ATTACHMENT 5 :

Power Point for Safety Management Seminar

Safety Management Seminar
Addis Ababa City Road Authority
Federal Democratic Republic of Ethiopia

Introduction of

The Guidance for Management of Safety for Construction Works in Japanese ODA Projects

September 2014

Japan International Cooperation Agency (JICA)

August 2019

Introduction

Principle

「World Human Rights Declaration: Ensuring human safety and respect for basic human rights」

Aims

Establish a safe and health-conscious working environment in ODA Projects.

- Establish "culture of safety" whereby safety is prioritized.
- Establish a mechanism that automatically promotes active implementation of occupational safety measures
- Enhance people's awareness of safety

※It is not formulated for the purpose of replacing laws or regulations of recipient countries.

Contents of the

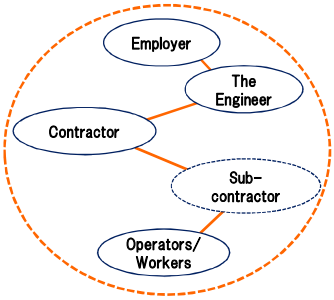
Chapter 1	General Rules
Chapter 2	Basic Policies of Safety Management
Chapter 3	Contents of "Safety Plan"
Chapter 4	Contents of "Method Statement on Safety "
Chapter 5	Technical Guidance for Safety Execution (by the Type of Work)
Chapter 6	Technical Guidance for Safety Execution (by the Type of Accident)

Chapter 1

Purpose

Prevent the occurrence of occupational and public accidents by creating a culture of safety and help social development in the recipient country.

Roles and Responsibilities of Project Stakeholders



Project Stakeholders

Project Stakeholders Roles and Responsibilities （1）

Project Stakeholders	Roles and Responsibilities
Employer	(1) The Employer shall endeavor to strictly comply with the relevant laws and regulations of the recipient country and use the Guidances to ensure the safety of the Project Stakeholders during construction works at site and protect nearby local residents, and any other third parties, from every potential accidental risk foreseen to arise from the construction works at site.
	(2) The Employer shall, in collaboration with the Engineer, review the Safety Plan and the Method Statements on Safety prepared by the Contractor and provide notice, suggestion or guidance for improvement to the Contractor if there are any risks to safety.
	(3) The Employer shall, in collaboration with the Engineer, make sure the work is carried out in accordance with the Safety Plan and the Method Statements on Safety prepared by the Contractor and provide notice, suggestion or guidance for improvement.
	(4) The Employer shall endeavor to create an environment where all Project Stakeholders positively participate in activities to promote safety on construction sites.
	(5) When two or more Contractors carry out work at the same construction site, the Employer shall establish an environment for mutual cooperation and coordination on safety management.
	(6) The Employer shall notify the Contractor of natural conditions, social conditions or any other factors that may affect the management of safety for construction works at site.

Project Stakeholders Roles and Responsibilities （2）

Stakeholders	Roles and Responsibilities
Engineer	(1) The Engineer shall have a full understanding of the roles and responsibilities of the Employer on the management of safety for construction works at site and, together with the Employer, appropriately implement activities to manage safety, including these obligations specified in the contract documents.
	(2) The Engineer shall, in collaboration with the Employer, review the Safety Plan and the Method Statements on Safety prepared by the Contractor and provide notice, suggestion or guidance for improvement to the Contractor if there are any risks to safety.
	(3) The Engineer shall, in collaboration with the Employer, make sure the work is carried out as per the Safety Plan and the Method Statements on Safety prepared by the Contractor and provide notice, suggestion or guidance for improvement.
Contractor	(1) The Contractor shall be responsible for operation and management of safety on construction sites.
	(2) The Contractor shall appropriately prepare the Safety Plan at the appropriate time in the pre-construction stage in accordance with the relevant laws and regulations of the recipient country and these Guidances. In the construction stage, the Contractor shall appropriately prepare the Method Statements on Safety, which shall specify the details of safe methods to implement safety measures prior to the start of each item of work and submit the document to the Employer and Consultant for review.

Project Stakeholders Roles and Responsibilities （3）

Stakeholders	Roles and Responsibilities
Contractor	(3) The Contractor shall make appropriate revision or correction whenever any insufficiency or suggestion for improvement relating to safety is raised following the review of the Safety Plan and the Method Statements on Safety.
	(4) The Contractor shall undertake work according to the Safety Plan and the Method Statements on Safety they prepared. Whenever the Safety Plan or the Method Statements on Safety need to be amended in consideration of the latest site conditions, social and environmental conditions and/or any other relevant particulars. The Contractor shall without delay update and maintain the documents for review at will by the Employer and Engineer.
	(5) The Contractor shall take into account the safety of nearly local residents and any other parties, as well as all Project Stakeholders of the construction project.
	(6) The Contractor shall carry out construction works for the safety of nearly local residents and any other third parties, as well as Project Stakeholders of the project.

Chapter 2 : Basic Policies of Safety Management

Basic Policies

No	Basic Policies
1	Safety First
2	Elimination of Causes
3	Thorough Precaution
4	Thorough Compliance with relevant laws and regulations
5	Thorough Prevention of Public Accidents
6	Thorough Implementation of PDCA Cycle for Safety Management
7	Thorough Sharing of Information
8	Thorough Participation of all Project Stakeholders

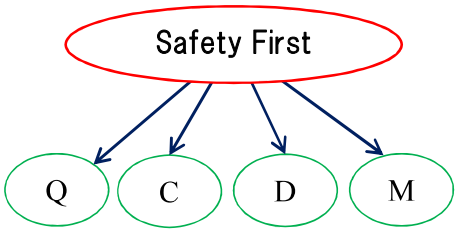
Chapter 2 : Basic Policies of Safety Management (2)

(1) Safety First

Construction Management	
S	Safety
Q	Quality
C	Cost
D	Delivery
M	Morale

Meaning of "Safety First"

Safety shall be prioritized to Q, C, D and M

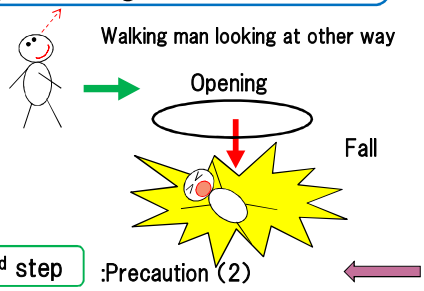


In early 1900's, American economy was defeated by recession , and factory workers were forced to work under poor and dangerous condition, as the employer gave the first priority to productivity and profit . However, to the contrary, productivity and profit were not improved due to frequent occurrence of occupational accidents.

Then Mr. Gaily who was the president of US Steel which is one of leading steel manufacturers in the world, decided to improve working conditions to prevent accidents. As the results, as accidents decreased, productivity and profit increased. Mr. Gaily declared " Safety First" for the first time. "Safety First" then prevailed in the world.

Chapter 2 : Basic Policies of Safety Management (3)

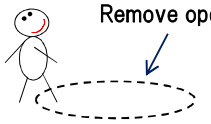
(2) Elimination of Causes
(3) Thorough Precaution



1st step : Elimination of Causes

Direct cause : Opening

Eliminate

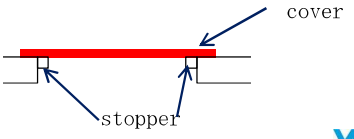


Remove opening

2nd step :Precaution(1)

Opening may not be removed, but not used.

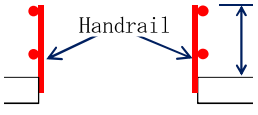
Cover opening



3rd step :Precaution (2)

Opening is needed to be open for the works

Install handrail

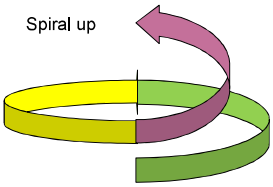


Chapter 2 : Basic Policies of Safety Management (4)

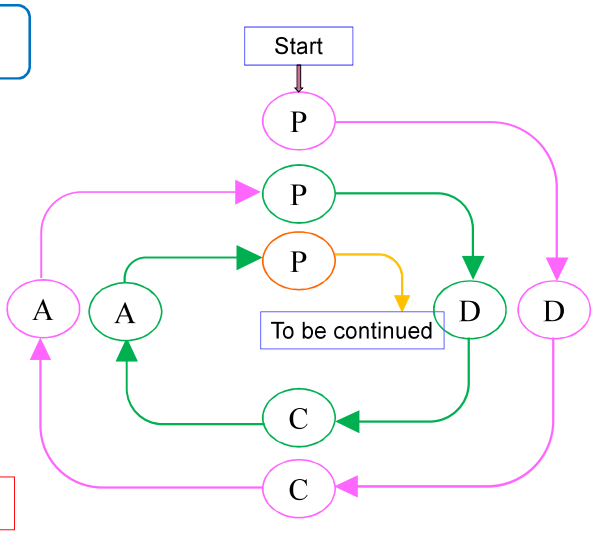
PDCA Cycle for Safety Management

P:Plan
D:Do
C:Check
A:Action

Spiral up



Improve Quality by the implementation of PDCA Cycle



Chapter 3 : Contents of " Safety Plan" (1)

What is "Safety Plan"?

Establish Safety Management System for the Project

Contents of " Safety Plan"	
(1)	Basic Policy for Safety Management
(2)	Organization for Safety Management
(3)	Promotion of the PDCA Cycle
(4)	Monitoring System
(5)	Safety Education and Training
(6)	Voluntary Safety Management Activities
(7)	Sharing Information
(8)	Response to Emergencies and Unforeseen Circumstances

Chapter 3 : Contents of " Safety Plan" (2)

(1) Basic Policy for Safety Management

- Basic Policy of the Employer
- Basic Policy of the Contractor
- Basic Policy of the Project

-Example-

Company's Basic Policy for Safety Management

○○Construction Company Annual Safety Basic Policy in 2017

"Elimination of Causes by Thorough KY Activities"

"Eradication of Serious Accident"

Safety Slogan

" Find out and eliminate hidden danger by KY activities"

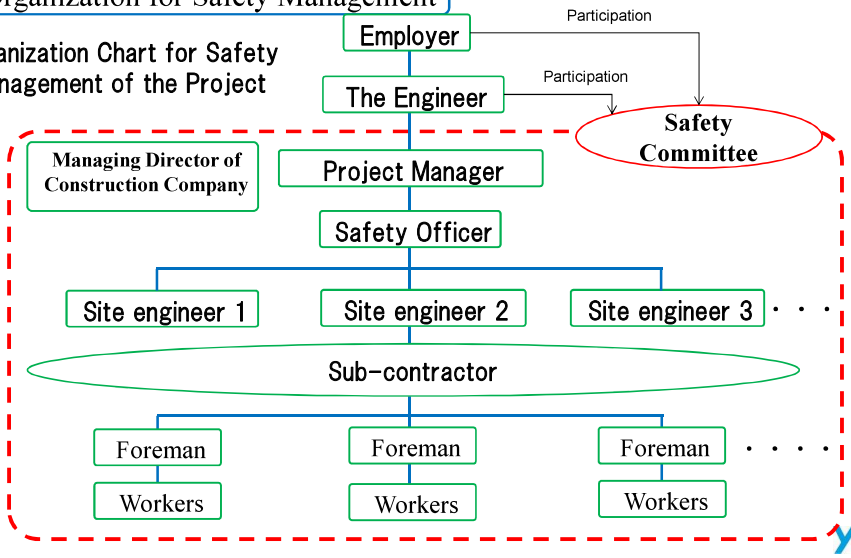
Project Basic Policy for Safety Management

" Achieve 0 danger by thorough Risk Assessment and KY Activities"

Chapter 3 : Contents of " Safety Plan" (3)

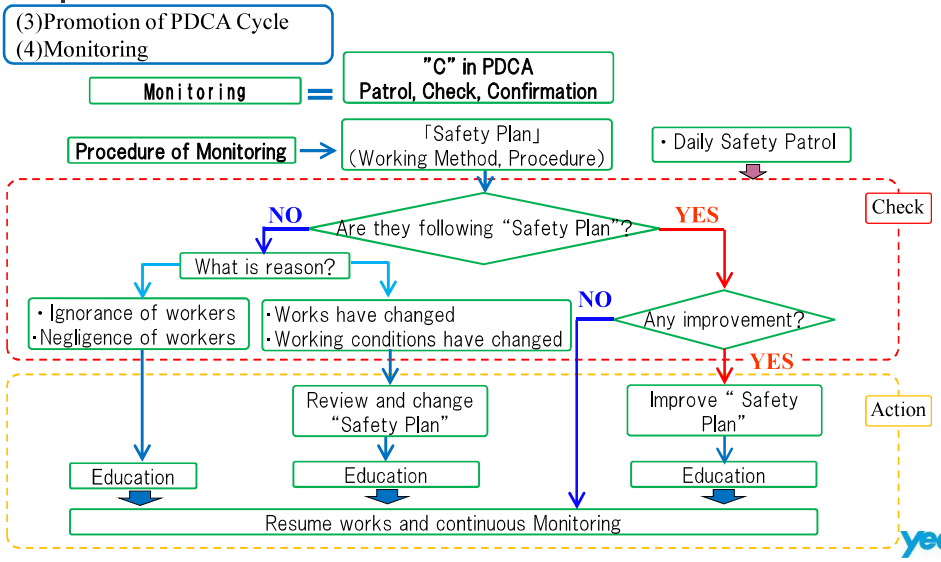
(2) Organization for Safety Management

Organization Chart for Safety Management of the Project



Chapter 3 : Contents of " Safety Plan" (4)

(3)Promotion of PDCA Cycle
(4)Monitoring



Chapter 3 : Contents of " Safety Plan" (5)

(5)Safety Education and Training

	Safety Education and Training	Contents	Target personnel
1	Education on Safety Laws and Regulation	・Safety Laws and Regulation with resect to the works	Engineer, Foreman
2	New Arrival Education	・All persons who newly arrived at the site shall be educated for the following items ・Outline of the project ・Rules on site ・Daily Safety Construction Cycle, and so on	All personnel
3	Education of Safety Working Procedure	・Safety Working Procedure in accordance with "Safety Plan"	All workers
4	Education of Safety Working Procedure when changed	・Re-education of Safety Working Procedure when it has been changed.	All workers
5	Periodical Safety Education and Training	・Monthly Safety Meeting ・Safety Patrol	All personnel

Chapter 3 : Contents of " Safety Plan" (6)

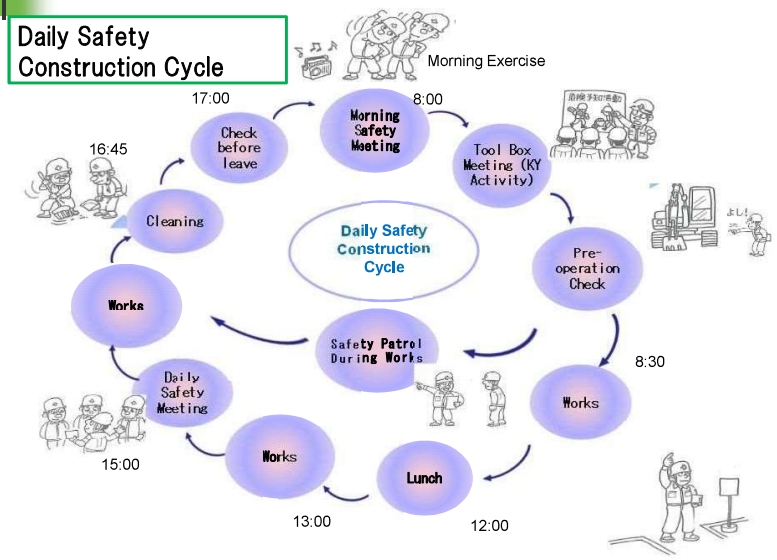
(6) Voluntary Safety Management Activities

1	Daily Safety Construction Cycle
2	KY Activities
3	5S(3S) Activity
4	Monthly Safety Meeting
5	Safety Slogan
6	Safety Award
7	(Various Safety Activities) ・Communication Activity ・Stone -Paper Activity ・Finger Pointing Activity

→ Promotion of Safety Awareness

Chapter 3 : Contents of " Safety Plan" (7)

Daily Safety Construction Cycle



Chapter 3 : Contents of " Safety Plan" (8)

Morning Safety Meeting

7:50	Arriving at the site
	↓
	Array
	↓
	Check attendance
	↓
7:55	Radio Exercise
	↓
8:00	Morning safety Meeting =
	↓
8:10	Tool Box Meeting(KY Meeting)
	↓
8:20	Pre-operation Check
	↓
8:30	Working

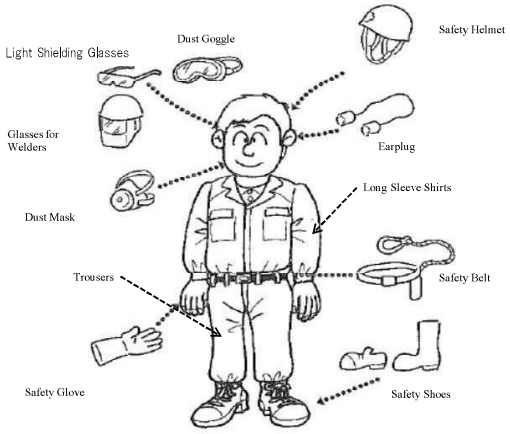
1 Safety Speech from PM
2.Today's works of each working group
- ・Contents of works
- ・Safety Instruction
- ・Number of workers

3.Shearing Information
4.Chorus of Safety

Morning Safety Meeting

Morning Safety Meeting

Wear PPE (Personal Protective Equipment)



Chapter 3 : Contents of " Safety Plan" (9)

KY Activity

KY= Kiken Yochi (Danger Prediction)

Step 1	Write down working sequence
Step 2	Find out hidden dangers in the works
Step 3	Decide critical danger
Step 4	Precaution and Measures

Chapter 3 : Contents of " Safety Plan" (10)

Sample of KY
Scaffolding works

KY Board

Working Sequence	Danger	Precaution
1 Transportation of Materials	Falling materials hit people	・Confirmations of signs
		・Keep out of under materials being transported
	Fall from high stage	・Use Safety Belt
2 Erection of scaffolding	Falling materials hit people	・Keep out from working area
・		・Install keep-out barrier
	Fall from high stage	・Use Safety Belt

Chapter 3 : Contents of " Safety Plan" (11)

5S (3S) Activity

Seiri (Arrangement)	Distinguish necessary materials and equipment and those unnecessary and remove the latter from site
Seiton (Tidy-up)	Place and store materials and equipment in the certain location in tidy manner
Seisou (Cleaning)	Cleaning up the site after work
Seiketsu (Hygiene)	Make site and circumstances hygiene
Shitsuke (Discipline)	Following rules

Chapter 3 : Contents of " Safety Plan" (12)

(7)Sharing Information

Morning Safety Meeting → Sharing common information

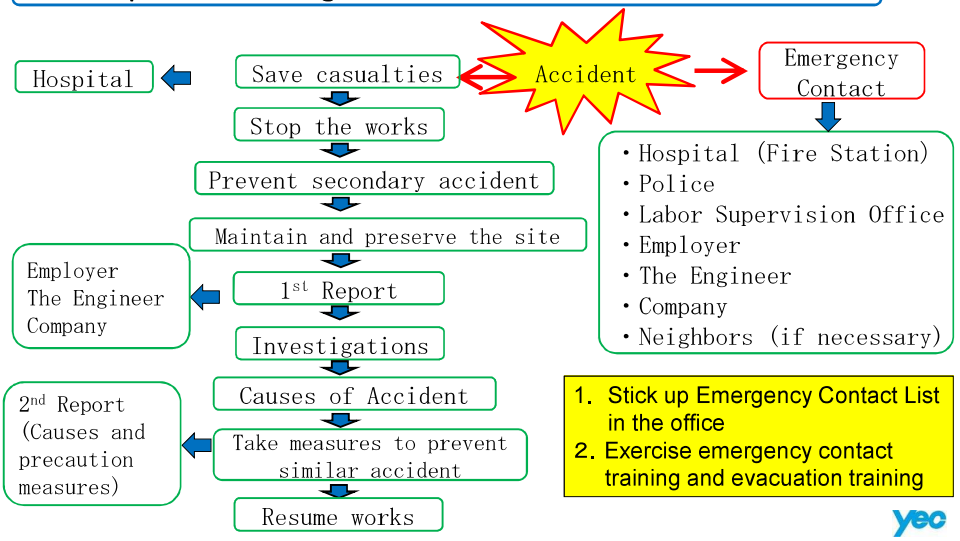
Daily Safety Meeting → Shearing information inter-working groups → Daily Safety Working Report

Near-miss report → Disclosure of hidden danger → Improvement

Re-education in changing working procedure

Chapter 3 : Contents of " Safety Plan" (13)

(8) Response to Emergencies and Unforeseen Circumstances



1. Stick up Emergency Contact List in the office
2. Exercise emergency contact training and evacuation training

Chapter 4 : Contents of "Method Statement on Safety "(1)

"Method Statement on Safety " : ⇨ Based on "Safety Plan" , specific safety plan is prepared taking specialties and construction conditions into account

Contents of "Method Statement on Safety "	
(1)	Facilities and equipment to be used
(2)	Tools to be used
(3)	Materials to be used
(4)	Necessary qualification
(5)	Organization structure chart
(6)	Works items
(7)	Method and Working Sequence
(8)	Anticipated Risk
(9)	Precautions

⇨ Risk Assessment
Working Sequence

Chapter 4 : Contents of "Method Statement on Safety" (2)

Risk Evaluation

Significance / Probability	1 Minor (no absence from work)	2 Serious (absence from work)	3 Very serious (death, permanent handicap)
1 Rare	1 (Very Minor problem)	2 (Minor problem)	3 (Some problem)
2 Middle Possibility	2 (Minor problem)	4 (Serious problem)	6 (Very serious problem)
3 High Possibility	3 (Some problem)	6 (Very serious problem)	9 (Critical problem)

Take precaution measures to Risk exceeding 4

Chapter 4 : Contents of "Method Statement on Safety" (3)

Risk Assessment Working Sequence (example)

Works: Road Excavation

No	Work Sequence	Risk	Risk Assessment: Probability ①	Significance ②	Evaluation ③=①x②	Measures to be taken	Remarks
1	Transport Excavator to site	1.1 Excavator fall down from trailer when unloading	1	2	2		
		1.2 Excavator hit worker when moving	1	3	3		
2	Excavation	2.1 Excavator hit worker when turning	3	3	9	Prohibit entering working area Install Barrier	
		2.2 Excavator hit passenger when turning	2	3	6	Allocate Flagman Install Barrier	
		2.3 Excavator hit public vehicle when turning	2	3	6	Allocate Flagman Install Barrier	
		2.4 Excavator falls down into excavated area	1	2	2		
3	Dump Track Move in	3.1 Dump track fall dwon into excavated area	1	2	2		
		3.2 Dump track hit public traffic	2	3	6	Allocate Flagman	
4	Loading Excavated Material	4.1 Excavator hit worker when turning	3	3	9	Prohibit entering working area Install Barrier	
		4.2 Excavator hit passenger when turning	2	3	6	Allocate Flagman Install Barrier	
		4.3 Excavator hit public vehicle when turning	2	3	6	Allocate Flagman Install Barrier	
5	Dump Track Move out	5.1 Dump track hit public traffic	1	3	3		
		5.2 Materal fall down on public road	3	1	3		
	Repeat 3-5						
6	After Work	6.1 Public vehicle fall into excavated area	3	3	9	Install Barrier with lump	
		6.2 Passenger fall into excavated area	3	3	9	Install Barrier with lump	

Measures should be taken to Risk Evaluation more than 4

Risk Assessment Working Sequence (example)

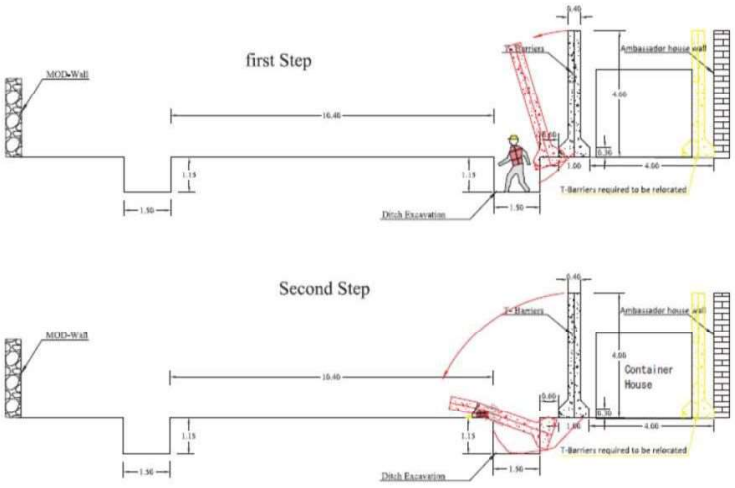
Works: Road Excavation

No	Work Sequence	Safety Work Sequence	Who	When	Where	Remarks
1	Transport Excavator to site	1.1 Install Barrier	Worker	Before work	Surrounding working area	
		1.2 Allocate Flagman	Flagman	When transport	At entrance	
		1.3 Trailer move in	Operator			
		1.4 Unloading Excavator	Operator			
2	Excavation	2.1 Install Barrier	Worker	Before work	Surrounding working area	
		2.2 Allocate Flagman	Flagman	During work	At working area	
		2.3 Excavation	Operator			Prohibit entering working area
3	Dump Track Move in	3.1 Allocate Flagman	Flagman	When Move in	At entrance	
		3.2 Dump track Move in	Operator			
4	Loading Excavated Material	4.1 Install Barrier	Worker	Before work	Surrounding working area	
		4.2 Allocate Flagman	Flagman	During work	At working area	
		4.3 Loading Excavated Material	Operator			Prohibit entering working area
5	Dump Track Move out	5.1 Allocate Flagman	Flagman	When Move out	At entrance	
		5.2 Dump track Move out	Operator			
	Repeat 3-5					
6	After Work	6.1 Install Barrier with lump	Worker	After work	Surrounding working area	

§ 5-1 Sample Accident（Search the Causes）

Sample Accident （Practice）

Occurrence of accident



Suspend the works to prevent further accident

Why did the accident happen?

