखापाल-१ व २. (लेखापरीक्षा) महाराष्ट्र राज्य, मुंबई / नागपूर
महालेखापाल-१ व २,,(लेखा व अनुज्ञेयता), महाराष्ट्र राज्य, मुंबई / नागपूर
मुख्य अभियंता, सार्वजनिक बांधकाम (विशेष प्रकल्प), मुंबई
किनारी अभियंता, सार्वजनिक बांधकाम मंडळ, बांद्रा (मंजूर नकाशे व अंदाजपत्रकाच्या प्रतीसह)
पतन अभियंता. पतन अभियांत्रिकी विभाग, कोकण भवन, नवी मुंबई
मा.मंत्री, सार्वजनिक बांधकाम यांचे स्वीय सहाय्यक
मा.राज्यमंत्री, सार्वजनिक बांधकाम यांचे स्वीय सहाय्यक
कार्यासन अधिकारी, अर्थ-१/नियोजन-१/रस्ते-५, सार्वजनिक बांधकाम विभाग, मंत्रालय, मुंबई

NAME OF WORK :- Construction of Anti Sea Erosion bund at Sagar Kutir, Versova, in Mumbai Suburban.

RECAPITULATION SHEET

Cost of Work portion.....	i.e. Rs.	22085820.00
Add 4 % Contingencies Charges.....	i.e. Rs.	883432.80
Add 2 % Computerisation Charges.....	i.e. Rs.	441716 .00
Add 1 % Insurance Charges	i.e. Rs.	220858.00
Add for CWPRS Study, CRZ and Rapid EIA Clearence (As per quotation attached).....	i.e. Rs..	1368000.00
	Total Rs.	24999827.00
	SAY Rs.	2,50,00,000/-

Assistant Harbour Engineer,
Harbour Sub Division,
Mumbai Suburban.

Harbour Engineer,
Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai.

Coastal Engineer,
P.W. Department,
Mumbai.

Chief Engineer
(Special Project) P.W.D.,
Mumbai-400 001.

NOTARY
REKHA KISHAN
Dist. Thane Navi Mumbai
& Raigad
Regd. No.: 1607
Exp. Date
16/10/2024
Govt. of Maharashtra

प्रशासकीय मान्यता मिळालेल्या शा. नि. चा.
क्र : प्रशासन-२०१६/सी.आर.-(५४६)/बां-३
दिनांक- २६/५/२०१६
रु. २,५०,००,०००/- करिता
(रु. दोन कोटी पन्नास लक्ष मात्र)
का.अ.
सा.बां. विभाग, मंत्रालय

प्रशासकीय मान्यता

मुंबई उपनगर जिल्ह्यातील वर्सोवा, सागर कुटीर ते मछलीमार पर्यंत समुद्रधुप प्रतिबंधक बंधारा बांधणे

महाराष्ट्र शासन
सार्वजनिक बांधकाम विभाग
शासन निर्णय क्रमांक- पिएलएन-२०१६/सीआर-(५४७)/नि-३
मंत्रालय, मुंबई-४०० ०३२
दिनांक - १६/०२/२०१६

शासन निर्णय:- मुंबई उपनगर जिल्ह्यातील वर्सोवा, सागर कुटीर ते मछलीमार पर्यंत समुद्रधुप प्रतिबंधक बंधारा बांधणे या रुपये १७,५०,००,०००/- (रु.सतरा कोटी पन्नास लक्ष मात्र) अंदाजित खर्चाच्या बांधकामास याद्वारे प्रशासकीय मान्यता देण्यात येत आहे. सदर कामाचा वाव खालीलप्रमाणे आहे:-

१) दगडी धुप प्रतिबंधक बंधारा २) टेट्रापॉड्स/ संरक्षकभिंत ३)संकीर्णबाबी

१. क्षेत्रिय अधिकाऱ्यांनी या कामाच्या प्रत्यक्ष बांधकामास सुरूवात करण्यापूर्वी हे काम कोणत्याही पाटबंधारे / जलविद्युत पाणी पुरवठा प्रकल्पाच्या जलाशयाखाली जाण्याची शक्यता नाही किंवा अशा प्रकल्पामुळे या कामावर कोणताही परिणाम होणार नाही याची खात्री करून घेतली पाहिजे या अटीवरच ही प्रशासकीय मान्यता देण्यात येत आहे.

२. सदरहू कामाचा प्रस्ताव तयार करताना कामाचे समर्थन, जिल्हास्तरीय कामासाठी जिल्हा नियोजन व विकास मंडळाची मान्यता निकष, आवश्यकता शासनाने वेळोवेळी निर्गमित केलेल्या परिपत्रकातील / पत्रातील सूचनांचे अनुपालन, य. सर्व बाबींचा क्षेत्रीय पातळीवर विचार करण्यात आलेला आहे व प्रस्तावाची क्षेत्रीय पातळीवर सर्व तांत्रिक दृष्टीकोनातून छाननी करण्यात आलेली आहे, अशी धारणा आहे. तथापि, तांत्रिक मंजूरी देण्यापूर्वी या सर्व बाबींची पुन्हा एकदा खातरजमा करून घेण्यात यावी.

३. प्रस्तुत कामास तांत्रिक मंजूरी देण्यापूर्वी व काम सुरू करण्यापूर्वी पुढील बाबींची पुर्तता करण्यात यावी या अटीवरच ही प्रशासकीय मान्यता देण्यात येत आहे.

i. सदर काम केंद्रीय जल व विद्युत संशोधन स्थानक, पुणे (Central Water and Power Research Station, Pune) यांचेकडून मंजूरी प्राप्त /वेळोवेळी सुधारणा केलेल्या काटछेदानूसार (Cross Section) करणे बंधनकारक राहील.

ii. सदर कामासाठी मंजूर निधीच्या मर्यादेच्या अधिन राहूनच खर्च करण्यात यावा.

iii. सदर काम हे शासनाच्या ताब्यातील जागेवरच करण्यात यावे. खाजगी किंवा इतर मालकीच्या जागेत करावयाचे झाल्यास त्याचे प्रचलीत भूसंपादन नियमानुसार लागणारी जमिन संपादीत करुन नंतरच तांत्रिक मंजूरीबाबत कार्यवाही करण्यात यावी.

iv. अंदाजपत्रकातील दराबाबत सार्वजनिक बांधकाम विभागाचे परिपत्रक क्रमांक-डिएसआर१०९०/सीआर-६४५३/नियो-३, दिनांक-१४/०७/१९९३ व जीईएन-१०२००१/सीआर-३/नियोजन-३, दिनांक २२ फेब्रुवारी २००१ मधील तरतूदींचे अनुपालन झाले असल्याबद्दल खात्री करून घेण्यात यावी.

v. सदरील कामांस वनजमीन /पर्यावरण विभागाची आवश्यकता असल्यास संबंधीत विभागाच्या पूर्वपरवानगी घेतल्याशिवाय काम हाती घेण्यात येऊ नये.

vi. काँक्रीटच्या संकल्पनास तांत्रिक मंजूरी प्राधिकाऱ्याची मंजूरी घ्यावी.

vii. तांत्रिक मान्यता प्रदान करण्यापूर्वी द्रविक गणिते पुनश्च: तपासण्यात यावीत. त्याप्रमाणे संकल्पन निश्चित करण्यात यावे.

४. प्रशासकीय मान्यतेच्या अंदाजपत्रकात प्रत्येक दराचे वर्णन/दर/दर पृथ:करणातील गृहीत धरलेली अंतरे व अनुषंगिक इतर बाबी तांत्रिक मान्यता प्रदान करण्यास सक्षम अधिकाऱ्यांनी त्यांच्या पातळीवर तपासणे अनिवार्य आहे. या संदर्भात शासनाचे कोणतेही उत्तरदायित्व असणार नाही.

५. तांत्रिक मान्यता प्रदान करतांना प्रशासकीय मान्यतेतील वाव अन्य कोणत्याही योजनेत/कार्यक्रमात समाविष्ठ नाही, याची खातरजमा तांत्रिक मान्यता प्रदान करण्यास सक्षम अधिकाऱ्यांने करावी.

६. सदर कामावरील खर्च " *४७११ पूर नियंत्रण प्रकल्प यावरील भांडवली खर्च, ०२ समुद्रधुप प्रतिबंधक प्रकल्प, ८०० इतर खर्च* " या शिर्षाखाली दाखवण्यात यावा.

७. या कामासाठी अर्थसंकल्पात विशिष्ठ तरतूद असल्याशिवाय हे काम सुरू करण्यात येवू नये.

८. हा शासन निर्णय, सार्वजनिक बांधकाम विभागातील आंतर वित्तीय सल्लागार व उप सचिव यांच्या अनुमतीने काढण्यात येत आहे.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नांवाने,

(मि. पु. बच्चेवार)
कार्यासन अधिकारी

प्रत,
महालेखापाल-१ व २, (लेखापरीक्षा) महाराष्ट्र राज्य, मुंबई / नागपूर
महालेखापाल-१ व २, (लेखा व अनुज्ञेयता), महाराष्ट्र राज्य, मुंबई / नागपूर
मुख्य अभियंता, सार्वजनिक बांधकाम (विशेष प्रकल्प), मुंबई (मंजूर नकाशे व अंदाजपत्रकाच्या प्रतीसह)
किनारी अभियंता, सार्वजनिक बांधकाम मंडळ, बांद्रा
पतन अभियंता, पतन अभियांत्रिकी विभाग (उ.), कोकण भवन, नवी मुंबई
मा.मंत्री, सार्वजनिक बांधकाम यांचे स्वीय सहाय्यक
मा.राज्यमंत्री, सार्वजनिक बांधकाम यांचे स्वीय सहाय्यक
कार्यासन अधिकारी, अर्थ-१/नियोजन-१/रस्ते-५, सार्वजनिक बांधकाम विभाग, मंत्रालय, मुंबई

NAME OF WORK :- Construction of Anti Sea Erosion bund from Sagar Kutir to Machhalimar at Versova, in Mumbai Suburban.

RECAPITULATION SHEET

Cost of Work portion.....	i.e. Rs.	162272475.00
Add 4 % Contingencies Charges.....	i.e. Rs.	6490899.00
Add 2 % Computerisation Charges.....	i.e. Rs.	3245450.00
Add 1 % Insurance Charges	i.e. Rs.	1622725.00
Add for CWPRS Study, CRZ and Rapid EIA Clearence (As per quotation attached).....	i.e. Rs.	1368000.00
	Total Rs.	174999549.00
	SAY Rs.	17,50,00,000/-

Assistant Harbour Engineer,
Harbour Sub Division,
Mumbai Suburban.

Harbour Engineer,
Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai.

Coastal Engineer,
P.W. Department,
Mumbai.

Chief Engineer
(Special Projects), P.W.D.,
Mumbai-400 001.

NOTARY • GOVT. of India • NOTARY

प्रशासकीय मान्यता मिळालेल्या शा. नि. चा.
क्र : विशेष-प्रक/कोजिआ-(पुअ)/निवि
दिनांक- १४/५/२०१८
रु. १७,५०,००,०००/-
करिता
(के. सागर गोटी पगास)
(अधीक्षक)
का.अ.
सा.बां. विभाग, मंत्रालय

मुंबई उपनगर जिल्हयातील वेसावे जेट्टी रस्त्याची पोचमार्गासह सुधारणा करणे.

महाराष्ट्र शासन
सार्वजनिक बांधकाम विभाग
शासन निर्णय क्रमांक- पिएलएन-२०१६/सीआर-(१७२७)/नि-३
मंत्रालय, मुंबई-४०० ०३२
दिनांक - १०/०३/२०१६

शासन निर्णय:- मुंबई उपनगर जिल्हयातील वेसावे जेट्टी रस्त्याची पोचमार्गासह सुधारणा करणे. या रुपये ३५,००,००,०००/- (रु.पस्तीस कोटी मात्र) अंदाजित खर्चाच्या बांधकामास याद्वारे प्रशासकीय मान्यता देण्यात येत आहे. सदर कामाचा वाव खालीलप्रमाणे आहे:-

१) दगडी धुप प्रतिबंधक बंधारा २) टेट्रापॉड्स/ संरक्षकभिंत/ पोचमार्ग/ जेट्टी बांधणे ३)संकीर्णबाबी

१. क्षेत्रिय अधिकाऱ्यांनी या कामाच्या प्रत्यक्ष बांधकामास सुरूवात करण्यापूर्वी हे काम कोणत्याही पाटबंधारे / जलविद्युत पाणी पुरवठा प्रकल्पाच्या जलाशयाखाली जाण्याची शक्यता नाही किंवा अशा प्रकल्पामुळे या कामावर कोणताही परिणाम होणार नाही याची खात्री करून घेतली पाहिजे या अटीवरच ही प्रशासकीय मान्यता देण्यात येत आहे.
२. सदरहू कामाचा प्रस्ताव तयार करताना कामाचे समर्थन, जिल्हास्तरीय कामासाठी जिल्हा नियोजन व विकास मंडळाची मान्यता निकष, आवश्यकता शासनाने वेळोवेळी निर्गमित केलेल्या परिपत्रकातील / पत्रातील सूचनांचे अनुपालन, या सर्व बाबींचा क्षेत्रीय पातळीवर विचार करण्यात आलेला आहे व प्रस्तावाची क्षेत्रीय पातळीवर सर्व तांत्रिक दृष्टीकोनातून छाननी करण्यात आलेली आहे, अशी धारणा आहे. तथापि, तांत्रिक मजूरी देण्यापूर्वी या सर्व बाबींची पुन्हा एकदा खातरजमा करून घेण्यात यावी.
३. प्रस्तुत कामास तांत्रिक मंजूरी देण्यापूर्वी व काम सुरू करण्यापूर्वी पुढील बाबींची पुर्तता करण्यात यावी या अटीवरच ही प्रशासकीय मान्यता देण्यात येत आहे.

i. सदर काम केंद्रीय जल व विद्युत संशोधन स्थानक, पुणे (Central Water and Power Research Station, Pune) यांचेकडून मंजूरी प्राप्त /वेळोवेळी सुधारणा केलेल्या काटछेदानूसार (Cross Section) करणे बंधनकारक राहील.

ii. सदर कामासाठी मंजूर निधीच्या मर्यादेच्या अधिन राहूनच खर्च करण्यात यावा.

iii. सदर काम हे शासनाच्या ताब्यातील जागेवरच करण्यात यावे. खाजगी किंवा इतर मालकीच्या जागेत करावयाचे झाल्यास त्याचे प्रचलीत भूसंपादन नियमानुसार लागणारी जमिन संपादीत करुन नंतरच तांत्रिक मंजूरीबाबत कार्यवाही करण्यात यावी.

iv. अंदाजपत्रकातील दराबाबत सार्वजनिक बांधकाम विभागाचे परिपत्रक क्रमांक-डिएसआर१०९०/सीआर-६४५३/नियो-३, दिनांक-१४/०७/१९९३ व जीईएन-१०२००१/सीआर-३/नियोजन-३, दिनांक २२ फेब्रुवारी २००१ मधील तरतूदींचे अनुपालन झाले असल्याबद्दल खात्री करून घेण्यात यावी.

v. सदरील कामांस वनजमीन /पर्यावरण विभागाची आवश्यकता असल्यास संबंधीत विभागाच्या पूर्वपरवानगी घेतल्याशिवाय काम हाती घेण्यात येऊ नये.

vi. रिटेनिंग वॉलच्या संकल्पनास तांत्रिक मंजूरी प्राधिकाऱ्याची मंजूरी घ्यावी.

vii. काँक्रीटच्या संकल्पनास तांत्रिक मंजूरी प्राधिकाऱ्याची मंजूरी घ्यावी.

viii. तांत्रिक मान्यता प्रदान करण्यापूर्वी द्रविक गणिते पुनश्च: तपासण्यात यावीत. त्याप्रमाणे संकल्पन निश्चित करण्यात यावे.

४. प्रशासकीय मान्यतेच्या अंदाजपत्रकात प्रत्येक दराचे वर्णन/दर/दर पृथःकरणातील गृहीत धरलेली अंतर व अनुषंगिक इतर बाबी तांत्रिक मान्यता प्रदान करण्यास सक्षम अधिकाऱ्यांनी त्यांच्या पातळीवर तपासणे अनिवार्य आहे. या संदर्भात शासनाचे कोणतेही उत्तरदायित्व असणार नाही.

५. तांत्रिक मान्यता प्रदान करतांना प्रशासकीय मान्यतेतील वाव अन्य कोणत्याही योजनेत/कार्यक्रमात समाविष्ठ नाही, याची खातरजमा तांत्रिक मान्यता प्रदान करण्यास सक्षम अधिकाऱ्यांने करावी.

६. सदर कामावरील खर्च *"३०५४ मार्ग व पूल ०३ राज्यमार्ग १०२, पूल (एक) (दोन), केंद्रिय मार्ग निधी (वाटप)"* या शिर्षाखाली दाखवण्यात यावा.

७. या कामासाठी अर्थसंकल्पात विशिष्ठ तरतूद असल्याशिवाय हे काम सुरू करण्यात येवू नये.

