



V.O. CHIDAMBARANAR PORT TRUST

LAND USE PLAN FOR V.O.C. PORT TRUST

FINAL REPORT

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COMPREHENSIVE LAND USE PLAN FOR VOC PORT

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1.0 INTRODUCTION

VO Chidambaranar Port is located on the South Eastern Coast of India bordering the Gulf of Mannar and managed by VO Chidambaranar Port Trust (VOCPT). The Port is a modern all-weather port situated at Tuticorin, (Tamilnadu State in South India) located 550 km south of Chennai and 125 km north of Cape Camorin, , on the East Coast of India, 129 nautical miles from the international mainline shipping route, connecting the far east with the western region. The VOC Port was declared as Major Port in 1974, the Port Trust Board was set up under the Major Port Trust Act, 1963. Since then, VOCPT has been functioning as the 10th Major Port and has fallen in line with other Major Port Trusts functioning in the country.

The National Highway NH-45B passes just outside the port connecting Madurai and runs through Bangalore up to Uttar Pradesh. Also, NH-7A connecting Thirunelveli is directly connected with VOC Port. The Port is served by a Broad Gauge Railway line and is well connected with Southern portion of country through Madurai, Trichy, Chennai and Bangalore. The Tuticorin airport is just 20 km from the Port.

Location:

Latitude: 8^o45' N
Longitude: 78^o13' E

Port Land Bank:

VOC Port has a land bank of 3270.42 acres, details of the same is as provided below:

Harbor Estate Zone A	-	2,507.03 Acres
Harbor Estate Zone B	-	373.88 Acres
Rail siding from Melavittan to Harbour Estate	-	190.14 Acres
Ambasamudram Quarry	-	35.79 Acres
Thattaparai Quarry	-	145.36 Acres
Kattalangulam Quarry	-	3.00 Acres
Opp. to Fisheries College (Adjacent to NH 7A)	-	15.22 Acres
Total	-	3,270.42 Acres

VOC Port is an artificial deep-sea harbor formed with rubble mound-type parallel breakwaters projecting into the sea for about 4 km. (The north breakwater is 4098.66 m long; the south breakwater is 3873.37 meters long and the distance between the breakwaters is 1275 m). The port was designed and executed entirely through indigenous efforts. The harbor basin extends to about 400 hectares of protected water area and is served by an approach channel of 2400 meters length and 183 meters width.

Due to its strategic location in the southern peninsula and assured round-the-clock operations, the port has been the nerve centre of economic activity in south Tamil Nadu. The port handled the traffic of 33.59 MT in the year 2014-15.

The new land allotment guidelines-2014 envisaged that every major port shall have a land use plan covering all the land owned and/or managed by the port. This plan need to be approved by the Board after due consultations with the stake holders. In view of these developments, it becomes imperative for the Port to update the land use plan in line with the new land allotment guidelines by Ministry of Shipping. At present, VOC Port has a land area measuring about 3,270.42 acres (including quarry lands). To harness the maximum revenue by identifying and commercially exploiting the available land, it was needed to update the existing land use plan of VOC Port Trust. In this direction, RITES submitted its proposal for preparation of land use plan for VOCPT. VOC Port Trust has commissioned RITES for preparation of comprehensive land use plan for VOCPT Vide letter no E(c)-100/03/2014/Est /D.1229; dated 5.5.2014. RITES' officials visited VOCPT and met port officials and other stake holders apart from collection of relevant data from the respective divisions of port.

1.1 Objective

The land use planning aims towards strategic land use pattern in line with the Business Plan and its implementation by the V.O. Chidambaranar Port Trust (VOCPT). The consultants will analyze the existing land use pattern of VOCPT and identify the key land use changes that are likely to take place due to projected cargo throughput as well as the implementation of ongoing/ expansion projects on the anvil. Based on this the preliminary land use plan shall be formulated. Thus the main objective of the Land Use Plan is to ensure that port has adequate land and associated infrastructure in place to meet the forecasted traffic in the coming years.

2.0 SCOPE OF SERVICES FOR LAND USE PLAN STUDY

- 1 Preparation of land use plan indicating the management's long term vision in co-ordination with VOC Port officials to identify and demarcate the land considering the future growth of the port vis-à-vis the city's growth.
- 2 To establish land use development priorities for the Port Trust, and to provide a road map for maximising the use of the land of the port and identification of area for various cargo storage and other purposes, including any additional land requirement if any, based on the traffic projections given in DPR of outer harbour project.
- 3 To review the existing water front area, developed and undeveloped land and other land area available with the port.
- 4 Assessment of land requirement and preparation of guidelines for land requirement would include:
 - i. Examining existing land use plan/ master plan/ business plan document.

- ii. Stockyards allocated to various berths and stockyard requirement for future development activities of the Port.
- iii. Parking and truck terminal requirements.
- iv. Reviewing the existing lease allocation made to various parties by the port so far.
- v. Examine the PPP projects on the anvil and the land allocation proposed for those projects.
- vi. Examine the existing utility of leased land.
- vii. Collection of statistical data from the port regarding land allocated for various parties, capacity of storage and the land value in terms of market rates.
- viii. Analysis of land requirement of the ports for port connectivity infrastructure such as rail, road, pipeline etc. based on traffic forecast and other ancillary requirements.
- ix. Meet important stake holders to obtain their views.
- x. Suggestions on changes if any required on the current utilisation plan.
- xi. Preparation of detailed land use plan covering the above aspects to enable the port for effective utilization of land under its control.

3.0 APPROACH AND METHODOLOGY

VOC Port Trust handled about 32.41 MT in year 2014-15. The traffic projection made for the next five years are discussed with Traffic Department. Based on the projections, area required for storage of various commodities are worked out and planned accordingly. Further, based on the DPR prepared for Outer Harbor Project, the traffic projection is 338.3 MT by the year 2043. To handle the above projected traffic levels, various modernization and capacity addition projects are being taken up by the port authorities. RITES obtained required data from VOCPT and analyzed the area presently utilized by various parties and their contribution to the port in terms of traffic. The collected data was also scrutinized in terms of utility of the land by the existing lease holder.

Considering the upcoming / proposed development projects and their direct impact on the land area requirements, RITES collected all the requisite data on exports and imports of cargo, details on cargo composition handled through VOCPT in the recent past and proposed handling capacities on the upcoming berths for planning the land use pattern. Based on the through put details obtained on major commodities the categorization of the stack area was demarcated.

Since the requirement of land for storage of cargo is of prime concern, detailed calculations were carried out for basic land area requirement for storage of various cargoes viz., Coal, Containers, POL, Sand, Fertilizers, Food grains, open storage, closed storages / warehouses etc. Due weightage is given for future expansion of port/ additional berths in the area calculations. The stakeholders were consulted before finalizing the report and their views considered while framing the land use plan within the purview of present land use policy guidelines of 2014.

4.0 LAND USE PLAN FOR VOCPT

It is needless to state that planning of land use in ports is a continuous process, and its neglect leads to serious consequences for ports. Available land within the port boundary being a scarce commodity, it is essential to have proper planning, management and redevelopment of the same on a periodical manner, considering the present and proposed future developments.

The current trend in the shipping industry is towards operating largest possible vessel with least turnaround time, has greatly increased the pressure on ports. The faster handling rate requires a large transit area adjoining quays to provide a buffer between the capacity of land transport and quayside handling rates. Further adequate area needs to be allocated for other activities in ports like port related industry, servicing for ships and cargo and large fleets of trucks plying in and out of port.

In line with Land Policy Guidelines for Major Ports-2014, the land use plan for VOCPT is prepared considering the present and projected traffic flow, existing land use pattern, long term lease given to various port users and the vacant land available etc.

The details of existing land bank available with VOC Port are as follows:

(Area in acres)

Sl. No.	Purpose	Patta Land	Revenue Poramboke	Port Trust land	Central Govt. Salt Dept. Land	Military Rifle Poramboke	Already Reclaimed Land	Total area in acres
1	Harbour Estate	609.91	102.50	1665.38	20.55	-	482.57	2,880.91
2	Railway siding from Milavittan R.S. to Harbour Estate	129.22	15.81	-	34.07	11.04	-	190.14
3	Amabasamudram Quarry	35.79	-	-	-	-	-	35.79
4	Thattaparai Quarry	144.48	0.88	-	-	-	-	145.36
5	Kattalangulam Quarry	3.00	-	-	-	-	-	3.00
6	Land opposite to Fisheries College, adjacent to NH-7A	15.22	-	-	-	-	-	15.22
TOTAL:							3,270.42 Acres	

(The above data is updated with reclaimed land and presented in subsequent chapters.)

Earlier, VOC Port had about 191.41 acres of land in Ambai Quarry, comprising about 62.50 acre of Patta land and 128.91 acres of Revenue poramboke. Out of this 22.50 acres of land is disposed to various parties, apart from 1.672 acres allotted to Ambai Panchayat for roads and 2.54 acres of land to Fire service Dept. of Govt. of Tamilnadu. Thus the balance area available at Ambai quarry is 35.79 acres.

The key points of Land Policy Guideline -2014 are briefly stated as below:

4.1 Land Policy

The salient features of land policy-2014 issued by Ministry of Shipping are as given below:

Land can be allotted either on licence or lease basis as per the approved Land use Plan/Zoning.

Cl. 15. Custom bond area:

15.1. Fresh allotment of land:

- a) The land inside custom bond area, which is required on an immediate basis, shall be given on licence basis only and no lease may be permitted. Wherever feasible, such licence shall be issued only by inviting competitive tenders. The guidelines laying down the detailed procedure in this regard shall be framed and approved by the Board of the Port. The licence maybe granted up to a maximum period of 11 months and shall be at the bid value discovered through the tender-cum-auction, wherever feasible and would be approved by the Board. In cases, where the tender- cum-auction is not possible, land can be allocated on licence basis at the latest market value which would be the value notified under Para-18 (c). However, allotment of land by not resorting to tender-cum-auction methodology should be exercised as an exception.
- b) The Port may also allot land inside the Custom bond area for activities vital to Port operations or for those which clearly aid Port activities and sea trade, such as, setting up of duty free shop, communication centres, parking facilities, passenger facilities like shopping centres, cyber cafes, health clubs etc. and security related activities. The tenure of license for such land will be decided by the respective Port Trust Boards and such tenure shall not exceed 5 years. All such proposals should, however, have the necessary statutory and/or administrative approvals. Land is to be allotted through tender-cum-auction methodology through a competitive bidding process over the reserve price of such plots which shall be worked out by the Land Allotment Committee of the Port and approved by the Port Trust Board. Land can also be allotted on nomination basis to CPSUs/SPSUs for activities that are vital to Port operations or which clearly aid port activities at the latest market value which would be the value notified under Para-18 (c).

Clause 15.2. Renewal of existing land leases:

Even though it would be ideal that land inside custom bond area is allotted on licence basis only, it is observed that some major Ports have allotted land on long term lease basis inside the custom bond area before the land policy guidelines issued in the year 2004 came into force and original lessees have created permanent structures on the land. The procedure outlined in Para 16.3 will also be adopted for renewal of lease of such lands inside the custom bond area.

Clause: 16. Outside Custom bond area:

16.1 Licence of land:

Normally, land outside custom bond area shall be given on lease basis only. However, in specific cases, for reasons to be recorded in writing, land can be given on licence basis only for Port related activities. Licence of land outside custom bond area will also be governed by the same methodology and conditions as are applicable in case of land inside custom bond area, as spelt out in Para 15 above.

