

**Republic of the Philippines
Report on The Midterm Review
of
On-Going ODA Loan Project 2011
(Safety Management)**

January 2012

Japan International Cooperation Agency (JICA)

LANDTEC JAPAN, INC.

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Chapter 1 Outline of Study

1.1 Background and Objective

JICA have been conducting review of adequacy, effectiveness and efficiency of Yen loan projects in their midterm (Midterm Review) to confirm the performance of the projects from Year 2004. In case of insufficient performance, adequate countermeasures are studied based on the analysis of various factors relevant to the project.

This review was initiated based on the recommendation made by the committee deployed by Ministry of Foreign Affairs, Japan, in order to discuss the measures to prevent recurrence of the similar accident to that of Can Tho Bridge in Vietnam in September 2007. In July 2008, the committee recommended JICA to carry out an interim review of Special ODA Loan projects or Special Term for Economic Partnership (STEP) projects which include large scale and technically complex civil works.

As per the recommendation, JICA started such review from 2008. So far four projects (two projects in Vietnam, one project each in Turkey and Uzbekistan) have been reviewed and another similar study is currently ongoing in Cambodia, Sri Lanka, Kenya, Vietnam and Indonesia.

In 2011, Pasig-Marikina River Channel Improvement Project (II) (hereinafter called “the Project”) is selected for review of safety management in the project to feed the findings back to the parties concerned to promote further efforts toward the prevention of accident on site. Furthermore, recommendations will be made on construction safety management in similar projects in the future based on the lessons learnt from the project. Information on construction safety in the Philippines will also be collected and analyzed to contribute to the safety management in future ODA projects in the country.

1.2 Study Team

Team Leader / Occupational Safety	Toshio TAKEBAYASHI (Landtec Japan)
Construction Safety	Takeaki HOSHINO (Landtec Japan)

1.3 Study Schedule

No	Mon	Day	Schedule
1	Oct	25 Tue	09:30-13:10 PR431(Tokyo/Narita-Manila) 16:00-17:00 Pre-Survey Meeting (JICA Office)
2	Oct	26 Wed	09:00-11:00 Site Visit (by boat) 11:00-12:30 Hearing (JICA, DPWH, CTII, TOYO) 13:00-14:00 Supplemental Hearing (CTII, TOYO) 14:00-15:00 Site Visit (by car)
3	Oct	27 Thu	AM: Data Compilation 13:00-14:00 Philippine Insures and Reinsures Association
4	Oct	28 Fri	Data Compilation
5	Oct	29 Sat	08:00-11:00 Site Visit (Pasig-Marikina River Channel Improvement Project (III)) PM: Data Compilation
6	Oct	30 Sun	Data Compilation
7	Oct	31 Mon	Data Compilation
8	Nov	1 Tue	Data Compilation
9	Nov	2 Wed	10:00-11:00 Safety Organization of the Philippines 13:00-14:00 Philippine Contractors Association
10	Nov	3 Thu	09:00-11:00 Department of Labor & Employment, Occupational Safety & Health Center 14:00-14:30 Local Insurance Company (Commonwealth Insurance)
11	Nov	4 Fri	08:30-09:00 Hearing (TOYO/Subcontractor Local Staff) 09:15-11:00 Preliminary Report (DPWH, CTII, Toyo Construction) 13:00-14:00 Department of Labor & Employment, National Capital Region Office 15:00-16:00 Preliminary Report (JICA Office)
12	Nov	5 Sat	AM: Data Compilation 14:50-20:10 PR432 (Manila-Tokyo/Narita)

1.4 Interviewees

<Project related>

(1) JICA Manila Office

Mr. Takahiro Sasaki (Chief Representative)
Mr. Hayato Nakamura (Program Officer)
Ms. Catherine M. Palanca (Program Officer)

(2) Department of Public Works and Highways (DPWH)

Ms. Sofia T. Santiago (Project Manager III)
Mr. Rodrigo I. Delos Reyes (Engineer V/Project Engineer III)

(3) CTI International (CTII)

Mr. Ryuichiro Seki (Project Manager)

Mr. Hirofumi Tanaka (Civil Engineer)

(4) Toyo Construction Toyo)

Mr. Yasuyuki Nomura (P1-A Project Manager)

Mr. Tatsuya Watanabe (P1-B Project Manager)

Mr. Bobby Maninang (P1-A Safety Officer)

Ms. Janet Hores (J.E. Manalo Office Engineer)

Mr. Enillco Carmona (J.E. Manalo Safety Officer)

<General>

(5) Department of Labor and Employment (DOLE)

Occupational Safety and Health Center (OSHC)

Engr. Jose Maria S. Banito (OIC – Deputy General Director)

Engr. Nelia G. Granadillos (Chief, Environment Control Division)

DOLE National Capital Region Office

Engr. Martin T. Jequinto (Sr. Labor and Employment Officer)

Engr. Jose G. Viray (Sr. Labor and Employment Officer)

(6) Philippine Insures and Reinsures Association Inc. (PIRA)

Mr. Mario C. Valdes (General Manager)

(7) Safety Organization of the Philippines, Inc. (SOPI)

Mr. Eros G. Zuniga (National President)

(8) Philippine Constructors Association, Inc. (PCA)

Mr. Manolito P. Madrasto (Executive Director)

Mr. Ronaldo R. Elepano, Jr. (1st Vice President)

(9) Commonwealth Insurance Company

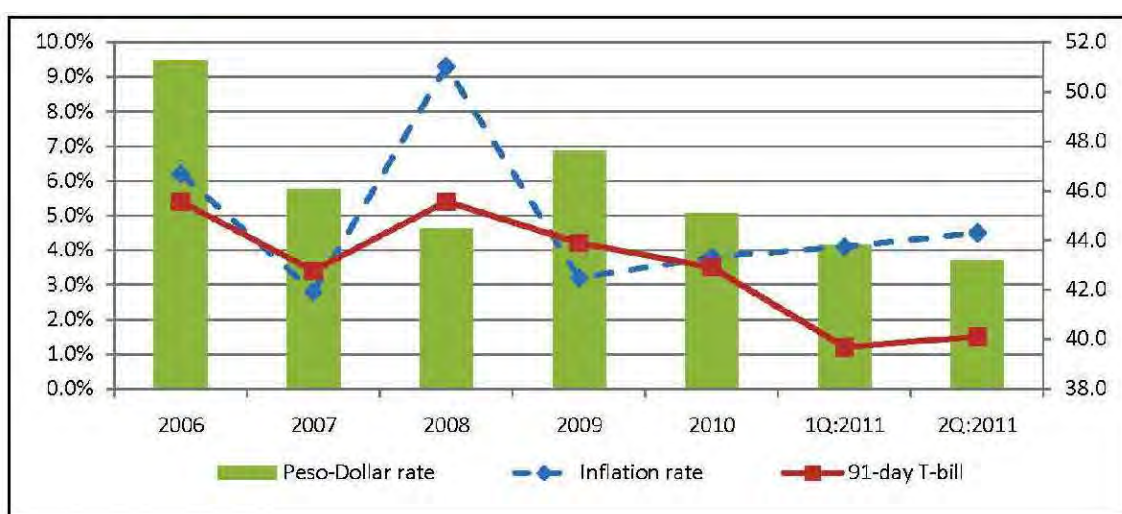
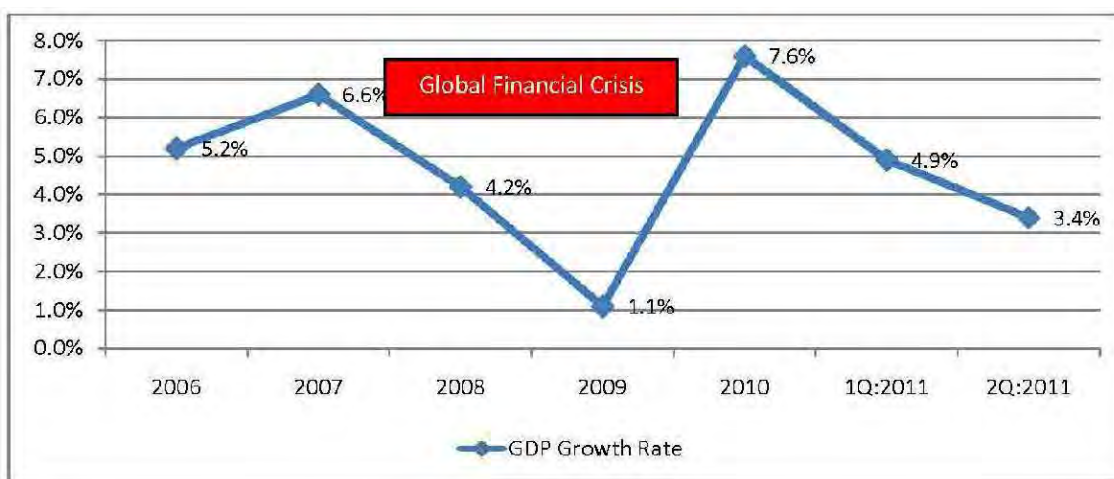
Mr. Glenn V. Roxas (Bonds Manager)

Mr. Ruben P. Rotairo (Underwriting Manager)

Chapter 2 Current Situation of Construction Safety in the Philippines

2.1 Philippine Construction Industry – Outline

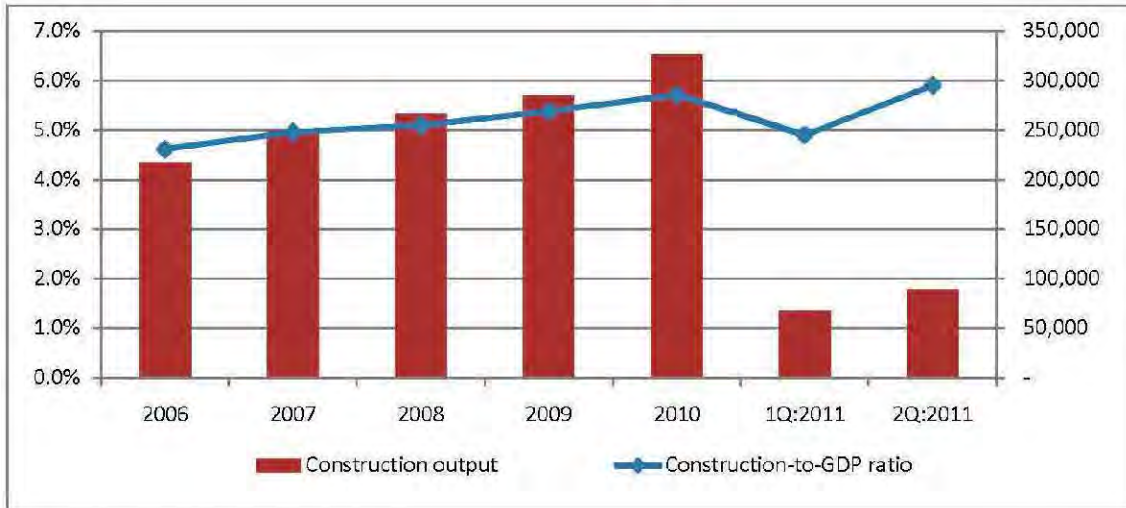
The global economic conditions heavily influence the performance of Philippine economy. However, the Philippine economy avoided a negative growth rate and posted a dismal GDP growth rate of 1.1% in 2009. The Philippine economy bounced back and increased by 7.6% in 2010. The Philippine economy recorded a modest growth rate of 4.9% in first quarter of 2011 as domestic consumption and investment were able to sustain its growth and 3.4% in the second quarter. The International Monetary Fund (IMF), Asian Development Bank (ADB), and World Bank (WB) projected the Philippine economy to grow on an average by 4.7% in 2011 and 5.1% in 2012.



(Source: PCA Home Page)

Figure 2.1 Key Macroeconomic Indicators

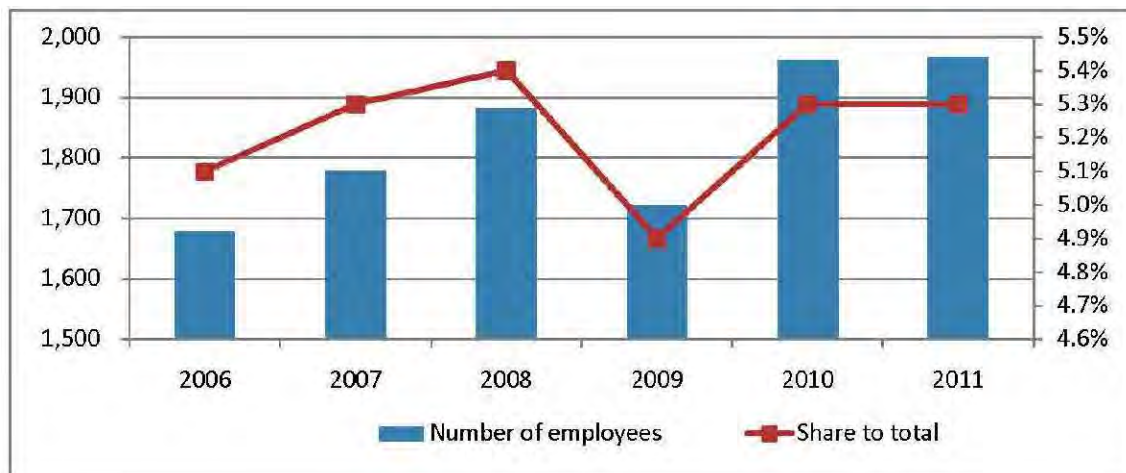
From 2006 to 2010, the construction industry posted an average growth rate of 10.5%, outpacing GDP growth rate, which only averaged 4.9%. During this period, construction contributed an average of 5.2% to GDP and has bounced back in 2010 with a growth rate of 14.3%. For 2011, the share of the construction industry is continuously increasing for the 1st and 2nd quarters at 5.9% and 10.5% respectively.



(Source: PCA Home Page)

Figure 2.2 Construction Output and Share to the total GDP

Construction industry continues to provide a significant level of employment in the domestic economy. Construction industry employment was 1.96 million representing 5.3% of the total employment of the economy in 2010. This level has been maintained during the first half of 2011.



(Source: PCA Home Page)

Figure 2.3 Employment in the Construction Industry (in thousands)

In the Philippines, only contractors accredited by the Philippine Contractors Accreditation Board (PCAB) should enter in a construction contract with its clients. For 2010-2011, PCAB has issued a total of 3,325 contractors' licenses. Out of the total, 97.3% are for renewal while 2.7% are new issuances. The accredited construction companies are categorized as follows:

Table 2.1 Accredited Construction Companies

Category		Share	No. of Companies	
Size	Large (AAA & AA)	6.4%	3,325	
	Medium (A & B)	36.6%		
	Small (C & D, Trade)	57.0%		
Classification	General Engineering	59.9%	3,325	
	General Building	31.4%		
	Trade Contractors	3.8%		
	Specialty Contractors	4.9%		
Country	Philippines	99.4%	3,304	
	Foreign	0.6%	21	Japan 10 China 4 Korea 3 Thailand 1 Australia 1 Austria 1 Malaysia 1

(Source: PCA Home Page)

2.2 Legislative System

Laws and regulations on construction safety control consist of those prepared from a safety control point of view and prepared from a construction works control point of view as follows:

Hereunder called, DOLE: Department of Labor and Employment

DTI: Department of Trade and Industry

DPWH: Department of Public Works and Highways

(1) Laws and Regulations issued related to safety control

(a) Labor Code: issued in 1974

(b) Presidential Decree No. 626: issued in 1975

1. Employees' Compensation Program

- (c) Occupational Safety and Health Standards: issued in 1978
 - 1. In accordance with Labor Code Article 162
 - (d) Executive Order No. 307: issued in 1987
 - 1. Establishment of Occupational Safety and Health Center
 - (e) DOLE Department Order No. 13: issued in 1998
 - 1. Construction Safety and Health Guideline
 - (f) DOLE Department Order No. 16: issued in 2001
 - 1. Amendments to Rule 1030 of the Occupational Safety and Health Standards (Training and Accreditation of Personnel on Occupational Safety and Health)
 - (g) DOLE Department Order No. 18-A: issued in 2011
 - 1. Amendments to the rules implementing articles 106 to 109 of the Labor Code (Contracting and Subcontracting Arrangements)
 - (h) DPWH Department Order No. 56: issued in 2005
 - 1. Guidelines for implementation of D.O. No. 13 series of 1998
 - (i) DTI Notice: issued in February 2011
 - 1. Warning to PCAB license holders that non-compliance with the laws on construction safety and health is a ground for suspension and/or revocation of PCAB license and is penalized by fine or imprisonment.
 - (j) DPWH Circular No. 02: issued in March 2011
 - 1. Requiring a construction safety and health program in Building Permit application.
 - (k) DOLE/DPWH/DTI-CMDF, PCAB/DILG/PRC Joint Administrative Order No. 01: issued in April 2011
 - 1. Reiterating MOA dated April 7, 2011 by DOLE/DPWH/DTI-CMDF, PCAB/DILG/PRC, to ensure proper coordination and harmonization of policies and programs to ensure safety and health of workers in the construction industry
- (2) Laws and regulations administrating the construction industry describing construction safety and health requirements
- (a) Presidential Decree No. 1594: issued in 1978, revised in 2000
 - 1. Prescribing policies, guidelines, rules and regulations for government infrastructure contracts; Superseded by Republic Act No. 9184 in 2003
 - (b) Presidential Decree No. 1746: issued in 1980
 - 1. Establish Construction Industry Authority of the Philippines (CIAP)

(c) Contractors Performance Evaluation System (CPES) Implementing Guidelines for Infrastructure Projects: issued in 1998, amended in 2006/2007/2008

1. 2008 version covers all types of construction projects

(d) Republic Act No. 9184: issued in 2003, IRR revised in 2009

1. "An Act providing for the modernization, standardization and regulation of the procurement activities of the government and for other purposes" or called "The Government Procurement Reform Act"

(3) Outline of Key Laws/Regulations related to construction safety and health

(a) Labor Standards and Social Security System in the Philippines

Relevant extracts from Labor Code are summarized in Appendix-2.

(b) Presidential Decree No. 626

Under P.D.626 which took effect in January 1975, Employees' Compensation Program (ECP) was created to provide public and private sector employees and their dependents with income and other benefits in the event of a work-connected injury, sickness, disability or death. Employees' Compensation Commission (ECC) is mandated to initiate, rationalize and coordinate policies of the ECP and to review appealed cases from the Government Service Insurance System (GSIS) and the Social Security System (SSS).

The following benefits may be given to a claimant for work-related injury, sickness, disability or death:

Daily cash income benefit for temporary total disability;

Monthly cash income benefit for permanent total disability on a lifetime basis;

Monthly cash income benefit for permanent partial disability;

Monthly cash income benefit for death, also in lifetime basis paid to secondary beneficiaries, which is a monthly pension not to exceed 60 months but not less than fifteen thousand pesos (P150,000);

Medical Services, appliances and supplies for injury or sickness;

Rehabilitation services for permanent disability; and

Carer's allowance for permanent disability

(c) DOLE Department Order No. 13

DOLE D.O.13 issued in 1998 is almost equivalent to the Occupational Safety and Health in Japan and is still effective as of 2011. The corresponding procedural

guidelines “The guidelines governing Occupational Safety and Health in the Construction Industry” stipulate the legal basis, relevant agencies’ roles, documentary procedures, facilities, trainings, etc.

To be noted is this department order imposes investors and contractors the following requirements together with penalties to violation.