Direct causes	T-barriers fell down and hit worker.
Why did the T-barriers fall down?	Because the T-barriers standing in adjacent to the excavation area became unstable due to excavation
Why were the T-barriers standing in adjacent to the excavation area?	Because there were some obstacles behind the T-barriers, they couldn't be moved before excavation works
Why couldn't the obstacles be removed beforehand?	Nobody knew the obstacles until the works started Nobody was aware of dangerous condition

No prior investigation,
No awareness of Danger

=

Human Error

What was the true causes of the accident?

Why were the works continued ?

Nobody was aware of the danger

OR

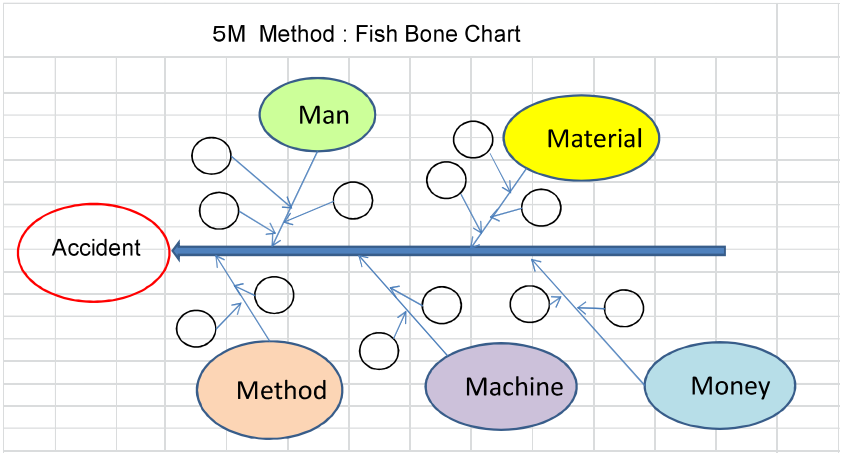
The works was continued knowing the danger

OR

Nobody listed to suspension order of the works

→ Human Error

How to search causes



Prevention of Human Error

Most accidents were caused by Human Error

No accident could not have been avoided

However,

Human may always make mistakes
・Human forgets
・Human tries to take short cut
・Human wants to think it is OK
・Human wants to think nothing happen to himself
・Human believes blindly

To prevent Human Error

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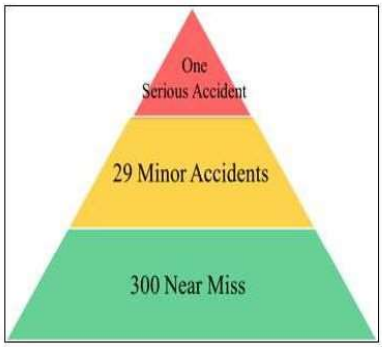
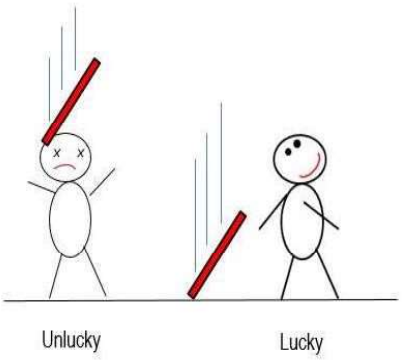
3 C

Check
Communication
Confirmation

Heinrich's Law



Heinrich's Law



But same safety problem exists

§ 5-2 What are hidden dangers?

What are hidden dangers?

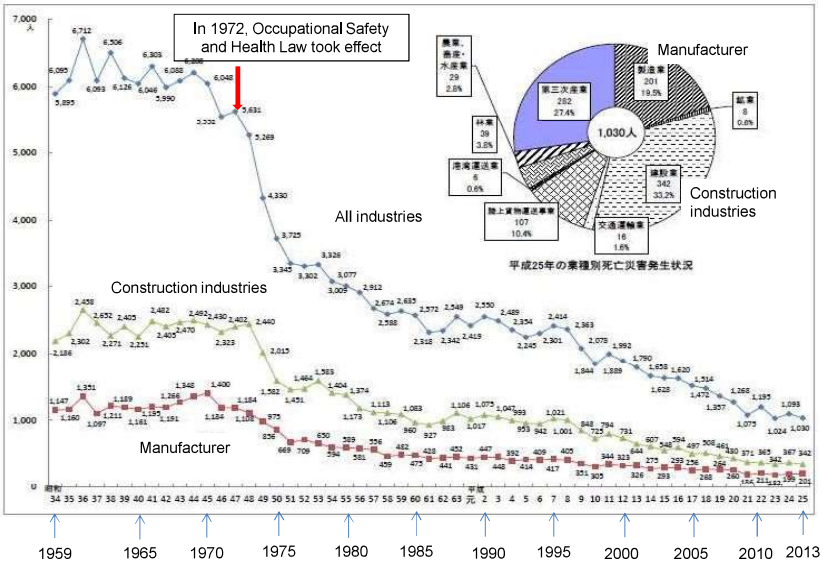
What are hidden dangers?

What are hidden dangers?

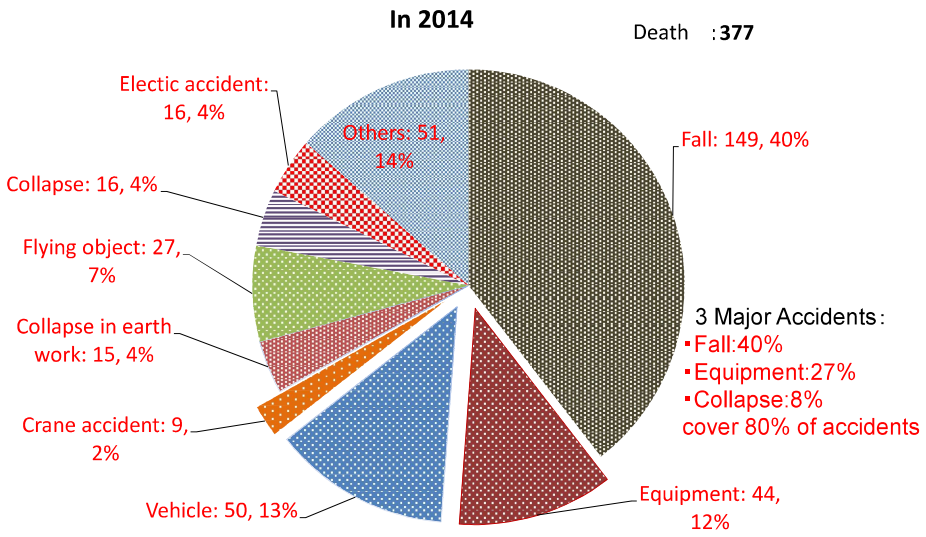
What are hidden dangers?

§ 5-3 Accidents in Japan

Numbers of Occupational Victims (death) in Japan（All industries）



Type of Accident in Construction

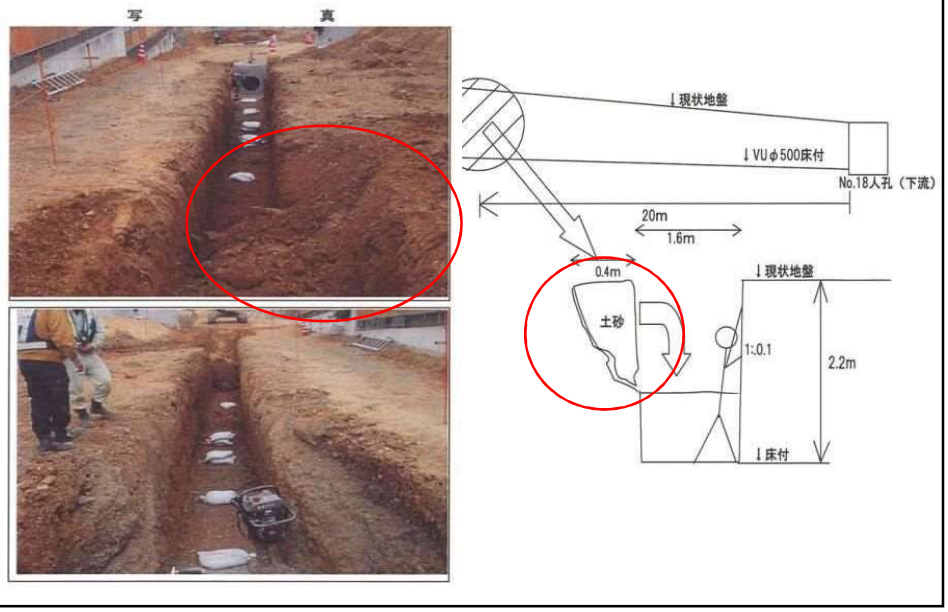


§ 5-4 Sample of Heavy Equipment Accidents


Over-turning due to mistake in operation

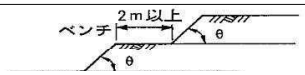

Over-turning , fell down into river due to lifting over loading

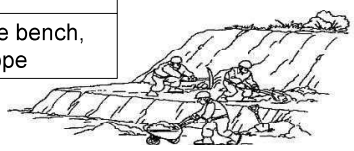
Collapse of excavated trench



Standard cutting slope gradient

Standard cutting slope gradient
In case there is more than 2 m wide bench, the standard may apply to each slope





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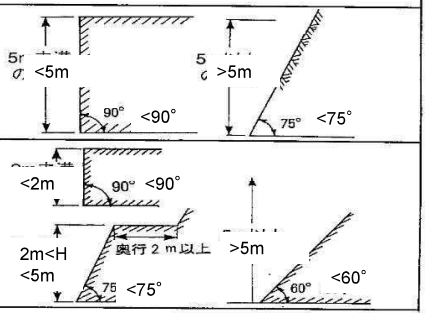
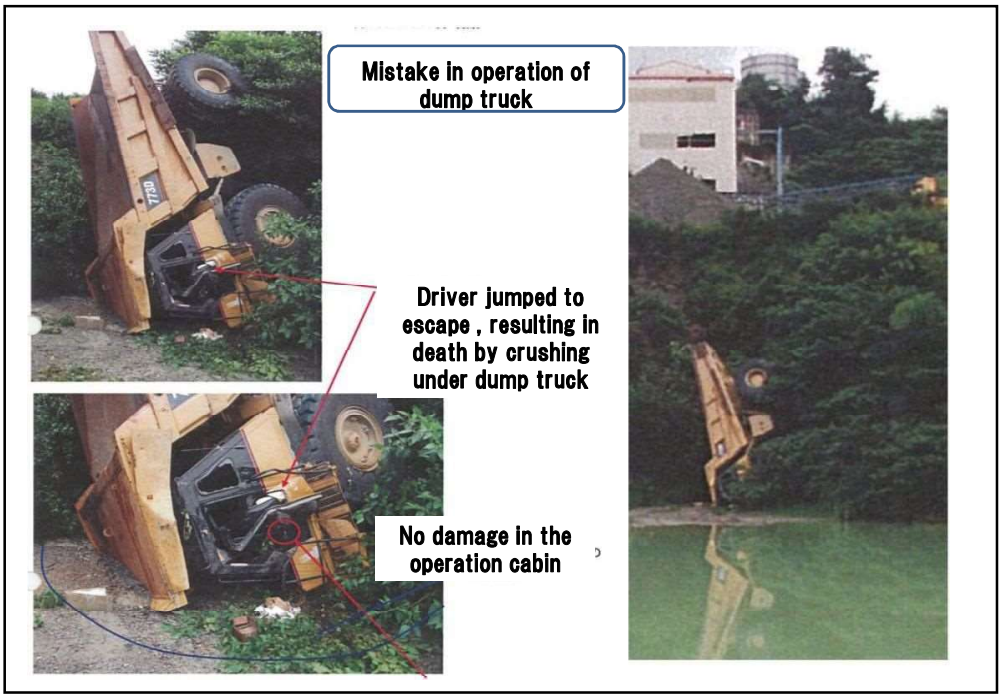
Type of Soil	Height	Slope degree
Rock or Stiff Cray	5m H<5m	<90°
	5m H>5m	<75°
Other Soil	2 H<2m	<90°
	2m<H<5m	<75°
	5 H>5m	<60°



Over-turning when trying to climb up river dam

Over-turning due to mistake in operation


Mistake in operation of dump truck
Driver jumped to escape , resulting in death by crushing under dump truck
No damage in the operation cabin

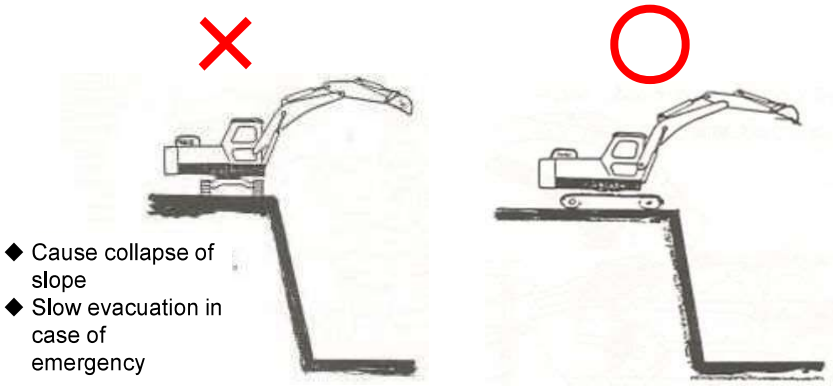

Fall down from slope

Traffic Accident

§ 5-5 Prevention of Heavy duty equipment Accidents

Basic Operation of Excavator-1

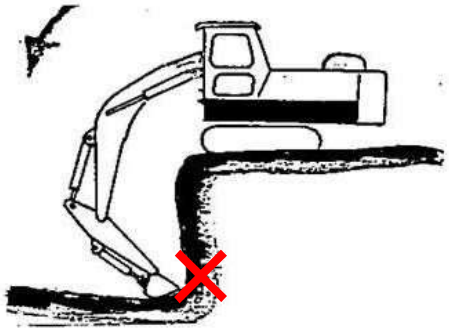
Direction of Caterpillar



- ◆ Cause collapse of slope
- ◆ Slow evacuation in case of emergency

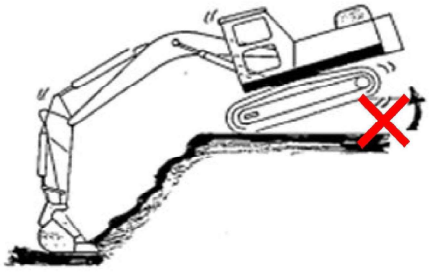
Basic Operation of Excavator-2

Overhung Excavation is prohibited



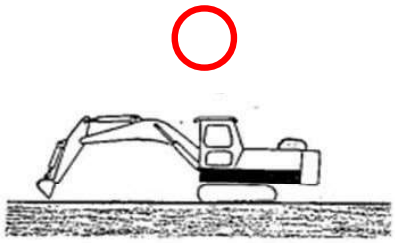
Basic Operation of Excavator-3

Tale should not be lifted up

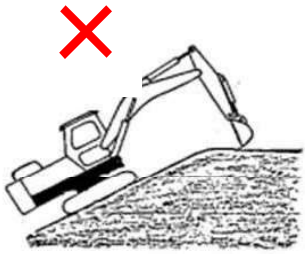


Basic Operation of Excavator-4

Parking

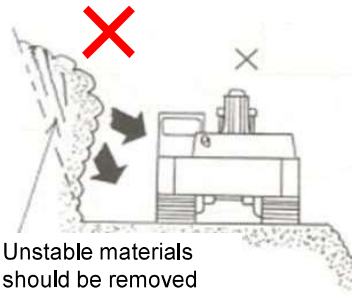


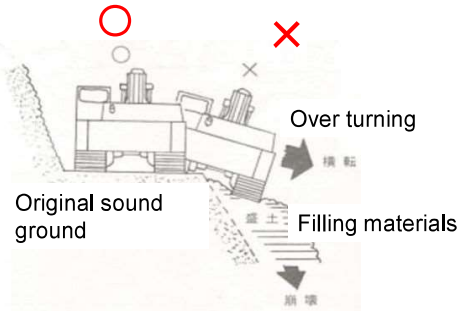
Park on flat ground



Do not park on slope

Basic Operation of Excavator-5





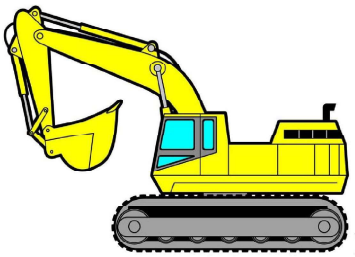
Basic Operation of Excavator-6

Parking

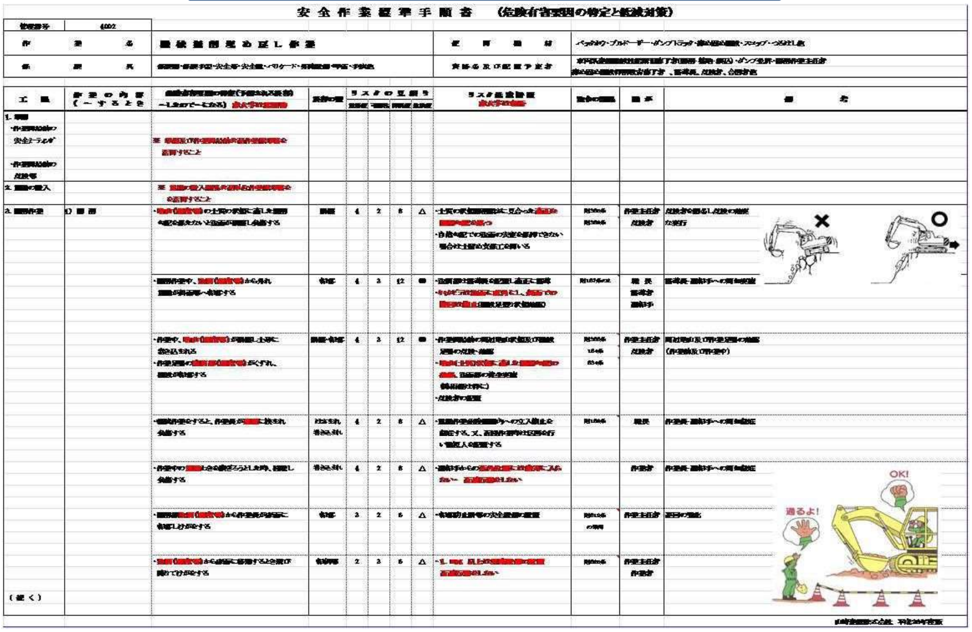
Bucket should be rested on the ground

Basic Operation of Excavator-7

Moving with bucket lifted is prohibited



リスクアセスメント作業手順書（掘削作業）



Fasten Sheet Belt

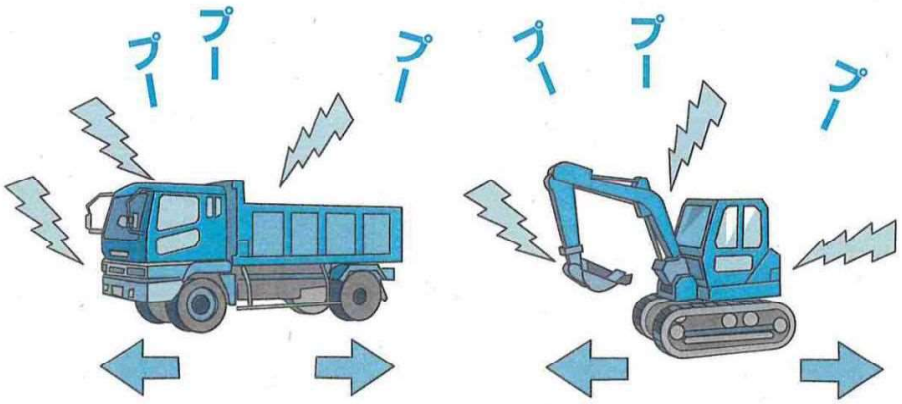
To prevent falling out of equipment

Compaction roller should move in slow mode

Slow Mode→

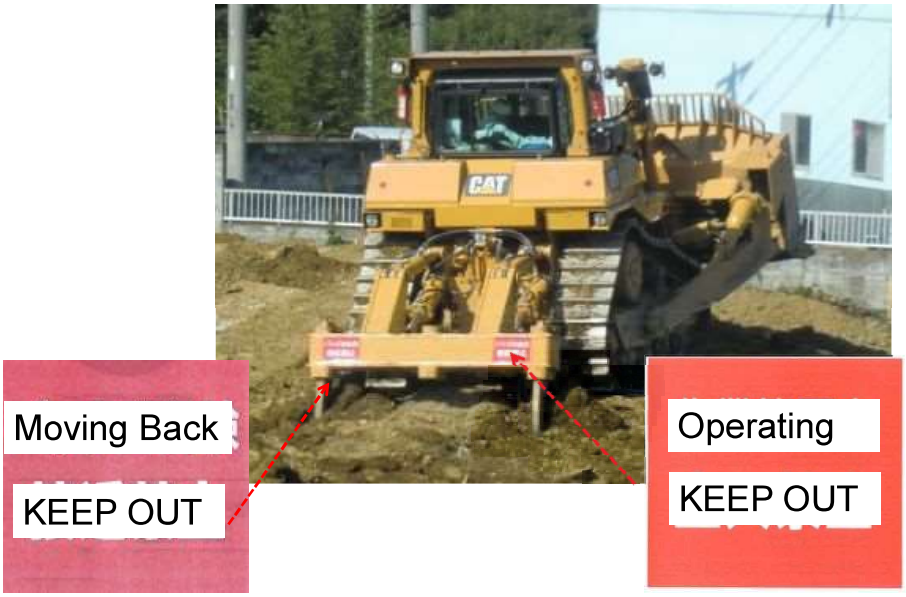
Sign board at Dump Truck Access Road

Horn Sign when moving

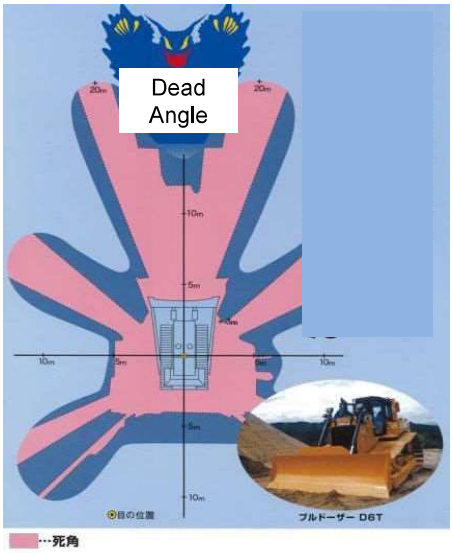


Stone Paper Activity

Precaution Sticker



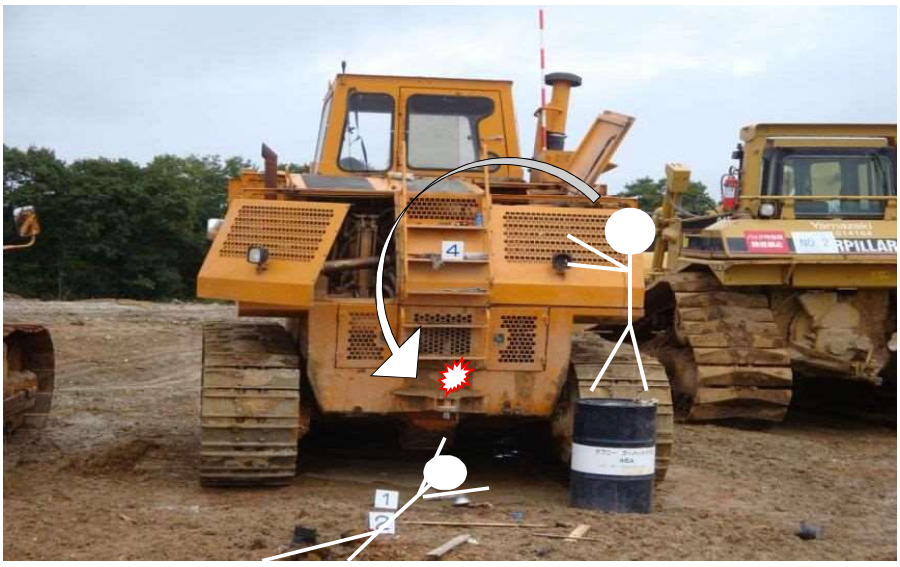
Dead Angle of Equipment



Parking equipment

Installation of Wheel Stopper in parking

Fall accident in maintenance work



Indicate working area of maintenance

Under maintenance. Don't use

Safety Hand Rail for Maintenance Works

Usage of Safety Belt in maintenance work

Free from materials and goods on the floor

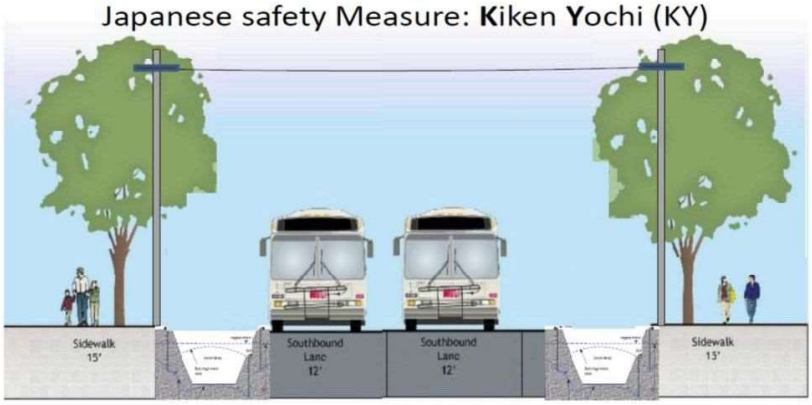
Safety Access for workers isolated from construction vehicles

