



**Thilawa Special Economic
Zone (Class A) Development**

Environmental Monitoring Plan (Pre-Construction Phase)



**Myanmar Japan Thilawa
Development Limited.**

March 2014

Executive Summary

The environmental inspection and compliance monitoring program will be implemented under the direction of Ministry of Environmental Conservation and Forestry with oversight by Thilawa SEZ Management Committee.

This Environment Monitoring Plan is submitted in conformity with the provision of Chapter 9.2 Content of an EIA Report of Thilawa SEZ Development Project (Class A).

Monitoring Reports

a) **Documentation of compliance with all Conditions;**

Attached herewith is confirmation of Environmental Impact Assessment in Thilawa Special Economic Zone from Thilawa SEZ Management Committee.

b) **Progress made to date on the implementation of the EMP against the submitted implementation schedule;**

This EMP is submitted for the Pre-construction phase and will be further submitted on quarterly basis in Construction Phase and on bi-annually base in Operation Phase of the SEZ.

c) **Difficulties encountered in implementing of the EMP and recommendations for remedying those difficulties and steps proposed to prevent or avoid similar future difficulties;**

Not applicable for Pre-Construction Phase for any difficulties.

d) **Number and type of non-compliance with the EMP and proposed remedial measures and timelines for completion of remediation;**

Not applicable for Pre-Construction Phase.

e) **Accidents or incidents relating to the occupational and community health and safety, and the environment;**

Neither accidents nor incidents happen at Pre-Construction Phase.

f) **Monitoring data on environmental parameters and conditions as committed in the EMP or otherwise required.**

Will submit according to the attached, Environment Monitoring Form for Construction Phase.

**Thilawa Special Economic Zone CLASS A
Development Project –Phase 1**

Environment Monitoring Form

Environment Monitoring Form

The latest results of the below monitoring items shall be submitted to Authorities on once at Pre-construction phase and on quarterly basis at Construction Phase, and on bi-annually base at Operation Phase. The items, standards to be applied, measurement points, and frequency for each monitoring parameter are established based on the EIA Report for Thilawa Special Economic Zone Development Project (Class A). Should there be any changes to the original plan, such change shall be reviewed and evaluated by environmental expert.

(1) General

1) Phase of the Project

- Please mark the current phase.

Pre-Construction Phase

Construction Phase

Operation Phase

2) Obtainment of Environmental Permits

Name of permits	Expected issuance date	Actual issuance date	Concerned authority	Remarks (Conditions, etc.)
Confirming report of Environmental Impact Assessment		3rd December 2013	Thilawa SEZ Management Committee	
Attached approval letter: The case confirming report of Environmental Impact Assessment in First Phase of Thilawa Special Economic Zone				

3) Response/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring Item	Monitoring Results during Report Period	Duration of Report Period	Frequency
Number and contents of formal comments made by the public	Not applicable at Pre-construction Phase report	Same timing of	Upon receipt of comments/complaints



Number and contents of responses from Government agencies	Not applicable at Pre-construction Phase report	submission of Monitoring Report
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(2) Monitoring Results (Not Applicable at Pre-Construction Phase Report)

1) Ambient Air Quality

NO₂, SO₂, CO, TSP, PM10

Location	Item	Unit	Measured Value (Mean)	Measured Value (Max.)	Country's Standard	Target value to be applied	Referred International Standard	Frequency	Method	Note (Reason of excess of the standard)
Residential Area	NO ₂	ppm			None	40 µg/m ³ (1-Year)	IFC EHS			
	SO ₂	ppm			None	125 µg/m ³ (24-hour)	IFC EHS			
	CO	ppm			None	10.26 µg/m ³ (8-Hours)	Thailand			
	TSP	Ppm			None	100µg/m ³ (1-Year)	Thailand			
	PM10	ppm			None	35 µg/m ³ (1-year)	IFC EHS			

Complains from Residents

- Are there any complaints from residents regarding air quality in this monitoring period? Yes, No

If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Complains from Residents	Countermeasures

2) Water Quality (Not Applicable at Pre-Construction Phase Report)

Measurement Point: Effluent of Wastewater

- Are there any effluents to water body in this monitoring period? Yes, No



If yes, please attach "Analysis Record" and fill in the items not to comply with Referred International Standard.

Location	Item	Unit	Measured Value (Mean)	Measured Value (Max.)	Country's Standard	Target value to be applied	Referred International Standard	Frequency	Method	Note (Reason of excess of the standard)
					None (Available Guideline Value determined by MOI)	See Table 2.2-3 in EIA Report	IFC EHS (only T-N, T-P, Total coliform bacteria)			
					Ditto	Ditto	Ditto			
					Ditto	Ditto	Ditto			

3) Soil Contamination (only operation phase) (Not Applicable at Pre-Construction Phase Report)

Situations environmental report from tenants

- Are there any serious issues regarding soil contamination in this monitoring period? Yes, No

If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Issues on Soil Contamination	Countermeasures

4) Noise (Not Applicable at Pre-Construction Phase Report)

Noise Level

Location	Item	Unit	Measured Value (Mean)	Measured Value (Max.)	Country's Standard	Target value to be applied	Referred International Standard	Frequency	Method	Note (Reason of excess of the standard)
Residential Area	Leq (day)	dB(A)			None	See Table 2.2.4.6, 8, 11 in EIA Report	Singapore/ Japan			
Residential Area	Leq (night)	dB(A)			None	See Table 2.2.4.6,	Singapore/ Japan			

Workers Area	Leq (day)	dB(A)	None	8, 11 in EIA Report See Table 2.2.4, 6, 8, 11 in EIA Report	Singapore/ Japan				
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Complains from Residents

- Are there any complains from residents regarding noise in this monitoring period? Yes, No

If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Complains from Residents	Countermeasures

5) Solid Waste (Not Applicable at Pre-Construction Phase Report)

Measurement Point: Construction Site (Construction Phase), Storage for Sludge (Operation Phase)

- Are there any wastes of sludge in this monitoring period? Yes, No

If yes, please report the amount of sludge and fill in the results of solid waste management Activities.

Item	Generated from	Unit	Value	Solid Waste Management Activities
Amount of Sludge				
Amount of Sludge				
Amount of Sludge				

6) Ground Subsidence and Hydrology (Not Applicable at Pre-Construction Phase Report)

Duration (Week)	Water Consumption		Ground Level		Note
	Quantity	Unit	Quantity	Unit	
		m ³ /week		m	



7) Offensive Odor (only operation phase) (Not Applicable at Pre-Construction Phase Report)

Complains from Residents

- Are there any complains from residents regarding offensive odor in this monitoring period? Yes, No
If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Complains from Residents	Countermeasures

Situations environmental report from tenants

- Are there any serious issues regarding offensive odor in this monitoring period? Yes, No
If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Issues on Soil Contamination	Countermeasures

8) Infectious disease, Working Environment, Accident (Not Applicable at Pre-Construction Phase Report)

Information from contractor (construction phase) or tenants (operation phase)

- Are there any incidents regarding Infectious disease, Working Environment, Accident in this monitoring period? Yes, No
If yes, please describe the contents of complains and its countermeasures to fill in below the table.

Contents of Incidents	Countermeasures

Note: If emergency incidents are occurred, the information shall be reported to the relevant organizations and authorities immediately.



