PRIYA BLUE

India's Largest ClassNK & certified
HKC & EU SRR Compliant Green Ship Recycling Yard

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Recycling with the Best

PAST, PRESENT & FUTURE – DEVELOPMENT OF THE YARDS IN INDIA & FUTURE OUTLOOK OF THE RECYCLING MARKET

PRESENTED FOR ClassNK

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SPM SHIPPING

SSI Sustainable Shipping Initiative

INTRODUCTION

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OVERVIEW

From Conventional ship demolition being done in the past to the advancements in bringing in the latest equipment and the use of cutting-edge technology at present, the industry has sailed a long voyage, there is always a chance of improvement in this dynamic industry.

The ship recycling business went from developed to developing nations due to variety of factors, and ever since it has been an essential element of our Indian economy.

Realizing that need is the driving force behind change helped this economy adapt. A certain set of demands or necessities inspires innovative action to bring about revolution which happened in the case of Indian ship recycling sector.

There are still a few obstacles in the way of this industry's ultimate objective and the government also has a role to play in bringing better infrastructures, and better management from the GMB (Gujarat Maritime Board).

Despite everything, the future is still bright for India compared to other Asian subcontinents.

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PAST- THE SHIP RECYCLING YARDS IN INDIA

- Ship recycling industry shifted to developing countries as a result of factors including availability of inexpensive labour, lack of environmental, health, and safety regulations.

- However, there are other factors that have certainly influenced the movement of the ship-recycling industry. These, include the strong domestic markets for steel and other materials, the region's temperate climate, which permits ship-recycling to occur all year long, high tides and advantageous beach conditions, and proximity to the main eastbound sea trade routes.

- In India, full-fledged Ship recycling practices started around 1980's in Mumbai and Kolkata. Indian Ship recycling sites were distributed all along the coastal states of West Bengal, Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, Maharashtra, and Gujarat. Presently, Alang, is one of the largest ship recycling yard in the world which scraps more than 1/3 of the world's retired ships.

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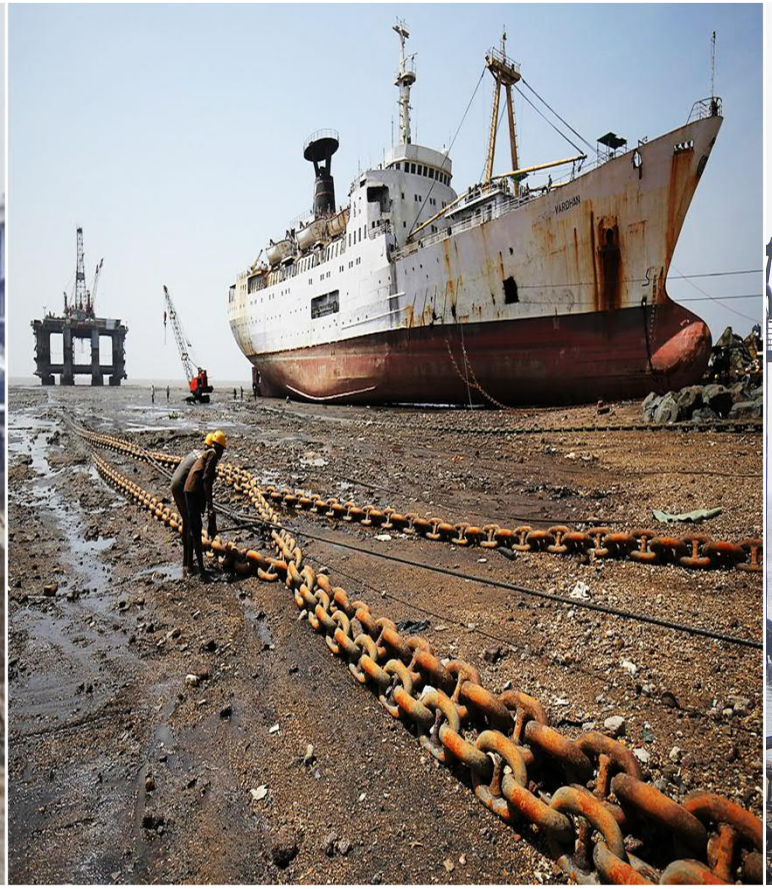