§ 5-6 Practice of KY Activity

§ 5-6 Practice of KY Activity

Possible Dangers in the Site

Japanese safety Measure: **K**iken **Y**ochi (KY)



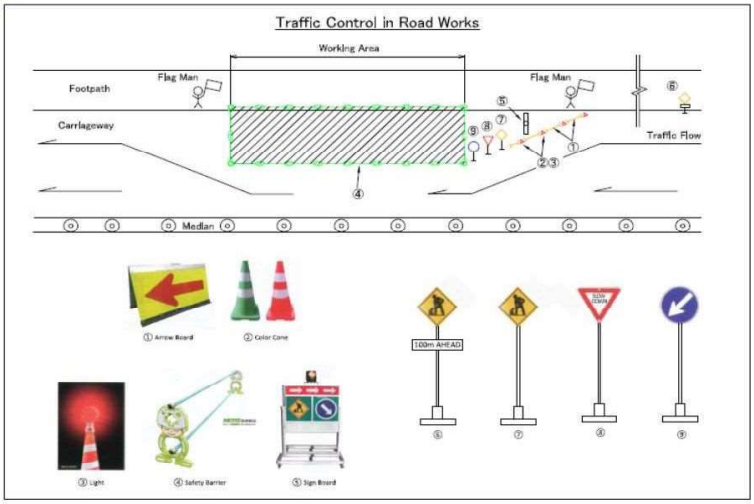
Practice of KY Activity

	Possible Hazards	Preventive Measures
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

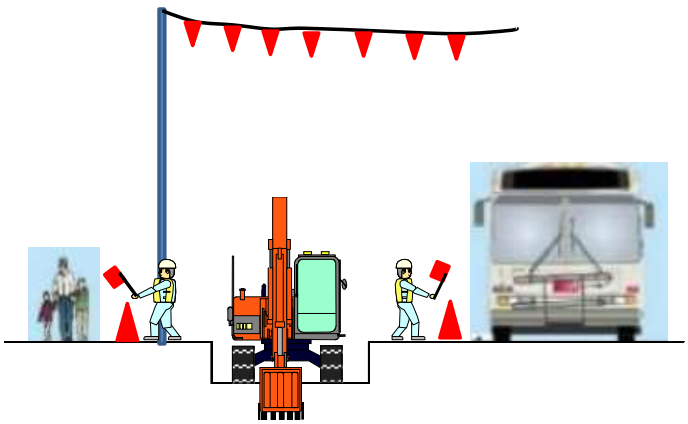
Sample Accidents in Road Works

Sample Accidents in Road Works

Safety Facilities for Road Works



Safety Measures in Road Works

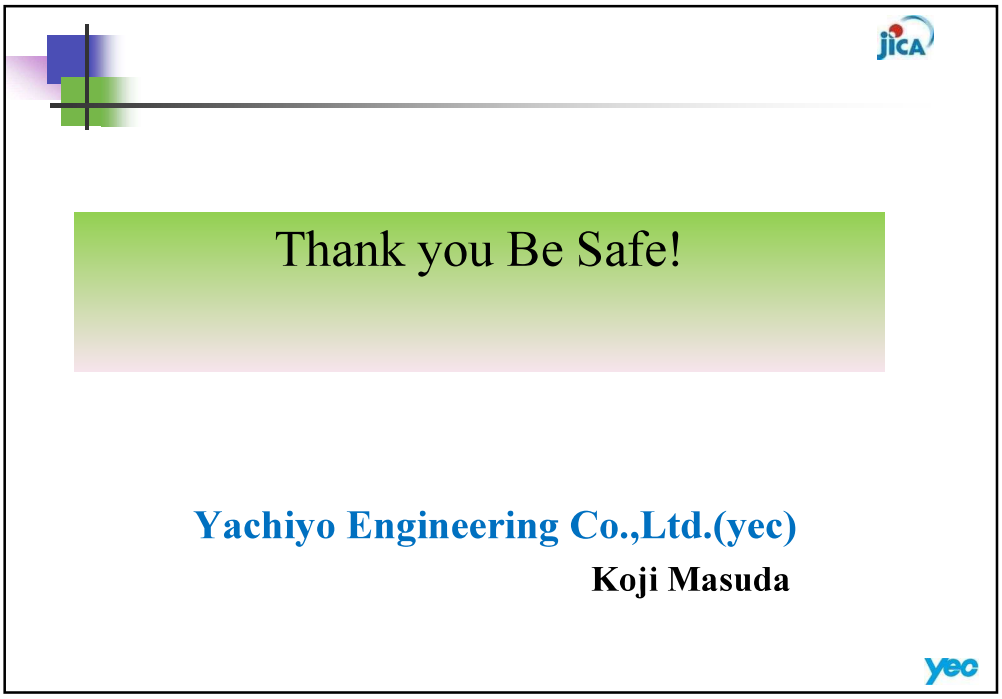


At the End

Accident →

1.Cajuarilty
2.His Family
3.Punishment by Law
4.Delay of Works
5.Decrease of Morale
6.Increse Cost
7.Destroy Company's Reputation

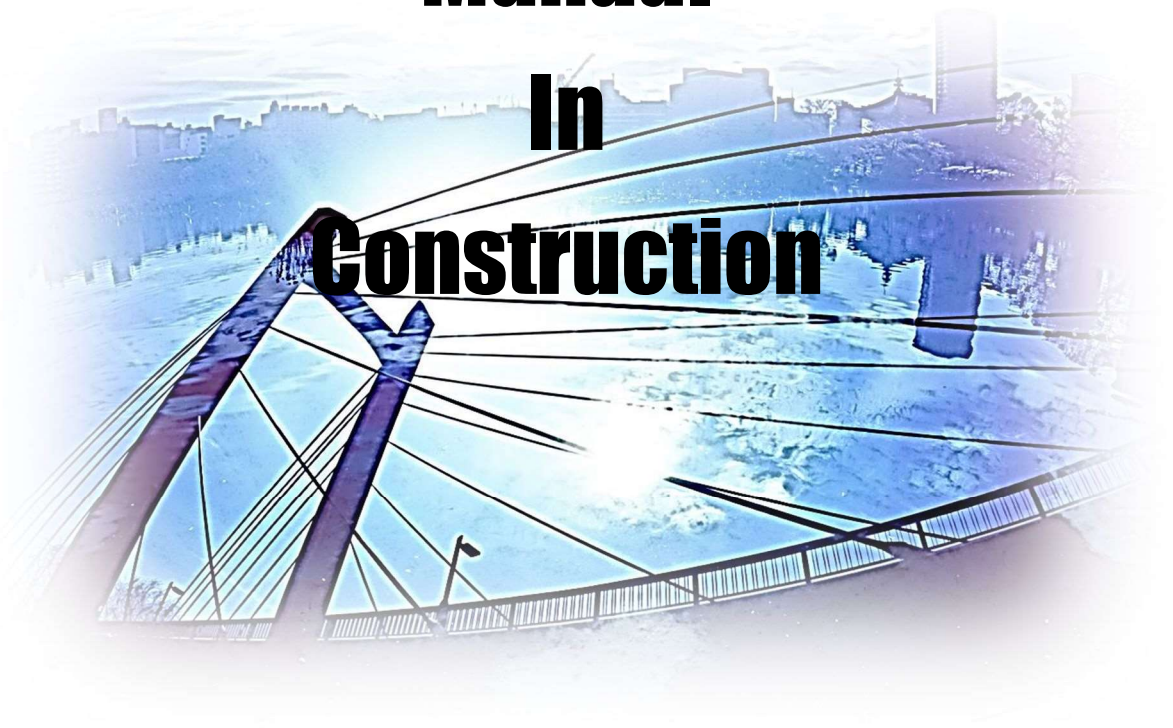
Accident should not happen


Thank you Be Safe!
Yachiyo Engineering Co.,Ltd.(yec)
Koji Masuda

ATTACHMENT 6 :

Safety Management Manual

Safety Management Manual In Construction



August 2019

Japan International Cooperation Agency (JICA)

Yachiyo Engineering Co., Ltd.

Introduction

Safety Management Manual (hereafter referred to as this Manual) is prepared based on "The Guidance for the Management of Safety for Construction Works in Japanese ODA Projects, 2014 Japan International Cooperation Agency (JICA)" (hereafter referred to as the Guidance).

Anticipating that it may be sometimes difficult for the recipient country to understand the Guidance which has been prepared based on Japanese standard practices on safety management in construction works, this Manual is prepared for the purpose of assisting the Employer, the Engineer and the Contractor in the recipient country who are involved in construction works to understand the Guidance and how to implement the safety management by showing detail explanation, illustrations, figures and samples.

This Manual consists of Chapter 1 General where Roles and Responsibilities of each party are shown repeatedly as stipulated in the Guidance, Chapter 2 Safety Plan where the meaning and how to prepare each content of Safety Plan are shown, and Chapter 3 Implementation of Safety Management where flow of implementation, safety activities to be conducted on daily, weekly and monthly basis and standard formats for safety management including safety patrol check list are shown.

Starting with the Manual, it would be grateful that the recipient country would develop and establish his own "Safety Culture" in construction works in future.

Table of Contents

Chapter 1 General

1.1 Roles and Responsibilities of the Employer

The roles and responsibilities of the Employer relating to management of safety in construction sites at site area as follows:

1) The Employer shall endeavor to strictly comply with the relevant laws and regulations of the recipient country and use the Guidance to ensure the safety of the Project Stakeholders during the construction works at site and protect nearby local residents, and any other third parties, from every potential accidental risk foreseen to arise from the construction works at site.
2) The Employer shall, in collaboration with the Engineer, review Safety Plan and the Method Statements on Safety prepared by Contractor and provide notice, suggestion or guidance for improvement to the Contractor if there are any risks to safety.
3) The Employer shall, in collaboration with the Engineer, make sure the work is carried out in accordance with the Safety Plan and the Method Statements on Safety prepared by Contractor and provide notice, suggestion or guidance for improvement.
4) The Employer shall endeavor to create an environment where all Project Stakeholders positively participate in activities to promote safety on construction sites.
5) When two or more Contractors carry out work at the same construction site, the Employer shall establish an environment for mutual cooperation and coordination on safety management.
6) The Employer shall notify the Contractor of natural conditions, social condition or any other factors that may affect the management of safety for construction works at site.

1.2 Roles and Responsibilities of the Engineer

The roles and responsibilities of the Engineer relating to the management of safety for construction sites at site are as follows:

1) The Engineer shall have a full understanding of the roles and responsibilities of the Employer on the management of safety for construction works site and , together with the Employer, appropriately implement activities to manage safety, including these obligations specified in the contract documents.
2) The Engineer shall, in collaboration with the Employer, review Safety Plan and the Method Statements on Safety prepared by the Contractor and provide notice, suggestion or guidance for improvement to the Contractor if there are any risks to safety.
3) The Engineer shall, in collaboration with the Employer, make sure the work is carried out as per the Safety Plan and the Statements on Safety prepared by the Contractor and provide notice, suggestion or guidance for improvement.

1.3 Roles and Responsibilities of the Contractor

The roles and responsibilities of the Contractor relating to the management of safety on construction sites are as follows:

1) The Contractor shall be responsibilities for operation and management of safety on construction site.
2) The Contractor shall appropriately prepare the Safety Plan at the appropriately time in the pre-construction stage in accordance with the relevant laws and regulations of recipient country and these Guidance. In the construction stage the Contractor shall appropriately prepare the Method Statement on Safety, which shall specify the details of safe methods to implement safety measures prior to the start of each item of work and submit the document to the Employer and Consultant for review.
3) The Contractor shall make appropriate revision or correction whenever any insufficiency or suggestion for improvement relating to safety is raised following the review of the Safety Plan and the Method Statement on Safety.
4) The Contractor shall undertake work according to Safety Plan and the Method Statements on Safety they prepared. Whenever the Safety Plan or the Method Statement on Safety need to be amended in consideration of the latest site conditions, social and environmental conditions and/ or any other relevant particulars. The Contractor shall without delay update and maintain the documents for review at will by the Employer and Engineer.
5) The Contractor shall take into account the safety of nearby local residents and any other parties, as well as all Project Stakeholders of the project.
6) The Contractor shall carry out construction works for the safety of nearly local residents and any other third parties, as well as Project Stakeholders of the project

1.4 Roles and Responsibilities of Sub-contractor

The roles and responsibilities of the subcontractor relating to the management of safety on construction sites are as follows:

1) Each subcontractor shall carry out construction works in compliance with the relevant laws and regulations of the recipient country applicable to the construction work and these Guidance.
2) Each subcontractor shall establish and maintain safe and sanitary site conditions according to the instructions of the Contractor.
3) Each subcontractor shall cooperate with other subcontractors engaged on the construction site in accordance with the instruction of the Contractor.
4) Each subcontractor shall receive from the Contractor an explanation on the Safety Plan and the Method Statements on Safety prepared by the Contractor. Each

subcontractor shall pass on the explanation received from the Contractor to their employees and have them fully comply with those explanation to ensure safety.

1.5 Roles and Responsibilities of Workers

The roles and responsibilities of each worker relating to management of safety on construction site are as follows:

1) Each worker shall carry out construction work in compliance with the relevant laws and regulations of the recipient countries applicable to the construction work and these Guidance.
2) Each worker shall follow the instructions given by the Contractor and their managers.
3) Each worker shall cooperate with the Contractor and their managers to maintain safety at the construction site.
4) Each worker shall pay attention to their own safety as well as to the safety of their co-workers, all Project Stakeholders, as well as the nearly local residents and any other third parties affected by the work.
5) Each worker shall comply with the Safety Plan and the Method Statements on Safety prepared by the Contractor and the rules applicable to the entire construction works at site.
6) When undertaking work, each worker shall use protective equipment for safety and sanitation, either designated or provided, in an appropriate manner and at the appropriate time and location.

Chapter 2 Safety Plan

2.1 Submission and Contents of Safety Plan

The Contractor shall submit Safety Plan for the Engineer's approval not later than within the days before the commencement of works as specified in the Contract requirement.

The Safety Plan shall include the minimum contents;

1) Basic policy for Safety Management
2) Organization for Safety Management
3) Promotion of the PDCA Cycle
4) Monitoring System
5) Safety Education and training
6) Voluntary Safety Management activities
7) Sharing information
8) Response to emergencies and unforeseen circumstances
9) Risk Assessment of the works
10) Safety work sequence for each activity

2.1 Basic policy for Safety Management

The Contractor shall ensure and declare Basic Policy for Safety Management in the plan.

1) **Safety First:** Safety shall be prioritized to Quality, Cost and Progress.

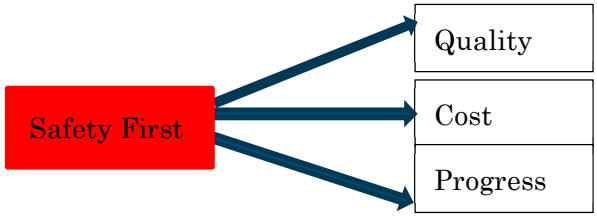


Figure 2-1 Safety First

Quality, Cost and Progress may be accomplished only after Safety has been achieved.

2) **Elimination of Causes:** Contractor shall always try to find and eliminate any causes, risks and hazards which may cause accident.

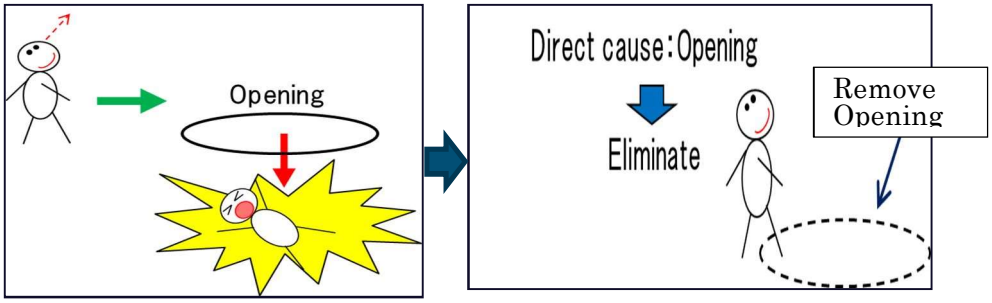


Figure 2- 1: Elimination of Causes (sample)

- **Hazard** is the capacity to cause harm. It is an inherent quality of a material or a condition. For example, a rotating saw blade or an uncontrolled high-pressure jet of water has the capability (hazard) to slice through flesh. A toxic chemical or a pathogen has the capability (hazard) to cause illness.
- **Risk** is the chance or probability that a person will experience harm and is not the same as a hazard. Risk always involves both probability and severity elements.

3) **Thorough Safety Precaution:** In case causes, risks and hazards may not be inherently avoidable, precaution shall be made to prevent accidents. For example, provision of PPE (Personal Protective Equipment), installation of safety barriers and fence to keep workers away from dangers.

- PPPE

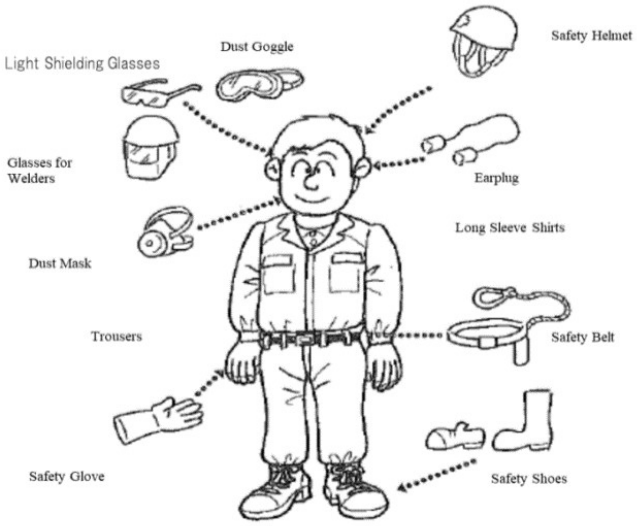


Figure 2- 2: Personal Protection Equipment (PPE)

- Safety Precaution

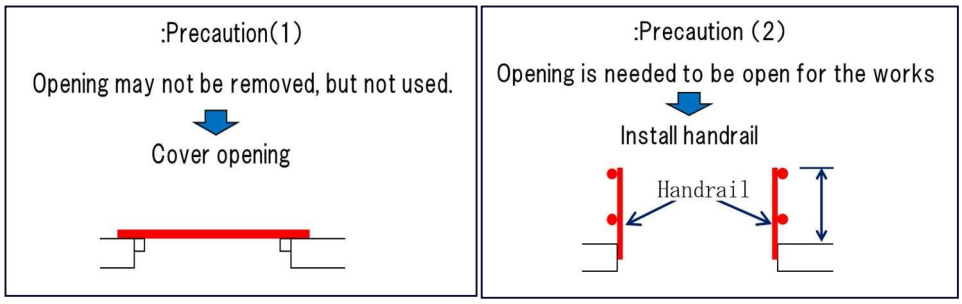


Figure 2- 3: Safety Precaution (sample)

4) **Compliance with relevant laws and regulations:** Safety Laws and Regulations prescribe obligation of the employer*), general safety and health manager*), safety officer, how to use and install safety equipment in details and prohibitions in implementing works.

***)** the employer means a person who carries on an undertaking and employs workers: the contractor

***)** general safety and health manager means superintendent or project manager of the contractor

5) Prevention of Public Accidents: Contractor shall always keep public or the third people away from construction sites and prevent them from getting involved into accidents by providing safety fence, barriers surrounding the construction area and allocating watchman and/or flagman to control traffic, passengers and construction vehicles. .

6) **Implementation of PDCA Cycle for Safety Management**: (to be explained in details in the latter section)

7) Sharing of Information: (to be explained in details in the latter section)

8) **Participation of all Project Stakeholders: P**roject Stakeholders shall include The Employer, the Engineer, the Engineer's representatives, the Contractor, sub-contractors and workers involved in the project.

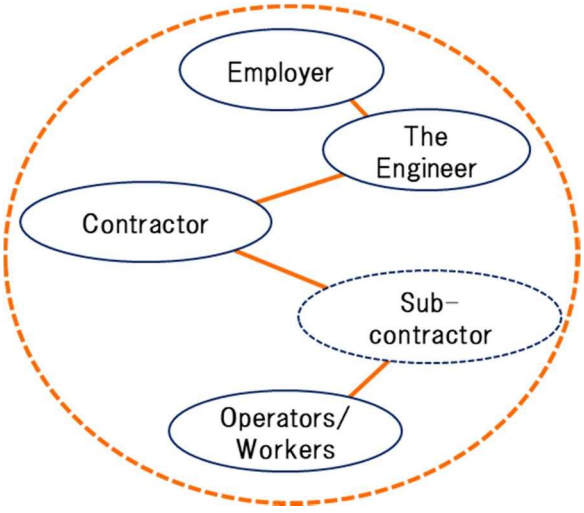


Figure 2- 4: Project Stakeholders

2.2 Organization for Safety Management

The contractor shall organize Safety and Health Management Organization by showing the organization chart and TOR of the contractor's personnel.

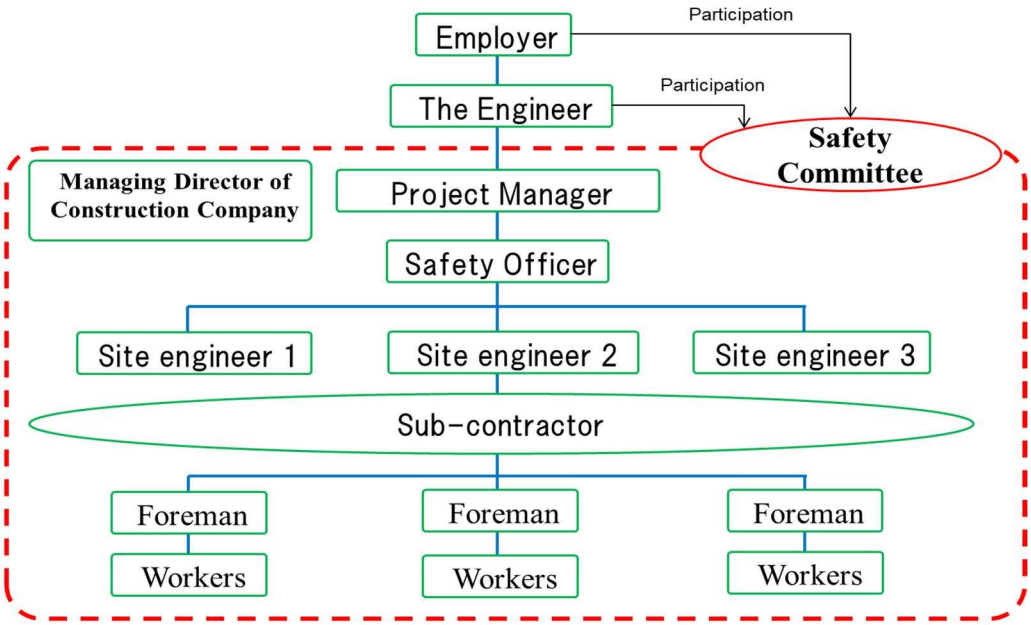


Figure 2- 5: Safety and Health Management Organization Chart (Sample)

Safety Officer or Safety Manager: who shall be qualified by meeting the requirement of the contract shall be in charge of and authorized to:

- Preparation of Safety Management Plan
- Conduct daily Safety Patrol
- Order to stop and correct the works which do not comply with laws and regulation.
- Order to remove workers who repeatedly violated safety rules from the site
- Submit periodical safety patrol report
- Review and revised Safety Management Plan in a manner of PDCA.
- Report any accidents to the Employer investigate the accident, take measures to prevent recurrence.

