Environmental Management Plan

(TEMP)

Tanjung Perak Port Development in Lamong Bay

2010
Based on the content of Environmental Management Plan for supporting Tanjung Perak Port Development in Lamong Bay, Surabaya City, East Java Province by our company, I, the undersigned:

Name: HUSEIN LATIEF  
Designation: Director of Commerce and Business Development

acting for and on behalf of PT. Pelabuhan Indonesia III (Persero) as the person in charge of the implementation of the Environmental Management Plan for:

Project: Tanjung Perak Port Development in Lamong Bay,  
Surabaya City, East Java Province

Name of Company: PT. Pelabuhan Indonesia III (Persero)
Company Status: State-Owned Company
Head Office Address: Jl. Perak Timur 610 Surabaya

hereby declares that:

1. We are willing to implement the environmental management programs prepared based on the Environmental Impact Statement affected to our business as represented in our Environmental Management Plan as recorded in our Environmental Management Plan Documents, and submit the relevant reports on regular basis to the competent authorities pursuant to the prevailing jurisprudence;

2. During the course of the management of the environmental impacts arising from our activities specified in the Environmental Management Plan Documents, we shall be subject to be supervised and monitored by the lawfully competent and warranted authorities pursuant to the prevailing jurisprudence;

3. In case we fail to diligently manage the activities in accordance to the Environmental Management Plan Documents as stated in the aforementioned dictum 1, we shall be accountable to satisfy all arising obligations from the losses and damages pursuant to the prevailing jurisprudence;

4. In case we fail to diligently satisfy the provisions set forth in the Environmental Management Plan Documents, we shall take all arising legal sanctions;

5. In case of modifications in the activities, we are prepared to renew/revise the Environmental Management Plan Documents.

Thus truly declared and to be used when required

Surabaya, .. January 2011
Initiator
Board of Directors of PT. Pelabuhan Indonesia III (Persero)
Director of Commerce and Business Development

Duty-stamped, Signed and Sealed

HUSEIN LATIEF

Approved
Central Environmental Impact Assessment Evaluation Commission
Number: 256 Year 2010
Date: 05 October 2010
In attempt to secure sustainable development and meeting the prevailing laws and jurisprudence in Indonesia, The Business Plans and/or Activities for Tanjung Perak Port Development in Lamong Bay, Surabaya City, East Java Province, by PT. Pelabuhan Indonesia III (Persero), it is to be provided with Environmental Management Plan Documents that pertain to be a part of Environmental Impact Assessment.

In the Environmental Impact Statement Documents, the activities potential to lead to impacts and the impacted environmental components have been thoroughly reviewed. With reference to the review, the project initiator will diligently take a set of preventive, anticipative and control steps to minimize the negative impacts and maximize the positive ones.

This Environmental Management Plan describes the objective of environmental management plan, arising impacts, source of impact, impact parameter, impact management activities, management site, management period, management funding and institutions involved in the environmental management.

In view of the completion of Environmental Management Plan, PT. Pelabuhan Indonesia III (Persero) presents the greatest appreciation to any and all parties contributing to the process of preparation of this document and application of the Environmental Impact Assessment in order to be able to use it properly.

Surabaya, .. January 2011
Initiator
Board of Directors of PT. Pelabuhan Indonesia III (Persero)
Director of Commerce and Business Development

Signed and Sealed

HUSEIN LATIEF
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BIBLIOGRAPHY

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Sitemap of Environmental Management Plan
1.1. BACKGROUND

Tanjung Perak Port is definitely the second largest port in Indonesia and extremely potential to support the traffic of goods from and to the Eastern territory of Indonesia. Due to the getting increasing activities in Tanjung Perak Port, PT. (Persero) Pelabuhan Indonesia III plans to develop facilities in Tanjung Perak Port. In the mean time, the area required for such port development is obviously limited. Accordingly, it is planned to develop the port facilities by reclaiming the shallow waters in Lamong Bay.

Tanjung Perak Port development in Lamong Bay is exclusively for container yard construction for anticipating the getting increasing container transportation activities due to global market demands. The increasing container traffic at present is almost over capacity.

