About Us

History

PT Nur Straits Engineering (NURSEC), which provides consulting engineering services, has been established since 2009. NURSEC’s activities are directed to supporting Indonesian infrastructure development projects such as ports or other coastal structures developments. Besides, NURSEC has been developed as well to providing survey services.

NURSEC is a privately owned company belonging to citizens of Indonesia, including its management staff. The legal status of the company is PERSEROAN TERBATAS (PT). In carrying out its activities, NURSEC is supported by experts from various disciplines. NURSEC always provides effective and efficient services which are able to satisfy clients and deliver the best results for any works performed. This would be possible because of the support of dedicated staff and sufficient and adequate equipments.

Vision

Being a leading, best, and innovative engineering service company in Indonesia with international quality for the welfare and progress of the nation of Indonesia.

Mission

1. Develop strong and innovative human resources with continuously learning and being motivated to build Indonesia.
2. Be a technology pioneer in the engineering services provider in Indonesia.
3. Have an active and maximal role in contributing ideas and their implementation in the field of engineering to the government of Indonesia, the society of Indonesia and the international community.
4. Create a professional work environment for encouraging the development of the company.
Front End Engineering

Front End Engineering Design (FEED) is critical to the long-term success or failure of the overall objectives of the plant project. While the business plan identifies the economic opportunity, the Front End Engineering Design (FEED) will establish the set of process operating conditions and specify the equipment to achieve the level of reliability, efficiency, and safety required. Since this design phase sets the direction for the rest of the project, proper process specification is very crucial to its success.

Detail Engineering

Detail Engineering Design (DED) is the essential bridge between the Front End Engineering Design (FEED) and construction phase of a project in order to convert the ideas into reality. DED involves close coordination and synchronization among various disciplines of engineering. It is vital to the owner flexibility time to execute the project when conducting DED. In NURSEC, we have a dedicated team of reliable and knowledgeable managers, engineers and designers who are able to provide the complete detail engineering design solution. We adhere to relevant standards, specifications, procedures and relevant authorities.

Engineering Design

Nursec has the capability to deliver Pre-FEED as well as full FEED depending on clients' requirements and needs. With the Pre-FEED work we typically provide our clients with complete basis for design especially where this is neither available nor properly done at the conceptual design stage.

Construction Engineering

Our commitment to your success includes planning, engineering design and construction. We serve as your dedicated representative during the construction phase, ensuring you avoid the many pitfalls that can compromise a project in its final stage. We develop the construction method to meet the client expectation and budgeting wisely to achieve project schedule on time.

Our Detail Engineering Design Package generally contains the following:
- Process Engineering
- Mechanical Engineering
- Piping Engineering
- Pipeline Engineering
- Instrument Engineering
- Electrical Engineering
- Civil and Structural Engineering
Civil & Infrastructure Planning

Planning

Supported by competent experts in their discipline, NURSEC has contributed in strategic infrastructure planning in Indonesia. The planning process involving multi discipline experts and large area, have created our project planning become masterpiece in each areas.

NURSEC has planned civil infrastructure, such as:
- Airport,
- Coastal Zone Management,
- Mining and Coal Preparation Plant,
- Green Office Building Concept and
- An Environmental Friendly Warehouse Complex
- Railways Route
- Road & Transportation Planning
Geophysical Survey

Survey, Convey, and Verify

We do **Survey** to see what is inside the earth and how is the earth’s surface looks.

We **Convey** the survey result without any data left behind in the field even just one millimeter.

We **Verify** the survey result to convince the client that the product is reliable and accurate.

The updated and reliable survey tools are used to obtain the accurate data. We use ROV, Side Scan Sonar (SSS) and other imaging submersible tools to view, visualize and trace the pipeline and cable route. We also use the complete and modern Survey Vessel which utilized by modern & accurate positioning systems.

Complete Services

- 2D and 3D seismic survey
- 2D and 3D seismic acquisition parameter design.
- Seismic data processing
- Bathymetric Charting
- Hydrographic Survey
- Pipeline Route & Cable Route Survey
- Side Scan Sonar Survey
- ROV
Geotechnical Survey

We drill and investigate what is under earth surface

Since nature gives the opportunity to dig the knowledge inside it, we gather all of potency to drill and investigate the soil, without disturb the environment. With the credence given to NURSEC by Client, we believe that every single drill pipe that inserted into soil will represent all of the scope of works that client gave to us, precisely!

Onshore & Offshore

We do both onshore and offshore. Since we are commited in several Port Design project, warehouse and gas pipeline route, we do drilling survey onshore for Land Facility, and offshore drilling for Pipeline Support, Sea infrastructure such as Jetty/Wharf and other marine structures.