Safety Committee: The contractor shall establish Safety Committee which will be held at least once a month. The committee shall be chaired by the project manager of the contractor and composed of all personnel of the contractor and all representatives of sub-contractors. In the committee, the following items shall be discussed with the Employer and the Engineer in attendance.

- Review performance of safety works in last month
- Plan of works and safety measures to prevent accidents in next month

- Report on accidents which happened onsite or at the other project if any
- Safety Education and Training
- Sharing of information

2.3 Promotion of the PDCA Cycle

Safety Management Plan including Safety Work Sequence shall be reviewed and improved in a manner of PDCA Cycle. P, D, C, and A stand for Plan, Do, Check and Action respectively.

Plan: Prepare Safety Management Plan

Do: Implement works in accordance with the Safety Management Plan

Check: Monitor and review performance if there is necessity of modification to the plan or not

Action: Modify the plan to improve the safety performance if necessary

Modified Plan: to be put forward to all personnel and workers then start next PDCA Cycle.

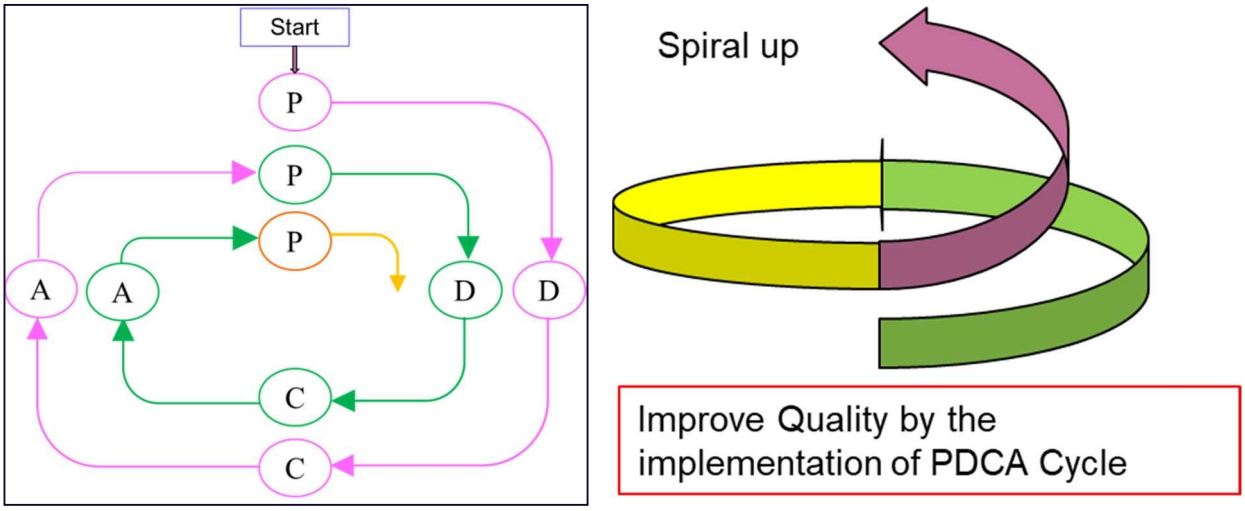


Figure 2- 6: PDCA Cycle

2.4 Monitoring System

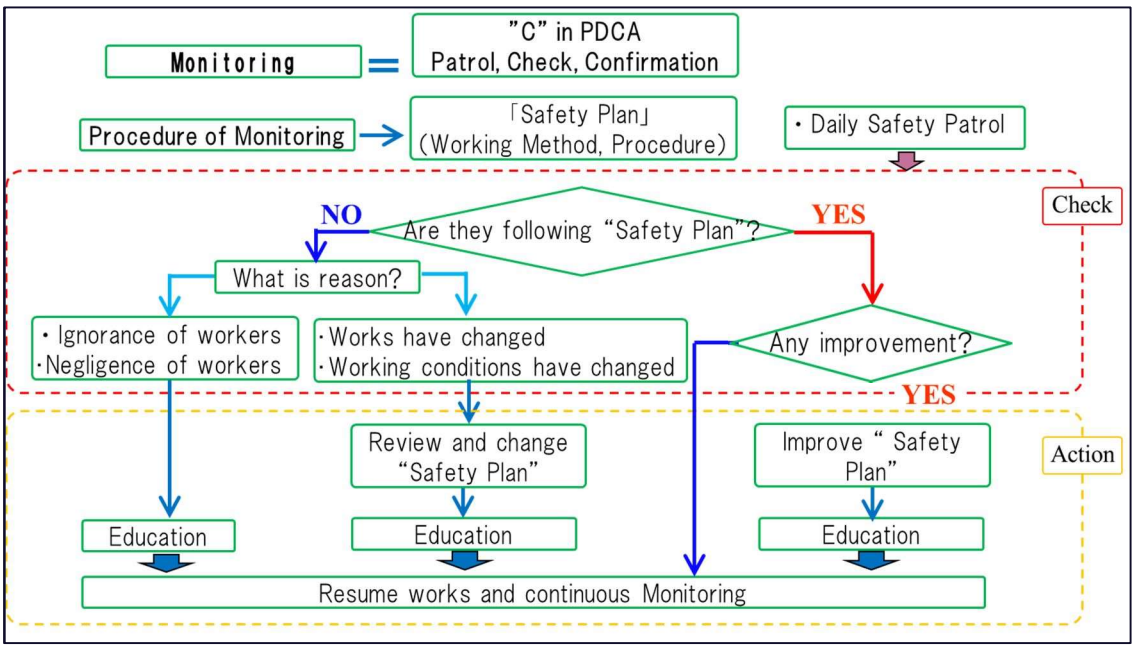


Figure 2- 7: Safety Monitoring System

Monitoring shall be conducted at daily safety patrol to check if the works is being implemented in accordance with the safety plan and Safety Work Sequence.

2.5 Safety Education and Training

The contractor shall conduct Safety Education and Training to all personnel and workers. Safety Education and Training generally consist of those as shown in Table 2-1 below.

The contractor shall keep records of Safety Education and Training.

Table 2-1: Safety Education and Training

	Safety Education and Training	Timing	Contents	Target personnel
1	Education on Safety Laws and Regulation	Before starting the works	・Safety Laws and Regulation related to the works	Engineer, Foreman
2	New Arrival Education	When newly arrived at the site	・Outline of the project ・Rules on site ・Daily Safety Construction Cycle, and so on	All personnel and workers
3	Education of Safety Work Sequence	Before starting the works	・Safety Working Procedure in accordance with "Safety Plan"	All workers
4	Education of Safety Work Sequence when changed	When Safety Working Procedure has been changed	・Re-education of Safety Working Procedure.	All workers
5	Periodical Safety Education and Training	In Monthly Safety Committee	・Any safety topics e.g. example of accidents ・Safety Patrol	All personnel
6	Evacuation Training	Every half year or when site conditions are changed	・Training for evacuation in case of emergency	All personnel and workers

2.6 Voluntary Safety Management Activities

The contractor shall be encouraged to introduce Voluntary Safety Management Activities for the purpose of promoting Safety Awareness and Discipline of workers.

1) Establish Daily Safety Construction Cycle

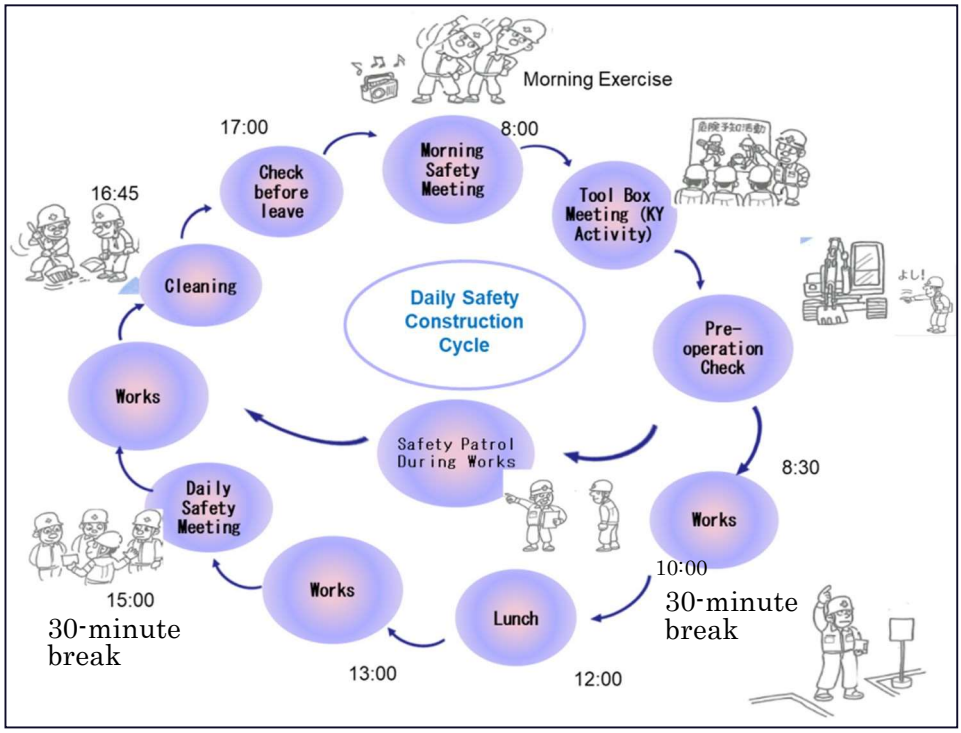


Figure 2- 8: Daily Safety Construction Cycle(sample)

Daily routine of safety activities in the project site should be determined.

2) Tool Box Meeting (KY Activity)

Tool Box Meeting should be held by each working group before starting daily works to confirm today's work items and safety measures to be taken.

KY (Kiken Yochi : predict danger) Activity: In Tool Box Meeting, work procedures are to be written down on a white board (which is so called KY Board) according to the working sequence stated in the approved Safety Plan. Then, all workers speak out possible dangers at each work activity and write down on the board. They discuss to choose the most risky activity and decide the measure to be taken to prevent the accident.

KY Activity (Erection of Scaffolding)

No.	Work Sequence	Possible Danger	Measures to be taken
1	Transportation of Materials	Falling materials hit people	Confirmations of signs
			Keep out of under materials being transported
		Fall from high stage	Use Safety Belt
2	Erection of scaffolding	Falling materials hit people	Keep out from working area
			Install keep-out barrier
		Fall from high stage	Use Safety Belt

Figure 2- 9: KY Board (sample)

3) 5S Activity

5S stands for Seiri, Seiton, Seisou , Seiketsu and Shitsuke in Japanese which mean Arrangement, Tidy-up, Cleaning, Hygiene and Discipline respectively and are worldwide used as safety activity. 5S is basic of safety. And it is easy for people involved in the works to be reminded of the basic of safety. Table 2-2 shows the meaning of each word of 5S.

Table 2- 2: Meaning of 5S

5S	Meaning
Seiri (Arrangement)	Distinguish necessary materials and equipment and those unnecessary and remove the latter from site
Seiton(Tidy-up)	Place and store materials and equipment in the certain location in tidy manner
Seisou(Cleaning)	Cleaning up the site after work
Seiketsu(Hygiene)	Make site and circumstances hygiene
Shitsuke(Discipline)	Following Rules

4) Prevention of Human Error- 3C Activity

Most accidents are caused by Human Error (it is called Human Disaster against Natural Disaster). Knowing that human inherently makes mistakes either unintentionally or intentionally, the contractor shall make any efforts to avoid Human Error.

Figure 2-11 shows 3C Activity to avoid Human Error.

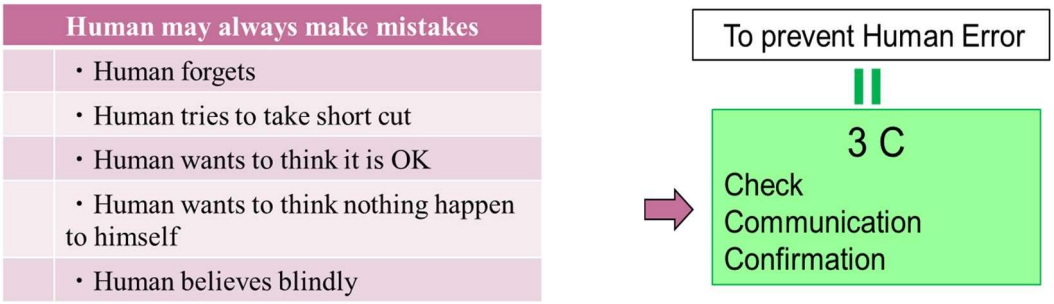


Figure 2- 10: 3C Activity to avoid Human Error

5) Other Safety Activities

- Morning Exercise followed by Morning Safety Meeting attended by all personnel and workers
- Daily Safety Meeting at 15:00 to confirm tomorrow's work and safety instruction
- Safety Competition and Safety Awards
- Safety Slogan

2.7 Sharing Information

The contractor shall show in the safety plan how to share information on safety with all workers. Table 2-3 summarizes methodology of sharing information and communication on Safety.

Table 2- 3: Sharing Information

When	Who	Where	What	How	whom
Every morning	Project Manager	At Morning Safety Meeting	Common information and safety instruction	Orally	To all workers
Every afternoon	Project Manager	At Daily Safety Meeting	Safety measures and instruction	In writing	To Leader of working group
Weekly	Safety Manager	Safety Patrol	Results of Patrol Notice to correct	In writing	To Leader of working group
Monthly	Safety Manager	Safety Committee	Monthly Report on Safety Safety Education	Orally In writing	To Leader of working group
Any time	Safety Manager	New Arrival Education	Safety Rules	Orally In writing	To all new arrival
Any time	Safety Manager	-	Revision of Safety Plan	In writing	To all personnel Leader of working group
Any time	Worker	-	Near-miss	Orally	To Safety Manager
In case of Emergency	Project Manager	-	Order to evacuate	Orally Site speaker, Mobile	To all workers
In case of Emergenc	Worker	-	Occurrence of accident	Orally	To Project Manager

y					
After investigation on Accident	Safety Manager	-	Report on accident	In writing	To all personnel Leader of working group

Near-miss (Japanese Hiyari-Hatto): Near-miss means incident where no accident happened eventually only by luck, but serious accident might have happened. There may be same causes in the near-miss which caused serious accident. All workers who experienced Near-miss should report to Safety Manager.

【Heinrich's Law】

29 minor accidents happened behind one serious accident, 300 Near-miss are hidden behind 29 minor accidents, i.e. 300 Near-miss happened behind one serious accident.

Near-miss may not be known by the others unless it is reported. Report on experience of Near-miss is an important source of information to take measures to prevent recurrence of incident before accident actually happens.

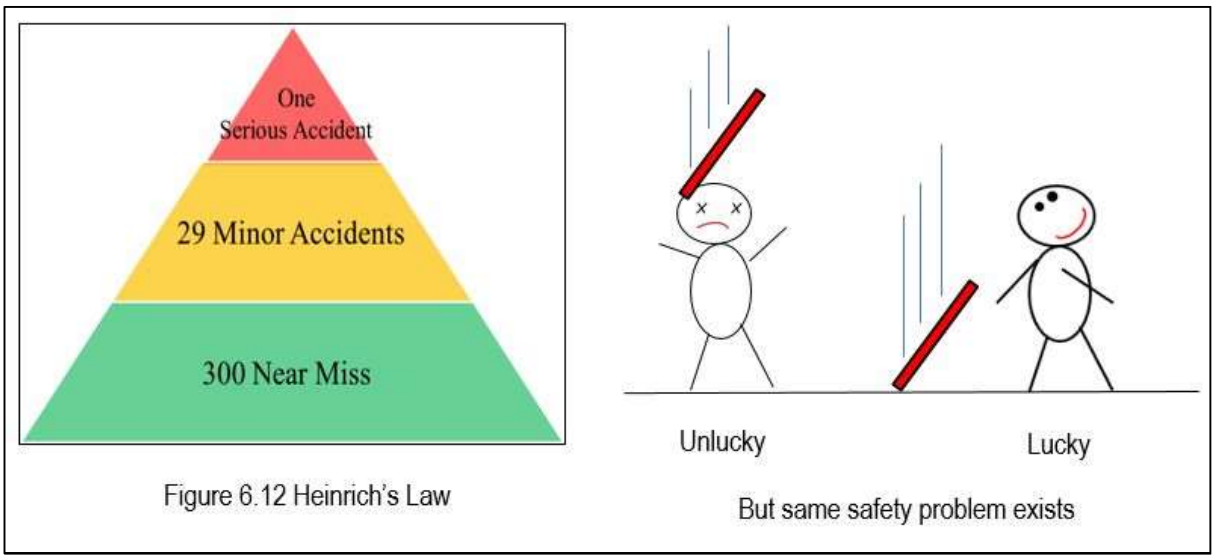


Figure 2- 11: Heinrich's Law

2.8 Response to Emergencies and Unforeseen Circumstances

The contractor shall establish a rule of how to respond and take immediate action in case of emergency and unforeseen circumstances.

Figure 2-13 shows a sample flow chart of response and action to be taken in case of emergency (accident).

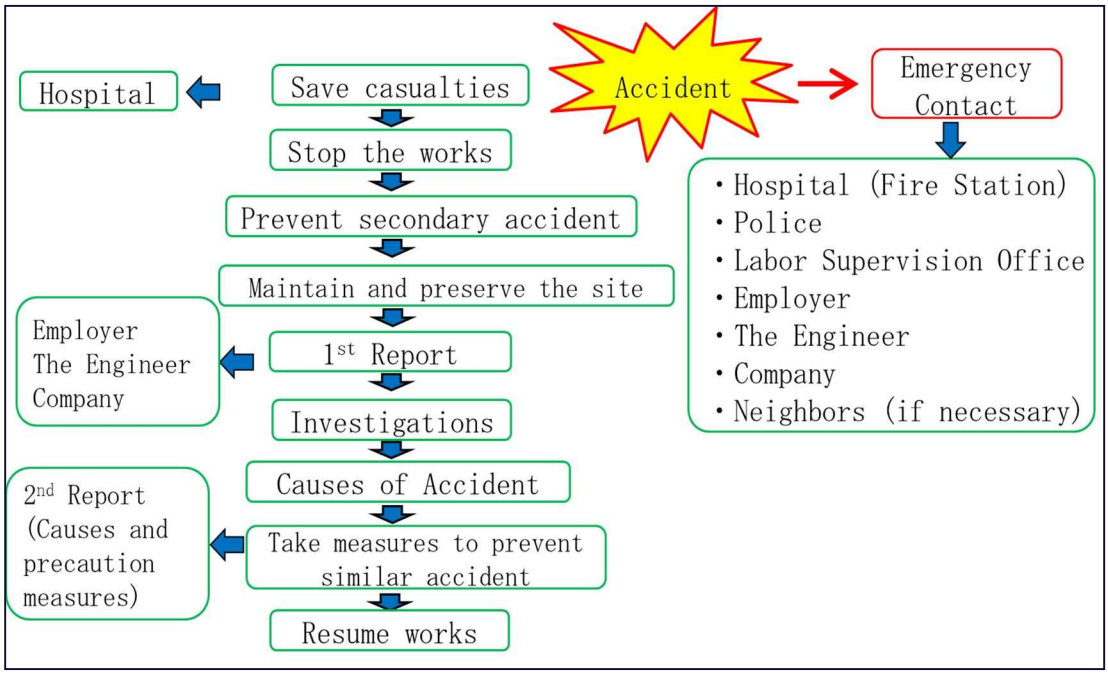


Figure 2- 12: Flow Chart of Response and Action in case of Emergency (sample)

The contractor shall establish at least;

a) Emergency Contact List

b) 1st Contact Procedure

c) Internal Rescue Team

and stick up them in the office.

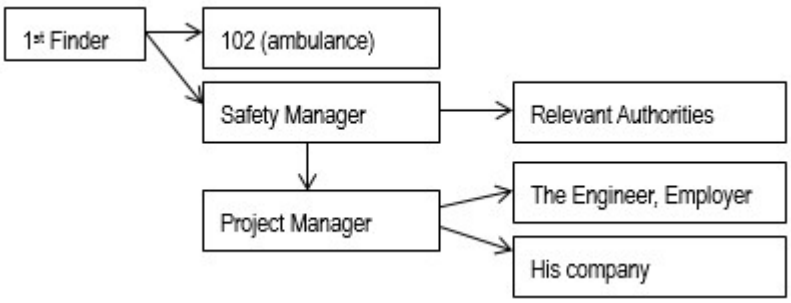


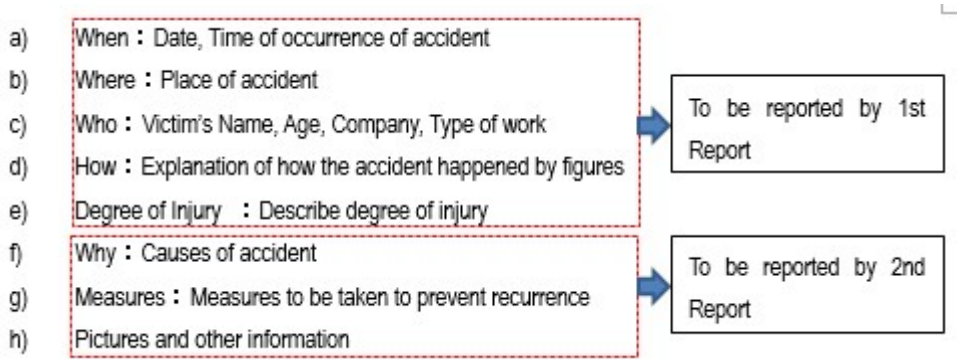
Figure 2- 13: 1st Contact Procedures (sample)

The contractor shall submit 1st Report on the accident to the Engineer (Employer) within 24 hours after the accident, and submit 2nd Report which shall include detailed causes and measures to be taken to prevent recurrence within 7days after the accident.

The contractor shall not resume the works until the Engineer or the relevant authority approves the 2nd Report. The contractor shall preserve the site by installing off-limit to the area until the works is resumed. The contractor shall check the site conditions, equipment and facilities before the works restart.

[Accident Report]

Accident Report shall include;



2.9 Risk Assessment and Safety Work Sequence

The contractor shall prepare **Safety Work Sequence** for each DFOW or unit work which will be continuously executed, by exercising **Risk Assessment** of the works to determine the works with high risk and measures to be taken to prevent accidents. Risk Assessment and Safety Work Sequence may be submitted along with the Safety Management Plan or along with individual working method which shall be submitted not latter than 7 days before the commencement of works for the Engineer's approval.

Following is procedure of Risk Assessment and Safety Work Sequence

[Procedure of Risk Assessment and Safety Work Sequence]

① Write down all activities in the order of work sequence

② Write down all risks anticipated in every activity

③ Risk Assessment is to be made to every risk

Risk is to be evaluated in terms of Probability and Significance given score from 1 to 3 depending on degree of probability and significance. Evaluation point is given by multiplying two scores. Table2-4 shows Risk Evaluation.

Table 2-4: Risk Evaluation

Significance / Probability	1 Minor (no absence from work)	2 Serious (absence from work)	3 Very serious (death, permanent handicap)
1 Rare	1 (Very Minor problem)	2 (Minor problem)	3 (Some problem)
2 Middle Possibility	2 (Minor problem)	4 (Serious problem)	6 (Very serious problem)
3 High Possibility	3 (Some problem)	6 (Very serious problem)	9 (Critical problem)

④ Describe measures to be taken against the risks , Risk Evaluation Point of which are more than 4.

Figure 2-15 is a sample of Risk Assessment.

