



**JABATAN KERJA RAYA
MALAYSIA**

RISK MANAGEMENT PLAN

**PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG
DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA)**

Cawangan :
Ibu Pejabat JKR Malaysia
Kuala Lumpur

Version (OPEN)

18-Oct-2011



JABATAN KERJA RAYA MALAYSIA

Build Status

Version	Date	Author	Reason	Section
1.0	21-04-2011		1st Edition	All

JKR



Summary of PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA) Risk Profile

The initial risk process for the this project was conducted through a risk workshop session and discussions and initially 36 risks were identified and evaluated. The information provided has allowed an initial assessment of the projects risk profile to be conducted and a preliminary analysis of the risks identified to be undertaken. The overall risk profile of the project as it stands would be consider high. This is not unusual at this stage of the project. A significant of risk mitigation strategy currently in place for the project is the adoption and implementation of the Partnering model, as many of the identified risks will be resolved by good communications and discussions to develop a common understanding of the requirements required to deliver the successful outcomes of the project. Initial assessment was conducted against risks identified as Design Stage, Construction Stage or Handover Stage and sorted into Extreme (12), High (20) and Medium (4). Some of the Extreme and High risks for are shown in Figure 1, and some initial strategies were identified during the workshop, to reduce the likelihood or impact of the risk.

JKR



JKR



TABLE OF CONTENTS

1. Introduction	1
1.1 Background	1
1.2 Purpose	1
1.3 Project Summary	2
1.3.1 Project Governance	2
1.4 Scope and Context	2
1.5 Definitions, Acronyms and Abbreviations	3
2. Risk Management Process	3
2.1 Establish the Context	4
2.1.1 Responsibilities	4
2.1.2 Documentation	4
2.2 Risk Identification	5
2.2.1 Tools and Techniques	5
2.2.2 Risk Register	5
2.3 Risk Analysis	5
2.3.1 Updated Risk Register	6
2.4 Evaluation	6
2.5 Risk Treatment	6
2.5.2 Risk Analysis Templates	6
2.6 Risk Monitoring and Reporting	6
3. Risk Management Organisation	6
ATTACHMENT A	
Risk Planning Template	10
ATTACHMENT B	
Risk Register	13
ATTACHMENT C	
Risk Analysis	19
ATTACHMENT D	
Definitions	63



JKR



1. INTRODUCTION

The Pembinaan Kompleks CIQ, Imigresen dan Jeti Penumpang Di Muara Sungai Melaka, Melaka (Tender Semula) is a project to provide main entrance for tourist come to Malacca from Selat Malacca. Project Pembinaan Kompleks CIQ, Imigresen dan Jeti Penumpang Di Muara Sungai Melaka, Melaka (Tender Semula) is a re-tendering project. 1st contractor where involved in previous project has been terminated by mutual termination agreement between the contractor and government. After the termination process, Pesona Metro Sdn Bhd has been entrusted to execute this project through direct nego tender. This project has been re-launched on 2nd Ogos 2010 and predict to be complete on 27 Mac 2012.

1.1 Background

There are always risks associated with a project. The purpose of risk management is to ensure levels of risk and uncertainty are effectively managed, so that the project is completed successfully on time and within budget. The risk management process enables stakeholders involved in a project to identify possible risks and the manner in which these risks can be contained and the likely cost of mitigation strategies. Proper risk management allows the project to prosper through taking and avoiding risks. Good risk management will greatly improve the transparency of how the project operates, providing a roadmap to achieve strategic goals and objectives and reassurance over the management of risks. Successful management of the Project requires informed, proactive, and timely management of risks. The specific objectives of this risk management plan and approach are: Ensure critical risks impacting scope, schedule, budget, business performance, and/or change management are proactively identified, communicated, mitigated, and escalated in a timely manner. Facilitate attention to key risks impacting the project and individual teams. Produce meaningful information that allows project management to focus efforts on the right (e.g., high likelihood and high impact) risks with an effective coordination of effort. Ensure appropriate stakeholders are informed and, if applicable, participate in the mitigation. Record an audit trail of discussions and mitigation of project risks. The goal of this Risk Management Plan (RMP) is to proactively identify and address risks early in the project and throughout its lifecycle in order to avoid surprises.

There are always risks associated with a project. The purpose of risk management is to ensure levels of risk and uncertainty are effectively managed, so that the project is completed successfully on time and within budget. The risk management process enables stakeholders involved in a project to identify possible risks and the manner in which these risks can be contained and the likely cost of mitigation strategies.

Proper risk management allows the project to prosper through taking and avoiding risks. Good risk management will greatly improve the transparency of how the project operates, providing a roadmap to achieve strategic goals and objectives and reassurance over the management of risks.

Successful management of the project requires informed, proactive, and timely management of risks. The specific objectives of this risk management plan and approach are:

- Ensure critical risks impacting scope, schedule, budget, business performance, and/or change management are proactively identified, communicated, mitigated, and escalated in a timely manner.
- Facilitate attention to key risks impacting the project and individual teams.
- Produce meaningful information that allows project management to focus efforts on the "right" (e.g., high likelihood and high impact) risks with an effective coordination of effort.
- Ensure appropriate stakeholders are informed and, if applicable, participate in the mitigation.
- Record an audit trail of discussions and mitigation of project risks.

The goal of this Risk Management Plan (RMP) is to proactively identify and address risks early in the project and throughout its lifecycle in order to avoid surprises.

1.2 Purpose

This document describes how the project team for PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA) will perform the job of managing risks for the project. It defines roles and responsibilities for stakeholders in the risk processes, the risk management activities that will be carried out, the schedule and subsequent budget for risk management activities and subsequently the tools and techniques that will be used.

This RMP presents the process for implementing proactive risk management as part of the overall management of the PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA) project. Risk



management is a program management tool to assess and mitigate events that might adversely impact the project. Therefore, risk management increases the probability/likelihood of project success.

This RMP will:

- Serve as a basis for identifying alternatives to achieve cost, schedule, and performance goals
- Assist in making decisions on budget and funding priorities
- Provide risk information for milestone decisions
- Allow monitoring the health of the project as it proceeds.

The RMP describes methods for identifying, analyzing, prioritizing, and tracking risk drivers; developing risk-handling plans; and planning for adequate resources to handle risk.

It assigns specific responsibilities for the management of risk and prescribes the documenting, monitoring, and reporting processes to be followed.

1.3 Project Summary

Project Name: Pembinaan Kompleks CIQ, Imigresen dan Jeti Penumpang Di Muara Sungai Melaka, Melaka (Tender semula)
Client: Kementerian Dalam Negeri
End User: Jabatan Imigresen Malaysia
Program Manager: Dr Meor Abdul Aziz Osman
Project Manager: Ir. Hj Ahameed Tarmizi Bin Ramli
Project Budget: RM 73,000,000.00
Scheduled Completion Date: 27 Mar 2012

1.3.1 Project Governance

1. JKR Cawangan Pangkalan Udara Dan Maritim, CPUM
2. JKR Bahagian Maritim
3. Pengurus Besar Pembinaan

1.4 Scope and Context

This RMP identifies the procedures used to manage risk throughout the project. In addition to documenting the approach to risk identification and analysis, the plan covers who is responsible for managing risks, how risks will be tracked throughout the project lifecycle, and how mitigation and contingency plans are developed and implemented.

Risk management starts at the beginning of the project (Initiation Phase) with initial planning and assessing and is carried out at all levels within the project: Project Manager and his team, client and contractor. The risk management process ensures that risks are mitigated at the appropriate level and communicated as appropriate. While this plan provides guidance on managing all levels of risks, the primary focus is on risks at the project level; assuming that similar processes are in effect within the individual teams and contractors that comprise the project.

Risk management is an integral part of overall project planning and management and effective project planning and management requires effective identification and assessment of risks and determining what mitigating actions are required. Managing the effective completion of mitigation actions should be integrated with overall project tasks and assignments.

Risk management also works in concert with issue management. The key difference between issue management and risk management is the element of uncertainty inherent in risks. Uncertain events that could impact the project should be identified and managed through this RMP. Note that risks could lead to identification of issues and issues could drive identification or resolution of risks.

In order to be successful, the principles listed below guide the use and implementation of the overall Risk Management process that is described in detail in Section 2 of this document.

- Decisions will not be revisited once made (unless substantively new facts become available).
- A single owner is assigned responsibility for a risk even if several people work to mitigate it.
- Work and communicate progress on most severe risks first.
- Set realistic due dates and then work to meet the dates.
- Mitigate risks at the appropriate level (i.e., Project Manager, team, client and contractor).
- Responsible team leads, determine and agree on the risk severity level.
- Document the planned risk mitigation history and actual mitigation of a risk. This documentation serves as a key input to root cause analysis, key learning, metrics, and risk analysis



1.5 Definitions, Acronyms and Abbreviations

PM	Project Manager
RMgr	Risk Manager
RMP	Risk Management Plan
CCC	Certificate of Completion and Compliance
CF	Certificate of Fitness
CPM	Critical Path Method
EPU	Economic Planning Unit
PM	Project Manager
SOA	Schedule of Accommodation
VO	Variation Order

Specific risks definitions are shown at Attachment D.