Submission of Construction Safety and Health Program

Assignment of Safety Personnel

Costing of Construction Safety and Health

The structures of D.O.13 and its Procedural Guidelines are as follows:

Table 2.2 Structures of DOLE D.O. No. 13 and Procedural Guidelines

<i>DOLE D.O. No. 13</i>	<i>Procedural Guidelines</i>
<i>Section 1 Definition of Terms</i>	<i>A. Objectives</i>
<i>Section 2 Jurisdiction</i>	<i>B. Legal Basis</i>
<i>Section 3 Delegation of Authority and Accreditation</i>	<i>C. Agencies involved in Construction Health and Safety Laws and Related Issuances</i>
<i>Section 4 Coverage</i>	<i>D. Definition of Terms</i>
<i>Section 5 Construction Safety and Health Program</i>	<i>E. Coverage</i>
<i>Section 6 Personal Protective Equipment</i>	<i>F. Department Order No. 13, Requirements</i>
<i>Section 7 Safety Personnel</i>	<i>1. Construction Safety and Health Program pursuant to Section 5, D.O. 13, series of 1998</i>
<i>Section 8 Emergency Occupational Health Personnel and Facilities</i>	<i>2. Personal Protective Equipment by Type of Project</i>
<i>Section 9 Construction Safety Signages</i>	<i>3. Safety and Health Personnel and Skilled Worker</i>
<i>Section 10 Safety on Construction Heavy Equipment</i>	<i>4. Construction heavy Equipment</i>
<i>Section 11 Construction Safety and Health Committee</i>	<i>5. Signages and Barricades</i>
<i>Section 12 Safety and Health Information</i>	<i>6. Construction Safety and Health Committee</i>
<i>Section 13 Construction Safety and Health Training</i>	<i>7. Construction Safety and Health Reports</i>
<i>Section 14 Construction Safety and Health Reports</i>	<i>8. Cost of Construction Safety and Health Program</i>
<i>Section 15 Construction Workers Skills Certificates</i>	<i>9. Safety and Health Information</i>
<i>Section 16 Workers' Welfare Facilities</i>	<i>10. Welfare Facilities</i>
<i>Section 17 Cost of Construction Safety and health Program</i>	<i>G. Procedures in the filling and processing of Construction Safety and Health Program (CSHP)</i>
<i>Section 18 Miscellaneous</i>	<i>H. Violation and Penalties</i>
<i>Section 19 Violations and Penalties</i>	<i>List of Annexes</i>
<i>Section 20 Effectivity</i>	<i>PPEI Classification of construction works/ activities for purposes of determination of mandatory minimum Personal Protective Equipment (PPE) requirements</i>
	<i>CHEI Crane Inspection Checklist</i>

Section F of the Procedural Guidelines specifies the minimum requirements of the approval of a Construction Safety and Health Program (CSHP) in detail for convenience of investors/contractors.

(d) DOLE/DPWH/DTI-CMDF, PCAB/DILG/PRC Joint Administrative Order No.0 1

On January 27, 2011, 10 workers died when an electric gondola collapsed at a high-rise building construction site in Makati. This accident triggered national revisit to the importance of construction safety.

DOLE, DTI and DPWH took immediate action, which was followed by the MOA by DOLE/DPWH/DTI-CMDF, PCAB/DILG/PRC in April 2011 for strengthening coordination and linkages to promote the welfare of the construction workers and the growth of the construction industry. Soon after that Joint Administrative Order No.01 was issued for strict implementation of MOA provisions as follows:

- # Submission of a DOLE-approved Construction Safety and Health Program (CSHP) prior to the issuance of all building permit;
- # Decentralization of the approval of the CSHP from the Bureau of Working Conditions (BWC) to the DILE Regional Offices;
- # DOLE Regional Offices through its labor inspectorate to undertake the necessary inspection and verification;
- # The Philippine Contractors Accreditation (PCAB) to blacklist the violators;
- # In cases where imminent danger situation/s or when an order of work stoppage has been issued by the DOLE Regional Offices, all concerned offices to be notified within 48 hours;
- # All contractors, sub-contractors and specialty contractors to secure first a license from PCAB before engaging in any construction activity;
- # All Authorized Managing Officers (AMOs) of the contractors to undergo a safety and health orientation course as a requirement for the issuance of ta contractor's license; and
- # CMDF to offer a safety and health orientation course for AMOs and also to conduct a one-day safety orientation seminar for construction workers.

The structure of Joint Administration Order No.01 is as follows:

Table 2.3 Structure of Joint Administrative Order No. 01, Series of 2011

<i>Section 1: Purpose and Scope</i>
<i>Section 2: Guiding Principles</i>
<i>Section 3: Agency Agreements and Responsibilities</i>
<i>Section 4: Inter-Agency Task Force</i>
<i>Section 5: Inter-Agency Action Plan</i>
<i>Section 6: Funding Requirement</i>
<i>Section 7: Effectivity</i>

(e) Republic Act No. 9184

P.D. 1594 “Prescribing policies, guidelines, rules and regulations for government infrastructure contracts” initially issued in 1978 was revised in 2000 including the requirements of DOLE D.O. 13. Thereafter, P.D. 1594 was superseded by R.A. 9184 issued in 2003. R.A. 9184 also includes the requirements of DOLE D.O. 13 and mandates inclusion of construction safety and health documents in pre-bid/bid/contract documentation.

Government Procurement Policy Board (GPPB) was established to administer the procurement activities of the government. GPPB prepared standard bid documents (the latest version is 4th Edition December 2010) for procurement of infrastructure projects, consulting services and goods respectively.

2.3 Related Organizations

The following agencies are involved in construction health and safety laws and regulations and other related issuances:

- (1) Department of Labor and Employment (DOLE)
 - (a) Bureau of Working Conditions (BWC)
 - (b) DOLE-Regional Offices
 - (c) Employees Compensation Commission (ECC)
 - (d) Occupational Safety and Health Center (OSHC)
 - (e) Technical Education Skills Development Authority (TESDA)
- (2) Department of Trade and Industry (DTI)
 - (a) Construction Industry Authority of the Philippines (CIAP)
 - ① Philippine Contractors Accreditation Board (PCAB) under CIAP
 - (b) Construction Manpower Development Foundation (CMDF)
 - (c) Philippine Contractors Accreditation Board (PCAB)
- (3) Department of Health (DOH)

The Non-Communicable Disease Control Office
- (4) Department of Public Works and Highways (DPWH)

Office of the Building Official
- (5) Department of Interior and Local Government (DILG)

Bureau of Fire Protection
- (6) Department of Environment and Natural Resources (DENR)

Environmental Management Bureau (EMB)

(7) Construction Industry Tripartite Council (CITC)

2.4 Construction Safety Control Structure

(1) Relevant Agencies' Responsibilities

In addition to the provisions stipulated in DOLE D.O. 13, Joint Administrative Order No. 01 issued in 2011 further confirmed the relevant agencies' responsibilities.

(a) DOLE

Article 165, Chapter 2, Title I of Book IV of Labor Code provides that "The Department of Labor and Employment shall be solely responsible for the administration and enforcement of occupational safety and health laws, regulations and standards in all establishments and workplaces wherever they may be located.

Article 162, Chapter 2, Title I of Book IV of Labor Code provides that "The Secretary of Labor and Employment shall by appropriate orders set and enforce mandatory occupational safety and health standards to eliminate or reduce occupational safety and health hazards in all work places and institute new and update existing programs to ensure safe and healthful working conditions in all places of employment."

DOLE D.O. 13 together with its Procedural Guidelines provides guidelines governing occupational safety and health in the construction industry.

Demarcation of responsibilities in DOLE is as follows:

Planning - BWC, Enforcement - Regional Offices, Compensation - ECC, Training – OSHC and Skills Development – TESDA.

Enforcement by Regional Offices includes inspection, verification and order of stoppage.

(b) DTI

Through CIAP, implements blacklisting proceedings in cases of the failure of all the constructors to comply with D.O. 13, Labor standard laws including the Occupational Safety and Health Standards (OSHS).

Through CMDF, undertakes training for skills development, safety awareness and other supervisory/managerial courses, and participates in the development of skills standards for the construction industry.

Through PCAB, issues, suspends and revokes licenses of contractors, and investigates violation of D.O. 13 and other regulations.

(c) DPWH

DPWH is responsible in the administration and enforcement of P.D. 1096 (National Building Code and Its Implementing Rules and Regulation).

According to DPWH D.O. 56, DPWH implements DOLE D.O. 13 including CPES/PCAB-related evaluation of/penalty to contractors.

In addition, Joint Administrative Order No. 01 specifically provides that “The DPWH shall issue a Memorandum Circular instructing all local Building Officials to require the submission of a DOLE-approved Construction Safety Health Program (CSHP) prior to the issuance of all building permit.”

(d) DILG

DILG is responsible for the implementation of the provisions of P.D. 1185 (Fire Code) which provides standards, rules and regulations on fire safety, prevention, protection and control/suppression.

Joint Administrative Order No. 01 requires DILG to issue a corresponding directive to the Local Government Units (LGUs) reiterating

- # the requirements of DOLE-D.O. 13, series 1998, D.O. 18 and Rule 1020 of the OSHS; and
- # the licensing requirements of the DTI-PCAB pursuant to DILG Memorandum Circulars 2004-65 and 65A requiring all contractors, sub-contractors and specialty contractors to secure first a license from PCAB before engaging in any construction activity in the country.

(2) Contractors' Responsibilities

DOLE D.O. 13 stipulates contractors' responsibilities with regard to construction safety and health. The employers may impose additional requirements through construction contract agreements.

2.5 Accreditation System

(1) To Entities

The following accreditations are issued to entities with regard to safety and health:

- (a) Contractor's License (issued by PCAB)
- (b) Building Permit (issued by DPWH)
- (c) Occupational Safety and Health (OSH) Consultancy Organization (accredited by DOLE)

- (d) Occupational Safety and Health (OSH) Training Organization (accredited by DOLE)
- (e) Testing Organization for Construction Heavy Equipment (accredited by DOLE)

(2) To Individuals

The following accreditations are issued to individuals with regard to safety and health:

- (a) Occupational Health (OH) Personnel (nurse, physician, dentist) (accredited by DOLE)
- (b) Safety Officer (Basic Training on OSH, 40 hours) (accredited by DOLE)
- (c) Authorized Managing Officers (Basic Training on OSH, 40 hours) (accredited by DOLE-CMDF)
- (d) Occupational Safety and Health (OSH) Practitioner / Consultant (Advanced Training on OSH, 80 hours) (accredited by DOLE)
- (e) Trainers on Occupational Safety and Health (OSH) (Basic Training on OSH, 40 hours and Trainers Training Course, 24 hours) (accredited by DOLE)
- (f) Skilled Worker for the Critical Operations/Occupations (accredited by DOLE-TESDA)
- (g) Operators of Construction Heavy Equipment (accredited by DOLE-TESDA)
- (h) Construction Workers (one-day safety orientation seminar) (accredited by DOLE-CMDF)

2.6 Standards, Guidelines & Manuals

Salient standards, guidelines and manuals concerning construction safety and health are listed below:

- (1) Safety and Health in Construction (issued by ILO)
- (2) Occupational Safety and Health Standards (issued by DOLE)
- (3) Procedural Guidelines – The Guidelines governing Occupational Safety and Health in the Construction Industry (issued by DOLE-BWC)
- (4) Procedural Guidelines on Accreditation and Performance Audit of Testing Organization for Construction Heavy Equipment (issued by DOLE-BWC)
- (5) Procedural Guidelines for Accreditation of Practitioners, Consultants and Organizations on Occupational Safety and Health (issued by DOLE-BWC)
- (6) Guidelines for the Implementation of DOLE D.O. No. 13, Series of 1998,
- (7) On Occupational Safety and Health in the Construction Industry (issued by DPWH)
- (8) Procurement of infrastructure Projects (issued by DPWH)
- (9) Constructors Performance Evaluation System (CPES) – Implementing Guidelines for Infrastructure Projects (issued by CIAP)

2.7 Insurances

(1) Social Insurance System

The social insurance system in the Philippines consists of Social Security Insurance (SSS), Government Service Insurance (GSS) and Philippine Health Insurance Corporation (PHIC). SSS consists of Social Security Program (SSP) and Employers' Compensation Program (ECP). Likewise, GSIS provides the same services to government staff.

(2) ECP/GSIS/SSS

Through ECP/GSIS/SSS, the following benefits may be given to a claimant for work-related injury, sickness, disability or death:

- # Daily cash income benefit for temporary total disability;
- # Monthly cash income benefit for permanent total disability on a lifetime basis;
- # Monthly cash income benefit for permanent partial disability;
- # Monthly cash income benefit for death, also in lifetime basis paid to secondary beneficiaries, which is a monthly pension not to exceed 60 months but not less than fifteen thousand pesos (P150,000);
- # Medical Services, appliances and supplies for injury or sickness;
- # Rehabilitation services for permanent disability; and
- # Carer's allowance for permanent disability

(3) Unemployment Insurance

There are no laws or regulations on unemployment insurance. DOLE is providing assistance to people unemployed in the country and abroad.

(4) Construction-related Insurances

The conditions of contract for infrastructure projects under DPWH abide by either of the following:

- (a) FIDIC MDB Harmonized Construction Contract (common for WB, ADB and JICA)
- (b) Philippine Bidding Documents – Procurement of Infrastructure Projects (4th Edition 2010)

The latter provides the requirements for “insurance” clearly stipulating the contractor's responsibility to obtain/maintain the following insurances:

- # Contractor's All Risk Insurance;
- # Transportation to the project site of equipment, machinery and supplies owned by the Contractor;

- # Personal injury or death of Contractor's employee; and
- # Comprehensive insurance for third party liability to Contractor's direct or indirect act or omission causing damage to third persons.

2.8 Accidents on Site

(1) Investigation

(a) Municipality

(b) DOLE

DOLE Regional offices carry out investigation as per Labor Code and D.O.13.

The procedural guidelines for D.O.13 set out the requirements for accident and incident investigation, recording and reporting.

(c) Police

Police carries out investigations for possible criminal cases such as violence, road accidents, robberies, suicide, sexual offences, drug-related crimes, fires, explosions, poisoning or fraud.

(d) Employer (in case of public works)

As per D.O. 16, DPWH Implementation Offices substitute for DOLE Regional Offices.

(2) Assessment of Liabilities and Damages

Assessment of the liabilities against the accident is done by DOLE in accordance with the provisions of Labor Code and/or D.O.13 (including its procedural guidelines) and police as a possible criminal case.

Assessment of the damages caused by the accident is done by DOLE, including compensation to the victims and their families and to the workers unpaid due to the stoppage of the construction works.

(3) Punishment

A stoppage of operation order may be issued by the relevant municipality, DOLE Regional Office and/or the Employer (ex. DPWH).

The building permit may be revoked by DPWH, and PCAB license may be cancelled by CIAP.

A criminal charge may be filed against the investor and/or the contractors by police in case their culpabilities are established by police investigation.

2.9 Development in 2011

In 2011, there were a number of fatal accidents on construction site ending up with 19 people's death during the period of 11 months from January, while DOLE's statistics indicated Zero-death in construction projects in 2007. Concerned about the seriousness of the problem, the Philippine Government, through the relevant agencies, issued notices, circulars and orders concerning licenses, permits, inspections, violations and penalties with a view to enhancing enforcement of DOLE D.O. 13.

Major events in 2011 related to construction safety and health are summarized as follows:

- January: An electric gondola fell down at Eton Tower (39F) building site in Makati. 10 workers died and 1 injured.
- February: PCAB warned construction license holders that non-compliance with the relevant laws is a ground for suspension and/or revocation of PCAB license and is penalized by fine or imprisonment.
PCAB required authorized managing officers of contractors undergo a 40-hour construction safety and health course.
- March: DPWH required submission of a construction safety and health program in building permit application
- March – June: The total 12 accidents occurred at Hanjin Shipyard in Subic. 3 workers died, and 9 injured.
- April: Issuance of DOLE/DPWH/DTI-CMDF, PCAB/DILG/PRC Joint Administrative Order No. 01
- July: A crane accident at Eastwood Le Grande Tower 2 building site in Quezon city. 1 worker died and 1 injured.
- October: Steel ramp collapsed during installation at Keppel Shipyard in Subic. 5 workers died and 7 injured.
- November: Inter-Agency Task Force meeting by DOLE/DPWH/DTI-CMDF, PCAB/DILG/PRC to confirm Joint Administrative Order No. 01

Chapter 3 Site Visit – Pasig-Marikina River Channel Improvement Project (II)

3.1 Project Outline

- (1) Project Name : Pasig-Marikina River Channel Improvement Project (II)
Packages 1-A & 1-B
- (2) L/A : JBIC Loan No. PH-P239 February 27, 2007
Loan Amount JPY 8,529 million
- | | |
|---------------------|-------------------|
| Civil Works | JPY 7,196 million |
| Consulting Services | JPY 973 million |
| Contingency | JPY 360 million |
- (3) Project Objective: The plan is to undertake dredging, dike rehabilitation and dam construction for Pasig-Marikina River for flood damage mitigation and the riverside environment improvement to promote the safety and life quality of Metro Manila resident and to contribute to the sustainable economic development.
- (4) Project Location: Metro Manila, the Philippines
- | | |
|-----|----------------------------|
| 1-A | Manila |
| 1-B | Mandaluyong, Makati, Pasig |
- (5) Employer: Department of Public Works and Highways (DPWH)
- (6) Consultant: CTI International & 3 local consultants
- (7) Contractor: Toyo Construction Co., Ltd.
- (8) Contract Amount
- | | |
|-----|-------------------|
| 1-A | P2,366,201,513.93 |
| 1-B | P1,693,143,411.84 |
- (9) Project Period; 1-A July 1, 2009 – June 30, 2012 (1,095 days)
1-B July 1, 2009 – June 30, 2012 (1,095 days)
- (10) Quantities

Table 3.1 Quantities

Item		Package 1-A	Package 1-B	Remarks
Length of River (m)		9,200	6,900	
Width of River (m)		60 – 200	55 – 100	
Bridges over the river (no.)		8	4	
Major Quantities	Steel Sheet Pile Wall (m)	2,990	3,363	
	Parapet Wall (m)	5,975	1,745	
	Handrail (m)	1,027	940	concrete
	Drainage Pipes (no.)	16	18	
	Gate (no.)	1	0	civil works
	Jetty (no.)	0	1	civil works
	Dredging (m3)	20,800	12,000	
	Excavation (m3)	2,300	8,500	
	Backfill (m3)	15,000	21,000	
	Rip Rap (m3)	26,000	35,000	
	Concrete (m3)	5,935	6,100	
	Rebar (t)	316	257	
	Steel Sheet Pile, H-Beam	10,900	8,800	Hat-type/U-type H400 – H900
	Concrete Block (piece)	104,000	240,000	pavement

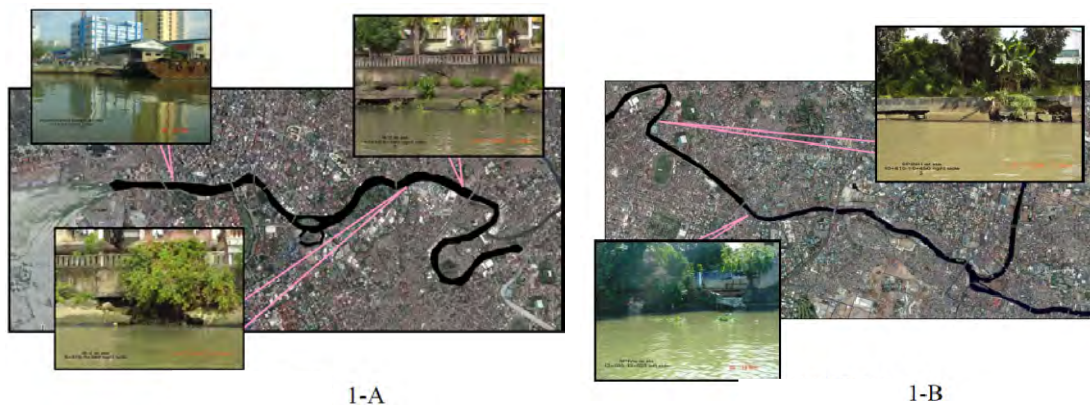
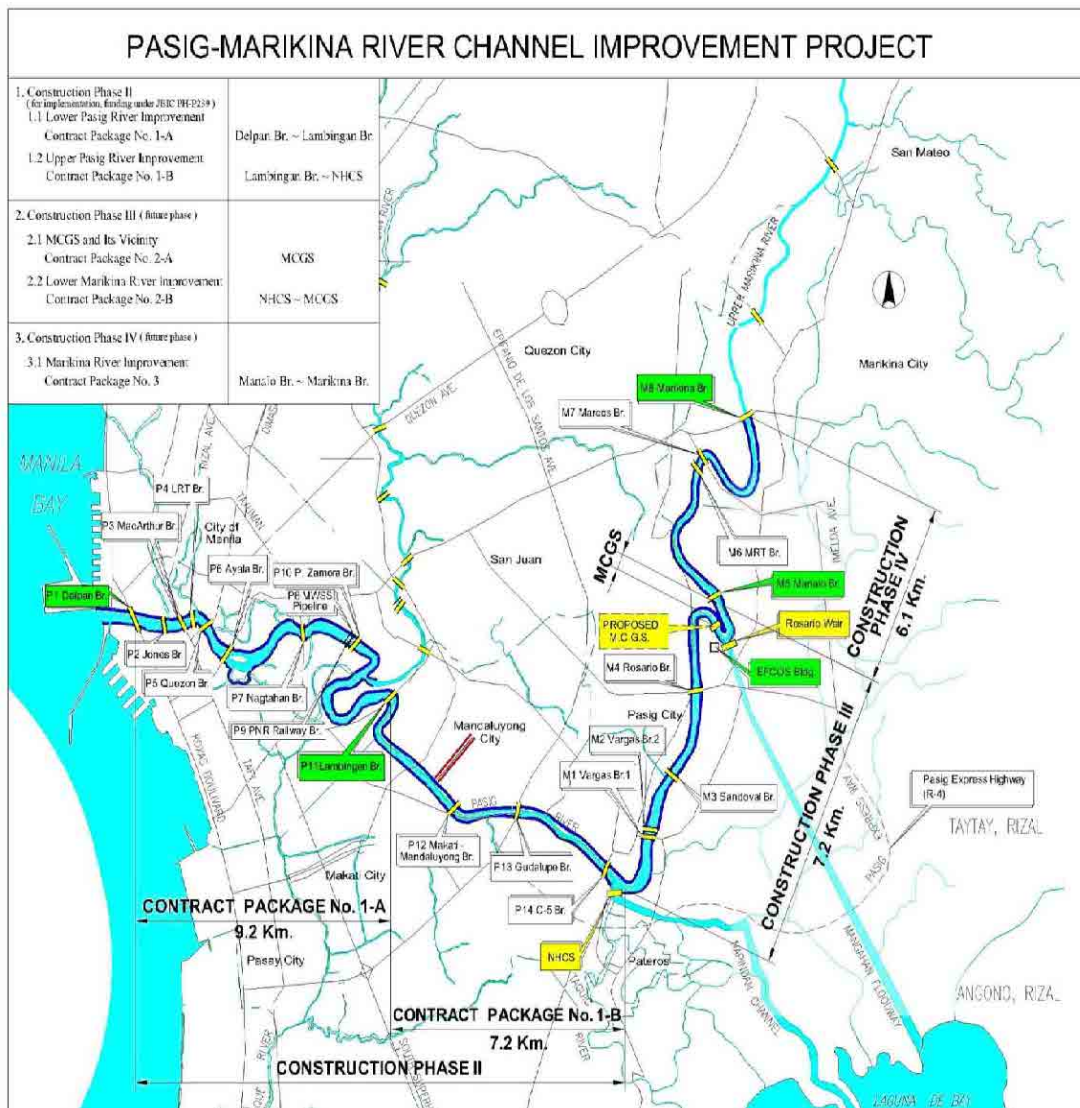


Figure 3.1 Project Location

3.2 Project Organization

(1) Since “the Engineer” is PMO Director of DPWH and the consultant is not independent but assisting the Employer (DPWH), the project organization is an one-on-one (Employer-Contractor) type.

