MMP Mitra Murni Perkasa

BASIC ENGINEERING DESIGN

ORIGINAL

WIKA | FOR APPROVAL | DATE 10 Apr 2022

PROJECT NAME : MMP NICKEL SMELTER PROJECT

CLIENT : PT. MITRA MURNI PERKASA

CONTRACTOR : PT. WIJAYA KARYA (Persero) Tbk

PROJECT LOCATION : TELUK WARU, BALIKPAPAN – KALIMANTAN TIMUR

CONTRACT NO. : 065-1/LGL/MMP-WIKA/XII/2021

MMP001 – MMP Nickel Smelter Project Document Review Code Stamp		MMP
Code	Description	
C1	Approved	
C2	Approved with comments Work may proceed	
C3	Revise and resubmit Work may not proceed	
C4	Not Reviewed No review required / Information only	✓
Date	Reviewed By	Signature
	YO	

Rev.	Date	Description	Prepare		Checked		Approved
0	05-Apr-22	Issued for Approval	PQ	HS	JS	DW	DH
			PT.ATRYA	PT.WIKA	PT.ATRYA	PT.WIKA	PT.WIKA

Consultant: PT. ATRYA SWASCIPTA REKAYASA ENGINEERING CONSULTANTS

REVISION SHEET DESCRIPTION

NO	PAGE	SUBJECT	DESCRIPTION OF CHANGE

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1. BACKGROUND

PT. MITRA MURNI PERKASA (MMP) will build 2 Line (2 x 48 MVA) Ni Matte Smelter at Balikpapan Regency, East Kalimantan Province. This Company is committed to comprehensively developing Indonesia's rich Nickel Ore resources with a complete industrial chain of nickel ore mining, smelting and seaborne export.

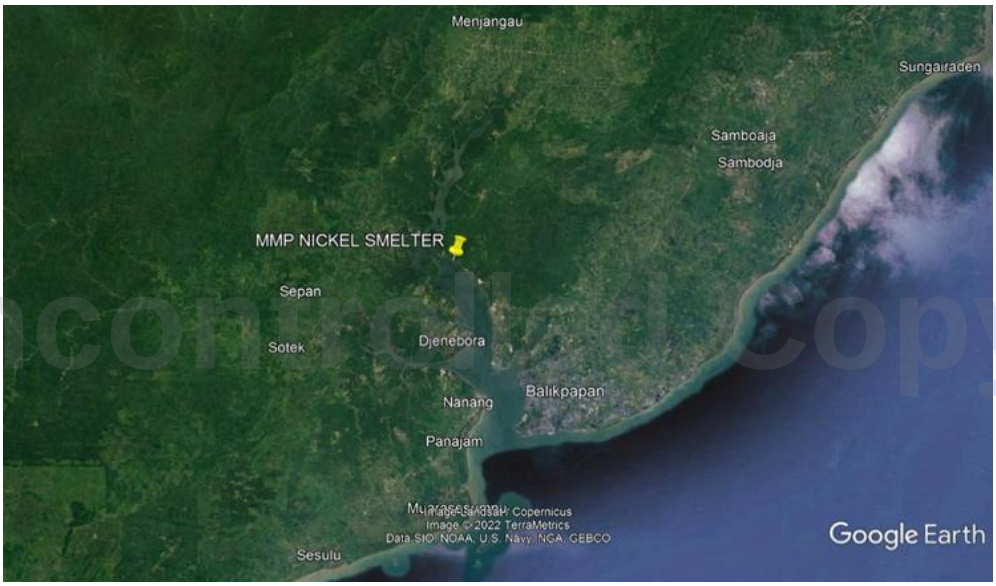

Figure 1-1 Project Location

Figure 1-2 Enlarged Project Location

The Site Location is at Kariangau Industrial area, West of Balikpapan, about 27 km from Balikpapan City. Its site can be reached by plane from Jakarta by 2 hour-direct flight to Balikpapan or transit at Makassar. From Balikpapan, the site can be reached by sea for about 30 minutes or by land for about 2 hours through substandard road condition. The distance from Balikpapan City to site is about 28 km by road.

2. PROJECT DESCRIPTION

This project is the marine works for the MMP NICKEL SMELTER PROJECT. After the completion of the project, it will provide transportation services of raw materials and products to ensure the operation of the.

2.1. Objective

This requisition covers datasheet for Geotextile Work (hereinafter called the Work) to be performed and completed by SUBCONTRACTOR for MMP NICKEL SMELTER PROJECT Project.