2. RISK MANAGEMENT PROCESS

This section describes the JKR project risk management process and provides an overview of the PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA) risk management approach. Risk management is defined as the act or practice of controlling risk and includes risk planning, assessing risk areas, developing risk-handling options, monitoring risks to determine how risks have changed, and documenting the overall risk management program. Figure 1 shows, in general terms, the overall risk management process that has been followed in the PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA) . Each of the risk management functions shown in the figure is discussed in the following paragraphs, along with specific procedures for executing them.

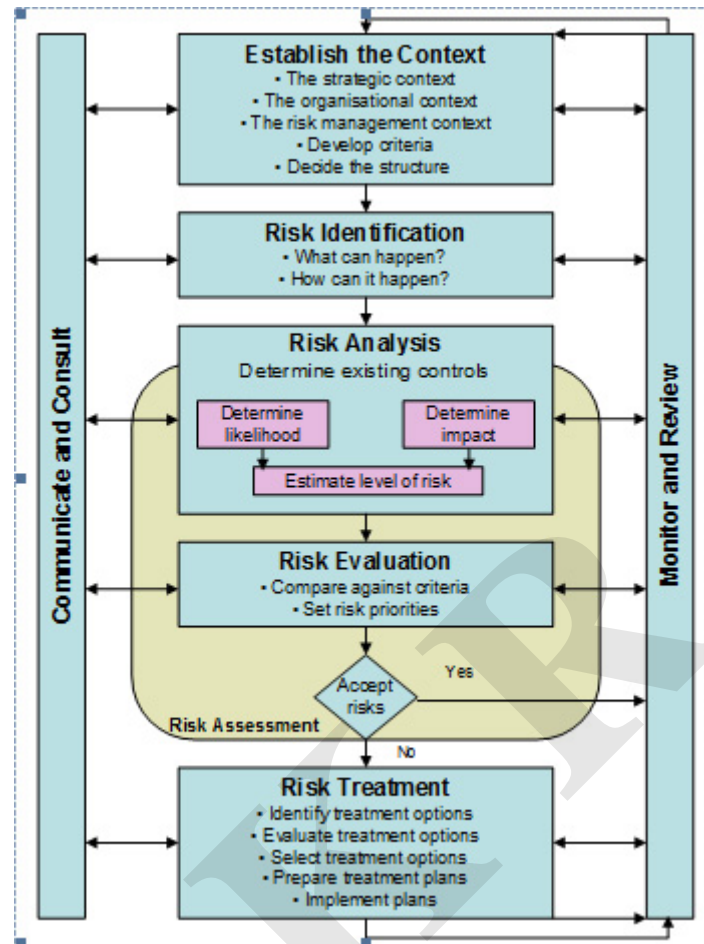


Figure 1: JKR Project Risk Management Process

2.1 Establish the Context

Establishing the context for the PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA) consists of the up-front activities necessary to execute a successful risk management program. It is an integral part of normal project planning and management. The planning addresses each of the other risk management functions, resulting in an organized and thorough approach to assess, handle, and monitor risks. It also assigns responsibilities for specific risk management actions and establishes risk reporting and documentation requirements. This RMP serves as the basis for all detailed risk planning, which must be continuous. The risk planning is detailed out in the Risk Planning Template (see Attachment A).

2.1.1 Responsibilities

The project manager (or delegate or risk manager if appropriate) is responsible for conducting risk planning, using this RMP as the basis. Planning covers all aspects of risk management to including assessment, handling options, and monitoring of risk mitigation activities. The project management monitors the planning activities of the team to ensure that they are consistent with this RMP and that appropriate revisions to this plan are made when required to reflect significant changes resulting from the team planning efforts.

Each person involved in the design, production, operation, and support of the project is a part of the risk management process. This involvement is continuous and should be considered a part of the normal management process.

2.1.2 Documentation

This RMP establishes the basic documentation and reporting requirements for the project. Team members should identify any additional requirements that might be needed to effectively manage risk at their level. Any such additional requirements must not conflict with the basic requirements in this RMP.

2.2 Risk Identification

Risk identification is the first step in the assessment process. The basic process involves reviewing the entire (project name) to determine those critical events that would prevent the project from achieving its objectives. All identified risks were documented in the Risk Register (see Attachment B).

Risks were identified by the team, including the client and contractors, which allowed the identification of significant concerns earlier than otherwise might be the case and the identification of those events in critical areas that need to be dealt with to avoid adverse consequences/impacts. Likewise, individuals involved in the detailed and day-to-day technical, cost, and scheduling aspects of the project are most aware of the potential problems (risks) that need to be managed.

For the purpose of this assessment, risks were identified in the Post Award stage of the project implementation.

2.2.1 Tools and Techniques

Tools and techniques used in the risk identification and mitigation strategies for this project were as follows:

- ☒ Brainstorming, with a facilitator and range of stakeholders
- ☐ Interviews with stakeholders
- ☒ Scenario, business analysis and event tree modelling.
- ☐ Dependency modelling.
- ☒ Experience from other projects, metrics and published data norms
- ☒ Reviewing project information, including plans, analysis and designs.
- ☐ Checklists.
- ☐ Others :

2.2.2 Risk Register

The key output of the risk identification phase is the risk register. The risk register for the project is shown at Attachment B.

Note: At this stage just a list of identified risks would appear in the risk register. The risk register Attachment B has had further analysis applied to the risks.

2.3 Risk Analysis

Risk analysis can be undertaken using similar methods as used for risk identification and is also a continuous process in the same way that risk identification is and the two may often be combined, in a structured way, into one activity.

Project or program risks are analysed to identify the:

- Estimated likelihood that the risk will occur (preferably probability using quantitative methods);
- Estimated impacts of the risk occurring in terms of its cost, schedule, 'quality' and other impacts on the project objectives including its products;
- The most appropriate risk owner; and
- Potential impact of the risk on third parties such as other projects and organisations.

It can also be useful at this stage of the analysis to conduct an initial high level assessment of whether the risk should be managed. There

are three cases where a risk may not need managing by a project:

- The likelihood of it happening is extremely small.
- The impacts are insignificant and require no treatment.
- The risk belongs outside the project; in this case the outside owners must formally take responsibility for it.

2.3.1 Updated Risk Register

The risk register is updated with the likelihood and impact information and the consequent risk rating as per Attachment B.

2.4 Evaluation

Typically an analysis or review of the risks associated with a project is made and a decision formed on what risks need treatment and what are their associated priorities. The first action is to sort the analysed risks by classifying them as one of:

- Accepted Risks, risks that are currently acceptable and do not require treatment, but will be kept under review.
- Rejected Risks, risks that are considered non-existent after analysis or of no significance.
- Significant Risks to be treated, these may need prioritisation.

Classification and prioritisation will be against risk criteria in the light of contexts and policies established in the Risk Management Plan.

2.5 Risk Treatment

An initial identification and assessment of measures to modify the identified risks was performed and the preparation of treatments for the risks identified. Risk Owners should also be assigned and may be members of the project team, business or other managers elsewhere in JKR, participating agencies or other stakeholder bodies. They will require an appropriate allocation of resources for their task(s), which may require negotiation by the sponsor depending on their relationship to the project.

Treatments are aimed to either reduce the risk's likelihood or impacts or both. Preparation of treatments requires inputs from stakeholders and coordination with the Project Manager. Normally if there is an unacceptable risk of a treatment failing (or not being found) or when a risk may reach an unacceptable level then a contingency plan must be developed.

2.5.1 Risk Analysis Templates

The output of the identification and assessment of the high priority risks is shown at Attachment C. At this stage some implementation measures have been identified (New Risk Treatments) but actions arising from these strategies, should, where possible, be included as activities in the project management plan.

2.6 Risk Monitoring and Reporting

The project manager has overall responsibility for monitoring and managing all aspects of the risk management process, unless the risk management activities have been assigned to a separate risk manager.

To ensure that significant risks are effectively monitored, risk-handling actions should be reflected in integrated project planning and scheduling. Identifying these risk handling actions and events in the context of Work Breakdown Structure (WBS) elements establishes a linkage between them and specific work packages, making it easier to determine the impact of actions on cost, schedule, and performance.

Risk status should be reported on an exception basis at the weekly project status meetings, with a full risk review conducted on a monthly basis.

3.0 RISK MANAGEMENT ORGANISATION

The risk organisation for the PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA) is not a separate organisation, but rather risk is integrated into the project's existing structure. A role is typically assigned to a Risk Manager who in turn is the overall coordinator of the project's Risk Management Program.

Note: This role in most projects will be performed by the Project Manager, but depending on the size of the project this role may be

performed by a dedicated person.

The Risk Manager is responsible for:

- Maintaining this RMP
- Briefing the PM on the status of project risk
- Tracking efforts to reduce moderate and high risk to acceptable levels
- Providing risk management training
- Facilitating risk assessments
- Preparing risk briefings, reports, and documents required for project reviews and the acquisition milestone decision processes.

The program manager endorses the risk management plan and receives update reports on the status of project risks from the Project Manager or Risk Manager.

The project team is responsible for implementing risk management tasks as per this Plan. This includes the following responsibilities:

- Review and recommend to the Risk Manager changes on the overall risk management approach based on lessons learned.
- As directed, update the project risk assessments made during the applicable project phase.
- Review and be prepared to justify the risk assessments made and the risk mitigation plans proposed.
- Report risk to the PM, with information to the Risk Manager via the Risk Register or Risk Analysis Templates.
- Ensure that risk is a consideration at each project review.