Works: Road Excavation

No	Work Sequence	Risk	Risk Assessment			Measures to be taken	Remarks
			Probability ①	Significance ②	Evaluation ③=①x②		
1	Transport Excavator to site	1.1 Excavator fall down from trailer when unloading	1	2	2		
		1.2 Excavator hit worker when moving	1	3	3		
2	Excavation	2.1 Excavator hit worker when turning	3	3	9	Prohibit entering working area Install Barrier	
		2.2 Excavator hit passenger when turning	2	3	6	Allocate Flagman Install Barrier	
		2.3 Excavator hit public vehicle when turning	2	3	6	Allocate Flagman Install Barrier	
		2.4 Excavator falls down into excavated area	1	2	2		
3	Dump Track Move in	3.1 Dump track fall dwon into excavated area	1	2	2		
		3.2 Dump track hit public traffic	2	3	6	Allocate Flagman	
4	Loading Excavated Material	4.1 Excavator hit worker when turning	3	3	9	Prohibit entering working area Install Barrier	
		4.2 Excavator hit passenger when turning	2	3	6	Allocate Flagman Install Barrier	
		4.3 Excavator hit public vehicle when turning	2	3	6	Allocate Flagman Install Barrier	
5	Dump Track Move out	5.1 Dump track hit public traffic	1	3	3		
		5.2 Materal fall down on public road	3	1	3		
	Repeat 3-5						
6	After Work	6.1 Public vehicle fall into excavated area	3	3	9	Install Barrier with lump	
		6.2 Passenger fall into excavated area	3	3	9	Install Barrier with lump	

Measures should be taken to Risk Evaluation more than 4

Figure 2- 14: Risk Assessment (sample)

⑤ Prepare Safety Work Sequence

Safety measures determined to be taken in the risk assessment are to be inserted in the work sequence to complete it as ***Safety Work Sequence.***

A sample of Safety Work Sequence is shown in Figure 6.16.

Works should be implemented in accordance with the Safety Work Sequence. The Safety Work Sequence should not be changed without prior approval of Safety Manager. Safety Manager should check if the works is being implemented in accordance with the Safety Work Sequence. (refer to 2.2 (4) Monitoring System)

Works: Road Excavation

No	Work Sequence	Safety Work Sequence	Who	When	Where	Remarks
1	Transport Excavator to site	1.1 Install Barrier	Worker	Before work	Surrounding working area	
		1.2 Allocate Flagman	Flagman	When transport	At entrance	
		1.3 Trailer move in	Operator			
		1.4 Unloading Excavator	Operator			
2	Excavation	2.1 Install Barrier	Worker	Before work	Surrounding working area	
		2.2 Allocate Flagman	Flagman	During work	At working area	
		2.3 Excavation	Operator			Prohibit entering working area
3	Dump Track Move in	3.1 Allocate Flagman	Flagman	When Move in	At entrance	
		3.2 Dump track Move in	Operator			
4	Loading Excavated Material	4.1 Install Barrier	Worker	Before work	Surrounding working area	
		4.2 Allocate Flagman	Flagman	During work	At working area	
		4.3 Loading Excavated Material	Operator			Prohibit entering working area
5	Dump Track Move out	5.1 Allocate Flagman	Flagman	When Move out	At entrance	
		5.2 Dump track Move out	Operator			
Repeat 3-5						
6	After Work	6.1 Install Barrier with lump	Worker	After work	Surrounding working area	

Figure 2- 15: Safety Work Sequence (sample)

Chapter3 Safety Management System

The contractor shall establish Safety Management System based upon Safety Management Plan.

3.1 Flow of Safety Management

Figure 3-1 shows flow of Safety Management.

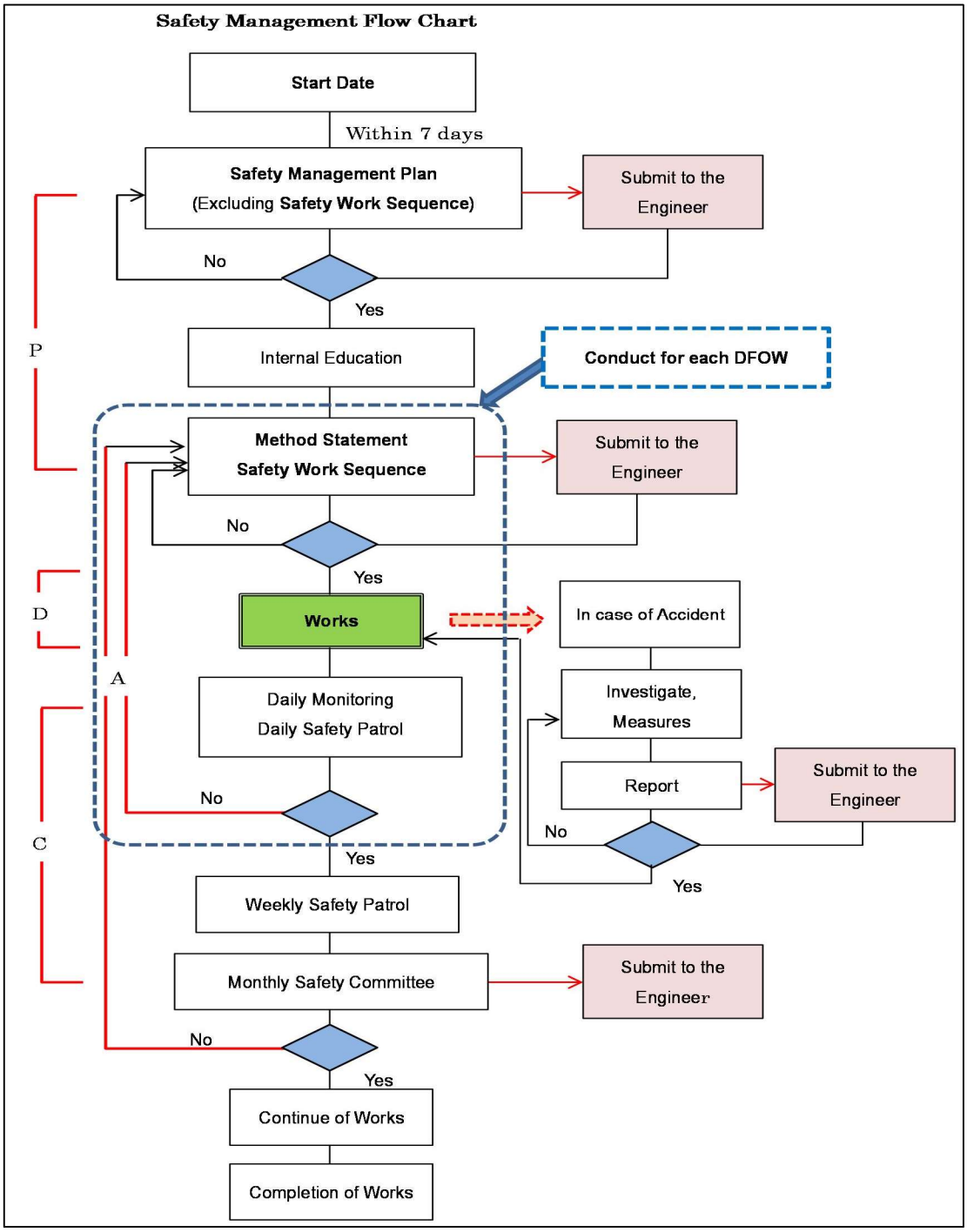
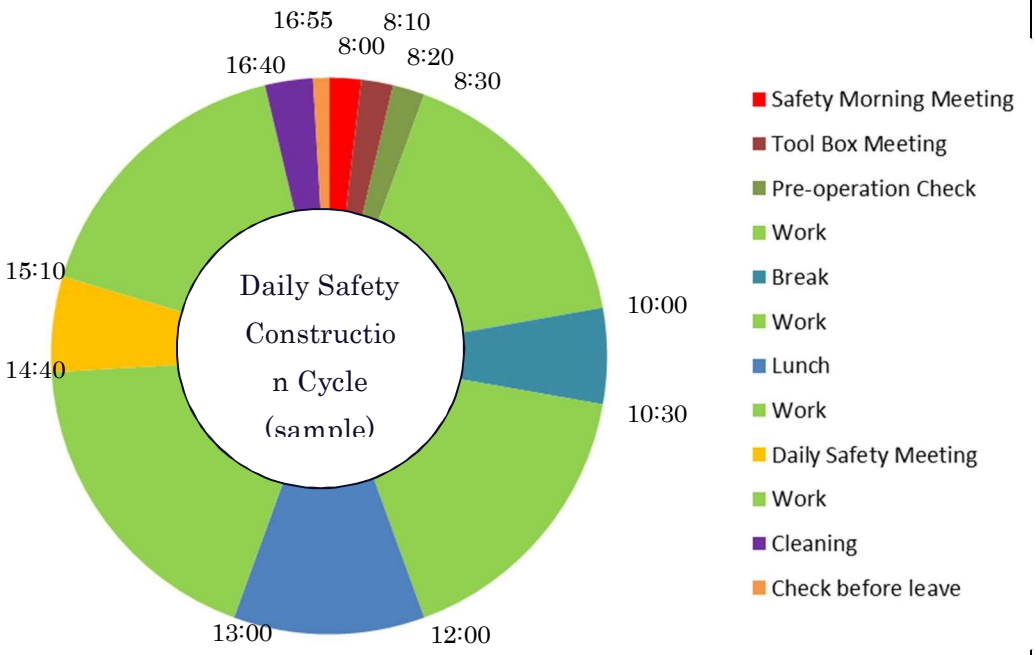


Figure 3-1: Flow of Safety Management

3.2 Safety Activities

Safety Activities are summarized on daily, weekly and monthly basis in Table 3-1.

Table 3-1: Summary of Safety Activities

No.	Safety Activity	Participants	Record/Report
Daily Activity			
1	Morning Safety Meeting	All personnel and Workers	Daily Report
2	Tool Box Meeting/KY Activity	Each Working Group	KY Record
3	Pre-operation Check	Operator, Group Leader	Check List
4	Daily Safety Meeting	Contractor, Group leader	Daily Report
5	Daily Safety Patrol 17:00	Contractor's PM, Safety Manager	Daily Report
			
Weekly Activity			
1	Weekly Safety Patrol	Safety Manager, Group Leader	Weekly Patrol Report
Monthly Activity			
1	Monthly Safety Committee	All personnel, Group Leaders	Minutes
2	Safety Education and	All personnel and	Materials, record

	Training	Workers	
Occasionally			
1	New Arrival Education	Safety Manager, New arrival	Record
2	Safety Works Sequence Education	Safety Manager, Group Leader	Record
3	Emergency Training	All personnel and Workers	Record

3.3 Standard Forms for Safety Management

Standard forms are to be used for Safety Management. Table 3-2 is a List of Standard Forms.

Table 3-2: Standard Forms for Safety Management

Form No.	Name of Form
S-1	Daily Works Record & Safety Instruction
S-2	Risk Assessment
S-3	Safety Work Sequence
S-4	KY Record
S-5	Safety Instruction
S-6	Weekly Patrol Report
S-7	Correction Report
S-8	Minutes of Safety Committee
S-9	New arrival education record
S-10	Safety Patrol Check List
S-11	Safety Patrol Check Sheet
S-12	Accident Report

Standard Forms

Project | **FORM No.** S-1

Contractor

Daily Works Record and Safety Instruction

Works Done for Today							
Today (Date: / /2018) Weather:							
No.	Works Item	Location	Nos. of Workers	Equipment		Safety Instruction Implemented	Remarks
				Name	Nos.		

Particulars (Safty Instruction, Incident, Events)	
1	
2	
3	
4	
5	
6	

Works to be done for Tomorrow							
Today (Date: / /2018)							
No.	Works Item	Location	Nos. of Workers	equipment		Safety Instruction	Remarks
				Name	Nos.		

Particulars (Safty Instruction, Incident, Events)	
1	
2	
3	
4	
5	
6	

Contractor ____________________

Consultant ____________________

Risk Assessment

FORM No. S-2

Project Name:							
Contractor:						Revised	
Works:		Work Period				Date	
No	Work Sequence	Risk	Risk Assessment			Measures to be taken	Remarks
			Probability ①	Significance ②	Evaluation ③=①x②		

Measures should be taken to Risk Evaluation more than 4

Risk Evaluation

Probability \ Significance	1 Minor (no absence from work)	2 Serious (absence from work)	3 Very serious (death, permanent handicap)
1 Rare	1 (Very Minor problem)	2 (Minor problem)	3 (Some problem)
2 Middle Possibility	2 (Minor problem)	4 (Serious problem)	6 (Very serious problem)
3 High Possibility	3 (Some problem)	6 (Very serious problem)	9 (Critical problem)

Risk Assessment

FORM No. S-2

Project Name:							
Contractor:						Revised	
Works:	Road Excavation		Work Period			Date	

No	Work Sequence	Risk	Risk Assessment			Measures to be taken	Remarks
			Probability ①	Significance ②	Evaluation ③=①x②		
1	Transport Excavator to site	1.1 Excavator fall down from trailer when unloading	1	2	2		
		1.2 Excavator hit worker when moving	1	3	3		
2	Excavation	2.1 Excavator hit worker when turning	3	3	9	Prohibit entering working area Install Barrier	
		2.2 Excavator hit passenger when turning	2	3	6	Allocate Flagman Install Barrier	
		2.3 Excavator hit public vehicle when turning	2	3	6	Allocate Flagman Install Barrier	
		2.4 Excavator falls down into excavated area	1	2	2		
3	Dump Track Move in	3.1 Dump track fall dwon into excavated area	1	2	2		
		3.2 Dump track hit public traffic	2	3	6	Allocate Flagman	
4	Loading Excavated Material	4.1 Excavator hit worker when turning	3	3	9	Prohibit entering working area Install Barrier	
		4.2 Excavator hit passenger when turning	2	3	6	Allocate Flagman Install Barrier	
		4.3 Excavator hit public vehicle when turning	2	3	6	Allocate Flagman Install Barrier	
5	Dump Track Move out	5.1 Dump track hit public traffic	1	3	3		
		5.2 Materal fall down on public road	3	1	3		
	Repeat 3-5						
6	After Work	6.1 Public vehicle fall into excavated area	3	3	9	Install Barrier with lump	
		6.2 Passenger fall into excavated area	3	3	9	Install Barrier with lump	

Measures should be taken to Risk Evaluation more than 4

Risk Evaluation

Probability \ Significance	1 Minor (no absence from work)	2 Serious (absence from work)	3 Very serious (death, permanent handicap)
1 Rare	1 (Very Minor problem)	2 (Minor problem)	3 (Some problem)
2 Middle Possibility	2 (Minor problem)	4 (Serious problem)	6 (Very serious problem)
3 High Possibility	3 (Some problem)	6 (Very serious problem)	9 (Critical problem)

FORM No. S-3

Safety Work Sequence

Project Name:						
Contractor:					Revised	
Works:		Work Period			Date	

No	Work Sequence	Safety Work Sequence	Who	When	Where	Remarks

Safety Work Sequence

FORM No. S-3

Project Name:						
Contractor:					Revised	
Works:	Road Excavation	Work Period			Date	

No	Work Sequence	Safety Work Sequence	Who	When	Where	Remarks
1	Transport Excavator to site	1.1 Install Barrier	Worker	Before work	Surrounding working area	
		1.2 Allocate Flagman	Flagman	When transport	At entrance	
		1.3 Trailer move in	Operator			
		1.4 Unloading Excavator	Operator			
2	Excavation	2.1 Install Barrier	Worker	Before work	Surrounding working area	
		2.2 Allocate Flagman	Flagman	During work	At working area	
		2.3 Excavation	Operator			Prohibit entering working area
3	Dump Track Move in	3.1 Allocate Flagman	Flagman	When Move in	At entrance	
		3.2 Dump track Move in	Operator			
4	Loading Excavated Material	4.1 Install Barrier	Worker	Before work	Surrounding working area	
		4.2 Allocate Flagman	Flagman	During work	At working area	
		4.3 Loading Excavated Material	Operator			Prohibit entering working area
5	Dump Track Move out	5.1 Allocate Flagman	Flagman	When Move out	At entrance	
		5.2 Dump track Move out	Operator			
Repeat 3-5						
6	After Work	6.1 Install Barrier with lump	Worker	After work	Surrounding working area	

FORM No. S-4

Report on Daily KY Activity

Date	
Works	
Name of Working Group Leader	
Numbers of members	

KY Board

No.	Work Sequence	KIKEN (Risks)	Safety Measures to be taken	Remarks

FORM NO.S-5

SAFETY INSTRUCTION

SI No.					
Date/Time					
Instructed By	Signature				
Instructed To	Company :				
	Type of work				
	Name	Signature			
Safety Instruction					
Category	PPE	Behavior	Facilities	Others	

FORM No. S-6

Ref. No.	

Weekly Safety Patrol Report

Date(Y/M/D)		Weather	
Area / Contractor			
Name of Safety Inspector			
Name of Contractor's Representatives			
Today's Main Activities of Works			
Construction Equipment being used			
Nos. of Workers			

Results of Safety Patrol

NO.	Item	Subject	Comments	Evaluation	To be corrected
1	Safety Management				
2	Common				
3	Traffic / Public Safety				
4	Prevention of Equipment Accident				
5	Prevention of Fall Accident				
6	Others				

General Comments		Total Evaluation/Score

・Evaluation(score) : **S** :Excellent(100), **A**; Good(80), **B**: Fair(70), **C**: Poor(50), **D**: Very Poor(30)

・Items under Evaluation **C** or individual instruction should be corrected and the Correction Report should be submitted with evidence pictures attached within one week.

・Inspector is to maintain the reports together with information given by the project site.

Signed by Inspector

Name/Position

Signed by Contractor

Name/Position

FORM No. S-7

Date

Safety Correction Report

This is to report on correction of Safety items which were pinted out to be corrected at Safety Patrol conducted on / /

Name of Project	
Contractor	
Name of Safety Manager	
Name of Contractor's Representatives	

Correction

NO.	Item	Subject	To be corrected	Corrected	Attached documents /Photos
1	Safety Management				
2	Common				
3	Traffic / Public Safety				
4	Prevention of Equipment Accident				
5	Prevention of Fall Accident				
6	Others				

・Evaluation(score) : **S** :Excellent(100), **A**; Good(80), **B**: Fair(70), **C**: Poor(50), **D**: Very Poor(30)

・Items under Evaluation **C** or individual instruction should be corrected and the Correction Report should be submitted with evidence pictures attached within one week.

・Inspector is to maintain the reports together with information given by the project site.

Signed by Contractor

Name/Position

FORM No. S-8

Project Name				
Minutes of Safety Committee				
Date				
Venue				
Attendees	Name of Company	Name	Position	Signature
Agenda				
No.	**Minutes**			
1	Address by Project Manager			
2	Review on Safety during last month			
3	Schedule of Works in next month			
4	Safety Measures and target for next month			
5	Information			
6	Others			
7	Next Safety Committee			
Attachments				

FORM No. S-9

Project Name						
New Arrival Education Record						
1	Date					
2	Name		Gender		Age	
3	Address					
4	Company					
5	Type of job					
6	Experience (years)					
7	Qualification if any					
8	Health Checkup					
9	Health Condition					

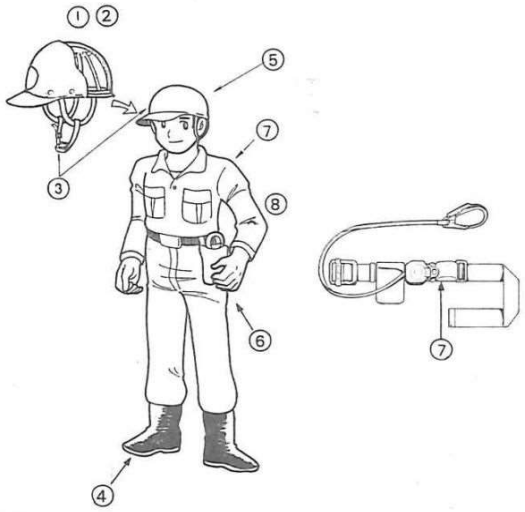
10	Item of Safety Education		
	No	Subject	Remarks
	1	Outline of Project	
	2	Plan of Site, Safety Access, Safety Facilities	
	3	Rules	
	4	Daily Safety Construction Cycle	
	5	Safety Construction Sequence	
11	Pledge		
	1	I pledge hereby to follow Rules and Safety Instruction at works	
	2	I agree that in case I fail to follow Rules, I will be removed from site.	

Signature _____

Construction Site Safety Patrol Check List

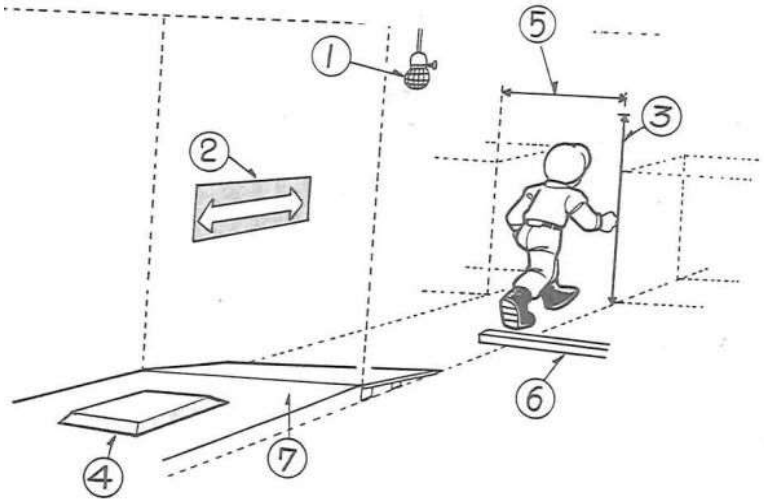
Contents

1. General				
No	Item	Check Items	Check Result	
			○/×/-	Description
1-1	PPE	① Waring Safety Helmet		
		② No damage on Helmet		
		③ Waring safety Helmet properly and tighten chin-strap		
		④ Waring Safety Shoes		
		⑤ Waring Goggle		
		⑥ Waring Groove		
		⑦ Waring Safety Belt		
		⑧ Waring proper working clothes		
		⑨ Waring Mask		

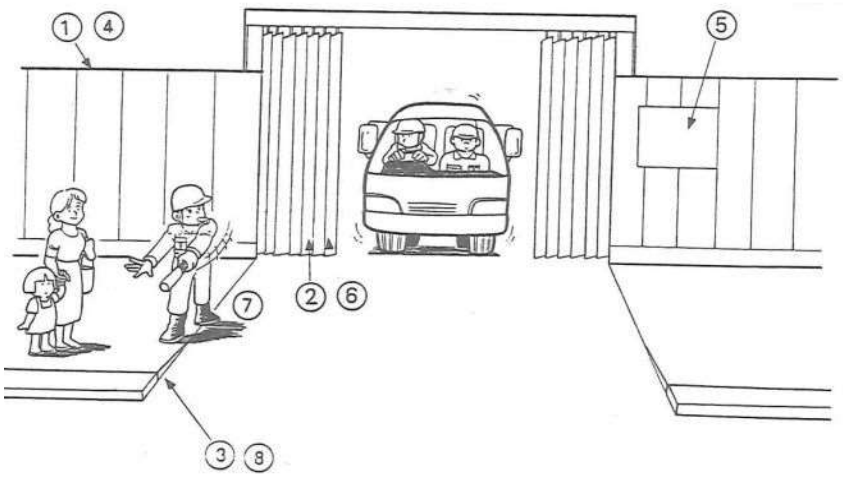


1. General					
No	Item	Check Items		Check Result	
				○/×/-	Description
1-2	Arrangement, Tidiness and Cleaning	①	Site is clean and tidy in general		
		②	Tools and equipment are stored in tidy manner		
		③	No material and equipment are placed in front of electric distributer and fire extinguisher		
		④	Unused materials are placed separately		
		⑤	No dangerous material is placed in site		
		⑥	Smoking area is designated		

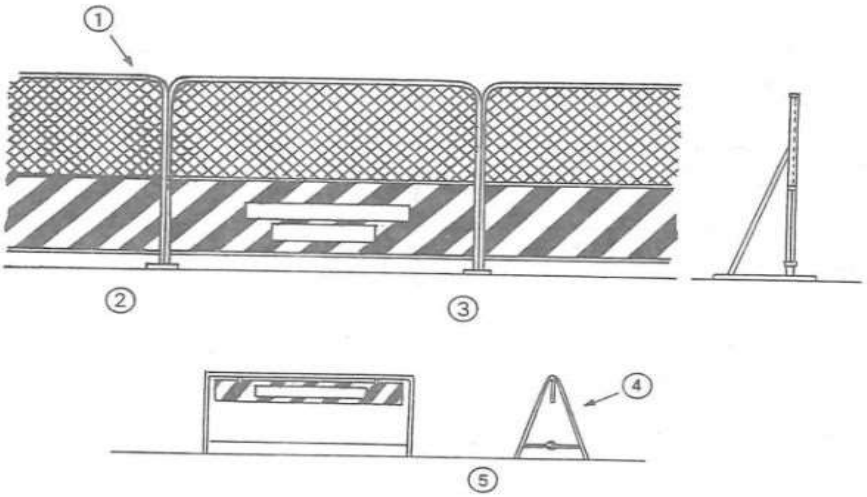
No	Item	Check Items	Check Result	
			○/×/-	Description
1-3	Safety Access	① Lighting is sufficiently provided		
		② Safety Access is provided and indicated		
		③ No obstacle within 1.8 m from the ground		
		④ Openings are closed or surrounded by hand rails		
		⑤ Width is sufficient		
		⑥ No material is placed on safety access		