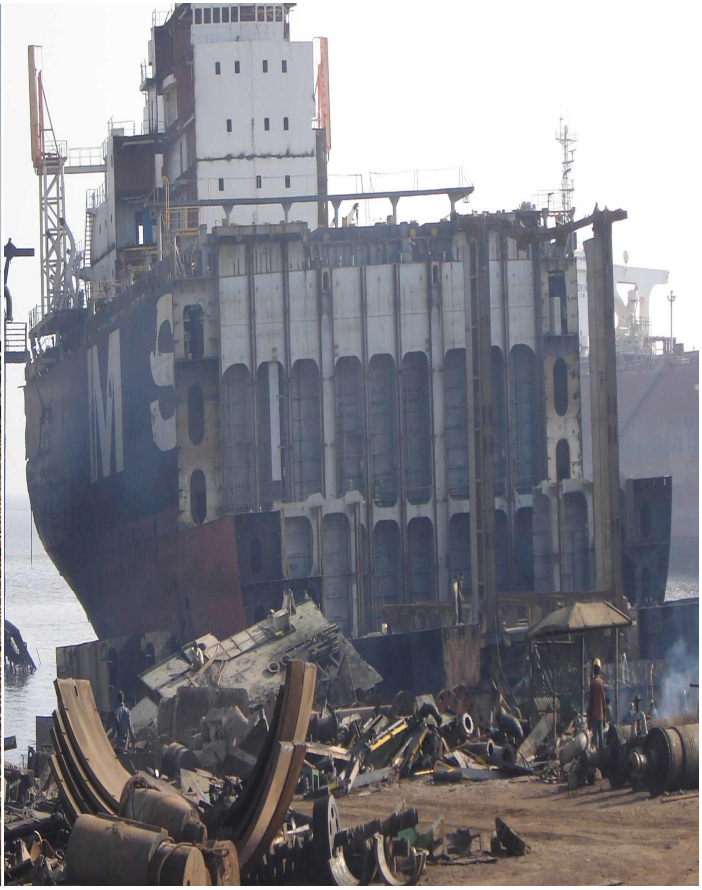

SOME OLD IMAGES OF ALANG

- In 1979, the Government of India recognized Ship Recycling as a manufacturing industry officially and decided to promote this business. Alang was created at this period because it was located to benefit from tidal currents. The water at low tide offers 2000 feet of bare land for working, high tide provides an 8 meter draft for beaching heavy draft vessels straight to the shore. Alang was chosen as the most suitable location since it was in a delta where damages to the open sea were minimal and Gujarat, particularly Saurashtra, had a high percentage of the vegetarian population with close to zero fishing activities in the region where ship recycling is taking place.

- The largest passenger ship in the world, the Blue Lady Ex-SS Norway, was beached and recycled at Priya Blue Industries Pvt. Ltd. A lengthy legal battle in India's supreme court led to the formulation of the first-ever ship recycling code, which mounted a strong emphasis on safety and the proper disposal of hazardous materials with subsequent amendments over the years.

- The Hong Kong Convention, which outlined the guidelines for an environmentally sound ship recycling , was finalized in 2009.

- In the year 2015 Class NK, Japan the first IACS class visited 4 yards in India to do Gap analysis, and identify areas where the yards need to improve to achieve the HKC standards.

- Priya Blue was the first yard to get the HKC compliance, furthermore it was the largest yard among the 4.

- Following the completion of the GAP analysis, construction work was started to improve the infrastructure by investing in the impermeable flooring and preparing space for hazardous material, thereafter, making the asbestos treatment facility.

- Few other class societies also started taking interest and more yards over the time had become HKC compliant seeing the benefit of those 4 yards.

- This is how the first HKC yard came into force from paper to reality.

FRONT YARD - BEFORE HKC

BACK YARD - BEFORE HKC

DURING HKC THE FULL YARD WAS NOT CONCRETE AND PARTIALLY THE FRONT YARD WAS CONCRETED TO ENSURE OIL SEEPAGE CONTROL ADDITIONALLY BETTER DUST AND AIR MANAGEMENT, FIRE PUMPS FOR SAFETY, TANKS TO STORE THE WATER & DRAINAGE LINE

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DURING HKC

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FRONT YARD UNDER CONSTRUCTION AS PER THE EU GUIDELINES

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BACK YARD UNDER CONSTRUCTION AS PER THE EU GUIDELINES

PRESENT- THE SHIP RECYCLING YARDS IN INDIA

- Ship recycling yards in India create jobs for thousands of workers and provide an important source of livelihood for the one key industry where further people are employed. Nearly 97% of items of the old ships can be repaired and melted and reused today and the remaining 3 % is the weight loss such as the cutting wastage, steel corrosion and the hazardous material. The most economical and environmentally responsible way of disposal for these ships is ‘Recycling’. This has been documented and researched by independent agencies across the world.

