



IMS - ISO 9001:2015,
ISO 14001:2015,
ISO 45001:2018 &
ISPS COMPLIANT PORT

வ.உ.சிதம்பரனார் துறைமுக ஆணையம்
वी.ओ. चिदम्बरनारपत्तनप्राधिकरण
V.O.CHIDAMBARANAR PORT AUTHORITY
पत्तन, पोतपरिवहनऔरजलमार्गमंत्रालय
CIVIL ENGINEERING DEPARTMENT
MINISTRY OF PORTS, SHIPPING AND
WATERWAYSभारतसरकार **GOVERNMENT OF INDIA**
ADMINISTRATIVE OFFICE, HARBOUR ESTATE,
TUTICORIN 628 004, TAMIL NADU



No. E(C) / F.59 / PD/ NCB III Dredging /E 3845/2023/D. 1548

Date: 12.06.2024

To

All Bidders.

Sub: Dredging the dock basin in front of North Cargo Berth III to (-)15.10m for handling of vessels up to 14.20m draught and dredging in the widened portion of the Port entrance, turning circle portion and channel patches at V.O. Chidambaranar Port – Reply to the Pre bid Queries - reg.

Gentlemen,

With reference to the clarification sought by the Tenderers through E-Mail and discussion during Pre – bid meeting for the subject work held on **03.06.2024**, the reply to the queries / amendment to the Tender document is attached herewith.

2. The amendment and clarification along with enclosures will form part of the Tender document to be signed in all pages by the Tenderers and to be enclosed along with the Tender documents.

Encl: As above

yours faithfully,

Sd/-
CHIEF ENGINEER

Pre- Bid Clarification for " Dredging the dock basin in front of North Cargo Berth III to (-)15.10m for handling of vessels up to 14.20m draught and dredging in the widened portion of the Port entrance, turning circle portion and channel patches at V.O. Chidambaranar Port"

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
1.	NIT - Page i	Last date and time for submission of Tender through online 19.06.2024 upto 15 00 hours (IST)	It is requested that the bidder to be given minimum of clear two weeks time after issue of pre-bid clarifications.	Last date for submission of Tender through online extended up to 26.06.2024 up to 15:00 hours (IST)
2.	NIT- Cl.No. 2 Pre- Qualification criteria Page iii	C) Dredgers: In case the dredging firm does not own the dredger and plan to execute the dredging work by other modes of arranging the dredger by wet leasing, hiring etc., the above firm has to pay additional security deposit of 5% of the project cost, in addition to the security deposit	Kindly confirm if the dredger deployed is from within the group of the bidder, no additional security will be required.	Yes, can be considered subjected to the following condition: "If the bidder is a wholly owned subsidiary company and if they want to rely on Possession of Dredgers of its holding (Parent) company or another wholly owned subsidiary of the holding company then Possession of Dredgers of such holding company/subsidiary company, will be taken into account for the purpose of this bid, provided the bidder enters into a legally binding unconditional agreement with the holding company /subsidiary company, committing/giving undertaking of the holding/subsidiary company which shall be fully liable and responsible for the performance of the contract in all

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
				respects and the same shall be furnished along with the bid. Further such holding company/ subsidiary company shall give a guarantee jointly and severally, to the Board members of V.O.Chidambaranar Port Authority making them liable for undertaking, the performance of the contract in all respects and the same shall be submitted along with the bid. The legally binding unconditional agreement with the holding company /subsidiary company shall be governed by the laws of the Country of India and any disputes will be settled in the manner as specified in the tender.
3.	Section II - Cl.No.21.2. Scope of Insurance Cover Page 39	The insurance in paragraphs (a) of Sub-Clause - 21.1. shall be in the joint names of the Contractor and the Employer from an Insurance Company existing in India which is Nationalised by Government of India, to be approved by the Employer.	Please also include that any reputed International insurance company who's branch or broker office should be in India.	Not agreed. Tender Clause stands.
4	Section II -	Extension of Time for Completion	For delays under (c) & (d) in addition to	Request cannot be considered.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
	Cl.No.43.1. Extension of Time for Completion Page 54	c) any delay, impediment or prevention by the Employer, or d) other special circumstances which may occur..	extension of time, price compensation as agreed shall be paid by the employer.	
5	Section II - Cl.No.43.4. Escalation Page 57	In cover-I ie technical bid itself, the bidder has to mention the type of fuel proposed to be used for the CSD ie. High Speed Diesel (HSD) or Furnace oil (FO) For Cutter Suction Dredger using HSD, fuel escalation will be as per average price of HSD at Chennai referred in the formula. If any of the bidder used Furnace oil for their Cutter Suction Dredger, the fuel escalation will be calculated with respect to HSD oil rate and rate for furnace oil as per option given using the same formula and payment will be made to the lowest of the two calculations.	If any of the bidders used Furnace oil for their Cutter Suction Dredger, the fuel escalation will be calculated with respect to HSD oil rate and rate for Furnace oil as per option given using the same formula and payment will be made to the lowest of the two calculations. Please amend payment as per fuel used by dredger instead of lowest of the two options.	Agreed. Actual fuel used by the dredger will be considered for fuel escalation. The dredging contractor has to declare the type of fuel used.
6	Section II -	Security Deposit at 10% will be	Since Performance Security is already in	Option has been given to submit separate

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
	Cl.No. 57.3 Security Deposit Page 71	deducted from each running bill subject to a maximum accumulation of 5% of the contract price. The EMD remitted by the Contractor in the form of RTGS/NEFT shall be adjusted against the Security Deposit. The Security Deposit shall be refunded within 30 days after the issue of Defects Liability Certificate under clause 59.1. The amount stated above will not bear any interest.	place, kindly request that no Security Deposit be withheld.	B.G at 5% of the contract price towards non deduction of Security deposit at 10% from each running bill subject to a maximum of 5% the contract price in addition to 10% BG towards performance security. In case of non-submission of separate BG, SD will be deducted as per the terms & conditions of the tender document.
7	Section II - Cl.No. 60.1 Default of Contractor Page 75	Default of Contractor d) has contravened Sub-Clause – 4.1, then the Employer may, after giving 30 days' notice to the Contractor, enter upon the Site and the Works and terminate the employment of the Contractor without thereby releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and authorities	Kindly request you to amend this Clause. Can please be clarified that Contract's Equipment within the meaning of clause 60.1 of the general conditions means Contract's Equipment other than dredging vessels?	All the available Contractor's equipment including dredger may be used for completion of the work.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		conferred on the Employer or the Engineer by the Contract, and may himself complete the Works or may employ any other Contractor to complete the Works. The Employer or such other Contractor, may use for such completion, so much of the Contractor's Equipment, Temporary Works and materials as he or they may think proper.		
8	Section III Cl. 5 Reclamation Page 94	The reclamation dyke for filling the dredged material in the north of cooling water channel is provided with geofabric filter system.	Kindly confirm that also the disposal area south of south breakwater has a dyke.	A temporary bund like structure is available in the south of south breakwater.
9	Section III Cl. 5 Reclamation Page 94		Can the road along the existing southern and eastern breakwater be used for pipeline installation between the dredge area and the disposal area South of South Breakwater?	The pipeline installation between the dredge area and the disposal area South of South Breakwater can be laid in the road along the existing southern and eastern breakwater without disturbance to the Port traffic & operation.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
10	Section III Cl. 5 Reclamation Page 94		When dredging up to kp 8.5 along the channel, pumping to the reclamation areas is not possible. Would it be allowed to dispose this relatively small quantity just outside the channel by sidecasting?	Tender clause stands.
11	Section III - Cl.No.44.1.Work Programme Page 107	Before any plant is brought to Site a detailed Dredging programme with details of Dredging zones and dredger work plans, time period for each zone, particulars of dredgers, and other equipment which the Contractor proposes to use, shall be submitted to the Engineer for his approval.	For equipment planning and mobilisation please advice likely date of LOA.	As per the present status, the date of award of work may be issued tentatively in August / September 2024. The date is only indicative and any claims in this regard shall not be entertained.
12	Section III Cl. 48.3 Slopes Pg 110	Harbour Basin Slope in any material: 1:1	What are the slope requirements in the widened portion of the Port Entrance, the turning circle and the channel patches?	A slope of 1:1 shall be maintained in the Inner Harbour basin, entrance portion and channel area.
13	Annexure-II Dredging layout Page 164		In order to enable Bidder to assess the dimensions of the dredging scope (like layer thickness, width, length, depth, etc.), we kindly request the native files (acad) of the dredging scope and/or the latest bathymetrical surveys (in acad or txt file).	The Soft copy of dredging layout along with Bathymetry survey in Autocad format is enclosed only for reference purpose as Annexure I.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
14	Annexure-II Dredging layout Page 164		For dredging relatively small patches and small volumes along the channel, with only 150mm paid vertical tolerance, it is not possible to price such scope per cubic metre as the over dredging is too significant. Such scope should be payable on hourly basis.	Request cannot be considered. Tender Clause stands.
15	Volume II Price Bid Cl.No. 5 - IDLE TIME CHARGES Page 175	The rate for idle time charges quoted by the lowest Bidder will be finalised taking into account the lowest idle time charges quoted by the other Bidders.	Different bidders will be bidding with different equipment (different in cost, productivity, etc.) Idle time charges of other bidders cannot be applicable for the lowest bidder. Rates for idle time charges as quoted by the lowest bidder are to be considered.	Not agreed. Tender Clause stands.
16	General		Kindly inform us of the previous dredging depths of the different dredge areas that are part of this dredging scope. Kindly confirm that the entire dredging scope is capital dredging.	Kindly check the existing depths available from the bathymetry data (Annexure I) The entire dredging scope is capital dredging.
17	10.1 of Section II (Page 30)	Earnest Money Deposit: Rs. 2,39,23,000/- (Rupees Two Crores Thirty nine Lakhs Twenty Three Thousand Only). Out of which Rs.25,00,000/- shall be paid in the form of RTGS/NEFT	We do not understand the reason why EMD is parted into two mode. Request to consider Full amount of EMD as Bank Guarantee.	The request to consider submission of BG for the full amount of EMD may be agreed.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		through CPP Portal and the balance amount of Rs.2,14,23,000/- (Rupees Two Crores Fourteen Lakhs Twenty Three Thousand Only) in the form of irrevocable bank guarantee		
18	57.1 (v) of Section II (Page 70)	Mob & Demob Fee: The fee for Mobilization and De-mobilization taken together shall not exceed 10% of the total quoted cost. The limit of Mobilization is 7.5% and that of De-mobilization is 2.5%. Mobilization charges will be paid after completion of 5% of dredging	No limitation for Mob and Demob fee should be imposed. Please amend the clause accordingly.	Not agreed. Tender Clause stands.
19.	14.3 of Section – II (Page 34) & 45 of Section III	Online Dredging Monitoring System: (NTCPWC) (IIT Madras) has developed an Online Dredging Monitoring System for visualization of daily, weekly and monthly progress with dredger performance and down time monitoring and display data with loading position, production docks near real time vessel position and dumping ground. It is	Kindly confirm how soon a system will be installed by NTCPWC	The Online Dredging Monitoring System will be used from the date of commencement of dredging work.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		mandated the dredging activity will be monitored through this system with customization from the NTCPWC. The cost for this online monitoring will be borne by the Port.		
20.	21.2 of Section - II (Page 39)	<p>Scope of Insurance Cover:</p> <p>The insurance in paragraphs (a) of Sub-Clause - 21.1. shall be in the joint names of the Contractor and the Employer from an Insurance Company existing in India which is Nationalised by Government of India, to be approved by the Employer.</p>	<p>Pls. note the lineInsurance Company existing in India which is Nationalised by Government of India....</p> <p>We request you to amend this clause and state that... any reputed International insurance company who's branch or broker office should be in India.</p>	Not agreed. Tender Clause stands.
21.	23.1 of Section – II (Page 41)	<p>Third Party Insurance (Including Employer's Persons & Property)</p> <p>The Contractor shall.....insure, in the joint names of the Contractor and Employer, against liabilities for death of or injury to any person including any employee of the Employer and the Engineer (other than as provided in Clause – 24.1) or loss of or damage to any property (other than the Works)</p>	<p>The contractor will take insurance for his equipment and personnel and TPL and Employer will be co-insured. Please confirm if our understanding is correct.</p> <p>Further pls. note no insurance company will give open-ended insurance for any fishing boats or nets. We request you amend the clause accordingly. Also like to state that “ANY employee” of the Employer cannot be covered in this only those who are related to dredging</p>	Tender Clause is clear.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		including fishing boats fishing nets etc., arising out of the performance of the Contract , other than the exceptions defined in paragraphs (a) and (b) of Sub-Clause - 22.2.	work will fall under this category. Please clarify.	
22.	24.1 of Section - II (Page 42)	Accident or Injury to Workmen: The Employer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Sub-Contractor, other than death or injury resulting from any act or default of the Employer , his agents or servants.	Our understanding is Contractor will only be liable for damages, costs etc caused by contractor's equipment's and/or personnel, vice versa. Employer should also indemnify the Contractor for any damage or loss enquire to Contractor due to negligence of Employers equipment or Employer's personnel.	Tender Clause is clear and stands.
23.	28.2 of Section - II (Page 44)	Royalties: Except where otherwise stated, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for getting stone, sand, gravel, clay or other materials by him and his sub-contractors and required for the Works, provided, however, that no royalty shall	Pls confirm if any royalties are applicable in the present scope of work?	Royalty may not be applicable for this project since there is no scope for getting stone, sand, gravel, clay etc., for the development of bund in the present project.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		<p>be payable for dredged materials either to Central or State Governments.</p> <p>The Contractor shall indemnify the Employer against any claim from the Government / other authorities for short or non-recovery of royalty charges and the Contractor shall pay such short or non-recovery amount(s) on demand to the appropriate authorities at any subsequent times.</p>		
24.	31.1 of Section - II (Page 46)	<p>Opportunities for Other Contractors:</p> <p>The Contractor shall, in accordance with the requirements of the Engineer shall effect proper co-ordination and afford all reasonable opportunities for carrying out their work....</p>	Contractor should not be liable to rectify the work when Employer gives opportunity to other Contractors in the same area and it should be treated as deemed taken over.	<p>Tender Clause stands.</p> <p>It cannot be treated as deemed taken over till completion of dredging work and issue of taken over certificate. However, the contractor is liable to rectify the damages caused only for the dredging work.</p>
25.	39.2 of Section - II (Page 52)	<p>Engineer's Determination following Suspension: the Engineer shall, after due consultation with the Contractor, determine</p> <p>a)any extension of time to which the Contractor is entitled to under Clause –</p>	Please note, the tender clause is unclear, however Contractor requests reimbursement of idle time for its equipment against the standby rates as submitted in the price bid submission	Tender Clause is clear and stands. Idle time charges is payable only as per Clause 51.1 of Section-III.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		43.1 and b) the amount, which shall be added to the Contract Price, in respect of the cost incurred by the Contractor by reason of such suspension and shall notify the Contractor accordingly.		
26.	40.1 of Section - II (Page 53)	Commencement of work: The Contractor shall commence the dredging within 60 days (sixty days) from the date of Work Order.	Pls note, since the statutory clearance which is required for Contractor's equipment and personnel like MOD, MOHA clearance may take more than 60 days, Employer should include a note on that.	Noted.
27.	41.1 of Section - II (Page 53)	Possession of Site and Access thereto:Such access as, in accordance with the Contract, is to be provided by the Employer as may be required to enable the Contractor to commence and proceed with the execution of the Works in accordance with the program referred to in Clause – 14.1, if any, and otherwise in accordance with such reasonable proposals as the Contractor shall, by notice to the	Failure to give possession of site should be treated as idle time for the equipment and based on that reimbursement of idle time should apply. Please adjust this Clause accordingly.	Not agreed. Further, Idle time charges is payable only as per Clause 51.1 of Section-III