With reference to the Regulation of State Minister of Environment Nr. 11 Year 2006 dated 02 October 2006 about Business Line and/or Activities to be provided with Environment Impact Assessment (EIA), the Tanjung Perak Port Development in Lamong Bay is to be provided with EIA. In view of the
aforementioned, in attempt to develop Tanjung Perak Port in Lamong Bay, it is provided with EIA that has been provided with EIA in year 2001. The EIA was approved by the Central Communication EIA Commission with an approval Nr. KP.137 A Year 2001 on 04 May 2001. Unfortunately, to date the required area for the proposed development is still inadequate. With reference to State Regulation Nr. 27 Year 1999 about Environmental Impact Assessment (EIA), the approval on the EIA of Tanjung Perak Port Development is out of date since the development was not yet realized within 3 (three) years’ time as of the date of the approval. Therefore, in order to execute Tanjung Perak Port Development plan in Lamong Bay, it requires re-application for EIA approval from the competent authorities.

The EIA covers studies in to what extent the impacts, both positive and negative ones, that may arise from a business line and/or activities to the environment The positive impacts are to be maximized, while the negative ones are to be minimized in order to prevent decreased environment quality. The application of this EIA is supposed to support sustainable eco-friendly development.
1.2. Goal and Objective of Environmental Management

1.2.1. Goal of Environmental Management

The goal of the preparation of environmental management plan is to prevent, handle, and control any major and significant negative impacts due to the plans of Tanjung Perak Port Development in Lamong Bay in order that it can bring greater benefits to all, especially the communities surrounding the project site.

1.2.2. Objective of Environmental Management

The objectives of the environmental management are:

- Formulating the proper actions and measures for avoiding, preventing, minimizing, handling and controlling the significant negative impacts due to the planned project.
- Formulating the proper actions for improving, enhancing and developing the to improve the positive impacts in order that it bring greater benefits due to the planned project.
- Formulating the executor and supervisor of environmental management activities and recipients of environmental management performance reports in the line with the activities
- Formulating the outlines of funding of environmental management activities, especially the one to be furnished by the initiator of the activities.
- Determining the locations and schedules of the implementation of environmental activities.

1.3. Jurisprudences

The Environmental Impact Assessment is applied with reference to environmental jurisprudences and integrated national policies. The jurisprudences related with the Environmental Impact Assessment are, inter alia:
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<td>• Indonesian Act Nr. 17 Year 2008 about Maritime Affairs</td>
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### State Regulations

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<td>Adopted as reference in improving transportation network performance</td>
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### Decisions of Minister of Communication

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<td>Decision of State Minister of Environment Nr. KEP 48/MENLH/11/1996 about Noise Standards</td>
<td>Adopted as reference in evaluating degree of noise in an area</td>
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<td>Decision of State Minister of Environment Nr. 54/MENLH/10/1997 about Air Pollution Index Standards.</td>
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<td>Decision of State Minister of Environment Nr. 201 Year 2004 about Mangrove Damage Criteria</td>
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<td>Decision of State Minister of Environment Nr. 45 Year 2005 about Guides to Preparation of Environmental Management Plan and Environmental Observation Plan Reports</td>
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<td>Decision of State Minister of Environment Nr. 05 Year 2007 about Hazardous and Poisonous Waste in Port</td>
<td>Adopted as legal reference in managing hazardous and poisonous waste in port activities</td>
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### Decision of Minister of Environment and Head of Environmental Impact Management Agency

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<td>Decision of Minister of Environment and Head of Environmental Impact Management Agency Keputusan Nr. Kep. 056 Year 1994 about Guides to Significant Impact Measurement.</td>
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<td><strong>East Java Provincial Regulations</strong></td>
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<td>• East Java Provincial Regulation Nr. 02 Year 2006 about East Java Provincial Spatial Plan</td>
<td>Adopted as reference in spatial development</td>
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<td>• Surabaya City Regulation Nr. 3 Year 2007 about Surabaya City Spatial Plan</td>
<td>Adopted as reference in planning main facility constructions in Surabaya City</td>
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<td>• Surabaya City Regulation Nr. 1 Year 2004 about Disturbance Permit</td>
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<td>• Surabaya City Regulation Nr. 12 Year 2006 about Analysis on Surface Transportation Impacts</td>
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<th><strong>Decision of Director General of Surface Communication</strong></th>
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<td>• Decision of Director General of Surface Communication Nr. SK 726/AJ.307/DRJD/2004 about Technical Guides in Surface Transportation of Heavy Duty Equipment</td>
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<td>• Decision of Governor of East Java Province Nr. 660.3/25781/025/1986 about Environmental Impact Handling.</td>
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1.4. ENVIRONMENTAL MANAGEMENT PLAN BENEFITS

The environmental management plan is expected to be beneficial to the project initiator, government or related institutions and community surrounding the project site.