- In recent years, India's recycling industry has steadily expanded to purchase assets such as offshore rigs, Fish factories, DSV, Drill ships and other specialised vessels which have value other than just the steel.

- Alang, India, has about 800+ second-hand stores that market salvaged items from recycled ships. These shops are close to the ship recycling facilities. Ship recycling is vital for developing a circular economy since it creates secondary raw materials and lessens resource depletion.

- The drive imposed by participants within industry and the interest of ship recyclers combined effort eventually offers the industry a new Green face and a substantial improvement because of the significant shift in the compliance of HKC (Hong Kong Convention) and the involvement of classification societies like Class NK (Nippon Kaiji Kyokai).






SECOND-HAND MARKET IN ALANG

- Alang now has 150 yards altogether, of which 120 yards are active and 78 yards have already been built in accordance with HKC standards, leaving only 42 yards to be built in accordance with HKC standards which are also expected to be done at a fast pace as local authorities have already given an ultimatum for completing this before the mid of 2024. Out of these, around 26 yards have fulfilled the criteria of the EU Ship Recycling Regulation, and Priya Blue is one of the first six for which EU has completed audits and has better standards than other yards.

- What the recycling yards in India have accomplished so far with the cooperation of the organisation is laudable and should be appreciated by the Ngo's , Government and the European Union, rather than being always looked down upon.

- However, the overall tonnage for the vessel is decreased from close to 50% of global ship recycling despite the yards investing and improving their standards, whereas the tonnage in Bangladesh and Pakistan has continuously increased. This further demonstrates that most owners globally seek to dispose their vessels for the best possible price.

- To meet the need for raw materials in the domestic steel market, Bangladesh and Pakistan are heavily reliant on ship recycling. Their sole affordable sources of steel, are scrap and ship recycling, in contrast to India which has other resources of Iron and steel.

- A handful of yards in Alang have increased their investments substantially for the infrastructure, training programs, pollution control systems, number of auditing from different firms, agreements for disposal with the right facilities and brought them into compliance with EU regulations. They are not included in the EU's list of authorized countries due to a lack of hospital, effective downstream waste management systems. Priyablue is one of such yard who has the Llyod's register EU compliance certificate.

- Only yards approved by the EU are those in Europe, Norway, UK, Turkey, and U.S. that can recycle vessels flying the EU's flag. Many of these facilities aren't even audited by them and lack prior ship recycling experience, but because of the waste regulations and since they are in the OECD / EU or categorised as a developed nation, they have been granted this approval. Most of the components, which could have been reused in Alang, India, are disposed of as waste rather than being recycled, this is against the principal of circular economy.

- By sending these items for disposal, the ship owners are not only losing out on a better price for their asset but also increasing their carbon footprint. Recycling isn't then GREEN and EFFECTIVE, is it? Is the environment being improved by the EU's refusal to approve Indian Yards? Certainly not.

- With the change in BAN Amendment's policy, any vessel operating within EU seas that intends to recycle can only do so at an OECD country where a facility is located. Since India is not a member of the OECD, these vessels cannot be brought for recycling.

- Despite these difficulties, there are several encouraging improvements occurring in India's ship recycling yards. The government has recently taken measures to upgrade the infrastructure in the vicinity and further develop the waste management systems by passing several rules that have helped to raise the standards of the yards, such as the Ship Recycling Act of 2013, further amended Recycling of Ships Act, 2019 and ratifying the HKC.

- Owners of Japanese, European ships having non-Eu flag are recycling as per the HKC guidelines with some of them even going for EU compliant yards in India.

- A culture of accountability and responsibility is developing in the yards because of growing awareness of the need of health and safety precautions as well as the need for ecologically friendly operations for the future of Green Alang.

- The Yards have made significant investments in training, utilizing larger cranes and modern equipment like the Liquid oxygen lines that have been installed throughout the yards to ensure that the least amount of oxygen is wasted. Natural gas is also provided via lines, eliminating the need for LPG, and it has also helped in reducing the need for manual labour to move cylinders, improving both the economy and safety in areas where accidents used to occur frequently.