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		<p>Engineer. The Engineer will, from time to time as the Works proceed, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the execution of the Works with due dispatch in accordance with such program or proposals, as the case may be.</p>		
28.	43.1 of Section - II (Page 54)	<p>Extension of Time for Completion: In the event of a) any delay caused by the amount / quantum of nature of extra or additional work, or b) exceptionally adverse climatic conditions, or c) any delay, impediment or prevention by the Employer, or d) other special circumstances which may occur, other than through a default or breach of Contract by the Contractor</p>	<p>The work order which will be issued by Port will be without any restriction of work and it should give clear direction to the Contractor to notice to proceed. In addition to extension of time for delays mentioned under a,b,c & d, price compensation should be mutually agreed and shall be paid by the Employer.\</p>	<p>The contractor shall commence the work immediately after receipt of the work order, subject to security clearance. Not agreed.</p>

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
29.	43.4 of Section - II (Page 55 to 57)	<p>Escalation: For Cutter Suction Dredger using HSD, fuel escalation will be as per average price of HSD at Chennai referred in the formula.</p> <p>If any of the bidder used Furnace oil for their Cutter Suction Dredger, the fuel escalation will be calculated with respect to HSD oil rate and rate for furnace oil as per option given using the same formula and payment will be made to the lowest of the two calculations.</p>	<p>With respect to what's mentioned under Note on pg 57, Bidder requests to change this to actual FUEL used by dredger instead of calculating the lowest of two as this may give benefit to some bidder and other bidder may have disadvantage</p>	<p>Kindly refer reply at Sl.No.5 above.</p>
30.	50.1 of Section - II (Page 63)	<p>Variations:the authority to instruct the Contractor to do and the Contractor shall do any of the following:</p> <p>a) increase or decrease the quantity of any work included in the Contract,</p> <p>b) omit any such work provided, however, that such omitted work is not to be carried out by the employer or by another contractor</p> <p>c) change the character or quality or kind of any such work,</p>	<p>Once the scope is finalised how the contractor will be compensated for reduced scope of work once he mobilised the equipment. Pls. note present scope needs a jumbo size heavy duty cutter suction dredger, it is requested to delete the sub clauses 50.1 a, b, c & d. Any additional work can be accepted but no omission should be allowed. Further, any variation in work scope should be possible to be executed with the equipment present on site in accordance with its technical specifications without having</p>	<p>Tender Clause stands.</p>

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		d) change the levels, lines, position and dimension of any part of the Works,	to mobilise additional equipment.	
31.	51.2 of Section - II (Page 64)	Quantity Variations:the actual quantity of Work executed under the item exceeds quantity set out in the Bill of Quantities by more than 35 percent.	Please change the percentage mentioned under Clause 51.2 from 35% into 20%.	Tender Clause stands.
32.	53.2 of Section - II (Page 66)	Removal of Equipment from Site: All Contractor's Equipment, Plant, and the materials owned / hired by the Contractor and brought to Site shall not be removed from the Site without the prior written approval of the Engineer.	Employer unreasonably should not hold the Contractors equipment's on site. Any delay in removal of equipment from site caused by Engineer/Employer should be reimbursed to Contractor under idle time clause.	Tender Clause stands. Further, Idle time charges is payable only as per Clause 51.1 of Section-III
33.	3.0 of Section III (Page 94)	Geotechnical / Soil information: During 2018 Bore hole investigation was carried out in the proposed dredging area.	Kindly provide us with the geotechnical / soil report of the borehole investigation carried out in 2018.	The relevant extract of Bore hole investigations conducted during 2018 is enclosed as Annexure II.
34	48.4 of Section III (Page 111)	Wrecks and Other Obstructions Unless the Engineer directs otherwise all wrecks and other objects encountered during Dredging Work shall be lifted, removed and disposed of by the Contractor and placed in the specific	This is salvage work not dredging work and if any such cases encountered then it should be treated separately under variation clause because of wreck encountered during dredging work and if dredging equipment becomes idle, then idle time charges for dredging equipment	Request cannot be considered. Tender Clause stands.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		location as directed by the Engineer..... No separate payment will be made by the Port for any work and other obstruction encountered	will be applicable Request to amend the clause accordingly.	
35.	53.1. of Section III (Page 113)	Dredging Tolerance: Vertical surface : (+) 150 mm	Since majority material to be dredged is hard, it is proposed that vertical payable tolerance should be +800 mm to be considered instead of 150mm.	Tender Clause stands.
36.	B. (5) of Section IV (Page 132)	Compliance:Any other conditions as relevant to dredging project and as stipulated by MoEF in the Environmental Clearance are to be abided by the Contractor.	Request to provide a copy of the environmental approval by the MoEF	A Copy of Environmental clearance is enclosed as Annexure III .
37.	Annexure II & III (Page 164, 165 & 166)	Drawings: Dredging Layout & Reclamation Layout	Please provide the coordinates of the areas which needs to be dredged and the coordinates of the reclamation areas.	The Soft copy of dredging layout along with Bathymetry survey in Autocad format is enclosed only for reference purpose as Annexure I . Before execution of work, the exact co-ordinates will be given by the contractor to the Port for approval.
38.	Annexure III (Page: 166)	Drawings: Reclamation Layout	Please provide topographic survey of the reclamation area that needs to be filled.	The topographic survey of reclamation area in the North of cooling water channel is enclosed as Annexure IV only for

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
				reference purpose.
39	Annexure II & III (Page 164, 165 & 166)	Drawings: Dredging Layout & Reclamation Layout	Kindly provide us with a digital version (in Autocad or text ASCII) of the bathymetric survey data and of the overview drawing showing the dredging areas and reclamation areas.	Kindly refer Annexure I & Annexure IV
40	S.No. 5 of Price Bid Vol (Page 175)	Idle Time Charges: The rate for idle time charges quoted by the lowest Bidder will be finalised taking into account the lowest idle time charges quoted by the other Bidders.	This is not acceptable. Each bidder will have different capacity of equipment and rates vary accordingly; therefore we request to amend the clause accordingly.	Tender Clause stands.
41	Notice Inviting Tender (Page 1)	Last date and time for submission of tender through online on 19.06.2024 upto 1500 Hours (IST)	It is requested to consider 4 weeks extension of time for submission of bid from the receipt of Prebid queries clarification.	Kindly refer reply at S.No.1 above.
42	Notice Inviting Tender (Page 1)	Period of contract including mobilization and demobilization of 12 months	It is requested to consider an additional 3 months from the mentioned timeline since this kind of equipment is to be mobilized from different parts of the world. So it will take a long period of mob	Request cannot be considered. Tender Clause stands.
43	Notice Inviting Tender (Page 2)	Earnest Money Deposit (EMD) Mode of Payment as Rs. 25,00,000 shall be paid in the form of RTGS/NEFT	It is requested that the full value of EMD Rs 1,34,14,000/- to be allowed to submit in the form of Bank Guarantee instead of partially	Kindly refer reply at S.No. 17 above.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		through CPP Portal as per Cl. 10.1 (Section II) of Tender Document	submitted in the form of BG and through CPP Portal.	
44	Notice Inviting Tender (Page 2)	Validity of Offer is 180 days from the last date fixed for receiving the tender	The bid validity may be reduced to 90 days, as it would be difficult to maintain the committed equipment for such long duration waiting for bid results.	Tender Clause stands.
45	S.No. 7 of Appendix to Tender (Page 17)	Taking Over Certificate: 30 days from the delivery of notice of completion	It is proposed that the Taking over Certificate be issued within 7 days after completion and acceptance of Post dredge survey. Meanwhile, the contractor would be permitted to demobilize the dredger after the signing of survey chart by the engineer.	Not Agreed. Tender Clause stands. Kindly refer clause 47 of section II in this regard.
46	S.No. 12 of Appendix to Tender (Page 17)	Limit of Mobilization Fee - 7.5%	Please appreciate that the project requires mobilization of heavy duty- cutter suction dredger which would have a high mobilization cost. Since the mobilization amount would be paid only on arrival of equipment to the site and evaluation of tender is only on the total price, there should not be any cap on the mobilization and demobilization amounts.	Not agreed. Tender Clause stands.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
47	6.4 of Section II (Page 28)	Delay in issue of drawings: If, by reason.....any drawing or instruction for which notice has been given by the Contractor.....suffers delay then the Engineer shall, after due consultation with the Contractor, determine any extension of timeand shall notify the Contractor accordingly.	It is clarified that if the contractor suffers delay due to delay in issue of drawings by the engineer, the contractor should be entitled for additional cost if any incurred by the contractor in addition to the extension of time.	Not agreed. Tender Clause stands.
48	7.1 of Section II (Page 28)	Supplementary Drawings and Instructions: The Engineer shall have authority to issue to the Contractor, from time to time, such supplementary Drawings and instructions as shall be necessary for the purpose of proper and adequate execution and completion of the Works and remedying of any defects therein. The Contractor shall carryout and be bound by the same.	It may please be added to this clause that "Any such provision of supplementary drawings and/ or instructions results in any variations/ additional works the same shall be treated as per clause 50 & 21 of the GCC.	Tender condition prevails. Further, variation is applicable as per provisions available in the tender document.
49	10.2 of Section II (Page 31)	Performance Security: In case the dredging firm does not own the dredger... pay additional security deposit of 5% of the project cost...	This provision may please be removed, as it is the normal practice to hire a dredger from the parent company and the tender requirement for higher capacity CSD is not generally owned	Kindly refer reply at S.No.2 above.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
			by Indian company.	
50	10.3 of Section II (Page 31)	<p>Period of Validity of Performance Security: Such security shall be returned to the contractor within 30 days of the issue of the said defects liability certificate.</p>	Since the project involve only dredging works there is no requirement of Defect liability period. Hence, PBG shall be returned within 14 days after issue of taking over certificate.	Tender Clause stands.
51	11.1 of Section II (Page 31)	<p>Inspection of Site: The Employer shall have made available to the Contractor, before the submission by the Contractor of the Tender, such data on hydrographic and seabed sub-soil conditions as have been obtained by or on behalf of the Employer from investigations undertaken relevant to the Works but the Contractor shall be responsible for his own interpretation thereof.</p>	It is clarified that the contractor offer is based on the data provided by the employer and any variation in soil shall be on the account of employer. As it is not possible to carry out a soil investigation in this short tender period. Typically it shall take upto 4 months (sending queries, receiving quotes, discussion, mobilization of JUB, conducting boreholes, lab tests, report generation etc.)	Tender Clause stands.
52	12.2 of Section II (Page 32)	<p>Adverse Physical Obstructions or Conditions:the amount of any costs which may have been incurred by the Contractor by reason of such obstructions or conditions having been</p>	It is clarified that even if the physical obstructions can be removed by the dredger. Since, the effort required for removing such obstructions would be different from the dredging effort. Hence, the contractor should	Kindly refer clause 12.2 a) & b) of section II in this regard.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		<p>encountered, which shall be added to the Contract Price and shall notify the Contractor accordingly, such determination shall take account of any instruction which the Engineer may issue to the Contractor in connection therewith, and any proper and reasonable measures acceptable to the Engineer which the Contractor may take in the absence of specific instructions from the Engineer.</p>	<p>be compensated with additional cost and time.</p>	
53	14.3 of Section II (Page 34)	<p>Online Dredging Monitoring System: Further, in order to streamline the process of monitoring dredging activities, the National Technology Center for Ports, Waterways and Coasts (NTCPWC) (IIT Madras) has developed an Online Dredging Monitoring System</p>	<p>The Contractors already use highly specialized equipment that is as per industry standard and has a proven track record. What is the track record of this software that is being proposed. Further, how will it integrate with existing systems that already exist as far as the Contractor is concerned. The costs if any for integrating this monitoring system with the Contractors state of the art technology should be borne by the Employer. Further, this should be used a mere visualization tool but should</p>	Tender Clause prevails.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
			not be used to compute and or generate information that is utilized for dispute resolution process as the Contractor has a) no control over this system b) the said system has no track record of proven reliability.	
54	20.1 of Section II (Page 37)	Care of Works: The contractor shall take full responsibility for the care of any outstanding works and materials and plant for incorporation therein which he undertakes to finish during the Defects liability period.	It is clarified that the tender scope is only limited to the dredging works, hence there is no defect liability period for the said works.	Tender Clause stands.
55	20.4 of Section II (Page 38)	Employer's Risk:	'To include the following as Employer's Risks as applicable for the dredging contacts: <ul style="list-style-type: none"> • Suspension of work unless it is attributable to any failure of the contractor. • Any failure of the employer or the engineer • Physical obstructions or physical conditions were not reasonably foreseeable by any experienced contractor and which the contractor has immediately notified to the 	Not agreed. Tender condition stands.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
			<p>engineer.</p> <ul style="list-style-type: none"> • Climatic conditions more adverse than specified in the tender document • Any delay and disruption caused by any variation • Damage which is an unavoidable result of the contractor's obligation to execute the work 	
56	21.2 of Section II (Page 39)	<p>Scope of Insurance Cover: The insurance in paragraph (a) of Sub-Clause - 21.1 shall be in the joint names of the contractor and the employer from an insurance company existing in India which is nationalized by the Government of India to be approved by the employer....</p>	<p>'It is proposed that the contractor would take the insurance cover from any internationally reputed insurance company and the employer will be named as co-insured and waiver of subrogation in favour of employer and engineer shall be obtained.</p>	<p>Kindly refer reply at S.No.20 above.</p>
57	23.1 of Section II (Page 41)	<p>Third Party Insurance: Taking into account the close proximity of working area of dredger to the Port's marine structures it is essential that the contractor should be insured the nearby</p>	<p>'Please confirm that the structures to be insured as per Para A of 1.1 and this clause are one and the same and the value to be insured is Rs. 30 crores.</p>	<p>The marine structures mentioned at Clause 21.1 & 23.1 are one and the same.</p>

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		marine structures.		
58	26 of Section II (Page 43)	Compliance: Compliance with statute, Regulations..... a) any National or State Statute..... in relation to the execution and completion of the Works.	'It is clarified that the Contractor will be responsible for compliance with Statute, Regulations etc. applicable for his equipment and personnel whereas the Employer shall be responsible for the Works.	Tender clause is clear.
59	31.1 of Section II (Page 46)	Opportunities for Other Contractors:	'It is clarified that while every effort will be made to provide opportunities for other contractor to work, in case of any delay due to such activities, idle time as per the BOQ would be payable by the Employer.	Idle time charges is payable only as per Clause 51.1 of Section-III
60	34.2 of Section II (Page 47)	Labour Laws and Regulations:	'Employer is requested to confirm that the Building and Construction workers welfare cess is not applicable for the dredging works and Port will not recover any cess at source.	Tender provision prevails.
61	34.2.1 of Section II (Page 47)	ESI Act 1948:	'It is clarified that the Bidder has Health insurance cover for all its employees and there is no requirement to obtain ESI code.	Tender provision prevails.
62	34.7 of Section II (Page 48)	Epidemics:	'To add "Any time and cost impact due to such epidemics and with compliance of regulations etc., made by the Govt. shall be compensated to the Contractor.	Tender Clause stands.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
63	36.4 of Section II (Page 51)	Engineer's Determination where Tests not provided for: Where, any test not provided for in the contract is made by the contractor on being instructed to do so by the Engineer, the Engineer shall after	"It is proposed to add "Time" in this clause.	Tender clause stands.
64	39.3 of Section II (Page 52)	Suspension lasting more than 45 day:if permission to resume Work is not given by the Engineer within a period of 21 days from the date of suspension.	"It is proposed the 45 days be replaced with 14 days, since the project is only 12months duration. 'It is proposed to replace the '21 days' with 07 days"	Tender clause stands.
65	41.3 of Section II (Page 53)	Right of Way and Facilities:	"It is clarified that the responsibility of the Contractor is limited to obtaining necessary permits for his equipment and personnel and whereas, the Employer shall be responsible for obtaining the permit for the Works.	Kindly refer clause 41.3 of section II and clause 26 of section III.
66	41.1 of Section II (Page 53)	Possession of Site and Access thereto: Save in so far as the Contract may prescribe the extent of portions of the Site of which the Contractor is to be given possession from time to time and	The Contractor intents to use equipment that is of a much larger capacity than what is anticipated by the Tender and thus, the area of work required would also be required to be uninhibited. The Contractor seeks to know if the Employer is in a position to provide the entire area to be dredged in a single phase of	The dredging area in front of NCB III may be given with complete access to the dredging contractor till the completion of dredging work. The dredging in the Turning circle, entrance area and channel patches needs to be carried out along with Port operation