16.2. Fresh Leases:

- (a) Land should be leased only in accordance with the land use plan.
- (b) Land can be leased up to a maximum cumulative period of 30 years by the Port with the approval of the Board. Renewal of leases beyond thirty years and for a maximum cumulative period of 99 years should be recommended by the Port Trust Board after satisfying itself that the same is required to be renewed and that the Port does not require the said land for its own use. Renewals will be granted through the Empowered Committee mechanism subject to the approval of the Government and renewals will be limited to a maximum cumulative period of 99 years.
- (c) In certain cases the lessee may require land for capital intensive investment like tank-farms, refineries etc. The Port, may at its option decide to fix the tenure of lease for a period which is more than 30 years. Such proposals are to be submitted with the recommendations of the Board to the Empowered Committee for its approval. The Port in its land-use plan should identify land which can be allotted on long-term lease basis, i.e. for tenure of 30 years and beyond.
- (d) Land shall be leased through tender -cum -auction methodology through a competitive bidding process over the reserve price of such plots which shall be worked out by the Land Allotment Committee of the Port and approved by the Port Trust Board and by TAMP. At the tender -cum -auction stage, depending upon its financial requirement, the Port may decide to invite bids either on- (i) Upfront basis, where the bidding parameter is the one-time upfront payment offered by the bidder for the lease period and a nominal lease rent of Rs. One per square metre to be collected every year for the currency of lease period, or; (ii) Premium basis, quoted by the bidder over and above the Reserve Price in terms of the annual lease rent, calculated as per the provisions of Para-18(b). While leasing out land on upfront basis, the Board shall fix the Reserve Price which would be the NPV of the sum total of annual lease rentals calculated as per Para 18(b), escalated annually at the rate approved by the Board as indicated in Para 18(c). The discount factor would be the longest term G - secrete as per the latest RBI Bulletin. In both cases, the Port shall keep equivalent of two years rentals as security deposit.
- (e) A Land Allotment Committee shall be constituted by the Port Trust Board consisting of Deputy Chairman of the Port, and Heads of Departments of Finance, Estate and Traffic. The Land Allotment Committee will finalise the Reserve Price as per the methodology explained above and in Para 18(b).
- (f) In respect of PPP projects, the annual lease rent based on updated/latest market value with the approved rate of annual escalation would be indicated to the bidder sat the bidding

stage itself. With respect to land allotted for captive facilities, the lease rentals for the land allotted shall be recovered from the user as per the annual lease rental based on market value notified as per Para-18(c), with the approved rate of annual escalation. The lease rental, as well as the rate of annual escalation would be approved by the Port Trust Board.

- (g) For Government schools and colleges, land can be allotted by the Port Trusts on nomination basis provided allotment is in the interest of the Port Trusts. The land allotted to such entities to be used exclusively for the purpose for which it has been allotted and under no circumstances, the usage can be changed. In case the leased land is not used for the purpose it is granted, the lease to be terminated and the land so allotted to be resumed by the Port. No transfer/sub-letting of such lease will be permitted. Concession up to 75% on the annual lease rent arrived at on the basis of updated/latest market value maybe granted to government schools and colleges.
- (h) Land can also be allotted on nomination basis to Government Departments, Statutory Local Bodies, Statutory Authorities/Autonomous Organisations under State/ Central Ministries, Central Public Sector Undertakings (CPSUs), State Public Sector Undertakings (SPSUs) and security agencies like State Police, CISF, Coast Guard and Navy, subject to the availability of land and on the basis of updated/latest market value notified in accordance with Para 18(c). In cases where any CPSU/SPSU/Statutory Authority enters into Joint Ventures (JV) with private party/parties and the said CPSU/SPSU/Statutory Authority is the lead promoter and has the largest share-holding in the said JV, Port Trust Board may decide to allot land to them also on nomination basis with the approval of the Port Trust Board after incorporating appropriate safeguards. Concession may be granted to security agencies and Government Departments only up to 50% of the annual lease rent. However, in respect of land to be allotted to government departments which are essential to the functioning of the Port like customs, electricity department, and health department and for core security functions, concession up to 75% of the annual lease rental can be considered by the port. But such concession can be given for only small extent of land required for core operational purposes imperative for Port functioning and not otherwise. The issue of granting concession and the quantum may be decided on a case to case basis by the Port Trust Board, after recording the reasons in writing.
- (i) When entering into a joint venture for improving Port connectivity or Port development with any public authority, land required for such projects, valued at its updated/latest market value may constitute the equity of the Port in such joint ventures.
- (j) The Port Trusts should not entertain any proposal for allotment of land to religious institutions or for religious purposes or to political institutions.

16.3. Renewal of Existing Leases:

- (a) In cases of renewal of existing leases with or without renewal option, the Port should verify if the land is required for its own use. If it is so required, the Port shall take possession of the land on expiry of lease.
- (b) If the land is not required by the Port for its own use, the Port should then check whether the land use is consistent with the land use plan and whether the lessees are not in default.

Thereafter, if it is so, the following procedure will be adopted for renewal of lease of land outside the custom bond area.

- (c) During the process of renewal of existing leases, the Port is required to differentiate between those lease agreements that stipulate automatic renewal and those that do not provide for such automatic renewal at the end of the lease-period. In cases of renewal of existing leases, without automatic renewal option at the end of the lease-term, the land will be put to tender-cum-auction with the first right of refusal to be extended to the existing lessee. The existing lessee should be allowed to match the H-1 bid. If any structure has been constructed by the earlier lessee on the leased land, it would be valued by a third party valuer to be agreed upon by the Port Trust and the earlier lessee and the successful bidder has to remit the value of the structures which would be passed on to the previous lessee. The bidding and auction would be only on the reserve price of the land. With a view to dissuade non-serious bids, EMD for a valid bid should be fixed at 10% of the updated/latest market value of the land being put on tender. If the only bidder is the existing lessee, the annual lease rental would be determined on the basis of the updated/latest market value notified as per Para 18(c) or the price quoted by the existing lessee in the tender-cum-auction, whichever is higher.
- (d) In respect of lease agreements with automatic renewal option, the lease can be renewed by the Port Trust Board by treating it as a fresh lease at the updated/latest market value, notified as per Para 18(c).
- (e) No renewal clause is to be provided in the lease agreements entered into after coming into effect of these guide lines.
- (f) Any renewal of lease to the original party over and above the existing period is to be approved by the Board, provided that the cumulative lease period does not exceed 30 years.
- (g) Any extension beyond 30 years and for a maximum period of 99 years has to be recommended by the Port Trust Board and the same will be examined and scrutinized by the Empowered Committee which would satisfy itself regarding the justification for such extension and competitiveness of the rate at which such extension is to be granted. Thereafter, approval will be granted by the Government.
- (h) After the expiry/termination of lease and despite receiving the notice thereof, or forfeiture of lease on account of change of user, assignment etc., if the lessee continues to occupy it unauthorisedly, the lessee shall be liable to pay compensation for wrongful use and occupation at three (3) times the annual lease rent based on updated/latest market value, till vacant possession is obtained by the Port. In cases of land allotted on upfront basis, the equivalent annual lease rent would be calculated on pro-rata basis.
- (i) For existing leases, at the time of expiry/termination of lease, the lessee shall remove all structures at his own cost under the following conditions:-
 - (a) Within three (3) months of expiry/termination, if Port decides not to re-auction that land; or,
 - (b) Three months after tender-cum-auction, if the existing lessee was not successful. Beyond this period, the lessee shall be liable to pay compensation for wrongful use and occupation at three (3) times the annual lease rent, till vacant possession is obtained. In cases of land allotted on upfront basis, the equivalent annual lease rent would be calculated on pro-rata basis. If the Port so decides, for reasons to be recorded and approved by the Port Trust Board, it may also take over the structures after third party valuation of the assets with the concurrence of the leaseholder. In case removal of structures is to be carried out by the Port, it would be at the cost of the lessee.

- (j) The process of renewal of existing leases should be initiated by the respective Ports well in advance, before the term of lease expires. The automatic renewal of existing leases should be preferably done within three months of receipt of such application for renewal. Liability to pay compensation for wrongful use by the lessee will not arise, if the delay in renewing such leases is wholly attributable to the Port.
- (k) In respect of old leases, where the terms of lease stipulate automatic renewal at pre-determined rates, such cases are to be reviewed by the Board on a case to case basis from the point of view of the reasonability of such terms of renewal, including the rates. In such cases, the endeavour should be to migrate to lease rentals based on latest market value.

17. General - Applicable to existing and new leases:

- (A) The lessee may be allowed to transfer the lease as per extant laws after obtaining prior approval of the Board of Trustees provided the transferee takes overall the liabilities of the original lessee/ allottee. Such transfer shall be for the remaining duration of the lease and in accordance with the Land Use Plan of the Port. Before allowing such transfer, the Port shall recover:-

(i) In case of leases granted on upfront basis

In case of those lands which were originally given on lease on upfront- rental basis, the transfer as per extant laws may be allowed subject to the transferee agreeing to pay the following:-

- (a) An undertaking for payment of the upfront rental as calculated on pro-rata basis for the balance period; and
- (b) A fee equal to 50% of the pro-rata upfront rental payable up to the time of transfer.

(ii) In case of leases granted on annual lease rent basis

In case of leases granted on annual lease rent basis transfer may be allowed subject to:-

- (a) An undertaking for payment of the annual lease rental for the balance period, and
- (b) A fee equivalent to 50% of the total lease rent payable by the original lessee up to the time of transfer.

- B. The lessee may be allowed to sublet/partially sublet the leased premises to another party for the same purpose for which it was originally allotted. Also, such subletting shall be in accordance with the Land Use Plan and before allowing this, the Port shall recover 50% of the rent charged by the lessee from the sub-lessee for the entire period of sub-lease irrespective of the fact whether land was originally allotted on upfront basis or annual rental basis. It is clarified that the original lessee would continue to remain responsible for payment of lease rent and for adherence to the terms and conditions of lease. However, in respect of leases which shall be entered into after the coming into effect of these guidelines, in cases where, the lessee is notable to utilize the entire land leased to him, the portion of the lease premises not required by him should be surrendered and no subletting shall be permitted.
- C. All proposals for transfer / subletting should be evaluated by the Land Allotment Committee and there after approved by the Board of Trustees.

- D. NOC can be granted for mortgage of leasehold land, along with the permissible structures erected by the lessee thereon in favour of reputed financial institutions/ scheduled banks, subject to the Port retaining the first charge on them. The Board of Trustees may permit the mortgage on collection of a nominal fee commensurate with the size and lease value of the land to be fixed by the Trust Board. All proposals for grant of NOC for mortgage may be duly recommended by the Land Allotment Committee and approved by the Chairman of the Port.
- E. Each lease agreement should specifically provide for termination of lease, if the leased land is not utilized for the purpose for which it is allotted, within two years of the allotment, or such shorter period as may be fixed at the time of approval of the lease. However, this period of two years can be extended by the Board maximum up to one more year from the date of physical possession of land in respect of security/government agencies only. Similarly, each lease agreement should specifically provide for surrender of lease, subject to prior notice by the lessee at least 6(six) months in advance.
- F. After the expiry/termination of lease or forfeiture of lease on account of change of user assignment, etc., if the lessee continues to occupy it unauthorized, the lessee shall be liable to pay compensation for wrongful use and occupation at three times the annual lease rent, irrespective of the fact whether land was originally allotted on up front basis or annual rent basis, till vacant possession is obtained. In cases of up front bidding, the annual lease rent would be determined on pro-rata basis
- G. If a lessee breaches/ violates any provision of Lease Agreement, the Port Trust Board would reserve the right to impose appropriate penalty on the lessee or cancel the lease depending upon the nature/magnitude of breach / violation. Such penalty may be imposed after giving a reasonable opportunity to the lessee to present his case.
- H. The Port would have the option to prescribe Minimum Guaranteed Traffic/ Minimum Guaranteed Revenue as conditions for fresh leases, if deemed fit.
- I. Licence fee for water area would be 50% of licence fee of abutting land.
- J. The Port Trust Board shall have the right to resume possession of the leased land in public interest before expiry of lease period. In such cases, subject to availability of land, the lessee may at the discretion of the Port Trust Board be given an option to relocate activities in another suitable location to be offered by the Port, as per the land use plan.
- K. The Port Trust Board shall fix objective eligibility criteria for qualification of bidders, such as net-worth, tax certifications and non-pendency of mutually admitted Port dues.
- L. In respect of land situated adjoining to Defence Installations as defined in Works of Defence Act, 1903, prior concurrence of the Local Defence Authority will be required.
- M. Transfer of lease should not be permitted where land has initially been allotted on nomination basis or at concessional rates of lease rent.
- N. In respect of a case where the transferor extracts premium on the transfer of the lease, 50% of such premium is to be paid to the Port Trust.