ပြည်ထောင်စုသမ္မတမြန်မာနိုင်ငံတော်အစိုးရ
သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲရေးကော်မတီ

စာ အ မှတ်၊ သလဝ-၁/TSEZ / ၂၀၁၃ (၅၀)
ရက်စွဲ၊ ၂၀၁၃ခုနှစ် ဒီဇင်ဘာလ(၃)ရက်

အကြောင်းအရာ။ သီလဝါအထူးစီးပွားရေးဇုန်ပထမအဆင့်၏ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်း အစီရင်ခံစာအတည်ပြုပြန်ကြားခြင်းကိစ္စ
ရည်ညွှန်းချက် ။ ပတ်ဝန်းကျင် ထိန်းသိမ်းရေးနှင့် သစ်တောရေးရာဝန်ကြီးဌာန၊ ပြည်ထောင်စု ဝန်ကြီးရုံး၏ (၁၀-၁၁-၂၀၁၃)ရက်စွဲပါစာအမှတ် ၂/၂၂၀(ခ)(၆)/ (၇၇၉၈/ ၂၀၁၃)

၁။ အထက်အကြောင်းပါ ကိစ္စနှင့်စပ်လျဉ်း၍ သီလဝါအထူးစီးပွားရေးဇုန်(အဆင့်-က)၏ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းအစီရင်ခံစာ(Environmental Impact Assessment Report -EIA)ကိုပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့်သစ်တောရေးရာဝန်ကြီးဌာနမှ အထက်ရည်ညွှန်းပါစာဖြင့် သဘောထားမှတ်ချက် အကြောင်းပြန်ကြားလာပါသည်။

၂။ အဆိုပါ သဘောထားမှတ်ချက်ပြန်ကြားချက်တွင် သီလဝါအထူးစီးပွားရေးဇုန်(အဆင့်-က)၏ ပတ်ဝန်းကျင်ထိခိုက်မှုဆန်းစစ်ခြင်းအစီရင်ခံစာသည် စီမံကိန်းဆိုင်ရာအကြောင်းအရာဖော်ပြချက်၊ ကွင်းဆင်းတိုင်းတာရရှိသည့် ပတ်ဝန်းကျင် အရည်အသွေးဆိုင်ရာစံနှုန်းများ၊ စီမံကိန်းကြောင့် ပတ်ဝန်းကျင် နှင့် လူမှုရေးဆိုင်ရာ ထိခိုက်နိုင်မှု အပေါ်ကြိုတင် ခန့်မှန်းချက်နှင့် ပတ်ဝန်းကျင် ထိခိုက်မှုအနည်းဆုံးဖြစ်စေမည့် အစီအမံများစီမံထားရှိမှုများ၊ တည်ဆောက်ရေးလုပ်ငန်းများ မစတင်မီ၊ တည်ဆောက်ဆဲနှင့် လုပ်ငန်းလည်ပတ်သည့် ကာလများအတွင်းစီမံကိန်းလုပ်ငန်းစဉ် အဆင့် အလိုက် စောင့်ကြည့်စစ်ဆေးရမည့်လုပ်ငန်း၊ ပတ်ဝန်းကျင်ဆိုင်ရာစောင့်ကြည့်လေ့လာမည့် အစီအစဉ်များပြည်စုံစွာတင်ပြထားကြောင်းသိရှိရပါသည်။

၃။ သို့ဖြစ်ပါ၍ ပတ်ဝန်းကျင် ထိန်းသိမ်းရေးနှင့်သစ်တောရေးရာဝန်ကြီးဌာန၏ သဘောထား မှတ်ချက်အရသီလဝါအထူးစီးပွားရေးဇုန် စီမံခန့်ခွဲမှုကော်မတီအနေဖြင့် Myanmar and Japan Consortium မှ တင်ပြခဲ့သည့် သီလဝါအထူးစီးပွားရေးဇုန်(အဆင့်-က)၏ပတ်ဝန်းကျင် ထိခိုက်မှု ဆန်းစစ်ခြင်းအစီရင်ခံစာ(Environmental Impact Assessment Report- EIA)ကို သဘောတူ အတည်ပြုပါကြောင်း နှင့် ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးနှင့် သစ်တောရေးရာဝန်ကြီးဌာန၏ သဘောထား မှတ်ချက်နှင့်အညီသီလဝါအထူးစီးပွားရေးဇုန် စီမံကိန်းတည်ဆောက်မှုကာလနှင့်

စီးပွားရေးလုပ်ငန်းများစတင်ဆောင်ရွက်သည့်ကာလတို့တွင် ရေရှည်ဆက်လက်ဆောင်ရွက်ရန် လိုအပ်သည့် သဘာဝပတ်ဝန်းကျင် ထိန်းသိမ်းရေးအစီအမံများနှင့်လုပ်ငန်းများ၊ စီးပွားရေးလုပ်ငန်း တစ်ခုချင်းအလိုက်ဆောင်ရွက်ရမည့်ပတ်ဝန်းကျင်ထိန်းသိမ်းရေးအစီအစဉ်များကိုဆောင်ရွက်သွား နိုင်ပါရန် အကြောင်းကြားအပ်ပါသည်။

ဥက္ကဋ္ဌ

(သီလဝါအထူးစီးပွားရေးဇုန်စီမံခန့်ခွဲမှုကော်မတီ)

Myanmar Thilawa SEZ Holdings Public Limited

MMS Thilawa Development Co., Ltd.

မိတ္ထူကို

ရုံးလက်ခံ

Notarial Translation



Government of the Republic of the Union of Myanmar
Thilawa Special Economic Zone Management Committee

Letter No. ThaLaWa-1/TSEZ/2013(50)

Date: 3rd December 2013

Subject: The case confirming report of Environmental Impact Assessment in First Phase of Thilawa Special Economic Zone

Reference: Letter No. 2/220(Kha)(6)/(7798/2013) dated 10-11-2013 of Union Minister's Office, Ministry of Environmental Conservation and Forestry

1. In respect of the case mentioned above, Ministry of Environmental Conservation and Forestry replied annotation with above Reference for Environmental Impact Assessment Report (EIA) for Thilawa Special Economic Zone (Class-A).
2. According to the comment replied above, it found complete arrangement in Environmental Impact Assessment Report for Thilawa Special Economic Zone (Class-A) containing expression of project, environmental standard gained in field study, identify the potential environmental, social and health impact and appropriate plan for least environmental impact, management and monitoring plan for before, during project work-in according to the life-cycle stage of the project, environmental monitoring plan.
3. It is therefore informed under the annotation of Ministry of Environmental Conservation and Forestry that Thilawa Special Economic Zone Management Committee has agreed with Environmental Impact Assessment Report (EIA) for Thilawa Special Economic Zone (Class-A) submitted by Myanmar and Japan Consortium and to keep arranging long term plans for environmental control during the period of developing project and during operation period in accord with the remark of Ministry of Environmental Conservation and Forestry and environmental control plan for each business.

Sd/-xxx
Chairman

Thilawa Special Economic Zone Management Committee

Myanmar Thilawa SEZ Holdings Public Limited
MMS Thilawa Development Co., Ltd.

Copy to -

Authenticated, true & correct English translation.

Office Copy

U THAN AUNG B.Sc.B.L

Regd No. 7191/13 Notary Public & Supreme Court Advocate

Add: 82, Mingala Street, Sanchaung Tsp.

Yangon, Myanmar HP - 09 5105234

10 DEC 2013



**Thilawa Special Economic Zone CLASS A
Development Project –Phase 1**

Prevention Plan for HIV/AIDS

Management of AIDS/HIV for Health and Safety

What is AIDS/HIV?

1. **HIV**
 - Human Immunodeficiency Virus
 - Breaks the Immune System
 - HIV causes people to become sick with infections that normally would not affect them.

2. **AIDS**
 - Acquired Immune Deficiency Syndrome
 - Caused by HIV
 - Advanced stage of HIV

What are Symptoms of AIDS/HIV?①

【HIV】

- Have symptoms as early as 2 weeks after exposure, or no symptoms at all.
- Flu like symptoms such as: headache, fever, tiredness, swollen lymph nodes, rash
- Also muscle and joint pain, sore throat, ulcers in mouth or genitals, night sweat, diarrhea etc.

What are Symptoms of AIDS/HIV②?

【AIDS】

In addition to symptoms of HIV,

- Cough and shortness of breath
- Seizures and lack of coordination
- Difficult or painful swallowing
- Mental symptoms such as confusion and forgetfulness
- Severe and persistent diarrhea
- Fever
- Vision loss
- Nausea, abdominal cramps, and vomiting
- Weight loss and extreme fatigue
- Severe headaches with neck stiffness
- Coma etc.

How to Get AIDS/HIV

- having vaginal or anal intercourse without a condom with someone who has HIV/AIDS
- sharing needles or syringes with someone who has HIV/AIDS
- being deeply punctured with a needle or surgical instrument contaminated with HIV
- getting HIV-infected blood, semen, or vaginal secretions into open wounds or sores
- Mother to Baby during giving birth or breastfeeding.

How to Prevent AIDS/HIV

- No Sex = Abstinence
- Have only one uninfected partner
- Use condoms etc. for protection
- Do not share needles
- Be sure to disinfect needles before use
- Do not share personal items that may have blood on them.

If you are unsure if you have AIDS/HIV or not, please get tested.