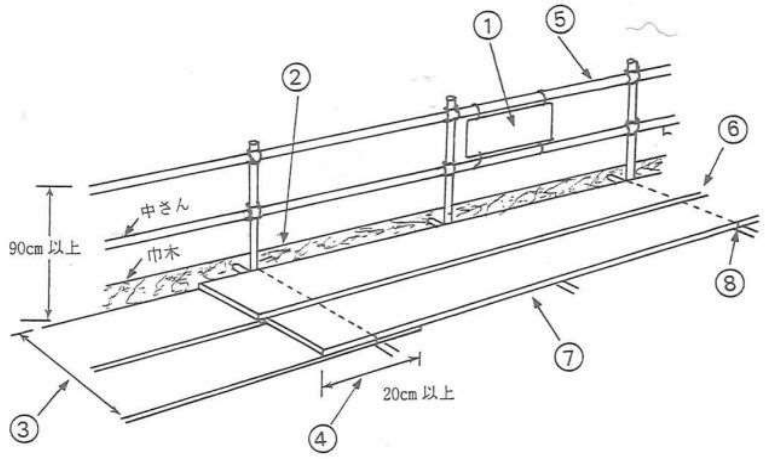
No	Item	Check Items	Check Result	
			○/×/-	Description
1-4	Fence and Entrance of Site	① More than 1.8m high fence is installed to prevent third people to enter the site in case of extreme danger		
		② Sliding type gate is installed at entrance		
		③ No mud or soil is dropped at entrance		
		④ Fence and barrier are fixed tightly		
		⑤ Sign boards and precaution are provided for third people		
		⑥ Gate is closed when no use		
		⑦ Flag man is allocated at entrance to control third people and traffic		
		⑧ No steps on footpath at entrance		



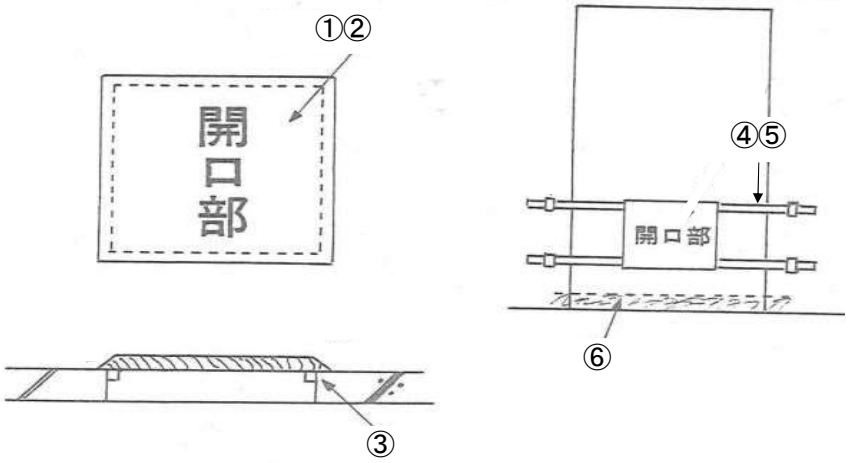
No	Item	Check Items	Check Result	
			○/×/-	Description
1-5	Safety Barrier	① Keep-out barrier is installed around working area		
		② More than 1.5m high fence is installed along access that many people use		
		③ Barriers and fences are fixed tightly		



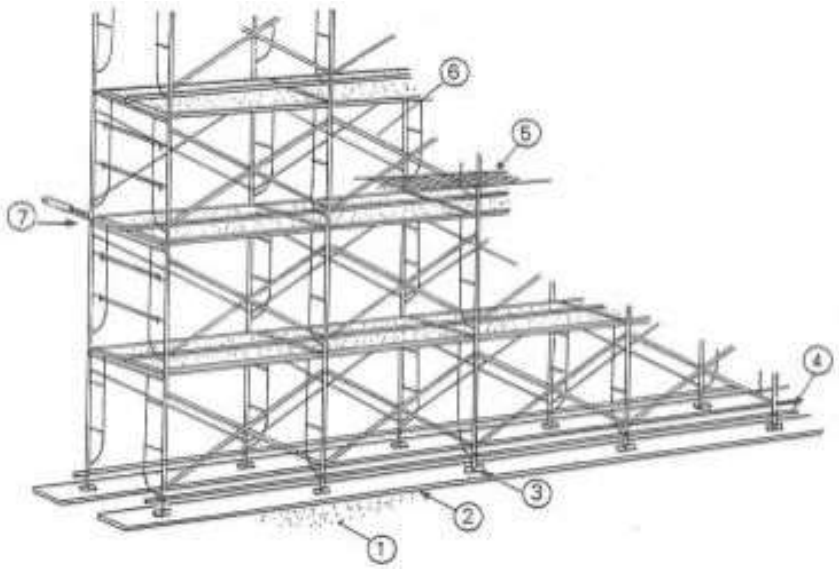
2. Prevention of Fall Accident				
No	Item	Check Items	Check Result	
			○/×/-	Description
2-1	Working Platform	① Working Platform is installed where works at height more than 1.8m		
		① Maximum loading is indicated in working platform		
		① No material exceeding maximum loading is placed on working platform		
		② End plates are installed to prevent materials from falling		
		③ Width of working platform is more than 40cm		
		④ Gap between working platforms is less than 3cm		
		⑤ Lapping length of 2 working platform is more than 20cm		
		⑤ Hand rail is rigid and more than 90cm in height		
		⑥ Middle bar is installed on hand rail		
		⑦ Over-hung length of working platform is less than 10cm or 1/18 of span length		
		⑧ Working platform is supported at more than 3 supports		
		⑨ Working platform is rigidly fixed by steel wire		



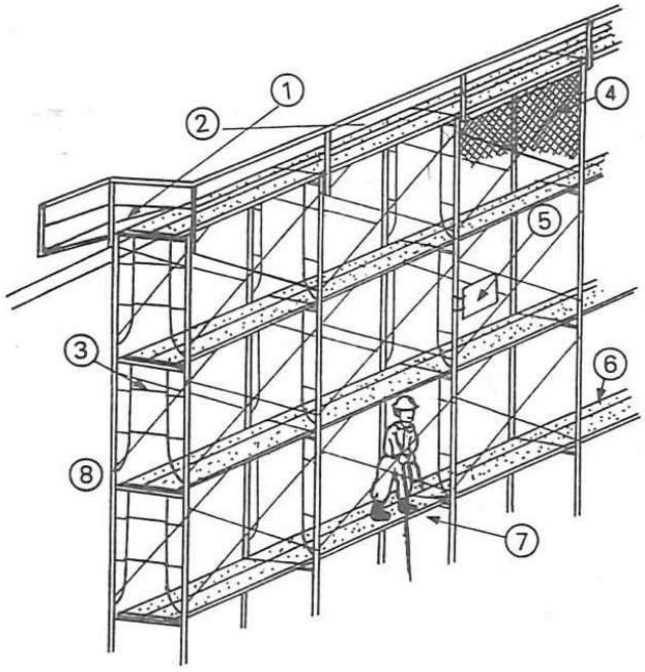
2. Prevention of Fall Accident				
No	Item	Check Items	Check Result	
			○/×/−	Description
2-2	Openings	① Openings are covered by proper materials		
		② Location of openings are indicated		
		③ Stopper is provided to opening cover		
		④ Hand rail is installed around opening where no cover is installed		
		⑤ Height and structure of hand rail is appropriate		
		⑥ Bottom board is installed around opening		



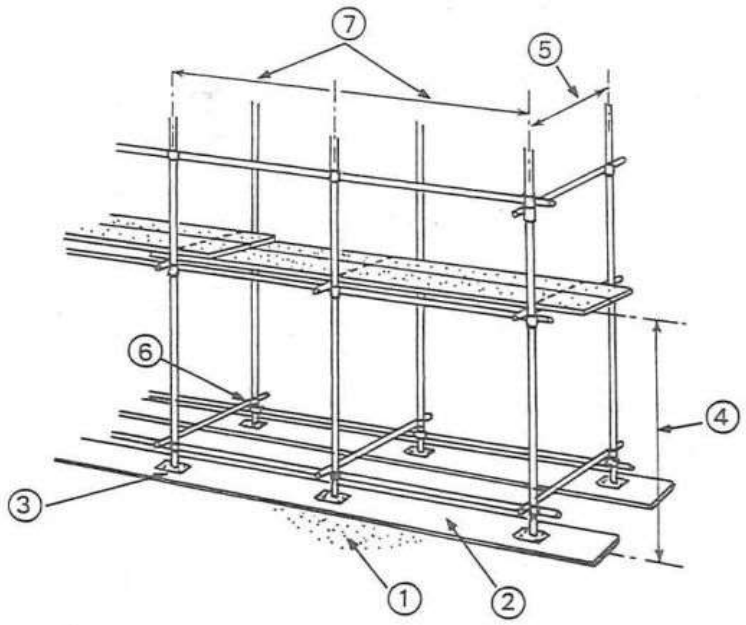
2. Prevention of Fall Accident				
No	Item	Check Items	Check Result	
			○/×/-	Description
2-3	Frame Scaffolding (Base)	① Conditions of foundation ground		
		② Continuous base plate(wooden) is installed under Jack Base		
		③ Jack Bases are fixed by nails to base plate		
		④ Horizontal bar is installed to connect Jack Bases		



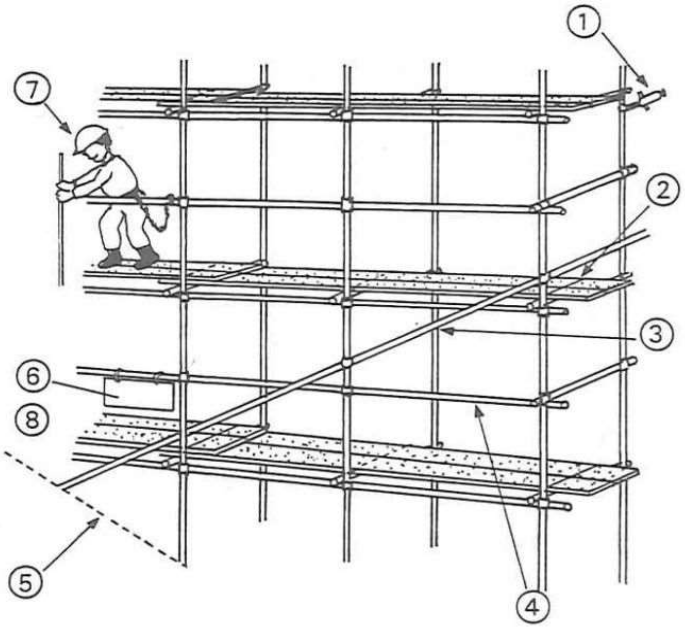
2. Prevention of Fall Accident				
No	Item	Check Items	Check Result	
			○/×/-	Description
2-4	Frame Scaffolding (Body)	① Safety Access is provided from scaffolding to structure		
		② No material remains left on scaffolding		
		③ Hand Rail at end of scaffolding is provided		
		④ Net to prevent materials from falling from scaffolding is installed		
		⑤ Maximum loading on scaffolding 400kg (per span) is indicated		
		⑥ Connection between scaffolding and structure is properly installed		
		⑦ Safety belt is used where falling accident is anticipated		
		⑧ Gap between structure and scaffolding is less tan 30cm		
		⑨ Bracings are installed at every location		
		⑩ Large bracing to connect frames is provided		



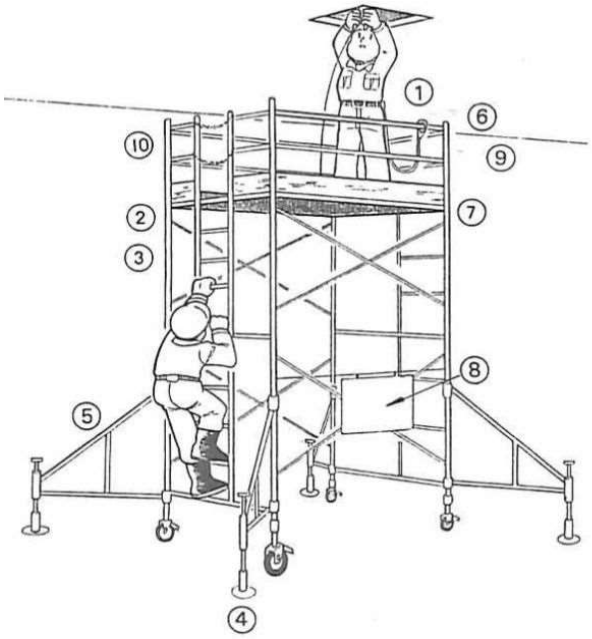
2. Prevention of Fall Accident				
No	Item	Check Items	Check Result	
			○/×/-	Description
2-5	Pipe Scaffolding (Base)	① Conditions of foundation ground		
		② Continuous base plate(wooden) is installed under Jack Base		
		③ Jack Bases are fixed by nails to base plate		
		④ Height of Fist story is less than 2.0 m		
		⑤ Lateral distance of vertical pipes is less than 1.5m		
		⑥ Horizontal bar is installed to connect Jack Bases		
		⑦ Interval of vertical pipes is less than 1.85m		



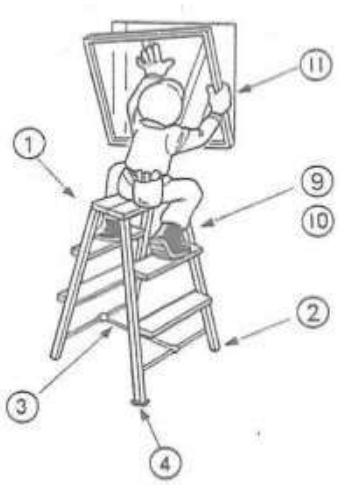
2. Prevention of Fall Accident				
No	Item	Check Items	Check Result	
			○/×/-	Description
2-6	Pipe Scaffolding (Body)	① Connection between scaffolding and structure is properly installed		
		② Width of working platform is more than 40cm		
		② Gap between working platforms is less than 3cm		
		③ Large bracings to connect vertical pipes are provided		
		④ Hand rail is installed		
		⑤ Up-down access is provided properly		
		⑥ Maximum loading is indicated		
		⑦ Safety belt is used where falling accident is anticipated		
		⑧ Net or bottom plate is installed to prevent materials from falling		
		⑨ Hand Rail at end of scaffolding is provided		

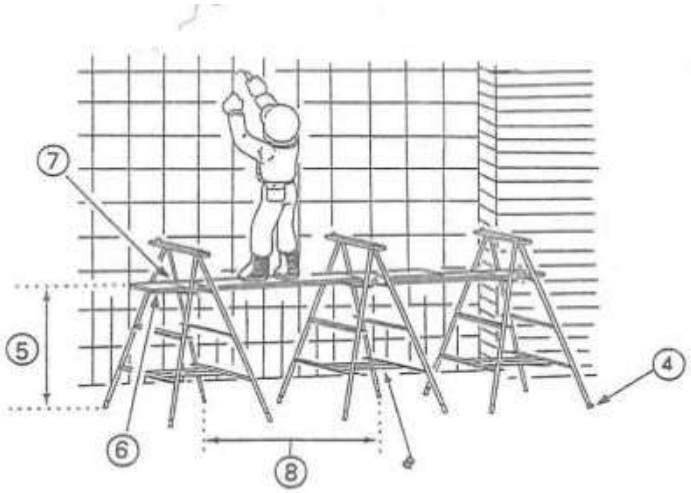


2. Prevention of Fall Accident				
No	Item	Check Items	Check Result	
			○/×/–	Description
2-7	Travelling Scaffolding	① Safety belt is used when working on scaffolding		
		② Proper ladder is provided		
		③ No worker goes up and down with holding materials in hand		
		④ Caster is rocked when using scaffolding		
		⑤ Outrigger is properly set when using scaffolding		
		⑥ Scaffolding is moved with no one on the scaffolding		
		⑦ Height of scaffolding is less than allowable height		
		⑧ Maximum loading and instructions are indicated		
		⑨ No ladder is used on the working platform		
		⑩ Hand rail of more than 90cm high is stalled on the working platform		

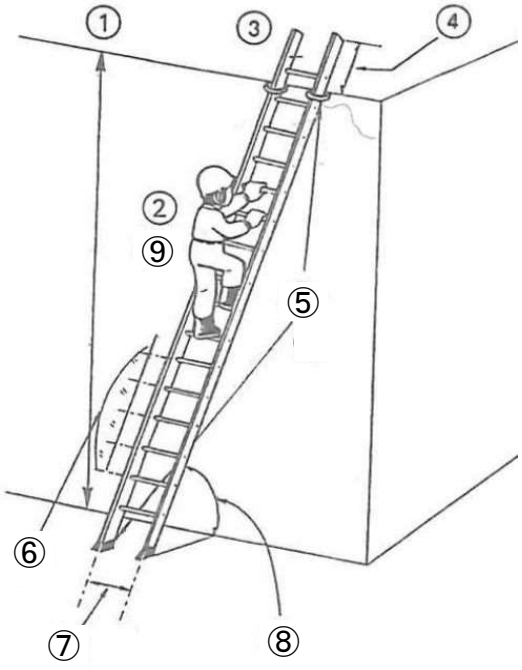


2. Prevention of Fall Accident				
No	Item	Check Items	Check Result	
			○/×/–	Description
2-8	Step Ladder	① No working standing on top step		
		② Step ladder is Installed on stable position		
		③ Opening stopper is used		
		④ Slip resistance is installed on the feet		
		⑤ Height is less than 2m		
		⑥ Safety belt is used when working on step ladder		
		⑦ Working platform is fixed with rubber band		
		⑧ Interval of step ladder is less than 1.8 m		

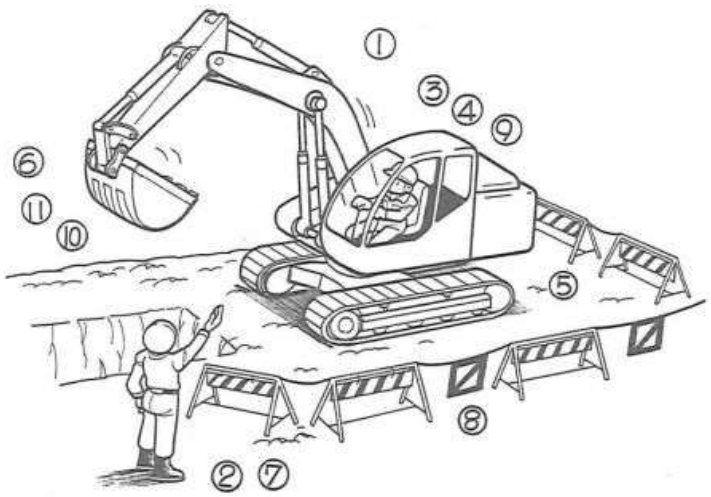




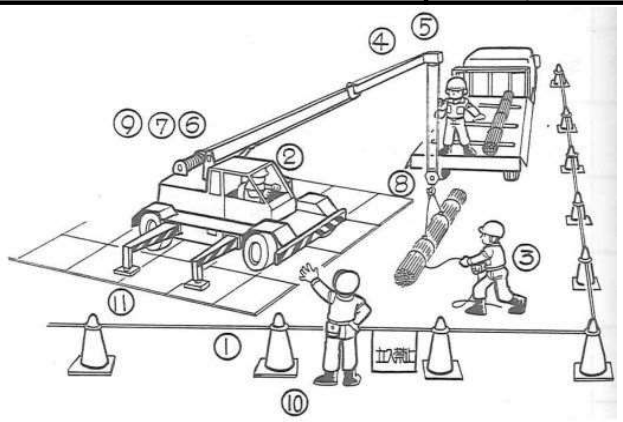
2. Prevention of Fall Accident				
No	Item	Check Items	Check Result	
			○/×/-	Description
2-9	Ladder	① Safety up-down facility is provided at working platform more than 1.5m high		
		② Safety block in provided at ladder		
		③ Ladder install in stable condition		
		④ Top of ladder exceed 60cm from working platform		
		⑤ Top of ladder is fixed		
		⑤ Slip resistance is provided on the feet		
		⑥ Steps are installed at same interval		
		⑦ Width of ladder is more than 30 cm		
		⑧ Installation angle between the ground and ladder is 75 degree		
		⑨ No worker goes up and down with holding materials in hand		



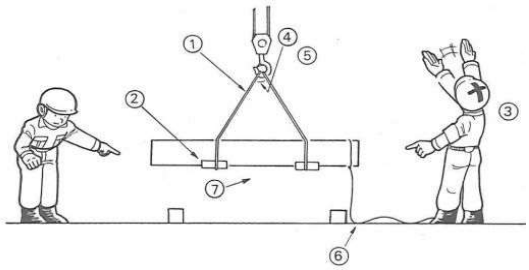
3. Prevention of Machine Accident (Excavator)				
No	Item	Check Items	Check Result	
			○/×/-	Description
3-1	Common	① Working plan for the equipment is prepared		
		・Name, type and capacity of equipment		
		・Transportation of equipment		
		・Working method and sequence		
		② Equipment check list		
		・Periodical check sheets		
		・Pre-operation check sheets		
		③ Allocate flagman and give predetermined sign		
		④ Equipment is not used for wrong purposes		
		⑤ Qualified operator operate equipment		
		⑥ No one ride on equipment except side seat		
		⑦ Operator turns off engine when leaving equipment		
		⑧ Operator remove key when leaving equipment		
	Excavator	① No one working within turning area of excavator		
		② Keep-out barrier is installed around working area		
		③ No over-hung excavation		
		④ Direction of caterpillar is proper when excavating		
		⑤ Excavator is working on stable ground		

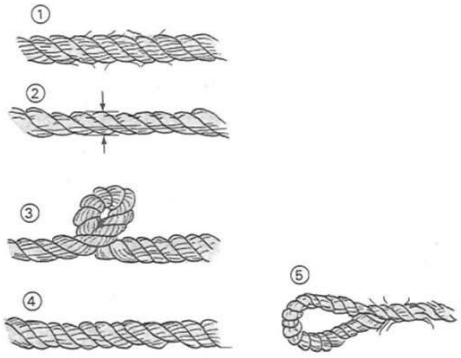


3. Prevention of Machine Accident (Crane)				
No	Item	Check Items	Check Result	
			○/×/-	Description
3-2	Common	① Working plan for the equipment is prepared		
		・Name, type and capacity of equipment		
		・Transportation of equipment		
		・Working method and sequence		
		② Equipment check list		
		Periodical check sheets		
		・Pre-operation check sheets		
		③ Allocate flagman and give predetermined sign		
		④ Equipment is not used for wrong purposes		
		⑤ Qualified operator operate equipment		
		⑥ No one ride on equipment except side seat		
		⑦ Operator turns off engine when leaving equipment		
		⑧ Operator remove key when leaving equipment		
	Crane	① Working under instruction of working leader		
		② Flagman is allocated		
		③ Signs are standardized and given properly		
		④ Capacity of crane is sufficient for the works		
		⑤ Equipped with Anti over-winding device working properly		
		⑥ Equipped with Stopper device on hook		
		⑦ Equipped with Automatic stop device working properly against over loading		
		⑧ Outrigger is set on firm ground or steel plate in case of soft ground		
		⑨ Outrigger is fully extended		
		⑩ Keep-out barrier is installed around working area		
		⑪ No one is under lifted material		
		⑫ Maximum capacity is indicated		

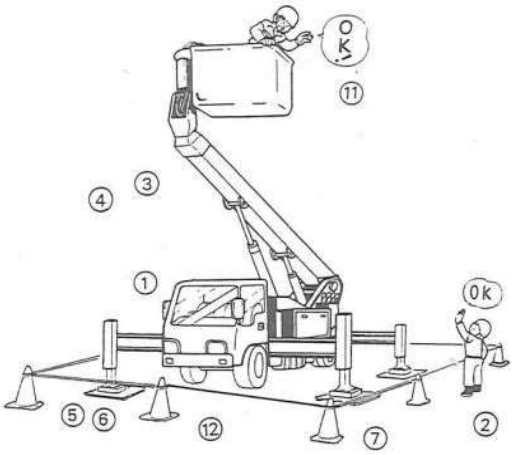


3. Prevention of Machine Accident (wiring for lift)				
No	Item	Check Items	Check Result	
			○/×/-	Description
3-3	Wiring for lift	① Type and size of wire are appropriate		
		② Use soft material such as rubber between wire and material at sharp angle		
		③ Qualified person prepare wiring for lift		
		④ Lifting angle of wire is less than 60 degree		
		⑤ Single wire is not used for lifting material		
		⑥ Leading rope is used when lifting long materials		
		⑦ Checking stability of materials when lifting up from the ground		
	Steel Wire	① More than 10% of element wires are not broken		
		② Diameter of wire is not reduced more than 7%		
		③ Wire is not twisted		
		④ Wire is not seriously deformed and rusted		
		⑤ Wire at hook is not seriously deformed and broken		