It is also important that the user/owner organisation remains fully involved in the risk management process, and identifies risks associated with future operation of the project deliverable(s).



JKR



JKR



ATTACHMENT A

RISK MANAGEMENT PLANNING

1.0 PROJECT INFORMATION

PROJECT TITLE :	PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA)
PROJECT REF. NO. :	
SKALA REF. NO. :	SKL0201/B09/15835/12374/10524/RT/RB
CLIENT MINISTRY :	Kementerian Dalam Negeri
END USER :	Jabatan Imigresen Malaysia, Jabatan Kastam, Polis Marin Dan Jabatan Laut
FUNDING :	pfi
PROGRAM MANAGER :	Dr. Meor Abdul Aziz Osman
PROJECT MANAGER :	Ir. Hj. Ahameed Tarmizi Bin Ramli
SITE SUPERVISION OFF :	Mohamad Niizar Bin Abdurahman
RISK MANAGER :	Ir. Hj. Ahameed Tarmizi Bin Ramli
PROJECT ENTRY DATE:	12-06-2006
PROJECT COMPLETION DATE :	09-07-2012
CONTRACT START DATE:	02-08-2010
CONTRACT END DATE:	27-03-2012
PROJECT CEILING COST:	79,300,000.00
CONTRACT COST:	73,000,000.00
TYPE OF CONTRACT:	design-build
CONTRACTOR'S NAME:	Pesona Metro Sdn Bhd
ADDRESS:	No.17B, 2nd Floor,Jalan SB Indah 1/18,Taman Sg. Besi Indah,43300, Seri Kembangan,Selangor
Need for Workshop?	<input checked="" type="radio"/> Yes <input type="radio"/> No

2.0 RISK MANAGEMENT WORKSHOP

DATE OF WORKSHOP:	14-12-2010
LOCATION :	Hotel Istana Kuala Lumpur



JABATAN KERJA RAYA MALAYSIA

PARTICIPATING ORGANISATIONS :

1.	Kementerian Dalam Negeri
2.	Cawangan Pangkalan Udara Dan Maritim
3.	Pesona Metro Sdn. Bhd.

NO. OF PARTICIPANTS :

--

NO. OF PRESENTER / FACILITATORS :

Presenter	1	Facilitators	4
-----------	---	--------------	---

ESTIMATED COST :

RM 20,000.00

SOURCE OF FINANCING :

Transfer Of Technology

ITINERARY TYPE :

A

PROJECT PHASES :

CONSTRUCTION

CURRENT PROJECT ISSUES :

1.	Isu Hak milik Tanah
2.	Isu Rekabentuk Fasad dan ketinggian Bangunan Kompleks CIQ Melaka perlu selaras dgn. kehendak UNESCO.

WORK PLAN :

Q PLAN

LIST OF APPARATUS & EQUIPMENT AND NOS REQUIRED :

-	-	-	-
---	---	---	---

3.0 MONITORING & CONTROL

3.1 RISK MANAGEMENT PLAN

DATE OF INITIAL RISK REVIEW MEETING :

17-01-2011

PARTICIPATING ORGANISATIONS :

--

DATE TO APPROVE RMP

21-04-2011

DATE TO DISTRIBUTE RISK REGISTER :

21-04-2011

3.2 MONITORING & FEEDBACK

- | | | |
|---|--------------------------------|-------------------------------------|
| 1 | PROJECT SITE MEETINGS | <input checked="" type="checkbox"/> |
| 2 | FOLLOW UP RISK REVIEW MEETINGS | <input checked="" type="checkbox"/> |
| 3 | TECHNICAL MEETINGS | <input type="checkbox"/> |
| 4 | E-MAIL | <input type="checkbox"/> |
| 5 | OTHERS : | <input type="checkbox"/> |

3.3 REPORTING



JABATAN KERJA RAYA MALAYSIA

FREQUENCY OF STATUS REPORT :	BI MONTHLY
DATE TO COMPLETE FINAL REPORT :	31-07-2012
REPORTING OFFICER :	Mohd. Fazrullah Bin Zulkipli
VERIFYING OFFICER :	Ir. Hj. Ahameed Tarmizi Bin Ramli

4.0 SIGN OFF

Prepared by Project Manager :	Ir. Hj. Ahameed Tarmizi Bin Ramli
Approved by Program Manager / Director :	Dr. Meor Abdul Aziz Osman
Date Approval :	15-11-2010

JKR



ATTACHMENT B

RISK REGISTER

Project Title : PEMBINAAN KOMPLEKS CIQ IMIGRESEN DAN JETI PENUMPANG DI MUARA SUNGAI MELAKA, MELAKA (TENDER SEMULA)	Date : 14-07-2011
Project Ref. No. :	Compiled By :
Project Manager : Ir. Hj. Ahameed Tarmizi Bin Ramli	Reviewed By : Nursalbiah Hamidun

CATEGORY OF PROJECT RISK		Likelihood Rating	Impact Rating	Risk Rating	Risk Matrix						
1. Political	9. Contractual	5. Almost certain	V. Severe	E- Extreme risk, immediate action required	LIKELIHOOD	5	H	H	H	E	E
2. Scope	10. Technical	4. Likely	IV. Major	H- High risk, will jeopardize project if not managed		4	M	M	H	E	E
3. Schedule	11. Environmental	3. Possible	III. Moderate	M- Medium risk, will impact time, cost or quality if not managed		3	L	M	M	H	E
4. Financial	12. Suppliers	2. Unlikely	II. Minor	L- Low risk, acceptable project management risk, monitor only		2	L	L	M	H	H
5. Human Resources	13. Industrial relations	1. Rare	I. Insignificant			1	L	L	M	M	H
6. Quality	14. Organisational						I	II	III	IV	V
7. Communications	15. OH & S					IMPACT					
8. Other resources	16. Cultural & Social										

Ref No. (WBS)	Risk Event There is a risk that	Category of Risk	Likelihood Rating	Impact Rating	Risk Rating	Treatment Measures	Responsible Party	Target Deadline
1.0	PLANNING RISK							



JABATAN KERJA RAYA MALAYSIA

2.0	DESIGN RISK							
2.1	There is risk in delaying project approval due to the change of building height to the conformance HIA/UNESCO requirement thus delaying the project completion.	2	5	V	E	1)Consensus from Chief Minister Office	1)CM, MBMB, Contractor	1)16-03-2011
2.2	There is a risk of using flat roof due to frequent/costly maintenance work after defect liability period.	6	4	III	H	1)Installed pitch false roof	1)Contractor And Consultant	1)14-10-2011
2.3	There is a risk that IBS Score may not achieve 70% as per contract requirement that may cause in contractual obligation	9	5	V	E	1)Contractor to propose new design to comply with IBS score	1)PMSB/RNA/RAPI	1)08-03-2011
2.4	There is a risk of Late Conceptual Drawing Approval From Client/End User that may cause delay detail design progress.	3	4	III	H	1)JKR HOPT inquire confirmation with Client/End User for concept briefing	1)HOPT, KDN / IMIGRESEN	1)01-03-2011
						2)Client/End User to verify the concept layout	2)KDN / IMIGRESEN	2)15-03-2011
						3)Contractor and consultant to produce and submit several alternatives design	3)PMSB/RNA	3)15-02-2011
2.5	There is a risk of late submission by contractor for JKR HODT endorsement that may cause project to delay in progress.	3	3	IV	H	1)Consultant to work more time beginning	1)Consultant	1)20-12-2010
						2)Frequent Technical meeting/discussion between contractor/consultant and JKR HODT beginning	2)PMSB and Consultant & JKR HODT	2)20-12-2010
2.6	There is a risk of AHU Relocation due to design changes that may cause constrain of space area	10	4	IV	E	1)Consultant Architect to review M&E space requirement	1)RNA	1)01-02-2011
						2)M&E Consultant to provide room size & location to Architect	2)PRIMETECH	2)31-12-2010
						3)Co-ordination among consultant to identify new room size & location	3)All Consultant/Contractor	3)01-02-2011
2.7	There is a risk of Light Fittings due to design changes at the Roof Area that may cause project to delay in progress.	10	5	III	H	1)Consultant to propose alternative design	1)RNA & PRIMETECH	1)16-03-2011
2.8	There is a risk of Changes Of Authority requirement After Approval that may cause delay on work progress	10	2	IV	H	1)Consultant to resubmit Drawing and Calculation Documentation to Authority according to their latest requirement beginning	1)All Consultant	1)20-12-2010
2.9	There is a risk of Late Of Subcontractors appointment that may cause delay on work progress	3	3	V	E	1)Contractor to expedite & evaluate the appointment of competent subcontractors	1)PMSB	1)02-05-2011
						2)Consultant to finalize the Drawing before quotation	2)Consultant	2)30-03-2011
3.0	PROCUREMENT RISK							
4.0	CONSTRUCTION RISK							