AIDS / HIV ၏ အဓိပ္ပါယ်

1. HIV

- ခန္ဓာကိုယ် ကိုယ်ခံအားချို့တဲ့စေသောပိုး
- ခန္ဓာကိုယ် ခုခံအားစနစ်ကိုချိုးဖျက်မှု
- HIV ကူးစက်ခံရလျှင် သာမန်အားဖြင့် သက်ရောက်မှုမရှိနိုင်သော ရောဂါများ ကူးစက်ခံရပြီး ၎င်းရောဂါများကြောင့် နေထိုင်မကောင်းမှုများ ဖြစ်စေသည်။

2. AIDS

- ကိုယ်ခံအားလျော့နည်းကျဆင်းသောရောဂါ
- HIV ပိုးကြောင့်ဖြစ်စေသည်။
- HIV ရောဂါ၏ နောက်တဆင့် အခြေအနေ ဖြစ်သည်။

AIDS / HIV ၏ လက္ခဏာများ

HIV

- ရောဂါလက္ခဏာများ စတင်ပေါ်ပေါက်ချိန်မှာ ရောဂါကူးစက်ပြီး (၂)ပတ်ကြာလျှင်တွေ့ရှိနိုင်ပြီး (သို့မဟုတ်) ရောဂါလက္ခဏာ ပြသခြင်းမရှိသည့် အခြေအနေလည်း ဖြစ်နိုင်သည်။
- တုပ်ကွေးရောဂါလက္ခဏာကဲ့သို့သော ခေါင်းကိုက်ခြင်း၊ ဖျားနာခြင်း၊ မောပန်းနွမ်းနယ်ခြင်း၊ အာသီးရောင် အကြိတ်ရောင်ခြင်း၊ ခန္ဓာကိုယ်အဖုအပိန့်ထွက်ခြင်း၊ ဆောက်တည်ရာမရဖြစ်ခြင်း။
- အကြောအဆစ်နာကျင်ကိုက်ခဲခြင်း၊ လည်ချောင်းနာ၊ ပါးစပ်နှင့် လိင်အင်္ဂါများတွင် ပြည်တည်နာများပေါက်ခြင်း၊ ညအိပ်လျှင်ချွေးထွက်များခြင်း၊ ဝမ်းလျှော့ဝမ်းပျက်ဖြစ်ခြင်း။

AIDS

- ချောင်းဆိုးခြင်း၊ အသက်ရှူကျပ်ခြင်း၊
- ဝက်ရူးပြန်ခြင်း၊ တက်ခြင်းနှင့် ဆောက်တည်ရာမရဖြစ်ခြင်း၊
- အစားအစာမျိုချစားသုံးရာတွင် ခက်ခဲခြင်း၊ နာကျင်ခြင်း၊
- စိတ်ပိုင်းဆိုင်ရာ ရှုတ်ထွေးခြင်း၊ မေ့လျော့ခြင်း၊
- ဆိုးရွားပြီးတာရှည်သော ဝမ်းပျက်ခြင်း၊ ဝမ်းလျှော့ခြင်း၊
- ဖျားနာခြင်း၊ အမြင်ကွယ်ခြင်း၊
- ပျို့ခြင်း၊ မအီမသာဖြစ်ခြင်း၊ ဝမ်းဗိုက်အောင့်ခြင်း၊ အော့အန်ခြင်း၊
- ခန္ဓာကိုယ်အလေးချိန်ကျခြင်း၊ လွန်စွာမောပန်းနွမ်းနယ်ခြင်း၊
- ဆိုးရွားစွာ ခေါင်းကိုက်၍ လည်ပင်းတောင့်တင်းခြင်း၊
- သတိလစ်မေ့မြောခြင်းများ ဖြစ်နိုင်သည်။

AIDS / HIV ကူးစက်ပုံ

- HIV / AIDS ရှိသူနှင့် ကွန်ဒုံး (CONDOM) မသုံးဘဲ ဖိုမ (သို့) လိင်တူဆက်ဆံခြင်း၊
- HIV / AIDS ရှိသူနှင့် ဆေးထိုးအပ် ဝေမျှသုံးစွဲခြင်း၊
- HIV ပိုးရှိသော၊ ထိတွေ့ထားသော အပ် (သို့) ခွဲစိတ်ခန်းသုံး ပစ္စည်းများဖြင့် ထိုးမိ ထိခိုက်မိပေါက်ပြဲခြင်း၊
- HIV ပိုးရှိသော သွေး၊ သုတ်ရည် (သို့) အမျိုးသမီးအင်္ဂါမှ စိမ့်ထွင်ရည်များ၊ ဒဏ်ရာများ (သို့) အရေပြား၊ အသားတို့နှင့်ထိတွေ့မိခြင်း၊
- မိခင်မှ သားသမီးသို့ မွေးဖွားခြင်း (သို့) နို့တိုက်ခြင်းဖြင့် ကူးစက်ခြင်း။

AIDS / HIV ကာကွယ်တားဆီးပုံ

- လိင်ဆက်ဆံမှု မပြုခြင်း၊ ရှောင်ရှားခြင်း၊
- လိင်ဆက်ဆံမှုပြုပါက ရောဂါပိုးမရှိသော မိမိ၏ အဖော်တစ်ဦးတည်းနှင့်သာ ဆက်ဆံသင့်သည်။
- ကာကွယ်ရန် ကွန်ဒုံး (CONDOM) etc., အသုံးပြုရမည်။
- ဆေးထိုးအပ်များ ဝေငှမသုံးရ။
- ဝိုးသတ်ထားသော ဝိုးကင်းသောတစ်ခါသုံးအပ် များကိုသာသုံးရမည်။
- ဓမ္မာကိုယ်မှ သွေးထိတွေ့နေသော (သို့) ထိတွေ့ထားသော ပစ္စည်းများကို ဝေငှ၊ ငှားရမ်းမသုံးရ။

သင်ကိုယ်တိုင် AIDS / HIV ဝိုးရှိ၊ မရှိ မသေချာပါက စစ်ဆေးမှုများကို ပြုလုပ်ဆောင်ရွက်ပါ။

THANK YOU



MJTD

MYANMAR JAPAN THILAWA DEVELOPMENT LIMITED

**Thilawa Special Economic Zone CLASS A
Development Project –Phase 1**

Securing of community accessibility



Maintain the access for residents surrounding Thilawa DAM (outside of Class A)

**Thilawa Special Economic Zone CLASS A
Development Project –Phase 1**

Memorandum between MJTD and Penta-Suntac Partnership

For

Arrangement of Environment

PENTA-SUNTAC PARTNERSHIP



Representative Office Address:
PENTA-OCEAN CONSTRUCTION CO., LTD.
2-2-8 Koraku, Bunkyo-ku, Tokyo 112-8576 Japan
TEL: +81 3 3817 7181 FAX: +81 3 3817 7642

Date : 15th February, 2014

Our Ref. : PSP-MJTD-003-14-1

Mr. Takashi Yanai
Managing Director
Myanmar Japan Thilawa Development Ltd.

Subject : **Arrangement for Environmental Arrangement**

Dear Sir,

With reference to our letter Ref.PSP-MJTD-003-14 dated 28th January 2014 regarding the captioned subject, we are pleased to submit herewith the following statements for your attention.

1. Standard of Working Condition
2. Safety Accident Prevention Plan including speed limit rules
3. Dust Emission Prevention Plan
4. Campaign Plan of Stop Idling & Intensive Machineries Operation

Yours faithfully,

For and on behalf of:

PENTA-SUNTAC PARTNERSHIP



Toshiki YAMADA
Project Manager

Representative Office Address:
 PENTA-OCEAN CONSTRUCTION CO., LTD.
 2-2-8 Koraku, Bunkyo-ku, Tokyo 112-8576 Japan
 TEL: +81 3 3817 7181 FAX: +81 3 3817 7642

Date : 28th January, 2014
 Our Ref. : PSP-MJTD-003-14

Mr. Takashi Yanai
 Managing Director
 Myanmar Japan Thilawa Development Ltd

Subject : Arrangement for Environmental Arrangement

As discussed in the meeting on January 21st, 2014, we are preparing environmental arrangement in pre-construction stage as well as in construction stage as follows.

1. The summary of the arrangement will be as attached document.
2. We will make following plan and rules and submit to you by 15th February, 2014.
 - a. Standard of Working Condition
 - b. Safety Accident Prevention Plan including speed limit rules
 - c. Dust Emission Prevention Plan
 - d. Campaign Plan of Stop idling & intensive machineries operation
3. We will monitor following parameters with mentioned frequency during construction.