८. हा शासन निर्णय, सार्वजनिक बांधकाम विभागातील आंतर वित्तीय सल्लागार व उप सचिव यांच्या अनुमतीने काढण्यात येत आहे.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नांवाने,

(मि.दे.बच्चेवार)
कार्यासन अधिकारी

प्रत,
महालेखापाल-१ व २, (लेखापरीक्षा) महाराष्ट्र राज्य, मुंबई / नागपूर
महालेखापाल-१ व २, (लेखा व अनुज्ञेयता), महाराष्ट्र राज्य, मुंबई / नागपूर
मुख्य अभियंता, सार्वजनिक बांधकाम (विशेष प्रकल्प), मुंबई (मंजूर नकाशे व अंदाजपत्रकाच्या प्रतीसह)
किनारी अभियंता, सार्वजनिक बांधकाम मंडळ, बांद्रा
पतन अभियंता, पतन अभियांत्रिकी विभाग (उ.), कोकण भवन, नवी मुंबई
मा.मंत्री, सार्वजनिक बांधकाम यांचे स्वीय सहाय्यक
मा.राज्यमंत्री, सार्वजनिक बांधकाम यांचे स्वीय सहाय्यक
कार्यासन अधिकारी, अर्थ-१/नियोजन-१/रस्ते-५, सार्वजनिक बांधकाम विभाग, मंत्रालय, मुंबई

Annexure VII

भारत सरकार
जल संसाधन, नदी विकास
और गंगा संरक्षण मंत्रालय
केन्द्रीय जल और विद्युत अनुसंधान शाला
खडकवासला, पुणे 411024

Government of India
Ministry of Water Resources,
River Development & Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION
Khadakwasla, Pune - 411 024

☎:020-24103421,24103224,24103469 🖷:020-24381004✉:kudale_md@cwprs.gov.in🖧:www.cwprs.gov.in

No: 130/7/71-CE

Date: 11.04.2016

Harbour Engineer,
Harbour Engineering Division (N)
Government of Maharashtra,
5th floor, Konkan Bhavan,
Navi Mumbai- 400 614

Sub: Design of coastal protection works at Versova in Mumbai Suburban.

Ref: AHE letter No. AHE/M/Verosva/95 dated 08.03.2016

Sir,

This has reference to letter dated 08.03.2016 from Assistant Harbour Engineer, Andheri, regarding proposed coastal protection works from Sagar Kutir to Machhalimar and upto Smashanbhumi at Versova in Mumbai Suburban. The project officials informed that seaside portion of the important premises in this region is threatened by the wave action. The vertical faces of old building/compound wall may leads to reflection of the waves and promote scouring of the sea bed. In this connection, Harbour Engineering Division sought advice of CWPRS for the design of coastal protection works.

Accordingly, desk studies were conducted for evolving the cross-section of coastal protection in the form rubblemound seawall based on the data such as beach profiles, tides, waves and the existing site conditions. The following design conditions are considered for the design of coastal structures :

1) Highest High Water Level (HHWL) =+ 5.40 m
2) Mean High Water Level (MHWL)= + 4.50 m
3) Mean Sea Level (MSL) =+ 2.50 m
4) Low Water Level (LWL) of +0.00 m
5) The wave period is between 10 to 12 seconds.

The maximum waves in the shallow zone are breaking and design of protection works is carried out considering maximum breaking wave height of 3.0 m at HWL in front of the structure. The computations for the weight of armour stones is carried out using Hudson's formula shown below:

$$W = \frac{w_r . H_b^{\,3}}{K_D \times (Sr - 1)^3 . \cot\theta}$$

Where,

W = Weight of armour units (kg)
w_r = Unit weight of armour block (kg/cum)
H_b = Breaking wave height(m)
K_D = Stability Coefficient for breaking wave height
Ww = Unit weight of sea water
S_r = Specific gravity of armour relative to water at the structure (wr/Ww)
θ = Angle of armour slope

The promenade with concrete protection wall is proposed along with coastal protection in the form of rubblemound seawall of about 1200m length from Sagar Kutir to Machhalimar and upto Smashanbhumi at Versova in Mumbai Suburban as shown in Fig.s 1 & 2. The design cross-sections of coastal protection in the form of rubblemound seawall for different stretches are as shown in Fig.s 3 to 5.

i) Cross-section of coastal protection for straight portion from Ch. 0 m to Ch. 900m

The section is designed for the coastal protection in the form of rubblemound seawall from Ch. 0. m. to Ch. 900 m as shown in Fig. 3. The section consists of 2 t tetrapods in the armour from el. +3.2 m to + 8.0 m with 1:2 slope. A 4.0 m wide toe-berm consisting of 2 to 3 t stones are provided at el. +3.2 m. A secondary layer consists of 200 to 300 kg stone provided below the armour layer. Core consists of 20 to 50 kg stones are proposed. A layer of geo-fabric filter is provided at the base of the seawall in order to avoid leaching of the sand.

ii) Cross-section of coastal protection for rounded from Ch. 0 m to Ch. 900m.

The section is designed for the coastal protection for rounded in the form of rubblemound seawall from Ch. 0. m. to Ch. 900 m as shown in Fig. 4. The section consists of 3 t tetrapods in the armour from el. 3.2 m to +8.0 m with 1:2 slope. A 4.0 m wide toe-berm consisting of 2 to 3 t stones are provided at el. +3.2 m. A secondary layer consists of 200 to 300 kg stone provided below the armour layer. Core consists of 20 to 50 kg stones are proposed. A layer of geo-fabric filter is provided at the base of the seawall in order to avoid leaching of the sand.

iii) Cross-section of coastal protection for straight portion from Ch. 0 m to Ch. - 300m.

The section is designed for the coastal protection in the form of rubblemound seawall from Ch. 0. m. to Ch. -300 m as shown in Fig. 5. The section consists of 2 t tetrapods in the armour from el. +3.2 m to + 8.0 m with 1:2 slope on seaside and 1 to 2 t stones on the crest. A 4.0 m wide toe-berm consisting of 2 to 3 t stones are provided at el. +3.2 m. A secondary layer consists of 200 to 300 kg stone provided below the armour layer. Core consists of 20 to 50 kg stones are proposed. A layer of geo-fabric filter is provided at the base of seawall in order to avoid leaching of the sand.

A minor modification, if any, would be suggested based on the bed profiles at the time of execution of the work.

It is presumed that the above would meet with your requirements.

Thanking You,

Yours faithfully,

11/4/16

(M.D. Kudale)
Additional Director

Encl: Fig.1 to 5

"EXHIBIT" - L

the disturbance to the benthos, a cable laying plough will be employed to a depth of 0.6m to 1.2m.

After deliberation, the Authority decided to recommend the project from CRZ point of view to MoEF subject to compliance of following conditions:

1. The proposed activity should be carried out strictly as per the provisions of CRZ Notification, 2011 (as amended from time to time) and guidelines/ clarifications given by MoEF from time to time.
2. The Environment Management Plan (EMP) & Environment Monitoring Plan should be implemented in letter and spirit and it should be inconsonance with the surrounding ecosystem.
3. Natural course of sea water and tidal regime should not be hampered due to proposed activities.
4. No destruction of mangroves is allowed.
5. All other required permissions from different statutory authorities should be obtained prior to commencement of work.

Item No. 11: Proposed convention centre for Maharashtra University of Health Sciences, Nashik on plot no. 18, sector no. 10 A, Airoli, Navi Mumbai by PWD, Mumbai

The Authority noted that proposal details. The proposal is for Convention Centre for Maharashtra University of Health Sciences, Nashik on plot bearing Sector no. 10 A, plot no. 18 at Airoli, Navi Mumbai. The Authority observed that there should be remarks of NMMC on the proposal regarding permissibility of the proposal from planning point of view. The Authority after discussion decided to defer the proposal.

Item No. 12: Proposed construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova in Mumbai Suburban by PWD, Mumbai

The officials from the PWD presented the proposal before the Authority. The proposal is for construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova in Mumbai Suburban. The PWD officials presented that the Sea side portion of the premises in this region is

threatened by the wave action. To safeguard premises along the coastline from further damages caused by the tidal action, it is necessary to protect the shore by constructing anti sea erosion bund. Total area of project is 48000sqm and approx. length is 1200 m. As per the approved CZMP of the Mumbai, the site falls in CRZ I (B) and CRZ II area.

The Authority deliberated the proposal and observed that there should be combination of hard and soft solutions for arresting the sea erosion at Versova beach stretch. Combination of Sea wall along with Plantation, creepers etc. along the Versova beach would be more ecologically friendly solution in the matter. Considering this, the PWD need to revise the proposal incorporating soft engineering solution and revert. The Authority after discussion decided to defer the proposal.

Item No. 13: Proposed reconstruction of bridge at lagoon road over Mahakali Nalla and Malvani Nalla, Malad (W) in P/N ward, Mumbai by MCGM

The Chief Engineer, MCGM presented the proposal before the Authority. The proposal is for reconstruction of bridge at Lagoon Road over Mahakali Nalla, & Malvani Nalla, Malad (W), in P/N ward, Mumbai.

The existing bridge at Mahakali Nalla is having width of 13.02 m. approx at across Malvani Nalla in P/North ward. The lagoon road is widened to its width of 36.60 m. Existing bridge is in dilapidated condition which will be demolished & New vehicular bridge will be constructed.

The existing bridge over Malvani Nalla, Malad (W) in P/N ward, Mumbai. The bridge is in dilapidated condition which will be demolished. The new bridge is proposed for 25m length & 36.60m width. The CE, MCGM presented that both the sites are in CRZ II area as per the approved CZMP of Mumbai.

After deliberation, the Authority decided to recommend the project from CRZ point of view to SEIAA subject to compliance of following conditions:

1. The proposed activity should be carried out strictly as per the provisions of CRZ Notification, 2011 (as amended from time to time) and guidelines/ clarifications given by MoEF from time to time.

Member Secretary

Chairman

M

"EXHIBIT" – M

Government of Maharashtra

Public Works Departemnt,

Harbour Engineer, Harbour Engineering Division (N),

Konkan Bhavan, Navi Mumbai.

Visit us: www.mahapwd.com	Phone No. 02227571534, 02227560696
No. HE(N)/PB/CRZ /Versova/ 89	Date: 17/01/2017

To,

Additional Director,

Central Water & Power Research Station,

Khadakwasla, Pune.

Subject: Regarding CRZ Clearance for Proposed Construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova, in Mumbai Suburban. [Ch. (-) 300 to Ch. (+) 900 metre]

Reference: 1) Your office letter No. 130/7/71-CE, dated, 11/04/2016.

2) Maharashtra Coastal Zone Management Authority (MCZMA) Meeting No. 115, dated, 17/01/2017 held at Sachivalaya Gymkhana, Mumbai.

The layout and design of the above subjected coastal protection work has been received from your office vide letter under reference No.1. Based on this design, the proposal of CRZ Clearance has been framed and submitted for approval of Maharashtra Coastal Zone Management Authority (MCZMA).

During the discussion in the meeting dated 17/01/2017 at Sachivalay Gymkhana, Mumbai, Hon. MCZMA Committee Members has suggested to adopt soft solution in some stretches of 1200 metres of protection work instead of hard solution in the throughout 1200 meter length.

In view of this, it is requested to verify the feasibility of soft solution in the proposed coastal protection stretch mentioned in the subject and guide this office regarding the matter.

Thanking you,

सचिव कार्यालय
पर्यावरण विभाग
मंत्रालय, मुंबई-३२.

(R.D.Misal)

Harbour Engineer,

Harbour Engineering Division (N),

Konkan Bhavan, Navi Mumbai.

Copy submitted to The Member Secretary, MCZMA, Environmental Department, Room No. 217, Annex Building, Mantralaya, Mumbai-32 for information please.

Copy submitted to Chief Engineer, Special project (Sp.Pr.), Bandhkam Bhavan,Marzban Road, Fort, Mumbai for information please.

Copy submitted to Coastal Engineer,P.W. Circle, Bandra (E), Mumbai for information please.

Copy forwared to Assistant Harbour Engineer, Harbour Sub Division, Andheri.

TRUE COPY

For Vidhii Partners

Advocates

Speed - Post 375

"EXHIBIT" - N

SPEED POST

भारत सरकार
जल संसाधन, नदी विकास
और गंगा संरक्षण मंत्रालय
केन्द्रीय जल और विद्युत अनुसंधान शाला
खडकवासला. पणे 411024

Government of India
Ministry of Water Resources,
River Development & Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION
Khadakwasla, Pune - 411 024

☎:020-24103421,24103224, 🖷:020-24381004 ✉:kudale_md@cwprs.gov.in 🖧:www.cwprs.gov.in

No : 121/1/CE-2017/26/210 Dated : 24.01.2017

25 JAN 2017

Harbour Engineer,
Harbour Engineering Division (N)
Government of Maharashtra,
5th floor, Konkan Bhavan,
Navi Mumbai- 400 614

Sub : Design of coastal protection works from Sagar Kutir to Machhalimar and upto Smashanbhumi at Versova in Mumbai Suburban..
Ref : Your letter No. HE(N)/PB/versova dated 17.01.2017

Sir,

This has reference to your letter dated 17.01.2017 regarding proposed coastal protection work from Sagar Kutir to Machhalimar and upto Smashanbhumi at Versova in Mumbai Suburban. The design for the protection in the form of toe-berm to the vertical wall along with beautification of the seaface has been already provided by CWPRS vide letter dated 11.04.2016. It is understood that, during the CRZ clearance meeting, the Maharashtra Coastal Zone Management Authority (MCZMA) suggested the provision of soft solution for the protection works at this site. In this regard, advice of CWPRS has been sought by the Harbour Engineering Division for the possibility of providing soft solution for protection at this site.

CWPRS opines that the site for which protection is needed (from Sagar Kutir to Machhalimar and upto Smashanbhumi at Versova) is suffering erosion due to the direct wave action during high tide, which causes damages to the coastline and properties alongside. During the visit of CWPRS officers, it was observed that the compound walls suffered damages and these vertical faces of compound walls lead to reflection of the waves which in turn causes scouring of the sea bed. The stones provided earlier in front of the compound walls at the site are scattered due to higher wave actions. About 3 m high waves are observed at the site during the monsoon and the macro tidal range is about 5.2 m. It was proposed by the Harbour Engineering Division on the demands of local representatives, to repair the existing protection works and beautify the area, since there is no proper approach for the tourists as well locals to the seaface and the beach. Considering the existing site conditions and the environmental conditions of waves, tides and sediments, it was decided to protect the seaface with a vertical wall with rubble toe berm having tetrapods in the armour. The suggested protection work is very similar to the seawalls at Marine Drive and the Worli Seaface. The authorities would be able to beautify the seaface with the suggested solution. The wave energy will be dissipated in the

Shri AVM, SC. D.

NOTARY Govt. of India

armour slope and the reflection will be minimum, which will promote accumulation of sand in front of the toe during the non-monsoon period. The seawall will provide protection to the proposed pathway and the coastal area during monsoon period.

In view of the higher waves, high tidal range and limited sediment movement, a soft solution in the form of sand nourishment of provision of sand dune or use of geo textile solutions or plantation / vegetation will not be suitable for these types of densely populated areas. Furthermore these soft solutions are recurring type and may last only for a short period.

In view of above, it is once again recommended to provide a long term solution provided by CWPRS earlier.

It is presumed that the above would meet with your requirements.

Thanking You,

Yours faithfully,

24/11/17

(M.D. Kudale)
Additional Director

O/C

Sumit
25/11/17

जारी किया गया
ISSUED

TRUE COPY

For Vidhii Partners
Advocates

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai
& Resigned
Regd. No. 15074
Exp. Date
18/10/2024
GOVT. OF INDIA

"EXHIBIT" - O

Minutes of the 116th meeting of Maharashtra Coastal Zone Management Authority held on 22nd & 23rd March, 2017

Item No.5: Proposed residential cum commercial complex project on plot no. 194 B at Ghatkopar (E), Mumbai by PWD, Mumbai, GoM

Project proponent presented the proposal in the meeting. Authority noted the proposal of construction of residential cum commercial complex project on plot no. 194 B at Ghatkopar (E), Mumbai.

The Authority noted that the proposal submitted by the PP is incomplete in nature and PP need to submit the following information:

1. Project layout superimposed on CRZ map in 1:4000 scale prepared by one of the MoEF&CC authorized agency. The said map should show the HTL and CRZ area as per approved CZMP.
2. Details of the Zoning / reservation of the plots under consideration as per the DP existing as on 19.2.1991
3. Tabular information about the activities proposed in CRZ II and CRZ III area.
4. Environment Management Plan.

After deliberation, the Authority decided to delist the proposal from the records of the MCZMA.

Item No.6: Proposed construction of Anti-Sea Erosion bund from SagarKutir to Hindu Smashanbhumi at Versova in Mumbai Suburban by PWD, Mumbai by PWD, Mumbai.

The Authority noted the proposal is for construction of Anti-Sea Erosion bund from SagarKutir to Hindu Smashanbhumi at Versova, Mumbai. The proposal is to provide facilities for construction of Anti-Sea Erosion bund along the Versova Coast from SagarKutir to Hindu Smashanbhumi at Versova in Mumbai Suburban. The Sea side portion of the premises in this region is threatened by the wave action. To safeguard premises along the coastline from further damages caused by the tidal action, it is necessary to protect the shore by constructing anti-sea erosion bund.

The Authority noted that approx. length of the bund is 1200m and the site is situated in CRZ I (B) & CRZ II area.

Member Secretary

Chairman

TRUE COPY

For Vidhii Partners
Advocates

Minutes of the 116th meeting of Maharashtra Coastal Zone Management Authority held on 22nd& 23rd March, 2017

The Authority noted that the proposal was earlier deliberated in the 115th meeting of MCZMA held on 17th& 18th January, 2016, wherein the Authority suggested PP to adopt soft solution in some stretches instead of hard solution in the throughout length.