JABATAN KERJA RAYA MALAYSIA

4.1	There is a risk of failure to the r.c. wall/river bank due to poor coordination in dredging works which may affect the environment and obstruct the traffic flow	10	4	IV	E	1)Trained personnel	1)Contractor & Consultants	1)01-02-2012
						2)Third party assessment to site conditions	2)Contractor & Consultants	2)01-02-2012
4.2	There is a risk of delay in receiving imported material which could hinder project completion.	3	4			1)Alternative equivalent material and approved by S.O. through special meet	1)Contractor	1)05-08-2011
						2)Placing order as soon as design approved	2)Contractor	2)05-08-2011
4.3	There is a risk of logistic problem due to site constrain which could cause delay in completion of project	10	5	IV	E	1)Appeal for special approval safety requirement by OSHA & JAS	1)Contractor	1)15-01-2011
4.4	There is a risk in ingress and egress through residential area may cause accident and surface pavement damage thus delays the project completion and effect social impacts.	3	4	IV	E	1)Temporary speed bump	1)MBMB, Contractor	1)15-01-2011
4.5	There is a risk in shortage of workers may affect the progress thus delay project completion	5	3	IV	H	1)Monetary incentive & reward	1)Contractor	1)30-03-2011
						2)Training program for safety and health	2)Contractor	2)15-01-2011
4.6	There is a risk in variation order due to design changes resulting delay of project completion	9	4	IV	E	1)Dateline for the acceptance of design change	1)HODT, Consultant, Client	1)01-03-2011
4.7	There is a risk that delay in getting approval of construction drawing from respective consultants will cause delay in commencement of work and the overall project completion.	10	4	IV	E	1)Prompt payment to consultants according to fees schedule (according to stages)begining	1)Contractor	1)25-12-2010
						2)Increase staffing	2)Consultants	2)03-01-2011
						3)Effective coordination meeting with follow through of the action plan	3)Lead of consultant	3)16-12-2010
4.8	There is a risk that changes of design by consultant will cause revision of design and constructions drawing which later increase time and cost	2	5	III	H	1)More frequent discussion with client and authorities (weekly)	1)Contractor and consultant	1)03-01-2011
4.9	There is a risk that if shortage of building materials will increase time spend and wastage the manpower resources and cause late completion of project	12	2	V	H	1)Awareness of products availability in market (by courses, glocal review updates, etc)	1)Contractor & Consultants	1)16-12-2010
						2)Early approval of construction drawings and materials in use	2)Consultants & JKR	2)03-01-2011
						3)Sourcing for substitute products	3)Contractor	3)03-01-2011
4.10	There is a risk that unforeseen price increase of oil, metal and cement price will lead to substantial increase of project cost, delay and mutual termination.	4	3	IV	H	1)Looking for renewable energy and alternative materials	1)Contractor	1)03-01-2011



JABATAN KERJA RAYA MALAYSIA

4.11	There is a risk that mismanaged of project cash flow by the contractor will cause disruption to the projects expenditure	4	2	IV	H	1)Carry out regular auditing	1)Contractors	1)15-12-2010
4.12	There is a risk that unresolved NCR issues may prolong the problems at site that cause the quality delivery and delay of the project.	10	4	III	H	1)Appointment of competent site staff	1)Contractor , consultants	1)03-01-2011
						2)Coordination of technical and NCR meeting	2)Contractor , consultants, JKR	2)15-01-2011
						3)Practice the right methods of construction	3)Contractors	3)16-12-2010
4.13	There is a risk that poor interfacing utilities issues will contribute to the T&C problems, delay to the supplying the utilities and function of the buildings.	7	4	IV	E	1)Regular coordination meeting with utilities parties	1)Contractors	1)15-01-2011
						2)Early enquiry of procedure and practice for project execution	2)Consultants	2)16-12-2010
4.14	There is a risk that Non compliance to HIA requirement due to inadequate heritage guidelines will delay the approval of design from PBT	16	5	V	E	1)Resubmit new design to authority for approval	1)Consultants	1)10-02-2011
4.15	Terdapat risiko di mana halangan trafik di laluan air mengganggu aktiviti pembinaan jeti dan pengerukan seterusnya akan mengakibatkan kelewatan projek.	3	4	III	H	1)Membuat Mesyuarat Penyelarasan dengan agensi-agensi yang berkaitan.	1)WPD	1)10-02-2012
						2)Membuat penandaan had kawasan kerja oleh pihak kontraktor.	2)PENGURUS PROJEK PMSB	2)10-02-2012
4.16	Terdapat risiko di mana penyelarasan kerja yang kurang berkesan bagi pemindahan operasi jeti sementara mengganggu aktiviti merobohkan jeti sedia ada seterusnya akan mengakibatkan kelewatan projek.	3	3	IV	H	1)Membuat Mesyuarat Penyelarasan dengan agensi-agensi yang berkaitan.	1)WPD	1)27-03-2012
						2)Menyediakan cadangan pelan persediaan perpindahan	2)Pengurus Projek PMSB	2)27-03-2012
4.17	Terdapat risiko di mana kawasan pembinaan terhad mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.	10	5	III	H	1)Mengkaji pelan susunatur dari masa ke semasa untuk menyesuaikan dengan aktiviti di tapak bina setiap 3 bulan bermula	1)PMSB	1)22-12-2010
4.18	Terdapat risiko di mana pencemaran air mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.	11	3	IV	H	1)Menyediakan justifikasi yang kukuh untuk kelulusan item provisional sum (Perunding alam sekitar).	1)PMSB	1)20-12-2010
						2)Memberi kelulusan terhadap item provisional sum (Perunding alam sekitar).	2)WPD	2)22-12-2010
						3)Membuat pelantikan perunding alam sekitar.	3)PMSB	3)03-01-2011
						4)Memastikan laporan bulanan alam sekitar dikemukakan kepada JAS bermula	4)PMSB	4)02-02-2011



JABATAN KERJA RAYA MALAYSIA

4.19	Terdapat risiko di mana kelewatan kelulusan bahan binaan oleh JKR mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.	3	4	IV	E	1) Pihak kontraktor perlu menyediakan dan mengemukakan jadual kelulusan bahan binaan yang mematuhi spesifikasi yang terdapat didalam need statement.	1)PMSB	1)22-12-2010
						2)Mengadakan mesyuarat penyelarasan di antara agensi yang terlibat.	2)WPD	2)21-12-2010
						3)Menyediakan carta alir bagi kelulusan bahan.	3)WPD	3)20-01-2011
4.20	Terdapat risiko di mana kemalangan dan keselamatan di tapak bina mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.	1	4	IV	E	1)Membuat taklimat keselamatan mengikut aktiviti yang dijalankan di tapak bermula	1)PMSB	1)10-01-2011
						2)Membuat sesi taklimat khas kepada pekerja yang sering tidak mematuhi peraturan keselamatan di tapak bina.	2)PMSB	2)16-05-2011
						3)Menyediakan dan mempamer jadual penyelenggaraan jentera.	3)PMSB	3)29-12-2010
4.21	Terdapat risiko di mana penemuan artifak bersejarah mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.	16	3	IV	H	1)Membuat mesyuarat penyelarasan dengan pihak berkuasa tempatan berhubung prosedur yang perlu dipatuhi berkenaan penemuan artifak bersejarah.	1)WPD	1)01-12-2011
						2)Menyediakan pelan tindakan sekiranya terjumpa bahan artifak bersejarah.	2)WPD	2)15-12-2011
4.22	Terdapat risiko di mana kurang koordinasi di antara subkontraktor di tapak bina mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek dan menjejaskan kualiti kerja.	7	3	IV	H	1)Mengenakan denda kepada subkontraktor yang tidak hadir mesyuarat koordinasi tapak.	1)PMSB	1)18-05-2011
4.23	Terdapat risiko di mana kekangan komunikasi disebabkan lokasi yang jauh mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.	7	5	III	H	1)Membuat Mesyuarat Penyelarasan Teknikal di peringkat ibu pejabat JKR (CPUM) bermula	1)WPD	1)12-01-2011
5.0	HANDOVER RISK							
5.1	Kualiti tidak menepati spesifikasi pihak pelanggan	6	3	III	M	1)	1)	1)
5.2	Kemudahan tidak memenuhi spesifikasi pengguna	2	3	III	M	1)	1)	1)
5.3	Perubahan keperluan PBT semasa hand over	10	3	III	M	1)	1)	1)
5.4	Terdapat risiko dimana hak milik tanah belum diserahkan kepada kerajaan Persekutuan akan menyebabkan Kelulusan Pembangunan dan C.C.C dan C.P.C tidak diluluskan.	14	5	II	H	1)	1)	1)



JABATAN KERJA RAYA MALAYSIA

5.5	Kegagalan T&C	10	3	III	M	1)	1)	1)
5.6	Perubahan akta yang berkaitan	1	1	IV	M	1)	1)	1)
5.7	Kelewatan as built drawing, OMM	10	3	III	M	1)	1)	1)
5.8	Campur tangan politik	1	3	III	M	1)	1)	1)
5.9	Unclear Of TNB Requirement	10	3	III	M	1)	1)	1)
5.10	Equipment Damages	11	3	III	M	1)	1)	1)
5.11	System Does Not Operate Due To Malfunction Of Component etc	10	1	IV	M	1)	1)	1)



ATTACHMENT C

Risk Analysis Template

Ref No (WBS): 2.1	Risk Title: There is risk in delaying project approval due to the change of building height to the conformance HIA/UNESCO requirement thus delaying the project completion.		
Risk Description: There is risk in delaying project approval due to the change of building height to the conformance HIA/UNESCO requirement thus delaying the project completion.			
Risk Nature:	Risk Category: 2	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Approval from MBMBInadequate guidelines specified by Local Authority regarding the building heights in gazette heritage area.	- 1) Late approval of development order (DO) from Local AuthorityLate approval of building plan (BP) from Local Authority