(Note: PMO means “Project Management Office Major Flood Control Project)

(2) The number of staff in each organization is as follows as of January 2011:

- Employer: 20 staffs
(Director, Accounting/Procurement staffs, Project Manager and its engineers, common engineers for 2 packages)
- Consultant: 40 staffs (excluding drivers)
(Project Managers, Deputy PMs, core engineers/ administrative staffs, engineers for each package)
- Contractor: 110 staffs (excluding workers)

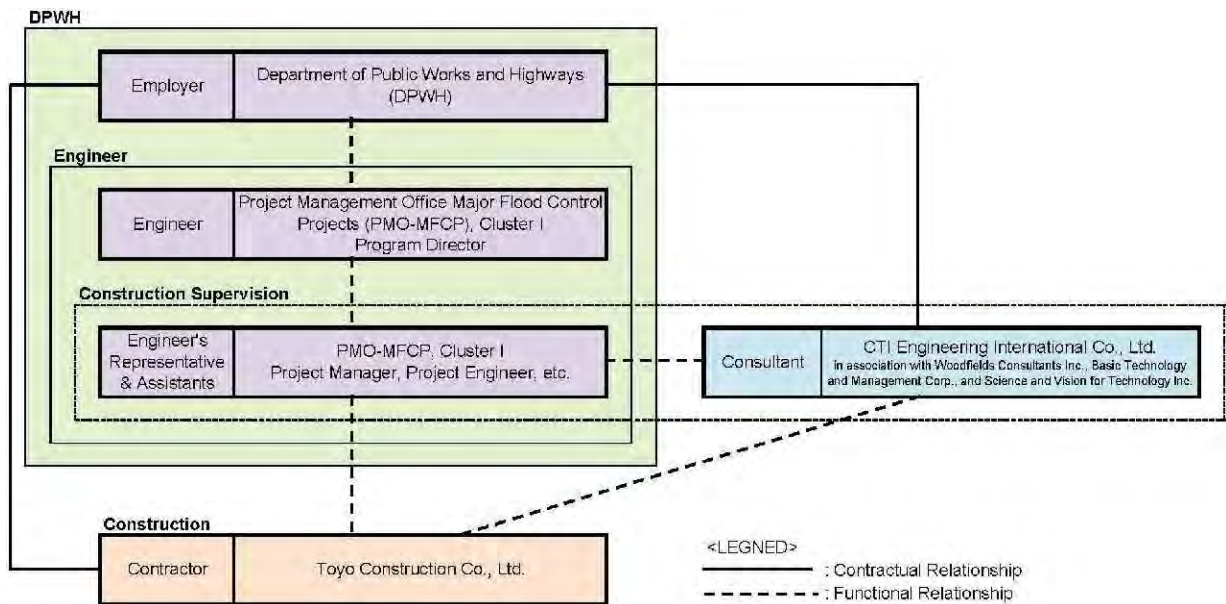


Figure 3.2 Project Organization

(3) Consultant’s Tasks

The Consultant’s tasks during the construction supervision stage are specified in the terms of reference attached to the consultancy contract, as follows:

Table 3.2 Consultant's Scope of Services (re. Construction Supervision)

<p><i>The Consultant will assist DPWH in the supervision of the project construction including but not limited to the following:</i></p> <ul style="list-style-type: none"><i>(e) Review and endorsement of proposed plans, design, schedules and documents related to the project implementation and construction works which are submitted for approval by the Contractor;</i><i>(f) Monitoring and reporting to the DPQH on the progress of the work and accomplishment in relation to the schedule;</i><i>(g) File inspection of works as deemed necessary by the Consultant for performance and quality control works for the Contractor;</i><i>(h) Establishment of procedures for testing of construction materials and evaluation of tests conducted by the Contractor;</i><i>(i) Conduct of necessary inspection and testing of materials, manufacturer of products and equipment used in the Project;</i><i>(j) Verification of Contractor's survey, sounding and setting measurements of quantity for interim and final payment;</i><i>(k) Recommendation to the DPWH on the acceptance or rejection of the works, in whole or in part, in accordance with the specifications or conditions of contracts;</i><i>(l) Supervision and inspection of the work for adherence to plans and specifications;</i><i>(m) Supervision of additional field investigations when required;</i><i>(n) Advice on the method of measurement and computation of work, and assistance in the verification of contract progress and payment; and</i><i>(o) Supervision of the preparation of as-built drawings by the Contractor.</i>

There is no provision expressly specifying the consultant's duties concerning construction safety and health in the contract, and it should be interpreted that the general term "assist to DPWH" and (b), (c), (g) & (h) in the TOR covers such duties.

3.3 Operation & Management Procedures

Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan surveyed Pasig-Marikina River Channel Improvement Project (II) in January 2011. The following is an extract from MILT's survey report titled "Study Report on the status of procurement/contract management based on FIDIC conditions of contract in the Philippines, March 30, 2011"

- (1) Since "the Engineer" is PMO Director of DPWH and the Consultant is not independent but assisting the Employer (DPWH), the project organization is a one-on-one (Employer-Contractor) type.
- (2) PMO Director judges important matters such as those related to the contract sum.
- (3) The Employer (DPWH) requires the Consultant's assistance on financial and technical

matters. When a claim is received from the Contractor, the Employer evaluates it seeking an advice from the Consultant.

- (4) Inspections during construction are being carried out almost every day attended by the Employer, the Consultant and the Contractor.
- (5) In the Project, tests are being conducted as required in addition to the testing criteria set out by DPWH Bureau of Research & Standards.
- (6) DPWH Bureau of Construction carries out periodical inspections.
- (7) The site meetings are being held attended by 3 parties weekly, monthly and as required.
- (8) The number of correspondence is 7 – 10 per day.
- (9) Seven staffs are handling contractual matters in the Contractor's organization.
- (10) In the Consultant's tasks, it is required to obtain the Employer's prior approval to the subcontractors, extra cost attributable to unforeseeable physical conditions, extension of the contract period, design change and change to unit rates and/or amounts in the BOQs.
- (11) The construction schedule management is being implemented rather in a flexible manner than a strict manner.
- (12) Contractual claims from the Contractor are submitted for PMO's assessment, and after PMO's approval, forwarded to DPWH Main Office. Usually it takes several months from submission of a claim to the change order issuance.

Based on the documents/information collected during the field survey as well as the hearing results, the framework of safety and health for the project is summarized from a documentation point of view as follows:

Table 3.3 Framework of Safety and Health for the Project

Framework of Safety and Health for the Project

Level	Organization	Laws, Regulations, Guidelines, Manuals, Contract Provisions, etc.	Construction Safety	Labor Safety and Health
International	International Labour Office (ILO)	Safety and Health in Construction (1992)		✓✓
National	Department of Labor and Employment (DOLE)	Occupational Safety and Health Standards (1978; amended 1989)		✓✓
		Department Order No. 13: The Guidelines governing Occupational Safety and Health in the Construction Industry (1998)		✓✓
Department	Department of Public Works and Highways (DPWH)	Standard Specifications for Public Works and Highways (2004)	✓✓	
		Manual on Construction Supervision of Flood Control Projects (2004)	✓✓	✓
		Department Order No. 58: Guidelines for the implementation of DOLE D. O. No. 13, Series of 1998, On Occupational Safety and Health in the Construction Industry (2005)		✓✓
Project (1)	Pasig-Marikina River Channel Improvement Project (II) <Contract Provisions>	Contract Agreements		
		General Conditions of Contract (FIDIC 1987 4th Edition)	✓	✓✓
		Particular Conditions of Contract	✓	✓✓
		Particular Specifications	✓✓	✓✓
Project (2)	Pasig-Marikina River Channel Improvement Project (II) <Activities on Site>	Terms of Reference for Consulting Services	✓✓	✓✓
		Design Review	✓✓	
		Project Quality Plan	✓✓	
		Health & Safety Plan	✓	✓✓
		Shop Drawings	✓✓	
		Method Statements	✓✓	✓
		Emergency Network Plan		✓✓
		Tool Box Meetings	✓✓	✓✓
		Job Safety Hazard Analysis for the Month		✓✓
Inspections	✓✓	✓✓		

Upstream Framework

Implementation

<Japanese Practice>

Points to be noted on the operation and management system of the project from an occupational safety and health point of view are summarized as follows:

(a) (Particular) Specifications

The Specifications requires compliance with DOLE D.O. 13. Since the procedural guidelines describes the requirements quite in detail, by following it the minimum quality of the safety and health program to be prepared by contractors could be assured.

The structure of Section 1 of the Specifications “S1. Preliminary and General” is as follows:

Table 3.4 Structure of Specifications - S1 . Preliminary and General

<p><i>S1.1 The Site</i></p> <p><i>S1.2 Contractor’s General Responsibilities</i></p> <p><i>S1.3 Contractor’s Telephone Contact</i></p> <p><i>S1.4 Standards</i></p> <p><i>S1.5 Employer’s Drawings</i></p> <p>S1.6 Contractor’s Documents</p> <p>1. General</p>

	2. Drawings and Other Information for Civil Works
	3. Form and Presentation of Contractor's Drawings
	4. Approval of Contractor's Drawings
	5. As-Built Drawings
S1.7	Conformity of Materials with Specifications
S1.8	Preservation of Property
S1.9	Community Relations
S1.10	Mobilization and Demobilization
S1.11	Survey and Setting Out
S1.12	Temporary Works
	1. General
	2. Submission of Details for Temporary Works
	3. Removal of Temporary Works on Completion of the Works
S1.13	Foundation Investigations
S1.14	Utility or Service Facilities
S1.15	Traffic Management
S1.16	Quality Management
	1. General
	2. Staffing
	3. System and Procedures
	4. Hold Points
	5. Subcontractors
	6. Approval of System
	7. Amendments
	8. Consultation
	9. Testing of Materials
	10. Quality of Materials and Samples
	11. Quality Records and Reports
	12. Surveillance and Audits by the Engineer
S1.17	Programming and Reporting
S1.18	Health and Safety
	1. General
	2. Health and Safety Officer
	3. Safety of the Public
	4. HIV Prevention Program
	5. First Aid
	6. Hazardous Substances
	7. Provision of Personal Protective Equipment
	8. Provision of Sanitary Conditions
	9. Lighting
	10. Electrical Power
	11. Reports
S1.19	Contractor's Facilities
S1.20	Photographs
S1.21	Security
S1.22	Office for Engineer
S1.23	Transportation for Engineer's Staff
S1.24	Site Clean Up
S1.25	Measurement and Payment

Requirements specified in the Specifications regarding occupational safety and health are summarized below:

Table 3.5 Section 1 of Specifications “Preliminary and General”
(safety and health related matters extracted)

Item	Contractor’s Action	Schedule	Payment
Contractor’s Documents	Submit working drawings	56 days prior to the commencement of fabrication or execution of the work concerned	Included in the direct work items
Temporary Works	Submit drawings and full particulars	At least 28 days before the commencement of construction	
Quality Management	Submit Quality Manual and Quality Plan (to ISO9001)	Within 28 days of the Commencement Date	Lump Sum
	Submit Quality Report	Monthly	Monthly
Health and Safety	Submit Safety and Health Program	At bidding, contract signing, before commencement of works	Lump Sum
	Appoint Safety Officer		
	Accident Report	Monthly	Monthly
	HIV Prevention Program	Within 28 days of the Commencement Date	Provisional Sum
	Hazardous Substances		
	Schedule of Personal Protective Equipment		
	Occurrence affecting the health or safety of any employee or of any member of the public on the Site	Immediately	Monthly

(b) Project Quality Plan

The Contractor (Toyo Construction) possesses a ISO9001:2000 certificate, and his Project Quality Plan also complies with ISO. Consequently, the site management system, including submission/approval procedures, is well organized paying due attention to the traceability.

The structure of the Contractor’s quality plan is as follows:

Table 3.6 Structure of Quality Plan

<ol style="list-style-type: none"> 1. General 2. Specification, Standards and Codes 3. Organization Chart 4. Schedule Control 5. Construction Management 6. Inspection 7. Corrective and Preventive Action 8. Nonconformance 9. Protection 10. Handover (Delivery) 11. Servicing 12. Purchasing 13. Customer-Supplied Products

- 14. *Document Control*
- 15. *Quality Record*
- 16. *Training*

Appendices

Table of Contents of Reference Manuals

- Q201 Procedural Manual for Developing and Maintaining Quality Manual*
- Q202 Procedural Manual for Developing and Maintaining Procedural Manual*
- Q203 Quality System Reviewing Records*
- Q204 Procedural Manual for Document Control*
- Q205 Procedural Manual for Quality Records*
- Q207 Procedural Manual for Quality Audit*

(c) **Health and Safety Plan Outline**

The Contractor’s prepared Health and Safety Plan Outline follows the Specifications, the following regulations and other detailed information as required.

“Safety and Health in Construction” issued by ILO

DOLE D.O. 13 and its procedural guidelines

This Health and Safety Plan Outline together with the above Quality Plan is the basis of safety and health management on site.

The structure of the Contractor’s Health and Safety Plan Outline is as follows:

Table 3.7 Structure of Health & Safety Plan Outline

1. <i>Introduction</i>
2. <i>Health and Safety Officer and Committee</i>
3. <i>Safety of the Public</i>
4. <i>HIV Prevention program</i>
5. <i>First Aid</i>
6. <i>Hazardous Substances</i>
7. <i>Personal Protective Equipment (PPE)</i>
8. <i>Provision of Sanitary Conditions</i>
9. <i>Lighting</i>
10. <i>Power Supply</i>
11. <i>Reports</i>
12. <i>Policy and Slogan</i>
13. <i>Safety Activity</i>
13.1 <i>Daily Work task</i>
13.2 <i>Weekly Work Task</i>
13.3 <i>Monthly Work Task</i>
13.4 <i>Task for New Employees</i>
14. <i>Safety Measures for Daily Work</i>
15. <i>Safety Personnel</i>
16. <i>Provision of Medical Assistance</i>
17. <i>Emergency Procedures</i>
18. <i>Construction Safety Signage</i>
19. <i>Safety on Construction Heavy Equipment</i>
20. <i>Safety and Health Information</i>
21. <i>Construction Safety and Training</i>
22. <i>Marine Traffic</i>
23. <i>Violations and Penalties</i>
24. <i>Emergency procedure</i>

(d) The Contractor's Internal Safety Audit

The Project is undergoing the Contractor's periodical internal safety audit in addition to the requirements stipulated in the Contract (Specifications) regarding safety and health management.

(e) Insurances

The insurances for the project (both Packages 1-A and 1-B) are procured from a large local non-insurance company (Joint Venture of a large local bank and a Japanese non-life insurance company) on a Philippine Peso basis. The total amount of coverage is equal to the contract sum of the project.

3.4 Findings

The findings in the site visit are summarized below:

(1) Construction Method

- (a) This project was situated as STEP (Special Terms for Economic Partnership) and applied the Water-jet Vibration Hammer method for steel sheet pile driving. The merits of this method were smooth pile driving for hard soil condition, and the shortening of the driving schedule as well as cost-cutting of total construction costs.

For offshore dredging and steel sheet pile driving works, the Spud Pontoon was applied for minimum influence of river traffic due to needless anchor mooring system.



Figure 3.3 Dredging Works (Photo by Toyo, June 2011)

- (b) The steel sheet pile driving works has already been completed by applying the Water-jet Vibration Hammer method and also owing to good weather conditions. The construction was performed by offshore works using spud pontoon, crawler crane,

vibration hammer, water-jet and the piles are driven to designed depth. The steel sheet pile driving-team consisted of 11 members namely, one operator, four riggers, two welders, three workers and one engineer. The team completed the works ahead of schedule without accident.

- (c) The dredging works started off as offshore dumping of dredged soil, however due to regulation change of Prohibition on Offshore Dumping (2009), the dredged material was dumped in the onshore disposal area designated by PMO. The dredging works was performed by Backhoe Dredger and the dredged materials were transported to temporary jetty for onshore dumping.
- (d) The revetment works was performed based on the designed height of plus 1.0m higher than the existing revetment. From offshore site examination, the finished concrete surface of revetment is observed as fine white color appearance and the flap valve locations have been confirmed. The construction team is consisted of thirteen members namely, two bar-benders, two carpenters, two concrete workers, four workers, two traffic control workers and one engineer. All members wore safety gears based on the site safety regulation.



Figure 3.4 Revetment Works (Photo by Toyo, June 2011)

- (e) The pavement works performed behind the revetment wall used colored concrete blocks on the sandy base layer. Small sized backhoe was used to excavate the pavement space and orange color bricks were tamped by a handy rammer. The construction team consisted of eight members namely, one operator, two masons, four workers and one foreman. All members were protected by safety gears based on the site safety regulation.

(2) Site Quality Plan

The site quality plan consists of ISO regulation and the requests of DPWH, which are the priority items in the quality control of this project to fulfill quality objectives. The records of data are kept on site.

(a) Progress Control

In the monthly progress meeting, the progress of previous month is reported and checked. The overall S-Curve is reviewed. In case of any negative slippage in the schedule, remedial measures are discussed and actions are taken to avoid such negative slippage in the construction schedule.

(b) Records of Communication with the Employer and Engineer

A list of correspondence and minutes of meetings is prepared, including status of issues, receipt, replies and related letters and was continuously updated.

(c) Concrete Works

Compressive Strength Test results must be equal to or exceed the specified strength. The correct batch weights from the concrete design mix are observed in order to pass the specified requirement.

(d) Piling Works

Steel Sheet Piles are installed with a variation of not more than 10mm per meter from the vertical, or within a maximum tolerance of 75mm at the pile head. Water jetting and vibration hammers developed sufficient energy to drive the piles at a penetration rate of not less than 3mm per blow at the design bearing value without causing damage to the pile.

(e) Earth Works

For random backfill and zone backfill, FDT result must be equal to or exceed 90% of the maximum dry density obtained by compaction in accordance with AASHTO T180.

(f) Protection Works

Sizes of boulders, stones, rocks to be used in the protection works are within the suggested size range. Suggested density of rocks are also checked so that rocks used in the slope protection would be uniform. Geo-textile fabric is furnished and placed

beneath the slope protections.