In response to suggestions by the Authority, the PWD vide letter dated 23.01.2017 forwarded an opinion of Central Water & Power Research Station (CWPRS) dated 24.01.2017. The CWPRS recommends that, in view of the higher waves, high tidal range and limited sediment movement, a soft solution in the form of sand nourishment of provision of sand dune or use of geo textile solution of plantation / vegetation will not be suitable for these types of densely populated areas. Furthermore these soft solutions are recurring type and may last only for a short period.The PWD has once again requested to consider the proposal to provide a long term solution provided by CWPRS earlier.

The Authority deliberated the recommendations of the CWPRS and felt that proposed bund could be constructed using mix of soft solutions and hard structures. Repair of existing retaining walls can be undertaken.

After deliberation, the Authority decided to direct the PP to submit the detail design of the Anti-Sea Erosion bund considering the mix of soft solutions and hard structures and also submit details of time series data considered by CWPRS for drawing the conclusion.

The Authority decided to defer the proposal for submission of compliance as stated above, except for repair works.

Item No.7: Proposed construction of Anti-Sea Erosion Bund behind Raigad Collector Bungalow to DSP Bundalow at Alibag, Dist. Raigad by Harbour Sub-division, Alibag

The Project Proponent presented the matter before the authority. The Authority noted that, the proposal is for construction of Anti-Sea Erosion Bund behind Raigad Collector Bungalow to DSP Bundalow at Alibag, Dist. Raigad.As presented by the PP, The construction of anti-sea erosion bund will be developed on existing / damaged bund at Alibag beach. Total length of the bund is 435m which is in CRZ I area.

Member Secretary

Chairman

P

"EXHIBIT" - P

Office of Harbour Engineer
Harbour Engineering Division (North)
Kokanbhawan, Navi Mumbai – 400 014.

Email id :-harbournkb.ee@mahapwd.com	Tel. No.: 022-27571534
No- HED/P.B./ 672	Dated : 31 5 17

To,

The Director,
Central Water and Power Research Station,
Pune.

Sub :- Minutes of 116 Meeting of Maharashtra Coastal Zone Management Authority held on 22 and 23 March 2017.

Sir,

Please refer the Minutes of meeting of subjected proposal and convey appropriate design of ASE Bund which was suggested by the MCZMA Committee Mumbai. Photo copy of minutes of Meeting page No. 7 and 8 are sending herewith for your kind information and necessary action.

D.A. :- Photo copy of minutes of 116th MCZMA meeting

Harbour Engineer,
Harbour Engineering Division (N)
Kokanbhawan, Navi Mumbai

Copy Submitted to Coastal Engineer, Public Works Department, 3rd floor, Bandra (East) for favour of information please.

Copy to Master File.

TRUE COPY
For Vidhii Partners
Advocates

Q

"EXHIBIT" - 9

Government of Maharashtra
Public Works Department
Harbour Engineer, Harbour Engineering Division (N)
Kokan Bhavan, Navi Mumbai.

Email id: harbournkb.ee@mahapwd.com	Phone No. 02227571534,02227560696
No. HE(N)/PB/CRZ/Versova/ 825	Date: 12/06/2017

12-6-17 आवक पर्यावरण विभाग मंत्रालय, मुंबई-३२.

To,
The Member Secretary,
MCZMA, Environmental Department,
Room No. 217, Annex Building
Mantralaya, Mumbai-32

Subject: Regarding CRZ Clearence for Proposed Construction of Anti Sea erosion Bund from Sagar Kutir to Hindu Smashanbhumi at Versova, In Mumbai Suburban. (Ch.-300 to Ch. 900 metre)

Reference: 1)Maharashtra Coastal Zone Authority (MCZMA) Meeting No. 115, dated 17/01/2017 held at Sachivalaya Gymkhana, Mumbai.
2) This office letter No. HE(N)/PB/CRZ/Versova/89 dtd, 17/01/2017
3)CWPRS office letter No. 121/1/CE-2017, dated 24/01/2017
4) This office letter No. HE(N)/PB/CRZ/Versova/112 dtd, 23/01/2017

During the discussion in the MCZMA's 115thmeeting, dated 17/01/2017 held at SachivalayaGymkhana, Mumbai. Hon. Committee Members has suggested to adopt soft solution in some stretchesinstead of hard solution in the throughout length.

Accordingly, the technical guidence regarding soft solution has sought from CWPRS, Pune vide refference letter No. 3, which is being submitted herewith. It is again requested to consider the subjected proposal in the forth coming meeting of MCZMA please.

Thanking You,

(R.D.Misal)
Harbour Engineer
Harbour Engineering Division (N),
Konkan Bhavan,Navi Mumbai.

Copy Submitted to Chief Engineer, Special project (Sp. Pr.), Bandhkam Bhavan, Marzban Road, Fort, Mumbai for information please
Copy Submitted to Coastal Engineer, P.W. Circle, Bandra(E), Mumbai for information please
Copy Submitted to Assistant Harbour Engineer, harbour Sub Division Andheri for information please
Copy to Master File

NOTARY Govt. of India

TRUE COPY
For Vidhii Partners
Advocates

EXHIBIT - R

भारत सरकार
जल संसाधन, नदी विकास
और गंगा संरक्षण मंत्रालय
केन्द्रीय जल और विद्युत अनुसंधान शाला
खडकवासला, पुणे 411024

Government of India
Ministry of Water Resources,
River Development & Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION
Khadakwasla, Pune - 411 024

☎:020-24103224,24103469 🖷:020-24381004, ✉:mahalingaiah_av@cwprs.gov.in 🖧:www.cwprs.gov.in

No: 130/7/71-CE Date: 27.06.2017

The Harbour Engineer,
Harbour Engineering Division (N)
Governement of Maharashtra,
5th floor, Konkan Bhavan,
Navi Mumbai- 400 614

Sub: Design of coastal protection works from Sagar Kutir to Machhalimar and upto Hindu Smashanbhumi at Versova in Mumbai Suburban.

Ref: 1) Your letter No. HED/P.B./672 dated 8.05.2017
2) CWPRS letter No. 121/1/CE-2017/26/210 dated 25.01.2017
3) CWPRS letter No. 130/7/71-CE/2015 dated 11.04.2016

Sir,

This has reference to your letter dated 8.05.2017, regarding proposed coastal protection work from Sagar Kutir to Machhalimar and upto Smashambhumi at Versova in Mumbai Suburban. It has been requested to suggest modified design of the coastal protection work at Versova based on the comments received from MCZM authority. The authority indicated to submit design details of scheme considering the hard as well as soft solution. In view of this, it is noted that CWPRS already submitted the design of the protection scheme and also explained in detail of the site conditions for the design consideration vide letter dated 25.01.2017. The letter under reference (Ref.2) is enclosed for your information.

Thanking you,

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai
& Raigad
Regd. No.: 15074
Exp. Date
16/10/2024
Govt. of India

Yours faithfully,

27/6/2017

(A.V.Mahalingaiah)
Scientist-D

TRUE COPY

For Vidhii Partners
Advocates

S

"EXHIBIT" - S

8	Darshet Umberpada	Palghar	Sparse mangroves are present in the stretch.

The Authority noted that saline embankment is proposed along the creek front. As stated above, all the sites have mangroves vegetation. Impact of the bund on mangrove vegetation and flow of the creek water is not reported in the Rapid EIA/ EMP for the project. There is likely possibility that flow of the creek water would be hampered and will lead to damage to mangroves. High Court in its order in the matter WP No. 3246/2004 and PIL No. 86/2006 prohibits construction in Mangroves & 50m Mangroves Buffer Zone.

After deliberation, considering the aforesaid facts, Authority decided to reject the proposal for the reasons as stated above.

Item No.13: Proposed construction of Anti-Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova in Mumbai Suburban by PWD, Mumbai.

Officials of the PWD presented the proposal before the Authority. The Authority noted that the proposal is for construction of Anti-Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova in Mumbai Suburban. The Sea side portion of the premises in this region is threatened by the wave action. To safeguard premises along the coastline from further damages caused by the tidal action, it is necessary to protect the shore by constructing anti-sea erosion bund. The Authority noted that approx. length of the bund is 1200m and the site is situated in CRZ I (B) & CRZ II area.

The proposal was earlier considered in 115th and 116th meeting of MCZMA held on 17th & 18th January, 2016 and 22nd March, 2017 respectively, wherein the PP was requested to submit the detail design of the Anti-Sea Erosion bund considering the mix of soft solutions and hard structures and also submit details of time series data considered by CWPRS for drawing the conclusion.

The PWD submitted the comments of the CWPRS and revised section for the protection work. Remarks of the CWPRS was once again noted by the Authority which is as follows:

Member Secretary

Chairman

NOTARY
REKHA K. HOWALE
Dist. Thane, Navi Mumbai & Raigad
Regd. No.: 15074
Exp. Date 16/10/2024
Govt. of India

In view of the higher waves, high tidal range and limited sediment movement, a soft solution in the form of sand nourishment of provision of sand dune or use of geo textile solutions or soft solutions or plantations / vegetation will not be suitable for these types of densely populated areas. Furthermore these soft solutions are recurring types and may last only for short period. In view of above it is once again recommended to provide a long term solution provided by CWPRS earlier. This recommendation by CWPRS was accepted by MCZMA Committee during the meeting on 22/03/2017.

The PWD officials further informed that there is danger to existing buildings present near the beach area. At present, buildings have their own compound wall for protection. In high tide and monsoon, sea water reaches to the wall. Hence, the bund is a requirement in the said stretch of the beach in order to protect the existing residential buildings along the beach.

Considering the possible coastal hazards in the area, the Authority felt that only retaining wall for protection is required. However, walkway on the retaining wall cannot be allowed in CRZ I area, which is prohibited activity.

After deliberation, the Authority decided to recommend the proposal of reconstruction of existing anti-sea erosion wall to SEIAA subject to compliance of following conditions:

1. Proposed reconstruction of anti-sea erosion wall should be in accordance with provisions of the CRZ Notification, 2011 (amended from time to time)
2. Walkway is not permitted on the anti-sea erosion bund as it is not permissible activity in CRZ I intertidal area.
3. Recommendation of the CWPRS should be followed for the reconstruction / redevelopment of the wall.
4. Location / design of the bund should be in such way that there would be minimum reclamation on the beach (i.e. CRZ I area).
5. Construction debris should not be dumped in the beach area or in Mangroves area.
6. Suggestions/ objections of the residents of the proposed stretch may be considered, before starting the reconstruction / redevelopment work of wall.

Member Secretary

Chairman

NOTARY REKHA K. HOWALE Dist. Thane, Navi Mumbai Govt. of India

TRUE COPY

For Vidhii Partners
Advocates

"EXHIBIT" -T

	Government of Maharashtra Office of the Harbour Engineer, Harbour Engineering Division (N), Konkan Bhavan, New Mumbai.	
	Visit us www. mahapwd. com	Telephone No. 022 27571534
	Outward No. HE/PB/ 1274	Date : 04/09/2017

To,
The Member Secretary
Maharashtra Coastal Zone Management Authority,
Room No. 217, Annex building,
Mantralaya, Mumbai - 400 020

Subject : Proposed construction of Anti Sea Erosion Bund from Sagar Kutir to Smashanbhumi at Versova, in Mumbai
Reference : Minutes of Meeting of 119th MCZMA held on 28.06.2017

Dear Sir,

With reference to above subject matter we are submitting herewith the compliance to the Minutes of Meeting of 119th MCZMA held on 28.06.2017as below:

Sr. No.	Condition	Compliance
1	Proposed reconstruction of anti-sea erosion wall should be in accordance with provisions of the CRZ Notification, 2011(amended from time to time)	Harbour Engineering Department shall strictly adhere to the provisions of CRZ Notification, 2011 and its amendments during construction of the proposed project.
2	Walkway is not permitted on the anti-sea erosion bund as it is not permissible activity in CRZ I inter tidal area.	Harbour Engineering Department will adhere to this condition
3	Recommendation of the CWPRS should be followed for the reconstruction/ redevelopment of the wall.	Harbour Engineering Department ensures that the Recommendation of the CWPRS will be followed for the reconstruction/ redevelopment of the wall.
4	Location/ design of the bund should be in such way that there would be minimum reclamation on the beach (i.e. CRZ I area)	There is no requirement of reclamation for proposed project.
5	Construction debris should not be dumped in the beach area or in Mangroves area.	Harbour Engineering Department ensures that no construction debris is the beach area or in Mangroves area.
6	Suggestions/ objections of the residents of the proposed stretch may be considered, before starting the reconstruction/ redevelopment work of wall.	Harbour Engineering Department ensures that, Suggestions/ objections of the residents of the proposed stretch will be considered, before starting the reconstruction/ redevelopment work of wall.

This office request you to accept above compliance and recommend the proposal to the SEIAA.

Harbour Engineer,
Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai.

Copy submitted to : The Coastal Engineer, Bandra (E), Mumbai for information please.
Copy forwarded to : Assistant Harbour Engineer, Mumbai Suburban for necessary follow up

TRUE COPY
For ... Partners
... ocates

"EXHIBIT" - U

Government of Maharashtra
Public Works Departemnt,
Harbour Engineer, Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai.

Visit us: www.mahapwd.com	Phone No. 02227571534, 02227560696
No. HE(N)/PB/CRZ /Versova/ 1815	Date: 14/09/2017

To,
Additional Director,
Central Water & Power Research Station,
Khadakwasla, Pune 411024.

Subject: Design of coastal protection works from Sagar Kutir to Machhalimar and up to Hindu Smashanbhumi at Versova, in Mumbai Suburban.

Reference: 1) Your office letter No. 130/7/71-CE, dated 11/04/2016
2) Your office letter No. 121/1/CE-2017/26/210, dated 24/01/2017.
3) Your office letter No. 130/7/71-CE, dated 27/06/2017
3) Minutes of the 119th MCZMA meeting held on 28/06/2017.

The design of the proposed coastal protection work (Anti Sea Erosion Bund) has been received from your office vide letter cited under reference letter No.1. As per the CRZ Notification of 6th January 2011, it is necessary to obtain the CRZ Clearance from MCZMA before commencement of the work.

Accordingly, this office submitted the proposal along to MCZMA with design and all the relevant enclosure for obtaining CRZ Clearance. The said proposal has been deferred in the 115th and 116th meeting of MCZMA held on 17th January and 22nd March 2017 respectively to incorporate soft solution along with hard solution in the design.

This office sought technical recommendations regarding soft solution from your office vide letter cited under reference No. 2&3 and same was submitted to MCZMA Mumbai for approval and same was accepted by The MCZMA Committee in 119th Meeting, also the Authority recommended the proposal of reconstruction of anti sea erosion bund to SEIAA with following conditions :

1) Proposed reconstruction of anti sea erosion wall should be in accordance with provisions of the CRZ Notification, 2011 (amended from time to time)
2) Walkway is not permitted on the anti sea erosion bund as it is not permissible activity in CRZ I intertidal area.
3) Recommendation of the CWPRS should be followed for the reconstruction /redevelopment of the wall.
4) Location /design of the bund should be in such way that there would be minimum reclamation on the beach (i.e. CRZ I area)
5) Construction debris should not be dumped in the beach area or in Mangroves area.

[redacted]

6) Suggestions / objections of the residents of the proposed stretch may be considered, before starting the reconstruction / redevelopment work of wall.

In the earlier design, the promenade of minimum width of 10.00 meter width was proposed with reclaiming the beach area with earth and excavated material along with constructing concrete retaining /protection wall. Accordingly the alignment of retaining / protection wall has been finalized.

However, MCZMA Committee has objected for Promenade, as it is not permissible activity in CRZ- I and also suggested for minimum reclamation of the beach for the bund.

At present, buildings have their own compound wall for protection and most of the compound walls had been previously protected by dumping the stones in front of them, which is inadequate to prevent the damages of the compound walls.

In view of above changed scenario (deletion of promenade), this office request you to review the necessity of proposed retaining wall and alignment of the coastal protection work as the compound walls are not in a straight line. The design consists of concrete tetra pods in the armour layer; placement of tetra pods requires sufficient space for movement of machineries / cranes.

Considering the above facts, you are kindly requested to review the overall aspects of the design and provide technical recommendations to this office at the earliest please.

Thanking you,

Encl : MCZMA Minutes
of 119th meeting

(R.D.Misal)
Harbour Engineer,
Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai.

Copy submitted to Chief Engineer, (Special Project) P.W.D, Bandhkam Bhavan, Marzban Road, Fort, Mumbai for information please.

Copy submitted to Coastal Engineer, P.W. Circle, Bandra (E), Mumbai (as directed in the review meeting held at Circle office, Bandra Mumbai, on 11th September 2017) for information please.

Copy forwarded to Assistant Harbour Engineer, Harbour Subdivision, Andheri, Mumbai Suburb.