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Request for a special meeting to expedite the approval with MBMB.	- 1) Medium
- 2) The consultant has to inform all stakeholders about Local Authority requirement.	- 2) High
- 3) Request for early commencement for special projects in heritage area.	- 3) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Consensus from Chief Minister Office	- 1) CM, MBMB, Contractor	- 1) 16-03-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	5	V	E	3	III	M	3	II	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 2.2	Risk Title: There is a risk of using flat roof due to frequent/costly maintenance work after defect liability period.		
Risk Description: There is a risk of using flat roof due to frequent/costly maintenance work after defect liability period.			
Risk Nature: OPERATIONAL	Risk Category: 6	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Design changes from sloping metal deck to r.c. flat roof	- 1) Water ponding and leakage

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Installed water proofing with screed to fall	- 1) Medium

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Installed pitch false roof	- 1) Contractor And Consultant	- 1) 14-10-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	4	III	H	3	III	M	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 2.3	Risk Title: There is a risk of Late Conceptual Drawing Approval From Client/End User that may cause delay detail design progress.		
Risk Description: There is a risk of Late Conceptual Drawing Approval From Client/End User that may cause delay detail design progress.			
Risk Nature: OPERATIONAL	Risk Category: 3	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Late contractor submit the conceptual drawing to JKR HOPT	- 1) Drawing verification by HODT will be delayed
- 2) JKR HOPT delay to Submit the drawing to Client/End User	- 2) Drawing verification by HODT will be delayed & late commencement on site.
- 3) Late feedback from Client/End User	- 3) Late commencement on site & late decision making
- 4) Client unsure their needs.	- 4) Late decision making

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Coordination meeting between contractor and JKR HOPT	- 1) Low

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) JKR HOPT inquire confirmation with Client/End User for concept briefing	- 1) HOPT, KDN / IMIGRESEN	- 1) 01-03-2011
- 2) Client/End User to verify the concept layout	- 2) KDN / IMIGRESEN	- 2) 15-03-2011
- 3) Contractor and consultant to produce and submit several alternatives design	- 3) PMSB/RNA	- 3) 15-02-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	4	III	H	5	V	E	3	III	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 2.4	Risk Title: There is a risk of late submission by contractor for JKR HODT endorsement that may cause project to delay in progress.		
Risk Description: There is a risk of late submission by contractor for JKR HODT endorsement that may cause project to delay in progress.			
Risk Nature: OPERATIONAL	Risk Category: 3	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Lack of manpower from consultant.	- 1) Insufficient time for JKR HODT to review report and drawing
- 2) Lack communication between contractor and consultant.	- 2) Lack communication between contractor and consultant.
- 3) Contractor did not submit complete design as per schedule	- 3) Contractor did not submit complete design as per schedule
- 4) Late Independent Checker Engineer (ICE) report submission to JKR HODT	- 4) Drawing verification by HODT will be delayed

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Coordination between contractor and consultant.	- 1) M
- 2) Contractor to submit complete design as per design schedule	- 2) M
- 3) Contractor to monitor consultant progress	- 3) L

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Consultant to work more time beginning	- 1) Consultant	- 1) 20-12-2010
- 2) Frequent Technical meeting/discussion between contractor/consultant and JKR HODT beginning	- 2) PMSB and Consultant & JKR HODT	- 2) 20-12-2010

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	3	IV	H	4	III	H	3	II	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 2.5	Risk Title: There is a risk of AHU Relocation due to design changes that may cause constrain of space area		
Risk Description: There is a risk of AHU Relocation due to design changes that may cause constrain of space area			
Risk Nature: OPERATIONAL	Risk Category: 10	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Reduction of building height	- 1) Not enough / suitable places to relocate AHU room & Delay work progress.
- 2) All discipline to redesign	- 2) Increase Time, & Increase Cost

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Consultant Architect to review M&E space requirement	- 1) RNA	- 1) 01-02-2011
- 2) M&E Consultant to provide room size & location to Architect	- 2) PRIMETECH	- 2) 31-12-2010
- 3) Co-ordination among consultant to identify new room size & location	- 3) All Consultant/Contractor	- 3) 01-02-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	4	IV	E	4	III	H	3	II	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 2.6	Risk Title: There is a risk of Changes Of Authority requirement After Approval that may cause delay on work progress		
Risk Description: There is a risk of Changes Of Authority requirement After Approval that may cause delay on work progress			
Risk Nature: OPERATIONAL	Risk Category: 10	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Lack of communication between Consultant and Authority	- 1) Discrepancy on design
- 2) Improper documentation on Authority requirement	- 2) Increase time
- 3) Changes on Authority policy	- 3) Cost & Delay work progress

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Consultant to resubmit Drawing and Calculation Documentation to Authority according to their latest requirement begining	- 1) All Consultant	- 1) 20-12-2010

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	2	IV	H	4	III	H	3	II	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 2.7	Risk Title: There is a risk of Late Of Subcontractors appointment that may cause delay on work		
Risk Description: There is a risk of Late Of Subcontractors appointment that may cause delay on work progress			
Risk Nature: OPERATIONAL	Risk Category: 3	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Difficult to find suitable candidate	- 1) Delay on Shop/ Working Drawing submission for approval
- 2) Negotiation process take too long between contractors	- 2) Delay on preparing material approval & delay on physical site work

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Contractor to expedite & evaluate the appointment of competent subcontractors	- 1) PMSB	- 1) 02-05-2011
- 2) Consultant to finalize the Drawing before quotation	- 2) Consultant	- 2) 30-03-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	3	V	E	4	III	H	3	II	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 2.8	Risk Title: There is a risk of Light Fittings due to design changes at the Roof Area that may cause project to delay in progress.		
Risk Description: There is a risk of Light Fittings due to design changes at the Roof Area that may cause project to delay in progress.			
Risk Nature: OPERATIONAL	Risk Category: 10	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Reduction of building height	- 1) Increase time, Delay work progress, COST
- 2) Omission of building roof	- 2) Increase time, Delay work progress, Cost

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Consultant to propose alternative design	- 1) RNA & PRIMETECH	- 1) 16-03-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	5	III	H	4	III	H	3	II	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 2.9	Risk Title: There is a risk that IBS Score may not achieve 70% as per contract requirement that may cause in contractual obligation		
Risk Description: There is a risk that IBS Score may not achieve 70% as per contract requirement that may cause in contractual obligation			
Risk Nature: OPERATIONAL	Risk Category: 9	Risk Manager:	Business Unit: cpum

Risk Factors:	Possible Effects:
- 1) Design changes to comply HIA requirement	- 1) Delay in project & Late decision making
- 2) Omission fabricated roof truss	- 2) Structure component may not achieve 40%

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Contractor to propose new design to comply with IBS score	- 1) PMSB/RNA/RAP1	- 1) 08-03-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	5	V	E	5	V	E	3	III	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.1	Risk Title: There is a risk of failure to the r.c. wall/river bank due to poor coordination in dredging works which may affect the environment and obstruct the traffic flow		
Risk Description: There is a risk of failure to the r.c. wall/river bank due to poor coordination in dredging works which may affect the environment and obstruct the traffic flow			
Risk Nature: OPERATIONAL	Risk Category: 10	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Poor communications among stakeholders	- 1) R.C. wall failure
- 2) Poor coordination from stakeholders	- 2) Misalignment of r.c. wall
- 3) Suitable dredger machine	- 3) Stop work

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Frequent meeting among stakeholders (bi-weekly)	- 1) High
- 2) Engaged experience dredging contractors	- 2) High
- 3) Proper method statements	- 3) Medium

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Trained personnel	- 1) Contractor & Consultants	- 1) 01-02-2012
- 2) Third party assessment to site conditions	- 2) Contractor & Consultants	- 2) 01-02-2012

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	4	IV	E	4	III	H	3	III	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.2	Risk Title: There is a risk of delay in receiving imported material which could hinder project completion.		
Risk Description: There is a risk of delay in receiving imported material which could hinder project completion.			
Risk Nature: OPERATIONAL	Risk Category: 3	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Final design approval	- 1) Could not finalized purchase order (PO)
- 2) Delay in placing order	- 2) Material couldnt be sent to site on time
- 3) Customs clearance	- 3) Delay in delivery
- 4) Natural disaster in the country of origin	- 4) Material could not be sent to site on time

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Special meeting to finalized design with	- 1) High
- 2) Identify early start date for placing order in CPM	- 2) Medium
- 3) Aware and understand customs rules and regulations regarding imported goods	- 3) High
- 4) Alternative mode of transportation from country of origin	- 4) Medium

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Alternative equivalent material and approved by S.O. through special meet	- 1) Contractor	- 1) 05-08-2011
- 2) Placing order as soon as design approved	- 2) Contractor	- 2) 05-08-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	4			3	III	M	2	III	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.3	Risk Title: There is a risk of logistic problem due to site constrain which could cause delay in completion of project		
Risk Description: There is a risk of logistic problem due to site constrain which could cause delay in completion of project			
Risk Nature: OPERATIONAL	Risk Category: 10	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Space occupied by structures	- 1) Restriction of machineries movement
- 2) 10m buffer zone from r.c. wall	- 2) Working space is limited
- 3) Requirement for work space according to OSHA & JAS	- 3) Restriction of machineries movement
- 4) Problem working with marine clay (soft soil)	- 4) Working space is limited