Complete Services

- Drilling (Boring) & Coring of Soil Sample
- (Dutch) Cone Penetration Test/ CPT
- Dynamic Cone Penetration
- Vibrocoreing
- Data Processing and Analysis of Soil and Geological Composition
Land and Aerial Survey

Land Survey

Survey teams available for work throughout Indonesia with latest Leica “state-of-the-art” equipment including DGPS, total stations (conventional laser, reflectorless and Automatic Target Recognition), electronic levels, underground services locator, hydrographic equipment for bathymetric survey, tide and current monitoring.

Our surveyors are trained, experienced professionals who are regularly audited & trained. All our equipment is regularly calibrated by independent institutions. Calibration certificates available.

Aerial Survey

Clients can now have terrain models and contoured topographic mapping for large scale projects which can be combined with high resolution satellite imagery or air photography to produce base mapping in the form of combined topographic and other thematic maps (geology, surface water, vegetation, soils, etc.) at scales that are useable for planning, feasibility, preliminary and even detailed design. These can be combined with published maps from “desk top studies” to provide project start up base maps that in the past were unavailable or took many months or years to produce.
Marine
- Mooring analysis (quasi-static, quasi-dynamic, dynamic) by frequency domain as well as time domain simulation.
- Stability and transportation analysis.
- Offshore Loading-Offloading Systems, In-situ and through-installation analysis, 3rd party verification/certification, etc.

Offshore & Subsea Structures
- All scope offshore structure/subsea PLEM design including In service analysis (In-place, dynamic, seismic and fatigue) and Pre-service analysis (loadout, seafastening, transportation, lifting, launching, upending, onbottom stability).
- Assessment of platform for certification, ultimate capacity and failure risk assessment, Push over analysis, etc.
- Pile/foundation design, variety of civil work design for oil/gas plant, bridge, tower, etc.
Atterberg Limit
The test is performed to determine the plastic and liquid limits of a fine-grained soil. The Liquid limit is arbitrarily defined as the water content, in percent, at which a part of soil in a standard cup and cut by a groove of standard dimensions will flow together at the base of the groove.

Consolidation Test Unit
The test is performed to determine the magnitude and rate of volume decreaser that a laterally confined soil specimen undergoes when subjected to different vertical pressures. This data is useful in determining the compression index, the swelling index and the preconsolidation pressure of the soil.

Oven
NURSEC is using the well manufactured tools to make sure that all of procedures done are supported by high quality equipment. Calibration and warranty are also completed to all laboratory unit. Some of Equipment are imported from Best Manufacturer.
Specific Gravity
Specific gravity is the ratio of the density of a substance to the density (mass of the same unit volume) of a reference substance. Apparent specific gravity is the ratio of the weight of a volume of the substance to the weight of an equal volume of the reference substance.

Triaxial Test Unit
The triaxial test is a common laboratory testing method widely used for obtaining shear strength parameters for a variety of soil types under drained or undrained condition.

Unconfined Compression
The primary purpose of this test is to determine the unconfined compressive strength, which is then used to calculate the unconsolidated undrained shear strength of the clay under unconfined conditions.
NURSEC Warehouse

NURSEC operates its own survey equipment such as:

- Drilling machine Jackro, Cap. 100, 200 and 300 meters depth
- Cone Penetration Test (CPT) Equipment Cap. 2.5 Ton
- Hydraulic Cone Penetration Test (CPT) Equipment Cap. 5 Ton
- Hydraulic Cone Penetration Test (CPT) Equipment Cap. 10 Ton
- Inclinometer
- Field CBR
- DCP Equipment
- etc

Guarantee

By operating its own equipment, NURSEC guarantees an accurate data acquisition & cost and time-effective projects.
A well-maintained equipment is the key of an accurate data acquisition on site. To support the Soil and Rock Investigation projects, NURSEC Workshop prepares and maintains all survey equipments. Post-project & pre-project maintenance is a Standard Operation Procedure in NURSEC Workshop to ensure that the equipments are ready to be mobilized at any time.

NURSEC Workshop also conducts the production of drilling machine and its accessories being widely used by geotechnical and geological survey firms throughout Indonesia.