4.2 Key Objectives

The main objectives of the Policy are:-

- a) To ensure that land resources are put to optimise as per the approved Land Use Plan with focus on retaining /attracting port traffic;
- b) To ensure that optimum value is realized by licensing /leasing Port land through a transparent tender-cum-auction methodology.
- c) The policy prescribes the procedure for revision of rates to enable maximum resource generation for the Ports and the methodology for regular updating of the rates in line with the market value
- d) The policy also recognizes the need for special dispensation for cases relating to educational and security purposes.

5.0 ADVANTAGES OF VOC PORT FOR COMMERCIAL USE

The port facilities provided are to face the growing challenges and emerging needs of the 21st century. The Port is well equipped to handle bulk, liquid chemicals, hazardous cargoes, crude and POL products, heavy lifts, machinery, containers.

1. Strategically located very close to East-West International Sea Route
2. Well connected to broad gauge rail & road with all major cities and all ICDs
3. Hassle-free single-window clearance and simplified documentation system
4. Congestion-free transit sheds/overflow sheds. Open area for stacking cargo in and outside the wharf area.
5. Direct delivery from hook point for bulk cargoes.
6. Unique system of delivery of import cargo by trucks at the hook point
7. Container Freight Station in close vicinity of the Port.
8. Special facilities to handle hazardous cargoes and LPG,
9. Abundant open area to stack coal, granite stones, wooden logs, etc.
10. Draft up to 12.8 m to handle liquid bulk & general cargo
11. Container yards secured with barbed wire fencing and adequate high mast lighting to prevent theft and pilferage
12. Concessional ship related charges,
13. Ideal Port to handle project cargo for mega industries,
14. Round the clock pilotage, land and marine security.
15. Adequate covered and open storage
16. Open lands in the Port area suited for locating port based industries

6.0 FACILITIES AVAILABLE WITHIN PORT

6.1 Available Berthing Facilities

The following table gives the existing berthing facilities available at the port presently.

Available Berthing Facilities

Sl No.	Name of Berth	Type of Berth	Draught (In m)	Length of Berth (In m)	DWT (In Metric tonnes)
1	Berth No.1	Break bulk	9.30	168	25000
2	Berth No.2	Break Bulk	9.30	168	40000
3	Berth No.3	Break Bulk/ Dry Bulk	10.7	192	50000
4	Berth No.4	Break Bulk/ Dry Bulk	10.80	192	50000
5	Berth No.5	Break Bulk	8.60	168	40000
6	Berth No.6	Break Bulk	9.30	168	40000
7	Berth No.7	Container	10.90	370	50000
8	Berth No.8	Break Bulk/ Dry Bulk	12.80	345	65000
9	Berth No.9	Break Bulk/ Dry Bulk	12.80	334.5	75000
10	Shallow Berth	Passenger	5.85	140	5000
11	Oil Jetty	Liquid bulk	12.80	228	65000
12	Coal Jetty-I	Coal (Captive)	12.80	225	50000
13	Coal Jetty-II	Coal (Captive)	12.80	225	60000
The present total capacity of the Port is 45.52 Million tonnes.					

6.2 Available Cargo Handling Equipment

Sl. No.	Description of Equipment	Capacity	Nos
1	ELL Electric Wharf Crane at berth 3 and 4	20T min. radius 9 m Max. radius 32 m	3
2	ELL Electric Wharf Crane at berth 1 and 2	6T capacity; 23 m out reach	2
3	Hopper and conveyor at coal jetty 1 and 2	Hopper- 100 Tonnes Conveyor-2000TPH	14 Nos. (7+7)
4	Floating Crane	6T	1
5	Top Lift Truck	40T/ 35 CH	1

Other equipment like (i) 3 Nos. ship to shore cranes having capacity of 40T/ up to 45 transshipments per hour (ii) 8 Nos. rubber tired gantry cranes (1 over 4) and 84 refer points storage of refer containers are available at the port. In addition to the above the port has its own loco (Diesel) of 1500 T capacity. The oil jetty is provided with marine unloading arms with seven different unloading pipelines for unloading (i) Naptha, (ii) LPG (iii) Ammonia (iv) furnace oil (v) Diesel and (vi) VCM to facilitate transferring the same to the respective tank farm sites. (Two lines exist for Naptha and hence seven pipelines).

6.3 Storage Facilities

Since Tuticorin Port is majorly built on breakwaters, Port is not endowed with enough back up area. This is a problem, particularly for handling bulk cargo. The bulk storage area is located at about 3kms from the wharf area. Hence, enough number of tippers needs to be engaged to evacuate the cargo from the wharf, which leads to other consequences like increase in the traffic inside the Port, higher stevedoring charges etc. The storage capacity at the wharf area is as follows:

STORAGE AREAS AT THE WHARF OF VOC PORT

Berth / Wharf	Type of storage	Storage area
VOC I	Transit sheds	10,800 m ²
VOC II		
VOC III	Open storage	42,000 m ²
VOC IV		
Additional berth I	Open storage	60,000 m ²
Additional berth II		
Container terminal	Open storage	10 hectare
8 th berth	Open storage	5 hectare

(Source: Business Plan of VOCPT)

Within the green gate area, (port harbour boundary) there are expansion possibilities next to the warehouses and bulk storage areas, where an area of about 32 hectares has been reclaimed. Outside the green gate about 200 hectares has been reclaimed from the sea for future use.

6.3.1 Open area for cargo stacking facilities:

Open space for stacking bulk cargo and containers is available inside the security wall to the extent of 5,53,000 sq m (55.30 hectares). The open areas can accommodate around 30,000 tonnes of bulk cargo either for import or export and 2500 containers. In addition to containers, the open area inside the wharf is used for temporary stacking of bulk cargo such as coal and sulphur. V.O. Chidambaranar Port is having a vast open land of about 2,158 acres (873 hectares) outside the main gate.

Cargo godowns with a capacity of stacking 36,000 Tonnes have been put up in this area by Tamil Nadu Warehousing Corporation. The Port has also permitted a number of other agencies to put up godowns and warehouses in order to augment the import and export trade through the Port. Open lands are also used for stacking of timber imported through the port as well as granite for export.

CARGO STORAGE FACILITIES AT VOC PORT

Type	No.	Location	Dry storage area (Sq m)	Liquid storage capacity	Type of cargo	Container storage
A. OWNED BY PORT						
Covered area						
1. Transit shed	3	Inside	22,070			
2. Ware- Houses	4	Inside	20,550			
3. Other covered area	2		1,472			
Open Area						
1. General Cargo	2		5,68,700			
2. Container						54,000 TEUs
B. OWNED BY PRIVATE PARTIES ON PORT LEASED LAND						
1. Warehouses	14	Outside	4,23,000			
2. Warehouses	2	Outside	36,000			
3. Container freight station	1	Outside				5000 sqm
4. Tank	3	Inside	15,000 m ³		Phosphoric acid	SPIC
5. Tank	1	Outside		13,700 KI	Naptha	
6. Tank	1	Outside		13,800 KI	Naptha	
7. Tank	1	Outside		14,100 KI	Naptha	
8. Tank	3	Outside		25,500 KI	Furnace oil	
9. Tank	3	Outside		2,220 KI	LDO	
10. Tank	3	Outside		23,700	FOR-2; HSD-1	
11. Tank	3	Outside		7,800 KI	Petrol	
12. Tank	3	Outside		17,100 KI	FOR-2; HSD-1	
13. Tank	2	Outside		1100 KI	Ethynol	
14. Tank	2 main + 1 slop tank	Outside		12277KI + 2315 kl slop tank capacity	EDC	
15. Tank	1	Outside		8500 MT	LPG	
16. Tank	10	Outside		2,000 m ³	VCM	DCW
17. Tank	1	Outside		5,000 m ³	VCM	DCW
18. Tank	1	Outside	10,000 MT		Ammonia	Greenstar fertilizers

(Source: Tuticorin Port Trust & Basic Port Statistics of India, Transport Research Wing, Ministry of Shipping and data collected from Individual tank farms by RITES Team)

6.4 Existing land use pattern

The Tuticorin Port area is divided into two zones: Zone-A and Zone-B. Zone-B includes the Tuticorin old Port area and related facilities. This is located at the eastern end of the city and it forms an integral part of the city. Zone-A includes the new Port area and its facilities. This is located at about 8 km away from the Port towards the southern side.

Land Bank of VOC Port

Present land bank of VOC port in zone A and Zone B is 2507.03 acre and 373.88 acre respectively. s 1292.8 acre & 27.18 acre of reclaimed area of zone A and Zone B respectively has been identified for future port uses. Detail of which is tabulated below:

Existing Land Bank and Reclaimed Land Bank of Zone A and Zone B

Sl No	Description	Zone A			Zone B			Total Land Area Zone A & B	Zone A
		Existing Land	Reclaimed Land	Total Land Area	Existing Land	Part Reclaimed Land	Total Land Area		Proposed Reclaimed Land
1	Coal Storage Area	67.08	259.49	326.57			0.00	326.57	
2	Container Yard	17.12	20.51	37.63			0.00	37.63	196.10
3	Warehouses/ Covered Storage	28.55	0.00	28.55			0.00	28.55	
4	Break Bulk Storage/Open Storage	24.71	42.81	67.52			0.00	67.52	
5	POL / Liquid Bulk	41.05	12.29	53.34			0.00	53.34	
6	Fertilizer/ Covered Storage	0.00	25.00	25.00			0.00	25.00	
7	Power Plants	244.10	0.00	244.10			0.00	244.10	
8	Port user Industry	50.15	0.00	50.15	17.68		17.68	67.83	
9	Port User Complex and Utilities	42.13	4.20	46.33	13.51		13.51	59.84	
10	Trucks Parking Area	12.10	20.75	32.85			0.00	32.85	
11	SEZ	78.20	0.00	78.20			0.00	78.20	
12	Salt Pan Land	0.00	0.00	0.00	106.35		106.35	106.35	
13	Residential/ Market	314.12	0.00	314.12	0.67		0.67	314.79	
14	Dry Dock Yard	0.00	36.13	36.13		11.00	11.00	47.13	
15	Green Belt	12.78	20.69	33.47	7.02		7.02	40.49	
16	Rail Area	23.71	25.50	49.21			0.00	49.21	
17	Road Area	52.60	55.81	108.41	6.07		6.07	114.48	
18	Trucks Parking near Fisheries College	6.16	0.00	6.16				6.16	
	Total area in Hectares	1014.56	523.18	1537.74	151.30	11.00	162.30	1700.04	196.10
	Total area in Acres	2507.03	1292.80	3799.83	373.88	27.18	401.06	4200.89	484.57

Extent of land area: The total land area under the Tuticorin Port and their usage is as given in Table below. The area is calculated based on the map provided by VOCPT and by digitizing the same.

Present land Usage Pattern of VOC Port

SI No	Description	Zone A	Zone B	Total
1	Coal Storage Area	102.05		102.05
2	Container Yard	59.21		59.21
3	Warehouses/Covered Storage for Tamilnadu Warehousing Corpn etc.	24.51		24.51
4	Break Bulk Storage/Open Storage	30.64		30.64
5	POL / Liquid Bulk (IOCL)	49.57		49.57
6	Fertiliser/ Covered Storage for Rashtriya Chemical (RCF), Indian Potash Limited (IPL), KRIBHCO	11.84		11.84
7	Power Plants (TTPS and NTPL)	603.18		603.18
8	Port user Industry (SPIC, TACF and SEPC)	123.92		123.92
9	Port User Complex and Utilities (World Trade Avenue, Navy, Coast Guard, Custom Department, etc.	25.01	17.62	42.63
10	Trucks Parking Area	9.64		9.64
11	SEZ	0		0
12	Salt Pan Land (TSMC Land)		262.80	262.80
13	Port Quarters (Residential/ School/ Bank/ Commercial Places and Religious Places/ Institution and TTPS and NTPL Quarters etc.	476.30	1.66	477.96
14	Dry Dock Yard	0	0	0
15	Green Belt	9.88	17.35	27.23
16	Rail Area	58.59	0	58.59
17	Road Area	129.98	15.00	144.98
18	Short Term Lease	12.20	0	12.20
	Total area in Acres	1726.53	314.41	2040.94

Zone - A is connected to hinterland by means of an approach road and a broad gauge railway line. Entire Port facilities are structured along either side of this road and railway line. Along the approach road, container storage yard, shipping trade offices, timber storage yard, etc. are located. Tuticorin Thermal power station (TTPS), NLC Power plant, warehouses belonging to IPL and Tamil Nadu Warehousing Corporation (TWC) and IOCL tank farm are located on either side of the railway line.