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Appoint logistic officer	- 1) High
- 2) Resource loaded CPM	- 2) High
- 3) Ground treatment	- 3) Medium
- 4) Temporary platform/staging/steel plate	- 4) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Appeal for special approval safety requirement by OSHA & JAS	- 1) Contractor	- 1) 15-01-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	5	IV	E	3	III	M	2	III	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.4	Risk Title: There is a risk in ingress and egress through residential area may cause accident and surface pavement damage thus delays the project completion and effect social impacts.		
Risk Description: There is a risk in ingress and egress through residential area may cause accident and surface pavement damage thus delays the project completion and effect social impacts.			
Risk Nature: OPERATIONAL	Risk Category: 3	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) The only access road	- 1) Accidents,Potholes,Pollutions(sound & air),Road block by residents
- 2) Overloading of vehicle	- 2) Potholes

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Wash-trough	- 1) High
- 2) Water browser	- 2) High
- 3) Speed limit of vehicle to 30km/hr throughout the access road	- 3) Medium
- 4) Potholes gangs	- 4) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Temporary speed bump	- 1) MBMB, Contractor	- 1) 15-01-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	4	IV	E	3	III	M	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.5	Risk Title: There is a risk in shortage of workers may affect the progress thus delay project completion		
Risk Description: There is a risk in shortage of workers may affect the progress thus delay project completion			
Risk Nature: OPERATIONAL	Risk Category: 5	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Change in government policies regarding employment of foreign workers.	- 1) Cannot renew workers work permit & Slow progress due to insufficient workers
- 2) Human factors such as better offer by others etc.	- 2) Cannot renew workers work permit & Slow progress due to insufficient workers
- 3) Extreme working conditions	- 3) Cannot renew workers work permit & Slow progress due to insufficient workers

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Resource loaded CPM	- 1) Medium
- 2) Better incentive such OT and prompt salary payment	- 2) High
- 3) Better living conditions & medical terms	- 3) High
- 4) Better health amenities at site	- 4) Medium

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Monetary incentive & reward	- 1) Contractor	- 1) 30-03-2011
- 2) Training program for safety and health	- 2) Contractor	- 2) 15-01-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	3	IV	H	3	III	M	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.6	Risk Title: There is a risk in variation order due to design changes resulting delay of project completion		
Risk Description: There is a risk in variation order due to design changes resulting delay of project completion			
Risk Nature: OPERATIONAL	Risk Category: 9	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) To fulfill HIA requirement	- 1) Cost & time implication & Loose furniture may not be provided
- 2) Client request	- 2) Cost & time implication & Loose furniture may not be provided
- 3) Provisional sum for interior design & landscape is not sufficient	- 3) Cost & time implication & Loose furniture may not be provided
- 4) Consultant fee	- 4) Cost & time implication & Loose furniture may not be provided

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Frequent coordination meeting with stakeholders (bi weekly)	- 1) High
- 2) Early negotiation of ID and Landscape works with S.O./HODT Architect	- 2) High
- 3) Early conformation of design scope	- 3) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Dateline for the acceptance of design change	- 1) HODT, Consultant, Client	- 1) 01-03-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	4	IV	E	3	III	M	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.7	Risk Title: There is a risk that delay in getting approval of construction drawing from respective consultants will cause delay in commencement of work and the overall project completion.		
Risk Description: There is a risk that delay in getting approval of construction drawing from respective consultants will cause delay in commencement of work and the overall project completion.			
Risk Nature: OPERATIONAL	Risk Category: 10	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Late preparation of construction drawings	- 1) Project delay & Late issuance of construction drawing
- 2) Lack of coordination among designers	- 2) Project delay & Late issuance of construction drawing
- 3) Insufficiency of consultants staffing	- 3) Project delay & Late issuance of construction drawing

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Prompt payment to consultants according to fees schedule (according to stages)begining	- 1) Contractor	- 1) 25-12-2010
- 2) Increase staffing	- 2) Consultants	- 2) 03-01-2011
- 3) Effective coordination meeting with follow through of the action plan	- 3) Lead of consultant	- 3) 16-12-2010

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	4	IV	E	4	IV	E	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.8	Risk Title: There is a risk that changes of design by consultant will cause revision of design and constructions drawing production which later increase time and cost		
Risk Description: There is a risk that changes of design by consultant will cause revision of design and constructions drawing which later increase time and cost			
Risk Nature: OPERATIONAL	Risk Category: 2	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Clients requirement	- 1) Variation cost, Project delay, Extension of time
- 2) Compliance the local authorities guideline	- 2) Variation cost, Project delay, Extension of time
- 3) Variation of site condition	- 3) Variation cost, Project delay, Extension of time
- 4) New legislation	- 4) Variation cost, Project delay, Extension of time

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) To resolve design issue immediately and produce revise construction drawing	- 1) High
- 2) Comply to local authorities guideline	- 2) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) More frequent discussion with client and authorities (weekly)	- 1) Contractor and consultant	- 1) 03-01-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	5	III	H	3	III	M	3	II	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.9	Risk Title: There is a risk that if shortage of building materials will increase time spend and wastage the manpower resources and cause late completion of project		
Risk Description: There is a risk that if shortage of building materials will increase time spend and wastage the manpower resources and cause late completion of project			
Risk Nature: OPERATIONAL	Risk Category: 12	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Increase of materials price	- 1) Increase project cost, Time constraint, Not satisfy quality
- 2) Shortage of supply	- 2) Increase project cost, Time constraint, Not satisfy quality
- 3) Increase in import duty	- 3) Increase project cost, Time constraint, Not satisfy quality
- 4) Oil price escalation	- 4) Increase project cost, Time constraint, Not satisfy quality

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Schedule purchase of materials earlier	- 1) High
- 2) Procure sustainable product	- 2) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Awareness of products availability in market (by courses, global review updates, etc)	- 1) Contractor & Consultants	- 1) 16-12-2010
- 2) Early approval of construction drawings and materials in use	- 2) Consultants & JKR	- 2) 03-01-2011
- 3) Sourcing for substitute products	- 3) Contractor	- 3) 03-01-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	2	V	H	2	II	L	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.10	Risk Title: There is a risk that unforeseen price increase of oil, metal and cement price will lead to substantial increase of project cost,delay & mutual termination.		
Risk Description: There is a risk that unforeseen price increase of oil, metal and cement price will lead to substantial increase of project cost, delay and mutual termination.			
Risk Nature: OPERATIONAL	Risk Category: 4	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Global economic changes	- 1) Project delay
- 2) Government new policy changes	- 2) Mutual termination

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Looking for renewable energy and alternative materials	- 1) Contractor	- 1) 03-01-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	3	IV	H	3	IV	H	1	III	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.11	Risk Title: There is a risk that mismanaged of project cash flow by the contractor will cause disruption to the projects expenditure		
Risk Description: There is a risk that mismanaged of project cash flow by the contractor will cause disruption to the projects expenditure			
Risk Nature: OPERATIONAL	Risk Category: 4	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) misused of the advance payment	- 1) Shortage of materials on site, Delay of payment to subcontractors/suppliers, Delay of the project
- 2) overspending of the procurement	- 2) Shortage of materials on site, Delay of payment to subcontractors/suppliers, Delay of the project

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Direct payment to consultants and subcontractors/suppliers through Deed of Assignment (DOA)	- 1) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Carry out regular auditing	- 1) Contractors	- 1) 15-12-2010

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	2	IV	H	2	IV	H	1	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.12	Risk Title: There is a risk that unresolved NCR issues may prolong the problems at site that cause the quality delivery and delay of the project.		
Risk Description: There is a risk that unresolved NCR issues may prolong the problems at site that cause the quality delivery and delay of the project.			
Risk Nature: OPERATIONAL	Risk Category: 10	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Lack of supervision at site	- 1) Slow progress of works on site
- 2) Contractor unwilling to rectify immediately	- 2) Increase cost and time
- 3) Unskilled workers	- 3) Low quality of product and workmanship
- 4) Shortage of manpower	- 4) Disruption of payment progress

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Appointment of competent site staff	- 1) Contractor , consultants	- 1) 03-01-2011
- 2) Coordination of technical and NCR meeting	- 2) Contractor , consultants, JKR	- 2) 15-01-2011
- 3) Practice the right methods of construction	- 3) Contractors	- 3) 16-12-2010

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	4	III	H	4	III	H	3	II	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.13	Risk Title: There is a risk that poor interfacing utilities issues will contribute to the T&C problems, delay to the supplying the utilities and function of the buildings.		
Risk Description: There is a risk that poor interfacing utilities issues will contribute to the T&C problems, delay to the supplying the utilities and function of the buildings.			
Risk Nature: OPERATIONAL	Risk Category: 7	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Lack of the coordination among utilities parties	- 1) Delay the projects handover
- 2) No uniformity of procedure between the PBT at every district	- 2) Building cannot be occupied
- 3) Changes of personnel in charge at the PBT throughout the project	- 3) Building cannot be occupied

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Involve PBT in every site meeting	- 1) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Regular coordination meeting with utilities parties	- 1) Contractors	- 1) 15-01-2011
- 2) Early enquiry of procedure and practice for project execution	- 2) Consultants	- 2) 16-12-2010

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	4	IV	E	4	IV	E	1	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.14	Risk Title: Here is a risk that Non compliance to HIA requirement due to inadequate heritage guidelines will delay the approval of design from PBT		
Risk Description: There is a risk that Non compliance to HIA requirement due to inadequate heritage guidelines will delay the approval of design from PBT			
Risk Nature: OPERATIONAL	Risk Category: 16	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Inadequate of heritage guidelines (UNESCO/HIA)	- 1) Project delay and different final building appearance
- 2) Indecisive decision from the authorities	- 2) Time and design cost increase

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) HIA report has been carried out and decision is being made to revise the design (building height)	- 1) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Resubmit new design to authority for approval	- 1) Consultants	- 1) 10-02-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	5	V	E	5	V	E	1	I	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.15	Risk Title: Terdapat risiko di mana halangan trafik di laluan air mengganggu aktiviti pembinaan jeti dan pengerukan seterusnya akan mengakibatkan kelewatan projek.		
Risk Description: Terdapat risiko di mana halangan trafik di laluan air mengganggu aktiviti pembinaan jeti dan pengerukan seterusnya akan mengakibatkan kelewatan projek.			
Risk Nature: OPERATIONAL	Risk Category: 3	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Operasi feri dan bot-bot agensi penguatkuasa sedia ada bersebelahan jeti baru yang dicadangkan.	- 1) Kekangan ruang kerja, Kemungkinan berlaku kemalangan.

