Zebec
MARINE CONSULTANTS & SERVICES

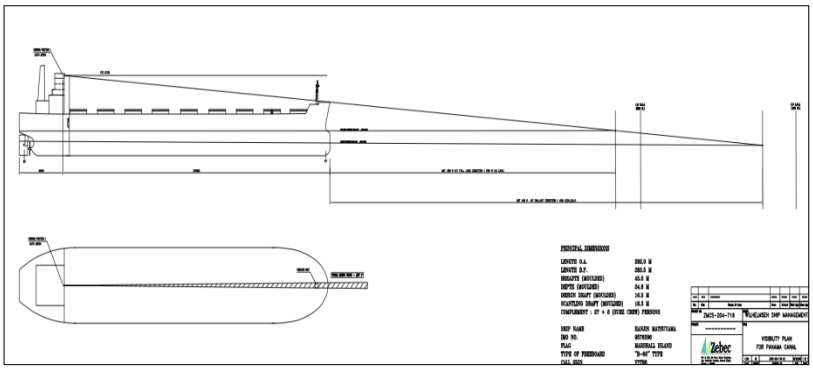
MODIFICATION OF VESSELS AS PER NEW PANAMA CANAL REGULATIONS

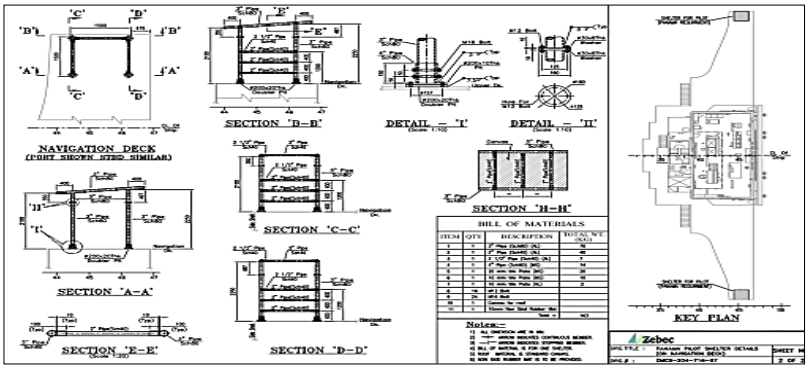
Zebec Marine Consultants & Services carries out design modifications of Panamax vessels (294.13m x 32.31m x 12.04m TFW Draft) for Actual Locks, Panamax Plus vessels (Panamax Size with 15.2m TFW Draft) and Neo Panamax vessels (366m x 49m x 15.2m TFW Draft) to meet the requirements of New Panama Canal Regulations as per OP Notice to Shipping No. N-1-2015 for transit through the newly constructed locks. The core processes and deliverables are described below.

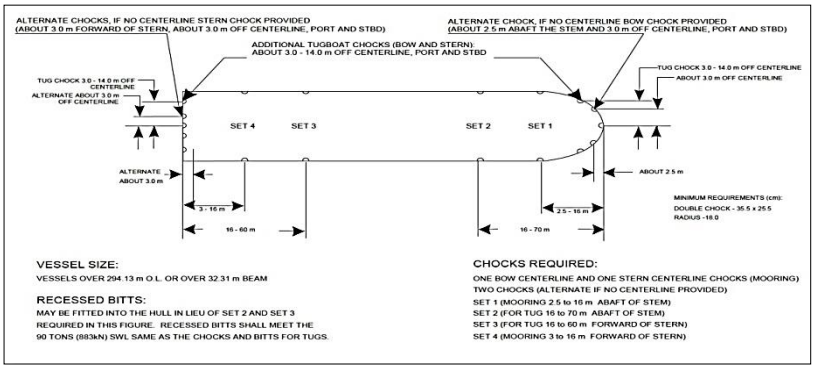
- **Core Processes**
  - Preliminary study on vessel specifications to find out the acceptability and modification requirement.
  - Visibility check and preparation of visibility plan.
  - Trim and Stability analysis.
  - Panama Pilot Shelter design.
  - Mooring outfitting arrangement.
  - Design of under deck reinforcements for mooring equipments using manual calculations.
  - Optimization of reinforcement size using FEA.
  - Preparation of Wheelhouse Poster and Manoeuvring Booklet.

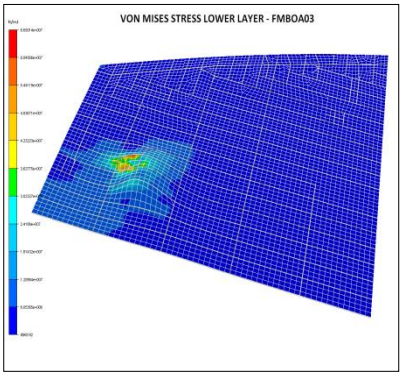
- **Software**
  - Isymost – FEM tool which is the Pre and post processor for NSO.
  - NSO – Finite Element programme for structural analysis.
  - Maxsurf/ In House Stability Macro– For stability and trim checks

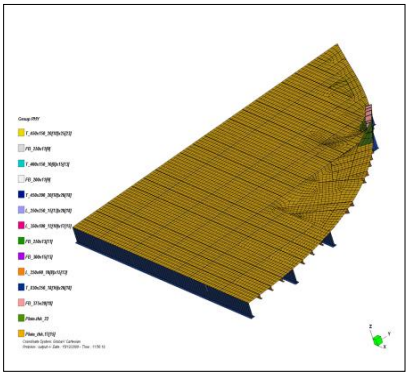
- **Deliverables**
  - General Arrangement Drawing as per ACP requirements.
  - Arrangement of wheelhouse and chart space.
  - Visibility Plan
  - Trim and stability booklet
  - Manoeuvring booklet for new Panama Canal
  - Mooring fitting arrangement drawings.
  - Strength calculations/FEA report for under deck reinforcements for mooring outfitting
  - Detailed drawings of under deck reinforcements and seats of mooring fittings.
  - Obtaining Class approval on Owner's behalf











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