Item		Frequency	location
Noise & Vibration	Db	1time / 3months	1 point At the boarder of monastery
Noise & Vibration	Db	1time during construction	2 point at same location mentioned in EIA report at outside road
Ground Subsidence	Ground elevation	1 time / week	1 representative point in the site
Underground	Consumption of underground water	1time/week	At taking point of underground water
Solid Waste	Accumulated Amount of solid waste	1time / 3months	

* note: solid waste should be treated by the licensed entity consulting with MJTD

4. We will include following items to report in our monthly or quarterly report.
- a. Monitoring result
 - b. Result of planned activities as mentioned in the plan or standard of above item No.2 (a, b, c and d)
 - c. Communication result with monastery (claims, request or remarkable situation, if any)
 - d. status of measures of infectious disease
5. We will install,
- Brick (or similar material) wall surrounding monastery at the early stage for sound proofing.
 - Septic tank at the office compound
 - De-silting pond making use of retention pond/canal to prevent from discharging muddy water

Attachment : Discussion document for "Safety, Health and Environmental Management"

January 28, 2014



Toshiki Yamada

Project Manager

PENTA OCEAN – SUNTAC PARTNERSHIP

Acknowledged by



Takashi Yanai

Managing Director

Myanmar Japan Thilawa Development Ltd

S.No.	Item	TO DO	Time	Responsible	POC Reply
1	AIDS/HIV training for worker	<ol style="list-style-type: none"> making AIDS/HIV training documents delivery of documents to all workers getting signature of receipt & acknowledgement making manual when infectious disease to prevent from spreading 	<p>by January time to time</p> <p>1 time / 3 months</p> <p>by January</p> <p>1 time / 1 month</p>	<p>MJTD</p> <p>PSP</p> <p>PSP</p> <p>PSP</p> <p>PSP</p>	<p>OK</p> <p>OK</p> <p>PSP to agree and sign on the "Infectious Disease Spreading Prevention Manual" prepared by MJTD</p> <p>Monthly Report indicating status of measures taken to be submitted</p>
2	working condition monitoring	<ol style="list-style-type: none"> making standard of working condition first aid / training of sanitation, healthcare, safety / personal protection equipment / prevention from accident by notice, barriers / safe across the construction site / adequate drainage against disease vectors / septic tank, garbage bins / temporary integration 	<p>by January</p> <p>1 time / 1 month</p> <p>1 time / 1 month</p>	<p>PSP</p> <p>PSP</p> <p>PSP</p>	<p>PSP to prepare Standard Working Condition addressing the following safety, health and environmental measures:-</p> <ol style="list-style-type: none"> 1) First Aid Box to be prepared, 2) Sanitation Training to be carried out, 3) PPE to be standardised, 4) Notice board to be erected to indicate prevention of accidents, 5) Barriers to be erected effectively such as along the trench excavation etc...., 6) Adequate temporary drainage system to be implemented, 7) Septic Tank to be installed, 8) Garbage bins to be located. <p>Achievement to the Standard Working Condition to be checked and reported in the Monthly Report</p>
3	Accident prevention	<ol style="list-style-type: none"> making prevention plan monitoring & reporting 	<p>by January</p> <p>1 time / 3 months</p>	<p>PSP</p> <p>PSP</p>	<p>Safety Accident Revision Plan to be submitted.</p> <p>Report indicating achievement of Safety Accident Prevention Plan to be submitted quarterly</p>
4	Global Warming	<ol style="list-style-type: none"> consensus between PENTA & MJTD to make best effort to minimize GHGs emission in construction stage 	<p>on this paper</p>	<p>PSP</p>	<p>Stop Idling & Intensive Machineries Operation Campaign to be organised</p>
5	air quality watering others monitoring	<ol style="list-style-type: none"> making sprinkling water plan (location / frequency / monitoring) monitoring & reporting prohibition of idling & avoidance of intensive of machinery operation monitoring of TSP and PM10 (1 location) 	<p>by January</p> <p>1 time / 3 months</p> <p>1 time / 3 months</p>	<p>PSP</p> <p>PSP</p> <p>PSP</p> <p>MJTD</p>	<p>Dust Emission Plan including Water spraying schedule to be prepared</p> <p>Report indicating Dust emission activity record to be submitted quarterly</p> <p>Stop Idling & Intensive Machineries Operation Campaign to be organised</p>

Discussion document for "Safety, Health and Environmental Management"

S/No.	item	TO DO	Time	Responsible	POC Reply
6	water quality mitigation	<ul style="list-style-type: none"> 1. sand generation plan 2. instalment of settling pond or simple turbid water treatment 3. septic tank will be set in construction site 	<ul style="list-style-type: none"> at time of construction at time of construction 	<ul style="list-style-type: none"> PSP PSP 	<ul style="list-style-type: none"> Not Applicable De-silting Pond making use of Retention Pond/Canal to be provided before discharge the muddy water into public drains in Rainy Season. There is no issue of the waste water discharge in Dry Season. Septic tank to be installed at office compound
7	waste monitoring	<ul style="list-style-type: none"> 1. monitoring discharging water of temperature, pH, TSS, BOD, COD, coliform count, oil and grease, chromium (1)location at discharging point and well in monastery) 	1 time / 2 months	MJTD	<ul style="list-style-type: none"> Surplus Soil will be utilised to embank works and/or stockpiled at designated location. Concrete Debris to be recycled to utilise for temporary accesses. To follow MJTD's instruction on the Non utilised Waste disposal. Disposal / recycle record to be submitted quarterly
8	Noise & vibration mitigation	<ul style="list-style-type: none"> 1. construction waste will be utilized to embank work 2. scrap material by removal of structure will be utilized as recycle 3. non utilized waste will be disposed to licensed dumping sites 1. amount of solid waste and management of solid waste of construction 1. designing of suitable buffer zone for monastery and residences 2. Sound proofing sheet 3. avoidance of construction night time near monastery. (and residential area) 4. intensive operating of machinery will be avoided 5. setting speed limit rule & implementation plan 6. advanced notice for construction work time will be informed to the monastery and residences 1. monitoring noise & vibration near monastery and residences 2. monitoring noise & vibration residence along route for on-site vehicles (2points) 	<ul style="list-style-type: none"> by January by January by January 1 time / 3 months 1 time at peak period 	<ul style="list-style-type: none"> PSP PSP PSP PSP PSP PSP PSP PSP PSP 	<ul style="list-style-type: none"> Solid Wall to be erected in lieu of buffer zone to the Monastery. To follow the Target Noise Level shown on Table 2.2-4 on <i>Environmental Management Plan for Thilawa Special Economic Zone Development Project (Class A)</i>** provided under the EIA Report. Stop Idling & Intensive Machines Operation Campaign to be organised haulage speed limit and rules to be set up and implemented. Close liaison with Monastery to be made. Any Complaint / Comments from Monastery to be reported in the Monthly Report. Monitoring of noise & vibration at Monastery (1 location, 1 time/3 months) to be carried out by the Contractor. Monitoring of noise & vibration at near Residences (1 time/3 months) to be carried out by Others. Monitoring of noise & vibration along route for on-site vehicles (2 point, 1 time at peak period) to be carried out by the Contractor.
9	Ground Subsidence monitoring	<ul style="list-style-type: none"> 1. monitoring of ground elevation (1 representative point) 2. monitoring of consumption of groundwater 	<ul style="list-style-type: none"> 1 time / 1 week 1 time / 1 week 	<ul style="list-style-type: none"> PSP PSP 	<ul style="list-style-type: none"> Ground Subsidences (at the temporary office compound) to be checked weekly. Consumption of Pumped-up Water from Tube Well to be measured / recorded and reported in the Monthly Report.
10	Access for existing, planning	<ul style="list-style-type: none"> 1. discussion with related authorities or existing resident near Thilawa reservoir 		MJTD	

** See Environmental Management Plan attached separately.



**Thilawa Special Economic Zone CLASS A
Development Project –Phase 1**

Standard of Working Conditions

Standard of Working Condition for Safety, Health and Hygiene

1. Safety Induction Course

Safety Induction Course shall be conducted to any person who enters into the project site to carry out any works.