SPIC is located at the south-western side of the Port. Tuticorin Alkali Chemicals and Fertilizers (TAC) are located adjacent to SPIC. A railway line extends from the Port marshalling yard to SPIC along the Korampallam surplus course.

TTPS and TAC are located inside the Port area. Apart from these two captive industries, the other power companies namely NLC-TNPL Power plant and SEPC (P) Ltd., is setting up their power plants in the land leased to them by VOC Port. Further, land is leased to SEPC (P) Ltd. for setting up of their power plant and stack yard. The details of long term and short term leases in zone A & B is placed in Annexure A, Annexure B and Annexure C. Layout showing land allotted on long term lease basis to different parties are given in the drawing below.

6.5 HARE ISLAND

The Hare Island is located at the northern side of the harbour area. It occupies about 50.80 hectares of land. This area is being allotted to the PPP developers of NCB-II, III and IV berths respectively. Port is planning to dump the fly ash from the proposed NLC power plant in the northern side of the northern breakwater and extend the coastal zone. This is expected to release additional land for future development.

6.6 RESIDENTIAL AREA

Residential area has been developed in the western side of the harbour area along the beach road. Present residential area is spread over an area of about 68 hectares. Other facilities like hospitals, schools, playground, religious institutions and some shopping area has been developed in this area. Next to the residential area of the Port employees, township for TTPS employees has been developed along the beach road. Area for NLC TNEB power plant staff quarters is adjacent to the TTPS staff quarters. The existing residential area for the Port accommodates about 1,206 employees. Predominant wind directions in Tuticorin are from two directions- from West and North East directions. The residential areas are located at the western side of the harbour and hence will not get affected by the dust particles from the Port operations.

6.7 RECLAIMED AREA IN ZONE A AND ZONE B

The existing Zone A and Zone B of VOC Port clearly demarcate the land area as Zone B is in the city and its peripheral area, having high commercial value and the Zone A land is around the port. The reclaimed area is the unsurveyed land. The water body land, swampy land and reclaimed land are the unsurveyed land. Around 523 hectares land in zone A and 11 hectares land in zone B (identified for reclamation and partly reclaimed) are unsurveyed land. The proposal for land usage in the reclaimed area in Zone-A and Zone B is as follows:

6.7.1 Zone A

About 523 ha (1292.8 acre) of land has been identified for reclamation. Out of which about 45.81 ha (113.2 acre) has already been reclaimed in the harbour area which is identified as 1C, 2B, 2C and 4F in the drawing. About 11.3 ha (shown as 1C in the drawing) is proposed to continue the present usage i.e., stacking of coal. Area identified as 2B & 2C in the drawing having areas of 10.11 ha & 10.40 ha respectively have been proposed for container stackyard. About 14 ha of land (shown as 4F in the drawing) is proposed for stacking of bulk cargo.

Currently, fly ash from TTPS is being dumped into the northern side of the plant in the area identified for reclamation. About 477.4 hectares of sea area (1179.6 acre) have been identified for fly ash reclamation. Nearly 45% of the identified area has already been reclaimed to more than 7m from the ground level. As small scale fishing activities are going on in this area, there

are problems in filling the rest of the area. However, this portion is expected to be reclaimed in the near future.

- The reclaimed area can be used as a storage yard for bulk cargo, coal and fertilizer with further stabilization of the soil.
- Dry dock facilities for ship repair can be created in the area identified for the purpose.
- A six lane road connecting all around this area is planned as indicated in the drawing which will be connecting the link road and beyond, up to Beach road, so as to make the evacuation of cargo as well as free movement of port users, thereby de-congesting the main port connectivity road.

6.7.2 Zone B

About 11 ha (in 27.18 acre and shown as 14B in the drawing) of land in zone B has been identified for reclamation. This land is already partly reclaimed. This area can be utilised as dry dock area for repairing of fishery boats.

6.8 APPROACHES TO THE PORT

The harbour area is connected to the mainland by means of a four lane approach road laid on the break waters and another approach road from the Port gate to the National Highways. The approach road to the Port handles on an average about 3000 trucks in a day including both outstation trucks and the tippers shuttling between the captive industries and the Port.

Port Marshalling yard is located behind the Tamil Nadu warehouse building. Currently, this yard has about 5 sidings. Cargo like fertilizers and food grains are currently being loaded from the marshalling yard. A single line broad gauge link connects the marshalling yard to the harbour area. Industrial Coal for TNPL is currently being directly loaded from the wharf area to the rail and dispatched to the hinterland. The proposal for road connectivity to the port is as follows:

- It is proposed that Road from beach junction to junction of NTP Ltd road be converted from 4 lane to 8 lane with a new four lane Road Bridge (across Korampallam surplus course) and a fly over to facilitate rail alignment passing across this road. (Rail under bridge)
- An approach from proposed reclaimed land towards Beach Road is proposed for speedy evacuation as well as better alternative connectivity.
- Apart from this, in case Outer Harbour is conceived, a separate road connectivity for the outer harbour through the shore and further through the coast guard offices leading to TAC junction is proposed, thereby to avoid decongestion of port artillery road.

6.9 TSMC AREA

An area of 106.35 Ha is leased on long term basis to TSMC in the year 1993 and the lease period ended on 7.7.2013. It is being extended on year on year basis. The legal opinion obtained by

Port states that “As per wet land Rules, the salt lands cannot be converted for non-salt use and hence the ownership rights of the port will not confer the land for any other use other than salt production”.

As per MoEF Notification dated Nov-2010, ‘No wet land shall be converted to non-wet land use unless the Central Govt. is satisfied on the recommendations of the Authority that it is expedient in the public interest and reasons justifying the decision are recorded.’”

At this juncture, it is proposed to take back this area into the fold from TSMC and allot the land through fresh tender-cum-auction basis for the same usage it is being used unless VOCPT gets permission for non-salt uses. This area should be taken into the fold of VOCPT’s use over a period of time.

6.9.1 SEZ Land area requirements:

Govt. of India, Ministry of Commerce and Industry vide Amendment dated 13.9.13, specified a minimum land area requirement for setting up a sector specific SEZ as 50 Ha. (Which was earlier 100 Ha.). This is aimed at optimum utilization of land area. Even agro based SEZ a new sector ‘agro-based food processing’ sector would require only 10 Ha of minimum land requirement.

For setting up of IT / ITES SEZs, minimum land area is not specified; however, minimum built up area of 25,000 sqm is specified for cities like Tuticorin.

As already VOC Port is in the process of conducting feasibility study through specialized agency, these aspects shall be dealt in detail by the specialized agency. An area of about 78.2 ha has been identified (shown as 11A & 11B in the drawing) in the south-western side of the port land adjacent to the market/residential area.

6.10 VACANT AREA IN ZONE B

1. Presently a plot measuring 5 Ha (Shown as 9D in the drawing) is vacant near the Commercial Tax office. It is suggested that a multi storied commercial office complex can be constructed, which will earn revenue to the port in the long term. Offices of PSUs like BPCL, IOC, etc. can be accommodated on long term lease basis. It helps not only creating an asset to the port, but also acts as a constant revenue generator on a long term basis.
2. Another plot of 1.38 Ha (Shown as 9E in the drawing) is lying vacant opposite to PWD Circuit house. A hospitality centre/ star hotel can be considered on a PPP model on this land, as it is very nearer to the city.
3. The partly reclaimed land in the vicinity of coal wharf can be utilized for the dry docking of small vessels by fully reclaiming the land. The area available is 11.00 Ha (Shown as 14B in the drawing).

7.0 PLANNED LAND USE PATTERN BASED ON PROJECTED TRAFFIC AND CARGO COMPOSITION

RITES has collected the traffic projection till 2042-43 from VOC Port. Based on the data made available, area requirement for handling different types of cargo has been calculated. The traffic projection as collected is placed below:

Traffic Projection for VOC Port (With Only Inner Harbour)

(In Million Tonnes)

Sl No.	Cargo	2018-19	2023-24	2029-30	2035-36	2042-43
1.0	Coal	24.0	24.0	24.0	24.0	24.0
2.0	POL/Liquid	0.50	0.70	1.40	1.70	2.00
	Container (MTEUs) (domestic)	1.0	1.0	1.0	1.0	1.0
	Transshipment (MTEU)	0	0	0	0	0
3.0	Container (MT)	15	15	15	15	15
4.0	Fertilizers/FRM	4.02	6.09	6.63	6.84	7.08
5.0	Other cargo	9.38	14.21	15.47	15.96	16.52
	TOTAL	52.9	60.0	62.5	63.5	64.6

Traffic Projection for VOC Port (Only through Proposed Outer Harbour)

(In Million Tonnes)

Sl No.	Cargo	2018-19	2023-24	2029-30	2035-36	2042-43
1.0	Coal	0.4	15.3	35	55.1	66.8
2.0	POL/Liquid	0	0	0.1	0.3	1.7
	Container (MTEUs) (domestic)	0.2	0.7	1.4	2.1	2.8
	Transshipment (MTEU)	0.5	1.19	2.17	3.54	7.42
3.0	Container (Million Tonnes)	10.5	28.35	53.55	84.6	153.3
	TOTAL	10.9	43.65	88.65	140	221.8

Traffic Projection for VOC Port (Inner Harbour and proposed Outer Harbour)

(In Million Tonnes)

Sl No.	Cargo	2018-19	2023-24	2029-30	2035-36	2042-43
1.0	Coal	24.4	39.3	59	79.1	90.8
2.0	POL/Liquid	0.5	0.7	1.5	2	3.7
	Container (MTEUs) (domestic)	1.2	1.7	2.4	3.1	3.8
	Transshipment (MTEU)	0.5	1.19	2.17	3.54	7.42
3.0	Container (MT)	25.5	43.35	68.55	95.1	168.3
4.0	Fertilizers/FRM	4.02	6.09	6.63	6.84	7.08
5.0	Other cargo	9.38	14.21	15.47	15.96	16.52
	TOTAL	63.8	103.65	151.15	199	286.4

7.1 PLANNING OF LAND ALLOTMENT:

According to UNCTAD monograph on planning land use in port areas, the amount of space needed will vary according to the type of cargo handled and its stacking characteristics, but it is important in planning to allow space for the most demanding cargo likely to be handled. Further, while assessing the space for cargo storage in the transit area, following factors are required to be considered:

- (i) Storage factor or bulk/weight ratio of the cargo
- (ii) The bearing strength of storage site surface
- (iii) Height of stacking, angle of repose or strength of packing cases, or the diameter and heights of storage tanks
- (iv) Type of appliances used for transport between quay and storage area and their requirements in width of access lanes and turning circles
- (v) Amount of space needed for sorting cargo before stacking and for handling breakages
- (vi) Safety factors such as spacing between piles, bunds around tank farms and anti-pollution measures.
- (vii) Land required for parking of land vehicles.

Apart from the above, area derived should be based on worst case scenario or most demanding case. In assessing additional strip of land that might be needed in the future outside the initial cargo operation area, certain possibilities must be taken into account. These will suggest the size of extra zone that should be protected from long-term development in case it is needed for cargo.

7.1.1. Land use categories in Port zones:

- 1) Operating areas
- 2) Cargo storage: Both Long term and Short term:
 - Liquid - Tanks;
 - Dry- Covered- Shed;
 - Uncovered- Hopper /Open storage
- 3) Portside Industry: Conveyors served, Pipelines served, Road and Rail served, etc.
- 4) Communications: Rail/Road/Marshaling yard, truck parking areas
- 5) Commercial: Supplies, ware houses on long term storage, Bond, Agency, Insurance, Offices for customs, port operators and users
- 6) Land for port-related industry:
 - a) Primary manufacture like Oil & Petrochemicals, steel, chemicals, grain, timber & saw milling
 - b) Service Industry and selected secondary industry like plant & Machinery, Transport, car manufacture etc.