NOTARY INDIA
REKHA K. KHOKHANI
Dist. Thane, Navi Mumbai
& Palghar
Regd. No. 13074
E.P. Date
18/11/2024

TRUE COPY
For Vidhii Partners
Advocates

[redacted]

"EXHIBIT" -V

V

जल संसाधन, नदी विकास
और गंगा संरक्षण मंत्रालय
केन्द्रीय जल और विद्युत अनुसंधान शाला
खडकवासला, पुणे 411024

Ministry of Water Resources,
River Development & Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION
Khadakwasla, Pune - 411 024

☎:020-24103224, 24103469 🖷:020-24381004, ✉:mahalingaiah_av@cwprs.gov.in 🖧:www.cwprs.gov.in

No: 1307/71-CE

Date: 25.10.2017

The Harbour Engineer,
Harbour Engineering Division (N)
Government of Maharashtra,
5th floor, Konkan Bhavan,
Navi Mumbai 400 614

Sub: Design of coastal protection works from Sagar Kutir to Machhalimar and upto Hindu Smashanbhumi at Versova in Mumbai Suburban.

Ref: 1) Your letter No.HE(N)/PB/CRZ/Versova/1315 dated 14.09.2017
2) CWPRS letter No. 121/1/CE-2017/26/210 dated 11.04.2016

Sir,

This has reference to your letter dated 14.09.2017, regarding proposed coastal protection work from Sagar Kutir to Machhalimar and upto Smashambhumi at Versova in Mumbai Suburban. It has been requested to submit the modified design of the coastal protection work at Versova based on the comments received from 119th Maharashtra Coastal Zone Management Authority (MCZMA)meeting dated 28.06.2017. Accordingly, studies were conducted for review the design cross-section of coastal protection in the form of rubblemound seawall based on the data such as beach profiles, tides, waves, proposed breakwaters for the development of fishery harbour and also considering the conditions of MCZMA.

The alignment of rubblemound seawall should be provided with minimum/smooth curvature but should not be in right angle. The alignment of rubblemound seawall with tetrapods in right angle may leads to weak interlocking/stability of tetrapods and also maximum wave concentration. As such, considering the existing location of compound wall and minimum beach occupancy, the alignment of rubblemound seawall with minimum/smooth curvature at different stretches have been evolved as shown in Fig.1 & 2.

The modified design cross-sections of coastal protection in the form of rubblemound seawall for the different stretches from Sagar Kutir to Machhalimar and also upto Smashambhumi (with existing compound wall) are as shown in Figs. 3 to 4. The section consists of 2 t tetrapods in the armour from el. +3.5 m to +8.0 m with 1:2 slope. A 4.0 m wide toe-berm consists of 2 to 3 t stones provided at el. +3.5 m. A secondary layer consists of 200 to 300 kg stones provided below the armour layer. A core consists of 20 to 50 kg stones are proposed. A layer of geo-fabric filter is provided at the base of the seawall in order to avoid leaching of the sand. A minimum width of 5.5 m crest with concrete wall is provided for sufficient space for movement of machineries during construction and also further periodic maintenance. The tetrapods are provided at crest to dissipate the wave energy and the stones including concrete wall suggested to reduce the splashing of waves over the existing compound wall.

(35)

Another section is designed for the coastal protection in the form of rubblemound seawall at Sagar Kutir (without existing compound wall) as shown in Fig. 5. The section consists of 2 t tetrapods in the armour from el. +3.5 m to + 8.0 m with 1:2 slope on seaside and 1 to 2 t stones on the crest with 1:1 slope on leeside. A 4.0 m wide toe-berm consisting of 2 to 3 t stones are provided at el. +3.5 m. A secondary layer consists of 200 to 300 kg stone provided below the armour layer. Core consists of 20 to 50 kg stones are proposed. A layer of geo-fabric filter is provided at the base of seawall in order to avoid leaching of the sand.

A minor modification, if any, would be suggested based on the site conditions at the time of execution of the work.

Thanking you,

Yours faithfully,

25/10/2

(A.V.Mahalingaiah)
Scientist-D

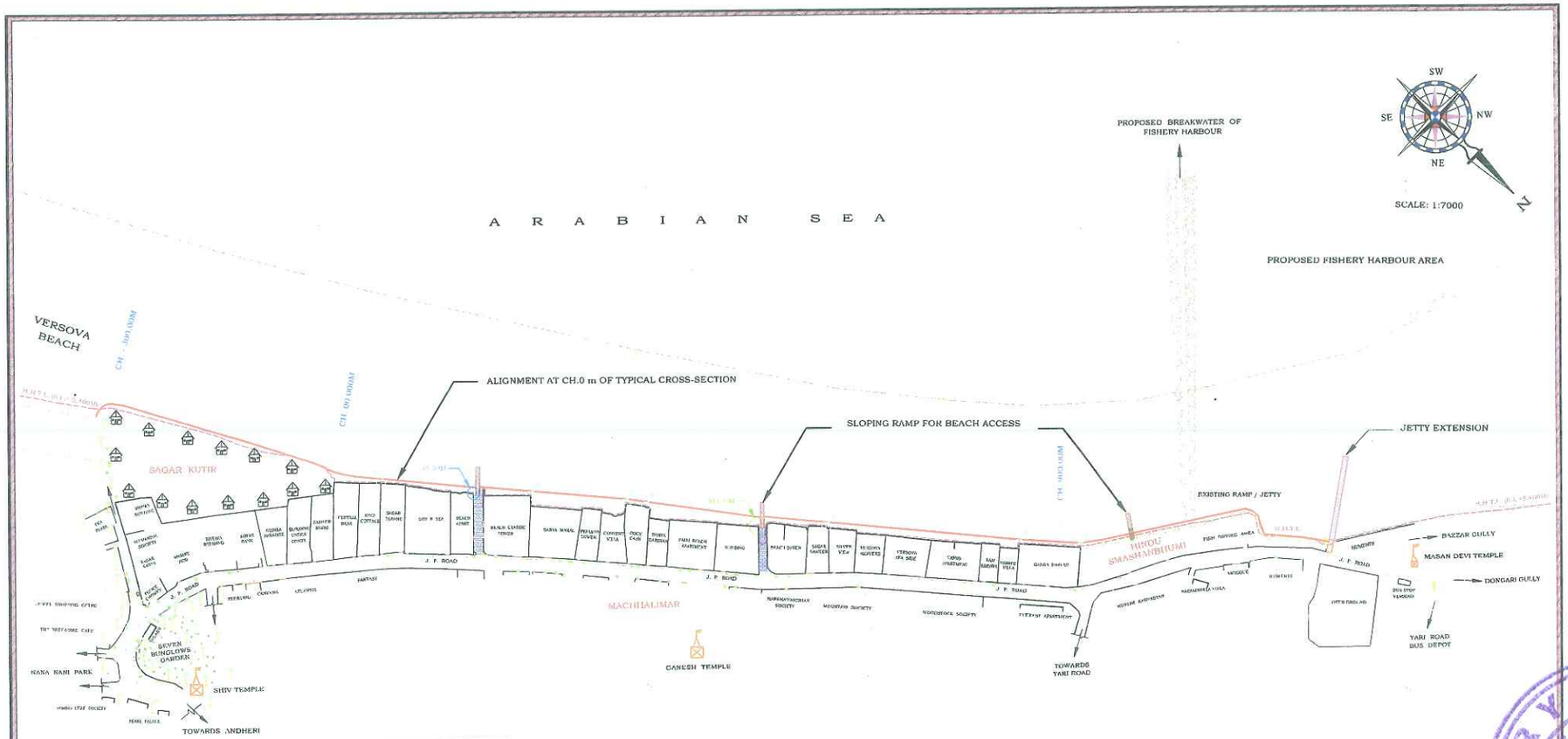
Encl: Figs. 1 to 5

LEGENDS :

1. ALIGNMENT OF PROPOSED C.C.WALL AND A.S..E. BUND SHOWN THUS
2. LOCATION OF PROPOSED APPROACHES TO BEACH AREA SHOWN THUS
3. LOCATION OF PROPOSED ASCESS TO BEACH (RAMPS) SHOWN THUS
4. ALIGNMENT OF PROPOSED EXTENSION OF THE EXISTING JETTY SHOWN THUS
5. LOCATIONS OF TEMPORARY BENCH MARK (T.B.M.) SHOWN THUS
6. ALIGNMENT OF EXISTING ROAD TO VERSOVA VILLAGE SHOWN THUS
7. COMPOUND WALL BOUNDARY OF EXISTING BUILDINGS SHOWN THUS
8. ALIGNMENT OF EXISTING RUBBLE PROTECTION WORK SHOWN THUS
9. HIGHEST HIGH TIDE LINE / LEVEL (R.L + 5.400M) SHOWN THUS
10. LOWEST LOW TIDE LINE / LEVEL (R.L + 0.000M) SHOWN THUS
11. LOCATION OF BREAKWATER OF PROPOSED HARBOUR SHOWN THUS

FIG. 1 : MODIFIED LAYOUT PLAN OF COASTAL PROTECTION WORK FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN

Government of India
Ministry of Water Resources, River Development & Ganga Rajunvaention
CENTRAL WATER AND POWER RESEARCH STATION, KHADAKWASLA, PUNE-24



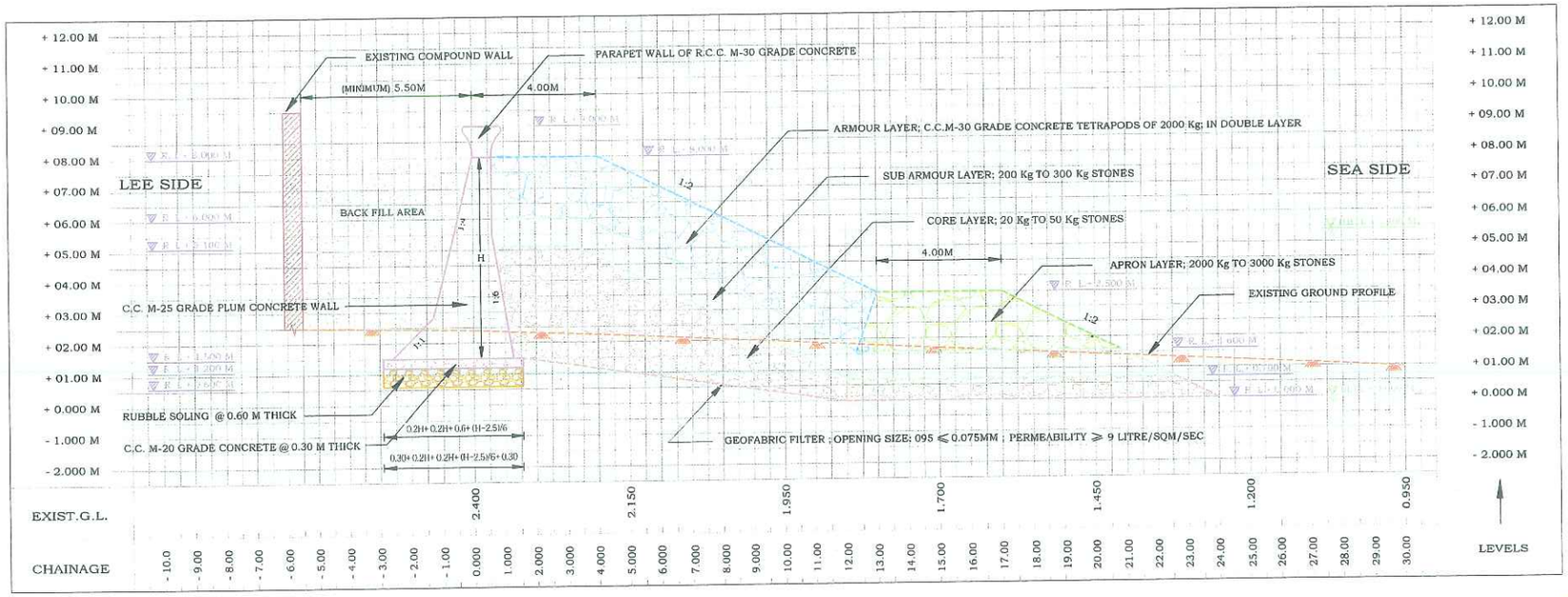
LEGENDS :

1. ALIGNMENT OF PROPOSED C.C.WALL AND A.S.E.BUND SHOWN THUS
2. LOCATION OF EXISTING APPROACHES TO BEACH AREA SHOWN THUS
3. LOCATION OF PROPOSED ASCESS TO BEACH (RAMPS) SHOWN TIIUS
4. ALIGNMENT OF PROPOSED EXTENSION OF THE EXISTING JETTY SHOWN THUS
5. LOCATIONS OF TEMPORARY BENCH MARK (T.B.M.) SHOWN THUS
6. ALIGNMENT OF EXISTING ROAD TO VERSOVA VILLAGE SHOWN THUS
7. COMPOUND WALL BOUNDARY OF EXISTING BUILDINGS SHOWN THUS
8. ALIGNMENT OF EXISTING RUBBLE PROTECTION WORK SHOWN THUS
9. HIGHEST HIGH TIDE LINE / LEVEL (R.L + 5.400M) SHOWN THUS
10. LOWEST LOW TIDE LINE / LEVEL (R.L + 0.000M) SHOWN THUS
11. LOCATION OF BREAKWATER OF PROPOSED HARBOUR SHOWN THUS

FIG. 2 : MODIFIED LAYOUT PLAN OF COASTAL PROTECTION WORK FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN

Government of India
Ministry of Water Resources, River Development & Ganga Rajunvaention
CENTRAL WATER AND POWER RESEARCH STATION, KHADAKWASLA, PUNE-24

NOTARY Govt. of India
RENUKA K. HIRWALE
Dist. Thane, Navi Mumbai
Regd. No.: 15074
Exp. Date
16/10/2024



TYPICAL CROSS SECTION

SCALE 1: 200

GRADATION OF STONES :

2000Kg TO 3000Kg STONES ..... 50% MORE THAN 2500Kg STONES

200Kg TO 300Kg STONES ..... 50% MORE THAN 250Kg STONES

20Kg TO 50Kg STONES ..... 50% MORE THAN 35Kg STONES

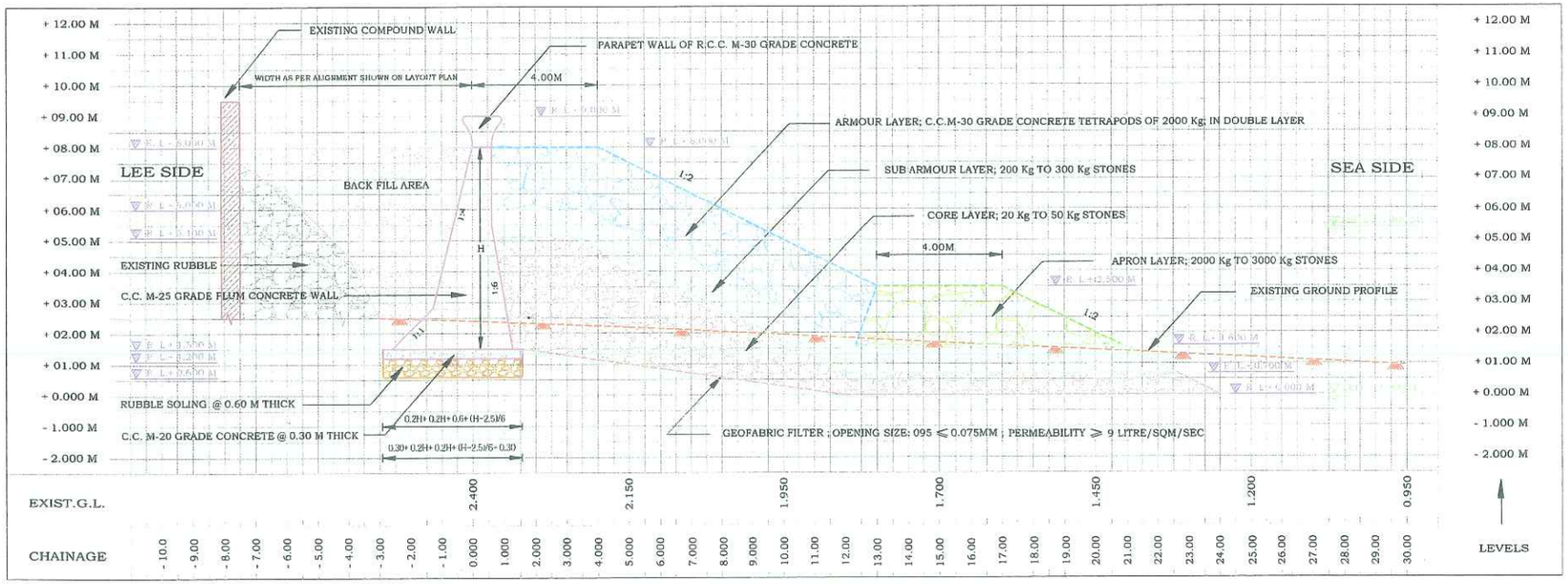
NOTES :

ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN METRES

ALL LEVELS SHOWN ARE WITH RESPECT TO CHART DATUM

FIG. 3 : MODIFIED DESIGN OF COASTAL PROTECTION WORK FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN.