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
			handing over with uninhibited access for till the completion of the works	as per the terms & conditions of the contract.
67	43.4 of Section II (Page 55)	<p>Escalation: The base date for working out such escalation shall be the last date on which tenders were stipulated to be received.....</p> <p>.....Payment of such claims for reimbursement / refund shall be made within three months after due verification by the Engineer.</p>	'It is proposed that the base date shall be considered as 28 days prior to the last date of submission". 'Replace '3 months' with '14 days' for release of payment.	Request not agreed. Tender Clause stands.
68	43.5.1 of Section II (Page 57)	<p>Settlement of Disputes: Engineer's Decision:Not later than the 45 days after the day on which he received such reference, the Engineer shall give notice of his decision to the contractor. Such decision shall state that it is made pursuant to this Clause.</p>	In Para 1 and 3 replace "45 days" with "30 days"	Request not agreed.
69	43.5.3 of Section II (Page 57)	<p>Arbitration: ...The place of arbitration shall be at Tuticorin / Chennai, India.....</p>	'It is proposed that the, any dispute which is not resolved amicably shall be under, "ICC Rules, Arbitration and Conciliation Act, 1996, Amended in 2015' and Seat of Arbitration shall be at neutral place.	Not Agreed. Tender Clause stands.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
70	45 of Section II (Page 60)	Rate of Progress:	'It is clarified that any additional supervision charges of Engineer/Employer for working on rest days if required shall be to the account of Employer.	Tender provision prevails.
71	47 of Section II (Page 60)	Taking Over Certificate:	'It is proposed to replace "30 days" with "7 days" for issue of Taking over Certificate.	Not Agreed. Tender Clause stands.
72	50.1 of Section II (Page 63)	Variations: e) execute Work of any kind necessary for the Completion of the Works.	'It is clarified that for execution of additional Work of any nature, if it is required to mobilize additional equipment to the site, such mobilization will be subject to availability of additional equipment with the Contractor and agreement on the additional cost.	Tender provision prevails.
73	53.1 of Section II (Page 66)	Contractor's Equipment: Contractors Equipment.....:the Contractor shall not remove..... Without prior consent of Engineer....	'It is proposed to add at the end of the sentence: "which consent shall not unreasonably be withheld by the Engineer".	Tender provision prevails.
74	57.1 of Section II (Page 70)	Monthly Statements: i) Mobilization Fee: Mobilization charges will be paid after completion of 5% of dredging iii) The above mobilization and	It is proposed that the mobilization amount would be paid immediately upon arrival of our dredging equipment to the site. Since the validity of Bid is for 180 days and as the fuel consumption during mobilization and demobilization are maximum and as fuel prices	Request not agreed. Tender Clauses stand.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		demobilization will not attract escalation. v) The fee for mobilization and demobilization taken together shall not exceed 10% of the total quoted cost....	keeps continuously changing, escalation shall be applicable for mobilization and demobilization payments also. Since the project requires mobilization of heavy-duty cutter, the cost of mobilization and demobilization will be high and there shall not be any cap on the mobilization and demobilization charges.	
75	57.2 of Section II (Page 70)	Monthly Payments:	'It is not clear on the time for Engineer's certification. It is proposed that the Engineer shall certify the interim statement within 7 days from the date of submission of statement and Employer to make 75% of the certified amount within 15 days from the date of submission of statement to the Engineer and balance within 30 days from the date of submission of statement to the Engineer.	Kindly refer clause 57.2 of Section II in this regard.
76	57.3 of Section II (Page 71)	Security Deposit: Security Deposit at 10% will be deducted from each running bill subject to a maximum accumulation of 5% of the contract price.... The	'Please confirm that the Contractor can provide BG towards security deposit against deduction from the Bills. It is further proposed that 50% of Security Deposit shall be released immediately	Kindly refer reply at Sl.No.6 above.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		Security Deposit shall be refunded within 30 days after the issue of Defects Liability Certificate.....	after signing of Out survey chart confirming achieving the design depth and balance 50% after issue of Taking Over Certificate.	
77	57.8 of Section II (Page 72)	Final Certificate: Within 30 days of receipt of final statement and written discharge	'Please replace "30 days" with "15 days"	Not Agreed. Tender Clause stands.
78	60.2 of Section II (Page 74)	Default of Employer: In the event of such termination the Contractor shall be entitled to receive the following payments: (i) The amounts payable for any Works carried out upto the date of termination.	It is clarified that in case of termination of contract due to default of the Employer, in addition to the payment as specified at Para d, the Contractor should be paid 10% of the unexecuted value of work at the time of termination.	Not Agreed. Tender Clause stands.
79	63.1 of Section II (Page 78)	Taxation: New direct taxes or increase in tax rates (other than Income Tax, Customs duties, Import duties, additional / counter veiling duties etc.,) commencing from 14 days prior to the date for submission of bids will be reimbursed by the Employer....	'It is proposed to replace "14 days" with "28 days" for issue of Taking over Certificate.	Not Agreed. Tender Clause stands.
80	4.0 of Section III (Page 94)	Description of the works: The dredged materials to be generated from the above proposed dredging locations shall	Since the volume is very low in the channel patches, the contractor can have the option of dumping it at the offshore disposal location	Kindly refer reply at S.No. 10 above.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		be reclaimed at North of Cooling Water Channel for NCB III dredging quantity and south of south breakwater for entrance dredging & channel patches dredging.	because laying pipelines across the port along with the vessel traffic will be difficult during the dredging process.	
81	3.0 of Section III (Page 94)	Geological / Soil Information: During 2018 Bore hole investigation was carried out in the proposed dredging area. The contractor may plan for execution of work taking into consideration..... hard rock encountered during dredging work.	Provide the Soil investigation report (Borehole Logs for harbour entrance, entrance channel, inner Harbor basin, Turning circle and channel patches area	Kindly refer reply at S.No.33 above.
82	5.0 of Section III (Page 94)	Reclamation: The laying of the pipelines whether submerged or floating shall take into effect of the working in the harbour basin The alignment of pipeline shall be got prior approval of Engineer.	It is understood that Contractor can lay the pipeline across the port with subject to prior approval from engineer. Please confirm.	Yes.
83	6.0 of Section III (Page 95)	Envisaged Working Conditions: The dredging in the area between Chainage 00 m to 300m in the channel and in the harbour basin just within the Port entrance restricted	While the Window period for Shipping movements and dredging can be mutually agreed, any changes to the window period during execution resulting in idling of Contractor's equipment shall be paid at the idle	Kindly refer reply at S.No. 59 above.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		pilotage between 07.00 hours to 14.00 hours which would imply that the dredging could be done from 14.00 hours of the 1st day to 07.00 hours of the subsequent day and so on.	rates.	
84	26 of Section III (Page 101)	Licenses, Permits Etc.: The Contractor shall make his own arrangements for obtaining all necessary licenses, permits, etc., for his crafts and also for the procurement of any spares that he may require during the progress of the Works.	<p>To add the following:</p> <p>In case the MOHA & MOD clearances are required prior to the commencement of Works, the same shall be coordinated by the Employer with the respective Ministries while the Contractor provides all the required documentation.</p> <p>We understand from other capital dredging projects that the company security clearance takes 6-7 months, please share your view on this matter for the proposed project. We propose that the techno commercial bid be submitted upon receipt of the company security clearance</p> <p>Also the MOHA & MOD clearances for the cutter suction dredger and the manned crew typically takes 3 months after award of the job</p>	<p>Kindly refer Cl. 41.3 of Section II and Cl. 26 of Section III in this regard.</p> <p>Not agreed.</p> <p>The Port can only facilitate the contractor in obtaining the security clearance.</p>

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
			(signed contract document is a pre-requisite to apply for the clearance). Request your views on this matter.	
85	27 of Section III (Page 101)	<p>Existing Services: The Contractor's attention is drawn to the possibility that there might be existing underground or overhead services & service line inside and around the Port areas (i.e.)</p> <p>Any damage to the services shall be repaired and restored immediately as directed by the Engineer without any extra cost.</p>	<p>It is requested to provide a drawing with the existing location of underground and overhead services to assess the scope of re-routing required to facilitate the Contractor's operations.</p> <p>Any cost and time incurred due to any repair and/or restore the service lines during execution of works and shall be compensated to the Contractor.</p>	<p>The bidder will be provided with the available drawing. However, the bidder is requested to make site visit before tendering.</p> <p>The contractor shall carry out works without causing any damages to the service lines.</p>
86	38 of Section III (Page 105)	<p>Stoppage of works: Contractor may be instructed to stop the works from time to time due to security reason, movement of ships or any other reasons as per the instruction of Port Authorities.</p>	<p>It is understood that stoppage continuous for more than 4 hours idle charges will be applicable</p>	<p>Idle time charges is payable only as per Clause 51.1 of Section-III.</p>
87	48.3 of Section III (Page 110)	<p>Slope: Slopes around dredged area Slope in any material 1:1</p>	<p>Contractor cannot guarantee the material will not breach and as such no slopes will be formed. If the material breaches, slopes will naturally be formed beyond the control of the</p>	<p>The clause 48.3 (b) of Section – III is clear and kindly refer reply at S.No. 12 above.</p>

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
			Contractor.	
88	48.3 of Section III (Page 110)	Slope: Slopes around dredged area Slopes will not be allowed in the area adjacent to Berths, Breakwater, Pier Head & Jetties. The slope quantity if any will not be taken into account for payment.	Contractor cannot guarantee the material will not breach and as such no slopes will be formed. If the material breaches, slopes will naturally be formed beyond the control of the Contractor.	The clause 48.3 (b) of Section – III is clear and stands.
89	48.4 of Section III (Page 111)	Wrecks and Other Obstructions: Unless the Engineer directs otherwise all wrecks and other objects encountered during Dredging Work shall be lifted, removed and disposed of by the Contractor....	It is clarified that except for the wrecks if any belongs to the Contractor, all other wreck and /or obstructions will be removed at the cost of the Employer. If the dredging equipment is idle , waiting for removal of wrecks and/or obstructions, idle time charge is payable.	Tender clause stands. Further, Idle time charges is payable only as per Clause 51.1 of Section-III.
90	50 of Section III (Page 111)	Selected Materials for use as reclamation fill: Materials used for filling / reclamation shall be of suitable quality and to the approval of the Engineer. All tests directed by the Engineer and required for the approval of the material, field fill demonstration and compaction tests shall be carried out by the	"As far as the present dredging work is concerned, the material to be dredged in the proposed area is suitable for reclamation and shall be dumped in the designated dumping spots. " Can the Employer confirm no tests are required to demonstrate the properties of the material? Can the Employer advise the	Refer clause 50 (f) page 110 of section-III. The pumped materials shall be levelled by using suitable earth moving equipment.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
		Contractor at his own cost. The Contractor will do the compaction by bulldozers / earth moving equipments	requirements if bulldozers are unable to access the reclamation due to for example too high fines content?	
91	51 of Section III (Page 112)	Egress of dredged material during dredging: The Contractor shall take precautions to prevent the egress of dredged material during transport and will be responsible for	Similar as above question, Contractor fears that reclaiming soil with high fines content will lead to outflow losses in the reclamation area and a lot of fines to overflow towards the port and dredge area. Are there other reclamation areas available that can be used for dewatering?	The dredged materials need to be pumped / conveyed to the proposed reclamation site and levelled using suitable earth moving equipment.
92	51 of Section III (Page 112)	Egress of dredged material during dredging: The Contractor shall take precautions to prevent the egress of dredged material during transport and will be responsible for the subsequent removal of any such spilled material to the approved disposal ground at his own expense. Dumping at any Site outside the area indicated is prohibited and will invite stiff penalty imposed as levied by the Port Authorities.	For above overflow losses, which is likely to pollute the adjacent areas, Contractor suggest the cleaning of the same is taken up by the Employer at a later stage (together with next dredging campaign) thus to avoiding Contractor haven't to mobilize an additional TSHD to dredge these spoils. This question is suggested to optimise the price as the budget is already too low and and additional mob-demob of TSHD and dredging of fines will be significantly increasing the price further. On the other hand Employer may not have big	Tender provision prevails. Kindly refer Annexure III (Reclamation Layout) of the Tender document.

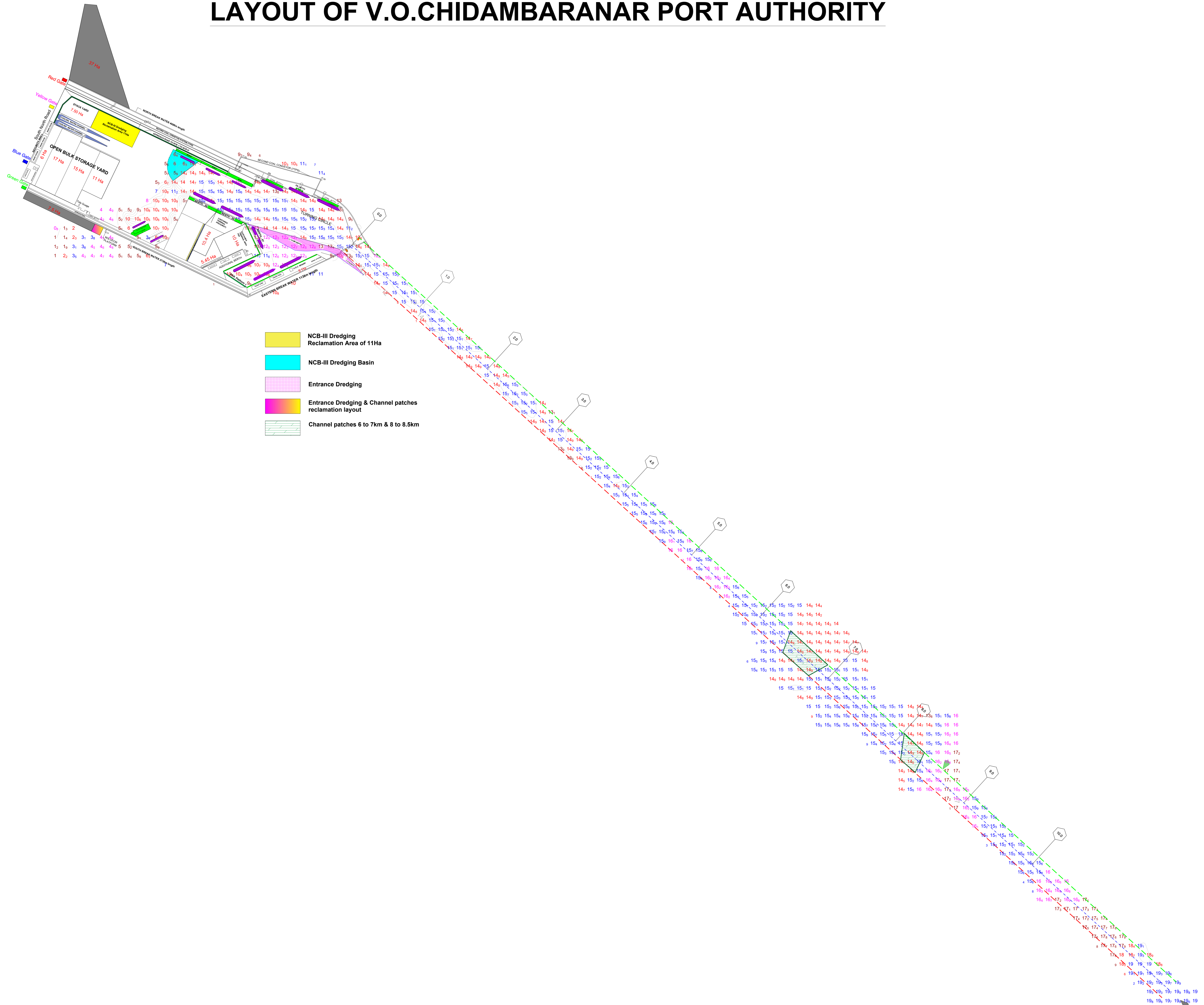
Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
			inconvenience to live with these fines for sometime. Should Employer not agree with said proposal, can Employer advise which dumping ground (with coordinates) to be used for dumping of such fines by Contractor.	
93	50 of Section III (Page 112)	Selected materials for use as reclamation fill: f) As far as the present dredging work is concerned, the material to be dredged in the proposed area is suitable for reclamation and shall be dumped in the designated dumping spots.	Contractor estimates based upon the soil data that the soil to dredge will disintegrate in a high volume of fines, which makes it unsuitable for the reclamation. Is there an alternative dump area where unsuitable material can be dumped?	Kindly refer reply at S.No. 92 above.
94	51.1 of Section III (Page 112)	Interruptions to Work: The Idle time of one such dredger exceeding a continuous period of 4 (four) hours due to interruption caused by Port traffic, berthing / un-berthing.....	It is clarified that total idle time for reasons attributable to Employer and/or third parties is payable by the Employer without any limitation on each occasion and without any deduction in excess of 7hours/week measured cumulatively. If that is not acceptable, Contractor will have to increase his price with certain risk provisions.	Tender Clause 51.1 of section-III is clear.