(g) Drainage

Drainage ditches are connected to a precast concrete outlet pipe with a minimum slope of 0.1% towards the outlet. Flap Gates are checked for water leakages from the closed valve under an acceptable river water level.

(h) Structural and Miscellaneous Metal-works

All welds are confirmed as continuous and watertight. The minimum throat dimension of fillet welds is 4.5mm.

(i) Miscellaneous Works

Bedding of sand is properly consolidated to form a solid and even surface prior to the laying of concrete block pavers. Glazing is bullet-proof Class GO to AS 2343.

(3) Regular Meeting

Contractor's on site regular meetings are performed daily, weekly and monthly in accordance with site quality control.

(a) Daily Project Meeting

- The daily meeting is held to check the activities of the day.
- Daily activities and instructions are recorded in minutes.
- Daily meeting checks the daily problem of the progress.
- Major problems are reported to PM and Engineering Manager.
- Instruction from Engineer is recorded in the minutes.
- It can be done by phone, but instruction are also recorded. The record of major instructions is signed later by the subcontractor.

(b) Weekly Progress Meeting

- The actual accomplishment of the previous week is checked and reviewed.
- The projected schedule of following week is proposed and checked.
- Information from both parties is exchanged and the problems encountered are discussed.

(c) Monthly Progress Meeting

- At the end of each month the actual and projected progresses are evaluated based on the S-Curve and Bar Chart submitted to the engineer as the monthly report.
- The schedule is reviewed or revised if delay of 4% (in total) or 10% (in every construction item) occurred.

(d) Weekly Meeting with Engineer

- The weekly meeting with engineer is held to inform the present status of the

project.

- In the meeting problems encountered are discussed and countermeasures or instructions are given by the engineer.
- Instructions are recorded in the minutes and informed at daily project meeting.

(4) Specification, Standards and Codes

In this project, compliance is observed with respect to the requirements listed below.

- (a) Contract Agreement
- (b) Letter of Acceptance
- (c) Conditions of Contract (General Conditions and Particular Application)
- (d) Specifications
- (e) DPWH Standards, Presidential Decrees, Republic Acts and Orders
- (f) Statutory Standards such as JIS, ASTM, AASHITO, AWS, ACI, PNS
- (g) Safety Measures, Compliance DOLE No. 13, 1998
- (h) Compliance to D.O. No. 86 2002
- (i) Compliance to ECC and CCEP
- (j) All additional documents, drawings, agreements by employer or engineer

(5) PMO's Site Safety Control

PMO performs the following site safety control assisted by the Consultant.

- (a) Early morning exercise is performed every day to support the health of the attendants.
- (b) Site safety patrol is performed with the consultant for confirmation of site condition.
- (c) Based on the weekly schedule of contractor, PMO informs weekly work schedule to related third parties to request for their cooperation.

(6) Consultant's Site Safety Control

Consultant's Resident Engineer (RE) is put in charge of site safety control.

- (a) Daily site check patrol is performed by RE for confirmation of work progress, material quality and safety,
- (b) Site safety matters are discussed in the weekly progress meeting for strengthening site safety control.
- (c) In the monthly progress meeting, site safety situation is explained by RE to all attendants and requests to the owner, if any, are compiled.

The above are not expressly indicated in the consultancy contract.

(7) Contractor's Site Safety Control

(a) Site Safety Management

Licensed Environmental-Safety officer is assigned for site safety management by the project manager for following daily, weekly and monthly activities of safety and environmental matters.

- Site project meeting (daily), daily site safety check report to PM.
- Weekly progress meeting, weekly site safety check report to PM.
- Monthly progress meeting, monthly site safety check report to PM.

(b) Head Office Safety Management

- Head office safety patrol is performed once a year by head office director and general manager of safety and environment.
- International branch office safety patrol is performed once a month by the general manager or construction manager or safety-environment manager.
- President's site visit is performed at the chance of overseas trips near the site.

(c) The Contractor provides patrol boats and signages during off-shore works (dredging, sheet pile driving) for securing the safety during the works.

Patrol Boats: Caution to navigation, save persons fallen into the river
Send injured persons to the hospital

Signages: Buoy-type signages to avoid collision with navigation

(8) Assignment and Duties

Staff/Employee were assigned to proper positions in accordance with their licenses, qualifications and, certified experiences as checked and approved by project manager.

(a) Project Manager

- General management of the project
- Selection, award and evaluation of sub-contractors/suppliers
- In-charge of inspection
- Approval of distribution of drawings to the sub-contractor
- Responsible for staff assignment
- Analyze profitability of the project
- Liaison and negotiation
- Attendance at official meeting
- Contractual matters
- Attendance at pre-construction meeting
- Responsible person and staffs for inspections
- Approval of detailed methodology
- Preparation and approval of project budget

- Approval of shop/working drawings
- (b) Chief Civil Engineer
 - Control of schedule
 - Coordination with consultant, sub-con and other government agencies
 - Evaluation of estimates and negotiate quotation from sub-con/suppliers
 - Liaison and negotiation
 - Monitoring and decision on the technical problems encountered at site
 - Control of measuring/survey instrument
 - Control of equipment
 - Control of materials
 - Control of manpower
 - Preparation of construction schedule
 - Checking of quality control records
- (c) Project Civil Engineer
 - Monitoring and supervision of actual field conditions
 - Check site safety and work executions
 - Preparation of site working drawings for executions
 - Perform other related works as may be required by superior
 - Check of quantity of work, materials and equipment to plans and spec
 - Give instruction to foreman on the agreed work method
 - Implementation and recording of safety inspection at site
 - Recording of daily meeting
- (d) Quality Control Engineer
 - Recommends material testing procedure and classify quality of materials
 - In charge in the coordination with engineering section for the approval of materials
 - In charge in the coordination with implementing office engineer in charge in evaluation/approval of materials
 - Supervises and oversees laboratory and field testing
 - Reviews and evaluations of materials submittal proposal
 - Reviews various test results conducted at site
 - In charge in the preparation/submittal of weekly/monthly quality control report, preparation/submittal of certificate of quality control assurance
- (e) Safety Officer
 - DOLE D.O.13 licensed person in charge of safety and health
 - Confirmation of personal protection equipment of workers

- Safety education for new workers joining the site
- In charge in the preparation/submittal of safety and health reports
- In charge in the preparation/submittal of application documents for onshore and offshore construction plants

(9) Results of Safety Control Check

The safety control status of the project was checked with a check list.

The results of the check are as follows:

Table 3.8 Safety Control Check List

No	Item	Safety Check	Remarks
1	Site Gates	○	
2	Site Office Road	△	Uneven Pavement
3	Site Office Jetty	△	Temporary Jetty
4	Material Stock Yard	○	
5	Material Shed	○	
6	Site Office	○	
7	Steel Sheet Pile Driving Work	○	
8	Revetment Work	○	
9	Pavement Work	○	
10	Building Work	○	
11	Water Supply Discharge Work	○	
12	Electrical Work	○	
13	Miscellaneous Work ・ Fence etc.	○	
14	Danger Work Accident Prevent	○	
15	Safety Education ・ Training	○	
16	Observance Labor Law	○	
17	Work Insurance ・ Compensation	○	
18	Safety Patrol ・ Meeting	○	
19	Instruction Good Bad Example	○	
20	Head Office Inspection	○	
21	Presentation Construction Plan	○	
22	Safety Confirmation ・ Temporary	○	
23	Behavior Measure Monitoring	○	
24	Prevention Public Disaster	○	
25	Safety Problem Improvement	△	Increase safety signboard, improve safety gear, promote safety gear

Good Condition ・ ・ ・ ・ ○
 Acceptable Condition ・ ・ ・ △
 Bad Condition ・ ・ ・ ・ ×

Description for Safety Control Check List

1. Site Gates
Strong gate with enough size for trailer and the site is guarded by 24 hours security services. In and out of cars are registered 24 hours.
2. Site Office Road
A little uneven gravel pavement but acceptable for heavy duty transportation however more traffic safety sign should be settled.
3. Site Office Jetty
Steel sheet pile structure multipurpose temporary jetty without boarding platform but potable ladder is available, safety signboard for offshore works should be settled.
4. Material Stock Yard
Enough space for big and long materials with dry flat ground. Pavement is gravel finish.
5. Material Shed
Empty containers are applied, attention for summer season ventilation. The container shed can be lockable and rainproof and no problem for normal storage.
6. Site Office
A large prefabricated building with enough capacity for 100 staff working space by good air- conditioned. Safety slogan and signboard are posted on the wall and water supply and toilet flush is good condition. The office is guarded 24 hours security system.
7. Steel Sheet Pile Driving Work
Pile driving works was already completed before our site confirmation but the result of pile driving is good finish by no accident. Major reason of early completion was good weather condition.
8. Revetment Work
Several revetment sites are ongoing by rebar, form and concreting works, all workers wearing safety gear based on the safety regulation. Work signboard settled on the site and finished surface of revetment is good looking condition.
9. Pavement Work
Color pavement work is ongoing at several sites and all workers wearing safety gear based on the safety regulation. Finishing work is performed by hand rammer.
10. Building Work
All building in the site is prefab structure with enough capacity of space and well maintained against rust and rain.
11. Water Supply and Discharge Work
There is no trouble of water supply and discharge for office, material shed and laboratory

since 2009.

12. Electrical Work

There is no trouble for electric supply due to a standby generator against blackout.

13. Miscellaneous Work, Fence etc.

Barbed wire fence protected for entire site office area and the site is guarded by security services for 24 hours a day. There is no problem for site safety of facilities.

14. Danger Work and Accident Prevent

Offshore steel sheet pile piling training was implemented for local workers at site. Daily tool box meeting has prevented accident.

15. Safety Education and Training

Monthly safety meeting is performed for all workers including sub-contractor's. The safety education is performed by daily site check and tool box meeting for training.

16. Observance Labor Law

All parties concerned are obeyed observance Labor Law based on the contract.

17. Work Insurance and Compensation

Work insurance is covered by the contractor but no compensation up to now due to no accident.

18. Safety Patrol and Meeting

Joint site patrol is implemented including safety patrol as monthly and safety meeting is operated by the contractor every month.

19. Instruction Good and Bad Example

Safety award is given to a local worker every month as good performance of safety control.

20. Toyo Head Office Inspection

Yearly safety inspections are implemented by the head office safety director of the contractor including safety meeting with the manager of sub-contractor. Site safety management of sub-contractor for Package 1-A is performed by safety officer of the contractor. The safety officer instructs the explanation of equipment, personal protection gear, and health check through tool box meeting.

21. Presentation Construction Plan and Design Change

Important documents of construction are submitted to DPWH from the contractor and send it to BOD after confirmation of the consultant. The documents are submitted to the consultant about one month later, and after confirmation by consultant the contractor can commence the site works.

22. Safety Confirmation for Temporary Facilities

The safety confirmation of temporary facilities is requested to PMO from the contractor. PMO sends the documents to the consultant for safety confirmation and the documents

return to PMO. The contractor receives the approval of commencement from PMO.

23. Behavior Measure Monitoring

The settlement and inclination of 20m steel sheet pile is monitored at two places at site for behavior measure monitoring.

24. Prevention Public Disaster

At PB-1 location, subsidence of existing road is improved by traffic control of lane change for 24 hours rushing work.

25. Safety Problem and Improvement

Increase safety signboard, improve safety gear, promote safety gear.

Other Information:

- A. The progress of site works is now 95% in amount and projected completion of site works will be end of January 2012. The final inspection of site will be performed in February 2012.
- B. There are two factors for the reason of shortening construction period, one is good weather condition can accelerate the site works and the second is relocation of local resident from the site by the effort of PMO.
- C. Before commence of dredging works, the dredged soil dumping area was changed from offshore to onshore due to regulation change in 2009, the dredged soil was dumped onshore dumping area designated by PMO. The dredging volume will be estimated 600000m³ in Phase-3 project, the selection of soil dumping area is important.

(10) Site Examination Summary

Offshore and onshore site examinations were performed on 26th October 2011, and the entire site impressions were summarized as follows.

- (a) The total length 16.4km long site construction was implemented both onshore and offshore, and works were simultaneously conducted at several locations. The site management for progress, quality and safety has been controlled appropriately and no accident has been recorded for the past three years. The project, ahead of predicted schedule, has received reputation of being an excellent site.
- (b) The site was managed by the project manager similar to the management of a large scale Japanese construction site, and the leadership was taken by site managers, with good communication with the Philippine staff. Regarding site safety control, selected staff members are determined to continue the no accidents record, resulting in

excellent site arrangement.

- (c) Site quality management was conducted in accordance with the contractor's ISO standard and the client's requests. All inspection standards were written as quality reports and the records were disclosed to the members at regular meetings.

When problematic situations occurred, the countermeasures were discussed by meeting members and the appearances of newly completed structures were observed to be good.

- (d) Site safety management was conducted in accordance with DOLE D.O. 13, the conditions of contract and the specifications. All interviewees on site were determined to continue Zero-accident record toward the completion of the project. The site was very neatly organized. The contractor's Head- Office is also actively involved in the safety management and site patrol is performed once a year by the directors in charge.

Chapter 4 Recommendations

Lessons and recommendations on safety and health management in construction projects are drawn from the findings obtained during the site visit conducted in October-November 2011 for Pasig-Marikina River Channel Improvement Project (II) in Metro Manila in the Philippines, as follows:

4.1 Lessons from Pasig-Marikina River Channel Improvement Project (II)

The following care is being taken for safety and health management in the above project in an adequate and satisfactory manner, which shall be patterned by other projects:

- (1) The project manager shall have sufficient experience/knowledge on and deep understanding of the occupational safety and health in the construction industry and with a broad outlook on construction projects.
- (2) The project manager shall have all on-site safety matters budgeted and disburse the fund required to implement such matters in a timely fashion.
- (3) Qualified safety personnel(s) shall be assigned to the site to conduct daily patrol, pick up the problems, plan necessary countermeasures and report to the project manager.
- (4) Engineers/administrative staffs shall continue gathering relevant information such as safety management systems adopted in projects with similar nature, and discuss with the safety personnel on necessary protective equipment, workers physical conditions, and so on.
- (5) Experienced construction supervision staffs, including the consultant's staffs, shall conduct daily site patrol to early find out / rectify human errors or minor problems which may be potential causes of accident.

4.2 Yen-Loan Projects in the Philippines

- (1) The legislative system in the Philippines concerning construction safety and health has the history of 13 years starting from DOLE D.O. 13 issued in 1998. During the period, the whole legal system has been developed maintaining consistency with relevant laws, regulations, etc. issued from relevant agencies. Procedural guidelines are well developed and easily accessible through website, which indicates upstream system is well developed. On the other hand, however, quite a few violations are discovered by inspections by DOLE regional offices.

It is expected to take long time to cause the culture of "safety-first" which is required to

eventually/effectively implement the construction safety and health management. In the meantime, rigorous and frequent inspections and reflection of inspection results (i.e. penalizing violations) may be provisional/practical measures to prevent/minimize problems.

- (2) With regard to construction safety and health in Yen-loan projects implemented by DPWH, the following points may be noted:
- ① DOLE Regional Offices are responsible for enforcement of occupational safety and health requirements to not only construction projects but also “all” enterprises. Consequently, it is reasonable that DPWH itself inspects projects under its jurisdiction by cooperating with/supplementing to DOLE Regional Offices.
 - ② The standard DPWH project organization is not a FIDIC standard of Employer-Engineer-Contractor system, but a one-on-one system (i.e. Employer-Contractor system) where the Consultant is not independent but playing a role of assisting the Employer. As a result, the description of the terms of reference to the Consultant is rather general and does not necessarily stipulate the tasks (such as those related to safety and health) expressly.

Taking account of the above, it is considered that a way to promote the construction safety and health in Yen-loan projects under DPWH in the future is to highlight in the consultant’s task active involvement into the safety and health. Since it is considered the primary responsibility of safety and health control on site rests with the contractor, the above consultant’s terms of reference shall be carefully prepared not to cause any contradiction or ambiguity in the responsibility.

4.3 Pasig-Marikina River Channel Improvement Project (III)

As a sample project which the lessons obtained from Pasig-Marikina River Channel Improvement Project (II) (hereinafter called “Phase-2”) can be referred to, Pasig-Marikina River Channel Improvement Project (III) (hereinafter called “Phase-3”) is chosen and recommendations on the safety and health management at the implementation stage are made.

The scope of Phase-3 is as shown in the following table:

Table 4.1 Pasig-Marikina River Channel Improvement Project (III)

Item	Unit	Pasig River	Lower Marikina River
Steel Sheet Pile Wall	m	5,720	1,814
Dike	m	8,125	337
Dredging	m	-	5,400
Boundary Dike	m	-	7,063
Bridge Pier Protection	bridge	-	4
Concrete	m ³	10,300	1,970
Rebar	t	4,190	70
Excavation	m ³	36,920	6,050
Dredging	m ³	0	612,000
Backfill	m ³	43,000	1,300
Dredged Materials Improvement	m ³	0	472,000
Riprap/Rockfill	m ³	51,500	6,500
Boundary Dike	m ³	0	50,100

Phase-3 stretches over Pasig River and Marikina River. The study team visited the Pasig River Section on October 26, 2011 and subsequently the Marikina River Section on October 29, 2011. Based on the findings during the site visits, points to be noted with regard to the construction safety and health management in Phase-3 are summarized as follows:

(1) Marikina River Section

- (a) The river is approximately 100m wide and 1.0 - 2.0m deep and the construction area stretches 7.2 km from lower Marikina River near C-5 Bridge to upper Marikina River near Manalo Bridge. Construction planning such as the construction program and arrangement of machinery and personnel on site will be crucial having the work area in a long stretch.
- (b) Phase-3 construction works consist of steel sheet pile driving, revetment, pavement, embankment and dredging, which are similar to those of Phase-2. Consequently,

lessons learnt from Phase-2 are applicable to Phase-3 as well.

- (c) The method of dredging uses backhoe dredgers and soil transportation barges towed by tugboat. Dredging is expected to be done from the lower/deeper part toward the upper/shallower part. In addition, dredging prior to the steel sheet pile driving works is also needed. For the safety management for dredging works, boats passing through Marikina River should be considered. During the site visit conducted on October 29, 2011, ferry boats passing the river were observed. During the dredging and piling works, a sufficient number of construction signages should be set up to prevent collision of boats/vessels in the river. Special attention should be paid to soil transportation barge and steel sheet pile transportation barge not being aground. The narrow width of the river brings the danger of being aground when the wind is strong, in bad weather condition and/or during flooding. Safety management guidelines mentioning the weather conditions should be prepared. This is particularly important since Marikina River area was severely flooded by Typhoon Ondoy in 2009.
- (d) It is expected that the revetment works consist of steel sheet piling with concrete walls and stone mounted embankment. The design consultant has recommended 4m wide embankment partially, namely at four locations in a total length of 1,800m. Dredged materials will be used for embankment by chemical treatment. It is necessary to test water and soil in the vicinity to confirm possible contamination. Also it is important to protect the construction area by setting up a sufficient number of fences and work signboards in view of safety management.
- (e) The whole area of construction sites was dotted with local houses and temporary huts along the river. It is observed that daily life flash is running to the river. The local resident (legal or illegal) should be removed from the proposed construction area before the site work commencement for safety and security management purposes.

(2) Pasig River Section

- (a) Additional river channel revetment improvement areas (hereinafter called “Potential Areas”) will be included in Phase-3 works. The Potential Areas stretch from Delpan Bridge to NHCS of Pasig River in a total length of 16.4km. There are 42 locations of revetment improvement works. Most of the locations for Potential Area are areas damaged by Typhoon Ondoy in 2009. The height of improved revetment was designed using the same design criteria as in Phase-2.

Phase-3 is located in the same area with the same kinds of works as Phase-2. Hence, the safety management system may pattern the manner in the ongoing Phase-2.

(3) Summary

Recommendations on the safety and health management for Phase-3 are summarized below, where 8) – 11) refer to Marikina River works. After the flood damages caused by the Typhoon Ondoy, a study (“Metro Manila Flood Management Master Plan”) is conducted by World Bank. It is recommended that the results of the study be referred to in the forthcoming detailed design for Phase-3.