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Membuat Mesyuarat Penyelaras dengan agensi-agens yang berkaitan.	- 1) WPD	- 1) 10-02-2012
- 2) Membuat penandaan had kawasan kerja oleh pihak kontraktor.	- 2) PENGURUS PROJEK PMSB	- 2) 10-02-2012

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	4	III	H	4	III	H	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.16	Risk Title: Terdapat risiko di mana penyelarasan kerja yang kurang berkesan bagi pemindahan operasi jeti sementara mengganggu aktiviti merobohkan jeti sedia ada seterusnya akan mengakibatkan kelewatan projek		
Risk Description: Terdapat risiko di mana penyelarasan kerja yang kurang berkesan bagi pemindahan operasi jeti sementara mengganggu aktiviti merobohkan jeti sedia ada seterusnya akan mengakibatkan kelewatan projek.			
Risk Nature: OPERATIONAL	Risk Category: 3	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Perbincangan belum diadakan di antara pihak-pihak yang berkaitan.	- 1) Kerja-kerja meroboh jeti sedia ada tidak dapat dijalankan
- 2) Cadangan pelan persediaan perpindahan belum disediakan	- 2) Perbincangan antara pihak-pihak yang terlibat tidak akan mencapai objektif tanpa cadangan pelan persediaan perpindahan

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Membuat Mesyuarat Penyelarasan dengan agensi-agensi yang berkaitan.	- 1) WPD	- 1) 27-03-2012
- 2) Menyediakan cadangan pelan persediaan perpindahan	- 2) Pengurus Projek PMSB	- 2) 27-03-2012

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	3	IV	H	3	IV	H	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.17	Risk Title: Terdapat risiko di mana kawasan pembinaan terhad mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.		
Risk Description: Terdapat risiko di mana kawasan pembinaan terhad mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.			
Risk Nature: OPERATIONAL	Risk Category: 10	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Lokasi tapak sedia ada yang terhad.	- 1) Ruang kerja yang terhad, ruang bagi storage bahan binaan yang terhad, pergerakan jentera binaan yang terhad, tempoh pembinaan yang lebih lama & kemungkinan berlaku kemalangan adalah tinggi.

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Membuat pelan susunatur bagi penyimpanan barang binaan dan laluan trafik.	- 1) High
- 2) Melantik pegawai Keselamatan & Kesihatan Pekerjaan.	- 2) High
- 3) Menandakan kawasan kerja yang sensitif/membahaya.	- 3) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Mengkaji pelan susunatur dari masa ke semasa untuk menyesuaikan dengan aktiviti di tapak bina setiap 3 bulan bermula	- 1) PMSB	- 1) 22-12-2010

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	5	III	H	3	III	M	2	III	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.18	Risk Title: Terdapat risiko di mana pencemaran air mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.		
Risk Description: Terdapat risiko di mana pencemaran air mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.			
Risk Nature: OPERATIONAL	Risk Category: 11	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Tiada pelan pengurusan alam sekitar (EMP).	- 1) Pencemaran alam sekitar.
- 2) Lantikan perunding alam sekitar belum dibuat.	- 2) Kemungkinan diarahkan berhenti kerja sementara oleh Jabatan Alam Sekitar.
- 3) Tiada kelulusan JKR bagi item provisional sum (Perunding alam sekitar)	- 3) Pencemaran alam sekitar.

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Menyediakan silt trap.	- 1) High
- 2) Menyediakan laporan pemantauan pencemaran.	- 2) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Menyediakan justifikasi yang kukuh untuk kelulusan item provisional sum (Perunding alam sekitar).	- 1) PMSB	- 1) 20-12-2010
- 2) Memberi kelulusan terhadap item provisional sum (Perunding alam sekitar).	- 2) WPD	- 2) 22-12-2010
- 3) Membuat pelantikan perunding alam sekitar.	- 3) PMSB	- 3) 03-01-2011
- 4) Memastikan laporan bulanan alam sekitar dikemukakan kepada JAS bermula	- 4) PMSB	- 4) 02-02-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	3	IV	H	2	IV	H	1	IV	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.19	Risk Title: Terdapat risiko di mana kelewatan kelulusan bahan binaan oleh JKR mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.		
Risk Description: Terdapat risiko di mana kelewatan kelulusan bahan binaan oleh JKR mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.			
Risk Nature: OPERATIONAL	Risk Category: 3	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Bahan binaan yang dikemukakan oleh kontraktor tidak memenuhi spesifikasi.	- 1) Kerja fizikal berkaitan tergendala di tapak bina.
- 2) Perbezaan pendapat berkenaan bahan binaan yang sesuai di antara HODT dan WPD berkaitan.	- 2) Kelulusan bahan binaan lewat dimuktamadkan.

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Pihak kontraktor perlu menyedia dan mengemukakan jadual kelulusan bahan binaan yang mematuhi spesifikasi yang terdapat didalam need statement.	- 1) PMSB	- 1) 22-12-2010
- 2) Mengadakan mesyuarat penyelarasan di antara agensi yang terlibat.	- 2) WPD	- 2) 21-12-2010
- 3) Menyediakan carta alir bagi kelulusan bahan.	- 3) WPD	- 3) 20-01-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	4	IV	E	4	IV	E	2	III	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.20	Risk Title: Terdapat risiko di mana kemalangan dan keselamatan di tapak bina mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.		
Risk Description: Terdapat risiko di mana kemalangan dan keselamatan di tapak bina mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.			
Risk Nature: OPERATIONAL	Risk Category: 1	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Kecuaian pekerja.	- 1) Kemalangan maut
- 2) Ketidapatuhan kepada peraturan keselamatan.	- 2) Penularan wabak penyakit.
- 3) Penyelenggaraan jentera tidak dilaksanakan.	- 3) Kerosakan jentera.

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Melantik Pegawai Keselamatan dan Kesihatan Pekerjaan.	- 1) High
- 2) Membuat toolbox meeting dua kali seminggu.	- 2) High
- 3) Penyediaan papan tanda keselamatan di tapak bina.	- 3) High
- 4) Memastikan jentera yang ada mematuhi akta jentera.	- 4) High
- 5) Menyediakan Laporan Keselamatan setiap bulan.	- 5) High

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Membuat taklimat keselamatan mengikut aktiviti yang dijalankan di tapak bermula	- 1) PMSB	- 1) 10-01-2011
- 2) Membuat sesi taklimat khas kepada pekerja yang sering tidak mematuhi peraturan keselamatan di tapak bina.	- 2) PMSB	- 2) 16-05-2011
- 3) Menyediakan dan mempamer jadual penyelenggaraan jentera.	- 3) PMSB	- 3) 29-12-2010

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	4	IV	E	3	IV	H	1	IV	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.21	Risk Title: Terdapat risiko di mana penemuan artifak bersejarah mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.		
Risk Description: Terdapat risiko di mana penemuan artifak bersejarah mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.			
Risk Nature: OPERATIONAL	Risk Category: 16	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Kawasan bersejarah.	- 1) Pemberhentian kerja oleh pihak berkuasa tempatan.

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Membuat mesyuarat penyelarasan dengan pihak berkuasa tempatan berhubung prosedur yang perlu dipatuhi berkenaan penemuan artifak bersejarah.	- 1) WPD	- 1) 01-12-2011
- 2) Menyediakan pelan tindakan sekiranya terjumpa bahan artifak bersejarah.	- 2) WPD	- 2) 15-12-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	3	IV	H	3	IV	H	2	III	M



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.22	Risk Title: Terdapat risiko di mana kurang koordinasi di antara subkontraktor di tapak bina mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek dan menjejaskan kualiti kerja.		
Risk Description: Terdapat risiko di mana kurang koordinasi di antara subkontraktor di tapak bina mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek dan menjejaskan kualiti kerja.			
Risk Nature: OPERATIONAL	Risk Category: 7	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Ketidakhadiran subkontraktor dalam mesyuarat koordinasi tapak.	- 1) Kualiti kerja terjejas & melewatkan kemajuan kerja fizikal.