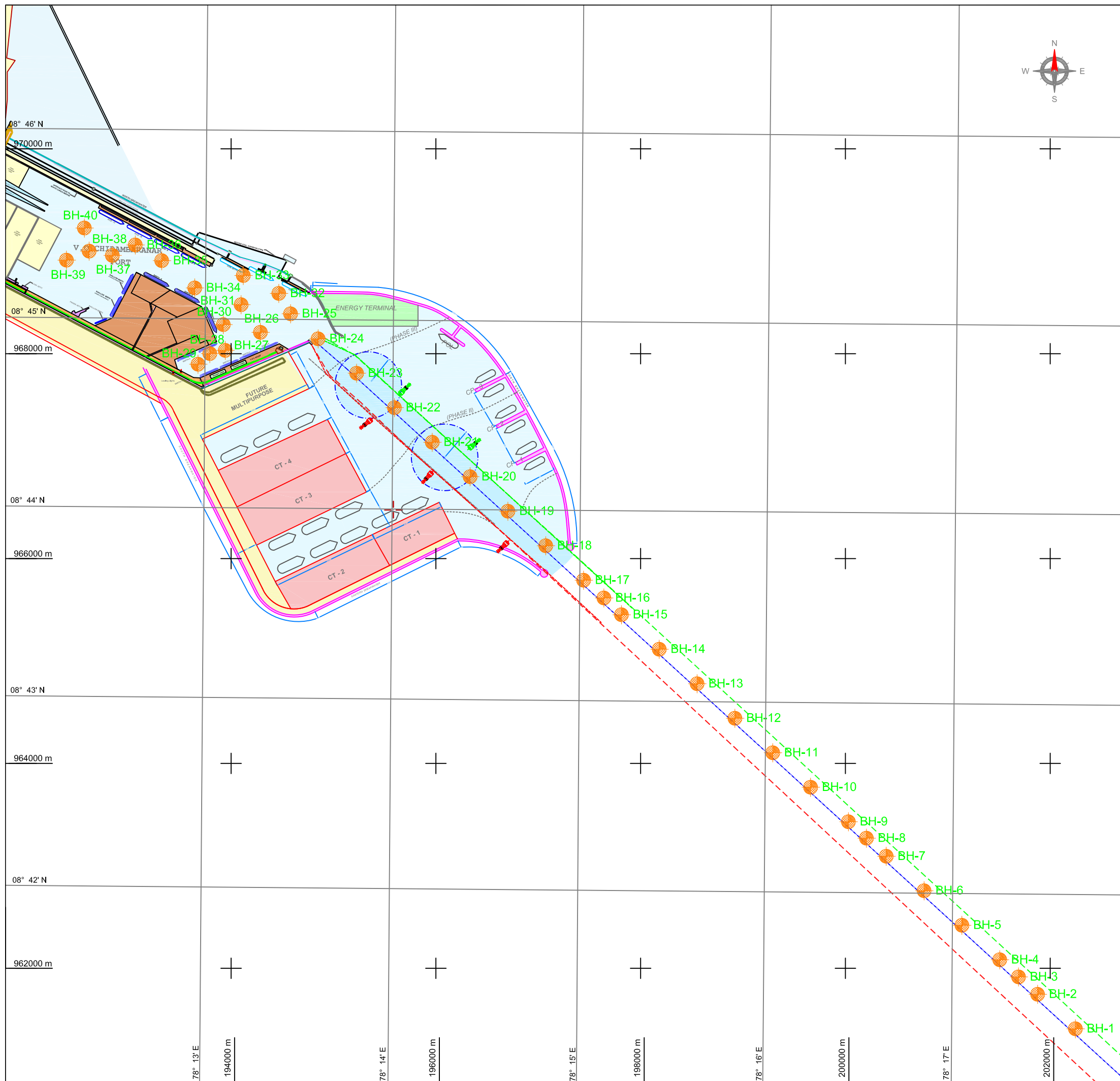
Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port
95	53.1 of Section III (Page 113)	Dredging Tolerance: Vertical Tolerance: (+) 150 mm	Since majority material to be dredged is hard material. It is proposed that Vertical payable tolerance of (+) 500 mm to be considered.	Not agreed. Tender Clause stands.
96	58 of Section III (Page 124)	Sampling and Testing of Dredged Soil: The Contractor shall maintain on board the dredgers / floating crafts adequate equipment, tools, samples, etc., to take samples of dredged spoil from time to time and shall analyse the same to determine suitability or otherwise of the dredged materials for reclamation fill	As per the scope of tender, all dredged material shall be pumped directly to the reclamation area allotted by the Employer and it is understood that there won't be any suitable/unsuitable material to be pumped to the reclamation area.	Kindly refer reply at S.No. 90 above.
97		BOQ	Contractor requested to provide the details of obstructions and due to presence of obstruction there shall be loss in productivity and same shall be compensated by the Employer.	Kindly refer Clause 12.2 of Section II & Clause 48.4 of Section III of Tender document.
98	Annexure A (Page 136)	Earnest Money Deposit: If the Contract is not awarded by the Board before expiry of the aforesaid date or such times as may be extended by the Board to which the Tenderer has agreed in	It is clarified that the Bank cannot extend the BG without confirmation from the Tenderer and as such cannot agree to include this Para as a part of EMD BG and this Para is to be deleted.	Tender clause is clear.

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port															
		writing the said bank undertakes to renew this guarantee from month to month until one month																	
99	Volume II Price Bid Cl.No. 5 - IDLE TIME CHARGES Page 175	Idle time charges: The rate for idle time charges quoted by the lowest Bidder will be finalised taking into account the lowest idle time charges quoted by the other Bidders.	This clause is unacceptable for the Contractor as the idle time charges depend on the type and size of the equipment, as well as the investment costs of the equipment. This cannot be compared to other dredgers or rates that are not funded on our own equipment	Kindly refer reply at S.No. 15 above.															
100		Bathymetry drawing:	The bathymetry drawings whichever is given in the tender documents, requested to provide in ACAD and XYZ format.	Kindly refer Annexure I .															
101		Layout:	Please provide the layout in the ACAD format	Kindly refer Annexure I .															
102		Layout:	Provide the complete layout which is showing along with the channel patches area	Kindly refer Annexure I .															
103	Si.No. I (b) of Section I (Page 5)	BG applicant (vendors / users / BG providers, etc.,) have to furnish the Port's full Bank details, Bank Account Number, IFSC code (Available in the Tender document) with Address, Branch Code to the issuer of Bank Guarantee Via SFMS, while the bidders seek BG	Account details not furnished in the tender document.	The details of Port's account is tabulated as under: <table border="1"> <tbody> <tr> <td>a</td> <td>Name & Address of the Bank</td> <td>Indian Overseas Bank Harbour branch, Tuticorin - 628004</td> </tr> <tr> <td>b</td> <td>Name of the Branch</td> <td>Harbour branch</td> </tr> <tr> <td>c</td> <td>IFSC Code</td> <td>IOBA0000143</td> </tr> <tr> <td>d</td> <td>Account No.</td> <td>014301000000001</td> </tr> <tr> <td>e</td> <td>Type of</td> <td>Savings Account</td> </tr> </tbody> </table>	a	Name & Address of the Bank	Indian Overseas Bank Harbour branch, Tuticorin - 628004	b	Name of the Branch	Harbour branch	c	IFSC Code	IOBA0000143	d	Account No.	014301000000001	e	Type of	Savings Account
a	Name & Address of the Bank	Indian Overseas Bank Harbour branch, Tuticorin - 628004																	
b	Name of the Branch	Harbour branch																	
c	IFSC Code	IOBA0000143																	
d	Account No.	014301000000001																	
e	Type of	Savings Account																	

Sl. No.	Tender Clause & Page No.	Tender Conditions	Queries by the Bidder	Clarification / Amendments by the Port		
		from any Bank.			Account	
				f	Beneficiary's Name	V.O.Chidambaranar Port Authority

LAYOUT OF V.O.CHIDAMBARANAR PORT AUTHORITY






General: ● BOREHOLE ID

LEGEND

BOREHOLE COORDINATES


BH ID	EASTING (m)	NORTHING (m)	BH ID	EASTING (m)	NORTHING (m)
BH-1	202246.206	961409.455	BH-21	195964.695	967135.939
BH-2	201876.706	961746.307	BH-22	195595.195	967472.791
BH-3	201890.878	961915.716	BH-23	195225.853	967809.498
BH-4	201507.205	962083.159	BH-24	194849.783	968145.581
BH-5	201137.704	962420.011	BH-25	194580.707	968390.088
BH-6	200768.204	962756.863	BH-26	194286.062	968208.737
BH-7	200398.703	963093.715	BH-27	193942.694	968032.374
BH-8	200205.094	963270.218	BH-28	193791.822	968001.773
BH-9	200229.202	963430.567	BH-29	193677.107	967897.433
BH-10	199659.702	963767.419	BH-30	193923.509	968264.282
BH-11	199290.201	964104.271	BH-31	194097.758	968478.887
BH-12	198920.700	964441.123	BH-32	194465.490	968568.934
BH-13	198551.200	964777.975	BH-33	194119.145	968763.566
BH-14	198181.699	965114.827	BH-34	193645.013	968642.393
BH-15	197812.199	965451.679	BH-35	193222.213	968908.611
BH-16	197541.043	965615.519	BH-36	193064.222	969062.029
BH-17	197442.698	965788.531	BH-37	192840.530	968959.933
BH-18	197073.197	966125.383	BH-38	192613.020	969001.701
BH-19	196703.697	966462.235	BH-39	192392.010	968913.428
BH-20	196334.196	966799.087	BH-40	192566.881	969227.460

CLIENT



V.O.CHIDAMBARANAR PORT TRUST
 Engineer, Planning & Designing
 Civil Engineering Department
 Administrative Office, Tuticorin - 628004

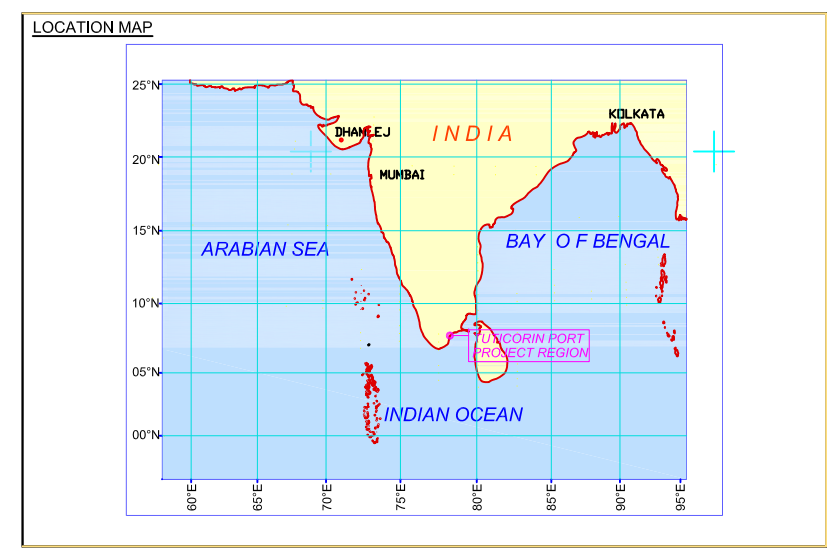
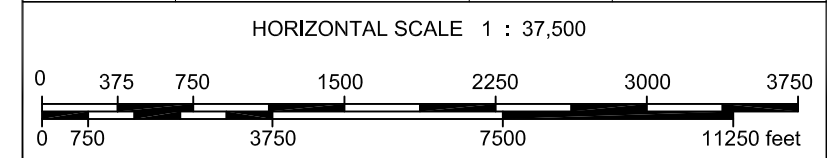
CONTRACTOR