The products produced by NURSEC Workshops are:
- Portable Drilling Machine (Horizontal and vertical) : Jackro 50, 75, 100, 150, 175, 200, 300, etc
- Tower Rig
- Bore Pile Drilling Machine
- Ground Water Drilling Machine
- Drilling Machine Accessories
Experience

2009

Supervision for Data Cable Link & Fiber Optic of JABODETABEK Train I Jakarta
Study Level of Service for Road I Bandung, West Java
SID Subang Port I West Java
Port Supervision I Batang, Central Java
General Port Supervision I Rembang, Central Java
FS Port I Lamongan East Java
SID Dredging & Reclamation Tanjung Buluh Pandan Madura, East Java
Dredging Design Taddan Port (Including SID) Madura, East Java
Pasean Port Supervision I Madura, East Java
Taddan Port Supervision I Madura, East Java
Labuan Amuk Port Supervision I Bali
SID Seba Port I Kab. Saba, NTT
Maloy Port Supervision I East Kalimantan

Kuala Semboja Port Supervision I East Kalimantan
MP Coal Port Sebuku I South Kalimantan
Kuala Pembuang Port Supervision I Central Kalimantan
SID Special Port I Batam, Riau Islands
MP General Cargo Port I Muko-muko, Bengkulu
Port Supervision I Dumai, Riau
Bumbulan Port Supervision I Gorontalo
SID Poso Port I Central Sulawesi
Lawele Special Port Supervision I Southeast Sulawesi
Belang-belang Port Supervision I Mamuju, West Sulawesi
Geotechnic Survey Special Port I Tarakan, East Kalimantan
General Port Supervision I Tanjung Redeb, East Kalimantan
PT. Nur Straits Engineering

Experience

2010

CPO (Special Purpose) Port Planning T Tobelo, North Halmahera (Indofood Group)

General Port Development Supervision I Tadan, Pamekasan

General Port Development Supervision I Pasean, Pamekasan

Passenger Port Development Supervision I Dumai, Riau

General Port Development Supervision I Subang, West Java

General Port Design Planning I Teluk Lamong, East Java

CPO - Offshore Port Planning & Detail Design Lubuk Gaung, Dumai - Riau (Smart Group)

CPO - Port Master Plan & Detail Design I Lampung (Smart Group)

General Port Construction Supervision I Tj. Mocoh, Tj. Pinang, Riau

Special Purpose Port Master Plan I East Kutai, East Kalimantan

Airport Master Plan and Detail Engineering Design I North Kayong, West Kalimantan

General Port Master Plan & Detail Design I Lembata, NTT

Master Plan Review & Basic Design of Cigading Port I Cilegon, Banten (Krakatau Steel Group)

Perencanaan Teknis Jalan Tasikmalaya- Cimaragas-Banjar | Dinas Bina Marga Jabar

2011

Survey Topography and Hidro Oceanography for Indexing Coal Port | Caliorang, Kutai, East Kalimantan

Basic Design and Coal Preparation Plan, Indexim Coalindo Kaliorang, Kitai, East Kalimantan

Waworada Port Supervision | West Nusa Tenggara

Masterplan for Kubangsari Area, Cigadung Port (Extend) | Cilegon, Banten (Krakatau Steel Group)

Provision for Landing Jetty of Star Energy | Jailolo, West Halmahera

DED of Tomia Port | Southeast Sulawesi

FS Jalan Alternatif Ciawi-Kadipaten | Dinas Binamarga dan Pengairan Kab. Tasikmalaya

Planning Techniques Roads And Bridges Regional 7 (Aceh Utara) | Dinas Bina Marga & Cipta Karya Aceh

Technical Supervision Road Improvement : Cikamurang-Jangga (4 Km), Cikamurang-Bantarwaru/Subang Bts Indramayu (5 Km) dan Kadipaten-Bts Majalengka Indramayu (4 Km) Paket K-09/PW/2010 | Pemprov Jawa Barat Dinas Bina Marga

Road and Bridge Supervision Wilayah X (Aceh Timur) | Dinas Bina Marga dan Cipta Karya Aceh

Feasibility Study work and Environmental Analysis for Improved Roads Activity Cukul-Cisewu Rancabuaya Dan Peningkatan Ruas Jalan Ciwedey-Rancabali | Dinas Bina Marga Jabar
PT. Nur Straits Engineering