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AFTER EU STANDARD YARD DEVELOPMENT (FRONT YARD)

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AFTER EU STANDARD YARD DEVELOPMENT (BACK YARD)

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PHOTOS OF 169

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PHOTOS OF V2

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FUTURE OF INDIAN SHIP RECYCLING YARDS

- In the near future, India will be one of the leading destinations among the other two Asian subcontinent nations.
- By the end of 2023 or the middle of 2024, all yards will be HKC approved.
- The owners will conduct more thorough checks while keeping third-party monitoring due to their obligation to satisfy their shareholders. The government will adopt strict environmental, health, and safety standards to add Indian yards to the EU list.
- The European government will adopt legislation to repeal the BAN Amendment, paving the way for vessel recycling in India while operating in EU waters at least for the non-EU flagged vessel or they will agree to accept Indian yards into the EU list.
- Bangladesh will have more HKC-compliant yards, adding to the competition for Indian yards with Gadani following the footsteps thereafter.
- Other countries in Asia / Africa will be setting up their own yards for the purpose of recycling the vessels.

FUTURE OUTLOOK OF THE RECYCLING MARKET

- Several new building are ordered for Containers, LNG, and LPG for renewing the aged fleet, considering this the non-economical and old fleet will have to be demolished as the market will become crowded.

- We expect high number of container vessels mostly feeder size from 1200-1800 TEU for recycling in the year 2023 up to 2025.

- LPG vessels also have quite old tonnages still plying, which also will have to be eventually be recycled, these are highly priced assets during new building and has longer life.

- LNG, not many in number but the old tonnages are steam turbine and heavy fuel guzzlers will also have to go for recycling.

- With EEXI and other environment related regulations coming into force, the charterers will have difficulties in chartering older tonnages as the speeds have to be reduced and they cannot compete against modern vessels retrofitted with dual fuel and lower consumptions.

- Due to their low order volume in comparison to other tonnages, bulk carriers and tankers will be recycled when dry docking or major survey's are due, older tonnages a lot of which was recycled during the period of Corona

- The recycling market will remain range bound between 425-550 Per LT unless there isn't a significant influx of vessels simultaneously.

- Given that there will only be a limited availability of ultra-green yards, companies interested in recycling assets should start discussing with the yard's owners about the flow of assets and partner with them rather than going to the open market. So, it is crucial for the sellers to choose their partners now rather than prolonging this process.

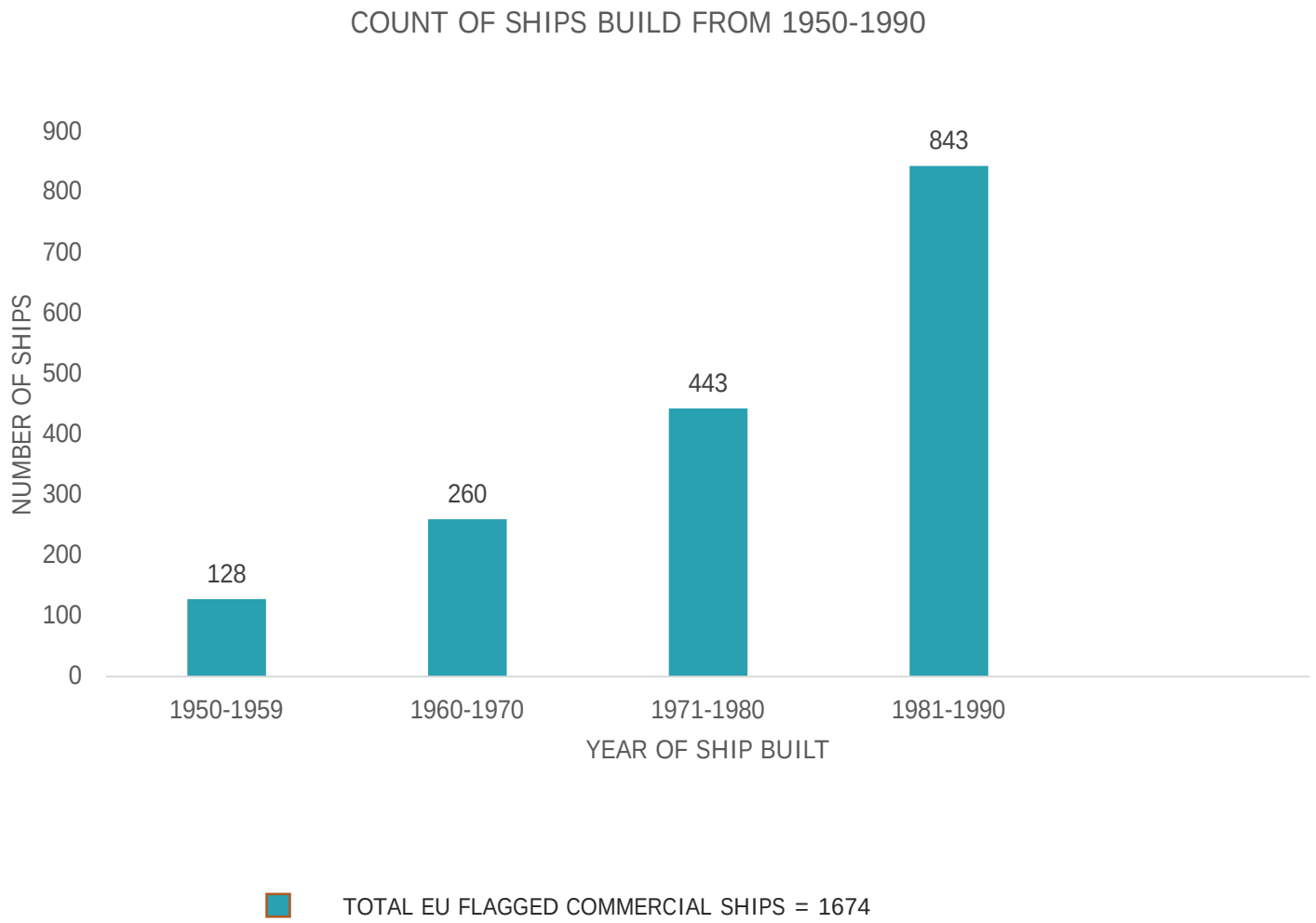
- Ship recyclers having large capacity of high-standard Green yards will be the most favoured and they will also outperform other yards economically.