Government of India
Ministry of Water Resources, River Development & Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION, KHADAKWASLA, PUNE-411 024



TYPICAL CROSS SECTION

SCALE 1: 200

GRADATION OF STONES :

2000Kg TO 3000Kg STONES ..... 50% MORE THAN 2500Kg STONES

200Kg TO 300Kg STONES ..... 50% MORE THAN 250Kg STONES

20Kg TO 50Kg STONES ..... 50% MORE THAN 35Kg STONES

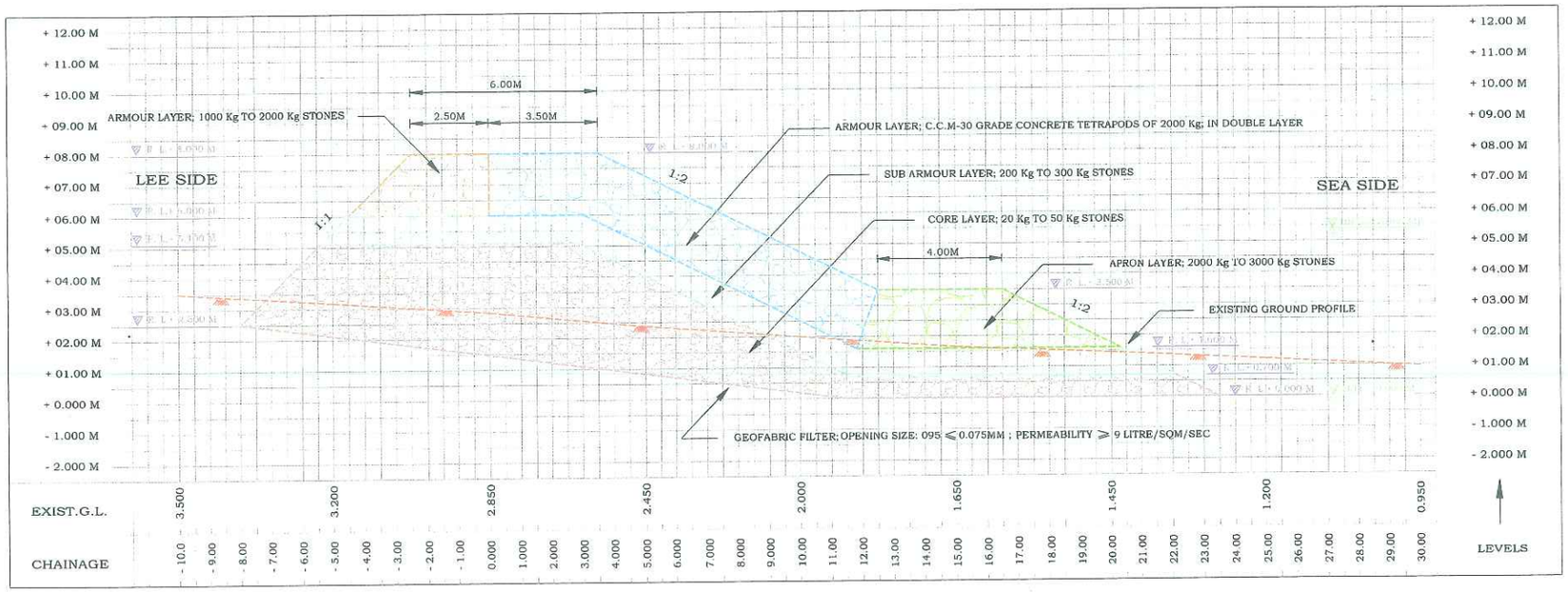
NOTES :

ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN METRES

ALL LEVELS SHOWN ARE WITH RESPECT TO CHART DATUM

FIG. 4 : MODIFIED DESIGN OF COASTAL PROTECTION WORK FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN.

Government of India
Ministry of Water Resources, River Development & Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION, KHADAKWASLA, PUNE-411 024



TYPICAL CROSS SECTION AT SAGAR KUTIR

SCALE 1: 200

GRADATION OF STONES :

2000Kg TO 3000Kg STONES	.....	50% MORE THAN 2500Kg STONES
1000Kg TO 2000Kg STONES	.....	50% MORE THAN 1500Kg STONES
200Kg TO 300Kg STONES	.....	50% MORE THAN 250Kg STONES
20Kg TO 50Kg STONES	.....	50% MORE THAN 35Kg STONES

NOTES :

ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN METRES

ALL LEVELS SHOWN ARE WITH RESPECT TO CHART DATUM

FIG. 5 : MODIFIED DESIGN OF COASTAL PROTECTION WORK AT SAGAR KUTIR, VERSOVA, IN MUMBAI SUBURBAN.

Government of India
Ministry of Water Resources, River Development & Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION, KHADAKWASLA, PUNE-411 024

W

"EXHIBIT" - W

NOTARY
RESHMA K. HONRAO
Dist. Thane, Maharashtra
S. Regd. No.
Regd. No.
Exp. Date
16/10/20
Govt. of

सत्यमेव जयते

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

Environment department,
Room No. 217, 2nd floor,
Mantralaya, Annexe,
Mumbai- 400 032.
Date:September 18, 2018

To,
PWD - HARBOUR ENGINEER, NORTH HARBOUR DIVISION
at Versova Beach from Sagar Kutir to Hindu Samshanbhoomi with approach road (CH. -300.00M TO CH. 900.00M)

Subject: CRZ Clearance for Construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova, in Mumbai Suburban

Sir,

This has reference to your communication on the above mentioned subject. The proposal was considered , by the Maharashtra Coastal Zone Management Authority, Maharashtra in its th meeting and recommend the project for CRZ Clearance to SEIAA. Information submitted by you has been considered by State Level Environment Impact Assessment Authority in its 138th meetings.

2. It is noted that the proposal is considered by Maharashtra Coastal Zone Management Authority as per CRZ Notification 2011.

Brief Information of the project submitted by you is as below :-

1.Name of Project	Construction of Anti Sea Erosion bund from Sagar Kutir to Hindu Smashanbhumi at Versova, in Mumbai Suburban
2.Type of institution	Government
3.Name of Project Proponent	PWD - HARBOUR ENGINEER, NORTH HARBOUR DIVISION
4.Name of Consultant	Fine Envirotech Engineers
5.Type of project	Others - Anti sea erosion bund
6.New project/expansion in existing project/modernization/diversification in existing project	New Project
7.If expansion/diversification, whether CRZ Clearance has been obtained for existing project	NA
8.Location of the project	Versova Beach from Sagar Kutir to Hindu Samshanbhoomi with approach road (CH. -300.00M TO CH. 900.00M)
9.Taluka	Andheri
10.Village	versova
Correspondence Name:	PUBLIC WORKS DEPARTMENT - HARBOUR ENGINEER, NORTH HARBOUR DIVISION
Room Number:	0
Floor:	5 th floor
Building Name:	Konkan Bhavan
Road/Street Name:	NA
Locality:	CBD - Belapur
City:	Navi Mumbai
11.Whether in Corporation / Municipal / other area	MCGM

12.IOD/IOA/Concession/Plan Approval Number	NA
	IOD/IOA/Concession/Plan Approval Number: NA
	Approved Built-up Area:
13.Note on the initiated work (If applicable)	NA
14.LOI / NOC / IOD from MHADA/ Other approvals (If applicable)	NA
15.Total Plot Area (sq. m.)	NA
16.Deductions	NA
17.Net Plot area	NA
18 (a).Proposed Built-up Area (FSI & Non-FSI)	FSI area (sq. m.): NA
	Non FSI area (sq. m.): NA
	Total BUA area (sq. m.):
18 (b).Approved Built up area as per DCR	Approved FSI area (sq. m.):
	Approved Non FSI area (sq. m.):
	Date of Approval:
19.Total ground coverage (m2)	NA
20.Ground-coverage Percentage (%) (Note: Percentage of plot not open to sky)	NA
21.Estimated cost of the project	550000000

NOTARY Govt. of India

22.Production Details

Serial Number	Product	Existing (MT/M)	Proposed (MT/M)	Total (MT/M)
1	NA	NA	NA	NA

23.Total Water Requirement

Dry season:	Source of water	NA
	Fresh water (CMD):	NA
	Recycled water - Flushing (CMD):	NA
	Recycled water - Gardening (CMD):	NA
	Swimming pool make up (Cum):	NA
	Total Water Requirement (CMD) :	NA
	Fire fighting - Underground water tank(CMD):	NA
	Fire fighting - Overhead water tank(CMD):	NA
	Excess treated water	NA
Wet season:	Source of water	NA
	Fresh water (CMD):	NA
	Recycled water - Flushing (CMD):	NA
	Recycled water - Gardening (CMD):	NA
	Swimming pool make up (Cum):	NA
	Total Water Requirement (CMD) :	NA
	Fire fighting - Underground water tank(CMD):	NA
	Fire fighting - Overhead water tank(CMD):	NA
	Excess treated water	NA
Details of Swimming pool (If any)	Not applicable	

NOTARY Govt. of India

24.Details of Total water consumed

Particulars	Consumption (CMD)			Loss (CMD)			Effluent (CMD)		
Water Requirement	Existing	Proposed	Total	Existing	Proposed	Total	Existing	Proposed	Total
Domestic	0	0	0	00	0	0	0	00	0

25.Rain Water Harvesting (RWH)	Level of the Ground water table:	NA
	Size and no of RWH tank(s) and Quantity:	NA
	Location of the RWH tank(s):	NA
	Quantity of recharge pits:	NA
	Size of recharge pits :	NA
	Budgetary allocation (Capital cost) :	NA
	Budgetary allocation (O & M cost) :	0
	Details of UGT tanks if any :	NA
26.Storm water drainage	Natural water drainage pattern:	NA
	Quantity of storm water:	0
	Size of SWD:	0
27.Sewage and Waste water	Sewage generation in KLD:	0
	STP technology:	NA
	Capacity of STP (CMD):	0
	Location & area of the STP:	NA
	Budgetary allocation (Capital cost):	NA
	Budgetary allocation (O & M cost):	NA

28.Solid waste Management		
Waste generation in the Pre Construction and Construction phase:	Waste generation:	NA
	Disposal of the construction waste debris:	NA
Waste generation in the operation Phase:	Dry waste:	NA
	Wet waste:	NA
	Hazardous waste:	NA
	Biomedical waste (If applicable):	NA
	STP Sludge (Dry sludge):	NA
	Others if any:	NA
Mode of Disposal of waste:	Dry waste:	NA
	Wet waste:	NA
	Hazardous waste:	NA
	Biomedical waste (If applicable):	NA
	STP Sludge (Dry sludge):	NA
	Others if any:	NA
Area requirement:	Location(s):	NA
	Area for the storage of waste & other material:	NA
	Area for machinery:	NA
Budgetary allocation (Capital cost and O&M cost):	Capital cost:	NA
	O & M cost:	NA

29.Effluent Charecterestics					
Serial Number	Parameters	Unit	Inlet Effluent Charecterestics	Outlet Effluent Charecterestics	Effluent discharge standards (MPCB)
1	NA	0	NA	NA	NA
Amount of effluent generation (CMD):		NA			
Capacity of the ETP:		NA			
Amount of treated effluent recycled :		NA			
Amount of water send to the CETP:		NA			
Membership of CETP (if require):		NA			
Note on ETP technology to be used		NA			
Disposal of the ETP sludge		NA			

NOTARY
REKHA K. ROKADE
Dist. Thane, Navi Mumbai
& Raigad
Regd. No.: 15074
Exp. Date
10/10/2024
Govt. of India

30.Hazardous Waste Details

Serial Number	Description	Cat	UOM	Existing	Proposed	Total	Method of Disposal
1	NA	NA	NA	NA	NA	NA	NA

31.Stacks emission Details

Serial Number	Section & units	Fuel Used with Quantity	Stack No.	Height from ground level (m)	Internal diameter (m)	Temp. of Exhaust Gases
1	NA	NA	NA	NA	NA	NA

32.Details of Fuel to be used

Serial Number	Type of Fuel	Existing	Proposed	Total
1	NA	NA	NA	NA

33.Source of Fuel	NA
34.Mode of Transportation of fuel to site	NA

35.Energy

Power requirement:	Source of power supply :	NA
	During Construction Phase: (Demand Load)	NA
	DG set as Power back-up during construction phase	NA
	During Operation phase (Connected load):	NA
	During Operation phase (Demand load):	NA
	Transformer:	NA
	DG set as Power back-up during operation phase:	NA
	Fuel used:	NA
	Details of high tension line passing through the plot if any:	NA

Energy saving by non-conventional method:

NA

36.Detail calculations & % of saving:

Serial Number	Energy Conservation Measures	Saving %
1	NA	NA

37.Details of pollution control Systems

Source	Existing pollution control system	Proposed to be installed
NA	NA	NA

Budgetary allocation (Capital cost and O&M cost):		
	Capital cost:	NA
	O & M cost:	NA

38.Environmental Management plan Budgetary Allocation

a) Construction phase (with Break-up):

Serial Number	Attributes	Parameter	Total Cost per annum (Rs. In Lacs)
1	AIR monitoring	PM10, PM2.5, SO2, NOx, TVOC, BENZENE	1.6
2	NOISE monitoring	Ambient Noise level	0.16

b) Operation Phase (with Break-up):

Serial Number	Component	Description	Capital cost Rs. In Lacs	Operational and Maintenance cost (Rs. in Lacs/yr)
1	Maintenance of sea bund	--	0	15
2	Marine Ecology	Zooplankton, Phytoplankton, Benthos	0	5
3	Water Quality	Surface water	0	4

39.Storage of chemicals (inflamable/explosive/hazardous/toxic substances)

Description	Status	Location	Storage Capacity in MT	Maximum Quantity of Storage at any point of time in MT	Consumption / Month in MT	Source of Supply	Means of transportation
NA	NA	NA	0	0	0	NA	NA

40.Any Other Information

No Information Available

	CRZ/ RRZ clearance obtain, if any:	no - MCZMA recommended to SEIAA for final clearance
	Distance from Protected Areas / Critically Polluted areas / Eco-sensitive areas/ inter-State boundaries	more than 15km
	Category as per schedule of EIA Notification sheet	NA
	Court cases pending if any	NA
	Other Relevant Informations	NA
	Have you previously submitted Application online on MOEF Website.	No
	Date of online submission	-

3. The proposal has been considered by SEIAA in its 138th meeting & decided to accord CRZ Clearance to project proponent under the provisions of Environment Impact Assessment Notification, 2006 & CRZ Notification 2011 subject to implementation of the following terms and conditions:

Specific Conditions:

General Conditions:

I	The SEIAA reserves the right to revoke this recommendation, if the conditions stipulated are not complied with to the satisfaction of the MCZMA or Environment Department.
II	The SEIAA or any other competent authority, may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with
III	A copy of the recommendation letter shall be marked to the concerned local body/ local NGO, if any, from whom any suggestion/ representation has been received while processing the proposal
IV	The environmental safeguard measures should be implemented in letter and spirit
V	The Clearance from CRZ point of view is being issued without prejudice to the action initiated under EP Act or any court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision under EP Act or of the Hon'ble court will be binding on the project proponent. Hence this clearance does not give immunity to the project proponent in the case filed against him, if any or action initiated under EP Act

4. The CRZ Clearance is being issued without prejudice to the action initiated under EP Act or any court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision under EP Act or of the Hon'ble court will be binding on the project proponent. Hence this clearance does not give immunity to the project proponent in the case filed against him, if any or action initiated under EP Act.

5. In case of submission of false document and non-compliance of stipulated conditions, Authority/ Environment Department will revoke or suspend the CRZ Clearance without any intimation and initiate appropriate legal action under Environmental Protection Act, 1986.

6. The Environment department reserves the right to add any stringent condition or to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the department or for that matter, for any other administrative reason.

7. This Clearance will be valid for 5 years from the date of issue of recommendation for commencement of construction & operation.

8. In case of any deviation or alteration in the project proposed from those submitted to this department for clearance, a fresh reference should be made to the department to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.

9. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the public Liability Insurance Act, 1991 and its amendments.

10. Any appeal against this CRZ Clearance shall lie with the National Green Tribunal (Western Zone Bench, Pune),New Administrative Building, 1stFloor, D-, Wing, Opposite Council Hall, Pune, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Shri. Anil Diggikar (Member Secretary SEIAA)

Copy to:

1. SECRETARY MOEF & CC
2. IA- DIVISION MOEF & CC
3. MEMBER SECRETARY MAHARASHTRA POLLUTION CONTROL BOARD MUMBAI
4. REGIONAL OFFICE MOEF & CC NAGPUR
5. MUNICIPAL COMMISSIONER MUMBAI
6. MUNICIPAL COMMISSIONER NAVI MUMBAI
7. REGIONAL OFFICE MPCB MUMBAI
8. REGIONAL OFFICE MPCB NAVI MUMBAI
9. REGIONAL OFFICE MIDC ANDHERI
10. REGIONAL OFFICE MIDC KOPER KHAIRANE NAVI MUMBAI
11. MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. LTD
12. COLLECTOR OFFICE MUMBAI
13. COLLECTOR OFFICE MUMBAI SUB-URBAN

TRUE COPY

For Vidhii Partners
Advocates

X

"EXHIBIT" – X

(23)

Government of Maharashtra
Public Works Department,
Harbour Engineer, Harbour Engineering Division (N), Konkan Bhavan, Navi Mumbai.

Visit us: www.mahapwd.com	Phone No. 02227571534, 02227560696
No. HE(N)/PB/CRZ /Versova/ 422	Date: 13 MAR 2019

To,
Additional Director,
Central Water & Power Research Station,
Khadakwasla, Pune 411024.

Subject: Design of coastal protection works from Sagar Kutir to Machhalimar and up to Hindu Smashanbhumi at Versova, in Mumbai Suburban.

Reference: Your office letter No. 130/7/71-CE, dated 25/10/2017

The above mentioned work is being executed as per the design received from your office vide reference letter. The local residents along with Versova Residents Volunteers founder member Shri. Afroz Shah and other activists have requested the local MLA to explain about the work which is being carried out at Versova beach.