Safety Induction Course shall address at least the following issues :-

- i. Orientation and Explanation to the Project including site layout (location of entrance, toilet, access, PPE & Non PPE zone, rest shed, smoking areas etc..), working hours and existence of nearby monastery & residences.
- ii. In house safety rules such as vehicles speed limits etc...
- iii. Interview for the health and body condition of attendee.
- iv. Attendee's particulars such as name, age, gender, NRIC, address, employer's information, family structure and contact numbers shall be filled-in to the entry form (filled entry form shall be kept and treated as confidential).
- v. Requirements of wearing PPE.
- vi. Emergency response plan.
- vii. Necessity of Sanitation, Tidiness and Clearness.
- viii. Safety Campaign(s)
- ix. Any other necessary safety issues.

2. Morning Safety Gathering

Morning Safety Gathering (MSG) shall be arranged every Monday at 8:00am at suitable flat ground location near the site office. All the workers, supervisors, engineers working on site shall attend the MSG. MSG will be conducted in accordance with the following order:-

- i. Excises
- ii. Project Manager's short speech.
- iii. Deputy Project Manager's short speech.
- iv. Safety Officer's short speech.
- v. Activity and Topics of the day.
- vi. Safety Promotion (if any).
- vii. Call of "Safety First".

3. Tool Box Meeting

Before commencing any works the Tool Box Meeting (TBM) shall be conducted

Standard of Working Condition for Safety, Health and Hygiene

after the MSG, TBM shall be conducted by each work trade/team lead by Engineer/Supervisor to explain about the detail activity of the day and KYK (safety precautional measures to be taken) associated with the activities.

4. Personal Protection Equipment

The following Personal Protective Equipments (PPE) are standardized to wear in the Project.

- Helmet (except operators working inside cabin)
- Safety Shoes/Boots
- Working Pants (Long length)
- Gloves (especially for Carpenters, Concreter and Re-bar Fixers)
- Goggles (where working in dusty area)
- Masks (where working in dusty area)
- Special Glove, Goggles and Shirts for Welding Work
- Reflectable Vest (for workers at ground especially after dark)
- Safety Belt (where working at height)

5. Safety Notice Board & Signage

Safety Notice Board shall be erected near the temporary site office to post the following items:-

- Safety Slogan
- Safety Posters
- Safety Notice to workers
- Safety Statistics (Total Men-hour worked without accident, Loss Men-hours due to accident, if any)

Safety Signage/posters/banners shall be posted at the following location.

- Temporary Site Office Compound
- Near Site Entrances/Exits
- Temporary Rest Sheds

6. Security

Designated Security Guards shall be full-time stationed at all the site entrances /exits. Security crossing Gates made of up-down bamboo bar shall be provided and opening of the bar shall be done by the security guard.

Standard of Working Condition for Safety, Health and Hygiene

Entrance Gates shall be closed and locked properly when the Security Guard is absent.

Security Guards shall be controlled by Safety Officer.

Guard houses with communication devices (i.e. walkie-talkie) shall be provided at each entrance/exit.

Any unauthorized person / vehicle shall be stopped at gates by the security guard. Checking whether the person / vehicle is authorized or not shall be done by communication with Manager or Engineer via walkie-talkie.

7. Safe Access, Vehicles Speed Limit and Rules

Safe Vehicle Access shall be designed with flat compacted ground from time to time to suit the site working situations and indicated by flags. All the construction Vehicles are restricted to use the safe access only.

Vehicle Speed for the use of Safety Access is limited to maximum 25km/h with extreme care to the nearby workers/staffs at ground.

The following In House Safety Rules shall be made. The rule shall be reviewed from time to time and revised when necessary.

- Smoking during work is prohibited
- Smoking is allowed only at the designated smoking areas.
- Suitable PPE shall be worn on site.
- Defecate and Urinate shall be at temporary/portable toilet.
- To attend/conduct MSG and TBM.
- No fighting allowed on site.
- No motor bike / bicycle allowed on site except the person authorized by the Project Manager.
- No unauthorized vehicle is allowed to enter into the Site.

8. Barriers

Temporary Barriers / Fencing / Handrails shall be erected effectively to safeguard the workers/staffs against accidents. The potential area of barriers / Fencing / Handrail to be erected shall be as follows:-

- Edge of deep excavation for foundations, trenches, canals, ponds etc.. to prevent workers accidentally falling into the excavation.

Standard of Working Condition for Safety, Health and Hygiene

- Working Site near the Vehicle Access to separate the working area from the access to prevent traffic accident.
- Edge of Structures at Height such as top slab of the Box Culverts, Sewerage Treatment Plant, Water Purification Plant etc.. to prevent workers falling from Height.

9. Machineries

Stop Idling & Intensive Machinery Operation Campaign shall be conducted for whole duration of the project (see attached Campaign Poster).

In order to reduce the down time due to breakdown of Machineries, weekly(basically on Sunday) checking of Machineries shall be carried out by the Operator and Mechanic using Machineries check list recommended by the supplier.

10. Temporary Drainage System

Retention Canal and Retention Pond shall be utilized as Temporary De-silting Pond to reduce silt contents before discharging to public drain(s).

Refer to attached Temporary Drainage Plan which illustrates overall temporary drainage system with drain flow direction.

Engine pumps shall be provided where necessary to discharge any un-wanted stagnant water during rainy season.

11. Recycling of Construction Material

Construction material arisen from the project shall be recycled as much as possible.

- Surplus soil generated from soil grading work shall be either used as embankment or stockpiled for future project in accordance with the direction by the Client.
- Concrete debris generated from demolishing works , if any, shall be recycled as hard core to utilize for temporary access roads.
- Any material which is not suitable for recycling shall be disposed off-site in accordance with the Client's direction/instruction.
- Any recycling and disposal of construction material shall be recorded

Standard of Working Condition for Safety, Health and Hygiene

and reported to the Client.

12. First Aid

First Aid Room shall be situated at temporary site office compound.

First Aid Room shall be equipped with first aid kit and stretcher, managed by the competent first aider. First aid room shall be kept clean, sanitized and free from bacterium all the time throughout the Contract period.

Emergency procedure/contact list shall be set up so as to respond to any injured person immediately.

13. Tidiness and Clearness

All the site area shall be kept tidy and clean including but not limited to the offices, toilets, In-situ RC construction area such as box-culvert, concrete paving and foundations, pre-casting yard, machineries work shop, rest sheds, smoking area etc..

14. Sanitation Training

Sanitation Training shall be conducted to all the workers and staffs to encourage them to stay healthy.

Hand washing facilities such as suitable size of basin, water taps with soaps shall be provided at office compound for hand washing, eyes and face washing and gargling/mouth washing.

Toilet facilities shall be kept clean and free from dirtiness.

15. Septic Tank

Septic Tank shall be installed to treat the waste water from offices before discharging to the public drain.

Septic Tank shall be maintained in accordance with manufacturer's recommendation.

16. Garbage Bins

Garbage Bins shall be located at office compound, rest sheds, and any other necessary working areas.

Disposal / clearances of garbage bins shall be carried out periodically.

ATTACHMENT-1 : Campaign Poster of
"Stop Idling & Intensive Machinerics Operation"

Stop Idling & Intensive Machineries Operation Campaign

To keep Healthy and Environmental Friendly Working Condition, the "Stop Idling & Intensive Machineries Operation Campaign" is Conducted with immediate effect till Completion of the Project

1. Stop Idling While No Operation

Engine should be Turned Off when Stopping Machineries.

2. Stop Intensive Machineries Operation

Do Not Race Engine unnecessarily.

Gentle Driving always.

3. This Campaign applies to All the Machineries on site including but not limited to Backhoes, Bull Dozers, Dump Trucks, Motor Graders, Water Trucks, Rollers, Concrete Cars, Cranes, Generators, Air Compressors, Welding Machines etc...