7.2 Storage of Coal (Open Storage)

With only inner harbour operation, as per the projected traffic, VOC port will require to handle 24.0 MT of coal by 2042-43. As calculated in Annexure D, about 86.14 ha will be required to handle this volume of coal. About 78.38ha area identified as plot no 1A, 1C, NCB II, NCB III and NCB IV (as shown in the drawing) is earmarked for storage of coal. Further deficit of 7.76 ha is planned to be utilized from plot no 1B.

In case outer harbour becomes functional, VOC Port will need to 24.4 MT of coal traffic in the year 2018-19 and 90.8 MT in the year 2042-43 considering both inner & outer harbour traffic. As calculated in Annexure D, about 87.57 ha will be needed to handle coal in 2018-19. About 78.38ha area identified as plot no 1A, 1C, NCB II, NCB III and NCB IV (as shown in the drawing) for handling coal. Further deficit of 9.19 ha will be utilized from plot no 1B. Plot no 1B is having 220.28 ha land area. This plot can be suitably utilised for handling coal traffic until 2042-43. In the year additional area of 27.91 ha (shown as 1D in the drawing) will be required to handle the projected traffic.

7.3 Storage of Container (Open Storage)

As per the present cargo projection, 1MTEU container will be handled through the inner harbour which needs about 37.04 ha of land (calculation shown in Annexure D). 3 plots having areas of 17.12 ha, 10.11 ha and 10.40 ha (shown as 2A, 2B & 2C respectively in the drawing) have been identified as container yard.

In case outer harbour becomes operational, VOC Port will handle 1.2MTEU container in 2018-19 and 3.8 MTEU in the year 2042-43 which needs 50 ha land in 2018-19 and 223.19 ha in 2042-43. Detail calculation shown in the Annexure D. As container from inner harbour will be handled in 2A, 2B and 2C; outer harbour container traffic will be handled exclusively in the outer harbour area. In 2018-19, 15.86 ha and 35.58 ha area will be required to handle the projected outer harbour traffic (shown as 2D & 2E in the drawing). This area will be utilised in 2023-24 also. In 2029-30, an additional 41.32 ha (shown as 2F in the drawing) area will be required. Further in 2035-36, another 47.38 ha (shown as 2G in the drawing) will be required. In 2042-43, another 55.96 ha land (shown as 2H in the drawing) will be required the projected outer harbour container traffic.

Also, it is to mention that, in the planned outer harbor, the DPR envisaged that the overall stacking yard for containers are planned on the backup area only. Considering the same, it can be concluded that no additional space is required in the immediate future for the container storage.

7.4 Storage of General cargo

Other commodities, such as general cargo are in general stored in the ware houses or covered storages of the port, or stored in the open area. After analysing the pattern of general cargo handled by the VOC port, it can be assumed that 30% of the general cargo can be considered as ware housing (covered storage area) and remaining 70% can be considered for break bulk cargo (open storage area).

- **Warehouse (Covered Storage)**

As shown in annexure D, 14.86 ha is required in 2018-19 and 26.18 ha will be required in 2042-43. An area of 23.5 ha (shown as 3A in the drawing) has been identified for this purpose. This area can be utilised depending upon the requirement of warehouse/covered storage until 2035-36. In 2035-36, an additional area of 5.05 ha (shown as 3B in the drawing) can be utilised to meet the need of warehouses.

- **Break Bulk Cargo (Open Storage)**

As discussed in Annexure D, about 34.68 ha open area will be required in the year 2018-19 and 61.08 ha will be required in 2042-43. To meet the requirement 4 plot having areas 6.7 ha, 5.0 ha, 4.1 ha and 14.0 ha have been identified (shown as 4A, 4B, 4C and 4F in the drawing). In the year 2023-24, another 8.91 ha area (shown as 4D in the drawing) will be required to meet the requirement. In 2029-30 another plot of 28.81 ha (shown as 4E in the drawing) will be required which can cater the projected bulk cargo till 2042-43.

7.5 Storage of POL/ Liquid Cargo (Covered Storage)

Annual throughput for POL/ liquid cargo is expected to be in the order of 0.5 MT by the year 2018-19 and 2.0 MT by the year 2042-43 considering the inner harbour traffic only. As the liquid products are directly handled by importers / exporters, additional storage tanks if any required shall be constructed by them. Presently an area of 20.06 Hectare (49.57 Acres) is allotted and being used for the storage of POL/ LPG/ VCM/ Phosphoric acid etc. Tank farms of various agencies are built in this area. Considering the present usage pattern 34.75 ha (shown as 5A in the drawing) is allotted for handling POL product till 2035-36. Again, considering the future projected traffic, additional 4.1 ha land (shown as 5B in the drawing) is required.

If outer harbour is conceived, both the inner and outer harbour will be in operation and 0.5MT cargo is expected in the year 2018-19 and 3.7MT in the year 2042-43. As there will be no POL/ Liquid cargo from the outer harbour before 2029-30, 34.75 ha area (shown as 5A in the drawing) will be sufficient to handle the projected traffic (detailed calculation is shown in Annexure D). In the year 2029-30 an additional area of 2.2 ha (shown as 5C in the drawing) will be required to handle the projected traffic. In 2035-36 two additional areas of 3.55ha & 3.23ha (shown as 5D & 5E in the drawing respectively) are proposed to handle the projected traffic. In

2042-43 two more additional areas of 2.79 ha & 2.72 ha (shown as 5F & 5G in the drawing respectively) will be required to cater the projected traffic.

7.6 Fertilizer (Covered Storage)

As per the traffic projection, VOC Port is likely to handle 4.02 MT fertilizer in the year 2018-19 and 7.08 MT in the year 2042-43. The area required for this purpose is 13.43 ha and 23.66 ha respectively. An area of 25 ha (shown as 6A in the drawing) is proposed to be utilised in a phased manner as and when required. This area is sufficient enough to handle the traffic till 2042-43.

8.0 Planning of Internal roads for cargo movement

Most of the cargo in VOCPT is moved by trucks as the rail system is not preferred by the port users as good road connectivity exists to the hinterland. A total number of 10,000 trucks per day were calculated for all commodities of the port by year 2027. The road network and the NHAI's port connectivity works can able to cater to this demand.

Presently traffic use the toll plaza road. This road is 4 lane road and take the full load of VOC port. In next 5 year vehicle traffic shall be double and no way to overcome the congestion. To avoid this congestion, it is proposed that 1.45 km long road from beach junction (SH 49) to junction of NTP Ltd road be converted from 4 lane to 8 lane. It is also proposed that a new four lanes Road Bridge across Korampallam surplus course and a fly over for rail crossing in this alignment.

Business plan indicated that the Port has proposed to dump the fly ash from the NLC power plant in the northern side of the northern break water. This would extend the coastal line from the current Hare Island to the new reclaimed fly ash area. This has an advantage; the Hare island area can then be effectively utilized. Port is planning to use this area and part of the reclaimed area for storage of coal, break bulk, fertilizer and oil terminals in the future. But, accessibility to this area will be very difficult as all the trucks/tippers would be using the same approach road to access this area. This would create congestion at the approach road in the future. This road is forecasted to handle traffic of about 20,000 vehicles per day in the next 20 years. To ease the congestion at this road, Business plan proposes to reclaim the land adjacent to the existing reclaimed area and this area can be connected to the main land by means of a new bridge from the Link road on one side and two new roads connected to the green gate and red gate on the other side. Since large scale industries cannot be developed in this reclaimed area due to the weak basement, Trans Care proposes to develop primarily small scale industries like cashew nut processing industry, granite processing, palm oil refineries etc. in this zone. Business plan also proposed to develop container storage yard, CFSs and bulk storage yard in this reclaimed area. This would bifurcate the inward and outward traffic between these two roads and eases the traffic in the main approach road to the Port.

In the land use plan, it is proposed to have a peripheral road along the reclaimed land in Hare Island with internal connectivity road is proposed to facilitate movement of cargo from and to the port. Also, the planned road is connected to the Beach Road crossing through the link road. Bridge across Korampallam surplus course shall be required in the proposed alignment, which shall be connected to the peripheral road.

9.0 Outer harbour:

It is expected that outer harbour shall function from 2024. Due to this, the road traffic is expected to increase tremendously and may cause congestion on the road. To avoid this situation it is proposed that a new 4 lane outer harbour road passing through south side of the admin office, connecting the National Highway (NH 7A). With this facility, VOC port will have 3 major connecting roads to minimize the congestion in the VOC port area.

10.0 Area opposite to Fisheries College adjacent to NH-7A.

An area of 15.22 acres belonging to VOC Port is lying vacant opposite to Fisheries college adjoining NH 7A. This area is proposed to be used for truck parking. This area can facilitate decongestion of traffic in the port area.

11.0 Residential Area:

As more and more industries are being proposed in the Port area, Port needs to find more space for the residential complexes. The current residential quarters for the Port employees are sufficient enough for the next 20 years. Business plan as well as the current trend of man power utilization by Ports, doesn't foresee any need for more residential space for the Port employees as more operations are going to be on B.O.T basis in the future. Apart from Port employees, TTPS has also leased about 20 hectares to accommodate its employees, located along the beach road. NLC has already allotted for an area of 25 hectares adjacent to the existing TTPS residential complex.

These two residential complexes would leave about 52.4 hectares in the rest of the area opposite to SPIC and TAC. It is proposed to use this area for port related industries in the future and for ancillary unites of proposed ship building yard. Rest of the area in this plot can be utilized for more plantations and recreational activities as this has to be about 30% of the total land area. Furthermore these areas are not in the main wind direction away from the proposed bulk storage as well as the existing and proposed power plants, so that those living in quarters will not be affected by dust and smoke.

Based on the above, the area identified for storage of various cargoes is indicated in the drawing enclosed. Further, a draft land use plan prepared based on the development planned in

the port like construction of additional berths, outer harbour, etc., is given in the drawing enclosed.

Ministry of shipping is considering for setting up smart city in every major port. The existing residential / market area in Zone A of about 313.10 ha (Shown 13A in the Drawing) has been identified for setting up of smart city. However, the current facilities available in the selected location needs to be relocated depending upon the requirement. A detailed location-specific study may be carried out for the selected location once the same is finalized.

With the proper land use plan in place, and the realization of projected traffic throughput, the revenue accrual to the port due to land utilization is expected to increase over the next five years.

12.0 Summary of Land uses

The land use pattern is prepared with two scenarios, i.e., with and without considering the outer harbour development.

Under Scenario—I, i.e., without outer harbour development, the details of land usage are placed in the Annexure E. It can be seen that VOCPT has sufficient area (including reclaimed area) to handle the projected traffic till 2042-43. There will be no significant vacant land for further use.

Under Scenario—II, i.e., with the outer harbour development, the development of ash pond area will take place and VOCPT can able to handle the projected traffic for both the inner and outer harbour till 2042-43. The details of land use under this scenario are placed in Annexure F.