- Capacity will be the key for the future of recycling market till 2024 whereafter the flow will reduce significantly.

- Vessel being sold with substantial requirements for green procedures will be sold at higher discount as the production is lower as there are higher requirements for the protection of the environment, health safety of the workers, high investment for the infrastructure in the yard.

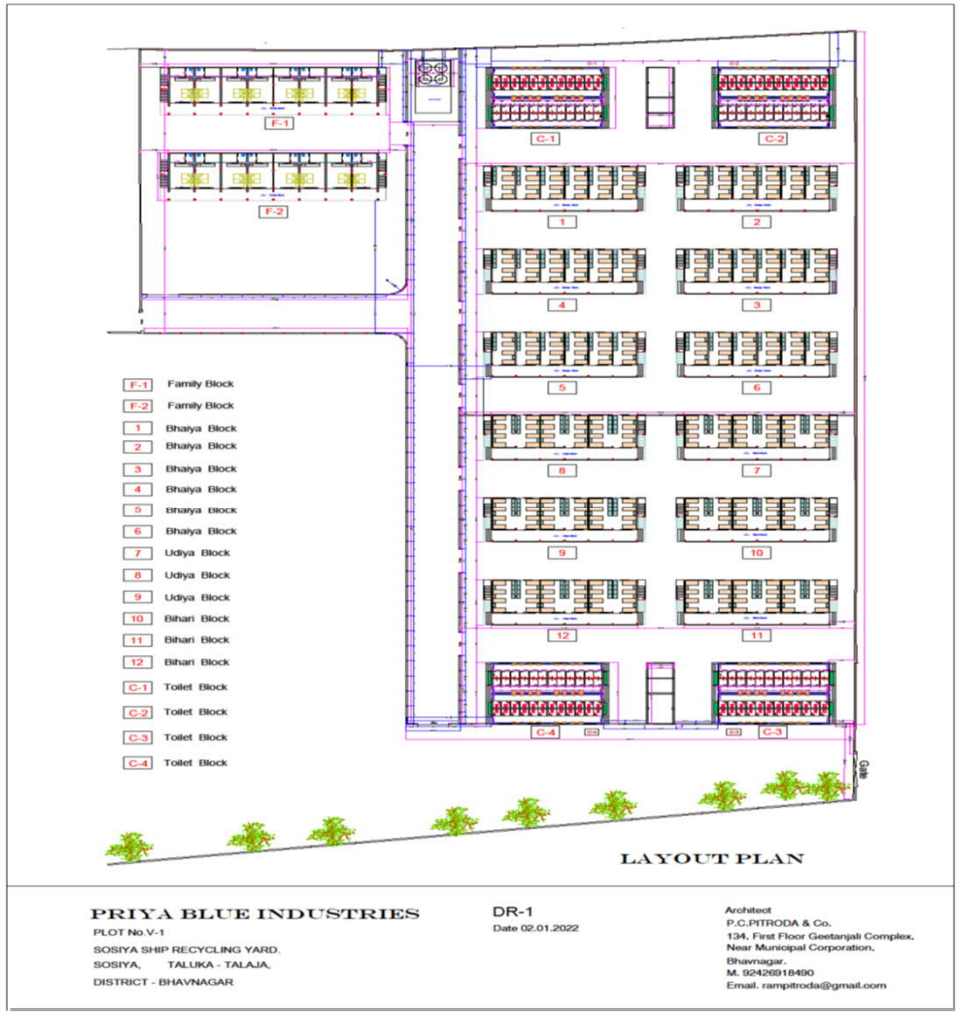
- Ship owners should consider a dip of at least 10-30 % when calculating from the present market levels for recycling the assets.