1.4.1. BENEFITS TO PROJECT INITIATOR

The benefits of environmental management plan to the project initiator are as follows:

- As a guide to avoid, prevent, minimize, handle and control the negative significant impacts that may arise due to the activities for implementing the plans of Tanjung Perak Port Development in Lamong Bay.
- As a guide to develop or enhance the positive impacts, especially in socio-economic aspects.
- Participating in effort to conserve the natural resources and environment in and surrounding the project site.
- Satisfying the prevailing jurisprudences affected by the government.

1.4.2. BENEFITS TO GOVERNMENT AND RELATED INSTITUTIONS

The benefits of environmental management plan to the government and related institutions are as follows:

- As a basis to observe the environment management applied by the project initiator.
• As a basis to take effective policies and grant permits for the planned project.
• As a basis to evaluate the implementation of environmental management by the relevant institutions surrounding the project site.
• As a basis to manage the environment by the relevant institutions surrounding the project site.

1.4.3. Benefits to Surrounding Community

The benefits of environment management plan to the surrounding community are as follows:

• As information, in order that we can participate to observe the activities of project of Tanjung Perak Port Development in Lamong Bay.
• As information, inorder to be able to take socio-economic and culture aspects beneficial to the surrounding community.
• As information, in order to be able to avoid and anticipate negative impacts that can affect the surrounding community.
• As information, in order to participate in keeping and conserving the environment.
The Environmental Management Plan for the construction of Tanjung Perak Port Development in Lamong Bay is prepared by adopting 3 approaches, i.e. technological, economic and institutional approaches.

Formulating the environment management plan, we have to take the control over causes of impacts into account so as to the impacts to the environment can be prevented or minimized. The prevention or minimization of such impacts can be effective through an application of science and technology as well as change of human attitude involved in the project. In view of the socio-economic and cultural impacts, the preventive steps can be assured through intensive approaches to relevant institutions and the impacted community as early as possible. Next, the environmental management plan is to be formulated to control the impacts to the environment.

Besides, the economic interests are to be well considered in order that resulted calculation of costs and economic benefits remain profitable, in the sense that economically the environmental impacts to be handled remain feasible.
2.1. Technological Approach

The technological approach adopted to minimize/handle the negative impacts by adopting the present technologies and well considering the available resources.

The adopted technological approaches are, inter alia:

A. Reclamation Activities
   - Construction of rock embankment along the borders of waters to be reclaimed. The embankment is to prevent landfill material overflow out of the reclamation border.

B. Surface Transport of Material
   - Enforcement of highway standards and emission test passing over the container trucks.

C. Container Yard Operations
   - Provisions of traffic signs in front of the port gate. The traffic sign installation is to warn the road users that there traffics of incoming and outgoing trucks and other vehicles. (See traffic signs and their positions in Annexure)

2.2. Socio-Economic Approach

The socio-economic approach is required to prevent excessive or unallocated costs and expenditures that may lead to community unrest. The approach specify the steps that will be taken by to be PT. Pelabuhan Indonesia III in attempt to cope with the significant impacts through social-interaction-based measures and supports by the government.

The socio-economic approach adopted in the environmental management plan covers, inter alia:

- Prioritizing local people recruitment in accordance with their skills and competencies.
2.3. Institutional Approach

Environmental management requires more than those two aforementioned approaches. It also calls for coordination between PT. Pelabuhan Indonesia III and other competent authorities through institutional approach as follows:

- Coordination with competent authorities related with the environmental management in port areas administered by PT. (Persero) Pelabuhan Indonesia III.
- Cooperation with other entities managing similar environmental management activities surrounding the port areas administered by PT. (Persero) Pelabuhan Indonesia III under the supervision of competent environmental authorities.
- Monitoring and supervision by the competent environmental authorities over the results of environmental management.
- Establishment of an organization unit accountable for environmental management.
- Regular reporting of results of environmental management submitted to the competent authorities.
- Collaboration with qualified environmental management training centres to enhance the human resources competencies.
This chapter describes the management of significant impacts resulted from the environment estimation and evaluation as reported in Chapter 5 and Chapter 6 of the Environmental Impact Statement Documents.