ANNEXURE -A: LIST OF LONG TERM LEASE HOLDERS AS ON 31.05.2014

At present Port has allotted land on long term, lease to various port users for different purposes based on the requirement. A list containing the name of parties to whom land is allotted on long term lease basis is given in the table below:

LIST OF LONG TERM LEASE HOLDERS AS ON 31.05.2014

SL NO	ALLOTMENT NO	NAME OF THE FIRM	AREA IN SQ.M	LEASE PERIOD	
				FROM	TO
1	L.L. 0001	M/s. Indian Oil Corporation	39,725.00	29.12.1972	28.12.2002
					28.12.2032
2	L.L. 0002	M/s. Indian Oil Corporation	1,200.00	04.03.1980	03.03.2010
3	L.L. 0004	M/s. SPIC Ltd.	7,415.00	28.11.1979	27.11.2009
4	L.L. 0005	M/s. SPIC Ltd.	2,325.00	01.04.1979	31.03.2009
5	L.L. 0006	M/s. TAC Ltd.	1,32,454.00	23.10.1979	22.10.2009
6	L.L. 0007	M/s. Indian Oil Corporation	3,600.00	04.07.1981	03.07.2011
7	L.L. 0008	M/s. Chemplast Sanmar Ltd.	12,783.40	01.06.1984	31.05.2014
8	L.L. 0009	M/s. M.M.D	1,500.00	29.04.1982	28.04.2012
9	L.L. 0010	M/s. M.M.D	1,505.00	29.04.1982	28.04.2012
10	L.L. 0011	M/s. Tamil Nadu Civil Supplies Corp	3,132.00	04.04.1981	03.04.2011
11	L.L. 0012	Telecommunication Department	4,000.00	31.01.1981	30.01.2011
12	L.L. 0013	Coast Guard Station	6,070.30	02.04.1986	01.04.2016
13	L.L. 0014	India Potash Ltd	8,265.00	10.11.1982	09.11.2012
14	L.L. 0015	M/s. D.C.W. Ltd	19,703.00	28.09.1982	27.09.2012
15	L.L. 0017	Shri Siddhi Vinayagar Temple	3,500.00	01.01.1975	31.12.2005
				27.07.2005	26.07.2035
16	L.L. 0018	C.S.I Church	3,500.00	17.07.1975	16.07.2005
				01.08.2005	31.07.2035
17	L.L. 0019	R.C. Church	3,500.00	01.11.1974	30.10.2004
				01.11.2004	31.10.2034
18	L.L. 0020	Manzil F-Noor (Mosque)	3,500.00	01.04.1975	31.03.2005
				27.07.2005	26.07.2035
19	L.L. 0021	The Vishnu Temple Committee	2,400.00	09.05.1990	08.05.2020
20	L.L. 0022	Santhana mariamman Temple Committee	900.00	18.08.1980	17.08.2010
21	L.L. 0024	M/s. T.T.P.S.	13,46,804.95	16.06.1973	15.06.2003
22	L.L. 0025	M/s. T.T.P.S.	1,43,663.53	16.08.1973	15.08.2003
23	L.L. 0026	M/s. T.T.P.S.	10,000.00	29.05.1974	28.05.2004
24	L.L. 0027	M/s. T.T.P.S.	1,01,171.50	25.04.1979	24.04.2009
25	L.L. 0028	M/s. T.T.P.S.	1,01,243.50	23.05.1979	22.05.2009
26	L.L. 0029	M/s. T.T.P.S.	60,247.37	01.04.1980	31.03.2003
27	L.L. 0030	TPT Educational Agency	72,019.73	01.06.1979	31.05.2009

28	L.L. 0031	TPT Educational Agency	876.00	01.01.1980	31.12.2009
29	L.L. 0034	M/s. T.N.W.C.	37,647.42	27.09.1978	26.09.2008
30	L.L. 0035	Customs & Central Excise Dept.	2,400.00	19.07.1985	18.07.2015
31	L.L. 0036	Customs & Central Excise Dept.	4,740.00	19.07.1985	18.07.2015
32	L.L. 0037	TWAD Board	900.00	11.08.1984	10.08.2014
33	L.L. 0039	M/s. CECRL, Karaikudi	506.30	01.09.1985	31.08.2015
34	L.L. 0040	M/s. CECRL, Karaikudi	2,025.00	01.01.1987	31.12.2017
35	L.L. 0042	M/s. P. S. C. Ltd.,	3,000.00	23.05.1985	22.05.2015
36	L.L. 0043	M/s. P. S. C. Ltd.,	4,045.00	07.09.1987	06.09.2017
37	L.L. 0045	Fisheries Department	19,263.00	15.10.1969	14.10.2068
38	L.L. 0046	Fisheries Department		05.05.1965	04.05.2064
39	L.L. 0047	M/s. T. S. M. C. Ltd.	10,63,515.00	08.07.1993	07.07.2013
40	L.L. 0048	Dept. of Industries & Commerce (R. T. Lab.)	12,140.58	11.05.1994	10.05.2017
41	L.L. 0049	Tuticorin Municipality	30,351.45	01.04.1955	31.03.2054
42	L.L. 0050	Tuticorin Municipality	911.00	01.04.1965	31.03.2064
43	L.L. 0051	P. W. D. / Tuticorin	30,148.48	01.08.1960	31.07.2059
44	L.L. 0052	M/s. T. N. E. B. / Tuticorin	16.00	01.04.1983	31.03.2013
45	L.L. 0054	M/s. SPIC Ltd	1,085.00	01.04.1981	31.30.2011
46	L.L. 0055	M/s. T. T. P. S.	54,677.16	20.05.1989	19.05.2019
47	L.L. 0056	M/s. D. C. W. Ltd.	8,618.40	01.09.1990	31.08.2020
48	L.L. 0058	M/s. T. T. P. S.	77,881.60	13.05.1991	12.05.2021
49	L.L. 0060	M/s. South India Corporation Ltd.	360.00	01.01.1994	31.12.2023
50	L.L. 0061	M/s. Tuticorin Steamer Agents Association	360.00	01.01.1994	31.12.2023
51	L.L. 0062	M/s. Southern Trading Company	360.00	01.01.1994	31.12.2023
52	L.L. 0063	M/s. Albert & Co.	360.00	01.01.1994	31.12.2023
53	L.L. 0064	M/s. Diamond Shipping Agency (P) Ltd.	360.00	01.01.1994	31.12.2023
54	L.L. 0065	M/s. Pereia & Roche (P) Ltd.	360.00	01.01.1994	31.12.2023
55	L.L. 0066	Tuticorin Stevedores Association	360.00	01.01.1994	31.12.2023
56	L.L. 0067	M/s. Raja Agencies	360.00	01.01.1994	31.12.2023
57	L.L. 0068	M/s. John Freight System (P) Ltd.	360.00	01.01.1994	31.12.2023
58	L.L. 0069	M/s. Machado Sons (P) Ltd.	360.00	01.01.1994	31.12.2023
59	L.L. 0070	M/s. Aspinwall & Co.	360.00	01.01.1994	31.12.2023
60	L.L. 0071	M/s. V.V.D. Shipping Services	360.00	01.01.1994	31.12.2023
61	L.L. 0072	M/s. Villavarayer & Sons	360.00	01.01.1994	31.12.2023
62	L.L. 0074	M/s. Marine Container Services (P) Ltd	225.00	01.01.1994	31.12.2023
63	L.L. 0075	M/s. Lee Muir Head Ltd	225.00	01.01.1994	31.12.2023
64	L.L. 0077	M/s. J. M. Baxi & Co	225.00	01.01.1994	31.12.2023
65	L.L. 0078	M/s. Forbers and company Ltd	225.00	01.01.1994	31.12.2023
66	L.L. 0081	M/s. Chakkiat Agencies (P)Ltd	225.00	01.01.1994	31.12.2023
67	L.L. 0085	M/s. Sree Shanmugar Services	225.00	01.01.1994	31.12.2023

68	L.L. 0086	M/s. Southern Shipping Agencies (P) Ltd.	225.00	01.01.1994	31.12.2023
69	L.L. 0088	M/s. Green way shipping	225.00	01.01.94	31.12.2023
70	L.L. 0089	M/s. Joseph Fdo & Sons	225.00	01.01.1994	31.12.2023
71	L.L. 0090	Customs Licensed Agents Association	225.00	01.01.1994	31.12.2023
72	L.L. 0091	M/s. Transworld Shipping Services (P) Ltd.	225.00	01.01.1994	31.12.2023
73	L.L. 0094	M/s. Ancherical Agencies	225.00	01.01.1994	31.12.2023
74	L.L.0095	M/s. J. M. Bax& Co	225.00	01.01.1994	31.12.2023
75	L.L. 0098	M/s. T.N.W.C.	5,000.00	17.03.1995	16.03.2025
76	L.L. 0099	M/s. Thiagarajar Mills Ltd.	2,000.00	09.08.1995	08.08.2025
77	L.L. 0100	M/s. Virudhunagar Textile Mills Ltd.	2,000.00	09.08.1995	08.08.2025
78	L.L. 0101	M/s. SPIC Ltd	86,910.17	01.02.1996	31.01.2026
79	L.L. 0102	M/s. Caltex SPIC India Ltd.	2,585.00	28.11.1979	27.11.2009
				18.06.1994	17.06.2024
80	L.L. 0103	M/s. Caltex SPIC India Ltd.	1,800.00	01.12.1990	30.11.2009
81	L.L. 0104	M/s. Caltex SPIC India Ltd.	16,167.00	18.06.1994	17.06.2024
82	L.L. 0105	M/s. IOC Ltd.	80,921.00	27.03.1998	26.03.2028
83	L.L. 0108	M/s. Seaport Logistics (P) Ltd.	225.00	05.02.1999	04.02.2029
84	L.L. 0109	M/s. SEPC (P) Ltd	3,67,800.00	28.07.1999	27.07.2029
				01.04.2010	31.03.2029
85	L.L.0110	M/s. Vicnivaas Agency	225.00	12.2.1999	11.2.2029
86	L.L. 0111	Department of Customs & Central Excise	3,900.00	01.12.1996	19.07.2015
87	L.L. 0114	Coast Guard Station	20,235.00	01.08.2003	31.07.2033
88	L.L. 0115	M/s. T.N.W.C.	5,000.00	06.12.2000	05.12.2030
89	L.L. 0116	M/s. Reliance	168.00	15.11.2003	14.11.2033
90	L.L. 0117	M/s. Tata Teleservices Ltd	306.58	24.05.2004	23.05.2034
91	L.L. 0118	M/s. B.S.N.L.	100.00	04.07.2009	03.07.2039
92	L.L. 0119	M/s. Aircel (P) Ltd	350.00	01.06.2004	30.05.2034
93	L.L. 0120	M/s. UTI Bank	25.00	30.07.2004	29.07.2034
94	L.L. 0121	M/s. Indian Potash Ltd.	5,672.40	08.10.2004	07.10.2012
95	L.L. 0122	M/s. Golden Electronic Weigh Bridge	2,000.00	27.01.2005	26.01.2035
96	L.L. 0123	M/s. M.M.D	1,170.00	13.07.1998	12.07.2028
97	L.L. 0124	M/s. Unites Liner Agencies	225.00		31.12.2023
98	L.L. 0125	M/s. Tamilnadu Maritime Academy		30.12.2006	29.12.2036
		For Land	20,102.82		
		For Building	992.12		
99	L.L. 0126	M/s. German Shipping Agency (India) P. Ltd.	225.00	01.01.2007	31.12.2014
100	L.L. 0127	M/s. Tuticorin Marine Movements	225.00		31.12.2023
101	L.L. 0128	M/s. MMD	250.00	18.07.2007	17.07.2037

102	L.L. 0129	M/s. Neyveli Lignite Corporation		14.08.2007	13.08.2037
		For Plant Area (108 HA)	4,37,062.24		
		For Quarters Area (25 HA)	1,01,171.82		
103	L.L.0130	M/s. Rashtriya Chemicals & Fertilizers	12,000.00	06.06.2008	05.06.2038
104	L.L. 0131	M/s. IPL	6,960.00	01.02.2008	31.01.2038
105	L.L. 0132	M/s. Kribcho	15,000.00	09.06.2008	08.06.2038
106	L.L. 0133	M/s. Customs Dept.	13,260.00	01.05.2010	30.04.2040
107	L.L. 0134	M/s. SPICES Board	1,215.00	09.11.2009	08.11.2009
108	L.L. 0135	M/s. A. Poovanaithal	2,000.00	30.01.2011	29.01.2041
109	L.L. 0136	M/s. Chakkia Agencies (P)Ltd	225.00		
110		M/s. INS Kottabomman, Naval Base (23.73 acres)	1,96,032.00		05.08.2033
		TOTAL	48,69,986.82		