GRAPHICAL REPRESENATION OF EU FLAGGED COMMERCIAL VESSELS

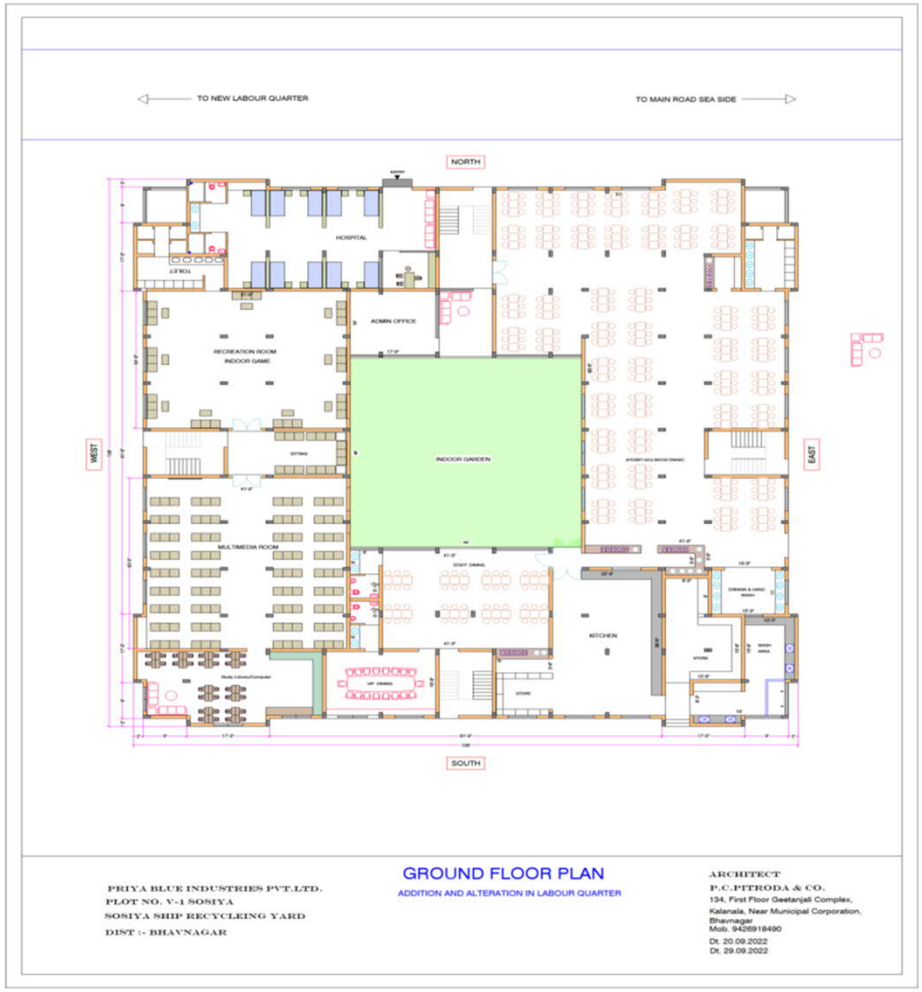


FUTURE OF PRIYA BLUE INDUSTRIES PVT LTD

- To accommodate 1100 workers, we are developing a labour quarter. We offer 3.72 M2 per head in a dormitory, which is greater than the 3.6 M2 per head needed by ILO standards.
- We will be providing free electricity, water, bed, lockers and RO water for the workers, improving their standard of living which will help in ensuring the yard of longevity of service from the labours.
- Additionally, we are building a canteen with a sizable eating area and recreational amenities, food will be served at compensated rate.
- The labour quarter rooms are presently being finalised with the family rooms being ready by March and the dormitory by end of May.
- Quarters will have solar power to reduce carbon footprints.
- We will be using the method of Rainwater harvesting to revitalise the ground water.