3.1. CONSTRUCTION PHASE

3.1.1. Reclamation for Preparing Road Construction

A. Impact on Increased River Runoff Surface

- Source of Impact: Reclamation for preparing road construction
- Parameter of Impact: Getting higher and further impacts of seawater runoff.
- Objective of Environmental Management Plan: Assisting the local government to supply early information to Bengawan Solo River Management Center.
- Environmental Management: Reminding the Bengawan Solo River Management Center to well consider that the
construction activities will increase the riverwater runoff surface for about ± 4 cm in 2-year cycle of flood due to runoff, especially in Lamong River.

- Environmental Management Site : Estuary of Lamong River
- Environmental Management Period : Pre-construction
- Environmental Management Institution
  - Initiator : PT. Pelabuhan Indonesia III

B. Impact on Decreased Seawater Quality

- Source of Impact : Reclamation for preparing road construction
- Parameter of Impact : Decision of Minister of Environment Nr. 51/2004 about Quality Standards of Seawater, especially suspended solid, annexed thereto.

- Objective of Environmental Management Plan : Minimizing decrease on seawater quality due to reclamation for preparing the construction of causeway and container yard preparation and compaction.

- Environmental Management : Construction rock embankment before construction for preventing reclamation material overflow.

- Environmental Management Site : Causeway reclamation site
- Environmental Management Period : During area reclamation.
3.1.2. Reclamation of Shallow Water for Container Yard and Terminal Facilities

A. Impact on Increased Surface of River Runoff

- Source of Impact: Reclamation of shallow water for constructing container yard and terminal facilities
- Parameter of Impact: Getting higher and further impacts of seawater runoff.
- **Objective of Environmental Management Plan**: Assisting the local government to supply early information to Bengawan Solo River Management Center.

- **Environmental Management**: Reminding the Bengawan Solo River Management Center to well consider that the construction activities will increase the riverwater runoff surface for about $+4$ cm in 2-year cycle of flood due to runoff, especially in Lamong River.

- **Environmental Management Site**: Lamong River estuary

- **Environmental Management Period**: Pre-construction

- **Environmental Management Institution**
  - **Initiator**: PT. Pelabuhan Indonesia III
  - **Supervisor**: East Java Provincial Public Waterworks Service, Bengawan Solo River Management Center and Surabaya City Environment Agency.

**B. Impact on Decreased Seawater Quality**

- **Source of Impact**: Reclamation of shallow water for constructing container yard and terminal facilities

- **Parameter of Impact**: Decision of Minister of Environment Nr. 51/2004 about Quality Standards of Seawater, especially suspended solid, annexed thereto.

- **Objective of Environmental Management Plan**: Taking best efforts to prevent decreased seawater quality due to shallow water reclamation activities for preparing causeway construction and container yard preparation and compaction.
C. Impact on Change of Water Current Pattern and Sedimentation

- Source of Impact: Reclamation of shallow water for constructing container yard and terminal facilities
- Parameter of Impact: Increased process of sedimentation
- Objective of Environmental Management Plan: Controlling sedimentation due to shallow water reclamation activities
- Environmental Management: Dredging Sememi River estuary
- Environmental Management Site: In front of Sememi River estuary
- Environmental Management Period: When the elevation in the riverbed in the estuary increases minimally 50 cm.
- Environmental Management Institution
  - Initiator: PT. Pelabuhan Indonesia III
  - Supervisor: Surabaya City Environment Agency and Surabaya City Highway and Drainage Service
3.1.3. Construction of Pier Structure and Trestle

A. Impact on Decreased Seawater Quality

- **Source of Impact**: Construction of port structure and trestle
- **Parameter of Impact**: Decision of Minister of Environment Nr. 51/2004 about Quality Standards of Seawater, especially suspended solid, annexed thereto.
- **Objective of Environmental Management Plan**: Taking best effort to prevent decreased seawater quality due to construction of port structure and trestle.
- **Environmental Management**: Constructing main pier columns and beams and trestle with pre-cast structures, instead of on-site casting.
- **Environmental Management Site**: Pear and trestle site.
- **Environmental Management Period**: During construction of pier structure and trestle.
- **Environmental Management Institution**
  - Initiator: PT. Pelabuhan Indonesia III
  - Supervisor: Surabaya City Environment Agency

