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MARINE AND OFFSHORE STRUCTURE CONSULTANT

S.B. Marine offices are located in India, Singapore and Netherlands with Naval Architects, Structural Engineers and Piping Engineers. With short span of time SB Marine has earned high reputation in Maritime and Offshore Oil & Gas Industry as technologically sound and reliable consulting company with sample projects as below.

**Recent Job Reference:**
- 72m Oil Tanker Complete Design & Drawings
- 24m Sea going Crew Boat with SPS code
- Lift Boat for sea bed soil investigation
- Design of Elevated Platform for crane barge. Seafastening and Grillage design etc.
- Conversion of 105m cable lay vessel to offshore support vessel. Design of 2375 CuM Split barge
- Concept Design of Modular Drilling Platform Topside
- Jacket launching and upending analysis
- Mooring and Tow analysis for 60m Pipe-lay barge
- Motion analysis of catamaran for response prediction
- Structural Analysis for 225 Ton Crane on 50m barge
- Jack-up In-place analysis, Inclining test, stability analysis, seating drawings of equipment
- 32” & 40” Dia Sub-sea pipe laying Transportation and Installation Engineering
- Installation of SB marine developed on-board loading software on Jack-up rig
- Marine Operating Manual preparation for Jack-up Rig

**Software Capability:** SACS, ANSYS, StabCad, Hecsalv, Zenmoor, Neptune, Caesar II, Cadworks

**Sample Jobs:**
- Concept design, initial design, basic drawings and Production drawing preparation for ships, barges, tugs, lift boat etc.
- Project management and supervision services.
- Conversion and or up-gradation engineering.
- Vessel load out and transportation analysis.
- Ballasting sequence during load-out and stability analysis during voyage.
- Sea-fastening design and drawing preparation.
- Structural check of barge deck, sea-fastening members, grillage design and tow analysis.
- Vessel motion analysis – Wave diffraction, motion response and spectral analysis
- Mooring and Berthing Analysis
- Global and longitudinal strength analysis
- Lifting and Jacket upending analysis
- Pipe Laying Analysis by Off-pipe
- Salvage Response Analysis, Pipe Stress Analysis
- Deputation of Designers For Manual As Built Sketching of Offshore pipelines & structures,
Sample Jobs Cont..

Berthing Analysis At Jetty

PLEM Module Lifting

Complete Design of Unrestricted 82m Cargo Ship

Design of Pilot Cum Supply Boat

Lifting, Launching & Upending Analysis of Jacket

Complete Design of 750 Cu.M. Hopper Barge

Offshore Lifting feasibility Study

Concept Design Of Floating Hotel
In-place Analysis of Jack-up Rig

MRPL Calm Buoy Site
Tie-in spool Lifting procedure

Floating Hose Connection Design
of Oil Production Platform

Moon Pool Structural Design Analysis

Design of 2375 CuM Split Hopper Barge

Design of Oil Tanker

Design of Seagoing Deck Barges

Design of Various SPS Crew Boats
Deck Extension and Crane Load Analysis

In-house jack-up loading software ‘LATJ’

Production Engg – Sample Drawing

Design of Floating Pleasure Boat

Conversion Engineering from Ro-Ro Ferry to 535 person Passenger Ship

Transportation & Installation Engineering for Sub-sea Pipe Laying Job

Complete Design of SPS Class Crew Boat

Complete Design of 330 Ft Flat Top Barge
ENGINEERING SERVICES FOR
OFFSHORE PLATFORM

SB MARINE STAFF IN BPA PLATFORM

ONSITE ENGINEERING SERVICES:
WORKSCOPE FOR CONTRACTORS:
REVAMPING, REPLACEMENT, REFURBISHMENT AND MODIFICATION
1. AS BUILT SKETCHING
2. LASER SCANNING
3. SUPPORT FOR DETAIL ENGINEERING FOR FABRICATION
4. SURVEY AND AS FITTED STRUCTURAL DRAWINGS
5. AS FITTED PIPING ISOMETRIC DRAWING
6. INPUT DATA COLLECTION FOR PLATFORM ENGINEERING, DECK EXTENSION, MODIFICATION, LIFTING
7. REMOTE SERVICES

OTHER SERVICES:
1. PDMS / PDS DRAWINGS.
2. PREPARATION PIPING P&ID, ISOMETRIC, PIPING GA
3. HELIDECK DESIGN AND MODIFICATIONS
4. SUPPORT ENGINEERING LIKE LIFTING ANALYSIS, MOORING ANALYSIS, RISER ANALYSIS ETC.
5. STRUCTURAL ANALYSIS
6. PEOPLE ON DEPUTATION
OFFSHORE OUTFALL PIPELAYING PROJECT AT TUNA-KANDLA, GUJARAT

25 MLD TREATED EFFLUENT FACTORY DISPOSAL OUTFALL OF 560 MM DIA HDPE OFFSHORE SUBSEA PIPELINE

The project consists of 8.92 km OFFSHORE sections for a 50 years of life span. The offshore pipe laying and Installation Methodology, Design and Engineering are done by M/S SB Marine Consultant, Mumbai.

Pipe laying plan at Gulf of Kutch as per survey

The offshore pipe laying starts at LFP via Nakti creek up to disposal point. Conventional pipe laying has been carried out on board of the pipe lay barge but in intertidal zone there was problem due to non-availability of water depth. Causeway with a side trench have been made to pipe make-up, joining, lifting and shifting to the trench for towing during high tide.

The launched string is being towed from LFP causeway point to offshore flange connection point by tug boat during high tide condition.

Once the string is reached offshore point the flange to flange connection will be done with the previous pipe section. For this flange to flange connection, the string mouths have to be lifted from water surface to the platform made at side of the barge where specially designed davits are fabricated and installed on deck barge. The lifting procedure is shown in below figures.

132m long String launching from causeway to water
Once the flange to flange is completed the pipe section has to be prepared for lowering in the seabed. The string has to align in line with the trench. Side anchors and assistance of small boats have been taken for any lateral shift due to high current. One the pipes are submerged to the trench and buried, the stability at seabed has been ensured.

For string lowering on to seabed, float and sink method is followed, and the lowering operation is S-laying.

The diffuser installation is a critical operation since the riser pipes can get damaged if the handling is hard. To avoid such damages, a lifting frame has been designed by SB Marine for safe installation at 60 ft water depth.

SB Marine has given each and every design and inspected the fabrication as well as entire process from concept, design, methodology and installation engineering.

Marker buoy with anchoring blocks are provided to avoid any accidental access at the diffuser location.