<Patterning to the success in Phase-2>

- 1) Resettlement of the residents affected by the project to be completed prior to the commencement of the project.
- 2) In addition to the Contractor’s daily care, frequent site patrol for safety check will be performed by the Consultant with a view to having a third party check/confirmation as well as maintaining a “safety-first” atmosphere on site;
- 3) Daily tool box meeting will be performed by the Contractor;
- 4) Weekly joint site patrol for safety check will be performed by DPWH, the Consultant and the Contractor;
- 5) Monthly joint site patrol for safety check will be performed by DPWH, the Consultant and the Contractor;
- 6) Installation of work signboards and safety slogans as many as possible inside/outside of site;
- 7) Well experienced traffic control workers to be assigned near the public roads;

< Additional requirements recommended by the study team >

- 8) Strict control, including monitoring/testing water and soil, to be done to avoid any contamination which may be caused by construction materials.
- 9) The construction area of Phase-3, consisting of Pasig River Section (16.4km long) and Marikina River Section (7.2km long), is much longer than Phase-2 (16.1km long) and there are risks of insufficient supervision/inspection. To mitigate those risks, DPWH, the Consultant and the Contractor shall carry out site patrol for safety inspection more carefully than for Phase-2.
- 10) Confirmation of emergency refuge place for floating working vessels in the river every month; and
- 11) Training of evacuation in case of natural disaster to be performed by all site members once a year.

Appendix-1:

Minutes

Appendix-2:

Labor Standards, Social Security System

Appendix-3:

Sample Certificates

Appendix-4:

Pasig-Marikina River Channel Improvement Project (II) - Questionnaires

Appendix-5:

Pasig-Marikina River Channel Improvement Project (II) - Site Photos

Appendix-6:

Pasig-Marikina River Channel Improvement Project (II) - Safety Control Documents

Appendix-7:

Pasig-Marikina River Channel Improvement Project (III) - Site Photos

Appendix-1 Minutes

Meeting Minutes	
Date/Time	Oct/25/2011, 16:00-16:45
Venue	JICA Philippine Office Meeting Room
Attendees	JICA: Mr. Hayato Nakamura (Project Formulation Advisor) Ms. Catherine M. Palanca (Program Officer) Study Team: Mr. Takebayashi, Mr. Hoshino
Subject	Survey Schedule
<p>1. The field survey schedule was discussed.</p> <p>2. According to JETRO, not being involved in construction safety matters, they declined to have a meeting with the study team. PNP is being contacted. It is learnt that usually PNP is not involved in construction sites.</p> <p>3. The joint site visit of Oct/26 will be conducted by boat from 9:00AM. We will get on the boat at the ferry terminal at 9:00 and cruise along Pasig River for 2 hours.</p> <p>In the afternoon, a meeting will be held attended by JICA, DPWH-PMO, CTII, Toyo and the study team at Toyo's office to discuss the safety control matter of the Pasig-Marikina River Channel Improvement Project (II).</p> <p>Ms. Palaka will be on site from the morning, and Mr. Nakamura will join from the noon</p> <p>DPWH-PMO Project Manager Ms. Santiago will attend the meeting.</p> <p>4. Information on the Pasig-Marikina River Channel Improvement Project (III) was requested from JICA.</p>	

Meeting Minutes	
Date/Time	Oct/26/2011, 09:00-11:00
Venue	Pasig-Marikina River Channel Improvement Project (II) Site Visit by boat
Attendees	CTII: Mr. Hirofumi Tanaka (Civil Engineer) Toyo Construction: Mr. Yasuyuki Nomura (P1-A Project Manager) Mr. Tatsuya Watanabe (P1-B Project Manager) Study Team: Mr. Hoshino
Subject	Pasig-Marikina River Channel Improvement Project (II)
	<ol style="list-style-type: none"> 1. Dredging works was originally planned assuming that off-shore disposal is possible. However, due to the change of regulations in 2009, it had to be changed to on-shore disposal. Dredged materials are disposed at the locations as designated by PMO. 2. Off-shore works for sheet pile driving and dredging were done using spud-type barges to minimize the occupation of the river to avoid stoppage of the navigation. 3. The construction period was able to be shortened because of good weather and smooth resettlement of the resident in the affected areas. 4. The present achievement is 95%. The site activities are aimed to be completed at the end of January 2012 to get the inspection in February. 5. Permission to off-shore works in the river is provided by Philippine Coastal Guard (PCG). Toyo submit a river navigation management plan prior to the works and in addition verbally re-confirm the location of works of the day on the day before. 6. Considering that dredging works and sheet pile driving works are hazardous, Toyo conducted a joint drill by workers and vessels. During the off-shore works patrol boats were arranged on site to safely manage the navigation. 7. The typhoon shelters for off-shore plants for dredging and sheet pile driving are confirmed every year. Weather forecast is closely monitored to judge early evacuation. 8. Package 1-A employs J.E. Manalo as the subcontractor and mobilized about 250 workers at the peak time (about 100 workers at present). Package 1-B is being executed directly by Toyo and necessary workers are procured from local staffing agencies.

9. Site safety meetings are being held monthly.

Toyo's Overseas Branch is conducting its internal safety control as follows:

- Annual management patrol by Director of HQ Office and General Manager in charge of Safety & Health.
- President's visit several times a year.
- Monthly patrol by Philippine Branch Manager, Construction General Manager or Safety & Health General Manager.

Meeting Minutes	
Date/Time	Oct/26/2011, 11:00-12:30
Venue	Toyo Construction Site Office Meeting Room
Attendees	<p>JICA: Mr. Hayato Nakamura (Project Formulation Advisor) Ms. Catherine M. Palanca (Program Officer)</p> <p>DPWH Project Management Office (PMO): Ms. Sofia T. Santiago (Project Manager III) Mr. Rodrigo I. Delos Reyes (Engineer V/Project Engineer III) + 1</p> <p>CTII: Mr. Ryuichiro Seki (Project Manager) Mr. Hirofumi Tanaka (Civil Engineer) + 1</p> <p>Toyo Construction: Mr. Yasuyuki Nomura (P1-A Project Manager) Mr. Tatsuya Watanabe (P1-B Project Manager) + 3</p> <p>Study Team: Mr. Takebayashi, Mr. Hoshino</p>
Subject	Pasig-Marikina River Channel Improvement Project (II) – Safety Control
	<ol style="list-style-type: none"> 1. The study team received answers from PMO, CTII and Toyo respectively to the questionnaires which had been dispatched in advance. Besides, additional Q&As were conducted. 2. Safety control activities of the project are being implemented in accordance with DOLE D.O. No.13. 3. In case Project Management Office (PMO) requires advice in DPWH on quality or safety matters, PMO contacts bureaus (Design, Construction, Maintenance, Research & Standards or Equipment) under Assistant Secretary for Technical Services as necessary. Setting-up of Bureau of Quality and Safety is under consideration. 4. In case any accident, reports should be submitted to DOLE as well as the relevant communities. Usually the police is not contacted unless any criminal matters are suspected to be relevant. Since Malacanang Palace (Presidential Palace) is located facing Pasig River, instructions come from Presidential Security Group (PSG) from time to time. 5. DOLE is conducting trainings regarding occupational safety and health to DPWH and other agencies periodically. 6. The general conditions of contract of this project follow FIDIC 1987, where the

Employer is DPWH, the Engineer is Director of DPWH-PMO and the Engineer's Representative is PMO Project Manager Ms. Santiago.

CTII is not the Engineer, but an assistant consultant to DPWH.

7. PMO, CTII, and Toyo are jointly implementing the necessary activities for safety and health as a team.

Safety is discussed in every weekly meeting and monthly coordination meeting.

Inspection is carried out jointly by PMO inspectors and CTII inspectors.

8. PMO-PM Ms. Santiago mentioned that she was impressed by Toyo workers' calisthenics executed in the morning before commencement of the daily work.

9. Toyo is conducting safety control, appointing the safety Officer as the leader, in accordance with the contract.

Medical Staff is on site to take care of sick/injured persons.

What Mr. Nomura (P1-A PM) considers most important are:

Wearing PPE (Personal Protective Equipment),

Inspection of construction equipment before use, and

promoting safety awareness of all site staff & workers through monthly safety meetings

10. Temporary works design was required for the drainage works with 1.5m deep excavation.

PMO approves to carry out the works after review of the necessary submittals from Toyo through CTII.

11. The study team conducted inspection of the site based on the checklist prepared in advance and found no problems.

12. The study team received documents which had been requested to PMO, CTII and Toyo respectively.

Meeting Minutes	
Date/Time	Oct/27/2011, 13:00-14:00
Venue	Philippine Insures and Reinsures Association (PIRA) Inc. Meeting Room
Attendees	PIRA: Mr. Mario C. Valdes (General Manager) Study Team: Mr. Takebayashi, Mr. Hoshino
Subject	Insurance
<p>1. There are 36 Life Insurance Companies and 87 Non-Life Insurance Companies in the Philippines 80% of the market of non-life insurance is occupied by the top 10 companies, such as BPI/MS Insurance Corporation, Ayala Insurance, Malayan Insurance, AIG and so on.</p> <p>2. The amount of death benefit for workmen's accidents used to be P12,000 when USD1=P1, but has now increased to P50,000-100,000. Group accident insurance and term insurance are economical.</p> <p>3. There are a few insurance companies dealing with third party insurance.</p> <p>4. Construction Safety Foundation, Inc. was established in 1889 as a quasi-governmental organization which ensures occupational safety in construction projects in Makati. This organization involves implementing agencies as well as local agency (Makati City) and the board members include Makati City Mayor and Fire Department Chief. All major construction projects are obliged to undergo inspection by this organization.</p>	

Meeting Minutes	
Date/Time	Nov/2/2011, 10:00-11:00
Venue	Safety Organization of the Philippines, Inc. (SOPI)
Attendees	SOPI: Mr. Eros G. Zuniga (National President) Study Team: Mr. Takebayashi
Subject	Re. SOPI
<ol style="list-style-type: none"> 1. SOPI is a NPO established in 1959 to promote occupational safety & health and environmental protection. There are 21 organizations accredited by DOLE where only SOPI is a NPO. There 21 organizations are conducting safety training getting DOLE's accreditation. 2. Construction projects are obliged to assign a Safety Officer who has a certificate after taking a Basic Occupational Safety and Health Seminar for Construction Site Safety Officers accredited by DOLE. 3. All engineers and workers of construction site should take one-day Construction Safety Orientation to get a certificate before entering the site. 4. SOPI's tasks are training, convention and safety inspection (upon request). SOPI is also doing prior- & post-inspection of the Engineering Plan for Subic Industrial Zone. 5. SOPI has many members who took training conducted by Industrial Safety and Health Association in Japan. 	

Meeting Minutes	
Date/Time	Nov/2/2011, 13:00-14:00
Venue	Philippine Constructors Association, Inc. (PCA) Meeting Room
Attendees	PCA: Mr. Manolito P. Madrasto (Executive Director) Mr. Ronaldo R. Elepano, Jr. (1 st Vice President) Study Team: Mr. Takebayashi
Subject	PCA's Activities in Construction Safety and Health
	<ol style="list-style-type: none"> 1. All contractors should implement safety control in accordance with DOLE D.O. No. 13. 2. There are contractors who do not like the expenditures for safety control which amount to 7-8% (Note: PCA estimate) of the construction cost, to cope with which the regulation requires the cost of PPE be included in the general item of BOQs. Big contractors have started spending for safety control, while small-medium contractors in rural areas still tend to regard the safety control budget as a source of profit. 3. There is a cultural problem. For example, in construction sites in rural areas workers do not wear safety shoes on site but to keep them for a special occasion like wedding ceremony. 4. In public works, contractors are evaluated 3 times during the project period in accordance with Constructors Performance Evaluation System (CPES) which includes safety and health as one of the evaluation items. 5. People have been familiar with the necessity of safety control on site. For example, in large building projects hard hat, safety shoes and harness are now being worn. 6. There is no union for construction workers who are employed on a project contract basis, which makes it difficult to promote safety awareness. As a trial, PCA is organizing workers groups in some provinces to conduct trainings to them. 7. The one-day orientation system for workers has just commenced. Small-medium contractors are not necessarily following, while large contractors are following. The majority of workers did not graduate high school and appear to feel happy by receiving certificate of completion of the orientation. Construction workers tend to think they are just construction workers. PCA considers important to have an approach to promote their dignity and by so

doing to promote their consciousness of safety control.

8. LGUs (local government units) and politicians do not appear happy to the situation which budgeting to safety control leads to project cost increase.
9. DOLE D.O. No. 13 requires submission of Safety Plan and employment of a safety officer prior to the commencement of works. However, there are contractors who try to take only documentary action without actual action. In case violation to the regulation is found, the contractors should be barred from participation in biddings for one year, the project manager should be fired and the investor should shoulder all expenditures required. There was an accident of gondola falling down at a high-rise building under construction which killed 10 persons on a gondola, where the investor did not assign a safety officer to save cost.
10. Installation of barriers on construction site has such problems as invisibility during night and being stolen by resident nearby.
11. As for Japanese contractors, large contractors abide by the safety regulations, while small contractors behave in the same manner as local.
12. SOPI puts emphasis on safety & health in the general industry firms rather than contractors and its understanding of the construction industry is insufficient.
13. PCA has participated in formulation of DOLE D.O. No. 13. PCA is acting as a representative of OSHC, and for example, issuing its own certificates to PPE.
14. PNP's involvement into construction sites is limited to criminal cases.

Meeting Minutes	
Date/Time	Nov/3/2011, 09:00-11:00
Venue	Department of Labor and Employment, Occupational Safety and Health Center (DOLE-OSHC) Meeting Room
Attendees	OSHC: Engr. Jose Maria S. Banito (OIC – Deputy General Director) Engr. Nelia G. Granadillos (Chief, Environment Control Division) JICA: Ms. Catherine M. Palanca (Program Officer) Study Team: Mr. Takebayashi
Subject	Construction Safety & Health
	<ol style="list-style-type: none"> 1. OSHC is responsible for office works such as planning, trainings and public relations. Site inspections are carried out by DOLE Regional Offices. 2. In January 2011 there was a fatal accident at a high-rise building project site in Makati where 10 workers died. After the accident, as per the President's direction, DOLE Secretary declared that all construction projects should undergo DOLE's inspection. 3. As of July 2011, 174 ongoing construction projects were inspected and a number of violations were found, such as such as no submission of Safety & Health Program, no allocation of safety officer (required in projects with more than 50 workers). 4. Each construction project is obliged to submit to DOLE a monthly accident report regardless of occurrence/non-occurrence of accident. 5. DPWH proclaimed D.O. No. 56 in 2005, confirming the obligations and procedures to implement safety control in construction projects as per DOLE D.O. No. 13. 6. Though OSHC is conducting trainings on construction safety and health, the OSHC capacity is limited and unable to satisfy the market demand. To cope with this OSHC has accredited 21 external organizations to conduct trainings on DOLE's behalf to issue relevant certificates. OSHC's training fees are lowest, SOPI's second lowest, and the others are higher. After the big accident in 2011, the number of applicants for trainings increased rapidly. 7. Demarcation of tasks of 3 agencies against violations of construction safety and health requirements is: <ul style="list-style-type: none"> • DOLE: Inspection – Order to stop

- DTI: Philippine Contractors Accreditation Board (PCAB) – Revoke the license
 - DPWH: Building Permit – Rejection of application
8. Other certificates concerning construction safety and health are:
- Periodical inspection of construction equipment – by DOLE accredited organizations
 - Qualification of construction equipment operators – by Technical Education Skills and Development Authority (TESDA)
9. Biddings for construction projects include the following items related to construction safety control:
- Submission of construction safety and health program
 - Budget allocation in BOQs
10. DOLE is conducting special trainings to DPWH staff.

Meeting Minutes	
Date/Time	Nov/3/2011, 14:00-14:30
Venue	Commonwealth Insurance Company (CIC) Meeting Room
Attendees	CIC: Mr. Glenn V. Roxas (Bonds Manager) Mr. Ruben P. Rotairo (Underwriting Manager) Study Team: Mr. Takebayashi
Subject	Insurance
<ol style="list-style-type: none"> 1. There used to be more than 120 non-life insurance companies, but following the tightened capital ratio regulation, the number has decreased to 87. 2. Besides, for the purpose of increasing the capital, dumping of premium amount is prevailing in order to increase the total amount of insurance contracts. 3. The standard premium for contractor's all risk insurance is 2.5% of the construction cost. 4. The lowest premium for construction workers compensation (Class 4) is 0.45%/year. 	

Meeting Minutes	
Date/Time	Nov/4/2011, 08:30-09:00
Venue	Toyo Construction Site Office Meeting Room
Attendees	Toyo: Mr. Bobby Maninang (Safety Officer) J.E. Manalo (P1-A Subcon): Ms. Janet Hores (Office Engineer) Mr. Enillco Carmona (Safety Officer) Study Team: Mr. Takebayashi, Mr. Hoshino
Subject	Pasig-Marikina River Channel Improvement Project (II) – Safety Control
	<ol style="list-style-type: none"> 1. Toyo very much respects “Safety”, which has surprised us at the commencement of the project. (commented by J. E. Manalo’s safety officer) 2. PPEs are distributed to all workers. 3. Toyo’s safety officer’s policy is to make sure the importance of safety to not only workers but also to everyone on site including PM, engineers and workers. Everyone is being trained to wear PPE by his/her own will. 4. The safety officers of this project obtained a certificate issued by International Occupational Safety and Health when they were in Dubai. Since the Philippines is a member of the association, such qualification is valid in the Philippines as well. Peso100,000 is required to obtain the equivalent qualification in the Philippines. 5. In this project all items required for safety control are explicitly included in BOQs. 6. An afternoon meeting is held everyday to confirm/discuss the works of the day and to confirm the works of the following day, including safety matters. In weekly meetings which only PM attend from Toyo, safety matters are always included in the agenda. 7. Offshore plants undergo inspection by Philippine Coast Guard. Onshore plants are inspected by TESDA accredited inspectors.

Meeting Minutes	
Date/Time	Nov/4/2011, 09:15-10:00
Venue	Toyo Construction Site Office Meeting Room
Attendees	DPWH Project Management Office (PMO): Ms. Sofia T. Santiago (Project Manager III) CTII: Mr. Hirofumi Tanaka (Civil Engineer) Toyo: Mr. Yasuyuki Nomura (P1-A Project Manager) Mr. Tatsuya Watanabe (P1-B Project Manager) Mr. Bobby Maninang (Safety Officer) Study Team: Mr. Takebayashi, Mr. Hoshino
Subject	Preliminary Report of Field Study Results
<ol style="list-style-type: none"> 1. The study team briefed the study and findings/recommendations to the project staff. The study team admired the project staff, noting that there was no accident during the period of 850 days from the commencement despite the total man-hours of 3mil. and the process to gain such achievement is adequate. 2. DPWH PMO replied that they will keep making every efforts to maintain the Zero-accident records until the completion of the project scheduled in March next year. CTII and Toyo delivered the same message after the meeting. 	

Meeting Minutes	
Date/Time	Nov/4/2011, 13:00-14:00
Venue	DOLE National Capital Region (NCR) Office Meeting Room
Attendees	DOLE-NCR: Engr. Martin T. Jequinto (Sr. Labor and Employment Officer) Engr. Jose G. Viray (Sr. Labor and Employment Officer) Study Team: Mr. Takebayashi, Mr. Hoshino
Subject	DOLE-NCR
	<ol style="list-style-type: none"> 1. One of Regional Office's tasks is to enforce compliance with Occupational Safety and Health Standards and DOLE D.O. No. 13. NCR Office is responsible for the Metro Manila region. 2. Inspection is carried out for manufacturers, construction works and service providers for two items such as general labor standards (salary, holidays, overtime works, etc.) Inspection is carried out in accordance with the prescribed checklists. Inspection to manufacturers is done annually. In case of complaint, accident, discovery/sign of danger, post-inspection is carried out to confirm improvement. Regional offices are authorized to stop the works if they find there is imminent danger on site. Issuance of stoppage order is made only once or twice a year. 3. NCR Office has not yet conducted inspection of Pasig-Marikina River Channel Improvement Project (II). It notes that there has not been any accident until now. NCR Office has dispatched inspectors to the accident at a high-rise building in Makati in January 2011 and ordered to stop the work immediately. 4. There is a network named OSHNET in the Philippines to exchange information regarding occupational safety and health. 5. All establishments should assign safety officers on a full-time or part-time basis. A full-time safety officer should have a certificate of having completed a 40-hour seminar. 6. There is an expression of "Big Brother – Small Brother" which means the relationship between prime and sub-contractors. Subcontractors should submit a list of necessary information to the prime contractor. 7. Statistical data on occupational safety and health are being managed by DOLE

Bureau of Working Conditions and Bureau of Labor and Employment Statistics.
Data on injuries are managed by SSS (Social Security System).

8. If any violations to the regulations are found on site by DOLE Regional Office inspection, the contractor's license is revoked and it is barred from participation in bidding for a certain period.