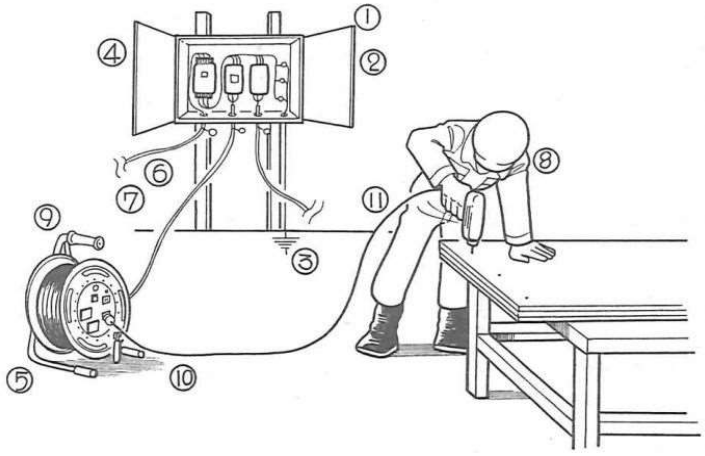




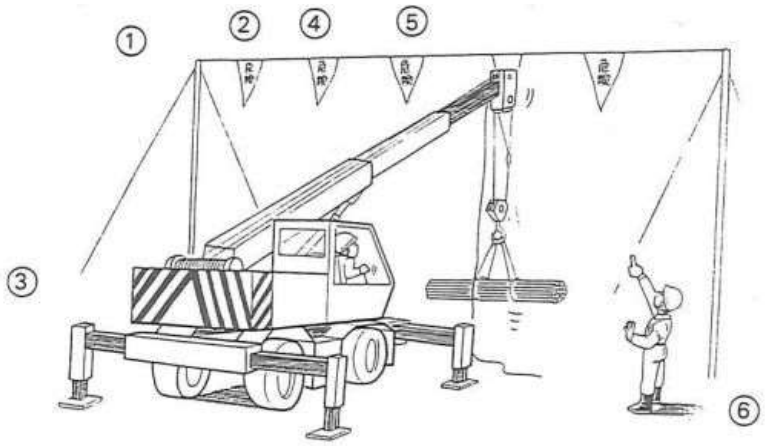
3. Prevention of Machine Accident (Working platform at height monunted vehicle)				
No	Item	Check Items	Check Result	
			○/×/–	Description
3-5	Common	① Working plan for the equipment is prepared		
		・Name, type and capacity of equipment		
		・Transportation of equipment		
		・Working method and sequence		
		② Equipment check list		
		Periodical check sheets		
		・Pre-operation check sheets		
		③ Allocate flagman and give predetermined sign		
		④ Equipment is not used for wrong purposes		
		⑤ Qualified operator operate equipment		
		⑥ No one ride on equipment except side seat		
		⑦ Operator turns off engine when leaving equipment		
		⑧ Operator remove key when leaving equipment		
	Working platform at height mounted vehicle	① Operated by qualified operator		
		② Outrigger is fully extended		
		③ Equipment is set on firm ground horizontally		
		④ Safety belt is being used on working platform		
		⑤ Loading on working platform is not exceeding maximum loading		
		⑥ Emergency stopper is working properly		



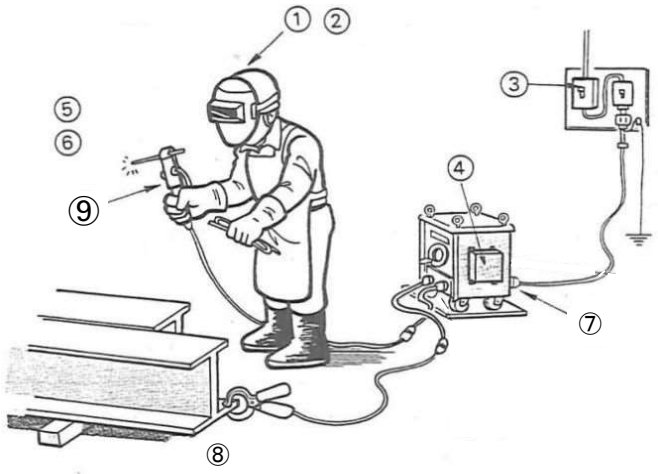
4. Prevention of Electrical Shock (Distribution board)				
No	Item	Check Items	Check Result	
			○/×/-	Description
4-1	Distribution board	① Person to manage and deal with distribution board is decided and indicated		
		② Earth leakage breaker is working properly		
		③ Distribution board is earthed		
		④ Clear of obstacles in front of distribution board		
		Door can be rocked		
		⑤ Water tight type is used for connection of cables		
		⑥ Usage of cables are indicated		
		⑦ Multi connection is not used		
		⑧ Electric equipment is not used in watery area and in the rain		
		⑨ Out-door type electric drum is used in field works		
		⑩ 3-cable electric cord and plug with earthing cable are used		



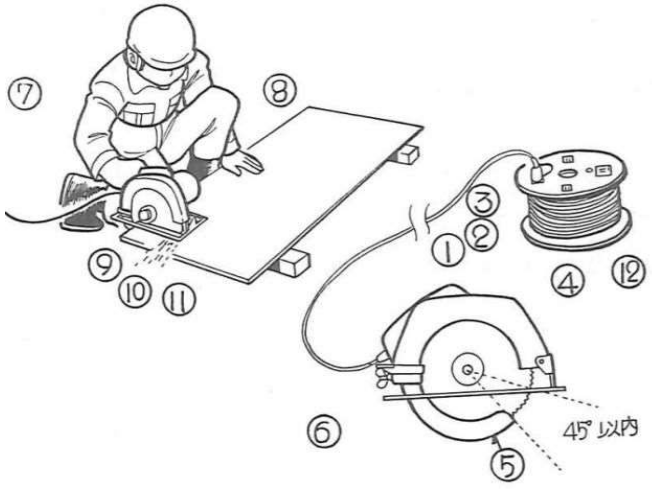
4. Prevention of Electrical Shock (Overhead Cable)				
No	Item	Check Items	Check Result	
			○/×/-	Description
4-2	Works in the vicinity of high voltage overhead cable	① Consultation with electric company was made prior to works in the vicinity of overhead cable		
		② Voltage, height and required minimum clearance from cable are confirmed		
		③ Cables are protected by insulating materials		
		④ Watchman is allocated to keep safe distance from cable while working		



4. Prevention of Electrical Shock (Arc Welding)				
No	Item	Check Items	Check Result	
			○/×/-	Description
4-3	Arc Welding	① Wearing PPE such as welding glasses and gloves		
		② Qualified person is engaged		
		③ Earth leakage breaker is used		
		④ Automatic anti-electric shock devices is activated		
		⑤ Not working in wet place and wet body condition		
		⑥ Not working in the rain		
		⑦ Welding machine is earthed		
		⑧ Arc cramp is set firmly at close point of welding material		
		⑨ Insulating material on welding holder is not damaged		



4. Prevention of Electric Saw Accident				
No	Item	Check Items	Check Result	
			○/×/-	Description
5-1	Electric Saw	① No damages in saw tooth, no loose bolts and screw		
		② No damages in electric cable		
		③ Plug with earthing cable is used		
		④ Switch is located close to working place		
		⑤ Safety cover of saw is not removed		
		⑥ Safety cover of saw moves smoothly		
		⑦ Break is working properly		
		⑧ Holding electric saw and working in proper manner		
		⑨ Working on proper working table		
		⑩ Gloves are not worn when using electric saw		
		⑪ No abnormal sound from turning saw		
		⑫ Equipment is not moved with saw turning		



Form No. S-11

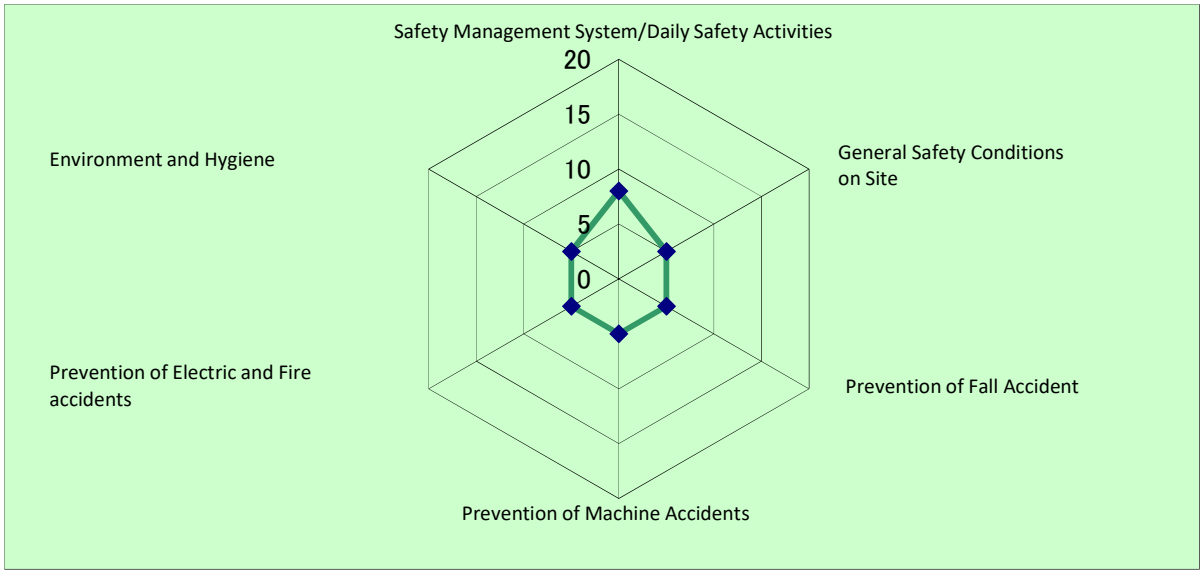
Safety Patrol Check Sheet

Item		Description	Very Poor	Poor	Fair	Good	Comments
Safety Management System/Daily Safety Activities	①	Safety Management Plan has ben prepared and approved	◉	○	○	○	
	②	Safety Management Organization and Safety Management Committee have been established, and Safety Patrol are conducted regularly. Minutes and reports are prepared and maintained.	○	○	○	◉	
	③	Daily Safety Activities such as Morning Safety Meeting, KY activity, Daily Safety Meeting and other activities to promote safety awareness are thoroughly conducted	◉	○	○	○	
	④	Safety education and training are conducted when newly mobilized and periodically. Records are prepared and maintained	◉	○	○	○	
	⑤	Safety Work Sequence for each work is prepared and the works are implemented in conformity with the work sequence	◉	○	○	○	
General Safety Conditions on Site	①	All workers ware appropriate PPE		○	○	○	
	②	3S (Arrangement, Tidiness, Cleaning) are performed on site		○	○	○	
	③	Safety Access is provided on site	◉	○	○	○	
	④	At entrance, flagman is allocated to control construction vehicles and pedestrians. Lockable gate is installed	◉	○	○	○	
	⑤	Safety fence or barriers are installed in proper manner to keep third peoples out of site	◉	○	○	○	
Prevention of Fall Accident	①	Openings on the floor are closed in proper manner. Hand rails of which materials and structure are proper are installed at all edges of structures or around openings.	◉	○	○	○	
	②	Safety Belt is used at workplace where risk of fall accident is high	◉	○	○	○	
	③	Working stages of which materials, width, fixing and length are proper are installed at high workplace	◉	○	○	○	
	④	Scaffoldings of which material, foundation, base, structure are proper is installed	◉	○	○	○	
	⑤	Facilities for up-down to height, steps, ladder and slope are properly installed	◉	○	○	○	
Prevention of Machine Accidents	①	Work Plan showing workplace, purpose, machine capacity, work sequence and safety measures is prepared	◉	○	○	○	
	②	Regular check regulated by law and daily pre-operation check are conducted, and certificate and check records are provided	◉	○	○	○	
	③	Machine is operated by qualified operator who carries the certificate or license	◉	○	○	○	
	④	Flagman and work conductor are allocated for machine works	◉	○	○	○	
	⑤	Workplace is indicated by installing keep-out barriers surrounding working area	◉	○	○	○	

Item		Description	Very Poor	Poor	Fair	Good	Comments
Prevention of Electric and Fire accidents	①	Electric Distribution Board which includes the structure, breaker, earthing, cables and plugs are properly installed and managed by designated person	◉	○	○	○	
	②	Electric cables and dram are adequate for the works and free from any damages	◉	○	○	○	
	③	Arc welding is implemented properly in terms of equipment and working conditions	◉	○	○	○	
	④	Oxygen and acethylene cylinders are properly stored. Gas hoses which are free from damages are connected tightly and equipped with Flashback Arrester	◉	○	○	○	
	⑤	Fire extinguishers which have not expired date are provided where fire or welding works are carried out	◉	○	○	○	
Environment and Hygiene	①	Site Office is well-organized and cleaned, furnished with sufficient lightings and air-conditionings	◉	○	○	○	
	②	Toilets are provided on site and kept clean	◉	○	○	○	
	③	Environmental mitigation measures are taken according to Environmental Management Plan, such as dust control, noise control and discharge of used water	◉	○	○	○	
	④	First Aid including stretcher is had ready at any time	◉	○	○	○	
	⑤	Rest place for workers is provided and smoking area is regulated in designated place	◉	○	○	○	

Form No. S-11

＜Summary of Results＞



Safety Management System/Daily	General Safety Conditions on Site	Prevention of Fall Accident	Prevention of Machine Accidents	Prevention of Electric and Fire accidents	Environment and Hygiene
8	5	5	5	5	5

FORM No.S-12

Accident Report

Project Information		
Project Name		
Project Location		
Project Period		
Contractor		
1st Report		Date:
1.	Date/Time	/
2.	Place	
3.	Victim	
	Name	Gender Age
	Address	
	Company	
	Type of work	
4.	Degree of Injury	
5.	Occurrence Status	(Describe how the accident happened in details by showing figure)
6.	Pictures	

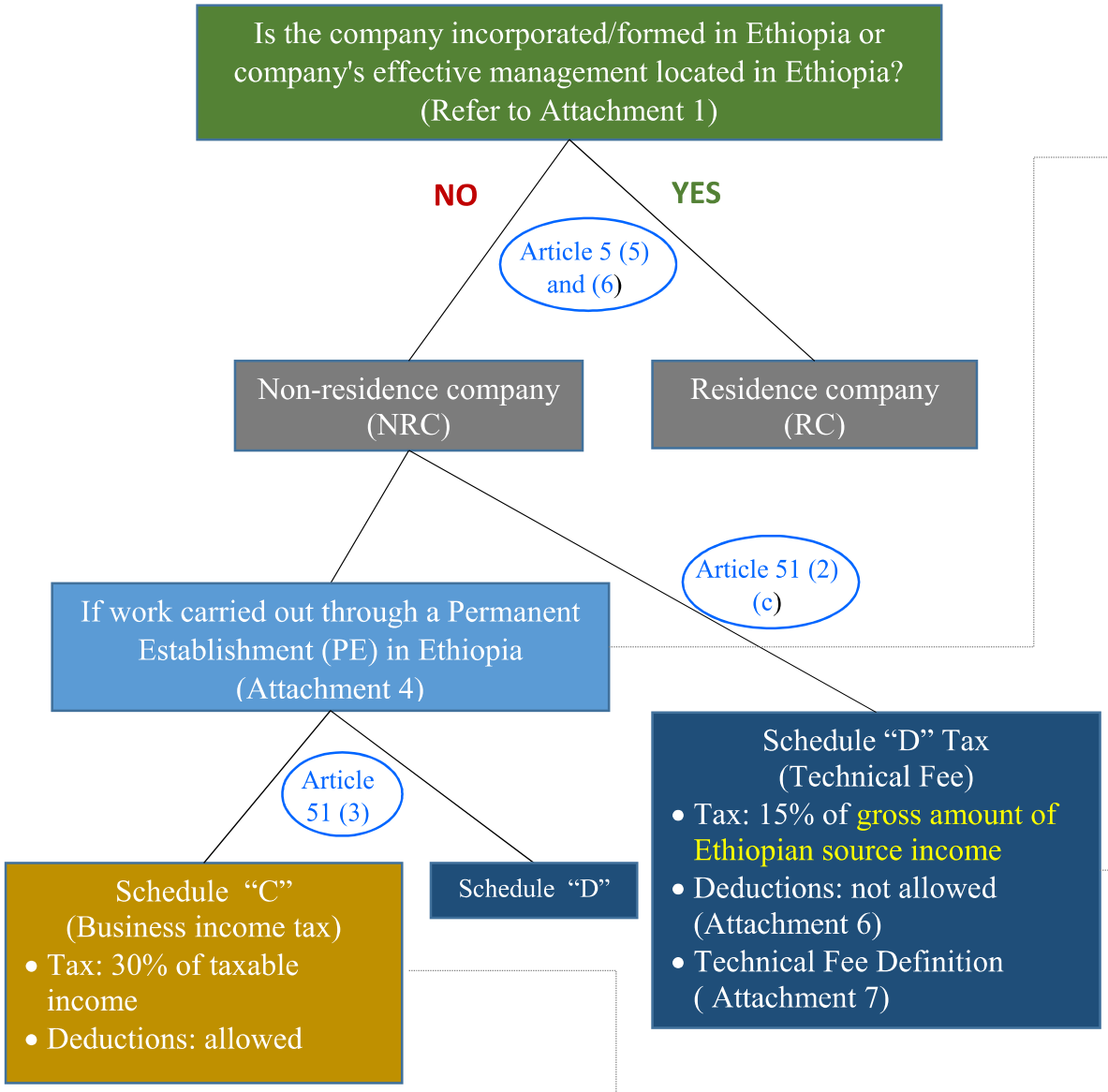
2nd Report		Date:		
7.	Causes of Accident	(Describe causes after investigation)		
8.	Measures to be taken to prevent recurrence	Measures	Who	When
9.	Chronology of accident and Current Status			

(Notes:1st Report should be submitted to Project Manager within 24hours after accident. 2nd Report should be submitted within 7days after accident)

Reported by	
Approved by	

6-3 Income Tax System of Ethiopia

Income Tax System of Ethiopia



Note: All the articles refer to the Ethiopian Federal Income Tax Proclamation No. 979/2016

NOTES

Permanent Establishment (PE) Definition

Note: *Staying in Ethiopia > 183 days = PE*

PE basically refers to a fixed place for the business, but according to Article 4 (2) (c), providing consulting service by staying over aggregate period of 183 days in a year is considered as a Permanent Establishment. (Refer to Attachment 2)

Ethiopian Source Income Definition

Income derided by NRC shall be Ethiopian source income to the extent it is attributable to

a) a business conducted by the non-resident through a permanent establishment in Ethiopia;
b) disposals in Ethiopia by the non-resident of goods or merchandise of the same or similar kind as those disposed by the non-resident through a permanent establishment in Ethiopia; or
c) any other business activity conducted by the nonresident in Ethiopia of the same or similar kind as that conducted by the non-resident through a permanent establishment in Ethiopia. Article 6 (3)

It includes Technical Fee

a) paid to the person by a resident of Ethiopia, other than as an expenditure of a business conducted by the resident through a permanent establishment outside Ethiopia; or
b) paid to the person by a non-resident as an expenditure of a business conducted by the nonresident through a permanent establishment in Ethiopia. Article 6 (4)(g)

Refer to Attachment 3)

Deductible Expenditure of Business Income Tax

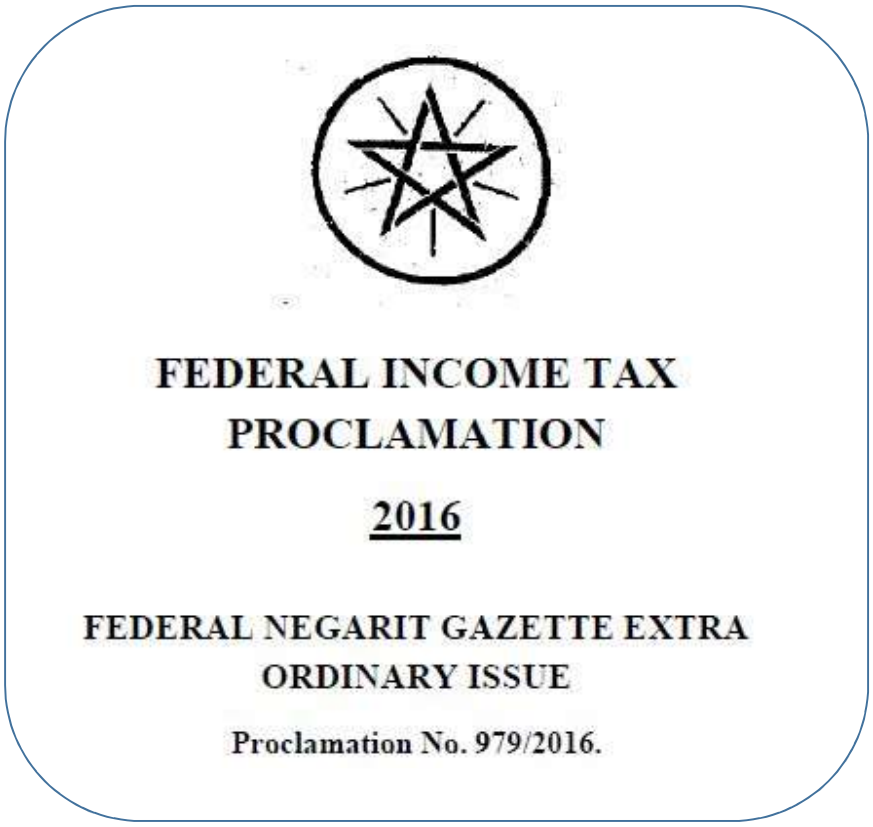
Deductible expenditures include

a) any expenditure for securing the business income
b) the cost of trading
c) amount by which depreciable assets declined
d) a loss on disposal of assets, ... Article 22

(Refer to Attachment 5: Article 18–27)

ATTACHMENTS

REFERENCE



5. Residence

1/ The following are residents of Ethiopia:

a) a resident individual;

b) a resident body;

c) the Government of the Federal Democratic Republic of Ethiopia, and any Regional State or City Government in Ethiopia.

2/ Subject to sub-Articles (3) and (4) of this Article, a resident individual is an individual who:

a) has a domicile in Ethiopia;

b) is a citizen of Ethiopia who is a consular, diplomatic, or similar official posted abroad;

c) is present in Ethiopia, continuously or intermittently, for more than 183 days in a one-year period.

3/ An individual who is a resident individual under sub-article (2) of this Article for a tax year (referred to as the "current tax year"), but who was not a resident individual for the preceding tax year shall be treated as a resident individual in the current tax year only for the period commencing on the day on which the individual was first present in Ethiopia.

4/ An individual who is a resident individual under sub-article (2) of this Article for the current tax year but who is not a resident individual for the following tax year shall be treated as a resident individual in the current tax year only for the period ending on the last day on which the individual was present in Ethiopia.

5/ A resident body is a body that:

a) is incorporated or formed in Ethiopia; or

b) has its place of effective management in Ethiopia.

6/ A resident company is a company that is a resident body.

7/ A non-resident is any person who is not a resident of Ethiopia.

4. Permanent Establishment

1/ Subject to the provisions of sub-articles (2),(3),(4) and (5) of this Article, a permanent establishment is a fixed place of business through which the business of a person is wholly or partly conducted.

2/ The following are specifically treated as a permanent establishment:

a) a place of management, branch, office, factory, warehouse, or workshop, but does not include an office that has representation of the person's business as its sole activity;

b) a mine site, oil or gas well, quarry, or other place of exploration for, or extraction of, natural resources;

c) the furnishing of services, including consultancy services, by a person, including through employees or other personnel engaged by the person for such purpose, but only when activities of that nature continue for the same or a connected project for a period or periods aggregating more than one hundred eighty three days in any one-year period.

3/ A building site, or a construction, assembly, or installation project, or supervisory activities connected with such site or project shall be a permanent establishment only when the site, project, or activities continue for more than one hundred eighty three days.