ANNEXURE-B: LIST OF SHORT TERM ALLOTMENT (LAND & BUILDING) / ZONE – A AS ON 31.05.2014

SL NO	ALLOTMENT NO	NAME OF THE LICENCEE	AREA (SQ.M)
1	1900034	Indian Overseas bank	199.59
2	1900059	Syndicate Bank	99.28
3	1900039	Canara Bank	26.80
4	1900036	Post Office	93.42
5	1900038	Assistant Director/Dock Safety	100.00
6	1900037	Superintendent of Police/Chennai/ Immigration Office	58.50
7	1900040	Inspector of Police	548.17
8	2000003	Port Health Organisation	193.00
9	1900041	Secretary/Staff Co-operative (flour mill)	13.34
10	1900042	Secretary, Co-operative Store	13.34
11	1900035	Manager/Poor man depo. (VANAVIL)	91.30
12	1900045	Secretary/Aluvalar Sangam	153.80
13	1900060	Secretary/Aluvalar Sangam (SOCIETY)	14.40
14	1900044	Secretary/Welfare Club (Ladies club)	10.00
15	1900066	Port Sports Council	126.85
16	1900043	SC/ST Association/Office	68.54
17	1900056	Democratic Staff Union/Office (CITU)	107.60
18	2000006	Tuticorin Port & Equipment Lorry Owners Association (Lorry Parking area)	23,715.0
19	2000014	Suganthi Devadasan Research Centre (SDRC)	200.00
20	1900046	M.Esakky / Mutton Stall	13.34
21	1900047	M.Ramalingam / Laundry shop	13.34
22	1900048	P.Palanivel / Tailor	13.34
23	1900048	P.Alwar / Saloon	13.34
24	1900050	S.Kannan / Saloon	13.34
25	2000005	Flexison Masilamani / Two Wheller shop	13.34
26	1900051	D.Thiagarajan / Betal Nutshop	13.34
27	1900057	M.Mohamed Mophideen / Tea Stall	13.34
28	1900054	S.Appavoo / Watch Repair Shop	13.34
29	1900053	C.Selvaraj / Provision Store	13.34
30	1900052	Baby Saroja / N.V.Canteen	13.34
31	1900055	P.Vetrivel / Tailorshop	21.30
32	1900058	P.Thirumaniraja / Fancy Store	21.30
33	2000015	Mullai Thayagam / Petty shop Near Port Canteen	15.00
34	2000013	Kathiravan Vidiyal / Near TTPS Roundana	15.00

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35	2000002	Ariyanayagam / Avin Milk Booth	10.00
36	2000009	Senthurmurugan / Petty shop	5.00
37	2000004	Thirumaniraj / Snack Bar (Beach Area)	19.50
38	1900061	H.Nelson / Tyre Puncture Shop	20.00
39	2000017	Thirumaniraja / Petty Shop	25.00
40	2000016	S. Selvaraj / Petty shop	25.00
41	2000008	P. Thirumaniraja / N.V.Canteen	100.00
42	2000018	Sakthi Traders / N.V.Canteen	100.00
43	2000007	P.Thirumaniraja / Ice Cream Parlour	19.75
44	2000012	Diamond Shipping Agencies / Maintan Garden	166.00
45	2000011	Angerial Agencies / Garden	56.25
46		Pushpam Ganapathy / STD Booth	30.00
47		Ananthaselvakumar / STD Booth	30.00
48	2000010	P.T.Pattukumar / Hotel Agasthiyas	504.34

ANNEXURE-C: LIST OF SHORT TERM ALLOTMENT (LAND & BUILDING) / ZONE - B AS ON 31.05.2014

SL NO	ALLOTMENT NO	NAME OF THE LICENCEE	AREA (SQ.M)
1	1900021	V.Albert / Engg. Works	172.00
2	1900002	Antony Victoria / Tea Stall	58.00
3	1900003	Amirunsha / Ice fish godown	134.00
4	1900004	D.Rajan / Cycle Repair Shop	40.00
5	1900005	T.Muthuraj / Saloon	17.00
6	1900006	Joseph Fdo / Fishing Spare Parts	107.00
7	1900007	Gnanam Fdo / Petty Shop	15.00
8	1900008	Michael Fdo / Stock Yard	83.00
9	1900009	Gnanathangathai / Stock Yard	50.00
10	1900010	S.Stanislaws / Marine Spare Parts	85.00
11	1900011	S.Antonyappa / Coir Shop	42.00
12	1900012	Sea Food Corporation / Marine Spare Parts	173.00
13	1900013	R.Antonyappa / Boat repair Yard	564.00
14	1900014	P.Sunderarajan / Smith Shed	84.00
15	1900015	N.Antonyappa / Boat Repair Yard	546.00
16	1900016	D.Jebarson Machado / Smith Shed	357.00
17	1900017	S.Stanislaws - II / Marine Workshop	336.00
18	1900018	J.Antonymsamy Fdo / Boat Repair Yard	386.00
19	1900019	J.Xavier Fdo / Boat Yard Repair	2,625.00
20	1900020	Fisherman Union / Repair Workshop	300.00
21	1900022	J.Rosary / Engineering Workshop	58.30
22	1900023	Jeya Engineering works / Marine Workshop	1,204.00
23	1900024	Telinger Victoria / Tinkering Works	47.00
24	1900025	N.Jebaraj / Diesel Pump Repair Shop	38.50
25	1900026	Johnson Mathew & Son / Fishing Vessel Workshop	90.00
26	1900027	Marshalin Fdo / Battery Workshop	235.50
27	1900028	J.Siluvai Fdo / Fishing Material	35.00
28	1900029	Xavier Fdo & Partners / Dry Fish Godown	5,292.50
29	1900030	M.Athimuthu / Dry Fish Godown	3,000.00
30	1900031	P.Paramasivam / Dry Fish Godown	3,000.00
31	1900032	S.Ramasamy / Marine Spare Parts	60.00
32	1900033	P.Ramasamy / Marine Spare Parts	115.00
33	2000000	Madura Coats (P) Ltd/ Cycle Shed	1,961.00
34	2000001	Sacred Heart Marine Research Centre (SHMRC)	619 100 (water)
35	1900063	Port Employees Trade Union (PETU)	55.6
36	1900001	Port Workers Union (AITUC)	10.5
37	1900065	Co-operative Credit Society (HMS)	29.32
38	1900062	Co-operative Thrift Credit Society Near CPT Bungalow	11.22
39	1900000	Tuticorin Port General Staff Union (Selvakumar)	37.73
40	1900064	Tuticorin Port Mariners & Staff Union (HMS)	45.86

Annexure : D

The storage area calculation based on the traffic projection made by VOC Port after development of outer harbour is worked out theoretically to arrive at the maximum land required for storage. This is computed without considering the commodities like coal are conveyed directly from berth to plant/ PPP operator's identified stack pile area and POL being pumped directly to the user agency's plants/ refineries etc.

i) STORAGE AREA REQUIREMENT BASED ON TRAFFIC PROJECTION FOR INNER HARBOUR DEVELOPMENT

Coal

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume (tonnes)	24,000,000	24,000,000	24,000,000	24,000,000	24,000,000
Storage time (days)	45.0	45.0	45.0	45.0	45.0
Total storage (tonnes)	2,958,904	2,958,904	2,958,904	2,958,904	2,958,904
Bulk density	0.85	0.85	0.85	0.85	0.85
Utilization of area	70%	70%	70%	70%	70%
Volume (m ³)	4,972,948	4,972,948	4,972,948	4,972,948	4,972,948
Length (m)	4,307	4,307	4,307	4,307	4,307
Width (m)	200.0	200.0	200.0	200.0	200.0
Height (m)	6.00	6.00	6.00	6.00	6.00
Gradient	1.26	1.26	1.26	1.26	1.26
Total Area in Hectares	86.14	86.14	86.14	86.14	86.14
Area in acres	212.85	212.85	212.85	212.85	212.85

Container

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Norms adopted	Standard norm adopted 27,000 TEUs/ Hectare				
Total area in Hectares	37.04	37.04	37.04	37.04	37.04
Area in acres	91.52	91.52	91.52	91.52	91.52

General cargo, food grains, Granites, timbers and iron / steel products

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume (tonnes)	9,380,000	14,210,000	15,470,000	15,960,000	16,520,000
Storage time (days)	10	10	10	10	10
Total storage (tonnes)	256,986	389,315	423,836	437,260	452,603
Bulk density	0.70	0.70	0.70	0.70	0.70
Utilization of area	50%	50%	50%	50%	50%
Volume (m ³)	734,247	1,112,329	1,210,959	1,249,315	1,293,151
Length (m)	2,477	3,753	4,086	4,215	4,363
Width (m)	200.0	200.0	200.0	200.0	200.0
Height (m)	1.5	1.5	1.5	1.5	1.5
Gradient (1 in)	1.6	1.6	1.6	1.6	1.6
Total Area in Hectares	49.54	75.06	81.71	84.30	87.26
Area in acres	122.43	185.47	201.91	208.31	215.62
Area for Ware Houses in Ha	14.86	22.52	24.51	25.29	26.18
Area for Break Bulk in Ha	34.68	52.54	57.20	59.01	61.08

POL

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume (tonnes)	500,000	700,000	1,400,000	1,700,000	2,000,000
Storage time (days)	30	30	30	30	30
Total storage volume (tonnes)	41,096	57,534	115,068	139,726	164,384
Bulk density	0.80	0.80	0.80	0.80	0.80
Volume (m ³)	51,369.9	71,917.8	143,835.6	174,657.5	205,479.5
Height of the tank (m)	12.0	12.0	12.0	12.0	12.0
Diameter of tank (m)	25.0	25.0	25.0	25.0	25.0
Area of tank (m ²)	490.87	490.87	490.87	490.87	490.87
Volume of each tank (with 70% eff. Ht)	4,123.34	4,123.34	4,123.34	4,123.34	4,123.34
No of tank	13	18	35	43	50
Area required for total tanks	6381.36	8835.73	17180.58	21107.58	24543.69
Total Area in Ha with 30% utilisation	2.13	2.95	5.73	7.04	8.18
Area in acres	5.26	7.28	14.15	17.39	20.22

Fertilizer

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume (tonnes)	4,020,000	6,090,000	6,630,000	6,840,000	7,080,000
Storage time (days)	15.0	15.0	15.0	15.0	15.0
Total storage (tonnes)	165,205	250,274	272,466	281,096	290,959
Bulk density	0.70	0.70	0.70	0.70	0.70
Utilization of area	60%	60%	60%	60%	60%
Volume (m ³)	393,346	595,890	648,728	669,276	692,759
Length (m)	672	1,018	1,108	1,143	1,183
Width (m)	200.0	200.0	200.0	200.0	200.0
Height (m)	3.00	3.00	3.00	3.00	3.00
Gradient (1 in)	1.60	1.60	1.60	1.60	1.60
Total Area in Hectares	13.43	20.35	22.16	22.86	23.66
Area in acres	33.20	50.29	54.75	56.48	58.46

ii) STORAGE AREA REQUIREMENT BASED ON TRAFFIC PROJECTION FOR INNER AND OUTER HARBOUR DEVELOPMENT

Coal

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume (tonnes)	2,44,00,000	3,93,00,000	5,90,00,000	7,91,00,000	9,08,00,000
Storage time (days)	45.0	45.0	45.0	45.0	45.0
Total storage (tonnes)	30,08,219	48,45,205	72,73,973	97,52,055	1,11,94,521
Bulk density	0.85	0.85	0.85	0.85	0.85
Utilization of area	70%	70%	70%	70%	70%
Volume (m ³)	50,55,831	81,43,202	1,22,25,164	1,63,90,008	1,88,14,320
Length (m)	4,379	7,053	10,588	14,195	16,295
Width (m)	200.0	200.0	200.0	200.0	200.0
Height (m)	6.00	6.00	6.00	6.00	6.00
Gradient	1.26	1.26	1.26	1.26	1.26
Total Area in Hectares	87.57	141.05	211.76	283.90	325.89
Area in acres	216.40	348.55	523.26	701.53	805.29
Area Allotted in Land Use Plan:				326.57	hectares
				806.97	acres

Container (Both Inner Harbour and Outer Harbour)

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume	12,00,000	17,00,000	24,00,000	31,00,000	38,00,000
Transshipment	5,00,000	11,90,000	21,70,000	35,40,000	74,20,000
Effective Total*	13,50,000	20,57,000	30,51,000	41,62,000	60,26,000
Norms adopted	Standard norm adopted 27,000 TEUs/ Hectare				
Total area in Hectares	50.00	76.19	113.00	154.15	223.19
Area in acres	123.55	188.26	279.23	380.91	551.50