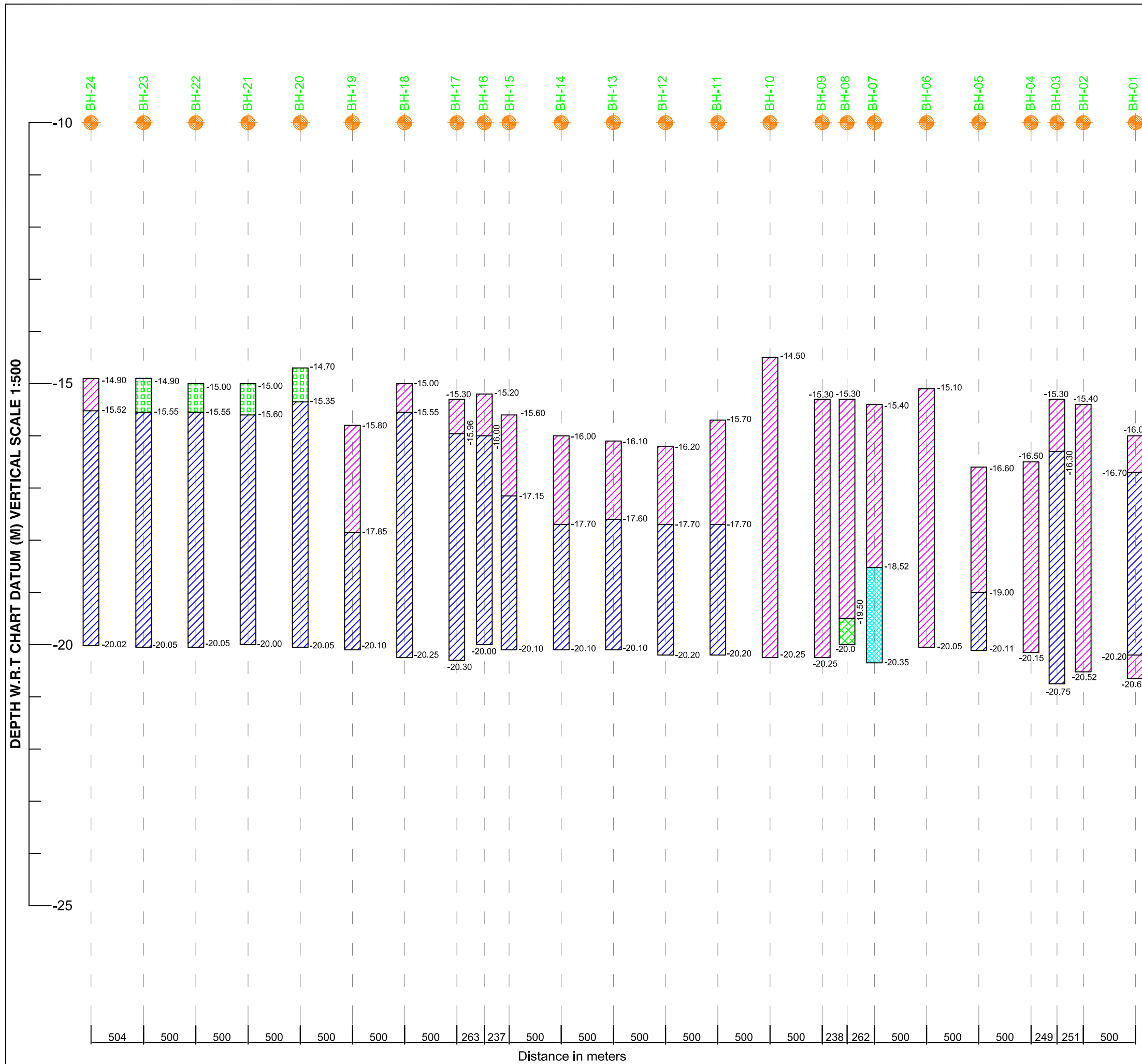


Horizon Survey Company India Pvt. Ltd.
 Plot-A 732, T.T.C Ind Area, MIDC Khairne
 Thane-Belapur Road, Navi Mumbai - 400 710
 Email: enquiries.india@horizon-geosciences.com

PROJECT TITLE
 CONDUCTING BOREHOLE INVESTIGATION IN THE HARBOUR BASIN AND APPROCH CHANNEL AT V.O. CHIDAMBARANAR PORT

Rev No:	Date:	Description:	Interpr:	Drawn:	Chkd:	Appr:	P. Mng:
0	08.06.2018	For Approval	VN	TSJ	AM	KSN	ST
Drawing No.		GT-VOCPT-088-SSB-01	Chart No.		01 OF 07		





General:
 ● BOREHOLE ID


Stratigraphy:

SAND
 SANDSTONE
 CLAY
 CALCERNITE
 GRAVELS / ROCK FRAGMENTS

BOREHOLE COORDINATES


BH ID	EASTING (m)	NORTHING (m)
BH-1	202246.206	961409.455
BH-2	201876.706	961746.307
BH-3	201690.878	961915.716
BH-4	201507.205	962083.159
BH-5	201137.704	962420.011
BH-6	200768.204	962756.863
BH-7	200398.703	963093.715
BH-8	200205.094	963270.218
BH-9	200029.202	963430.567
BH-10	199659.702	963767.419
BH-11	199290.201	964104.271
BH-12	198920.7	964441.123
BH-13	198551.2	964777.975
BH-14	198181.699	965114.827
BH-15	197812.199	965451.679
BH-16	197641.043	965615.519
BH-17	197442.698	965788.531
BH-18	197073.197	966125.383
BH-19	196703.697	966462.235
BH-20	196334.196	966799.087
BH-21	195964.695	967135.939
BH-22	195595.195	967472.791
BH-23	195225.853	967809.498
BH-24	194849.783	968145.581

CLIENT



V.O.CHIDAMBARANAR PORT TRUST
 Engineer, Planning & Designing
 Civil Engineering Department
 Administrative Office, Tuticorin - 628004

CONTRACTOR



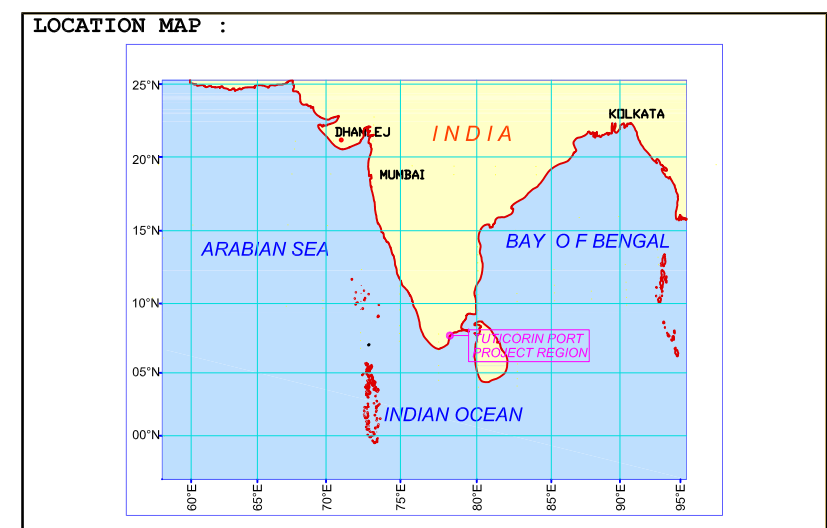
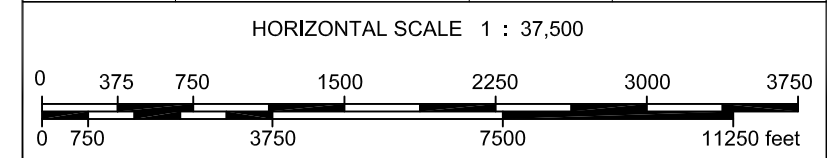
Horizon Survey Company India Pvt. Ltd.
 Plot-A 732, T.T.C Ind Area, MIDC Khairne
 Thane-Belapur Road, Navi Mumbai - 400 710
 Email: enquiries.india@horizon-geosciences.com

PROJECT TITLE

CONDUCTING BOREHOLE INVESTIGATION IN THE HARBOUR BASIN AND APPROCH CHANNEL AT V.O. CHIDAMBARANAR PORT

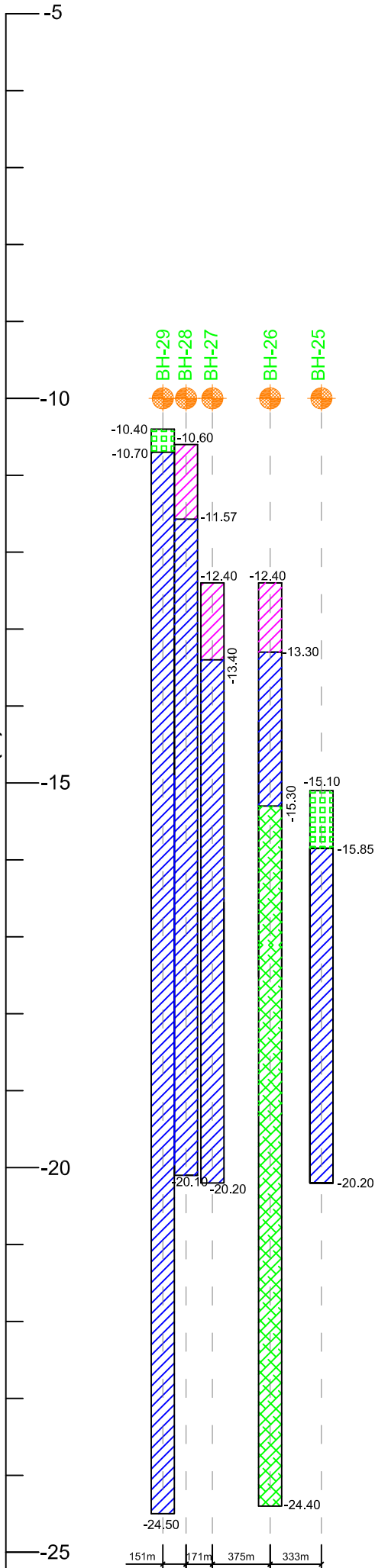
Rev No:	Date:	Description:	Interpr:	Drawn:	Chkd:	Appr:	P. Mng:
0	08.06.2018	For Approval	VN	TSJ	AM	KSN	ST

Drawing No. GT-VOCPT-088-SSB-02 Chart No. 02 OF 07



SECTION BB_BH-25 TO 29

DEPTH W.R.T CHART DATUM (M) VERTICAL SCALE 1:500



General: BOREHOLE ID

LEGEND

Stratigraphy:

- SAND
- SANDSTONE
- CLAY
- GRAVELS / ROCK FRAGMENTS
- CALCARENITE
- Mudstone
- Silt

BOREHOLE COORDINATES

BH ID	EASTING (m)	NORTHING (m)
BH-25	194580.707	968390.088
BH-26	194286.062	968208.737
BH-27	193942.694	968032.374
BH-28	193791.822	968001.773
BH-29	193677.107	967897.433

CLIENT



V.O.CHIDAMBARANAR PORT TRUST
 Engineer, Planning & Designing
 Civil Engineering Department
 Administrative Office, Tuticorin - 628004

CONTRACTOR



Horizon Survey Company India Pvt. Ltd.
 Plot-A 732, T.T.C Ind Area, MIDC Khairne
 Thane-Belapur Road, Navi Mumbai - 400 710

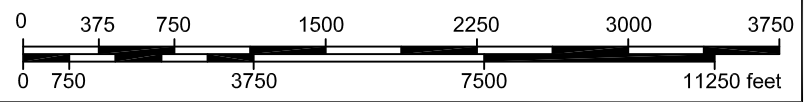
PROJECT TITLE

CONDUCTING BOREHOLE INVESTIGATION IN THE HARBOUR BASIN AND APPROCH CHANNEL AT V.O. CHIDAMBARANAR PORT

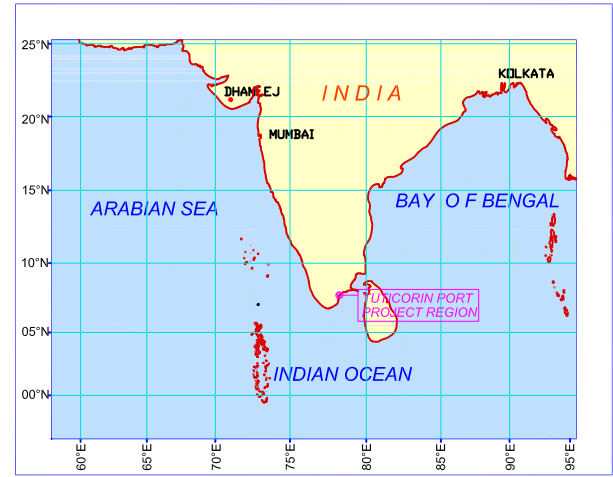
Rev No:	Date:	Description:	Interpr:	Drawn:	Chkd:	Appr:	P. Mng:
0	08.06.2018	For Approval	VN	TSJ	AM	KSN	ST

Drawing No. GT-VOCPT-088-SSB-03 Chart No. 03 OF 07

HORIZONTAL SCALE 1 : 37,500

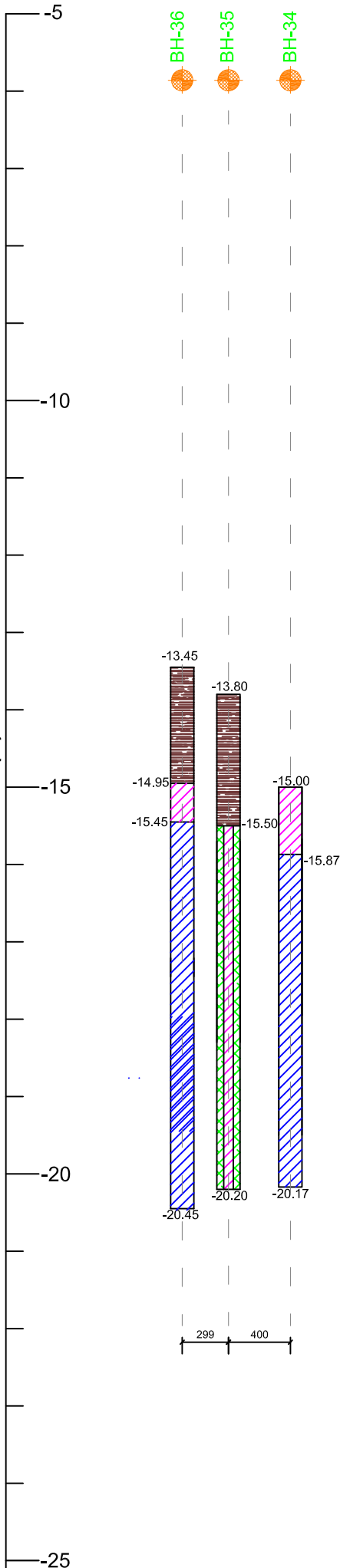


LOCATION MAP :



Section_DD_BH-34 to 36

DEPTH W.R.T CHART DATUM (M) VERTICAL SCALE 1:500



General: BOREHOLE ID: BH-01

LEGEND


Stratigraphy:

- SAND (Pink hatched)
- SANDSTONE (Blue hatched)
- CLAY (Blue grid)
- GRAVELS / ROCK FRAGMENTS (Green grid)
- CALCARENITE (Green hatched)
- Mudstone (Red hatched)
- Silt (Brown hatched)

BOREHOLE COORDINATES


BH ID	EASTING (m)	NORTHING (m)
BH-34	193645.013	968642.393
BH-35	193322.213	968908.611
BH-36	193064.222	969062.029

CLIENT



V.O.CHIDAMBARANAR PORT TRUST
 Engineer, Planning & Designing
 Civil Engineering Department
 Administrative Office, Tuticorin - 628004

CONTRACTOR

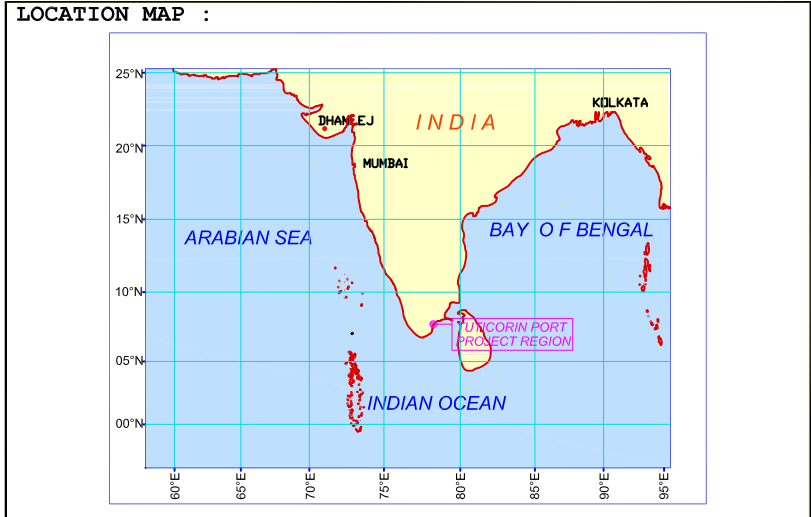
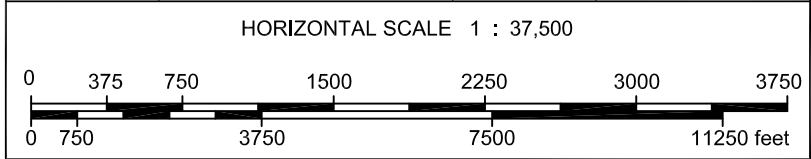