Meeting Minutes	
Date/Time	Nov/4/2011, 15:00-15:30
Venue	JICA Philippine Office Meeting Room
Attendees	JICA: Mr. Takahiro Sasaki (Chief Representative) Mr. Hayato Nakamura (Project Formulation Advisor) Study Team: Mr. Takebayashi, Mr. Hoshino
Subject	Report on the field study strip
<p>The study team reported to JICA as follows:</p> <ol style="list-style-type: none"> 1. Safety control in Pasig-Marikina River Channel Improvement Project (II) has been being done following a proper process, which has achieved Zero-accident from the commencement of the project until now. 2. The system in the Philippines concerning construction safety and health is well developed as per DOLE D.O. No. 13. The point is how to adequately operate/enforce it. 3. Points to be noted on Pasig-Marikina River Channel Improvement Project (III) based on the site visit conducted on October 29, 2011 by the study team. 	

Appendix-2 Labor Standard, Social Security System

Item	Labor Code in the Philippines (extracted)
HOURS OF WORK	<p>Art. 82. Coverage. The provisions of this Title shall apply to employees in all establishments and undertakings whether for profit or not, but not to government employees, managerial employees, field personnel, members of the family of the employer who are dependent on him for support, domestic helpers, persons in the personal service of another, and workers who are paid by results as determined by the Secretary of Labor in appropriate regulations. As used herein, "managerial employees" refer to those whose primary duty consists of the management of the establishment in which they are employed or of a department or subdivision thereof, and to other officers or members of the managerial staff. "Field personnel" shall refer to non-agricultural employees who regularly perform their duties away from the principal place of business or branch office of the employer and whose actual hours of work in the field cannot be determined with reasonable certainty.</p> <p>Art. 83. Normal hours of work. The normal hours of work of any employee shall not exceed eight (8) hours a day. Health personnel in cities and municipalities with a population of at least one million (1,000,000) or in hospitals and clinics with a bed capacity of at least one hundred (100) shall hold regular office hours for eight (8) hours a day, for five (5) days a week, exclusive of time for meals, except where the exigencies of the service require that such personnel work for six (6) days or forty-eight (48) hours, in which case, they shall be entitled to an additional compensation of at least thirty percent (30%) of their regular wage for work on the sixth day. For purposes of this Article, "health personnel" shall include resident physicians, nurses, nutritionists, dietitians, pharmacists, social workers, laboratory technicians, paramedical technicians, psychologists, midwives, attendants and all other hospital or clinic personnel.</p> <p>Art. 84. Hours worked. Hours worked shall include (a) all time during which an employee is required to be on duty or to be at a prescribed workplace; and (b) all time during which an employee is suffered or permitted to work. Rest periods of short duration during working hours shall be counted as hours worked.</p> <p>Art. 85. Meal periods. Subject to such regulations as the Secretary of Labor may prescribe, it shall be the duty of every employer to give his employees not less than sixty (60) minutes time-off for their regular meals.</p> <p>Art. 86. Night shift differential. Every employee shall be paid a night shift differential of not less than ten percent (10%) of his regular wage for each hour of work performed between ten o'clock in the evening and six o'clock in the morning.</p> <p>Art. 87. Overtime work. Work may be performed beyond eight (8) hours a day provided that the employee is paid for the overtime work, an additional compensation equivalent to his regular wage plus at least twenty-five percent (25%) thereof. Work performed beyond eight hours on a holiday or rest day shall be paid an additional compensation equivalent to the rate of the first eight hours on a holiday or rest day plus at least thirty percent (30%) thereof.</p> <p>Art. 88. Undertime not offset by overtime. Undertime work on any particular day shall not be offset by overtime work on any other day. Permission given to the employee to go on leave on some other day of the week shall not exempt the employer from paying the additional compensation required in this Chapter.</p> <p>Art. 89. Emergency overtime work. Any employee may be required by the employer to perform overtime work in any of the following cases:</p> <ul style="list-style-type: none"> a. When the country is at war or when any other national or local emergency has been declared by the National Assembly or the Chief Executive; b. When it is necessary to prevent loss of life or property or in case of imminent danger to public safety due to an actual or impending emergency in the locality caused by serious accidents, fire, flood, typhoon, earthquake, epidemic, or other disaster or calamity; c. When there is urgent work to be performed on machines, installations, or equipment, in order to avoid serious loss or damage to the employer or some other cause of similar nature; d. When the work is necessary to prevent loss or damage to perishable goods; and e. Where the completion or continuation of the work started before the eighth hour is necessary to prevent serious obstruction or prejudice to the business or operations of the employer. <p>Any employee required to render overtime work under this Article shall be paid the additional compensation required in this Chapter.</p> <p>Art. 90. Computation of additional compensation. For purposes of computing overtime and other additional remuneration as required by this Chapter, the "regular wage" of an employee shall include the cash wage only, without deduction on account of facilities provided by the employer.</p>
WEEKLY REST PERIODS	<p>Art. 91. Right to weekly rest day.</p> <ul style="list-style-type: none"> a. It shall be the duty of every employer, whether operating for profit or not, to provide each of his employees a rest period of not less than twenty-four (24) consecutive hours after every six (6) consecutive normal work days. b. The employer shall determine and schedule the weekly rest day of his employees subject to collective bargaining agreement and to such rules and regulations as the Secretary of Labor and Employment may provide. However, the employer shall respect the preference of employees as to their weekly rest day when such preference is based on religious grounds.

	<p>Art. 92. When employer may require work on a rest day. The employer may require his employees to work on any day:</p> <ul style="list-style-type: none"> a. In case of actual or impending emergencies caused by serious accident, fire, flood, typhoon, earthquake, epidemic or other disaster or calamity to prevent loss of life and property, or imminent danger to public safety; b. In cases of urgent work to be performed on the machinery, equipment, or installation, to avoid serious loss which the employer would otherwise suffer; c. In the event of abnormal pressure of work due to special circumstances, where the employer cannot ordinarily be expected to resort to other measures; d. To prevent loss or damage to perishable goods; e. Where the nature of the work requires continuous operations and the stoppage of work may result in irreparable injury or loss to the employer; and f. Under other circumstances analogous or similar to the foregoing as determined by the Secretary of Labor and Employment. <p>Art. 93. Compensation for rest day, Sunday or holiday work.</p> <ul style="list-style-type: none"> a. Where an employee is made or permitted to work on his scheduled rest day, he shall be paid an additional compensation of at least thirty percent (30%) of his regular wage. An employee shall be entitled to such additional compensation for work performed on Sunday only when it is his established rest day. b. When the nature of the work of the employee is such that he has no regular workdays and no regular rest days can be scheduled, he shall be paid an additional compensation of at least thirty percent (30%) of his regular wage for work performed on Sundays and holidays. c. Work performed on any special holiday shall be paid an additional compensation of at least thirty percent (30%) of the regular wage of the employee. Where such holiday work falls on the employee's scheduled rest day, he shall be entitled to an additional compensation of at least fifty per cent (50%) of his regular wage. d. Where the collective bargaining agreement or other applicable employment contract stipulates the payment of a higher premium pay than that prescribed under this Article, the employer shall pay such higher rate.
<p>HOLIDAYS, SERVICE INCENTIVE LEAVES AND SERVICE CHARGES</p>	<p>Art. 94. Right to holiday pay.</p> <ul style="list-style-type: none"> a. Every worker shall be paid his regular daily wage during regular holidays, except in retail and service establishments regularly employing less than ten (10) workers; b. The employer may require an employee to work on any holiday but such employee shall be paid a compensation equivalent to twice his regular rate; and c. As used in this Article, "holiday" includes: New Year's Day, Maundy Thursday, Good Friday, the ninth of April, the first of May, the twelfth of June, the fourth of July, the thirtieth of November, the twenty-fifth and thirtieth of December and the day designated by law for holding a general election. <p>Art. 95. Right to service incentive leave.</p> <ul style="list-style-type: none"> a. Every employee who has rendered at least one year of service shall be entitled to a yearly service incentive leave of five days with pay. b. This provision shall not apply to those who are already enjoying the benefit herein provided, those enjoying vacation leave with pay of at least five days and those employed in establishments regularly employing less than ten employees or in establishments exempted from granting this benefit by the Secretary of Labor and Employment after considering the viability or financial condition of such establishment. c. The grant of benefit in excess of that provided herein shall not be made a subject of arbitration or any court or administrative action. <p>Art. 96. Service charges. All service charges collected by hotels, restaurants and similar establishments shall be distributed at the rate of eighty-five percent (85%) for all covered employees and fifteen percent (15%) for management. The share of the employees shall be equally distributed among them. In case the service charge is abolished, the share of the covered employees shall be considered integrated in their wages.</p>
<p>EMPLOYMENT OF WOMEN</p>	<p>Art. 130. Nightwork prohibition. No woman, regardless of age, shall be employed or permitted or suffered to work, with or without compensation:</p> <ul style="list-style-type: none"> a. In any industrial undertaking or branch thereof between ten o'clock at night and six o'clock in the morning of the following day; or b. In any commercial or non-industrial undertaking or branch thereof, other than agricultural, between midnight and six o'clock in the morning of the following day; or c. In any agricultural undertaking at nighttime unless she is given a period of rest of not less than nine (9) consecutive hours. <p>Art. 131. Exceptions. The prohibitions prescribed by the preceding Article shall not apply in any of the following cases:</p> <ul style="list-style-type: none"> a. In cases of actual or impending emergencies caused by serious accident, fire, flood, typhoon, earthquake, epidemic or other disasters or calamity, to prevent loss of life or property, or in cases of force majeure or imminent danger to public safety; b. In case of urgent work to be performed on machineries, equipment or installation, to avoid serious loss which the employer would otherwise suffer; c. Where the work is necessary to prevent serious loss of perishable goods; d. Where the woman employee holds a responsible position of managerial or technical nature, or where the woman employee has been

	<p>engaged to provide health and welfare services;</p> <p>e. Where the nature of the work requires the manual skill and dexterity of women workers and the same cannot be performed with equal efficiency by male workers;</p> <p>f. Where the women employees are immediate members of the family operating the establishment or undertaking; and</p> <p>g. Under other analogous cases exempted by the Secretary of Labor and Employment in appropriate regulations.</p> <p>Art. 132. Facilities for women. The Secretary of Labor and Employment shall establish standards that will ensure the safety and health of women employees. In appropriate cases, he shall, by regulations, require any employer to:</p> <p>a. Provide seats proper for women and permit them to use such seats when they are free from work and during working hours, provided they can perform their duties in this position without detriment to efficiency;</p> <p>b. To establish separate toilet rooms and lavatories for men and women and provide at least a dressing room for women;</p> <p>c. To establish a nursery in a workplace for the benefit of the women employees therein; and</p> <p>d. To determine appropriate minimum age and other standards for retirement or termination in special occupations such as those of flight attendants and the like.</p> <p>Art. 133. Maternity leave benefits.</p> <p>a. Every employer shall grant to any pregnant woman employee who has rendered an aggregate service of at least six (6) months for the last twelve (12) months, maternity leave of at least two (2) weeks prior to the expected date of delivery and another four (4) weeks after normal delivery or abortion with full pay based on her regular or average weekly wages. The employer may require from any woman employee applying for maternity leave the production of a medical certificate stating that delivery will probably take place within two weeks.</p> <p>b. The maternity leave shall be extended without pay on account of illness medically certified to arise out of the pregnancy, delivery, abortion or miscarriage, which renders the woman unfit for work, unless she has earned unused leave credits from which such extended leave may be charged.</p> <p>c. The maternity leave provided in this Article shall be paid by the employer only for the first four (4) deliveries by a woman employee after the effectivity of this Code.</p> <p>Art. 134. Family planning services; incentives for family planning.</p> <p>a. Establishments which are required by law to maintain a clinic or infirmary shall provide free family planning services to their employees which shall include, but not be limited to, the application or use of contraceptive pills and intrauterine devices.</p> <p>b. In coordination with other agencies of the government engaged in the promotion of family planning, the Department of Labor and Employment shall develop and prescribe incentive bonus schemes to encourage family planning among female workers in any establishment or enterprise.</p> <p>Art. 135. Discrimination prohibited. It shall be unlawful for any employer to discriminate against any woman employee with respect to terms and conditions of employment solely on account of her sex.</p> <p>The following are acts of discrimination:</p> <p>a. Payment of a lesser compensation, including wage, salary or other form of remuneration and fringe benefits, to a female employees as against a male employee, for work of equal value;</p> <p>b. Favoring a male employee over a female employee with respect to promotion, training opportunities, study and scholarship grants solely on account of their sexes.</p> <p>Criminal liability for the willful commission of any unlawful act as provided in this Article or any violation of the rules and regulations issued pursuant to Section 2 hereof shall be penalized as provided in Articles 288 and 289 of this Code: Provided, That the institution of any criminal action under this provision shall not bar the aggrieved employee from filing an entirely separate and distinct action for money claims, which may include claims for damages and other affirmative reliefs. The actions hereby authorized shall proceed independently of each other. (As amended by Republic Act No. 6725, May 12, 1989)</p> <p>Art. 136. Stipulation against marriage. It shall be unlawful for an employer to require as a condition of employment or continuation of employment that a woman employee shall not get married, or to stipulate expressly or tacitly that upon getting married, a woman employee shall be deemed resigned or separated, or to actually dismiss, discharge, discriminate or otherwise prejudice a woman employee merely by reason of her marriage.</p> <p>Art. 137. Prohibited acts.</p> <p>a. It shall be unlawful for any employer:</p> <ol style="list-style-type: none"> 1. To deny any woman employee the benefits provided for in this Chapter or to discharge any woman employed by him for the purpose of preventing her from enjoying any of the benefits provided under this Code. 2. To discharge such woman on account of her pregnancy, or while on leave or in confinement due to her pregnancy; 3. To discharge or refuse the admission of such woman upon returning to her work for fear that she may again be pregnant. <p>Art. 138. Classification of certain women workers. Any woman who is permitted or suffered to work, with or without compensation, in any night club, cocktail lounge, massage clinic, bar or similar establishments under the effective control or supervision of the employer for</p>
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	<p>a substantial period of time as determined by the Secretary of Labor and Employment, shall be considered as an employee of such establishment for purposes of labor and social legislation.</p>
EMPLOYMENT OF MINORS	<p>Art. 139. Minimum employable age.</p> <p>a. No child below fifteen (15) years of age shall be employed, except when he works directly under the sole responsibility of his parents or guardian, and his employment does not in any way interfere with his schooling.</p> <p>b. Any person between fifteen (15) and eighteen (18) years of age may be employed for such number of hours and such periods of the day as determined by the Secretary of Labor and Employment in appropriate regulations.</p> <p>c. The foregoing provisions shall in no case allow the employment of a person below eighteen (18) years of age in an undertaking which is hazardous or deleterious in nature as determined by the Secretary of Labor and Employment.</p> <p>Art. 140. Prohibition against child discrimination. No employer shall discriminate against any person in respect to terms and conditions of employment on account of his age.</p>
MEDICAL AND DENTAL SERVICES	<p>Art. 156. First-aid treatment. Every employer shall keep in his establishment such first-aid medicines and equipment as the nature and conditions of work may require, in accordance with such regulations as the Department of Labor and Employment shall prescribe. The employer shall take steps for the training of a sufficient number of employees in first-aid treatment.</p> <p>Art. 157. Emergency medical and dental services. It shall be the duty of every employer to furnish his employees in any locality with free medical and dental attendance and facilities consisting of:</p> <p>a. The services of a full-time registered nurse when the number of employees exceeds fifty (50) but not more than two hundred (200) except when the employer does not maintain hazardous workplaces, in which case, the services of a graduate first-aider shall be provided for the protection of workers, where no registered nurse is available. The Secretary of Labor and Employment shall provide by appropriate regulations, the services that shall be required where the number of employees does not exceed fifty (50) and shall determine by appropriate order, hazardous workplaces for purposes of this Article;</p> <p>b. The services of a full-time registered nurse, a part-time physician and dentist, and an emergency clinic, when the number of employees exceeds two hundred (200) but not more than three hundred (300); and</p> <p>c. The services of a full-time physician, dentist and a full-time registered nurse as well as a dental clinic and an infirmary or emergency hospital with one bed capacity for every one hundred (100) employees when the number of employees exceeds three hundred (300). In cases of hazardous workplaces, no employer shall engage the services of a physician or a dentist who cannot stay in the premises of the establishment for at least two (2) hours, in the case of those engaged on part-time basis, and not less than eight (8) hours, in the case of those employed on full-time basis. Where the undertaking is non-hazardous in nature, the physician and dentist may be engaged on retainer basis, subject to such regulations as the Secretary of Labor and Employment may prescribe to insure immediate availability of medical and dental treatment and attendance in case of emergency. (As amended by Presidential Decree NO. 570-A, Section 26)</p> <p>Art. 158. When emergency hospital not required. The requirement for an emergency hospital or dental clinic shall not be applicable in case there is a hospital or dental clinic which is accessible from the employer's establishment and he makes arrangement for the reservation therein of the necessary beds and dental facilities for the use of his employees.</p> <p>Art. 159. Health program. The physician engaged by an employer shall, in addition to his duties under this Chapter, develop and implement a comprehensive occupational health program for the benefit of the employees of his employer.</p> <p>Art. 160. Qualifications of health personnel. The physicians, dentists and nurses employed by employers pursuant to this Chapter shall have the necessary training in industrial medicine and occupational safety and health. The Secretary of Labor and Employment, in consultation with industrial, medical, and occupational safety and health associations, shall establish the qualifications, criteria and conditions of employment of such health personnel.</p> <p>Art. 161. Assistance of employer. It shall be the duty of any employer to provide all the necessary assistance to ensure the adequate and immediate medical and dental attendance and treatment to an injured or sick employee in case of emergency.</p>
OCCUPATIONAL HEALTH AND SAFETY	<p>Art. 162. Safety and health standards. The Secretary of Labor and Employment shall, by appropriate orders, set and enforce mandatory occupational safety and health standards to eliminate or reduce occupational safety and health hazards in all workplaces and institute new, and update existing, programs to ensure safe and healthful working conditions in all places of employment.</p> <p>Art. 163. Research. It shall be the responsibility of the Department of Labor and Employment to conduct continuing studies and research to develop innovative methods, techniques and approaches for dealing with occupational safety and health problems; to discover latent diseases by establishing causal connections between diseases and work in environmental conditions; and to develop medical criteria which will assure insofar as practicable that no employee will suffer impairment or diminution in health, functional capacity, or life expectancy as a result of his work and working conditions.</p> <p>Art. 164. Training programs. The Department of Labor and Employment shall develop and implement training programs to increase the number and competence of personnel in the field of occupational safety and industrial health.</p> <p>Art. 165. Administration of safety and health laws.</p> <p>a. The Department of Labor and Employment shall be solely responsible for the administration and enforcement of occupational safety and health laws, regulations and standards in all establishments and workplaces wherever they may be located; however, chartered cities</p>