* 30% of the transshipment is utilised for calculating the effective total

General cargo, food grains, Granites, timbers and iron / steel products

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume (tonnes)	93,80,000	1,42,10,000	1,54,70,000	1,59,60,000	1,65,20,000
Storage time (days)	10	10	10	10	10
Total storage (tonnes)	2,56,986	3,89,315	4,23,836	4,37,260	4,52,603
Bulk density	0.70	0.70	0.70	0.70	0.70
Utilization of area	50%	50%	50%	50%	50%
Volume (m ³)	7,34,247	11,12,329	12,10,959	12,49,315	12,93,151
Length (m)	2,477	3,753	4,086	4,215	4,363
Width (m)	200.0	200.0	200.0	200.0	200.0
Height (m)	1.5	1.5	1.5	1.5	1.5
Gradient (1 in)	1.6	1.6	1.6	1.6	1.6
Total Area in Hectares	49.54	75.06	81.71	84.30	87.26
Area in acres	122.43	185.47	201.91	208.31	215.62
Area Allotted in Land Use Plan:				96.07	hectares
				237.39	Acres

POL

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume (tonnes)	5,00,000	7,00,000	15,00,000	20,00,000	37,00,000
Storage time (days)	30	30	30	30	30
Total storage volume (tonnes)	41,096	57,534	1,23,288	1,64,384	3,04,110
Bulk density	0.80	0.80	0.80	0.80	0.80
Volume (m ³)	51,369.9	71,917.8	1,54,109.6	2,05,479.5	3,80,137.0
Height of the tank (m)	12.0	12.0	12.0	12.0	12.0
Diameter of tank (m)	25.0	25.0	25.0	25.0	25.0
Area of tank (m ²)	490.87	490.87	490.87	490.87	490.87
Volume of each tank (with 70% eff. Ht)	4,123.34	4,123.34	4,123.34	4,123.34	4,123.34
No of tank	13	18	38	50	93
Area required for total tanks	6381.36	8835.73	18653.21	24543.69	45651.27
Total Area in Ha with 30% utilisation	2.13	2.95	6.22	8.18	15.22
Area in acres	5.26	7.28	15.36	20.22	37.60
Area Allotted in Land Use Plan:				53.34	hectares
				131.81	Acres

Fertilizer

Year	2018-19	2023-24	2029-30	2035-36	2042-43
Annual volume (tonnes)	40,20,000	60,90,000	66,30,000	68,40,000	70,80,000
Storage time (days)	15.0	15.0	15.0	15.0	15.0
Total storage (tonnes)	1,65,205	2,50,274	2,72,466	2,81,096	2,90,959
Bulk density	0.70	0.70	0.70	0.70	0.70
Utilization of area	60%	60%	60%	60%	60%
Volume (m ³)	3,93,346	5,95,890	6,48,728	6,69,276	6,92,759
Length (m)	672	1,018	1,108	1,143	1,183
Width (m)	200.0	200.0	200.0	200.0	200.0
Height (m)	3.00	3.00	3.00	3.00	3.00
Gradient (1 in)	1.60	1.60	1.60	1.60	1.60
Total Area in Hectares	13.43	20.35	22.16	22.86	23.66
Area in acres	33.20	50.29	54.75	56.48	58.46
Area Allotted in Land Use Plan:				25.00	hectares
				61.78	Acres

ANNEXURE-E: LAND REQUIREMENT/ AVAILABLE DETAILS FOR INNER HARBOUR TRAFFIC

S No	Description	Existing			By 2019			By 2024			By 2030			By 2036			By 2043		
		Zone -A	Zone-B	Total															
A	Land available	2507.03	373.88	2880.90	2507.03	373.88	2880.90	2507.03	373.88	2880.90	2507.03	373.88	2880.90	2507.03	373.88	2880.90	2507.03	373.88	2880.90
B	Proposed reclamation	637.00		637.00	637.00		637.00	637.00	27.18	664.18	637.00	27.18	664.18	637.00	27.18	664.18	637.00	27.18	664.18
C=A+B	Total	3144.03	373.88	3517.90	3144.03	373.88	3517.90	3144.03	401.06	3545.08	3144.03	401.06	3545.08	3144.03	401.06	3545.08	3144.03	401.06	3545.08
D	Land under usage (As in Annexure A)	1726.53	314.41	2040.94	1726.53	314.41	2040.94	1726.53	314.41	2040.94	1726.53	314.41	2040.94	1726.53	314.41	2040.94	1726.53	314.41	2040.94
E	Proposed requirement																		
	1) Coal	102.05		102.05	212.85		212.85	212.85		212.85	212.85		212.85	212.85		212.85	212.85		212.85
	2) Container yard	59.21		59.21	91.52		91.52	91.52		91.52	91.52		91.52	91.52		91.52	91.52		91.52
	3) Ware House	24.51		24.51	36.73		36.73	55.64		55.64	60.57		60.57	62.49		62.49	70.55		70.55
	4) Break Bulk	30.64		30.64	85.70		85.70	129.83		129.83	141.34		141.34	145.82		145.82	166.84		166.84
	5) POL	49.57		49.57	49.57		49.57	49.57		49.57	49.57		49.57	60.56		60.56	71.25		71.25
	6) Fertiliser	11.84		11.84	33.20		33.20	50.29		50.29	54.75		54.75	56.48		56.48	61.78		61.78
	7) Power Plant	603.18		603.18	603.18		603.18	603.18		603.18	603.18		603.18	603.18		603.18	603.18		603.18
	8) Port User Industry	123.92		123.92	123.92		123.92	123.92	43.69	167.61	123.92	43.69	167.61	123.92	43.69	167.61	123.92	43.69	167.61
	9) Port User complex and utility	25.01	17.62	42.63	25.01	33.38	58.39	43.01	33.38	76.39	64.01	33.38	97.39	87.31	33.38	120.69	114.48	33.38	147.86
	10) Truck Parking	9.64		9.64	28.07		28.07	45.11		45.11	62.41		62.41	79.70		79.70	96.38		96.38
	11) SEZ	0.00		0.00	0.00		0.00	129.48		129.48	193.24		193.24	193.24		193.24	193.24		193.24
	12) Salt Pan Land		262.80	262.80		262.80	262.80		262.80	262.80		262.80	262.80		262.80	262.80		262.80	262.80
	13) Port Quarters (including Residence, Schools, banks, Commercial place and religious places, institution etc.) and TTPS, NTPL quarters etc	476.3	1.66	477.96	476.3	1.66	477.96	586.302	1.66	587.96	676.3	1.66	677.96	726.7	1.66	728.36	764.21	1.66	765.86
	14) Dry Dock Yard	0.00		0.00			0.00			0.00	89.28	27.18	116.46	89.28	27.18	116.46	89.28	27.18	116.46
	15) Green Belt	9.88	17.35	27.23	31.70	17.35	49.05	41.46	17.35	58.81	63.33	17.35	80.68	78.90	17.35	96.25	82.71	17.35	100.05
	16) Rail Area	58.59		58.59	58.59		58.59	121.60		121.60	121.60		121.60	121.60		121.60	121.60		121.60
	17) Road Area	129.98	15.00	144.98	129.98	15.00	144.98	191.75	15.00	206.75	267.89	15.00	282.89	267.89	15.00	282.89	267.89	15.00	282.89
18) Short Term Lease	12.20		12.20	12.20		12.20	12.20		12.20	12.20		12.20	12.20		12.20	12.20		12.20	
F=D+E	Total requirement	1726.53	314.41	2040.94	1998.52	330.18	2328.70	2487.73	373.87	2861.60	2887.96	401.05	3289.01	3013.64	401.05	3414.69	3143.86	401.05	3544.91
G=C-F	Vacant	1417.50	59.46	1476.96	1145.50	43.70	1189.20	656.30	27.19	683.49	256.07	0.01	256.07	130.39	0.01	130.39	0.16	0.0	0.17

ANNEXURE-F: LAND REQUIREMENT/ AVAILABLE DETAILS FOR INNER AND OUTER HARBOUR TRAFFIC

S No	Description	Existing			By 2019			By 2024			By 2030			By 2036			By 2043		
		Zone -A	Zone-B	Total															
A	Land available	2507.03	373.88	2880.90	2507.03	373.88	2880.90	2507.03	373.88	2880.90	2507.03	373.88	2880.90	2507.03	373.88	2880.90	2507.03	373.88	2880.90
B	Proposed reclamation	685.00		685.00	685.00		685.00	685.00	27.18	712.18	1292.80	27.18	1319.98	1292.80	27.18	1319.98	1292.80	27.18	1319.98
C	Proposed reclamation in Outer harbour	0.00		0.00	32.03		32.03	96.74		96.74	184.71		184.71	289.39		289.39	484.57		484.57
A+B+C	Total	3192.03	373.88	3565.90	3224.06	373.88	3597.93	3288.77	401.06	3689.82	3984.54	401.06	4385.59	4089.22	401.06	4490.27	4284.40	401.06	4685.46
D	Land under usage (As in Annexure A)	1726.53	314.41	2040.94	1726.53	314.41	2040.94	1726.53	314.41	2040.94	1726.53	314.41	2040.94	1726.53	314.41	2040.94	1726.53	314.41	2040.94
E	Proposed requirement																		
	1) Coal	102.05		102.05	216.40		216.40	348.56		348.56	523.26		523.26	701.53		701.53	805.29		805.29
	2) Container yard	59.21		59.21	123.55		123.55	188.26		188.26	279.23		279.23	380.91		380.91	551.50		551.50
	3) Ware House	24.51		24.51	36.73		36.73	55.64		55.64	60.57		60.57	62.49		62.49	70.55		70.55
	4) Break Bulk	30.64		30.64	85.70		85.70	129.83		129.83	141.34		141.34	145.82		145.82	166.84		166.84
	5) POL	49.57		49.57	49.57		49.57	69.57		69.57	99.57		99.57	119.90		119.90	131.81		131.81
	6) Fertiliser	11.84		11.84	33.20		33.20	50.29		50.29	54.75		54.75	56.48		56.48	61.78		61.78
	7) Power Plant	603.18		603.18	603.18		603.18	603.18		603.18	603.18		603.18	603.18		603.18	603.18		603.18
	8) Port User Industry	123.92		123.92	123.92		123.92	123.92	43.69	167.61	123.92	43.69	167.61	123.92	43.69	167.61	123.92	43.69	167.61
	9) Port User complex and utility	25.01	17.62	42.63	25.01	33.38	58.39	43.01	33.38	76.39	64.01	33.38	97.39	87.31	33.38	120.69	114.48	33.38	147.86
	10) Truck Parking	9.64		9.64	28.07		28.07	45.11		45.11	62.41		62.41	79.70		79.70	96.38		96.38
	11) SEZ	0.00		0.00	0.00		0.00	129.48		129.48	193.24		193.24	193.24		193.24	193.24		193.24
	12) Salt Pan Land		262.80	262.80		262.80	262.80		262.80	262.80		262.80	262.80		262.80	262.80		262.80	262.80
	13) Port Quarters (including Residence, Schools, banks, Commercial place and religious places, institution etc.) and TTPS, NTPL quarters etc	476.3	1.66	477.96	476.3	1.66	477.96	586.302	1.66	587.96	676.3	1.66	677.96	726.7	1.66	728.36	764.21	1.66	765.86
	14) Dry Dock Yard	0.00		0.00			0.00			0.00	89.28	27.18	116.46	89.28	27.18	116.46	89.28	27.18	116.46
	15) Green Belt	9.88	17.35	27.23	31.70	17.35	49.05	41.46	17.35	58.81	63.33	17.35	80.68	78.90	17.35	96.25	82.71	17.35	100.05
	16) Rail Area	58.59		58.59	58.59		58.59	121.60		121.60	121.60		121.60	121.60		121.60	121.60		121.60
	17) Road Area	129.98	15.00	144.98	129.98	15.00	144.98	191.75	15.00	206.75	267.89	15.00	282.89	267.89	15.00	282.89	267.89	15.00	282.89
18) Short Term Lease	12.20		12.20	12.20		12.20	12.20		12.20	12.20		12.20	12.20		12.20	12.20		12.20	
F=D+E	Total requirement	1726.53	314.41	2040.94	2034.10	330.18	2364.28	2740.18	373.87	3114.05	3436.08	401.05	3837.13	3851.05	401.05	4252.10	4256.84	401.05	4657.89
G=C-F	Vacant	1465.50	59.46	1524.96	1189.95	43.70	1233.65	548.59	27.19	575.78	548.46	0.01	548.46	238.17	0.01	238.18	27.56	0.0	27.57