Experience

Master Plan of Coal Port PT IMDS | Central Kalimantan
Detail Survey of PT PGN (Persero) Tbk. | Lampung, Sumatera
Detail Survey of PT PGN (Persero) Tbk. | Batam, Sumatera
Detail Survey Ringline 2 PT PGN (Persero) Tbk. | Cimanggis Bitung
Java Sea Patrol Survey of PT PGN Pipeline Route | Java Sea
Soil Investigation & Geotechnical Services | CNOOC SES Ltd.
DED Landung Jetty | PT Pertamina EP | Sanga-sanga
Structure & Engineering Services | Conoco Phillips Indonesia
Perencanaan Teknis Jalan, Jembatan dan Pengairan JP1
Perencanaan Teknis Jalan (paket 1) | Dinas Pekerjaan Umum Kabupaten Bandung
Pengawasan Teknik Jalan dan Jembatan Paket JS1 Wilayah Soreang, Pasir Jambu, Banjaran, Margahayu | Dinas Pekerjaan Umum Pem Kab Bandung
Perencanaan Trase Dan DED Jalan Lingkar Utara dan Selatan Serta Jembatan Penunjang Ibu Kota Dan Kawasan Pusat Pemerintahan Kabupaten Tasikmalaya | Dinas Bina Marga
Perencanaan Teknis Jalan Tasikmalaya-Cimaragas Banjar | Dinas Bina Marga

Bangkuang Coal Terminal Project | PT. IMDS
Hauling Road Design for Natuna Project | PT Choice Plus
Marunda Center Soil Investigation (Offshore) | DHV - MLD
Interior Construction Project Management | PT Pertamina EP
Suban 2,13,14 Flowline Soil Investigation | COPI
Suban 3,6 Flowline Soil Investigation | COPI
Suban Erosion | COPI
Offshore Platform Extension | COPI
Belida Platform Requalification | COPI
UKL-UPL Land Seismic Acquisition 2D at Sengkang Block South Sulawesi | Energy Equity
DED Jembatan Timbang Cianjur - Bandung Route | Dinas Perhubungan Jawa Barat
Well Monitoring Services (Soil Investigation, Soil Resistivity) | STAR Energy Wayang Windu
Marine Consultancy Agreement | PT. Segah Energy Resources
Offshore Soil Boring Services | CNOOC SES Ltd.
Renovasi Hangar FTC | PTDI
Detail Survey Pipeline Route untuk Pengalihan (Jawa Sumatera) | PT PGN (Persero) Tbk.
Ramba Jetty | COPI (Blanket Project)
Matak Runway Overlay | COPI (Blanket Project)
Onshore Pigging Soil Investigation | COPI (Blanket Project)
Dayung Landslide Mitigation | COPI (Blanket Project)
Water Disposal Project | COPI (Blanket Project)
Core Drill Test | COPI (Blanket Project)
Onshore Pigging Topography | COPI (Blanket Project)
Ramba Mud Chemical Test | COPI (Blanket Project)
Rawa Power Generator Soil Investigation | COPI (Blanket Project)
HDD Dayung | COPI (Blanket Project)
ROW Pipeline Risk Assessment | COPI (Extension Blanket Project)
Dayung KM 46 Landslide Mitigation | COPI (Extension Blanket Project)
Dayung KM 46 Landslide Monitoring | COPI (Extension Blanket Project)
Bridges Assessment at on 21 bridges at Onshore Area | COPI (Blanket Project)

Belida WHPB Rig Assessment | COPI (Extension Blanket Project)
Belida DPPA Rig Assessment | COPI (Extension Blanket Project)
Matak Jetty Integrity | COPI (Extension Blanket Project)
Rawa Sumpal Telco Soil investigation | COPI (Extension Blanket Project)
Tower Inspection Guideline | COPI (Extension Blanket Project)
Puyuh Bridge Design Assessment | COPI (Extension Blanket Project)
Grissik Metering Lifting Aids Study | COPI (Extension Blanket Project)
Java Sea Pipeline Patrol | PT PGN (Persero) Tbk.
Feasibility Study Fishery Port | Kabupaten Batubara
UKL - UPL Development of Performance Test Facility at Bojonegara Plant, Serang-Banten | PT Perusahaan Gas Negara Leko & Kapas Bridges Design | COPI (Extension Blanket Project)
Installation Engineering Study for Subsea Manifold Structure, 26" Production Flowline and 12" Flexible Flowline as Part of Terang Serasun Batur Development Project
Experience

Provision of Engineering Blanket Services | Star Energy Geothermal Wayang Windu, Ltd
Provision of Survey Blanket Services, | Star Energy Geothermal Wayang Windu, Ltd
Jasa Engineering Services Civil di Aset 5 | Pertamina EP
Survey Investigation and Design Reclamation of Wilmar Backyard area, Teluk Bayur Port | PT. Pelindo 2

2014
PT. Nur Straits Engineering

CLIENT

[Logos of various companies]

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List of Software

Licensed Softwares

1. Auto CAD 2014
2. Caesar
3. Ansys-Fluent
4. HYSYS
5. Plaxis
6. Primavera
7. SACS
8. STAADPro
9. MathCAD
10. Orca Flex (Lease)
11. Offpipe (lease)