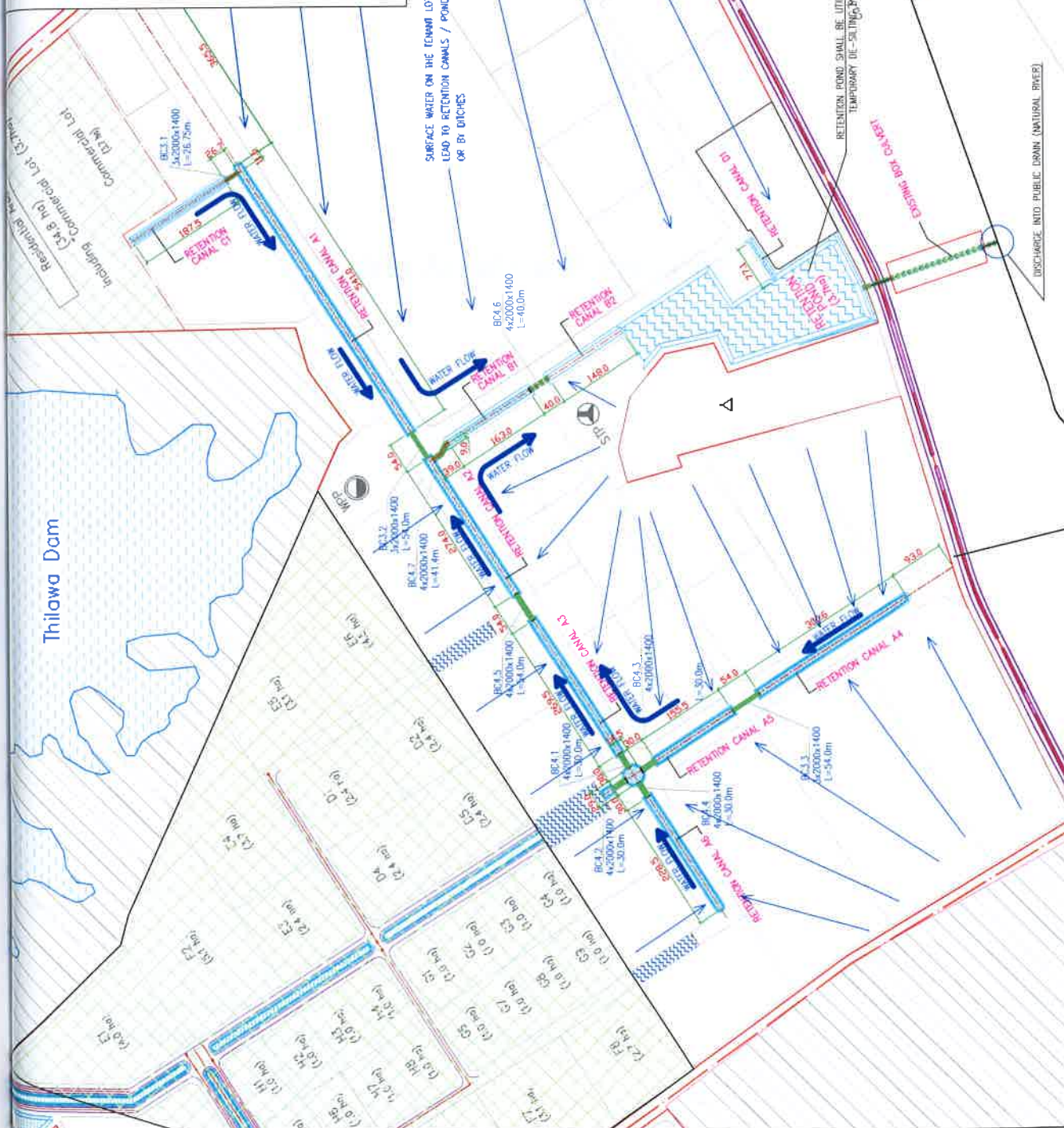
ATTACHMENT-2 : TEMPORARY DRAINAGE PLAN

TEMPORARY DRAINAGE PLAN

TEMPORARY DRAINAGE PLAN IS DESIGNED FOR RAINY SEASON AIMING TO AVOID STAGNANT WATER / PONDING ON SITE WHICH WOULD CAUSE DISEASE VECTORS BREEDING.

1. ALL THE RETENTION CANALS AND RETENTION POND SHALL BE FORMED BEFORE RAINY SEASON. PERMANENT SLOPE PROTECTION FOR THE RETENTION CANALS AND RETENTION POND SHALL NOT BE CONSTRUCTED BEFORE RAINY SEASON.
2. BOX CULVERT SHALL BE CONSTRUCTED AS MUCH AS POSSIBLE BEFORE RAINY SEASON.
3. PORTION OF UN-CONSTRUCTED BOX CULVERT BEFORE RAINY SEASON, IF ANY, SHALL BE EXCAVATED TO FORM THE TEMPORARY DITCH TO CONNECT EACH RETENTION CANAL SO AS TO KEEP THE WATER FLOW INTO DE-SILTING POND (I.E. RETENTION POND).
4. THE FLAT TENANT LOTS AREA SHALL HAVE SMALL TEMPORARY DITCHES OF APPROX. SIZE 800MM WIDE X 500MM DEEP AT EVERY 10M INTERVAL SO AS TO AVOID PONDING DURING RAINY SEASON.
5. MAKE SURE NO AREA WOULD CAUSE PONDING BY EITHER MAKING SLOPING DOWN TO THE RETENTION CANALS / POND OR MAKING TEMPORARY DITCHES TO CONNECT THE AREA WITH RETENTION CANALS / POND.
6. TEMPORARY DRAINAGE SHALL BE CHECKED FROM TIME TO TIME AND KEEP MAINTAIN GOOD CONDITION.

ABOVE MENTIONED RAINY SEASON MEANS TO BE THE RAINY SEASON ON 2014 NAMELY MAY TO OCTOBER 2014.



PROJECT NAME	THILAWA SEZ CLASS A DEVELOPMENT PHASE-1	CLIENT	MYANMAR JAPAN THILAWA DEVELOPMENT LTD	CONTRACTOR	PENTA-SUNTAC PARTNERSHIP	DATE	25/05/2014	BY	SKM	CHECKED	SKM	APPROVED	YUNWA	CORROSION	TEMPORARY WORK	SCALE	1 : 7000	DRAWING NO.	DWG-TMP-101	REV. NO.	0
	TEMPORARY DRAINAGE PLAN DURING RAINY SEASON FROM MAY. TO OCT. 2014																				

**Thilawa Special Economic Zone CLASS A
Development Project –Phase 1**

Safety Accident Prevention Plan

Safety Accident Prevention Plan

Safety Accident Prevention Plan is established hereunder in order to prevent any accident associated with the Thilawa SEZ Class A Development Project (Phase 1). Safety Accident Prevention Plan focuses on the effective and practical measures to prevent the work site from any accident. It should not be just documentation and statement only but to actually practice on site with responsible manner.

1. Prevention of Heavy Equipment Accident

Heavy Equipment Accident is the strongest likelihood among all the type of accident in this project due to heavy usage of the Heavy Equipment such as Backhoes, Dump Trucks, Bull Dozers, Rollers, Graders and Water Tank Trucks etc... during Earthwork, Drainage work, Road work and Trenching works.

Therefore the following preventive measures shall be taken place:-

- i. Workers/staffs on the ground shall wear the yellow (or orange) colored reflect-able jackets to highlight against operators of moving heavy equipment.
- ii. Speed Limit of the Access shall be at maximum 25km/hr. The speed limit shall be indicated on site effectively and kept by dump trucks/vehicles. The dump trucks/vehicles speed shall be lower down and extreme care shall be taken where passing any person near the vehicle access.
- iii. Access shall be designated and indicated on site. Any vehicle/truck shall not run outside designated accesses unless authorized by the Construction Manager or Civil Engineer.
- iv. Watchman shall be stationed when more than two heavy equipment working closely.
- v. Operator shall be trained so as to check around his equipment whenever he operates the equipment.
- vi. Supervisors shall be equipped with Whistle to alert any dangerous situation on site.
- vii. Heavy Equipment shall be kept maintained in good condition. Weekly checking of Machineries shall be carried out by the mechanic.
- viii. Head Lights, Tail Lights, Brake Lights and Hazard Lights are in working conditions, especially working with low visibility.

Safety Accident Prevention Plan

2. Prevention of Third Party Accident

Third Party in this project shall include but not limited to the followings:-

- Monastery
- Vehicles Passengers and Pedestrians at nearby public road.
- Guests visiting the site.
- Nearby Residences (if any)
- Other Construction Sites within Phase 1 area.