Horizon Survey Company India Pvt. Ltd.
 Plot-A 732, T.T.C Ind Area, MIDC Khairne
 Thane-Belapur Road, Navi Mumbai - 400 710
 Email: enquiries.india@horizon-geosciences.com

PROJECT TITLE

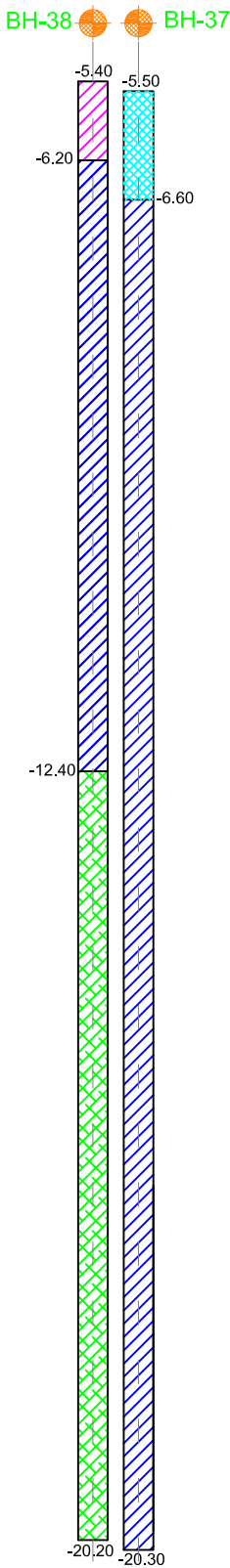
CONDUCTING BOREHOLE INVESTIGATION IN THE HARBOUR BASIN AND APPROCH CHANNEL AT V.O. CHIDAMBARANAR PORT

Rev No:	Date:	Description:	Interpr:	Drawn:	Chkd:	Appr:	P. Mng:
0	08.06.2018	For Approval	VN	TSJ	AM	KSN	ST
Drawing No.		GT-VOCPT-088-SSB-05	Chart No.		05 OF 07		



SECTION EE_BH-37 TO 38

DEPTH W.R.T CHART DATUM (M) VERTICAL SCALE 1:500



General:

BH-01 BOREHOLE ID

LEGEND

Stratigraphy:

- SAND
- CLAY
- CALCARENITE
- Mudstone
- SANDSTONE
- GRAVELS / ROCK FRAGMENTS
- Silt

BOREHOLE COORDINATES

BH ID	EASTING (m)	NORTHING (m)
BH-37	192840.530	968959.933
BH-38	192613.020	969001.701

CLIENT



V.O.CHIDAMBARANAR PORT TRUST
 Engineer, Planning & Designing
 Civil Engineering Department
 Administrative Office, Tuticorin - 628004

CONTRACTOR



Horizon Survey Company India Pvt. Ltd.
 Plot-A 732, T.T.C Ind Area, MIDC Khairne
 Thane-Belapur Road, Navi Mumbai - 400 710

PROJECT TITLE

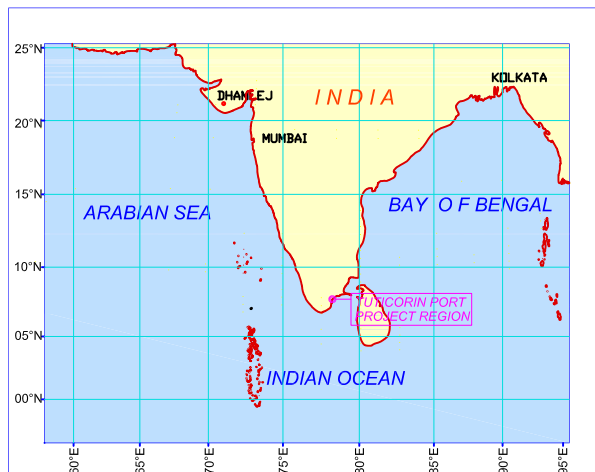
CONDUCTING BOREHOLE INVESTIGATION IN THE HARBOUR BASIN AND APPROCH CHANNEL AT V.O. CHIDAMBARANAR PORT

Rev No:	Date:	Description:	Interpr:	Drawn:	Chkd:	Appr:	P. Mng:
0	08.06.2018	For Approval	VN	TSJ	AM	KSN	ST
Drawing No.		GT-VOCPT-088-SSB-06	Chart No.		06 OF 07		

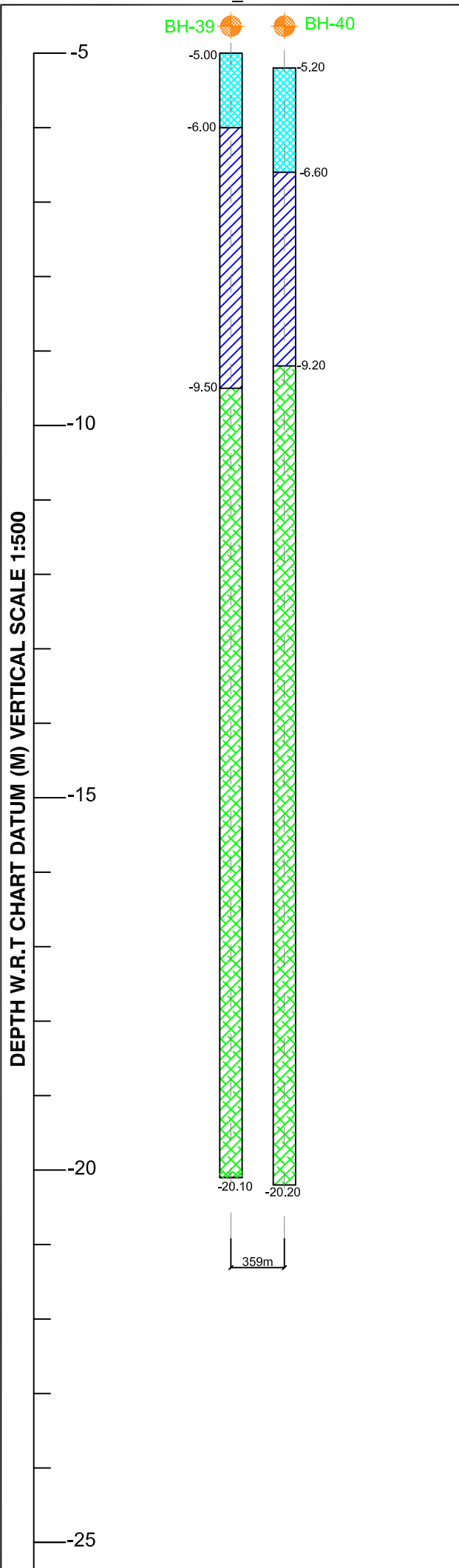
HORIZONTAL SCALE 1 : 37,500



LOCATION MAP :



SECTION BB_BH-39 to 40



General: BH-01 BOREHOLE ID

LEGEND


Stratigraphy:

- SAND (Pink diagonal lines)
- SANDSTONE (Blue diagonal lines)
- CLAY (Cyan cross-hatch)
- GRAVELS / ROCK FRAGMENTS (Green grid)
- CALCARENITE (Green cross-hatch)
- Mudstone (Red cross-hatch)
- Silt (Brown horizontal lines)

BOREHOLE COORDINATES


BH ID	EASTING (m)	NORTHING (m)
BH-39	192392.010	968913.428
BH-40	192566.881	969227.460

CLIENT



V.O.CHIDAMBARANAR PORT TRUST
 Engineer, Planning & Designing
 Civil Engineering Department
 Administrative Office, Tuticorin - 628004

CONTRACTOR



HORIZON GEOSCIENCES
 Email: enquiries.india@horizon-geosciences.com

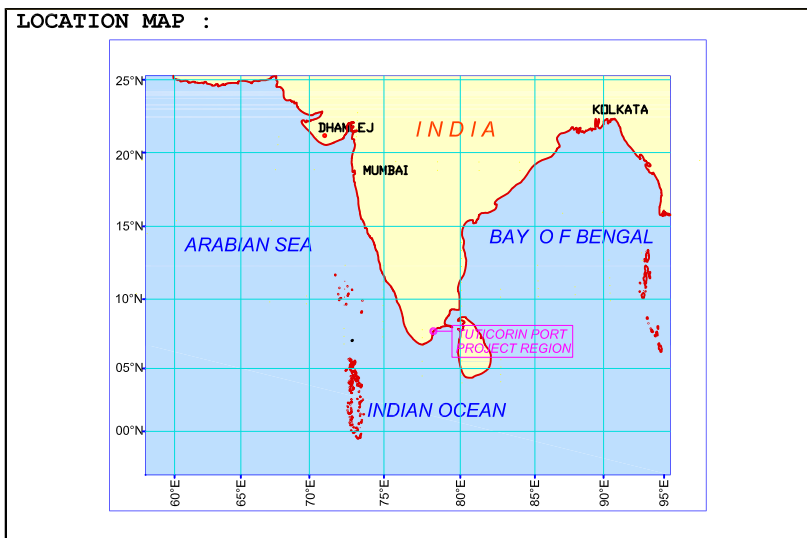
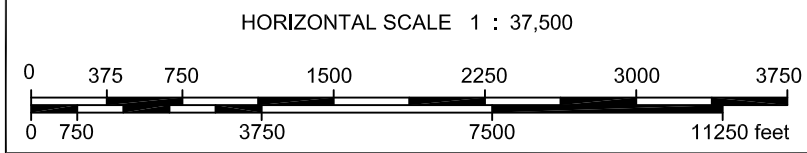
Horizon Survey Company India Pvt. Ltd.
 Plot-A 732, T.T.C Ind Area, MIDC Khairne
 Thane-Belapur Road, Navi Mumbai - 400 710

PROJECT TITLE

CONDUCTING BOREHOLE INVESTIGATION IN THE HARBOUR BASIN AND APPROCH CHANNEL AT V.O. CHIDAMBARANAR PORT

Rev No:	Date:	Description:	Interpr:	Drawn:	Chkd:	Appr:	P. Mng:
0	08.06.2018	For Approval	VN	TSJ	AM	KSN	ST

Drawing No. GT-VOCPPT-088-SSB-07 Chart No. 07 OF 07



BOREHOLE NO. : BH-05

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 01		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.10 CD	SBL (m) : -16.60 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 14-04-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		14-04-2018	18.00	17.10		
Date Completed : 14-04-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 2.40 HX : 2.40 NX : -						
Co- Ordinates : E : 201137.704 N : 962420.011		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks					
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)		Initial Void Ratio (e ₀)				
	-16.60	-17.10										-16.60	Yellowish brown, poorly graded SAND wit shell fragments	SP	7	93	0																	
1	-17.10	-17.60																																
2	-18.10	-18.55	6	6	15	21						-18.10	Medium dense, yellowish brown, poorly graded SAND with shell fragments	SP	0	99	1																	
	-18.60	-18.95										-18.60	Very dense, yellowish brown, Residual Soil (SAND)																					
3	-18.95	-19.00	50	-	-	R	68	48	18	IV	5	-19.00	Moderately weak, moderately weathered, off white, SANDSTONE																					
4	-19.00	-20.10																																
BOREHOLE TERMINATED AT -20.10 (m) BELOW CD																																		
5																																		
6																																		
7																																		
8																																		
9																																		
10																																		

Abbreviations & Symbols :

- SPT	- UDS	- Liquid Limit	- Plasticity Index	- Moisture Content
- Rock Recovery	- No Recovery	- Total Core Recovery	- Solid Core Recovery	- Rock Quality Designation
- Field Vane Shear	- Sample Slipped	- Weathering Grade	- Fractural Index	

C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level
SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level

Prepared By : V.N.
Checked By : S.D.
Approved By : S.T.

BOREHOLE NO. : BH-06

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 01		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.05 CD	SBL (m) : -15.10 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 11-04-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		11-04-2018	10.10	16.00		
Date Completed : 11-04-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 4.50 HX : - NX : -						
Co- Ordinates : E : 200768.204 N : 962756.863		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _p)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)	
0	-15.10	-15.60										-15.10	Brownish black, poorly graded SAND with shell fragments	SP	2	96	2												
1	-16.10	-16.10												SP	8	90	2												
2	-16.60	-17.05	17	16	9	25						-16.60	Medium dense, yellowish brown, SAND with shell fragments																
3	-18.10	-18.55	6	4	3	7							- Loose to very loose below -18.10 m CD																
4	-18.60	-19.10																											
5	-19.60	-20.05	2	1	1	2							- Silty SAND	SM	1	76	20	3	-	NP	-								
6													BOREHOLE TERMINATED AT -20.05 (m) BELOW CD																
7																													
8																													
9																													
10																													

Abbreviations & Symbols :			C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level				SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level			Prepared By : V.N.		
									Checked By : S.D.			
		TCR - Total Core Recovery		SCR - Solid Core Recovery		RQD - Rock Quality Designation		W.I. - Weathering Grade			Approved By : S.T.	

BOREHOLE NO. : BH-09

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 01		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.25 CD	SBL (m) : -15.30 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 10-04-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		10-04-2018	8.45	15.80		
Date Completed : 10-04-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 4.50 HX : - NX : -						
Co- Ordinates : E : 200029.202 N : 963430.567		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _p)	PLASTICITY INDEX (I _p)	C _u	c _φ	c _φ '	PreConsolidation Pressure (kPa)	Compression Index (Cc)	
	-15.30	-15.80										-15.30	Yellowish brown, poorly graded SAND with shell fragments	SP	10	89	1												
	-16.30	-16.80										-16.30	Loose, yellowish brown, poorly graded SAND / silty SAND	SP	2	97	1												
	-16.80	-17.25	3	3	4	7																							
	-17.30	-17.80																											
	-18.30	-18.75	4	4	5	9								SM	2	81	14	3											
	-19.30	-19.80												SP	4	95	1												
	-19.80	-20.25	4	3	5	8																							
BOREHOLE TERMINATED AT -20.25 (m) BELOW CD																													

Abbreviations & Symbols :

- SPT	- UDS	- Rock Recovery	- No Recovery	- Field Vane Shear	- Sample Slipped
-------	-------	-----------------	---------------	--------------------	------------------

W_L - Liquid Limit I_p - Plasticity Index MC - Moisture Content

TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation W.I. - Weathering Grade F.I. Fractural Index

C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level
SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level

Prepared By : V.N.
Checked By : S.D.
Approved By : S.T.

BOREHOLE NO. : BH-10

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 01		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.45 CD	SBL (m) : -14.50 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 08-04-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		08-04-2018	10.20	15.00		
Date Completed : 08-04-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 5.50 HX : - NX : -						
Co- Ordinates : E : 199659.202 N : 963767.419		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)	
	-14.50	-15.00										-14.50	Yellowish brown, poorly graded SAND with shell fragments	SP	5	94	1												
	-16.00	-16.45	13	9	10	19						-16.00	Medium dense, yellowish brown, poorly graded SAND with shell fragments	SP	6	84	7	3	-	NP	-								
	-17.50	-17.95	3	4	11	15																							
	-19.00	-19.37	3	31	51	R						-19.00	Very dense to dense, yellowish brown clayey silty SAND	SM	6	66	25	3	-	NP	-								
	-20.00	-20.45	11	16	19	35								SM	7	73	17	3	-	NP	-								
BOREHOLE TERMINATED AT -20.45 (m) BELOW CD																													

Abbreviations & Symbols :

- SPT	- UDS	- Liquid Limit	- Plasticity Index	- Moisture Content	C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level		SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level		Prepared By : V.N.			
- Rock Recovery	- No Recovery	TCR - Total Core Recovery		SCR - Solid Core Recovery	RQD - Rock Quality Designation	W.I. - Weathering Grade		F.I. Fractural Index	Checked By : S.D.			
- Field Vane Shear	- Sample Slipped										Approved By : S.T.	