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) mengenakan denda kepada subkontraktor yang tidak hadir mesyuarat koordinasi tapak.	- 1) PMSB	- 1) 18-05-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	3	IV	H	3	IV	H	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 4.23	Risk Title: Terdapat risiko di mana kekangan komunikasi disebabkan lokasi yang jauh mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.		
Risk Description: Terdapat risiko di mana kekangan komunikasi disebabkan lokasi yang jauh mengganggu kelancaran aktiviti pembinaan seterusnya akan mengakibatkan kelewatan projek.			
Risk Nature: OPERATIONAL	Risk Category: 7	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Lokasi tapak bina dan pejabat perekabentuk yang jauh.	- 1) Keputusan bagi sesuatu skop kerja lewat diperolehi.

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Membuat Mesyuarat Koordinasi di antara kontraktor dan pihak perunding.	- 1) Medium

New Risk Treatments :	Responsible Party:	Target Deadline:
- 1) Membuat Mesyuarat Penyelarasan Teknikal di peringkat ibu pejabat JKR (CPUM) bermula	- 1) WPD	- 1) 12-01-2011

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
14-12-2010	5	III	H	4	III	H	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.1	Risk Title: Kualiti tidak menepati spesifikasi pihak pelanggan		
Risk Description:			
Risk Nature:	Risk Category: 6	Risk Manager:	Business Unit:

Risk Factors:	Possible Effects:
-	-

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
-	-	-

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	3	III	M						



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.2		Risk Title: Kemudahan tidak memenuhi spesifikasi pengguna							
Risk Description:									
Risk Nature:		Risk Category: 2			Risk Manager:			Business Unit:	
Risk Factors:									
-									
Possible Effects:									
-									
Existing Risk Treatments:								Effectiveness: (High/Medium/Low)	
-								-	
New Risk Treatments :					Responsible Party:		Target Deadline:		
-					-		-		

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	3	III	M						



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.3	Risk Title: Perubahan keperluan PBT semasa hand over		
Risk Description:			
Risk Nature:	Risk Category: 10	Risk Manager:	Business Unit:

Risk Factors:	Possible Effects:
-	-

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
-	-	-

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	3	III	M						



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.4	Risk Title: Status pemilikan tanah masih belum diserahkan kepada kerajaan Persekutuan		
Risk Description: Terdapat risiko dimana hak milik tanah belum diserahkan kepada kerajaan Persekutuan akan menyebabkan Kelulusan Pembangunan dan C.C.C dan C.P.C tidak diluluskan.			
Risk Nature: OPERATIONAL	Risk Category: 14	Risk Manager:	Business Unit: CPUM

Risk Factors:	Possible Effects:
- 1) Sebahagian hak milik tanah belum dapat diserahkan kepada kerajaan Persekutuan.	- 1) Development Order (D.O) dan Certificate of Completion And Compliance (C.C.C) dan C.P.C tidak dapat diluluskan.

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
- 1) Mengadakan mesyuarat bersama pelanggan membincangkan isu tersebut.	- 1) Medium

New Risk Treatments :	Responsible Party:	Target Deadline:
-	-	-

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
15-12-2010	5	II	H	3	IV	H	2	II	L



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.5		Risk Title: Kegagalan T&C	
Risk Description:			
Risk Nature:	Risk Category: 10	Risk Manager:	Business Unit:
Risk Factors:		Possible Effects:	
-		-	
Existing Risk Treatments:			Effectiveness: (High/Medium/Low)
-			-
New Risk Treatments :		Responsible Party:	Target Deadline:
-		-	-

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	3	III	M						



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.6	Risk Title: Perubahan akta yang berkaitan		
Risk Description:			
Risk Nature:	Risk Category: 1	Risk Manager:	Business Unit:

Risk Factors:	Possible Effects:
-	-

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
-	-	-

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	1	IV	M						



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.7		Risk Title: Kelewatan as built drawing, OMM							
Risk Description:									
Risk Nature:		Risk Category: 10			Risk Manager:			Business Unit:	
Risk Factors:									
-									
Possible Effects:									
-									
Existing Risk Treatments:								Effectiveness: (High/Medium/Low)	
-								-	
New Risk Treatments :					Responsible Party:		Target Deadline:		
-					-		-		

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	3	III	M						



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.8		Risk Title: Campur tangan politik							
Risk Description:									
Risk Nature:		Risk Category: 1			Risk Manager:			Business Unit:	
Risk Factors:									
-									
Possible Effects:									
-									
Existing Risk Treatments:								Effectiveness: (High/Medium/Low)	
-								-	
New Risk Treatments :					Responsible Party:		Target Deadline:		
-					-		-		

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	3	III	M						



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.9		Risk Title: Unclear Of TNB Requirement							
Risk Description:									
Risk Nature:			Risk Category: 10			Risk Manager:		Business Unit:	
Risk Factors:									
-									
Possible Effects:									
-									
Existing Risk Treatments:								Effectiveness: (High/Medium/Low)	
-								-	
New Risk Treatments :						Responsible Party:		Target Deadline:	
-						-		-	

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	3	III	M						



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.10	Risk Title: Equipment Damages		
Risk Description:			
Risk Nature:	Risk Category: 11	Risk Manager:	Business Unit:

Risk Factors:	Possible Effects:
-	-

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
-	-	-

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	3	III	M						



JABATAN KERJA RAYA MALAYSIA

Ref No (WBS): 5.11	Risk Title: System Does Not Operate Due To Malfunction Of Component etc		
Risk Description:			
Risk Nature:	Risk Category: 10	Risk Manager:	Business Unit:

Risk Factors:	Possible Effects:
-	-

Existing Risk Treatments:	Effectiveness: (High/Medium/Low)
-	-

New Risk Treatments :	Responsible Party:	Target Deadline:
-	-	-

Risk Assessment Date	Inherent Risk			Assessed Risk			Target Risk		
	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating	Likelihood	Impact	Risk Rating
	1	IV	M						



JKR

ATTACHMENT D

DEFINITIONS

Assumptions List	A record of the assumptions embedded in the project plan. Assumptions that are not validated are potential risks.
Business Case	The document that justifies the need for the system to be delivered by a project, what the business changes will be and the resources required to deliver, operate and dispose of the system. It provides the basis for project funding and may undergo approved revisions during the project
Impact	The outcome of an event expressed in qualitative or quantitative terms (for example, financial or reputational) being a loss, injury, disadvantage or gain
Inherent Risk	A raw risk that is a risk that has no mitigation factors or treatments applied to it.
Monitoring and Accountability	The processes used to manage the Enterprise Risk Management Framework on an on-going basis to reduce risk and take advantage of risk as an opportunity.
Opportunity	The possibility of realizing a favourable outcome and the impact this outcome has on the involved party. Opportunity is positive risk and can be identified and managed in a similar way.
Probability	A qualitative description of the likelihood and/or frequency of a risk occurring.
Residual risk	The degree of risk left after mitigation factors have been identified.
Risk	<p>Risk is anything that may happen that impacts the achievement of an organization's objectives. Risk encompasses the following three dimensions:</p> <ul style="list-style-type: none"> •Hazard - preventing an exposure from turning into a loss •Uncertainty - coping with volatility and change; and •Opportunity - harnessing opportunities to one's advantage. <p>Risk is an event having a cause and a impact that could be either positive or negative.</p>
Risk Acceptance	The informed decision to accept the impact and the likelihood of a particular risk.
Risk Analysis	A systematic use of available information to determine how often specified events may occur and the magnitude of their impacts.
Risk Appetite	Risk appetite is the amount of risk, on a broad level, an entity of willing to accept in pursuit of objectives. It reflects that organization's risk management philosophy and, in turn, influences the organization's culture and operating style.
Risk Avoidance	An informed decision not to become involved in a risk situation.



JABATAN KERJA RAYA MALAYSIA

Risk Event	The occurrence of an event, which has the potential to affect the viability of a project.
Risk Management Framework	A formalized process for managing risk on an explicit basis. The framework consists of a risk assessment, response and accountability for the risk and mitigation activities around it.
Risk Manager	The role responsible for operating the project's risk management process and the custodian of the Risk Management Plan and Risk Register
Risk Mitigation	The processes built into the controls environment, such as policies, frameworks, accountabilities etc to lower the residual risk.
Risk Owner	A designated position in an organisation assigned the responsibility for managing a specific risk
Risk Reduction	A selective application of appropriate techniques and management principles to reduce either the likelihood of an occurrence or its impacts, or both.
Risk Register	A record, under formal change control, of all identified risks, their assessment, treatments and outcomes
Risk Retention	Intentionally or unintentionally retaining the responsibility for loss or financial burden or loss within the organization.
Risk Response	The decision to accept, decline, treat or mitigate a risk or share a risk with another party.
Risk Sharing	Sharing the responsibility for the impact of a risk with another party such as through an outsourcing contract or insurance policy.
Strategic Risk	Any risk event which has serious or catastrophic consequence even though the likelihood of occurrence may be quite low
Uncertainty	The gap between the information required to estimate an outcome and the information already possessed by the decision maker



ENDORSEMENTS

Project Manager / Risk Manager

Name	Signature	Date
Ir. Hj. Ahameed Tarmizi Bin Ramli	APPROVED	05-10-2011

Program Manager

Name	Signature	Date
Dr. Meor Abdul Aziz Osman	APPROVED	18-10-2011

JKR