	<p>may be allowed to conduct industrial safety inspections of establishments within their respective jurisdictions where they have adequate facilities and competent personnel for the purpose as determined by the Department of Labor and Employment and subject to national standards established by the latter.</p> <p>b. The Secretary of Labor and Employment may, through appropriate regulations, collect reasonable fees for the inspection of steam boilers, pressure vessels and pipings and electrical installations, the test and approval for safe use of materials, equipment and other safety devices and the approval of plans for such materials, equipment and devices. The fee so collected shall be deposited in the national treasury to the credit of the occupational safety and health fund and shall be expended exclusively for the administration and enforcement of safety and other labor laws administered by the Department of Labor and Employment.</p>
EMPLOYEES' COMPENSATION AND STATE INSURANCE FUND	
<p>COVERAGE AND LIABILITY</p>	<p>Art. 168. Compulsory coverage. Coverage in the State Insurance Fund shall be compulsory upon all employers and their employees not over sixty (60) years of age: Provided, That an employee who is over (60) years of age and paying contributions to qualify for the retirement or life insurance benefit administered by the System shall be subject to compulsory coverage.</p> <p>Art. 169. Foreign employment. The Commission shall ensure adequate coverage of Filipino employees employed abroad, subject to regulations as it may prescribe.</p> <p>Art. 170. Effective date of coverage. Compulsory coverage of the employer during the effectivity of this Title shall take effect on the first day of his operation, and that of the employee, on the date of his employment.</p> <p>Art. 171. Registration. Each employer and his employees shall register with the System in accordance with its regulations.</p> <p>Art. 172. Limitation of liability. The State Insurance Fund shall be liable for compensation to the employee or his dependents, except when the disability or death was occasioned by the employee's intoxication, willful intention to injure or kill himself or another, notorious negligence, or otherwise provided under this Title.</p> <p>Art. 173. Extent of liability. Unless otherwise provided, the liability of the State Insurance Fund under this Title shall be exclusive and in place of all other liabilities of the employer to the employee, his dependents or anyone otherwise entitled to receive damages on behalf of the employee or his dependents. The payment of compensation under this Title shall not bar the recovery of benefits as provided for in Section 699 of the Revised Administrative Code, Republic Act Numbered Eleven hundred sixty-one, as amended, Republic Act Numbered Forty-eight hundred sixty-four as amended, and other laws whose benefits are administered by the System or by other agencies of the government. (As amended by Presidential Decree No. 1921).</p> <p>Art. 174. Liability of third party/ies.</p> <p>a. When the disability or death is caused by circumstances creating a legal liability against a third party, the disabled employee or the dependents, in case of his death, shall be paid by the System under this Title. In case benefit is paid under this Title, the System shall be subrogated to the rights of the disabled employee or the dependents, in case of his death, in accordance with the general law.</p> <p>b. Where the System recovers from such third party damages in excess of those paid or allowed under this Title, such excess shall be delivered to the disabled employee or other persons entitled thereto, after deducting the cost of proceedings and expenses of the System.</p> <p>Art. 175. Deprivation of the benefits. Except as otherwise provided under this Title, no contract, regulation or device whatsoever shall operate to deprive the employee or his dependents of any part of the income benefits and medical or related services granted under this Title. Existing medical services being provided by the employer shall be maintained and continued to be enjoyed by their employees.</p>
<p>MEDICAL BENEFITS</p>	<p>Art. 185. Medical services. Immediately after an employee contracts sickness or sustains an injury, he shall be provided by the System during the subsequent period of his disability with such medical services and appliances as the nature of his sickness or injury and progress of his recovery may require, subject to the expense limitation prescribed by the Commission.</p> <p>Art. 186. Liability. The System shall have the authority to choose or order a change of physician, hospital or rehabilitation facility for the employee, and shall not be liable for compensation for any aggravation of the employee's injury or sickness resulting from unauthorized changes by the employee of medical services, appliances, supplies, hospitals, rehabilitation facilities or physicians.</p> <p>Art. 187. Attending physician. Any physician attending an injured or sick employee shall comply with all the regulations of the System and submit reports in prescribed forms at such time as may be required concerning his condition or treatment. All medical information relevant to the particular injury or sickness shall, on demand, be made available to the employee or the System. No information developed in connection with treatment or examination for which compensation is sought shall be considered as privileged communication.</p> <p>Art. 188. Refusal of examination or treatment. If the employee unreasonably refuses to submit to medical examination or treatment, the System shall stop the payment of further compensation during such time as such refusal continues. What constitutes an unreasonable refusal shall be determined by the System which may, on its own initiative, determine the necessity, character and sufficiency of any medical services furnished or to be furnished.</p> <p>Art. 189. Fees and other charges. All fees and other charges for hospital services, medical care and appliances, including professional fees, shall not be higher than those prevailing in wards of hospitals for similar services to injured or sick persons in general and shall be subject to the regulations of the Commission. Professional fees shall only be appreciably higher than those prescribed under Republic Act Numbered sixty-one hundred eleven, as amended, otherwise known as the Philippine Medical Care Act of 1969.</p> <p>Art. 190. Rehabilitation services.</p>

	<p>a. The System shall, as soon as practicable, establish a continuing program, for the rehabilitation of injured and handicapped employees who shall be entitled to rehabilitation services, which shall consist of medical, surgical or hospital treatment, including appliances if they have been handicapped by the injury, to help them become physically independent.</p> <p>b. As soon as practicable, the System shall establish centers equipped and staffed to provide a balanced program of remedial treatment, vocational assessment and preparation designed to meet the individual needs of each handicapped employee to restore him to suitable employment, including assistance as may be within its resources, to help each rehabilitee to develop his mental, vocational or social potential.</p>
<p>DISABILITY BENEFITS</p>	<p>Art. 191. Temporary total disability.</p> <p>a. Under such regulations as the Commission may approve, any employee under this Title who sustains an injury or contracts sickness resulting in temporary total disability shall, for each day of such a disability or fraction thereof, be paid by the System an income benefit equivalent to ninety percent of his average daily salary credit, subject to the following conditions: the daily income benefit shall not be less than Ten Pesos nor more than Ninety Pesos, nor paid for a continuous period longer than one hundred twenty days, except as otherwise provided for in the Rules, and the System shall be notified of the injury or sickness. (As amended by Section 2, Executive Order No. 179)</p> <p>b. The payment of such income benefit shall be in accordance with the regulations of the Commission. (As amended by Section 19, Presidential Decree No. 850)</p> <p>Art. 192. Permanent total disability.</p> <p>a. Under such regulations as the Commission may approve, any employee under this Title who contracts sickness or sustains an injury resulting in his permanent total disability shall, for each month until his death, be paid by the System during such a disability, an amount equivalent to the monthly income benefit, plus ten percent thereof for each dependent child, but not exceeding five, beginning with the youngest and without substitution: Provided, That the monthly income benefit shall be the new amount of the monthly benefit for all covered pensioners, effective upon approval of this Decree.</p> <p>b. The monthly income benefit shall be guaranteed for five years, and shall be suspended if the employee is gainfully employed, or recovers from his permanent total disability, or fails to present himself for examination at least once a year upon notice by the System, except as otherwise provided for in other laws, decrees, orders or Letters of Instructions. (As amended by Section 5, Presidential Decree No. 1641)</p> <p>c. The following disabilities shall be deemed total and permanent:</p> <ol style="list-style-type: none"> 1. Temporary total disability lasting continuously for more than one hundred twenty days, except as otherwise provided for in the Rules; 2. Complete loss of sight of both eyes; 3. Loss of two limbs at or above the ankle or wrist; 4. Permanent complete paralysis of two limbs; 5. Brain injury resulting in incurable imbecility or insanity; and 6. Such cases as determined by the Medical Director of the System and approved by the Commission. <p>d. The number of months of paid coverage shall be defined and approximated by a formula to be approved by the Commission.</p> <p>Art. 193. Permanent partial disability.</p> <p>a. Under such regulations as the Commission may approve, any employee under this Title who contracts sickness or sustains an injury resulting in permanent partial disability shall, for each month not exceeding the period designated herein, be paid by the System during such a disability an income benefit for permanent total disability.</p> <p>b. The benefit shall be paid for not more than the period designated in the following schedules:</p> <p>Complete and permanent No. of Months loss of the use of</p> <p>One thumb - 10</p> <p>One index finger - 8</p> <p>One middle finger - 6</p> <p>One ring finger - 5</p> <p>One little finger - 3</p> <p>One big toe - 6</p> <p>One toe - 3</p> <p>One arm - 50</p> <p>One hand - 39</p> <p>One foot - 31</p> <p>One leg - 46</p> <p>One ear - 10</p> <p>Both ears - 20</p> <p>Hearing of one ear - 10</p> <p>Hearing of both ears - 50</p>

	<p>Sight of one eye – 25</p> <p>c. A loss of a wrist shall be considered as a loss of the hand, and a loss of an elbow shall be considered as a loss of the arm. A loss of an ankle shall be considered as loss of a foot, and a loss of a knee shall be considered as a loss of the leg. A loss of more than one joint shall be considered as a loss of one-half of the whole finger or toe: Provided, That such a loss shall be either the functional loss of the use or physical loss of the member. (As amended by Section 7, Presidential Decree No. 1368)</p> <p>d. In case of permanent partial disability less than the total loss of the member specified in the preceding paragraph, the same monthly income benefit shall be paid for a portion of the period established for the total loss of the member in accordance with the proportion that the partial loss bears to the total loss. If the result is a decimal fraction, the same shall be rounded off to the next higher integer.</p> <p>e. In cases of simultaneous loss of more than one member or a part thereof as specified in this Article, the same monthly income benefit shall be paid for a period equivalent to the sum of the periods established for the loss of the member or the part thereof. If the result is a decimal fraction, the same shall be rounded off to the next higher integer.</p> <p>f. In cases of injuries or illnesses resulting in a permanent partial disability not listed in the preceding schedule, the benefit shall be an income benefit equivalent to the percentage of the permanent loss of the capacity to work. (As added by Section 7, Presidential Decree No. 1368)</p> <p>g. Under such regulations as the Commission may approve, the income benefit payable in case of permanent partial disability may be paid in monthly pension or in lump sum if the period covered does not exceed one year. (As added by Section 7, Presidential Decree No. 1368)</p>
DEATH BENEFITS	<p>Art. 194. Death.</p> <p>a. Under such regulations as the Commission may approve, the System shall pay to the primary beneficiaries upon the death of the covered employee under this Title, an amount equivalent to his monthly income benefit, plus ten percent thereof for each dependent child, but not exceeding five, beginning with the youngest and without substitution, except as provided for in paragraph (j) of Article 167 hereof: Provided, however, That the monthly income benefit shall be guaranteed for five years: Provided, further, That if he has no primary beneficiary, the System shall pay to his secondary beneficiaries the monthly income benefit but not to exceed sixty months: Provided, finally, That the minimum death benefit shall not be less than fifteen thousand pesos. (As amended by Section 4, Presidential Decree No. 1921)</p> <p>b. Under such regulations as the Commission may approve, the System shall pay to the primary beneficiaries upon the death of a covered employee who is under permanent total disability under this Title, eighty percent of the monthly income benefit and his dependents to the dependents' pension: Provided, That the marriage must have been validly subsisting at the time of disability: Provided, further, That if he has no primary beneficiary, the System shall pay to his secondary beneficiaries the monthly pension excluding the dependents' pension, of the remaining balance of the five-year guaranteed period: Provided, finally, That the minimum death benefit shall not be less than fifteen thousand pesos. (As amended by Section 4, Presidential Decree No. 1921)</p> <p>c. The monthly income benefit provided herein shall be the new amount of the monthly income benefit for the surviving beneficiaries upon the approval of this decree. (As amended by Section 8, Presidential Decree No. 1368)</p> <p>d. Funeral benefit. - A funeral benefit of Three thousand pesos (P3,000.00) shall be paid upon the death of a covered employee or permanently totally disabled pensioner. (As amended by Section 3, Executive Order No. 179)</p>

Appendix-3 Sample Certificates

C-BCN101011-04



SAFETY ORGANIZATION OF THE PHILIPPINES, INC.
OCCUPATIONAL SAFETY AND HEALTH CENTER, DEPARTMENT OF LABOR AND EMPLOYMENT
ACCREDITATION NO. 1030-110510-005A

Awards this

Certificate of Completion

to



for having satisfactorily completed the 40 Hours BWC - DOLE prescribed course on


**BASIC OCCUPATIONAL SAFETY AND HEALTH SEMINAR
FOR CONSTRUCTION SITE SAFETY OFFICERS**

As promulgated by Bureau of Working Conditions (BWC), Department of Labor and Employment (DOLE) in compliance with the pertinent implementing rules and regulations of Article 162 of the Labor Code of the Philippines (Presidential Decree No. 442) as amended and Rule 1030 and 1410 of Occupational Safety and Health Standards as amended by D.O. 16 & D.O. 13, respectively


held from October 10-14, 2011 at the MIBTC, AFP-RSBS, Ind'l. East Services Rd., Western Bicutan, Taguig City

*Given under the seal of this Organization and authority by the Occupational Safety and Health Center (OSHC),
Department of Labor and Employment (DOLE) this 14th day of October 2011.*




ENGR. EULOGIO P. REYES
Vice President Internal Affairs
Chairman, Research & Development Committee


EROS G. ZUNIGA, CSC
National President
Accr. Nos. 1030 04220910 0181


ENGR. EDWIN D. VILLANUEVA
Chairman, Technical Education & Training Committee
Safety Consultant
Accr. Nos. 1030-041029 0062

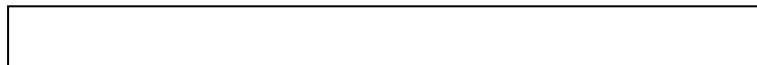
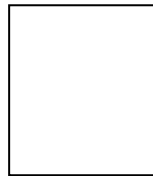


SAFETY ORGANIZATION OF THE PHILIPPINES, INC.
OCCUPATIONAL SAFETY AND HEALTH CENTER, DEPARTMENT OF LABOR AND EMPLOYMENT
ACCREDITATION NO. 1030-110510-005A

Awards this

Certificate of Attendance

to



for having satisfactorily completed the 8 Hours OSJHC - DOLE course on

CONSTRUCTION SAFETY ORIENTATION

*As required for by Department Order No. 13 of 1998. Otherwise known as The Guidelines Governing
Occupational Safety and Health in the Construction Industry*

held on 11th of June at the Manswork Builders Corp. - #11 Scout Tuazon St., cor. Morathon St., Quezon City

*Given under the seal of this Organization and authority by the Occupational Safety and Health Center
(OSHC), Department of Labor and Employment (DOLE)*

this 11th day of June 2011.

EROS G. ZUÑIGA, CSC
National President
Accr. Nos. 1030-04220910-0181

CO-BCN040611-27

Sponsored by: Manswork Builders Corp. & Petros Builders and General Contractors Corp.

Appendix-4 Pasig-Marikina River Channel Improvement Project (II)
- Questionnaires

DPWH

Attachment 1

Safety and Quality Control System Checklist

Country: Republic of the Philippines

Project Name: Pasig – Marikina River Improvement Project (II)

To be filled by: Department of Public Works and Highways Project Management Office

NOTE:

To confirm the following items, you can refer to the sample checklist attached.

Items to Confirm	Items to be Confirmed	Confirmation Result
(1) Laws and various standards related to safety and quality control	Availability of laws and various standards related to safety and quality control, as well as the names of those laws and contents of related provisions (1) Names of laws (2) Contents of related provisions	1. See attached DOLE Occupational Safety and Health Standard, D.O. # 13 Dated July 23 Series of 1998 and Compilation of Administrative Issuances Related to Quality Control and its contents. 2. a. DO # 13 Dated July 23 Series of 1998 b. Occupational Health and Safety Standard c. Administrative Issuance related to Quality Control, (DO Related to Materials and Quality Control implementations.
	Availability of safety and quality control manuals at the executing agency (1) Names	1. a. Safety Manual, DO # 13 Dated July 23 Series of

1 of 7

Attachment 1

Items to Confirm	Items to be Confirmed	Confirmation Result
	(2) Contents (examples of items to be described) <ul style="list-style-type: none"> ● Is the method of patrolling the sites (frequency of such patrols, etc.) indicated as reference? ● Is the frequency with which consultants and contractors are consulted indicated as reference? ● Are the rules and regulations (or manuals) governing safety and quality control included? 	1998, b. Quality Control Manual & Project Quality Plan <ul style="list-style-type: none"> ● <u>Yes/No</u> (Describe the method of patrolling the sites as needed) During the scheduled Safety Patrol, all Safety issues are being tackled to further more improve the Site Safety Condition of our project. ● <u>Yes</u> Safety Patrol is done in a weekly basis or as the need arise. ● <u>Yes/No</u> (If yes, describe the main contents) – refer to attach manual.
(2) Assigned missions of departments in the executing agency in charge of safety and quality control, and assigned tasks of the staffs	Identification of the safety and quality control department and number of staff members Details of the assigned missions of the department in charge	<ul style="list-style-type: none"> ● No. of total staff members at the executing agency: <u>18 personnel's</u>. ● Name of the safety and quality control department: Danilo F. Fabellon and Benjamin M. Ferros ● No. of staff members in the department above: <u>2 persons</u>

2 of 7

Items to Confirm	Items to be Confirmed	Confirmation Result
(2) Assigned missions of departments in the executing agency in charge of safety and quality control, and assigned tasks of the	of safety and quality control (1) Current status of implementation of site patrols (2) Availability of accident statistics related to all projects under jurisdiction of the executing agency (Attach accident data for the past three years) (3) Guidance and instructions for consultants and contractors (4) Documents on the mandates of the department in charge of safety and quality control (Attach the document) (5) Others (Describe specifically)	1. On-going 2. There was no accident that happened for the last 3 years. 3. Site instruction will be issued, if circumstances demands, such as accidents or near misses. 4. Refer to Item # 1 – Occupational Safety and Health Standards and Compilation of Administrative Issuances Related to Quality Control and its contents. 5. Department Order no. 13 of July 23, Series of 1998
	Current conditions of implementation of training for staff in charge of safety and quality control (Reference) <ul style="list-style-type: none"> ● Training in the safety and quality management system ● Training in matters related to laws ● Training in developing awareness of the dangers of accidents ● Training in the role of safety and quality control in the executing agency 	(Describe the contents of training) See attached Training Modules. - yes - yes - yes - yes

Items to Confirm	Items to be Confirmed	Confirmation Result
staffs (cont'd)	<ul style="list-style-type: none"> ● Training in construction method and method of safety and quality control ● Training in method of collecting accident statistics and their effective utilization ● Training in accident prevention techniques ● Others 	- yes - yes - yes - Training on Environmental Awareness as per instruction by this agency to the Contractor.
(2) Assigned missions of departments in the executing agency in charge of safety and quality control, and	Information concerning past accidents in construction, etc. (1) Has the information concerning past accidents been accumulated? In addition, ascertain what the policy is for accumulating accident information (e.g., recording information on only accidents resulting in death in accordance with the organizational rules). (2) Components and contents of accident information (Reference) <ul style="list-style-type: none"> ● No. of accidents ● Situation in which accidents occur ● Scale of accident (amount, number of casualties, existence or nonexistence of third-party injuries) 	(Describe the result) 1. There was no accident that happened for the last 3 years. 2. N/A There was no accident that happened for the last 3 years.

Items to Confirm	Items to be Confirmed	Confirmation Result
assigned tasks of the staffs (cont'd)	<ul style="list-style-type: none"> ● Emergency response ● Cause of accident ● Future prevention method ● Others (Describe specifically) 	
(3) Assignment plan for staff in charge of safety control related to the Japanese ODA loan project	<p>Assignment plan for staff in charge of safety control related to the Japanese ODA loan project</p> <p>(1) No. of staff members in charge of safety control</p> <p>(2) Is there any specific assignment plan, with a specific job description for each person?</p>	<p>1. <u>2 Personnel's</u></p> <ul style="list-style-type: none"> ● No. of the total staff members in the executing agency: <u>18 persons</u> ● No. of construction management staff: <u>4 person</u> ● <u>2 Management personnel for each package</u> ● No. of staff members in charge of contractors: <u>2 persons for each package</u> <p>(Enter specific names, attach specific documents on the assignment plan)</p> <p>Project Inspector – inspection of daily work activities of the Contractor.</p>
(4) Capacity and experience of staff in charge of safety and quality control	<p>Projects in which the staff handled safety and quality control</p> <p>(1) Projects handled</p> <p>(2) Names of positions the staff held or their status therein</p> <p>(3) Details of the service performed</p>	<p>(Describe the result, attach reference data)</p> <ol style="list-style-type: none"> 1. PMRCIP-II, Kamanava FCP, West, Mangahan FCP, PRRP- I, etc. 2. Materials Engineer 3. Safety in Charge, Testing of materials and quality

Items to Confirm	Items to be Confirmed	Confirmation Result
		control works
(5) System of ensuring safety and quality control in the executing agency	<p>Method of ensuring safety and quality control in the executing agency</p> <p>(1) Regular consultative meetings with construction managers and contractors</p> <p>(2) Site patrol</p> <p>(3) Others (Describe specifically)</p>	<p>(Describe the result, attach reference data)</p> <ol style="list-style-type: none"> 1. Yes – Weekly to Monthly Consultative meeting, or as needed arise. 2. Yes – Weekly to Monthly inspection by Top Management, or as needed arise. 3. N/A
(6) Preventive action procedure	<p>Availability of preventive action procedure to prevent occurrence of an accident or an undesirable situation and current situation of implementation of such procedure</p>	- Refer to Safety Manual
(7) Framework for emergency response system to accidents	<p>Specific method of sharing information within the executing agency when an accidents occurs</p> <p>* Briefly describe the framework for sharing information when an accident occurs. Attach a phone calling tree, relevant regulations, etc. as needed.</p> <p>(1) The manual for responding to an accident</p> <p>(2) Is the department to contact in the case of an accident described in the manual?</p>	<p>(Describe the result, attach reference data)</p> <p>– Within 24 hours, any accident that may happen must be reported immediately by the Contractor to the PMO and Consultant, verbally and written. See attach phone calling tree.</p> <ol style="list-style-type: none"> 1. Refer to item no. 16.0 and 17.0 of the Health and Safety Plan 2. Yes – Refer to item no. 24 of the Health And Safety Plan.
(7) Framework for		

