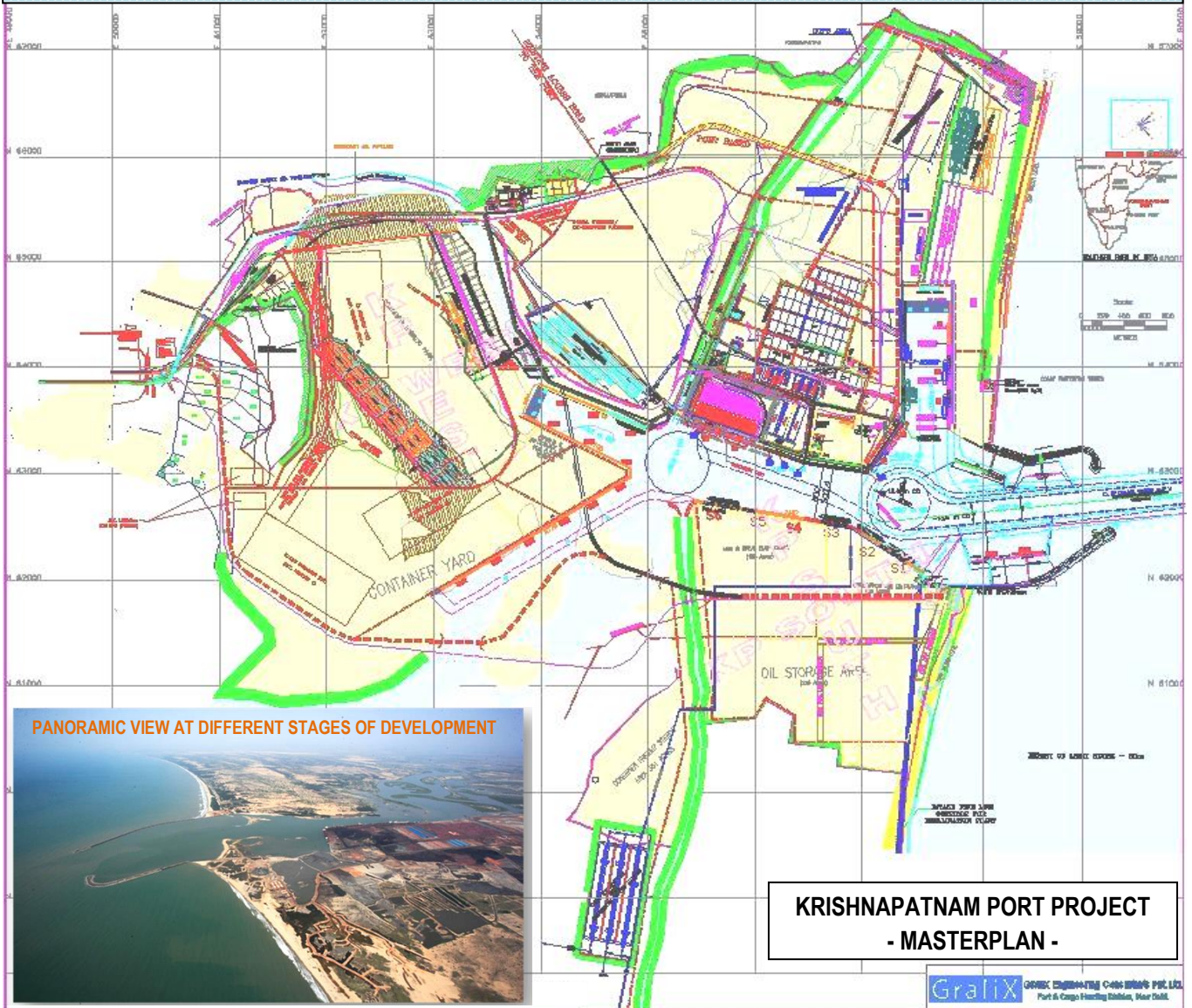


KRISHNAPATNAM PORT PROJECT

KRISHNAPATNAM, NELLORE DIST., ANDHRA PRADESH, INDIA



1. Involvement of GrafiX in Phase-II Development:

- a) Preparation of Layout and Conceptual Engineering
- b) Detailed Engineering of Civil (both marine and onshore), Mechanical and Electrical Works including Control System
- c) System interface with the Phase I facilities
- d) Splitting the overall scope in different packages for tendering and assisting Client in tender analysis, award, firming-up the contracts, etc.
- e) Approval of contractors' submissions.
- f) Preparation of Construction Drawings excluding bar-bending schedule.
- g) Preparation of engineering and fabrication drawings of structural works. Integration of control system of Phase II with Phase I.



- h) Assisting Client in commissioning the facilities.
- i) Site Supervision.

2. The facilities of Phase II generally consist of

- a) 5 Berths suitable for 200,000 DWT ships.
 - b) 8 Unloaders for handling Coal @ 2000 TPH.
 - c) 11 Stacker/Reclaimers, @ 4000 TPH / 2500 TPH.
 - d) Conveyor Network of the length of about 25 km.
 - e) In-motion Rail-despatch facility.
 - f) Other related infrastructure.
 - g) One berth for LNG import.
3. The above facilities are being implemented mainly for Coastal Power Plants for supplying coal directly to the respective power plant after ship unloading.
 4. Also in progress is a 2-berth Container Handling Terminal complete with mechanised container yard and support facilities with the following salient features:

- Design of a dedicated container berth and yard.
- Conversion of a general cargo berth for container handling.
- Necessary engineering planning and design to install used rail-mounted quay cranes purchased from Jurong Port, Singapore, with suitable crane rails, anchoring, power supply and layout support.
- Development of a container yard commencing with low density storage with reach stacker operation and a phased conversion to high density storage with Rubber Tyred Gantry operation as traffic increases.
- Rail-side-operation initially with Reach Stacker deployment and provision for installing Rail Mounted Gantry Cranes in future.
- Container Freight Station planning with bonded storage for customs purposes.



- Design of gate complex, inspection facilities including scanning.
- Design of power distribution, control and communication systems appropriate for container terminal operation.

Apart from the above facility, Grafix has also made a master layout for a multi-berth container terminal with 4 Million TEU capacity for future development at the port meant for hinterland and transshipment cargo. The facility was planned for ships upto 14,000 TEU.

Presently 3200 m long berthing structure and 2180 m long breakwater have been constructed. 800 m long berthing structures are under construction. Total quantity of dredging work executed is 40 million cu.m.