BOREHOLE NO. : BH-26

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 02 of 02		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -24.40 CD	SBL (m) : -12.40 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 02-03-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		02-03-2018	10.45	13.00		
Date Completed : 02-03-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 0.90 HX : 0.90 NX : 3.00		02-03-2018	20.00	12.60		
Co- Ordinates : E : 194286.062 N : 968208.737		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)	
10	-22.90	-24.40					76	24	13	IV	6	Highly to completely weathered, brownish grey moderately weak to weak CALCARENITE																	
11																													
12																													
13																													
14																													
15																													
16																													
17																													
18																													
19																													
20																													

Abbreviations & Symbols :

- SPT	- UDS	- Liquid Limit	- Plasticity Index	- Moisture Content	C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level		SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level		Prepared By : V.N.		
- Rock Recovery	- No Recovery	TCR - Total Core Recovery		SCR - Solid Core Recovery	RQD - Rock Quality Designation	W.I. - Weathering Grade		F.I. Fractural Index		Checked By : S.D.	
- Field Vane Shear	- Sample Slipped										Approved By : S.T.

BOREHOLE NO. : BH-35

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 01		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.20 CD	SBL (m) : -13.80 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 27-02-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		27-02-2018	9.45	14.50		
Date Completed : 27-02-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 1.70 HX : 2.10 NX : 3.10						
Co- Ordinates : E : 193322.213 N : 986908.611		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks				
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)	Initial Void Ratio (e ₀)					
	-13.80	-14.30												Greyish SILT with sand	ML	0	23	58	19	38	30	8											
	-15.30	-15.50	7	5	-	R								Hard, yellowish clayey SILT with weathered rock																			
	-15.50	-16.90					70	19	10	V	N.I.			Very weak to weak, moderately to highly weathered, highly greyish CALCARENITE																			
	-16.90	-18.40					85	53	38	IV	4																						
	-18.40	-19.40					85	36	31	IV	5																						
	-19.40	-20.20					96	45	NIL	IV	5																						
BOREHOLE TERMINATED AT -22.20 (m) BELOW CD																																	

Abbreviations & Symbols :										C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level										Prepared By : V.N. Checked By : S.D. Approved By : S.T.									
- SPT		- UDS		W _L - Liquid Limit		I _p - Plasticity Index		MC - Moisture Content		TCR - Total Core Recovery		SCR - Solid Core Recovery		RQD - Rock Quality Designation		W.I. - Weathering Grade		F.I. Fractural Index											

BOREHOLE NO. : BH-36

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 01		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.45 CD	SBL (m) : -13.45 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 26-02-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		26-02-2018	11.56	14.20		
Date Completed : 26-02-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 1.50 HX : 2.00 NX : 5.00		26-02-2018	6.35	14.15		
Co- Ordinates : E : 193064.222 N : 969062.029		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)	
	-13.45	-13.95										-13.45	Grey clayey SILT																
	-14.95	-15.40	2	2	4	6						-14.95	Loose, brownish, silty SAND with gravels	SM	25	61	8	6	-	NP	-								
	-15.45	-16.45					38	NIL	NIL	V	N.I.	-15.45	Very weak, highly weathered, light greyish / brownish SANDSTONE																
	-16.45	-17.45					79	29	29	IV	N.I.																		
	-17.45	-18.95					57	24	0	IV	N.I.																		
	-18.95	-20.45					87	51	27	IV	N.I.																		
BOREHOLE TERMINATED AT -20.45 (m) BELOW CD																													

Abbreviations & Symbols :

- SPT	- UDS	- Liquid Limit	- Plasticity Index	- Moisture Content	C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level		
- Rock Recovery	- No Recovery	- Total Core Recovery	- Solid Core Recovery	- Rock Quality Designation	SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level		
- Field Vane Shear	- Sample Slipped				W.I. - Weathering Grade F.I. Fractural Index		

Prepared By : V.N.
 Checked By : S.D.
 Approved By : S.T.

BOREHOLE NO. : BH-37

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 02		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.30 CD	SBL (m) : -5.50 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 25-02-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		25-02-2018	10.15	6.10		
Date Completed : 25-02-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 1.00 HX : 1.50 NX : 9.50		25-02-2018	09.15	5.95		
Co- Ordinates : E : 192840.530 N : 968959.933		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test				Remarks	
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)	Initial Void Ratio (e ₀)		
	-5.50	-6.00										-5.50	Greyish CLAY	CI	0	1	77	22	46	22	24										
	-6.60	-8.10	5			R	NO PENETRATION						-6.60	Moderately weak to moderately strong, light greyish, SANDSTONE																	
	-8.10	-9.60					92	41	13	III	8																				
	-9.60	-11.10					90	80	40	III	8																				
	-11.10	-12.30					94	45	33	III	7																				
	-12.30	-13.80					75	NIL	NIL	VI	N.I.		-11.10	Very dense, light brownish RESIDUAL SOIL (SAND)																	
	-13.80	-15.30					70	30	15	V	N.I.		-12.30	Moderately weak, highly weathered, light greyish / brownish SANDSTONE																	
	-15.30	-16.80					82	10	NIL	V	N.I.																				
							68	13	8	V	N.I.																				

Abbreviations & Symbols :

- SPT	- UDS	- Liquid Limit	- Plasticity Index	- Moisture Content	C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level		SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level		Prepared By : V.N.		
- Rock Recovery	- No Recovery	TCR - Total Core Recovery		SCR - Solid Core Recovery	RQD - Rock Quality Designation	W.I. - Weathering Grade		F.I. Fractural Index		Checked By : S.D.	
- Field Vane Shear	- Sample Slipped										Approved By : S.T.

BOREHOLE NO. : BH-37

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 02 of 02		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.30 CD	SBL (m) : -5.50 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 25-02-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		25-02-2018	10.15	6.10		
Date Completed : 25-02-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 1.00 HX : 1.50 NX : 9.50		25-02-2018	09.15	5.95		
Co- Ordinates : E : 192840.530 N : 968959.933		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _p)	PLASTICITY INDEX (I _p)	C _u	c _v	c _u	PreConsolidation Pressure (kPa)	Compression Index (Cc)	Initial Void Ratio (e ₀)	
														Moderately weak, highly weathered, light greyish / brownish SANDSTONE															
	-16.80	-18.30					61	NIL	NIL	V	N.I.																		
	-18.30	-19.80					85	39	20	V	N.I.																		
	-19.80	-20.30					88	60	0	V	6																		
BOREHOLE TERMINATED AT -20.30 (m) BELOW CD																													

Abbreviations & Symbols :

- SPT	- UDS	- Liquid Limit	- Plasticity Index	- Moisture Content	C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level			SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level			Prepared By : V.N.					
- Rock Recovery	- No Recovery	TCR - Total Core Recovery			SCR - Solid Core Recovery			RQD - Rock Quality Designation			W.I. - Weathering Grade F.I. Fractural Index			Checked By : S.D.		
- Field Vane Shear		- Sample Slipped		Approved By : S.T.												

BOREHOLE NO. : BH-38

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCP-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 02			
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port							WATER TABLE		
T.D. (m) : -20.20 CD	SBL (m) : -5.40 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.			
Date Commenced : 24-02-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		24-02-2018	10.30	5.80			
Date Completed : 24-02-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 0.50 HX : 1.00 NX : 5.50		24-02-2018	20.30	5.70			
Co- Ordinates : E : 192613.020 N : 969001.701		Core-Diameter (mm) : 54.10							

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	C _u	c _φ	c' _φ	PreConsolidation Pressure (kPa)	Compression Index (Cc)	
	-5.40	-5.90										-5.40	Greyish CLAY	CI	0	3	76	21	49	22	27								
	-6.20	-6.20	0			R	NO PENETRATION						-6.20	Moderately strong, moderately to highly weathered, light brownish SANDSTONE at places recovered as gravel size fragments															
	-6.20	-6.90					97	25	15	V	N.I.																		
	-6.90	-7.90					78	5	0	V	N.I.																		
	-7.90	-8.90					100	44	15	IV	4																		
	-8.90	-10.20					20	30	20	IV	5		-8.90	Moderately weak, light greyish, highly weathered SANDSTONE															
	-10.20	-10.90					87	21	16	IV	5																		
	-10.90	-12.40					59	10	0	IV	N.I.																		
	-12.40	-13.90					97	40	16	IV	5		-12.40	Moderately weak, highly weathered, light greyish, CALCARENITE															
	-13.90	-15.40					100	63	43	IV	4																		

Abbreviations & Symbols :

- SPT	- UDS	- Liquid Limit	- Plasticity Index	- Moisture Content	C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level
- Rock Recovery	- No Recovery	TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation			SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level
- Field Vane Shear	- Sample Slipped	W.I. - Weathering Grade F.I. Fractural Index			Prepared By : V.N. Checked By : S.D. Approved By : S.T.

BOREHOLE NO. : BH-38

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 02 of 02		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.20 CD	SBL (m) : -5.40 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 24-02-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		24-02-2018	10.30	5.80		
Date Completed : 24-02-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 0.50 HX : 1.00 NX : 5.50		24-02-2018	20.30	5.70		
Co- Ordinates : E : 192613.020 N : 969001.701		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	C _u	c.φ	c.φ'	PreConsolidation Pressure (kPa)	Compression Index (Cc)	Initial Void Ratio (e ₀)	
	-15.40	-16.90					100	46	17	IV	N.I			Moderately weak, highly weathered, light greyish, CALCARENITE															
	-16.90	-18.40					93	44	13	IV	N.I.																		
	-18.40	-19.40					88	15	0	IV	N.I.																		
	-19.40	-20.20					75	15	0	IV	N.I.																		
BOREHOLE TERMINATED AT -20.20 (m) BELOW CD																													


Abbreviations & Symbols :

- SPT	- UDS	- No Recovery	- Field Vane Shear	- Sample Slipped	W _L - Liquid Limit	I _p - Plasticity Index	MC - Moisture Content	TCR - Total Core Recovery	SCR - Solid Core Recovery	RQD - Rock Quality Designation	W.I. - Weathering Grade	F.I. Fractural Index
-------	-------	---------------	--------------------	------------------	-------------------------------	-----------------------------------	-----------------------	---------------------------	---------------------------	--------------------------------	-------------------------	----------------------

C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level
 SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level










Prepared By : V.N.
 Checked By : S.D.
 Approved By : S.T.

BOREHOLE NO. : BH-39

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client :  V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 02			
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port							WATER TABLE		
T.D. (m) : -20.10 CD	SBL (m) : -5.00 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)				Date	Time	Mtrs.	
Date Commenced : 22-02-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig				22-02-2018	14.30	5.40	
Date Completed : 23-02-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 1.00 HX : 1.00 NX : 6.00				23-02-2018	12.30	5.50	
Co- Ordinates : E : 192392.010 N : 968913.428		Core-Diameter (mm) : 54.10							

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test				Remarks					
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)	Initial Void Ratio (e ₀)						
	-5.00	-5.50											-5.00	Light, greyish CLAY	CH	0	1	81	18	51	22	29													
1	-6.00	-6.50	5			R	NO PENETRATION						-5.00	Moderately strong, highly weathered light brownish SANDSTONE																					
2	-6.50	-7.00					66	NIL	NIL	V	N.I.																								
	-7.00	-8.00					76	38	NIL	IV/V	N.I.																								
	-7.00	-8.00					95	20	20	IV	N.I.																								
3	-8.00	-9.50					68	35	20	IV/V	N.I.																								
4	-8.00	-9.50																																	
5	-9.50	-10.50					61	12	NIL	IV	N.I.		-9.50	Weak to moderate weak, highly to moderately weathered, light greyish, CALCARENITE																					
6	-10.50	-12.00					73	NIL	NIL	IV/V	N.I.																								
7	-12.00	-13.50					73	40	10	IV	N.I.																								
8	-12.00	-13.50																																	
9	-13.50	-15.00					100	41	15	IV/V	N.I.																								

Abbreviations & Symbols :

 - SPT	 - UDS	 W _L - Liquid Limit	 I _p - Plasticity Index	 MC - Moisture Content	C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level		
 - Rock Recovery	 - No Recovery	TCR - Total Core Recovery SCR - Solid Core Recovery RQD - Rock Quality Designation			W.I. - Weathering Grade F.I. Fractural Index		
 - Field Vane Shear	 - Sample Slipped				Prepared By : V.N. Checked By : S.D. Approved By : S.T.		

BOREHOLE NO. : BH-39

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 02 of 02		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.10 CD	SBL (m) : -5.00 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 22-02-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		22-02-2018	14.30	5.40		
Date Completed : 23-02-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 1.00 HX : 1.00 NX : 6.00		23-02-2018	12.30	5.50		
Co- Ordinates : E : 192392.010 N : 968913.428		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks	
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _p)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)		Initial Void Ratio (e ₀)
10	-15.00	-16.50					100	70	30	IV/V	N.I.	Weak to moderate weak, highly to moderately weathered, light greyish, CALCARENITE																		
11																														
12	-16.50	-18.00					100	67	39	IV/V	N.I.																			
13	-18.00	-19.50					51	38	22	IV/V	7																			
14	-19.50	-20.10					83	20	NIL	V	N.I.																			
15													BOREHOLE TERMINATED AT -20.10 (m) BELOW CD																	
16																														
17																														
18																														
19																														
20																														

Abbreviations & Symbols :

- SPT	- UDS	- No Recovery	- Field Vane Shear	- Sample Slipped	W _L - Liquid Limit	I _p - Plasticity Index	MC - Moisture Content	C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level	SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level	Prepared By : V.N.	Checked By : S.D.	Approved By : S.T.
- Rock Recovery	TCR - Total Core Recovery	SCR - Solid Core Recovery	RQD - Rock Quality Designation	W.I. - Weathering Grade	F.I. Fractural Index							

BOREHOLE NO. : BH-40

Geotech By : Horizon Survey Company India Pvt. Ltd.		Project No. : GT-VOCPT-088		Client : V.O.CHIDAMBARANAR PORT TRUST		SHEET 01 of 02		
Project : Conducting Borehole Investigation in the Inner Harbour Basin and Approach Channel at V.O. Chidambaranar Port						WATER TABLE		
T.D. (m) : -20.20 CD	SBL (m) : -5.20 CD	Equipment Record : SANGAM-II (JACKUP PLATFORM)		Date	Time	Mtrs.		
Date Commenced : 23-02-2018	Circulation Fluid : Sea Water	Type of Rig : Hydraulic Rig		23-02-2018	15.25	5.80		
Date Completed : 24-02-2018	Drilling Orientation : Vertical	Details of Casing (m) : SX : 1.00 HX : 1.00 NX : 4.00		23-02-2018	21.30	5.75		
Co- Ordinates : E : 192566.881 N : 969227.760		Core-Diameter (mm) : 54.10						

Sampling Details			Standard Penetration Test (SPT)				Details of Rock core					Symbol	Depth in (m) w.r.t.(CD)	Details of Stratum	Soil Classification (IS)	Grain Size Analysis (%)				Consistency Limits (%)			Strength Test (kPa)			Consolidation Test			Remarks
TYPE	From (m)	To (m)	150	300	450	"N" VALUE	TCR %	SCR %	RQD %	W.G	F.I.					Strata Description	GRAVEL	SAND	SILT	CLAY	LIQUID (w _L)	PLASTIC (w _P)	PLASTICITY INDEX (I _p)	UCS	UU	CU	PreConsolidation Pressure (kPa)	Compression Index (Cc)	
	-5.20	-5.70										-5.20	Light, greyish CLAY	CH	0	0	76	24	54	25	29								
	-6.60	-6.63	3	-	-	R	NO PENETRATION				N.I.	-6.60	Moderately strong, moderately to highly weathered, light greyish SANDSTONE																
	-6.60	-7.70					50	23	10	V																			
	-7.70	-9.20					95	38	22	V	4																		
	-9.20	-10.70					83	42	33	IV	2	-9.20	Weak to moderately weak, light greyish, highly weathered CALCARENITE																
	-10.70	-11.70					69	29	29	IV	3																		
	-11.70	-13.20					99	50	36	IV	5																		
	-13.20	-14.70					100	76	61	IV/V	7																		
	-14.70	-16.20					74	48	18	IV	5																		

Abbreviations & Symbols :

- SPT	- UDS	- Liquid Limit	- Plasticity Index	- Moisture Content	C.D. Chart Datum, T.D. : Termination Depth, MSL : Mean Sea Level		Prepared By : V.N. Checked By : S.D. Approved By : S.T.
- Rock Recovery	- No Recovery	- Total Core Recovery	- Solid Core Recovery	- Rock Quality Designation	SBL : Sea Bed Level, EGL : Existing Ground Level, R.L. : Reduced Level		
- Field Vane Shear	- Sample Slipped				- Weathering Grade	- Fractural Index	

F.No.10-55/2017-IA-III
Government of India
Ministry of Environment, Forest and Climate Change
(IA.III Section)

Indira Paryavaran Bhawan,
Jor Bagh Road, New Delhi - 3

Date: 25th February, 2019

To,

The Chief Engineer
M/s V.O. Chidambaranar Port Trust,
Harbour Estate Thoothukkudi,
Tuticorin - 628004 (Tamil Nadu)
E-mail: cmevocpt@gmail.com

Subject: Deepening the Harbour Basin and Approach Channel to handle 15.20m draught vessels, Modification of Port entrance, Construction of 6 Nos. of Berths and Strengthening / Upgradation of existing Berths-1 to 9, NCB-I and NCB-II at V.O. Chidambaranar Port by M/s V.O. Chidambaranar Port Trust - Environmental & CRZ Clearance - reg.