Items to Confirm	Items to be Confirmed	Confirmation Result
emergency response system to accidents	<p>Method of keeping staff members in the executing agency informed about the framework for responding to an accident</p> <ul style="list-style-type: none"> ● Implementation status of holding a briefing session to inform all staff members about the manual and its contents. ● Submission of an accident report and holding of investigative commissions 	<p>(Describe the result, attach reference data)</p> <ul style="list-style-type: none"> - Yes - This is being done whenever there are new hired employees, either from contractor or consultant side. - N/A - Within 24 hours, any accident that may happen must be reported immediately by the Contractor to the PMO and Consultant, verbally and written.
(b) Method adopted by the executing agency to confirm training programs in safety and quality control provided by contractors for workers	<p>Method of confirmation adopted by the executing agency</p> <ul style="list-style-type: none"> ● Method of confirmation of the training schedule before construction (in-house education, qualification training) ● Method of confirmation of the training schedule during construction (safety conventions, consultative meetings to discuss safety, post accident response conference, etc.) 	<p>(Specifically describe the method adopted by the executing agency to confirm training programs in safety and quality control, e.g., reports presented during regular consultations among the executing agency, contractors, and consultants)</p> <p>N/A</p> <p>- All safety personnel's involved in the project construction shall be required to complete the basic training course as described by the bureau of Working Conditions of DOLE.</p>

Consultant

Questionnaire for Safety and Quality Control/Management for Consultant

Country: Republic of the Philippines To be filled by the Consultant.
 Project Name: Pasig - Marikina River Improvement Project (III)

Items	Points to be Clarified	Answer
1. Review of Design of Permanent Works (before Construction)	1. <u>Internal Review Procedure of Consultant</u> Timing of internal review, qualification of reviewer, process for internal approval etc.	1.1. Within 6 months 1.2. Concerned Key Staff (Structural Engr./ River Engr./ Drainage Engr.) 1.3. Review by above key staff, checked by Consultant's Deputy Proj. Manager, approved by Consultant's Proj. Manager.
	(Comment, Response Procedure to comments, when by independent / Design Checker) Review of comments/objcs. (judgment process for flow or content, amendments of design, internal approval process)	1. N/A
2. Staffs in charge of Safety and Quality Control/Management in Organization of the Consultant	1. Names and job title of the staffs in charge of Safety and Quality Control/Management 2. Job description of above staffs and power or authority delegated to them including qualifications required	1.1. Mickel Mirasol – DC Engineer 1.2. Kaye Visitation – Lab. Aide 1.3. Joseph Espada – Lab. Aide 2.1. Handles & carry out inspections, verifications & testing of materials, advises its acceptance and/or rejection to the Proj. Manager, prepared letters regarding QC matters and supervises site and laboratory QC works. (Required Licensed CE, ME II Accredited. 2.2. Assist to the QC Engineer / Licensed CE 2.3. Assist to the QC Engineer / Licensed CE

1 of 3

Questionnaire for Safety and Quality Control/Management for Consultant

Country: Republic of the Philippines To be filled by the Consultant.
 Project Name: Pasig - Marikina River Improvement Project (II)

Items	Points to be Clarified	Answer
2. Provisions related to Safety and Quality Control/Management in the Consultancy Contract with the Employer	1. <u>Safety Management</u> *Clause No. *Contents of the above Clause	1.1. Clause S1:19 1.2. General requirements, Employment of I/HS Officer, Safety of the Public, HIV Prevention Program, First Aid, Hazardous Substances, Provision of PPE, Provision of Sanitary Conditions, Lighting, Electrical Power, & Reports.
	2. <u>Quality Management</u> *Clause No. *Contents of the above Clause	2.1. Clause S1:18 2.2. General Requirements, Staffing, System & Procedure, Hold Points, Subcontractors, Approval of System, Amendments, Consultation, Testing of Materials, Quality of Materials & Samples, Quality Records & Reports, and Surveillance & Avelts by the Engineer.
3. Review and/or Approval Procedure for Permanent Works (during Construction)	1. <u>Review and/or Approval Procedure</u> Timing of review, qualification of reviewer, process for approval etc. 2. <u>Relation with an independent / Design Checker, if specified</u>	1.1. Within 7 days. 1.2. Consultant's key staff (SE, RE, DE etc.) 1.3. Reviewed by Consultant's key staff, recommending approval by Consultant's PM transmit to PMO for final approval. 2.0 N/A

2 of 3

Questionnaire for Safety and Quality Control/Management for Consultant

Country: Republic of the Philippines
 Project Name: Pasig – Marikina River Improvement Project (I)

To be filed by the Consultant.

Items	Points to be Clarified	Answer
4. Roles of the Consultant at the review or approval of design of Temporary Works Shop Drawing and Method Statement	<ol style="list-style-type: none"> <u>Review and/or Approval Procedure</u> Timing of review, qualification of reviewer, preparation of comments, review of comment reply, process for approval etc. <u>Retain with an Independent Design Checker, if specified</u> 	<ol style="list-style-type: none"> 1.1. Within 28 days. 1.2. Concerned key staff (SE, RE, DE, etc.) 1.3. Review & prepare comments by SE / RE / DE. 1.4. Checked comments & reply by DPM. 1.5. Recommending approval by PM & Transmit to PMO for final approval and up to BCC in case there are changes from the original design for shopdrawings... <p>2.0. NA</p>
5. Inspection by the Consultant	<ol style="list-style-type: none"> <u>Inspection procedure</u> Timing of inspection, qualification of an inspector, how to carry out inspection, relation with the Consultant's inspection 	<ol style="list-style-type: none"> 1.1. Daily and/or when there is Request for Inspection. 1.2. Licensed CE 1.3. Jointly inspected with PMO and Contractor.

Contractor

Questionnaire for Safety and Quality Control/Management for Contractor

Country: Republic of the Philippines To be filled by the Contractor.
 Project Name: Pasig – Marikina River Improvement Project (II)

Items	Points to be Clarified	Answer
1. Staffs in charge of Safety and Quality Control/Management in Organization of the Contractor	<ol style="list-style-type: none"> Names and job title of the staffs in charge of Safety and Quality Control/Management. Job description of above staffs and power or authority delegated to them including qualifications required 	<ol style="list-style-type: none"> Health and Safety Engineer QC Engineer See Document <ol style="list-style-type: none"> Project Quality Plan Contract Document (Book 3 – Clause S6 "Project Organizational Chart" Health and Safety Plan
2. Provisions related to Safety and Quality Control/Management in the Contract with the Employer	<ol style="list-style-type: none"> Safety Management *Clause No. <u>S1.18. - 1A</u> <u>S1.18. - 1B</u> *Contents of the above Clause 	<ol style="list-style-type: none"> See attached <ol style="list-style-type: none"> Health and Safety Plan Traffic Management Plan – Landside Riverside
	<ol style="list-style-type: none"> Quality Management *Clause No. <u>S1.16. - 1A</u> <u>S1.16. - 1B</u> *Contents of the above Clause 	<ol style="list-style-type: none"> See attached <ol style="list-style-type: none"> Project Quality Plan Quality Control Program
3. Review and/or Approval procedure of Detailed Design of Permanent Structure	<ol style="list-style-type: none"> <u>Detailed Design Procedure</u> Timing of commencement of detailed design, qualification of designer, involvement of Subcontractor etc. 	<ol style="list-style-type: none"> Detailed design (shop drawings) will be prepared by the Contractor using the latest joint survey of the area to consider any revision that may be deemed necessary. If on the implementation of work, there is still a discrepancy between the actual condition and the approved drawings, corresponding revision will be made with concurrence of the Engineer.

1 of 3

Questionnaire for Safety and Quality Control/Management for Contractor

Country: Republic of the Philippines To be filled by the Contractor.
 Project Name: Pasig – Marikina River Improvement Project (II)

Items	Points to be Clarified	Answer
	<ol style="list-style-type: none"> <u>Review and/or Approval procedure</u> Timing of review, qualification of reviewer, process for internal approval 	<ol style="list-style-type: none"> The necessary shop drawings will be prepared and submit by the Contractor to the Engineer for review and any comments by the Engineer will be stated on the shop drawings for rectification. After rectifying the drawings based on the comments and suggestions of the Engineer, it will be submitted again for subsequent approval.
4. Roles of the Contractor at the review or approval of design of Temporary Works, Shop Drawing and Method Statement	<ol style="list-style-type: none"> <u>Preparation of Method Statement etc (MS)</u> Timing of preparation of MS, qualification of an engineer for preparing MS, involvement of Subcontractor etc. 	<ol style="list-style-type: none"> <ol style="list-style-type: none"> Before the issuance of NTP (Contract Stage) After the issuance of NTP (Construction Stage)
	<ol style="list-style-type: none"> <u>Review of MS</u> Timing of review, qualification of reviewer, process for internal approval 	<ol style="list-style-type: none"> <ol style="list-style-type: none"> Before the Construction Stage International Division Site – Philippine Branch – International Division
	<ol style="list-style-type: none"> <u>Communication procedure with the workers</u> When, where, by whom, to whom a briefing of MS is to be carried out. How to check the results of briefing (is communication successfully made?) 	<ol style="list-style-type: none"> Upon the approval of the Method Statement, a copy of which will be given to the site engineer, quality control and subcontractor for their reference. This will then be discussed so as to have a clear overview of the work to be done in a manner that conforms with the approved

2 of 3

Questionnaire for Safety and Quality Control/Management for Contractor

Country: Republic of the Philippines

To be filled by the Contractor,

Project Name: Pasig – Marikina River Improvement Project (II)

Items	Points to be Clarified	Answer
5. Inspection by the Contractor	1. <u>Inspection Procedure</u> Timing of Inspection, qualification of an inspector, how to carry out inspection, relation with the Consultant's inspection	M/S. 1. Before the execution of any major activity, RFI is being submitted to the Engineer, to inspect/check the site condition. Any deviation from the actual site condition and the Approved Shop Drawings will be addressed accordingly and with proper documentations, such as Joint Inspection Report, Concrete Pouring permit and other correspondences.

Appendix-5 Pasig-Marikina River Channel Improvement Project (II) – Site Photos
(October 26, 2011)



PICTURE 1
PHASE – II
PASIG RIVER REVEMENT
NEAR TOYO OFFICE



PICTURE 2
PHASE – II
PASIG RIVER SITE
TEMPORARY JETTY



PICTURE 3
PHASE – II
PASIG RIVER DAMAGED
REVTMENT PROPOSED
PHASE – III



PICTURE 4
PHASE – II
PASIGRIVER TOYO OFFICE
BUILDING



PICTURE 5
PHASE— II
PASIG RIVER RIVETMENT
WORK SAFETY SIGNBORD



PICTURE 6
PHASE— II
PASIG RIVER REVETMENT
WORK CURVE PORTION



PICTURE 7
PHASE— II
PASIG RIVER FLAP VALVE
LOCATION



PICTURE 8
PHASE— II
PASIG RIVER REVETMENT
CONSTRUCTION



PICTURE 9
PHASE— II
PASIG RIVER PAVEMENT
WORK COLOR BRICK
PAVEMENT



PICTURE 10
PHASE— II
PASIG RIVER TOYO SITE
OFFICE BUILDING



PICTURE 11
PHASE— II
PASIG RIVER FLOOD
CONTROL GATE



PICTURE 12
PHASE— II
PASIG RIVER REVETMENT
CONSTRUCTION
MANDALUYONG BRIDGE



PICTURE 13
PHASE— II
PASIG RIVER TOYO SITE
MATERIAL SHED



PICTURE 14
PHASE— II
PASIG RIVER TOYO SITE
TEMPORARY PAVEMENT



PICTURE 15
PHASE— II
PASIG RIVER TOYO SITE
MATERIAL STOCK YARD



PICTURE 16
PHASE— II
PASIG RIVER TOYO SITE
SAFETY SIGNBORD



PICTURE 17
PHASE— II
PASIG RIVER TOYO SITE
MONTHLY SAFETY
MEETING



PICTURE 18
PHASE— II
PASIG RIVER
TOYO SITE OFFICE SAFETY
POSTER



PICTURE 19
PHASE— II
PASIG RIVER TOYO SITE
OFFICE MEETING ROOM



PICTURE 20
PHASE— II
PASIG RIVER TOYO SITE
OFFICE ENTRANCE

Appendix-6 Pasig-Marikina River Channel Improvement Project (II)
– Safety Control Documents

“Project Quality Plan” & ”Health and Safety Plan Outline”

PASIG-MARIKINA RIVER CHANNEL
IMPROVEMENT PROJECT (PHASE II)
Contract Package 1-A –Lower Pasig River
(Delpan Bridge to Lambingan Bridge)

PROJECT QUALITY PLAN

Rev. #: _____ Presented date: _____ Content of major revision:
Rev. 1: 15-October, 2009 Schedule of Hold Points and Inspection and Test Plan (ITP)

TOYO CONSTRUCTION CO., LTD
INTERNATIONAL DIVISION, PASIG-MARIKINA PROJECT OFFICE
MARKET OFFICE: 4th FLOOR PROGRESS BUILDING (INVESTMENT), LEDDASH VILLAGE, MAKATI CITY
PROJECT OFFICE: 4th FLOOR PROGRESS BUILDING (INVESTMENT), LEDDASH VILLAGE, MAKATI CITY
TEL: #02-8124449-38 (DAYS) 818-598

(i)

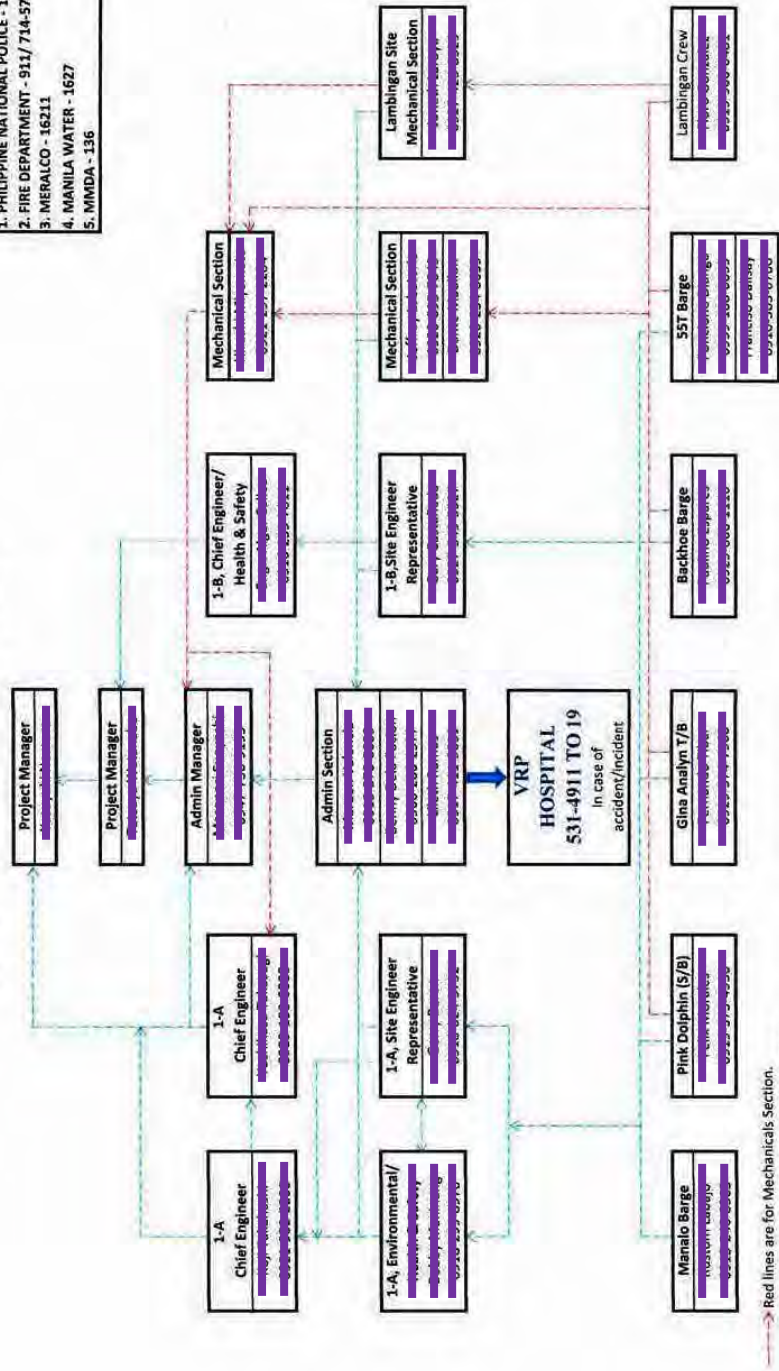
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
Project Management Office – Major Flood Control Projects (Cluster I)

PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT
(PHASE II)
CONTRACT PACKAGE NO. 1-A
LOWER PASIG RIVER (DELPAN BRIDGE TO LAMBINGAN
BRIDGE)

HEALTH AND SAFETY PLAN OUTLINE

EMERGENCY NETWORK PLAN

EMERGENCY HOTLINE
 1. PHILIPPINE NATIONAL POLICE - 117/ 723-0401/ 532-2145
 2. FIRE DEPARTMENT - 911/ 714-5700/ 522-2222/ 532-2402
 3. MERALCO - 16213
 4. MANILA WATER - 1627
 5. MMDA - 136



Red lines are for Mechanicals Section.
 Blue lines are for 1-A, 1-B and Admin Sections

1. In case of accident or incident in Site Area or in Lambingan Site, the Captain or Head of each section should report immediately to the Site Engineers and/or Mechanical Section. - if ever the Captain or the Head of each section is absent/ on leave or not in the vicinity of the accident/incident, the Assistant will take over the responsibility to report the accident/incident
2. Mechanical Staff will immediately report to the Mechanical Superior and the Site Engineers (1-A & 1-B) will immediately report also to the Health & Safety In Charge then as follows by the Network Plan.
3. Mechanical Section and Site Engineers or Health & Safety In Charge shall immediately inform their respective superiors and/or Admin. Section.
4. Accident/ incident should be reported AS SOON AS POSSIBLE (A.S.A.P).
5. All accident should be supported with written report by the witness, signed by the Captain or Head Crew and report from the Health & Safety In Charge.
6. In case the accident/incident happened and caused serious injuries and in a far distance area, the injured person shall be subject to bring in the nearest Hospital for First Aide Treatment/Medical Attention.
7. If ever the accident/incident happened during Sunday or Holiday, please inform your Superior to give you further instructions.

Accident Records (installed near the gate)

TOYO CONSTRUCTION CO., LTD.
PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT (1-A)

	Section title	Safety
	Day	28-Oct-11
	Description	Safety Manhours
	Location	Lambingan Site Office
Comment	Safety Manhours as of October24, 2011	

	Section title	Safety
	Day	28-Oct-11
	Description	Safety Manhours
	Location	Lambingan Site Office
Comment	Safety Manhours as of October24, 2011	

	Section title	Safety
	Day	28-Oct-11
	Description	Safety Manhours
	Location	Lambingan Site Office
Comment	Safety Manhours as of October24, 2011	

Appendix-7 Pasig-Marikina River Channel Improvement Project (II) – Site Photos
(October 29, 2011)



PICTURE 1
PHASE—III
MARIKINA RIVER
NEAR VARGAS BRIDGE
SOUTH



PICTURE 2
PHASE—III
MARIKINA RIVER
LOCAL RESIDENT VARGAS
BRIDGE NORTH



PICTURE 3
PHASE—III
MARIKINA RIVER
NEAR VARGAS BRIDGE



PICTURE 4
PHASE—III
MARIKINA RIVER
VARGAS BRIDGE



PICTURE 5
PHASE—III
MARIKINA RIVER
UPPER SIDE ORITIGAS
AVENUE



PICTURE 6
PHASE—III
MARIKINA RIVER
LOWER SIDE ORITIGAS



PICTURE 7
PHASE—III
MARIKINA RIVER
ROSARIO BRIDGE



PICTURE 8
PHASE— III
MARIKINA RIVER
WETLAND



PICTURE 9
PHASE—III
MARIKINA RIVER
EAGLE BRIDGE NORTH



PICTURE 10
PHASE—III
MARIKINA RIVER
ORITIGAS AVENUE



PICTURE 11
PHASE—III
MARIKINA RIVER
VARGAS BRIDGE NORTH



PICTURE 12
PHASE—III
MARIKINA RIVER
VALGAS BRIDGE SOUTH



PICTURE 13
PHASE—III
MARIKINA RIVER
LOCAL RESIDENT



PICTURE 14
PHASE—III
MARIKINA RIVER
STA. ROSA BRIDGE SOUTH



PICTURE 15
PHASE—III
MARIKINA RIVER
ROSARIO WEIR



PICTURE 16
PHASE—III
MARIKINA RIVER
CARUNCHO ROAD