Accordingly, local MLA Dr. Bharti Lavekar has called the joint meeting with them which was held on 02/03/2019. In the meeting, the necessity and details of coastal protection work were explained to local residents, Versova Residents Volunteers founder member Shri. Afroz Shah and other activists.

As the existing beach is being used for various recreational activities by local residents as well as tourists, hence, they have requested not to accommodate more beach width for coastal protection work as it will create hindrance.

Also, SEIAA Committee's 138th, CRZ Clearance has been granted to the project subject to condition that *the suggestions / objections of the residents of the proposed stretch may be considered, before starting the reconstruction / redevelopment work of wall.*

In view of above scenario, this office kindly request you to consider the above facts and review the overall aspect of the design of coastal protection work and provide suitable solution meeting above conditions at the earliest please.

Thanking you,

Harbour Engineer,
Harbour Engineering Division (N),
Konkan Bhavan, Navi Mumbai.

Copy submitted to Coastal Engineer, P.W. Circle, Bandra (E), for information please.

Copy forwarded to Assistant Harbour Engineer, Harbour Subdivision, Andheri, Mumbai Suburban.

TRUE COPY
For Vidhii Partners
Advocates

Y

"EXHIBIT" -Y

भारत सरकार
जल संसाधन नदी विकास
और गंगा संरक्षण मंत्रालय
केन्द्रीय जल और विद्युत अनुसंधान शाला
खडकवासला पुणे 411024

Government of India
Ministry of Water Resources
River Development & Ganga Rejuvenation
CENTRAL WATER & POWER RESEARCH STATION
Khadakwasla Pune - 411 024

P:020-24103402, 24103469 F:020-24381004 E:agrawal_jd@cwprs.gov.in W: www.cwprs.gov.in

सदर्भांक / Ref.No:CHS-I/2019 /7 दिनांक 18.03.2019

Harbour Engineer,
Harbour Engineering Division (N)
Government of Maharashtra,
5th floor, Konkan Bhavan,
Navi Mumbai- 400 614

Sub. Design of coastal protection works at Versova, Mumbai

Ref: 1) CWPRS letter No. 121/1/CE-2017/26/210 dated 11.04.2016
2) CWPRS letter No. 130/7 71-CE dated 25.10.2017
3) Your letter No.HE(N)/PB/CRZ/Versova/422 dated 13.03.2019

Sir,

This has reference to your letter dated 13.03.2019 regarding the design of coastal protection work at Varsova, Mumbai. The proposed coastal protection work is to be implemented in two stretches viz. at Sagar Kutir (Ch. 0 to -300) & Smashanbhoomi (Ch. 0 to 1100 m) area of Versova (Fig. 1). The design of coastal protection work (seawall) with 2 T tetrapods in the armour has been submitted vide CWPRS letter dated 11.04.2016. Later, the design was modified with respect to MCZMA recommendations & submitted vide CWPRS letter dated 25.10.2017. It is understood vide your dated 13.03.2019 that construction work of the seawall is in progress according to design submitted by CWPRS. It is mentioned that the local residents requested to optimize the width of seawall so that more beach width will be available for the recreational activities perform by the tourists.

In view of this, it is indicated that the design of coastal protection work was evolved based on the data viz. beach profiles, waves, tides etc. & then existing condition at the site. Overall the design is suitable for the protection of coastline. The various components of seawall such as armour, crest, toe-berm etc are satisfying the design criteria. Accordingly, the seawall can be accommodated in the available space at the site. The available beach width varies with seasons. However, in order to enhance available beach width, certain modifications in the toe-berm component of seawall are carried out based on the existing site conditions and requirements of the project. The top elevation of the toe-berm is lower down to enhance the beach width for various cross-section of the seawall. The toe-berm (top) level for cross-sections to be adopted from Ch. 0 m to Ch.180 m is kept at +2.0 m (Fig.2); Ch. 180 m to Ch.1100 m is kept at +1.6m (Fig.3) & Ch 0 m to Ch. (-) 300 m is kept at 2.0 m (Fig.4). A single layer thickness for secondary (0.45 m) & core layer (0.25 m) in the toe-berm is suggested to minimizes the quantity of excavation. All other details will remain same as suggested vide CWPRS letter dated 25.10.2017. It is requested to sent few photographs / video of the construction work of seawall for record purpose.

Thanking You,

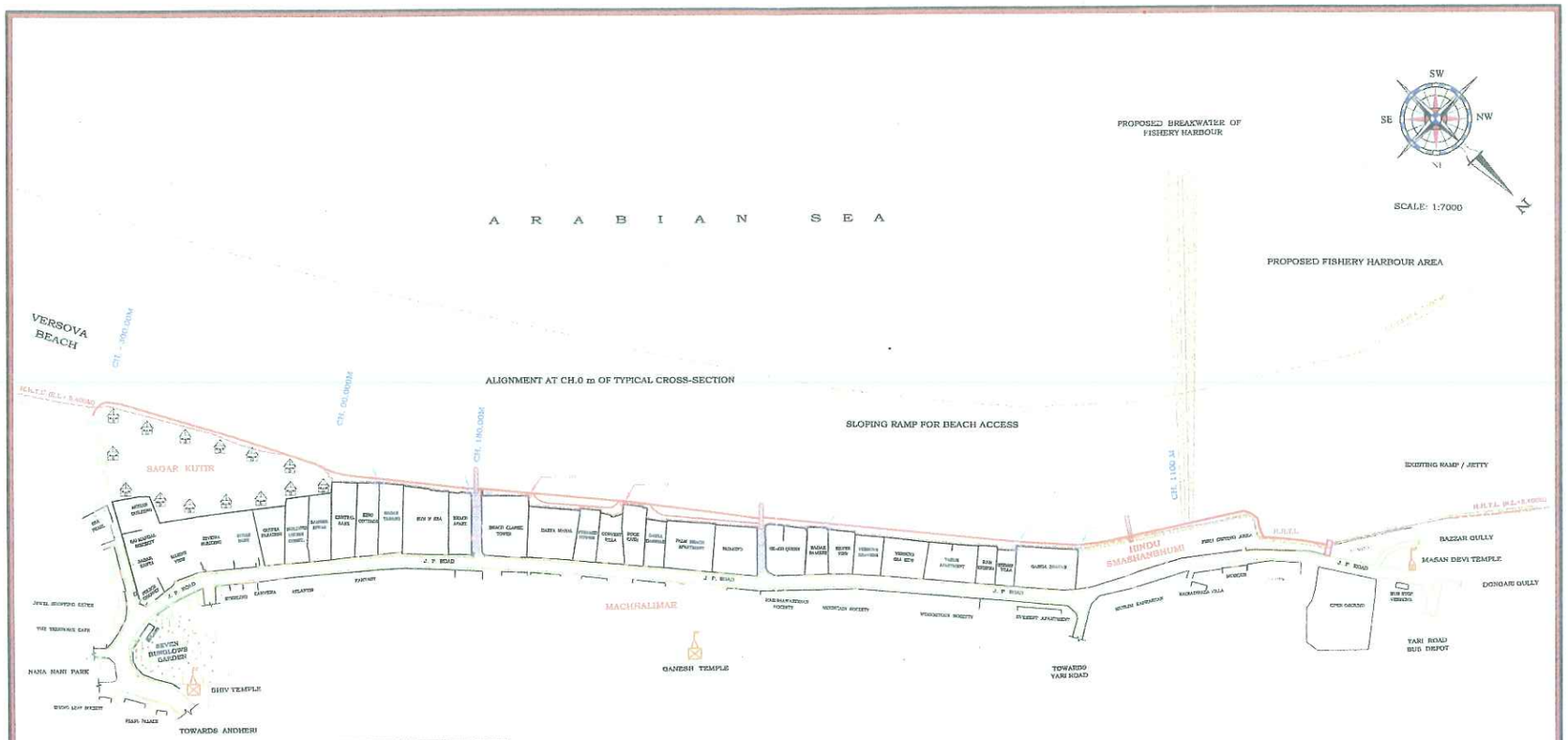
Yours faithfully,

18/3/19

(Dr. J.D. Agrawal)
Scientist "E"

Encl: Figs.1,2,3 & 4

GOVT. OF INDIA



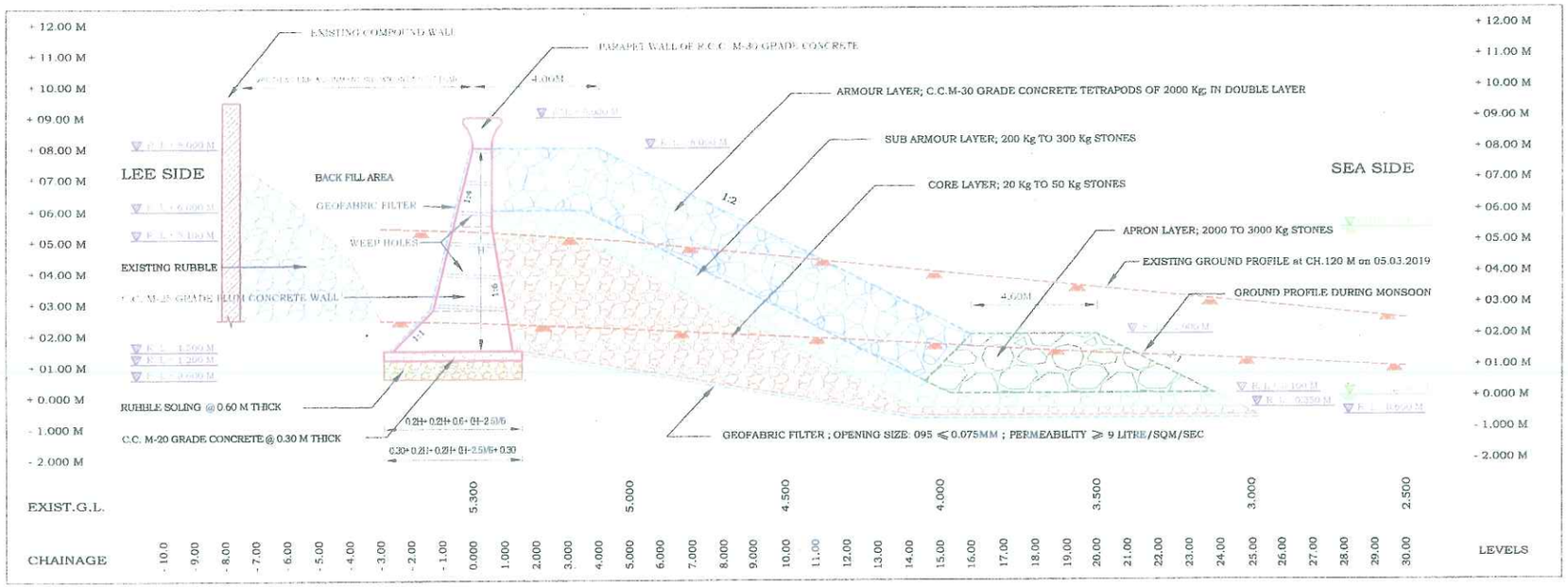
LEGENDS :

1. ALIGNMENT OF PROPOSED C.C.WALL AND A.S.E.BUND SHOWN THUS
2. LOCATION OF EXISTING APPROACHES TO BEACH AREA SHOWN THUS
3. LOCATION OF PROPOSED ASCESS TO BEACH (RAMPS) SHOWN THUS
4. LOCATION OF THE EXISTING RAMP NEAR SMASHANBHUMI SHOWN THUS
5. LOCATIONS OF TEMPORARY BENCH MARK (T.B.M.) SHOWN THUS
6. ALIGNMENT OF EXISTING ROAD TO VERSOVA VILLAGE SHOWN THUS
7. COMPOUND WALL BOUNDARY OF EXISTING BUILDINGS SHOWN THUS
8. ALIGNMENT OF EXISTING RUBBLE PROTECTION WORK SHOWN THUS
9. HIGHEST HIGH TIDE LINE / LEVEL (R.L + 5.400M) SHOWN THUS
10. LOWEST LOW TIDE LINE / LEVEL (R.L + 0.000M) SHOWN THUS
11. LOCATION OF BREAKWATER OF PROPOSED HARBOUR SHOWN THUS

Govt. of India
Regd. No. 15074
Exp. Date 16/10/2024

FIG. 1 : MODIFIED LAYOUT PLAN OF COASTAL PROTECTION WORK FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN

CWPRS/CHS-I/2019/56



TYPICAL CROSS SECTION from CH. 0 M to 180 M

SCALE 1: 200

GRADATION OF STONES :

2000Kg TO 3000Kg STONES ..... 50% MORE THAN 2500Kg STONES

200Kg TO 300Kg STONES ..... 50% MORE THAN 250Kg STONES

20Kg TO 50Kg STONES ..... 50% MORE THAN 35Kg STONES

NOTES :

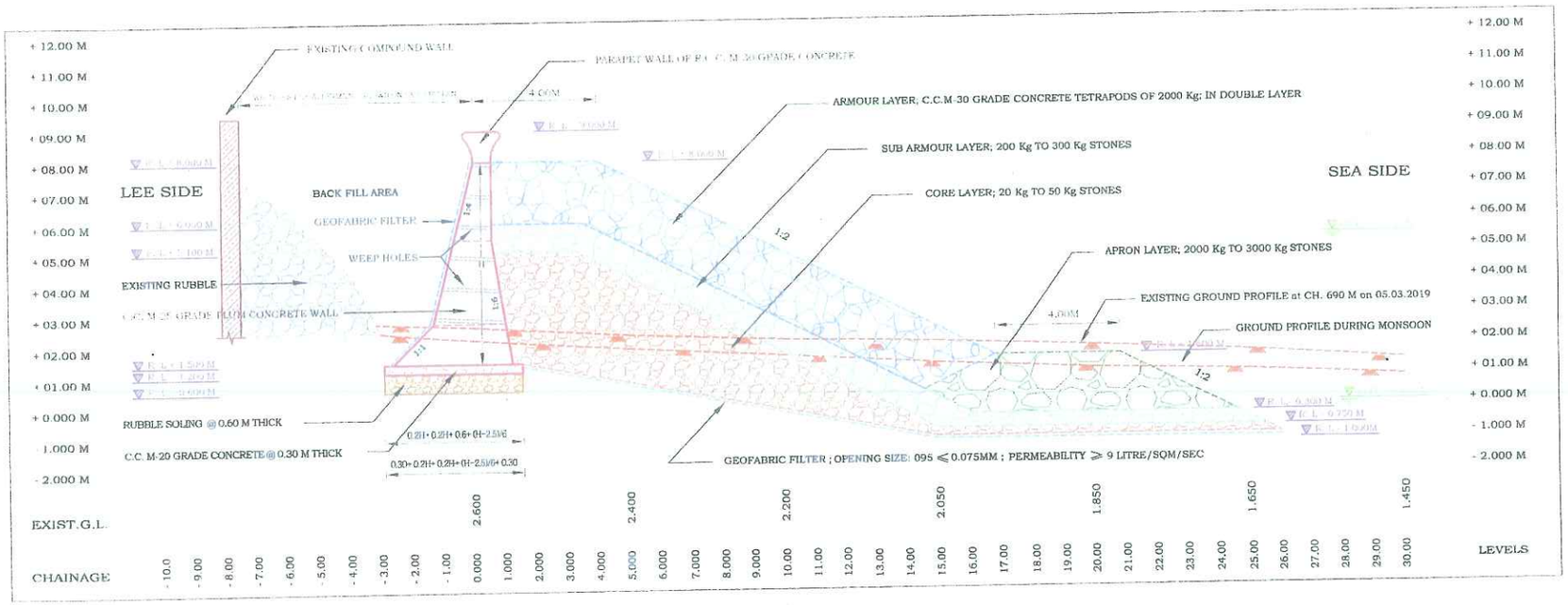
ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN METRES

ALL LEVELS SHOWN ARE WITH RESPECT TO CHART DATUM

FIG. 2 : MODIFIED DESIGN OF COASTAL PROTECTION WORK FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN.