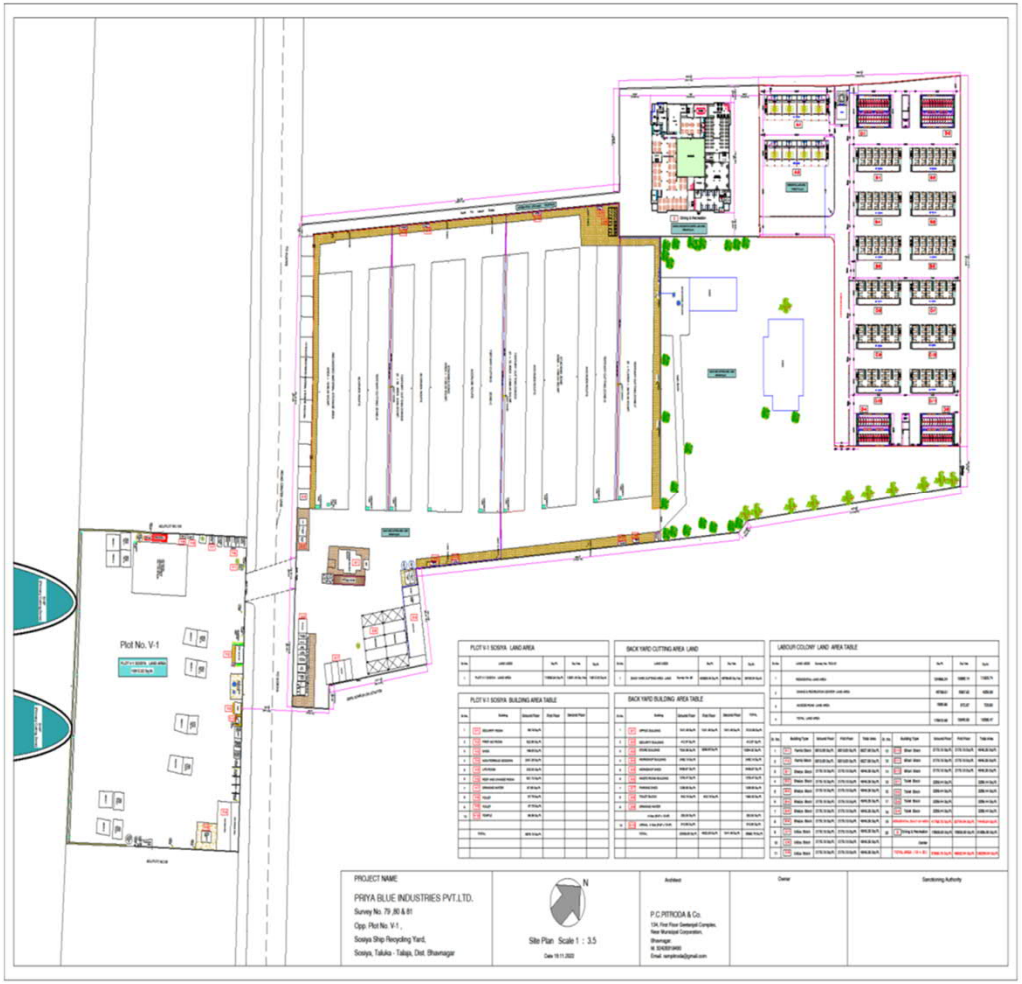


FINAL LAYOUT PLAN OF LABOUR QUARTER



DINING AND RECREATION BUILDING PLAN

PLAN FOR NAGARPANCHAYAT



V-1 LAYOUT PLAN

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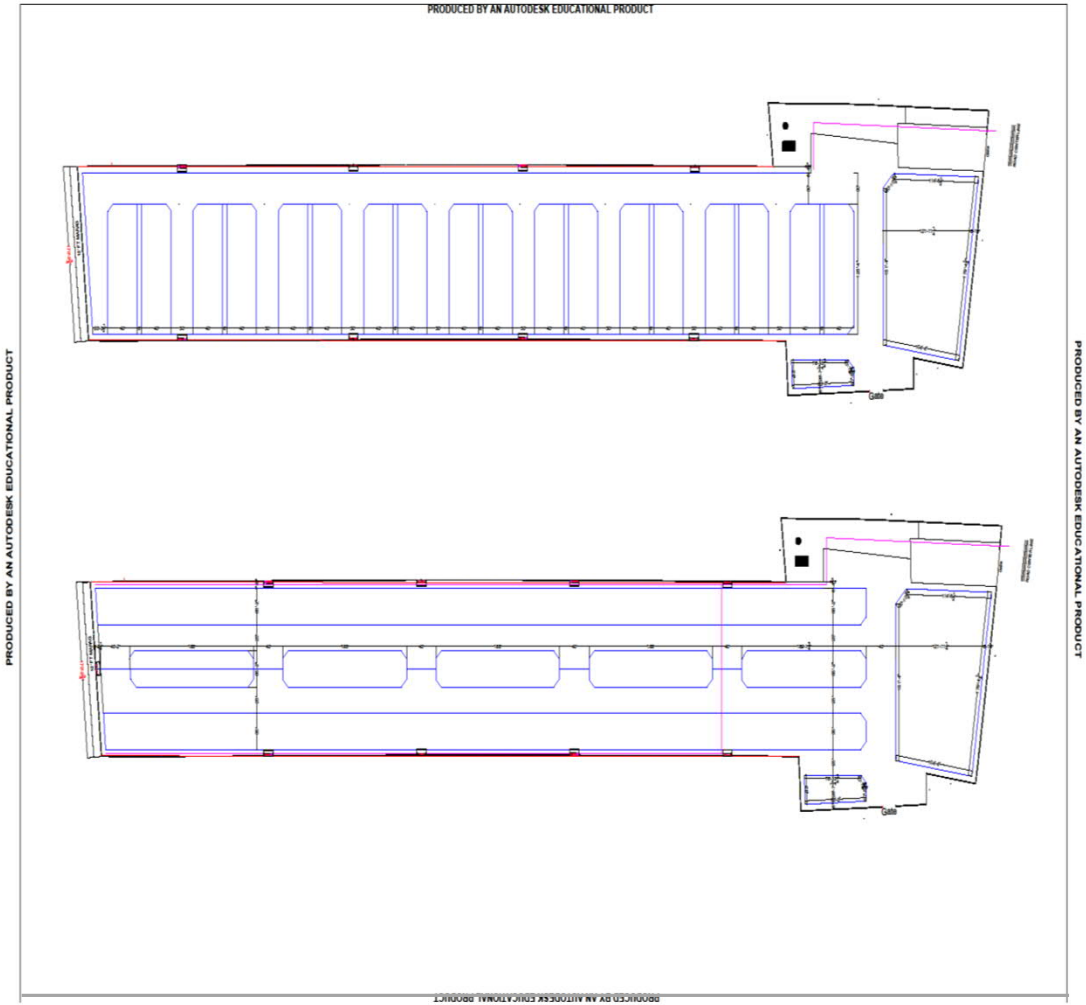
V2 FRONTYARD PLAN



V2 BACKYARD PLAN

FURTHER IMPROVEMENTS IN YARDS

JETTY (UNDER CONSTRUCTION)

HSE OFFICE / MANAGEMENT OFFICE

TRAINING ROOM, MEDICAL ROOM, MASTER AND ACCOMODATION ROOM

DRINKING AREA / WASH / SHOWER UNDER CONSTRUCTION

HAZARDOUS AND NON-HAZARDOUS ROOM (UNDER CONSTRUCTION)

WINCH AREA (WILL SHIFT AFTER JETTY COMPLETION)

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ONGOING CONSTRUCTION ACTIVITY IN THE BACKYARD (V2)

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WORK IN PROGRESS AT THE LABOUR QUARTERS OF V1,V2,169M of 1100 People

OFFSHORE CRANES AT OUR YARD

WORLD'S LARGEST CRANE FOR RECYCLING WITH SWL 2200 MT AT V1

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I'D LIKE TO OPEN IT UP TO QUESTIONS FROM THE AUDIENCE

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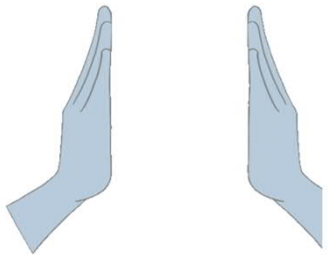

THANK YOU!

"I WANT TO EXPRESS MY GRATITUDE TO EVERYONE FOR ACTIVELY LISTENING TO THE PRESENTATION"

PLEASE DO NOT HESITATE TO CONTACT ME. I'VE LISTED MY CONTACT INFORMATION BELOW.

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