The SUBCONTRACTOR shall perform and complete the work in strict accordance with the requirements contained in this Requisition

2.2. Definitions

The following words if found elsewhere in this document shall have the meaning as follow:

COMPANY : PT. Mitra Murni Perkasa (MMP)

CONTRACTOR : PT. Wijaya Karya (Persero) Tbk

SUBCONSULTANT : PT. Atrya Swascipta Rekayasa

2.3. Abbrevations

Table 2-1 List of Abbrevations

Abbreviation	Explanation
ASTM	American Standard Testing & Material
BED	Basic Engineering Design
DED	Detail Engineering Design
ISO	International Organization for Standardization
MD/CD	Machine Direction/ Cross Machine Direction
MMP	Mitra Murni Perkasa
SI	Standard International
SNI	Standar Nasional Indonesia (Indonesian National Standard)

3. CODE, STANDARD & REFERENCE

3.1. Introduction

This section lists the Indonesian Regulations / Laws and the International Codes and Standards which shall be observed for the “MMP NICKEL SMELTER PROJECT.

3.2. Order of Precedence

The following reference documents apply to and shall be considered an integral part of this basis of design. Compliance with any relevant code or standard listed hereunder is mandatory. In the case of conflict, follow the hierarchy of precedence described below:

1. Indonesia Law including SNIs and Regulation
2. International Codes and Standards
3. Design Basis.
4. Project Specification, Datasheet and Drawing
5. The others, Approved Company Standard

If any conflict arises between this document and the applicable reference documents, this shall be resolved either by application of the most severe design conditions or resolution by a person appointed by the COMPANY.

3.3. Indonesia Laws/Regulations

The development of Jetty facility at MMP NICKEL SMELTER PROJECT in Kariangau Industrial area, West of Balikpapan shall be in accordance with the latest Indonesian Laws/ Regulations including:

Table 3-1 List of Indonesia Regulations/Laws Applicable

Doc. No	Description
SNI 8460:2017	Geotechnical Design Requirements

3.4. International Codes & Standards

The design shall be in accordance with good engineering practices and in compliance with the latest editions and revisions (unless noted otherwise) of the following Codes, Standards, Company's Specifications and Regulations, as applicable.

Table 3-2 List of International Codes Applicable

Doc. No	Description
ASTM D 4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D 4632	Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
ASTM D 4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
ISO 9863	Determination of Thickness At Specified Pressures
ISO 9864	Test Method for the Determination of Mass Per Unit Area of Geotextiles and Geotextile

Doc. No	Description
ISO 10319	Wide-Width Tensile Test
ISO 11058	Determination of Water Permeability Characteristics Normal To The Plane, Without Load
ISO 12236	Static Puncture Test
ISO 12958	Determination of Water Flow Capacity In Their Plane

3.5. Related Project Document

Table 3-3 List of Related Project Document Applicable

Doc. No	Description
MMP-DBS-100-C-0001	Jetty Design Basis & Criteria
MMP-DBS-100-C-0002	Civil And Structures Design Basis & Criteria

4. DATASHEET FOR GEOTEXTILE

Below is contains Geotextile datasheet material that will be used at MMP Nickel Smelter Project – Teluk Waru, Balikpapan, Kalimantan Timur.

Table 4-1 Datasheet for Geotextile

NO	PROPERTIES	UNIT	REQUIREMENTS
I. a.	Physical Characteristics		continuous filament, non-woven needle punched
b.	Basic Material		100% polypropylene, UV stabilized
II.a.	Nominal Mass	g/m^2	325
b.	Thickness	mm	2.90 ± 2 %

NO	PROPERTIES	UNIT	REQUIREMENTS
III.a.	Tensile Strength (avg.)	kN/m	24 ± 2 %
b.	Tensile Elongation (MD/CD)	%	80/40 ± 2 %
c.	Performance Energy	kN/m	7.2 ± 2 %
d.	CBR Puncture Strength	N	3850 ± 2 %
e.	Effective Opening Size	mm	0,09
f.	Vertical Water Flow - at 50 mm head - at 100 mm head	$l/m^2/s$	55 ± 2 % 117 ± 2 %
g.	Horizontal Water Flow - in pressure 20 kPa - in pressure 200 kPa	l/m.h	16 ± 2 % 3.6 ± 2 %
IV.	UV Resistance		
a.	Tensile strength retention		> 70% after 3 months of outdoor weathering
b.	Punchture strength retention		> 70% after 3 months of outdoor weathering
V.	Chemical resistance		No Infulence at PH range 2 - 13
VI.a.	Grab Strength (MD/CD)	N	1500/1400 ± 2 %
b.	Grab Elongation (MD/CD)	%	75/40 ± 2 %
c.	Apparent Opening Size	mm	0.18 ± 2 %
d.	Permittivity	s^{-1}	1.7 ± 2 %
VII.a.	Form of Suply		
b.	Width	M	4

NO	PROPERTIES	UNIT	REQUIREMENTS
c.	Length	M	100
d.	Area	m^2	400
e.	Weight of roll	kg	140