12/3/19

CWPRS/CHS-I/2019/57



TYPICAL CROSS SECTION from CH. 180 M to CH. 1100 M

SCALE 1: 200

GRADATION OF STONES :

2000Kg TO 3000Kg STONES ..... 50% MORE THAN 2500Kg STONES

200Kg TO 300Kg STONES ..... 50% MORE THAN 250Kg STONES

20Kg TO 50Kg STONES ..... 50% MORE THAN 35Kg STONES

NOTES :

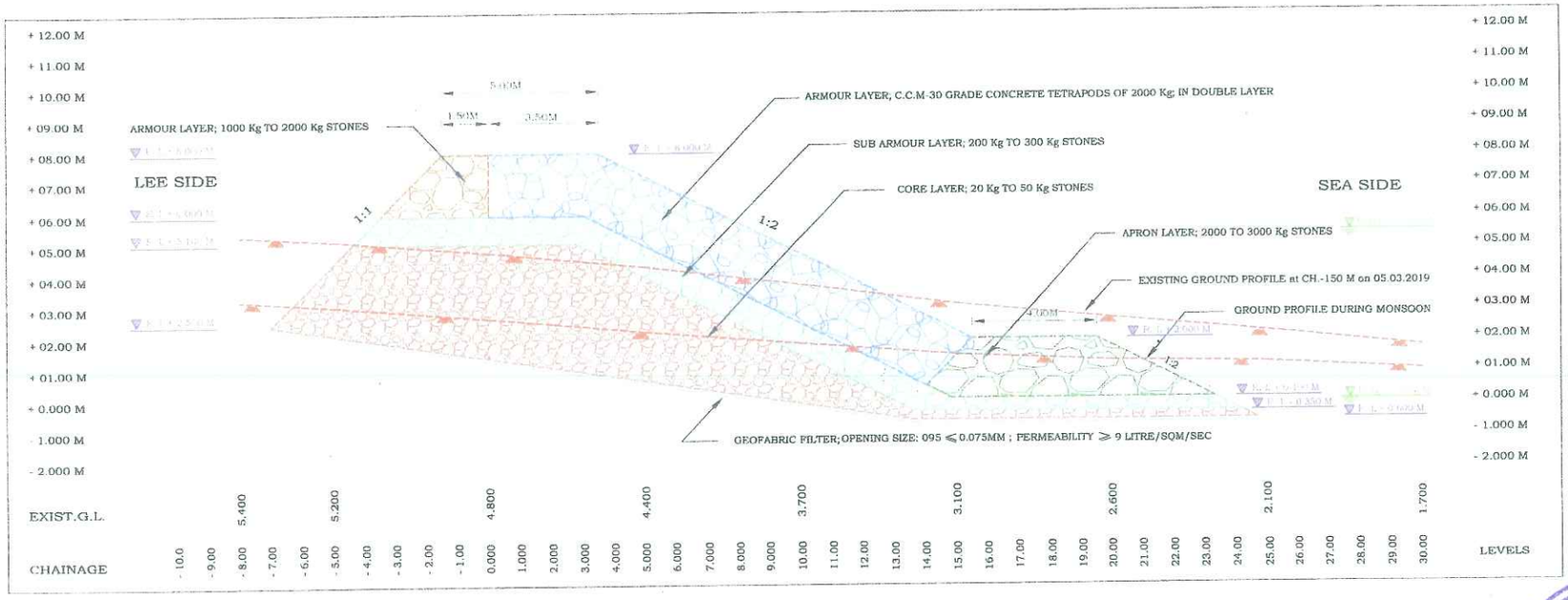
ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN METRES

ALL LEVELS SHOWN ARE WITH RESPECT TO CHART DATUM

FIG. 3 : MODIFIED DESIGN OF COASTAL PROTECTION WORK FROM SAGAR KUTIR TO MACHHALIMAR & UPTO SMASHANBHUMI AT VERSOVA, IN MUMBAI SUBURBAN.

12/3/19

CWPRS/CHS-I/2019/58



TYPICAL CROSS SECTION AT SAGAR KUTIR from Ch. 0 M to - Ch.300 M

SCALE 1: 200

GRADATION OF STONES :

2000Kg TO 3000Kg STONES	.....	50% MORE THAN 2500Kg STONES
1000Kg TO 2000Kg STONES	.....	50% MORE THAN 1500Kg STONES
200Kg TO 300Kg STONES	.....	50% MORE THAN 250Kg STONES
20Kg TO 50Kg STONES	.....	50% MORE THAN 35Kg STONES

NOTES :

ALL DIMENSIONS SHOWN ON DRAWINGS ARE IN METRES

ALL LEVELS SHOWN ARE WITH RESPECT TO CHART DATUM

FIG. 4 : MODIFIED DESIGN OF COASTAL PROTECTION WORK AT SAGAR KUTIR, VERSOVA, IN MUMBAI SUBURBAN.

18/3/19

CWPRS/CHS-I/2019/59

"EXHIBIT" Y1

रजि. क्रं. महाराष्ट्र राज्य, मुंबई १८१९/२००६ २०० जी. बी. बी. एस. डी.
पत्ता : सागर कुटीर संघ, सात बंगला, जे. पी. रोड, अंधेरी (प.), वर्सोवा, मुंबई - ४०००६१.

दिनांक : 14/01/2020

प्रति,
सहाय्यक पत्तन अभियंता,
पत्तन वी उपविभाग,
प्रशांसकीय इमारत तळमजला,
डी.एन. नगर, रोड, अंधेरी (प),
मुंबई - ४०००५८.

विषय :– सागर कुटीर वर्सोवा समुद्रकिनाऱ्यालगत धूप प्रतिबंधक बंधारा बांधणेबाबत.

महोदय,

वर नमुद विषया संदर्भातील आपणांस विनंती करण्यात येते की, सागर कुटीर वर्सोवा समुद्रकिनाऱ्यालगत धूप प्रतिबंधक बंधारा बाधणे हे काम सार्वजनिक बांधकाम विभागामार्फत ते आर. बी. चव्हाण या कंपनीकडून चालू असूल ते काम लवकरात लवकर पूर्ण करण्यात यावे. जेणे करून मागील पावसाळ्यात भरतीच्या वेळेस अनेक सागर कुटीर रहिवासाच्या घराचे गंभीर नुकसान झाले होते. झालेल्या घन घटनेचे छायाचित्र या पत्यासोवत जोडलेले आहे. तरी या घटनीची पुनवृत्ती पुन्हा होऊ नये. व समुद्र लगतच्या घरांचे समुद्राच्या लाटेपासून बचाव व्हावा. यासाठी सदर कामाचा वेग वाढवावा. व लवकरात लवकर हे काम पूर्ण करण्यात यावे. अशी आम्ही सर्व रहिवाशांची आपणांस कळकळीची विनंती आहे.

आपला विश्वासू,

दिनेश मंडल
दिनेश लक्ष्मण मंडल

सागर कुटीर सेवा समिती

रजि.(जी. बी. एस. डी. ३०७/२००२)

सागर कुटीर संघ, जे. पी. रोड, सेंट्रल बँकेच्यामागे, सातबंगला अंधेरी (पश्चिम), मुंबई - ४०००६१

टीसंदर्भ: सागर कुटीर सेवा समिती (रजि.)
जी.बी.एस.डी. ३०७/२००२.
सागर कुटीर संघ, जे. पी. रोड,
सेंट्रल बँकेच्या पाठीमागे,
सातबंगला, मुंबई ४०००६१.

सागर कुटीर संघ झोपडपट्टी
समुद्रकिनारी संरक्षण भिंती बाबत

दिनांक: 14/01/2020

सहाय्यक पत्तन अभियंता
पत्तन उपविभाग, अंधेरी
मुंबई - ५८

मुख्य अधिकारी यांस,

आम्ही सर्व जणांची सही करणारे सागर कुटीर झोपडपट्टी संघ, या ठिकाणचे रहिवासी आपणास कळवितो कि आम्ही या ठिकाणी गेली ३५ वर्षापासून राहत असून आमच्या या झोपट्या समुद्र किनारी असल्यामुळे गेल्या २० वर्षापासून या झोपट्या समुद्र पाण्यामुळे पावसाळ्यात खूप त्रास, सोसावा लागतो. काही झोपट्या पक्के बांधकाम केलेले त्या ओल्या पाण्याच्या महा भरती मुळे वाहून पण गेल्या आहेत. गेल्या वीस वर्षात कितीतरी धोकादायक परिस्थिती निर्माण होऊन सुद्धा आम्ही कसेतरी धोका पत्करून या ठिकाणी राहतो. या आमच्या अडचणीसाठी खासदार श्री गजानन कितीकर साहेबांना अनेक देणात आला कि या ठिकाणी संरक्षण दगड टाकण्यात यावे. यांनी आपल्या सहकार्याने या कामास सुरुवात केली ~~[illegible]~~ पण पुढचा पावसाळा येण्या अगोदर हे काम लवकरात लवकर पुर्ण करावे. येविनंती

16/01/2020

धन्यवाद

सागर कुटीर सेवा समिती (रजि.)
ग.ती. सभासद

①	शास्कर गोताड - उपसेक्रेटरी	= भास्कर गोताड	सही
②	बेबी र. पाटील - उपाध्यक्षा	= बेबी पाटील	
③	अशोक चासकर	= Ashok	फ.ब.रा.ग.
④	धनू सिंग	=	
⑤	यासमिन शेख	— Yasmin Shaikh	
⑥	जेम्स शेरी	— James Shetty	
⑦	विश्वास आ-साधव	— Vishwas Adhav	

TRANSLATED COPY

SHRI SAI SAGAR KUTIR SEVA SANGH

Registration No. MAHARASHTRA STATE, MUMBAI 1819/2006
200 G.B.B.S.D.

Address Sagar Kutir Sangh, Seven bungalow, J.P. Road, Andheri (West), Versova, Mumbai 400 061.

Date: 14.01.2020

To,

Assistant Harbour Engineer,
Hrbour Sub-Division,
Administrative Building, Ground Floor,
D.N. Nagar Road,
Andheri (West),
Mumbai 400 058.

NOTARY Govt. of India

Subject: Regarding construction of Anti Sea Erosion bund along seashore at Sagar Kutir Versova.

Sir,

Regarding above subject, you are requested to complete the construction of Anti Sea Erosion bund along seashore at Sagar Kutir work which is being carried out by contractor R.B. Chavan through Public Works Department at the earliest. During high tides in previous monsoon, the houses along sea shore has been damaged severally. Photographs of the incidents are attached herewith. We all residents are humbly requesting you to avoid such a type of incident in future and to protect the houses from tidal waives along sea shore, the speed of works must be increased and complete the works at earliest.

Yours faithfully,

Sd/-

Dinesh Laxman Mandal

SAGAR KUTIR SEVA SAMITI

Registration No. GBSD 307 of 2002
Sagar Kutir Sangh, J.P. Road, Behind Central Bank, Seven Bunglows, Andheri (West), Mumbai 400 061.

Date: 14.01.2020

Regarding coastal protection wall at Sagar Kutir Sangh Hutments

To,

Assistant Harbour Engineer,
Harbour Sub-Division,
Andheri (West),
Mumbai 400 058.

To Chief Officer,

We all undersigned are residents of Sagar Kutir Hutment Sangh are informing that we are resided along sea coastline since 35 years and we are facing lots of problems during monsoon from seawave since last 20 years. Some houses along seacoast has been washed away by tidal waves. In such dangerous situations we are residing here since last 20 years. To resolve this problem, we approached to M.P. Shri Gajanan Kirtikar Sir and requested to protect the coastline by dumping stones. With his co-operation you have started the protection work. Hence requested to complete the work before monsoon to prevent the houses from being washed away.

Sagar Kutir Seva Sangh

Sd/-	Sd/-	Sd/-
Chairman	Secretary	Treasurer

From
Deepak Dhadwal
Convent Villa,
Versova Road, Andheri (W),
Mumbai 400061.
Date : 2nd April 2019
Mob : 9821227174

To,
The ~~Harbal~~ Harbour Engineer
Harbour ~~Harbal~~ Engineering
Division (N)
Kokan Bhavan
Navi Mumbai

SUB : SEA PROTECTION WALL & BOULDERS

Dear Sir,

Your Speedy work in protecting our properties on the sea front is appreciated.

Kindly complete the work of sea protection wall and boulders behind our old bungalow before the monsoon tide. we are expecting very heavy tides this monsoon i.e. in the months of June, July & August this year and without the protection of the boulders and wall there could be serious consequences to the property.

My Bungalow is situated between Pyramid building and Lokhandwala Bungalow.

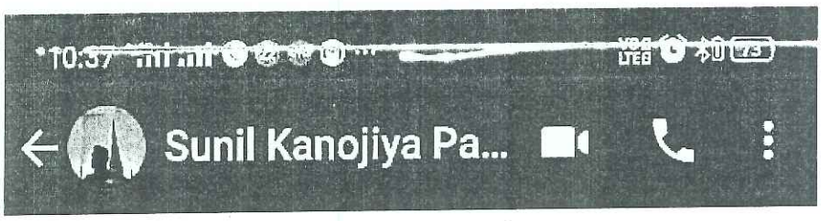
Please start the work behind the said property on the sea facing side immediately and complete the work before the monsoon starts.

I remain obliged to you.

Thanking you

Deepak Dhadwal

NOTARY
Govt. of India



NOVEMBER 7, 2019

Messages to this chat and calls are now secured with end-to-end encryption. Tap for more info.

Dear Sir..

I still can't see any wall getting made outside of our building Versova Parag mansion at Versova on beach...
Only the tripods are being getting placed...
Hoping the process will be same as it has happened before the rains on our right side of the area facing sea side.

Thanks :)
Regards
Sunil Kanojia
Secretary((Versova Parag Mansion)

11:08 PM

NOVEMBER 8, 2019

Thanks for your cooperation and intrest . We will start working as soon as we get permission and alignment from the concern department .We are also waiting for the same 6:22 PM ✓✓

Type a message

Deepak Dhadwal
Conver Villa, Versova Road,
Andheri West, Mumbai 61.
Date : 14-01-2020

To,
Harbour Enigineer
Harbour Engineering
Divisio N, Konkan Bhavan,
Navi Mumbai.

Subject : Safety to loss of life & property by making sea retention walk + boulders + tetrapods.

Dear Sir,

This is in continuation to way letter of 2-4-2019 we are appreciative of the work done by your in Versova However the work behind the property (convert villa) where I have been staying since 1960, has not been completed. Please note that with global ~~working~~ warming & the sea rise, the sea furiousity is increasing every year.

We have been requesting the government from 1960 onwards to make a sea retaining wall outside property in versova, we have had a major damage to our sea retaining wall twice over the years and had to e attended to at huge costs. Therefore please take this job on priority 2 complete it.

Please note that in future if there is any damage to life or property, you would be held responsible.

We therefore most humbly request you to complete the job of the sea retaining walk with boulders and tetrepods & oblige.

We once again appreciate your work done in versova.

Thanking You

Deepak Dhadwal

Enclosed : Letter dtd 2-4-2019

NOTARY • ★ • GOVT. OF INDIA • ★ • NOTARY

VERSOVA HEAVENS CO-OPERATIVE HOUSING SOCIETY LTD.
BOM/HSG/2655 OF 1970
PLOT NO. 36, J.P. ROAD, VERSOVA ANDHERI (WEST), MUMBAI- 400061

Date:- 23rd Jan 2020

To,
The Assistant Engineers
Harbour Sub Division
Andheri (W)
Mumbai- 400058

Subject:- Concrete Retention Wall Behind The Sea Facing Buildings

Respected Sir,

This is to express our sincere thanks to the Harbour Dept and other Government Agencies for carrying out such a humungous job of providing safety and security for all the sea side buildings, by constructing a concrete wall behind these buildings.

The ferocious sea attack during monsoons damaged all building walls due to high tide onslaught. The walls used to break open every 3-4 years forcing the middle class residents of these buildings to shell out large same for repairing and reconstructing their building walls. sums.

The Govt has taken note of this plight of the residents and acceded to the long standing demand of the residents of versova.

The Residents are extremely happy that there will be no more fear of the sea waves damaging their walls and therefore congratulate and thank all the Govt authorities for this splendid work.

Thanking You,

Yours Sincerely

VERSOVA HEAVENS CO-OP. HOUSING SOCIETY LTD.

HON. SECRETARY

NOTARY Govt. of India

VARUN CO-OPERATIVE HOUSING SOCIETY LTD.

(REGD NO. BOM / KW / HSG. (T.C) 1587 / 85-86 DT. 21-10-85)
1054, Jai Prakash Road, Versova, Andheri (West), Mumbai - 400 061.

Date : 03/02/2020

To,
THE ASSISTANT ENGINEER,
Harbour Sub-Division,
Andheri (West), Mumbai-400 058.

Sir,

KIND ATTN : MR. KULKARNI
Sub : Construction of Concrete Retention wall and laying Tetrapods to break the impact of Sea Waves.

Our Society's building is situated on Jay Prakash Road, Versova and its backside faces the sea.

Like all other Seaside buildings we have been facing the onslaught of the furious waves.

Our efforts to safeguard our building and also provide security from Anti Social Elements by erecting a wall with mounted grill have proved inadequate.

We are indeed thankful to the harbour dept and other Government Agencies to undertake erecting a strong barrier and retention wall and laying wave breaking tetrapods which will provide the much needed safety and safeguard to our building.

However our plot slopes towards the sea and rain water naturally drains into the sea. It is observed that the height of the retention wall is higher than the plot and rain water outlets have become ineffective. This is to request you to provide for the rain water to drain out through proper drainage.

Kindly acknowledge receipt.

Thanking you,

Yours faithfully

For Varun Co-op. Housing Society Ltd.

LOKHANDWALA
NESTINGS

Ref.: LG/LNPL/2020/141

14th February 2020

The Asst. Engineer,
Harbour Sub Division,
Andheri (West),
Mumbai – 400 058.

Dear Sir/s,

Re.: Construction of retaining wall at sea shore of Versova beach.

We express our gratitude to the Harbour Dept. of the Government for taking an important initiative to construct a concrete retaining wall at the sea shore of Versova beach.

Over the year we were facing huge problem of tides from sea causing damage to the retaining walls of our property. Mostly every year we had to do extensive repairs to the retaining wall of our property.

Now due to the retaining wall being constructed by the Harbour Department we are sure that we will be saved from onslaught of the sea tide.

We earnestly thank the Harbour Dept., The Government and all the Organizations associated with this project including the Contractor working on the site, to have taken this great initiative so that the properties along the sea coast remains safe.