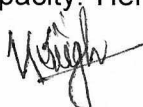
Sir,

This has reference to your online Proposal No. IA/TN/MIS/67583/2017 dated 8th May, 2018, submitted to this Ministry for grant of Environmental and CRZ Clearance in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 and Coastal Regulation Zone (CRZ) Notification, 2011, under the Environment (Protection), Act, 1986.

2. The proposal for 'Deepening the Harbour Basin and Approach Channel to handle 15.20m draught vessels, Modification of Port entrance, Construction of 6 Nos. of Berths and Strengthening / Upgradation of existing Berths-1 to 9, NCB-I and NCB-II at V.O. Chidambaranar Port promoted by M/s V.O. Chidambaranar Port Trust was considered by the Expert Appraisal Committee (Infra-2) in the Ministry in its 33rd meeting held during 9-10 August, 2018 and 37th meeting held on 13th January, 2019.

3. The details of the project, as per the documents submitted by the project proponent, and also as informed during the above said EAC meeting, are reported to be as under:-

- (i) V.O.Chidambaranar Port situated in the Gulf of Mannar was declared as a Major Port by the Government of India in July, 1974. V.O.Chidambaranar Port has eight general cargo berths, one container Terminal, two coal jetties, one oil jetty, two North Cargo Berths and one Shallow Draught Berth. The present maximum draught of the Port is 12.80m. The present cargo handling capacity of V.O.Chidamabranar Port is 46.78 Million Tones and Port handled 36.58 Million Tonnes during the year 2017-18.
- (ii) In order to improve the cargo handling capacity, it is proposed to increase the draught from existing 12.80m to 15.20m, to handle vessel of LOA up to 367m. This will facilitate handling of fully laden Panamax vessels (up to 85000 T – 90000 T) for dry bulk/general cargo and very Large Container Carriers (VLCC) up to 14000 TEUs capacity. Hence, dredging in front of Coal Jetty-I,

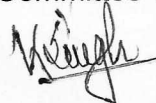


Coal Jetty-II, Berths-1 to 6, Berth-8, Berth-9, NCB-I, NCB-II, NCB-III, NCB-IV, GCB-II, SEPC Berth and Approach Channel is proposed. The present length of the approach channel is 3.8 km after completion of the dredging the channel length will be 10.04km. Project schedule for Phase-I development is 28 months and the project time schedule for Phase-II development is 24 months after the completion of Phase-I development.

- (iii) The Terms of Reference (ToR) was granted by MoEF&CC vide letter F.No.10-55/2017-IA-III dated 13th October, 2017.
- (iv) Public hearing was held on 22nd December, 2017 at Thoothukudi.
- (v) Tamil Nadu State Coastal Zone Management Authority recommended the project vide letter No. 7798/EC.3/2018-1 dated 2nd May, 2018.
- (vi) The approximate quantity of water to be used for construction and drinking purpose will be 10 Kilo Liter per day during construction period. The Port is having own water supply system. Drinking water is drawn from Thamiraparani River through Tamil Nadu Water supply and Drainage Board. The distance of the source is 27 Km from the Port. Elevated storage tanks are already available in the Port area is sufficient to meet the requirements of present project. 517 KLD of waste water is generated in a day and is being treated by existing STP of capacity 1 MLD. Treated water will be utilized for Green Belt.
- (vii) Handling of raw material will be done through mechanized arrangement, there will not be any spillage of cargoes. The surplus or construction waste material will be removed time to time. These will be conveyed by Lorry to outside the Port limit and disposed to designated place. Hazardous wastes (electrical bulbs, batteries, solvent sledges, rejected paints, asbestos pipe waste etc) can be disposed to authorized vendors.
- (viii) The total volume to be dredged is 16 Million Cu.m.(approx).. The entire quantity of dredged material will be used for reclamation. The total Reclamation area is 151 Ha and these areas will be used as a backup area for the proposed container terminal and for providing road and rail connectivity for the future Outer harbour project.
- (ix) The estimated cost of the project is Rs. 5720 Crores.
- (x) Employment potential: It is expected the direct employment will be about 1000 numbers and indirect employment is about 50000 numbers.
- (xi) Benefits of the project: In view of improving the Port capacity, Port decided to increase the vessel draught from existing 12.80m to 15.20m to handle fully loaded Panamax vessels for inner harbour. The Port is also planning to modify (increase its width) the Port entrance to cater safe entry for the larger vessels. The total reclamation area is 151 hectares and these areas will be used as a backup area for the proposed container terminal and for providing road and rail connectivity.

4. The project/activity is covered under category 'A' of item 7 (e) i.e. 'Ports, harbours, break waters, dredging' of the schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level by sectoral EAC.

5. The proposal was considered by the EAC (Infra-2) in its 33rd meeting held during 9-10 August, 2018, wherein the Committee asked the project proponents to



give a report addressing to the non compliances pointed by the MoEF&CC along with a Status of consents and Authorizations under the Pollution Control Laws. The Project Proponent submitted/uploaded the additional information on 15th December, 2018 and 5th January, 2019 on Ministry's website.

6. The proposal was again considered by the EAC in its 37th meeting held on 13th January, 2019. During the meeting it was noted by EAC that for the existing facility, Consent to Operate by Tamil Nadu Pollution Control Board has been issued vide Consent Order No. 180715835568 dated 16th November, 2018 under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) and Consent Order No. 180725835568 dated 16th November, 2018 under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) and valid for the period ending 31st March, 2019. The EAC also deliberated upon the comments of MoEF&CC Regional Office Chennai issued vide letter EP/12.1/2017-18/15/TN/1968 dated 14th December, 2018 on the Action Taken Report submitted by M/s VOCPT vide letter dated 17th November, 2018 and observed that action taken by the project proponent on non-compliance reported earlier seems to be satisfactory.

7. The EAC, after detailed deliberations on the proposal, has recommended the project for grant of Environmental and CRZ Clearance. As per recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords Environmental and CRZ Clearance for the project 'Deepening the Harbour Basin and Approach Channel to handle 15.20m draught vessels, Modification of Port entrance, Construction of 6 Nos. of Berths and Strengthening / Upgradation of existing Berths- 1 to 9, NCB-I and NCB-II' at V.O. Chidambaranar Port promoted by M/s V.O. Chidambaranar Port Trust, under the provisions of the EIA Notification, 2006 and CRZ Notification, 2011 and amendments thereto and circulars issued thereon and subject to the compliance of the following specific and general conditions as under:-

I. Statutory compliance:

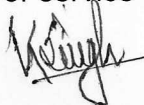
- i. Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011 and the State Coastal Zone Management Plan as drawn up by the State Government. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
- ii. All the recommendations and conditions specified by the Tamil Nadu Coastal Zone Management Authority who has recommended the project vide letter No. 7798/EC.3/2018-1 dated 2nd May, 2018 shall be complied with.
- iii. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- iv. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- v. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.



- vi. All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction
- vii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
- viii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

II. Air quality monitoring and preservation

- i. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NOx in reference to SO₂ and NOx emissions) within and outside the project area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.
- ii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
- iii. Continuous online monitoring of for air and water covering the total area shall be carried out and the compliance report of the same shall be submitted along with the 6 monthly compliance report to the regional office of MOEF&CC.
- iv. Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.
- v. Effective and efficient pollution control measures like covered conveyors/stacks (coal, iron ore and other bulk cargo) with fogging/back filters and water sprinkling commencing from ship unloading to stacking to evacuation shall be undertaken. Coal and iron ore stack yards shall be bounded by thick two tier green belt with proper drains and wind barriers wherever necessary.
- vi. Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.
- vii. The Vessels shall comply the emission norms prescribed from time to time.
- viii. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
- ix. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius



of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

III. Water quality monitoring and preservation

- i. The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.
- ii. Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality. Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.
- iii. No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary/ channel.
- iv. Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.
- v. The project proponents will draw up and implement a plan for the management of temperature differences between intake waters and discharge waters.
- vi. Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- vii. The fresh water requirement (3 MLD) for the present project will be met from Thamirabarani River at Vallavallan and 1 MLD from Thamirabarani River at Mangalakurichi.
- viii. 517 KLD of waste water is generated in a day and is being treated by existing STP of capacity 1 MLD. The STP which already exists in the Harbour Estate will be used and kept in operation during the operation phase of the proposed project development. The treated waste water / outfall from the STP will be used for the Green Belt development and dust suppression systems. The discharge of waste water into the nearest water bodies/sea is not proposed during any phase (construction as well as operation) of the project.
- ix. A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
- x. No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.
- xi. All the erosion control measures shall be taken at water front facilities. Earth protection work shall be carried out to avoid erosion of soil from the shoreline/boundary line from the land area into the marine water body.



- xii. The project proponents would also draw up and implement a management plan for the prevention of fires due to handling of coal.
- xiii. Port should draw oil spill management plan for proposed expansion with revised profile.
- xiv. Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill would be assessed. Guidelines given in MARPOL and Shipping Acts for oil spill management would be followed. Mechanism for integration of terminals oil contingency plan with the overall area contingency plan under the co-ordination of Coast should be covered.

IV. Noise monitoring and prevention

- i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
- ii. Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
- iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
- iv. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

- i. Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.
- ii. Compliance to Energy Conservation Building (ECBC-2017) shall be ensured for all the building complexes. Solar/wind or other renewable energy shall be installed to meet energy demand of 1% equivalent.
- iii. Provide LED lights in their offices and residential areas.

VI. Waste management

- i. Dredged material shall be disposed safely in the designated areas.
- ii. Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.
- iii. Necessary arrangements for the treatment of the effluents and solid wastes/ facilitation of reception facilities under MARPOL must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986. The provisions of Solid Waste Management Rules, 2016. E- Waste Management Rules, 2016, and Plastic Waste Management Rules, 2016 shall be complied with



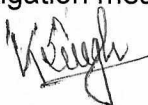
- iv. The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
- v. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
- vi. A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- vii. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Belt

- i. Green belt shall be developed in area as provided in project details with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
- ii. Top soil shall be separately stored and used in the development of green belt.

VIII. Marine Ecology

- i. Dredging shall not be carried out during the fish breeding and spawning seasons.
- ii. Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment.
- iii. The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.
- iv. Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging.
- v. While carrying out dredging, an independent monitoring shall be carried out through a Government Agency/Institute to assess the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.
- vi. No underwater blasting is permitted.
- vii. A copy of the Marine and riparian biodiversity management plan duly validated by the State Biodiversity Board shall be submitted before commencement of implementation.
- viii. A continuous monitoring programme covering all the seasons on various aspects of the coastal environs need to be undertaken by a competent organization available in the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. The monitoring should cover various physico-chemical parameters coupled with biological indices such as microbes, plankton, benthos and fishes on a periodic basis during construction and operation phase of the project. Any deviations in the parameters shall be given adequate care with suitable measures to conserve the marine environment and its resources.
- ix. Marine ecological studies as carried out by M/s Suganthi Devaadasan Marine Research Institute and its mitigation measures for protection of phytoplankton,

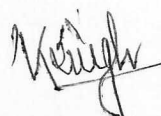


zooplanktons, macrobenthos, marine turtles, mangroves, corals, sea grass etc as given in the EIA-EMP Report shall be complied with in letter and spirit.

- x. Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components as part of the management plan. Marine ecology shall be monitored regularly also in terms of all micro, macro and mega floral and faunal components of marine biodiversity.
- xi. The project proponent shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.

IX. Public hearing and Human health issues

- i. The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.
- ii. The concerns expressed during the public hearing held by the M/s V.O. Chidambaranar Port Trust needs to be addressed during the project implementation. These would also cover socio-economic and ecological and environmental concerns, besides commitment by the management towards employment opportunities.
- iii. Necessary arrangement for general safety and occupational health of people should be done in letter and spirit.
- iv. Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
- v. In case of repair of any old vessels, excessive care shall be taken while handling Asbestos & Freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos materials at site before disposal to CTSDF.
- vi. Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/accidents.
- vii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
- viii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- ix. Occupational health surveillance of the workers shall be done on a regular basis.



X. Corporate Environment Responsibility

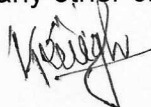
- i. As per the Ministry's Office Memorandum F.No.22-65/2017-IA.III dated 1st May 2018, and proposed by the project proponent, an amount of Rs. 14.30 Crore (@0.25% of project Cost) shall be earmarked under Corporate Environment Responsibility (CER) for the activities such as education and training, culture and socio economic development, health, infrastructure and environment protection etc. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as project and shall be monitored. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to the RO, MoEF&CC along with half yearly compliance report.
- vi. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

XI. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.



- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
- viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme



Court of India / High Courts and any other Court of Law relating to the subject matter.

- xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
8. This issues with approval of the Competent Authority.



(Dr. Vinod K. Singh)
Scientist E

Copy to:

- 1) The Secretary, Department of Environment, No.1, Jeenis Road, Panagal Building, Ground Floor, Saidapet, Chennai-600 015, Tamil Nadu
- 2) The Addl. Principal Chief Conservator of Forests (Central), Ministry of Environment, Forests and Climate Change, 1st and IIInd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai-34, Tamil Nadu.
- 3) The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
- 4) The Member Secretary, Tamil Nadu Pollution Control Board, 76, Anna Salai, Guindy Industrial Estate, Race View Colony, Guindy, Chennai-32, Tamil Nadu.
- 5) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
- 6) Guard File/ Record File/ Notice Board.
- 7) MoEF&CC website.



(Dr. Vinod K. Singh)
Scientist E