Third Party Accident shall be avoided by the following preventive measures:-

- i. Permanent wall shall be erected around the existing Monastery so as to protect the property of Monastery against accident.
- ii. Any construction vehicles enter/exit to/from site, such vehicles shall pay attention to the vehicles/pedestrians on the public road. The vehicles shall slower down the speed when enter into the site. The vehicles shall stop once before exit from site to the public road.
- iii. Provide suitable PPE to the Guests visiting the Site when visitors enter into the construction area.
- iv. Attendance who is familiar with site situation shall always be with the visitors when visitors enter into the construction site.
- v. All the activities shall be carried out within the temporary fences/ hoardings. Full time watchman shall be provided in case any activity is to carry out outside fences/hoardings.
- vi. Proper Hoardings shall be provided and maintained around the other construction site in order to separate the working areas.
- vii. Coordination shall be done via periodical coordination meeting with other parties who construct the other structures. Any activities near the interface shall be well informed in advance to both parties through the coordination.
- viii. "Heavy Vehicle Crossing" Signage shall be provided facing to the coming traffic on the side of public road 50 feet before the entrance/ exit gate.

3. Prevention of Falling from Height

The following activities will associate with the works at height and/or falling from height hazard:-

Safety Accident Prevention Plan

- Elevated Tank at Water Purification Plant
- Water Tank at Water Purification Plant and Sewage Treatment Plant.
- Control Room Structures Roof.
- Temporary Offices Roof.
- Edge of the Excavation for Retention Pond/Canal, sewage/drainage/ water pipe laying work.
- Edge of Formed Dike.
- Cabin of heavy machineries/equipments.
- On the Box Culvert top Slab

Falling from Height Accident shall be avoided by the following preventive measures:-

- i. Any worker working at height shall wear the safety belt (except near the excavation edge).
- ii. Life line(s) shall be provided along the working platform at height before works at height commences so as to hook the safety belt on it (except near the excavation edge).
- iii. Fence / Handrail / Barricade shall be erected rigidly along the edge of the height.
- iv. Working platform (Bamboo or Metal) shall be thoroughly checked before in use.
- v. The use of ladder and scaffold shall be supervised and guided by competent supervisor or engineer.

4. Prevention of Traffic Accident

Due to the nature of the project, long distance access road(s) need to be provided and maintained from time to time in whole duration. Prevention of traffic accident should be one of the key issue in order to realize "zero accident in whole project".

The following measures shall be taken to prevent the traffic accident.

- Obey the vehicle speed limit rule of 25km/hr.
- Erect barricade where the access runs close to working area.
- Maintain the vehicles in good condition by periodical mechanical inspection.

Safety Accident Prevention Plan

- Maintain the access in good condition by the use of graders, rollers and spraying water.
- Watchman shall be provided when two or more vehicles/machineries working at the same area.
- Obey the public traffic rules when the vehicles are on the public road.

5. Prevention of Accident caused by Hand Held Tools/small equipment and Manual work

Accident caused by Hand Held Tools/small equipment and Manual work often happen by carelessness of the workers and/or bad condition of the equipment/tools used. Such accident can be avoided by the following preventive measures :-

- i. Wear suitable PPE such as gloves, goggles, etc...
- ii. Keep maintain the tools/equipment in good condition by periodical checking and checking before use.
- iii. Protection cover of the tools, e.g. electric saw blade protection cover etc., should not be removed.
- iv. Proper posture for manual lifting of heavy material.
- v. Confirm ground condition around your steps before commence activities.
- vi. No Manual work/ material stockpile is allowed within 1.0m from the excavation edges.

6. Prevention of Accident due to Interface with Other Contractor

Other Contractor will commence work after handing over of the completed lot(s) for the tenant owner(s) to build his Warehouses, Factories etc...

Close coordination shall be made with the Other Contractor for the Activities to be carried out at Interface Area to avoid any Accident as well as for smooth progress.

Matters of Coordination shall include but not limited to the followings:-

- Activity Schedule
- Location of Entrances / Exits
- Location of Hoarding
- Any activities to be carried out outside his Hoarding
- Activities which may cause hazard to other party such as Crane Lifting

Safety Accident Prevention Plan

activity near the interface.

- Material/Equipment Delivery Schedule

7. Prevention of Accident during Lifting Activities

Lifting activities may be required in the project. Use of crane or any other lifting equipment) shall require extreme attention to the followings in order to prevent the Accident during Lifting activities.

- i. Crane (or any other lifting equipment) shall be maintained in good condition. Responsible Mechanic shall thoroughly check the lifting equipment before use.
- ii. All Outriggers shall be fully extended while lifting.
- iii. Steel Plates or equivalent material shall be placed under the outriggers.
- iv. Operator shall have valid license to operate the lifting equipment.
- v. Signal-man shall be designated for the lifting activities. Crane operator shall follow only the designated signal-man's signal.
- vi. Signal-man and Rigger man shall equipped with whistle all the time and use whenever necessary to alert other people while lifting.
- vii. Supervisor in charge shall be full time on site to look after the lifting activities.
- viii. Rigger men shall be well trained so as to lift the material properly without dropping while lifting.
- ix. No person shall be allowed to stay under the lifted material.
- x. Lifting gear such as lifting wires, lifting hooks, shackles etc... shall be checked by competent person before use. Competent person means supervisor, engineer and safety officer.
- xi. Any damaged lifting gear shall be disposed off site in order not to mistakenly use it.
- xii. Weight of material to be lifted shall be checked against the lifting capacity of the lifting equipment.
- xiii. Crane shall be equipped with the over-loading limit switch/indicator to avoid lifting with over loading which may lead to the toppling of the crane.
- xiv. Crane shall be equipped with the over-winding limit switch to safeguard the miss-operation during lifting.

Safety Accident Prevention Plan

8. Electrical Accident Prevention

Accidents involving electricity are common-place and can be somewhat easily prevented. There is one way to prevent accidents from any causes of electrical accident and that's protection from the electrical hazard. Protection can be found in four different methods:

1. Eliminate ground fault electric shock hazards:

This is usually done by either Ground Fault Circuit Interrupters (GFCIs) or an assured equipment grounding conductor program. Devices that protect circuits are fuses, circuit breakers or GFCIs. They function by limiting or cutting off the flow of electricity when a short circuit, overload or ground fault occurs in a wiring system. They also help to prevent accidents by protecting conductors and equipment by preventing overheating of equipment and wiring.

2. Proper Insulation.

Insulation that can prevent electrical accidents can come in several forms and employees should check each day that it's in good working order. This is as simple as checking for exposed wires or scuffed or cut insulation on the cords or equipment and extension cords. Employees can be further protected by wearing non-conducting, insulated shoes and gloves, as well as using hand tools that have handles with nonconductive coatings.

3. Guarding.

To help prevent accidental shocks, any live electrical components operating at 50 or more volts must be guarded with covers or other permanent barriers. These are in place to prevent contact by workers and their tools. Signs forbidding entry of unqualified employees must be placed at the entrance of any area with live electrical parts.

4. Grounding.

It's required to ensure your employees are protected from electric shock, minimize the likelihood of fire and protect against damage to electrical

Safety Accident Prevention Plan

equipment. Grounding can be done in two ways:

- i. System or Service Ground- this is used to protect machines, tools and insulation. There's one wire, the neutral ground, which is grounded.
- ii. Equipment Ground- this is used to protect the operator. This type provides a path for current from a piece of equipment (tool or machine) to the ground.

9. Fire Accident Prevention

Housekeeping

- Combustibles shall be kept to a minimum.
- Combustible trash shall be removed on regular schedule.
- Oily rags shall be kept in metal containers with lids.

Smoking

- Smoking areas shall be free of combustibles.
- Adequate cigarette disposal shall be provided in smoking areas.

Electrical

- Extension cords shall not be used in place of permanent wiring.
- Electrical lights shall be clear of combustible materials.
- Circuits shall not be overloaded with multiple appliances.
- Combustibles shall not be stored in front of electrical panels.

Heating

- Heating units shall have ample clearance for combustibles.