3.2. OPERATION PHASE

3.2.1. Incoming and Outgoing Container Trucks

A. Impact on Decreased Ambient Air Quality

- **Source of Impact**: Incoming and outgoing container trucks
- **Parameter of Impact**: Feasibility of operated truck with reference to results of truck physical and emission tests.
- **Objective of Environmental Management Plan**: Assuring that operated container trucks qualify prevailing truck operating standards
- **Environmental Management**: Affecting feasibility standards of operated means of transportation to minimize pollution
3.2.2. Container Terminal Operation

A. Impact on Increased Community Income

- **Source of Impact**: Container terminal operation
- **Parameter of Impact**: Increased community income pre and post operation activities
- **Objective of Environmental Management Plan**: Securing that the local community gets much greater business opportunities
- **Environmental Management**: Opening greater business opportunities to the local community due to the container terminal operation, such as: food stalls.

- **Environmental Management Site**: Around project site.
- **Environmental Management Period**: During container terminal operation
- **Environmental Management Institution**:
  - **Initiator**: PT. Pelabuhan Indonesia III
  - **Supervisor**: Surabaya City Environment Service
3.2.3. Labor Recruitment

A. Impact on Increased Community Income

- Source of Impact: Labor recruitment
- Parameter of Impact: Increased community income pre and post operation activities
- Objective of Environmental Management Plan: Securing that the local community really gets greater job opportunities
- Environmental Management: 1. Giving the same employment opportunities to the local people, especially the non-skilled ones, through the village office and sub-district office in the studies area for posts as, for instance: security guards, administration clerks, porters, etc.
   2. Recruiting workers in accordance with the required specifications and competencies.

- Environmental Management Site: PT. Pelabuhan Indonesia III
- Environmental Management Period: During operation (labor recruitment)
- Environmental Management Institution
  - Initiator: PT. Pelabuhan Indonesia III or operator
  - Supervisor: Surabaya City Environment Service

B. Impact on Availability of Job Opportunity

- Source of Impact: Labor recruitment
- Parameter of Impact: Increased community income pre and post operation activities
- Objective of Environmental Management Plan: Securing that the local community really gets greater job opportunities
- Environmental Management: 1. Giving the same employment
opportunities to the local people, especially the non-skilled ones, through the village office and sub-district office in the studies area for posts as, for instance: security guards, administration clerks, porters, etc.

2. Coordinating with the officers in charge in Surabaya City Government, Sub-district and Village to get competent local workers.

- Environmental Management Site: Romokalisari Village and Tambak Osowilangun Village (Benowo Sub-district), Tambak Langon Village, Greges Village and Kalianak Village (Asemrowo Sub-district), and Morokrembangan Village (Morokrembangan Sub-district)

- Environmental Management Period: During operation (labor recruitment)

- Environmental Management Institution
  - Initiator: PT. Pelabuhan Indonesia III or operator
  - Supervisor: Surabaya City Environment Service
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<td>Increased River Runoff Surface</td>
<td>Getting higher and further impacts of seawater runoff</td>
<td>Assisting the local government to supply early information to Bengawan Solo River Management Center</td>
<td>Reminding the Bengawan Solo River Management Center to well consider that the construction activities will increase the riverwater runoff surface for about + 4 cm in 2-year cycle of flood due to runoff, especially in Lamong River</td>
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<td>Decision of Minister of Environment Nr. 51/2004 about Quality Standards of Seawater, especially suspended solid</td>
<td>Minimizing decrease on seawater quality due to reclamation for preparing the construction of causeway and container yard preparation and compaction</td>
<td>Construction of rock embankment before construction for preventing reclamation material overflow</td>
<td>Causeway reclamation site</td>
<td>During area reclamation</td>
</tr>
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<td>Reclamation for preparing road construction</td>
<td>Change of Water Current Pattern and Sedimentation</td>
<td>Increased process of sedimentation</td>
<td>Controlling sedimentation due to construction activities</td>
<td>Dredging Sememi River estuary</td>
<td>In front of Sememi River estuary</td>
<td>When the elevation in the riverbed in the estuary increases minimally 50 cm</td>
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</table>
Table 3.1. – Matrix of Summary of Environmental Management Plan for Development of Surabaya Container Terminal in Lamong Bay (Cont.)