Thanking you,

Yours truly,

For Lokhandwala Nestings Pvt. Ltd.,

Director

Lokhandwala Nestings Private Limited
48 Indranarayan Road
Santacruz (W)
Mumbai 400 054, India

T 91 22 2649 4492
F 91 22 2649 5486
E info@lokhandwala.com
CIN: U45200MH1984PTC033077

GANGA BHAVAN CO-OP. HOUSING SOCIETY LTD.

(Regn. No. BOM/HSG/5951 OF 1979)
Plot bearings C.T.S. No. 1053-1052/(1-22)

Jayprakash Road, Versova, Andheri (W), Mumbai 400 061.

Date:- 25/02/2020

To,
The Assistant Engineers.
Harbour Sub Division
Andheri (West) Mumbai-400 058.

Sub: - Concrete retention wall behind the Sea facing Buildings.

Respected Sir,

This is to express our sincere thanks to the Harbour Dept and other Government agencies for carrying out such humongous job of providing safety and security for all the sea side buildings, by constructing a concrete wall behind these buildings.

The ferocious sea attack during monsoons damaged all buildings walls due to high tide onslaughts. The walls used to break open every 3-4 years forcing the residents of these buildings to shell out large sums for repairing and reconstructing their building walls.

The Govt has taken note of this plight of the residents and acceded to long standing demand of the residents of versova.

The Residents are extremely happy that there will be no more fear of the sea waves damaging their walls and therefore congratulate and thanks all the Govt authorities for this splendid work.

Note:- This is for your kind attention that please don't block the outlet drainage of our building, infact all the buildings ending towards coastal ,otherwise the entire premises will be flooded during monsoon.

Thanking you,

Yours truly,

For Ganga Bhavan Co-op. Hsg. Socty. Ltd.

Secretary Chairman Treasurer

GANGA BHAVAN CO-OP. HSG. SOCTY. LTD. VERSOVA ANDHERI (W) HON. SECRETARY

TRUE COPY
For Vidhii Partners
Advocates

2

EXHIBIT -Z

महाराष्ट्र शासन
सार्वजनिक बांधकाम विभाग
पत्तन अभियंता यांचे कार्यालय, पत्तन अभियांत्रिकी विभाग (उ),
कोकण भवन, नवी मुंबई

ई मेल-harbournkb.ee@mahapwd.com	दूरध्वनी क्रमांक ०२२ २७५७१५३४
जा.क्र. पअउ/प्रशा/ ५०२	दिनांक :- १७/०३/२०२०

प्रति,
मुख्य कार्यकारी अधिकारी,
महाराष्ट्र मेरीटाईम बोर्ड,
मुंबई.

विषय :- मुंबई उपनगर येथील वर्सोवा येथे बांधण्यात येत असलेल्या समुद्र धुप प्रतिबंधक बंधा-याच्या कामास महाराष्ट्र मेरीटाईम बोर्डाचे ना हरकत प्रमाणपत्र न घेतल्याबाबत.

संदर्भ :- मुख्य कार्यकारी अधिकारी, महाराष्ट्र मेरीटाईम बोर्ड, मुंबई यांचे किनारी अभियंता, सा.बां.मंडळ, वांद्रे यांना उददेशुन लिहीलेले पत्र क्र. ममेबो/मुकाअ/महसुल/११८६, दि.०३/०३/२०२०.

संदर्भिय पत्रान्वये आपण किनारी अभियंता, सा.बां.मंडळ, वांद्रे यांच्याकडे मुंबई उपनगर येथील वर्सोवा येथे बांधण्यात येत असलेल्या समुद्र धुप प्रतिबंधक बंधा-याच्या कामास महाराष्ट्र मेरीटाईम बोर्डाचे ना हरकत प्रमाणपत्र न घेतल्याबाबत विचारणा केला आहे. त्या अनुषंगाने खालीलप्रमाणे अहवाल सादर करीत आहे.

मुंबई उपनगर जिल्हयातील वर्सोवा येथील सागर कुटीर ते वर्सोवा हिंदू स्मशानभूमी दरम्यान १५०० मी लांबीची समुद्र किनारपट्टी आहे. या लांबीपैकी उत्तरेकडे सागर कुटीर वस्ती लगत ३०० मी लांबीचा समुद्र किनारा असून या ठिकाणी मोठया संख्येने कच्च्या बांधकामाची घरे आहेत. तसेच दक्षिणेकडे सागरी कुटीर पासून हिंदू स्मशानभूमी पर्यंत १२०० मी लांबीच्या समुद्र किना-यालगत टोलेजंग इमारती आहेत. या संपूर्ण लांबीत समुद्राच्या लाटांच्या मा-यापासून पुरेसे संरक्षण नसल्याने दर वर्षाच्या पावसाळयात मोठया उधानांच्या समुद्राच्या लाटांच्या मा-यामुळे सागर कुटीर येथील घरांची मोठया प्रमाणात पडझड होते. तसेच टोलेजंग इमारतीच्या संरक्षक भिंतीला ही धोका निर्माण झाला आहे. यास्तव सदर परिसरात स्थानिक रहिवाशांमार्फत या लांबीत धूप प्रतिबंधक बंधारा बांधण्याची मागणी गेल्या अनेक वर्षापासून होत आहे. तद अनुषंगाने मा.खासदार श्री.गजानन किर्तीकर व स्थानिक आमदार मा. डॉ. सौ. भारती लव्हेकर यांच्या मार्फत सदर ठिकाणी धूप प्रतिबंधक वंधारा बांधण्याची मागणी वेळोवेळी करण्यात आली.

सन २०१६-२०१७ च्या शासनाच्या अर्थसंकल्पात ४७११, पूरनियंत्रण प्रकल्पावरील भांडवली खर्च ०२, समुद्र धूप प्रतिबंधक प्रकल्प या लेखाशीर्ष अंतर्गत खालील २ कामे मंजूर झाली.

अ.क्र.	कामाचे नाव	अंदाजित किंमत
१.	सागर कुटीर वर्सोवा मुंबई उपनगर येथे समुद्र धूप प्रतिबंधक बंधारा बांधणे.	रु.२५० लक्ष
२.	सागर कुटीर ते मच्छलीमार वर्सोवा, मुंबई उपनगर येथे समुद्र धूप प्रतिबंधक बंधारा बांधणे.	रु.१७५० लक्ष

प्राप्त झाले
25/6/2020

सहाय्यक बंदर निरीक्षक,
महाराष्ट्र मेरीटाईम बोर्ड, मुंबई कार्यालय

तसेच केंद्रीय मार्ग निधी अंतर्गत खालील काम मंजूर झाले.

अ.क्र.	कामाचे नाव	अंदाजित किंमत
१.	वेसावे मुंबई उपनगर येथील जेट्टी रस्त्याची पोचमार्गासह सुधारणा करणे.	रु.३५०० लक्ष

या कामाचे तांत्रिक सल्लागार केंद्रीय जल तथा विद्युत अंनुसंधान शाळा (CWPRS), यांच्याकडून त्यांचे पत्र क्रं. 130/7/71-CE, दि. ११/०४/२०१६ न्वये बंधा-याच्या कामाचा काटछेद झाला. त्या अनुषंगाने बंधा-याच्या कामासाठी महाराष्ट्र किनारा क्षेत्र नियमन प्राधिकरण (MCZMA) CRZ Clearance साठी प्रस्ताव सादर करण्यात आला होता. MCZMA यांचेकडील दि.२८/०६/२ रोजी झालेल्या ११९ व्या बैठकीत सदर कामास MCZMA कमिटीने तत्वतः मंजुरी देवुन SEIAA (Environmental Impact Assessment Authority) समितीकडे शिफारस केली. MCZMA कमि सुचविल्यानुसार काँकिट चा पाथवे (Promenade) वगळून केंद्रीय जल तथा विद्युत अंनुसंधान शा (CWPRS), पुणे यांच्याकडून त्यांचे पत्र क्रं. 130 /7/ 71- CE, दि. २५/१०/२०१६ न्वये बंधा-या सुधारित काटछेद प्राप्त करुन घेतला. त्या अनुषंगाने SEIAA समिती ची दि. २७/०८/२०१८ रोजी १३८ व्या बैठकीस सदर कामास **CRZ Clearance** मिळाला आहे.

सदर ३ ही कामे ही वर्सोवा किनारपटटी वरीलच असल्यामुळे सदर कामांची एकत्रित नि तयार करण्यात आली होती. सदर काम करारनामा क्र. बी-१/एचई/१२, सन २०१८-१९ अन्वये आर.बी. चव्हाण कंपनीस देण्यात आले आहे. या कामाचा कार्यादेश दिनांक १२/१०/२०१८ अ कामाची मुदत २४ महिने आहे. सदय:स्थितीत काम प्रगतीपथावर असुन माहे. ऑक्टोबर २०२० प काम पुर्ण होणे अपेक्षित आहे.

महाराष्ट्र शासन, गह विभाग, मंत्रालय यांचा शासन निर्णय क्रं. एमआयएस०२१५/प्र.क्र.६४/बंदरे २, दि. २१/०५/२०१५ नुसार सागरी धुप प्रतिबंधक बंधारे ची बांधकामे ही सार्वजनिक बांधक विभागामार्फत करण्यात येतात. सदर धुप प्रतिबंधक बंधारे बांधण्यापुर्वी महाराष्ट्र मेरीटाईम बोर्डा कडुन हरकत प्रमाणपत्र घ्यावे असे आदेश नसल्यामुळे या पुर्वी या विभागा मार्फत झालेल्या बंधा-या बांधकामांना देखिल ना हरकत दाखला घेण्यात आल्याचे दिसुन येत नाही. यास्तव वर्सोवा येथील द याच्या कामासाठी देखिल त्याबाबतचा प्रस्ताव सादर करण्यात आलेला नाही.

परंतु आपण संदर्भिय पत्रान्वये दिलेल्या आदेशानुसार मुंबई उपनगर येथील वर्सोवा सागर कुटीर ते हिंदु स्मशानभुमी दरम्यान बांधण्यात येत असलेल्या समुद्र धुप प्रतिबंधक बंधा-याच्य कामाच्या संबधित खालील कागदपत्राच्या छांयाकित प्रती सोबत सविनय सादर करीत आहे.

१. कांमाच्या प्रशासकीय मान्यतेच्या प्रती
२. CWPRS, पुणे यांच्याकडून प्राप्त मुळ काटछेद व सुधारित काटछेदाच्या प्रती.
४. MCZMA यांचेकडील दि.२८/०६/२०१७ रोजी झालेल्या ११९ व्या बैठकीचे इतिवत्त.
५. SEIAA समिती ची दि. २७/०८/२०१८ रोजीच्या १३८ व्या बैठकीचे इतिवत्त.
६. CWPRS, पुणे यांच्याकडून स्थानिकांच्या मागणीनुसार प्राप्त सुधारित काटछेदाच्या प्रती.
७. कांमाची मागणी पत्रे व अभिप्रायांच्या छांयाकित प्रती.

या सर्व बाबींचा विचार करीता मुंबई उपनगर येथील वर्सोवा येथे सागर कुटीर ते हिंदु स्मशानभु दरम्यान बांधण्यात येत असलेल्या समुद्र धुप प्रतिबंधक बंधा-याच्या सुरु असलेल्या काम हे आवश्यकतेनुसार **CRZ Clearance** प्राप्त करुन व CWPRS, पुणे यांच्याकडुन प्राप्त काटछेदानुसारच सुरु असल्याने सदर कामास ना हरकत दाखला दयावा ही विंनती.

सोबतः वरील प्रमाणे

पत्तन अभियंता
पत्तन अभियांत्रिकी विभाग (उ)
कोंकणभवन, नवी मुंबई.

GOVERNMENT OF MAHARASHTRA
PUBLIC WORKS DEPARTMENT
OFFICE OF HARBOUR ENGINEER, HARBOUR ENGINEERING DIVISION (N),
KONKAN BHAVAN, NAVI MUMBAI

Email- harbournkb.ee@mahapwd.com	Phone No.-022 27571534
Out. No.HEN/PB/502	Date: 17/03/2020

To,
Chief Executive Officer,
Maharashtra Maritime Board,
Mumbai.

Sub: Regarding not obtaining No Objection Certificate from the Maharashtra Maritime Board for the work of Anti Sea Erosion Bund being constructed at Versova, Mumbai Suburban.

Ref: The Letter No.MMB/CEO/REVENUE/1186 dated 03/03/2020 of Chief Executive Officer, Maharashtra Maritime Board, Mumbai addressed to the Coastal Engineer, P.W.D., Bandra.

By the above referred letter, you inquired with Coastal Engineer, P.W.D., Bandra about not obtaining No Objection Certificate from Maharashtra Maritime Board for the work of Anti Sea Erosion Bund being constructed at Versova, Mumbai Suburban. In that connection, the report is resented as follows:

There is 1500 meters long Coastline between Sagar Kutir to Hindu Smashan Bhoomi at Versova, Mumbai Suburban District. Out of the same 300 meters long Coastline is near Sagar Kutir Vasti towards north and there are various houses in that length. Also, there are tall buildings along 1200 meters Costline towards south from Sagar Kutir to Hindu Smashan Bhoomi. Due to the lack of adequate protection from the tidal sea waves in this entire length, the houses in Sagar Kutir are heavily damaged due to high tidal waves during the monsoon season every year. The protective wall of the tall building is also at risk. Therefore, since the last several years, the local residents of the area have been demanding the construction of the Anti Sea Erosion Bund in this length. In this connection, a demand was made from time to time for construction of Anti Sea Erosion Bund through Hon. MP Shri. Gajanan Kirtikar and Hon. MLA. Dr. Bharti Lavekar.

In the Government Budget for the year 2016-2017, under finacial head 4711, Capital expenditure on flood control project 02 below two works are approved

Sr. No.	Name of work	Approx. amount
1.	Construction of Anti Sea Erosion Bund at Sagar Kutir, Versova, Mumbai Suburban.	Rs.250 Lakh
2.	Construction of Anti Sea Erosion Bund between Sagar Kutir and Machalimar Versova, Mumbai Suburban.	Rs.1750 Lacs

Also, the below work is approved under Central Road Fund.

Sr. No.	Name of work	Approx. Amount
1.	Improvement in Vesave Villag, jetti and aproach road in Mumbai Suburban	Rs.3500 Lacs

The cross section of bund of this work has been received from Technical Adviser Central Water and Power Research Station (CWPRS), Pune vide their Letter No.130/7/71-CE dated 11/04/2016. Accordingly, the proposal was presented before the Maharashtra Coastal Zone Management Authority (MCZMA) for CRZ Clearance for work of the Bund. The MCZMA Committee accepted the CRZ proposal of this project in the 119th meeting of MCZMA held on 28/06/2017 and recommended to SEIAA (State Environmental Impact Assessment Authority). As per the recommendation of the MCZMA Committee, the modified cross section of Bund has been obtained from the Central Water and Power Research Station (CWPRS), Pune vide their Letter No.130/7/71-CE dated 25/10/2017 excluding the concrete Promenade. Accordingly, the CRZ Clearance for the said work has been received in the 138th meeting of SEIAA Committee held on 27/08/2018.

Since the all said three works related to Versova Coast Line, the combined tender of the said work was prepared. The said work has been given to M/s. R. B. Chavan Company vide Agreement No.B-1/HE/12 2018-19. The work order for this work is dated 12/10/2018 and the work period is 24 months. At present the work is in process and expected to be completed till October 2020.

As per the Government Resolution No.MIS0215/Case No.64/port-2 dated 21/05/2015 issued by the Home Department, Government of Maharashtra, Mantralaya, the works of Anti Sea

Erosion Bund are done by the Public Works Department. As there were no orders to obtain No Objection Certificate from Maharashtra Maritime Board prior to construction of Anti Sea Erosion Bunds, No Objection Certificate was obtained for the construction of Bunds constructed earlier by this Department. since. Hence, the proposal regarding the same is not presented for the construction of Bund at Versova also.

But as per the directions given vide your above referred letter, submitting the photo copies of the below mentioned documents regarding the construction work of Anti Sea Erosion Bund being constructed between Sagar Kutir and Hindu Smashan Bhoomi, Versova, Mumbai Suburban.

1. Copies of Administrative Approvals in respect of work.
2. Copies of Original cross section and modified cross section obtained from CWPRS, Pune.
4. Minutes of 119th meeting of MCZMA held on 28/06/2017.
5. Minutes of 138th meeting of SEIAA Committee held on 27/08/2018.
6. Copies of modified cross section received from CWPRS, Pune on demand of the residents.
7. Photocopies of demand letters and remarks.

In view of all the above, it is requested to issue No Objection Certificate since the ongoing work of construction of Anti Sea Erosion Bund between Sagar Kutir and Hindu Smashan Bhoomi at Versova, Mumbai Suburban is in progress after obtaining required CRZ Clearance and as per the cross section received from CWPRS, Pune.

Encl. As above.

Sd/-

Harbour Engineer
Harbour Engineering Division (N)
Konkan Bhavan, Navi Mumbai.

BEFORE THE NATIONAL GREEN TRIBUNAL,
WESTERN ZONE, PUNE.
ORIGINAL APPLICATION NO.64 OF 2021.

ZoruDarius Bhathena ...Applicants

Vs.
State of Maharashtra &Ors... Respondents

AFFIDAVIT IN REPLY ON BEHALF OF THE RESPONDENT NO.1;

Dated this day of October 2021

Vidhii Partners,
Advocates for Respondent No.1
Ground Floor, Construction House,
5, WalchandHirachand Marg,
Ballard Estate, Mumbai 400 001