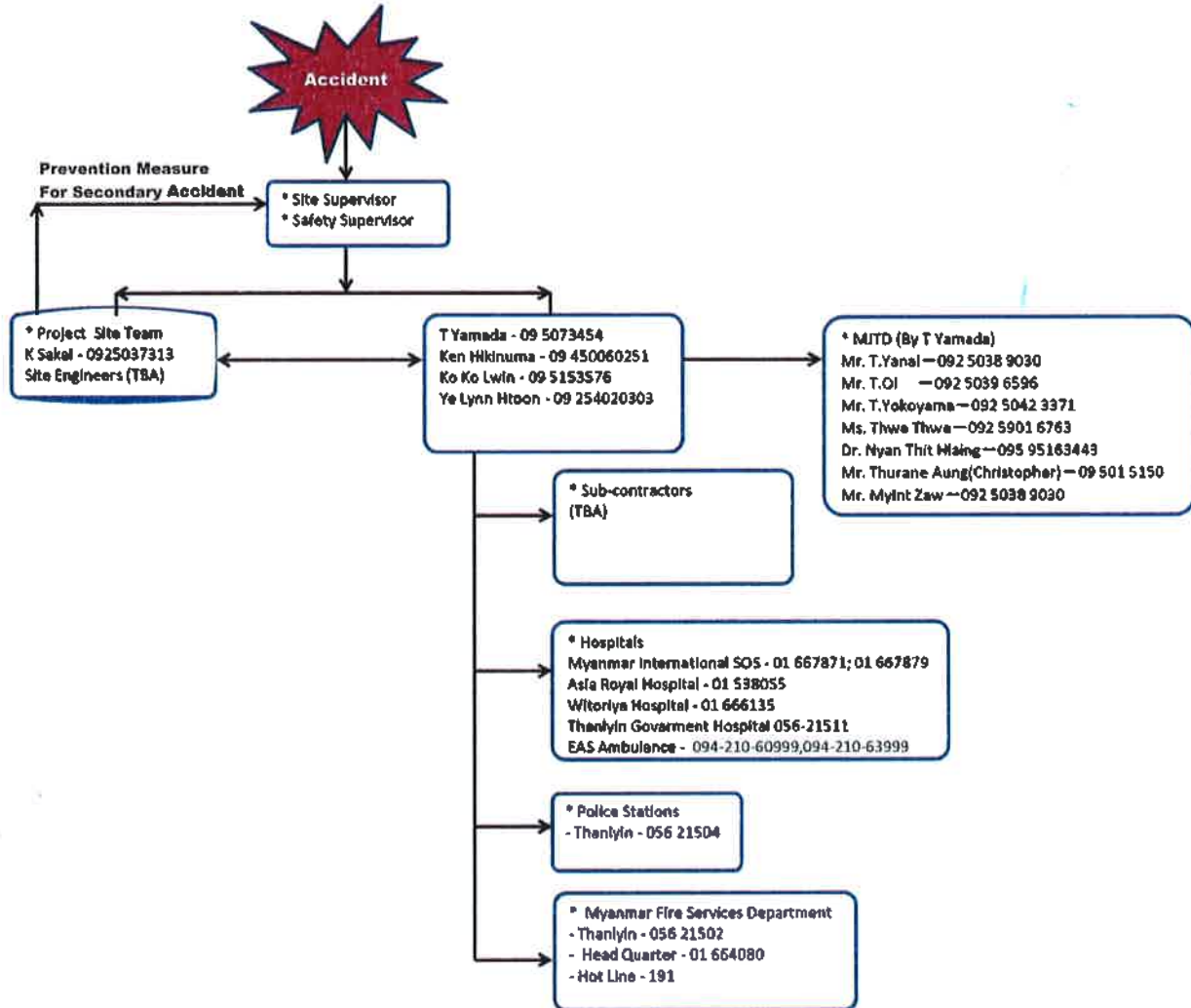
Fire Protection

- Fire hydrant access shall be clear and unobstructed.
- Fire extinguishers accessible and visible, access shall not be blocked and location marked.
- Fire extinguishers shall be checked monthly.
- Fire alarm pull stations shall be visible.

Exits

- All emergency exits shall be clear.
- Fire exits shall be adequately marked.
- Fire drills shall be performed.
- Evacuation plan and staging area shall be posted.

PENTA-SUNTAC Emergency Response Plan



**Thilawa Special Economic Zone CLASS A
Development Project –Phase 1**

Dust Emission Plan

Dust Emission Prevention Plan

Dust and Emission Control / Prevention are crucial in the Project in order to safeguard the health of workers/staffs working on site as well as third parties against disease caused by air pollution. It is also important in order to protect the Earth from global warming.

As the project involves earthwork with large quantity (1.4Mil m³) in large area (189ha), transportation of earth with dump trucks are unavoidable. Movement of Dump Trucks would create a cloud of Dust on site without effective prevention plan. Movement of heavy equipment such as backhoes, dump trucks, rollers, bull dozers and graders would have potential impact to the air pollution.

As such, the following Dust Emission Preventive Measures shall be implemented throughout the project duration.

- i. Water Spraying to the Vehicle Access
Water shall be sprayed on the site vehicle accesses effectively, especially where dump trucks uses. Sufficient numbers of Water Tank Truck with spraying devices shall be deployed fulltime on site to spray water on the accesses. Dump Trucks shall drive over the water-sprayed accesses as much as practical so as to minimize the dust creation.
- ii. Speed Limit at Site Access
Speed of vehicle access shall be limited to 25km/hr so as to avoid excessive dust creation as well as to minimize the air pollution by the exhaust fumes.
- iii. Stop Idling and Intensive Machineries Operation Campaign
In order to keep Healthy and Environmental Friendly Working Condition, the "Stop Idling & Intensive Machineries Operation Campaign" shall be conducted throughout the Project duration.
 - A) Stop Idling While No Operation
 - Engine should be Turned Off when Stopping Machineries.
 - B) Stop Intensive Machineries Operation

Dust Emission Prevention Plan

- Do Not Race Engine unnecessarily. Gentle Driving always.

This Campaign applies to All the Machineries on site including but not limited to Backhoes, Bull Dozers, Dump Trucks, Motor Graders, Water Trucks, Rollers, Concrete Cars, Cranes, Generators, Air Compressors, Welding Machines etc...

iv. PPE against Dust & Emission

Proper Personal Protective Equipment (PPE) shall be worn any works which is subject to exposure to the Dust. PPE against dust & emission shall mean goggles and masks.

Eyes and mouth washing after work shall be encouraged to the workers.

v. Maintenance of Heavy Equipment

Heavy equipment such as backhoes, dump trucks, rollers, bull dozers and graders shall be maintained in good condition. Periodical checking of machineries/equipment shall be carried out by mechanic.

Any vehicle with black colored exhaust gas should stop working then mechanical checking/ repairing should be carried out as soon as possible.

Campaign Plan of Stop Idling & Intensive Machineries Operation

Dust and Emission Control / Prevention are crucial in the Project in order to safeguard the health of workers/staffs working on site as well as third parties against disease caused by air pollution.

In order to keep Healthy and Environmental Friendly Working Condition, the "Stop Idling & Intensive Machineries Operation Campaign" shall be conducted throughout the Project duration.

A) Stop Idling While No Operation

- Engine should be Turned Off when Stopping Machineries.

B) Stop Intensive Machineries Operation

- Do Not Race Engine unnecessarily. Gentle Driving always.

This Campaign applies to All the Machineries on site including but not limited to Backhoes, Bull Dozers, Dump Trucks, Motor Graders, Water Trucks, Rollers, Concrete Cars, Cranes, Generators, Air Compressors, Welding Machines etc...

The Campaign shall take effect immediately till end of the Machineries use on site.

During Campaign period, the campaign poster enclosed under Appendix-1 shall be posted at office compound, rest sheds, smoking areas etc...

The campaign shall be notified from time to time to all the staffs and workers especially the machineries operators through the Morning Safety Gathering, Tool Box Meeting.

Any act infringing the above campaign spirits shall be ceased immediately and the person who breaches the campaign spirits shall be reeducated by the PSP Management Staff.

APPENDIX-1 : Campaign Poster of
"Stop Idling & Intensive Machineries Operation"

Stop Idling & Intensive Machineries Operation Campaign

To keep Healthy and Environmental Friendly Working Condition, the “Stop Idling & Intensive Machineries Operation Campaign” is Conducted with immediate effect till Completion of the Project

1. Stop Idling While No Operation

Engine should be Turned Off when Stopping Machineries.

2. Stop Intensive Machineries Operation

Do Not Race Engine unnecessarily.

Gentle Driving always.

3. This Campaign applies to All the Machineries on site including but not limited to Backhoes, Bull Dozers, Dump Trucks, Motor Graders, Water Trucks, Rollers, Concrete Cars, Cranes, Generators, Air Compressors, Welding Machines etc...