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### Table 3.1. – Matrix of Summary of Environmental Management Plan for Development of Surabaya Container Terminal in Lamong Bay (Cont.)

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### OPERATION PHASE

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<td>Incoming and outgoing container trucks</td>
<td>Decreased Ambient Air Quality</td>
<td>Feasibility of operated truck with reference to results of truck physical and emission tests.</td>
<td>Assuring that operated container trucks qualify prevailing truck operating standards</td>
<td>Affecting feasibility standards of operated means of transportation to minimize pollution due to poor emission.</td>
<td>In container trucks</td>
<td>During Operation</td>
<td>PT. Pelabuhan Indonesia III</td>
</tr>
<tr>
<td>Container terminal operation</td>
<td>Increased Community Income</td>
<td>Increased community income pre and post operation activities</td>
<td>Securing that the local community gets much greater business opportunities</td>
<td>Opening greater business opportunities to the local community due to the container terminal operation, such as: food stalls.</td>
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<td>Labor recruitment</td>
<td>Increased Community Income</td>
<td>Increased community income pre and post operation activities</td>
<td>Securing that the local community really gets greater job opportunities</td>
<td>1. Giving the same employment opportunities to the local people, especially the non-skilled ones, through the village office and sub-district office in the study area for posts as, for instance: security guards, administration clerks, porters, etc.</td>
<td>PT. Pelabuhan Indonesia III</td>
<td>During operation (labor recruitment)</td>
<td>PT. Pelabuhan Indonesia III, Surabaya City Communication Service and Surabaya City Environment Agency, East Java Province Environment Agency, Ministry of Environment.</td>
</tr>
<tr>
<td>Labor recruitment</td>
<td>Availability of Job Opportunity</td>
<td>Increased community income pre and post operation activities</td>
<td>Securing that the local community really gets greater job opportunities</td>
<td>1. Giving the same employment opportunities to the local people, especially the non-skilled ones, through the village office and sub-district office in the study area for posts as, for instance: security guards, administration clerks, porters, etc.</td>
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BIBLIOGRAPHY


Defant, 1958. *Ebb and Flow*, University of Michigan Press,


User Manual SMS
ANNEXURE

Sitemap of Environmental Management Plan
Environmental Impact Assessment – Tanjung Perak Port Development in Lamong Bay

Management Point of Increased River Runoff Surface
Environmental Impact Assessment – Tanjung Perak Port Development in Lamong Bay
Figure 3  Management Point of Change of Water Current Pattern and Sedimentation

Remarks →

- Management Point of Change of Water Current Pattern and Sedimentation
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REPORT OF ENVIRONMENTAL MANAGEMENT PLAN
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Figure 4
Management Point of Increased Surface of River Runoff

Source:
DIGITAL INDONESIAN MAP YEAR 1999
Figure 5
Management Point of Decreased Seawater Quality

Source: DIGITAL INDONESIAN MAP YEAR 1999
Figure 6

Management Point of Change of Water Current Pattern and Sedimentation
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Figure 7
Management Point of Decreased Seawater Quality
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Environmental Impact Assessment – Tanjung Perak Port Development in Lamong Bay

Figure 8
Management Point of Decreased Ambient Air Quality

Source: DIGITAL INDONESIAN MAP YEAR 1999

Remarks → Management Point of Decreased Ambient Air Quality
Environmental Impact Assessment – Tanjung Perak Port Development in Lamong Bay

**Figure 9**
Management Point of Increased Community Income

**Source:** DIGITAL INDONESIAN MAP YEAR 1999
Environmental Impact Assessment – Tanjung Perak Port Development in Lamong Bay

Management Point of Increased Community Income

Figure 10

Remarks → Management Point of Increased Community Income
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REPORT OF ENVIRONMENTAL MANAGEMENT PLAN
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Environmental Impact Assessment – Tanjung Perak Port Development in Lamong Bay

Figure 11
Management Point of Availability of Job Opportunity

Source: DIGITAL INDONESIAN MAP YEAR 1999

Remarks → Management Point of Availability of Job Opportunity