4/ Despite sub-articles (1) and (2) of this Article, when a person, other than an agent of independent status acting in the ordinary course of business, acts on behalf of another person (referred to as the "principal"), the first-mentioned person shall be a permanent establishment of the principal if the person:

(a) regularly negotiates contracts on behalf of the principal; or

(b) maintains a stock of goods from which the person regularly delivers goods on behalf of the principal.

5/ In this Article, "agent of independent status" means a broker, general commission agent, or other agent acting independently of the person that they represent, but does not include a person who acts solely or principally for another person if their commercial and financial relations differ from those that would have been made between independent person.

6. Source of Income

1/ Employment income derived by an employee shall be Ethiopian source income:

a) to the extent that it is derived in respect of employment exercised in Ethiopia, wherever paid; or

b) if it is paid to the employee by, or on behalf of, the Government of the Federal Democratic Republic of Ethiopia, wherever the employment is exercised.

2/ Business income derived by a resident of Ethiopia shall be Ethiopian source income except to the extent that it is attributable to a business conducted by the resident through a permanent establishment outside Ethiopia.

3/ Business income derived by a non-resident shall be Ethiopian source income to the extent that it is attributable to:

a) a business conducted by the non-resident through a permanent establishment in Ethiopia;

b) disposals in Ethiopia by the non-resident of goods or merchandise of the same or similar kind as those disposed by the non-resident through a permanent establishment in Ethiopia; or

c) any other business activity conducted by the non-resident in Ethiopia of the same or similar kind as that conducted by the non-resident through a permanent establishment in Ethiopia.

4/ Despite sub-articles (1), (2), and (3) of this Article, income derived by a person shall be Ethiopian source income if it is:

a) a dividend paid to the person by a resident body;

b) rental income from the lease of:

(1) immovable asset located in Ethiopia; or

(2) movable asset located in Ethiopia subject to tax under Article 58 of this Proclamation;

c) a gain arising from the disposal of the following:
   (1) immovable asset located in Ethiopia;
   (2) a membership interest in a body, if more than 50% of the value of the interest is derived, directly or indirectly through one or more interposed bodies, from immovable asset located in Ethiopia;
   (3) shares in, or bonds issued by, a resident company;

d) an insurance premium relating to the insurance of a risk in Ethiopia;

e) income from a performance or sporting event taking place in Ethiopia;

f) winnings from a game of chance held in Ethiopia;

g) interest, a royalty, management fee, technical fee, or other income subject to tax under this Proclamation:
   1) paid to the person by a resident of Ethiopia, other than as an expenditure of a business conducted by the resident through a permanent establishment outside Ethiopia; or
   2) paid to the person by a non-resident as an expenditure of a business conducted by the non-resident through a permanent establishment in Ethiopia.

5/ Foreign income is any income that is not Ethiopian source income.

51. Income of Non-residents

1/ A non-resident who has derived an Ethiopian source dividend, interest, royalty, management fee, technical fee, or insurance premium shall be liable for non-resident tax at the rate specified in sub-article (2) of this Article.

2/ The rate of non-resident tax is:

a) for an insurance premium or royalty , 5% of the gross amount of the premium or royalty;

b) for a dividend or interest, 10% of the gross amount of the dividend or interest;

c) for a management or technical fee, 15 % of the gross amount of the fee.

3/ Sub-article (1) of this Article shall not apply to a dividend, interest, royalty, management fee, technical fee, or insurance premium that is attributable to a business carried on by the non-resident through a permanent establishment in Ethiopia and, in that case, the amount shall be taxable under Schedule 'C" or 'D", as the case may be.

PART FOUR

SCHEDULE 'C' –INCOME FROM BUSINESS

CHAPTER ONE

IMPOSITION OF BUSINESSES INCOME TAX

18. Imposition of Business Income Tax

1/ Subject to provisions of this Part, business income tax shall be imposed for each tax year at the rate or rates specified in Article 19 of this Proclamation on a person conducting business that has taxable income for the year.

2/ The business income tax payable by a taxpayer for a tax year shall be calculated by applying the rate or rates of tax applicable to the taxpayer under Article 19 of this Proclamation to the taxable income of the taxpayer for the year.

19. Business Income Tax Rates

1/ The rate of business income tax applicable to a body is [30%].

2/ The rates of business income tax applicable to an individual are:

Taxable Business Income (per year) Birr	**Business Income Tax Rate**
0 - 7,200	0%
7,201-19,800	10%
19,801-38,400	15%
38,401-63,000	20%
63,001-93,600	25%
93,601-130,800	30%
Over 130,800	35%

3/ Notwithstanding sub-article (1) of this Article Micro Enterprises shall pay income tax in accordance with rates prescribed under sub-article (2) of this Article.

4/ For the purpose of this Article "Micro Enterprises" shall have the meaning provided under the Federal Urban Job Creation and Food Security Agency Establishment Council of Ministers Regulations No. 374/2016.

20. <u>Taxable Business Income</u>

1/ The taxable business income of a taxpayer for a tax year shall be the total business income of the taxpayer for the year reduced by the total deductions allowed to the taxpayer for the year.

2/ The taxable business income of a taxpayer for a tax year shall be determined in accordance with the profit and loss, or income statement, of the taxpayer for the year prepared in accordance with the financial reporting standards, subject to

other provisions of this Proclamation, Regulations issued by the Council of Ministers, and Directives issued by the Minister.

21. <u>Business Income</u>

1/ Subject to other provisions of this Proclamation, the business income of a taxpayer for a tax year shall include the following:

a) the gross amounts derived by the taxpayer during the year from the conduct of a business, including the gross proceeds from the disposal of trading stock and the gross fees for the provision of services (other than employment income);

b) a gain on disposal of a business asset (other than trading stock) made by the taxpayer during the tax year;

c) any other amount included in business income of the taxpayer for the tax year under this Proclamation.

2/ Business income shall not include an amount that is exempt income.

3/ Subject to sub-article (4) of this Article, the gain on disposal of a business asset included in business income under sub-article (1)(b) of this Article is the amount by which the consideration for the disposal of the asset exceeds the net book value of the asset at the time of disposal.

4/ If a business asset is a taxable asset under Article 59 of this Proclamation:

a) the gain on disposal of the asset included in business income under sub-article (1)(b) of this Article is the amount (if any) by which the cost of the asset exceeds the net book value of the asset at the time of disposal; and

b) any gain above cost is taxable under Article 59.

22. <u>Deductible Expenditures</u>

1/ Subject to provisions of this Proclamation, in determining the taxable income of a taxpayer for a tax year, the deductions allowed to a taxpayer shall include the following:

a) any expenditure to the extent necessarily incurred by the taxpayer during the year in deriving, securing, and maintaining amounts included in business income;

b) the cost of trading stock disposed of by the taxpayer during the year as determined in accordance with the financial reporting standards;

c) the total amount by which the depreciable assets and business intangibles of the taxpayer have declined in value during the year from use in deriving business income as determined under Article 25 of this Proclamation;

d) a loss on disposal of a business asset (other than trading stock) disposed of by the taxpayer during the year;

e) any other amount allowed as a deduction to the taxpayer under this Proclamation for the year.

2/ Article 59 of this Proclamation and not sub-article (1)(d) of this Article shall apply to a loss on disposal of a taxable asset except when the taxable asset is a depreciable asset.

3/ For the purposes of sub-article (1)(d) of this Article, a loss on disposal of a business asset is the amount by which the net book value of the asset at the time of disposal exceeds the consideration for the disposal.

23. <u>Interest Expenditure</u>

1/ Subject to sub-article (2) of this Article and Article 47 of this Proclamation, in determining the taxable income of a taxpayer for a tax year, the taxpayer shall be allowed

a deduction for any interest incurred by the taxpayer in a tax year to the extent that the taxpayer has used the proceeds or benefit of the debt or other instrument or agreement that gives rise to the interest to derive business income.

2/ No deduction shall be allowed for the following:

a) interest paid or payable by a taxpayer in excess of the rate used between the National Bank of Ethiopia and commercial banks increased by 2 percentage points; unless the interest is paid or payable to:

(1) a financial institution recognised by the National Bank of Ethiopia; or

(2) a foreign bank permitted to lend to persons in Ethiopia;

b) interest paid or payable by a taxpayer to a related person who is a resident of Ethiopia except when the interest is included in the schedule 'D' of the related person.

24. <u>Charitable Donations</u>

1/ In determining the taxable income of a taxpayer for a tax year, the taxpayer shall be allowed a deduction for the amount of a donation when the donation is made:

a) to Ethiopian Charities and Ethiopian Societies defined in sub-article (3) of this Article

b) in response to a call for development or an emergency call issued by the Government to defend the sovereignty and integrity of the country, to prevent or provide relief in relation to man-made or natural disasters or an epidemic, or for any other similar cause;

2/ The total deduction allowed to a taxpayer under sub-article (1) of this Article for a tax year shall not exceed 10% of the taxable income of the taxpayer for the year.

3/ For the purpose of this Proclamation, Ethiopian Charities and Ethiopian Societies shall have the meaning provided for

under the Charities and Societies Proclamation No. 621/2009.

25. <u>Depreciation of Depreciable Assets and Business Intangibles</u>

1/ In determining the taxable income of a taxpayer for a tax year, the taxpayer shall be allowed a deduction for the amount by which the depreciable assets and business intangibles of the taxpayer declined in value during the year through use in deriving business income.

2/ Subject to this Proclamation, the amount by which the depreciable assets or business intangibles of a taxpayer decline in value during a tax year shall be computed in accordance with the Regulations to be issued by the Council of Ministers.

3/ If a taxpayer does not use a depreciable asset or business intangible for the whole of a tax year in deriving business income, the amount allowed as a deduction under this Article shall be the amount computed in accordance with sub-article (2) of this Article reduced by the proportion of the year that the asset was not so used.

4/ If a taxpayer uses a depreciable asset or business intangible during a tax year partly to derive business income and partly for another use, the amount allowed as a deduction under this Article shall be the proportion of the amount computed under sub-article (2) of this Article (after taking account of any adjustment under sub-article (3) of this Article) that relates to the derivation of business income.

5/ If a taxpayer has used a depreciable asset or business intangible partly in deriving business income and partly for another use and the taxpayer disposes of the asset or intangible during a tax year, the amount of the gain or loss on disposal to which Article 22(1)(c) or 22(1)(d) of this

Proclamation applies shall be the fair proportional part of the gain or loss that relates to the derivation of business income.

6/ The depreciation of a depreciable asset or business intangible shall commence when the asset or intangible is ready and available for use in deriving business income, but, in the case of a building constructed by a taxpayer, not before the regulatory authority has issued the taxpayer with a certificate of completion for the building.

7/ In this Article:

a) "business intangible" means any of the following when used wholly or partly to derive business income:

(1) a copyright, patent, design or model, plan, secret formula or process, trademark, or other like asset or right that has a limited useful life;

(2) a customer list, distribution channel, or unique name, symbol or picture, or other marketing intangible that has a limited useful life;

(3) contractual rights (including arising as a result of a prepayment of an expenditure) with a benefit for a limited period, but which exceeds one year;

(4) an expenditure that provides an advantage or benefit for a period of more than one year, but not including expenditure incurred to acquire any tangible movable or immovable asset;

b) "depreciable asset" means tangible movable asset or a structural improvement to immovable asset that:

(1) has a useful life exceeding one year;

(2) is likely to lose value as a result of normal wear and tear, or obsolescence; and

(3) is used wholly or partly to derive business income; and

c) "structural improvement", means a building or any other addition or alteration to immovable asset that becomes part of, or is permanently affixed to, the immovable asset including a road, driveway, car park, fence, or wall.

26. <u>Loss carry forward</u>

1/ If the total amount of deductions allowed to a taxpayer for a tax year (other than a deduction allowed under this Article) exceeds the total business income of the taxpayer for the year, the amount of the excess shall be the taxpayer's loss for the year.

2/ Subject to sub-article (4) of this Article, if a taxpayer has a loss for a tax year, the taxpayer shall carry the amount of the loss forward to the next following tax year and the loss shall be allowed as a deduction in computing the taxpayer's taxable income for that following year.

3/ If a taxpayer is not able to wholly deduct a loss under sub-article (2) of this Article, the taxpayer shall carry the amount not deducted forward to the next following tax year and apply the amount as specified in sub-article (2) of this Article in that year, and so on until the loss is fully deducted,

but a taxpayer shall not carry a loss forward for more than 5 tax years after the end of year in which the loss was incurred.

4/ If there has been two tax years in which a taxpayer has incurred a loss under sub-article (1) of this Article and each of those losses has been carried forward under sub-article (2)

of this Article, the taxpayer shall not be permitted to carry forward any further losses under sub-article (2) of this Article.

5/ A taxpayer shall carry forward a loss under sub-articles (2) and (3) of this Article in accordance with the Regulations.

27. <u>Non-deductible Expenditures and Losses</u>

1/ Except as provided for in this Proclamation, no deduction is allowed for the following:

a) an expenditure of a capital nature except to the extent provided for under Article 22(1)(c) of this Proclamation;

b) an increase in the share capital of a company or the basic capital of a registered partnership;

c) voluntary pension or provident fund contributions in respect of an employee in excess of 15% of the monthly employment income of the employee;

d) dividends and paid-out profit shares;

e) an expenditure or loss to the extent recovered or recoverable under a policy of insurance, or a contract of indemnity, guarantee, or surety;

f) a fine or penalty imposed, or punitive damages awarded, for violation of any law, regulation, or contract;

g) an amount that a person has transferred, in its financial accounts, to a reserve or provision for expenditures or losses not yet incurred but expected to be incurred in a future tax year;

h) income tax paid under this Proclamation or under a foreign tax law, or recoverable value added tax;

i) representation expenditures of an employee in excess of 10% of the employment income of the employee;

j) expenditure incurred in the provision of entertainment, except:

(1) when the person's business involves the provision of entertainment; or

(2) to the extent that the expenditure is allowed as a deduction under a Directive issued by the Minister relating to food provided for free to employees by an employer conducting a mining, manufacturing, or agricultural business;

k) a donation or gift except as provided for in Article 24 of this Proclamation;

l) personal consumption expenditure;

m) a loss on the disposal of a business asset by a taxpayer to a related person;

n) expenditure to the extent disallowed under Regulations to be issued by the Council of Ministers.

2/ In this Article, "entertainment" means the provision to any person of food, beverages, tobacco, accommodation, amusement, recreation, or hospitality of any kind.

PART ONE
GENERAL

2. Definitions

23/ "Technical fee" means a fee for technical, professional, or consultancy services, including a fee for the provision of services of technical or other personnel;

FEDERAL INCOME TAX PROCLAMATION NO. 979/2016 TECHNICAL NOTES

TECHNICAL FEE DEDUCTION ALLOWANCE (ARTICLE 51)

The tax is imposed on the gross amount of the income derived by the non-resident with no deduction allowed for expenditures incurred in deriving the income.

APPENDIX 7

REFERENCES

7-1 Project Monitoring Report

Project Monitoring Report
on
The Project for Upgrading Road Maintenance Equipment in Addis Ababa City
Grant Agreement No. XXXXXXX

20XX, Month

Organizational Information

Signer of the G/A (Recipient)	_____ Person in Charge (Designation) _____ _____ Contacts Address: _____ Phone/FAX: _____ Email: _____
Executing Agency	**Addis Ababa City Roads Authority** Person in Charge (Designation) Moges Tibebu, Director General Contacts Address: Roosevelt Street, Sar Bet, Addis Ababa Phone/FAX: 0911-915-880 / - Email: girmamogess@gmail.com
Line Ministry	**Addis Ababa City Government Mayor Office** Person in Charge (Designation) Takele Uma Benti, Mayor (Acting) Contacts Address: Arat Kilo, Behind Tourist Hotel Phone/FAX: 0111-265-840 / - Email: info@resilientaddis.org

General Information:

Project Title	The Project for Upgrading Road Maintenance Equipment in Addis Ababa City
E/N	Signed date: Duration:
G/A	Signed date: Duration:
Source of Finance	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____

1: Project Description

1-1 Project Objective

The Project is to procure road maintenance equipment for maintenance of primary streets and their access roads, which are highly important for ensuring smooth traffic, to contribute to the effective use of road assets managed by Addis Ababa City Roads Authority (AACRA).

1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

Japan has established the following key assistance areas for Ethiopia to promote stability and development, and contribute to stable development of international economy including East Africa and Japan.

① Agricultural and rural development
② Industry promotion
③ Infrastructure development
④ Education and insurance

The Project belongs to the third (infrastructure development) of the four focus areas listed above, and the Project is deemed to align with Japan's policy for assistance to Ethiopia. In addition, it will contribute to the development of high-quality human resources in the field of infrastructure development through the promotion of road maintenance and technical guidance for equipment operation and maintenance through the soft component of the Project.

Road traffic in Addis Ababa City is concentrated on the main roads or the streets whose pavement condition is relatively good. This has led to the deterioration of pavement condition, and chronic traffic congestion. Such deterioration of the city's traffic condition could hinder the growth of not only the economy of Addis Ababa City, but also that of Ethiopia. Besides, such deterioration of the traffic condition may reduce the accessibility of the citizens to social services such as medical care and education. In recent years, this issue has been considered as a serious problem that could undermine the social stability of Addis Ababa City, which is rapidly urbanizing.

Therefore, in order to contribute to the stable and sustainable growth of the economy of Ethiopia and improve the living standard of citizens of Addis Ababa City, the road maintenance capacity of AACRA has to be urgently improved.

As such, improvement and maintenance of the target roads is urgent and prioritized by the Government of Ethiopia, and hence it is concluded that the Project is relevant.

1-3 Indicators for measurement of "Effectiveness"

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr 2019)	Target (Yr 2024)
1. Maintenance Length	113 km per year	140 km per year
2. Equipment Operation Rate	79%	88%
Qualitative indicators to measure the attainment of project objectives		
- Improvement of Road Safety - Increase in Passenger and Freight Transportation Efficiency - Improvement of Accessibility to Social Services (schools, medical facilities, etc.) - Improvement of Sanitary Environment		

2: Details of the Project

2-1 Location

Components	**Original** *(proposed in the outline design)*	**Actual**
1. Road Maintenance Equipment ,Workshop Equipment and spare parts	- New Equipment Management Center (Akaki Kaliti district in Addis Ababa City, expected to be completed in 2020) **Attachment1: Map** - The Existing Asphalt Plant Site (Akaki Kaliti district in Addis Ababa City) **Attachment1: Map**	

2-2 Scope of the work

Components	Original* *(proposed in the outline design)*	Actual*
1. Road Maintenance Equipment		
Wheel Loader	3	
Backhoe Loader	7	
Excavator	5	
Road Stabilizer	1	
Sheep Foot Compactor	5	
Vibratory Tandem Roller	5	
Tire Roller	3	
Water Truck	3	
Dump Truck	10	
Cab-back Crane (3t)	2	
Cab-back Crane (8t)	1	
Aerial Work Platform Vehicle	4	
High-pressure Drainage Cleaning Vehicle	3	
Vacuum Tank Truck	3	
Bitumen Distributor	3	
Asphalt Burner	5	
Asphalt Cutter	5	
Asphalt Crack Sealer	5	
Air Compressor	4	
Air Breaker	5	
Asphalt Mixer	3	
Asphalt Plant	1	
Mobile Workshop	1	
2. Workshop Equipment		
Container Workshop	1	
Tire Changer	2	
Portable Gantry Crane	2	
Wheel Dolly	2	
High Pressure Washer	5	
Engine Hot Water High Pressure Washer	1	
Engine Driven Welding Generator	2	
AC Arc Welder	4	
Portable Motor Driven Air Compressor	2	
Parts Washing Stand	3	
Jacks	2	
Desktop Computer	1	
Database Software	1	

Reasons for modification of scope (if any).

(PMR)

2-3 Implementation Schedule

Items	Original *(at the time of signing the Grant Agreement)*	Actual
Cabinet Approval E/N		
G/A		
Detailed Design		
Tender Notice		
Tender		
Installation of Equipment		
Assistance in the start-up or operation and maintenance		

Reasons for any changes of the schedule, and their effects on the project (if any)

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original *(proposed in the outline design)*	Actual *(in case of any modification)*	Original[1),2)] *(proposed in the outline design)*	Actual
1	Procurement of the Equipment			
2	Consultant Services			
Total				

Note: 1) Date of estimation: April 2019
2) Exchange rate: 1 US Dollar = 111.21Yen, 1EUR = 126.65Yen

2-5-2 Cost borne by the Recipient

Components			Cost (USD)	
	Original *(proposed in the outline design)*	Actual *(in case of any modification)*	Original[1),2)] *(proposed in the outline design)*	Actual
1	Preparation for the delivery of equipment		45,000	
2	Cost for operation and maintenance training for the Road Stabilizer		36,000	
3	Bank Commissions		18,000	
Total			99,000	

Note: 1) Date of estimation: April 2019
2) Exchange rate: 1 US Dollar = 111.21Yen, 1EUR = 126.65Yen

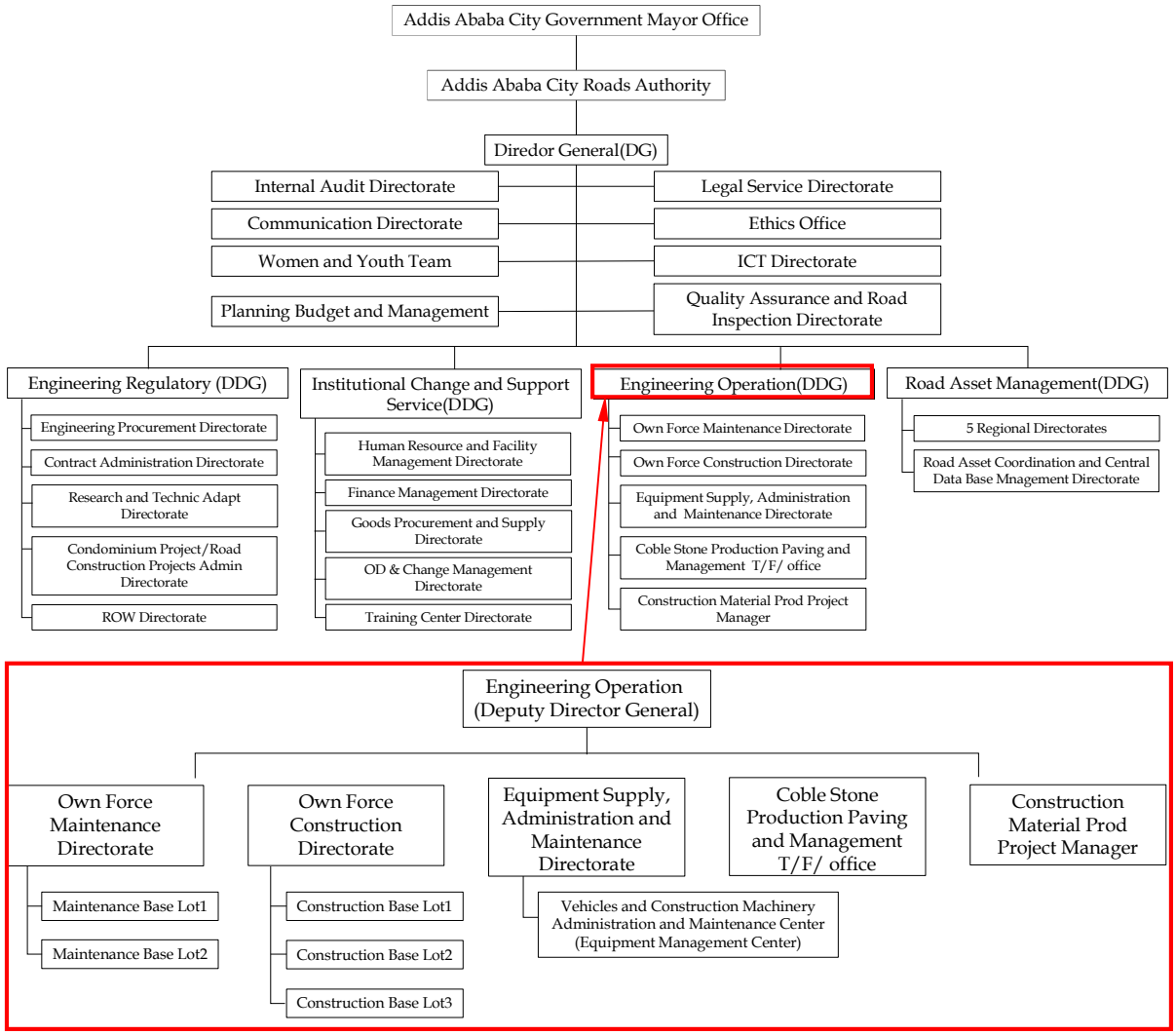
Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original *(at the time of outline design)*



Addis Ababa City Roads Authority (AACRA) is responsible for road maintenance in Addis Ababa City.

Actual *(PMR)*

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

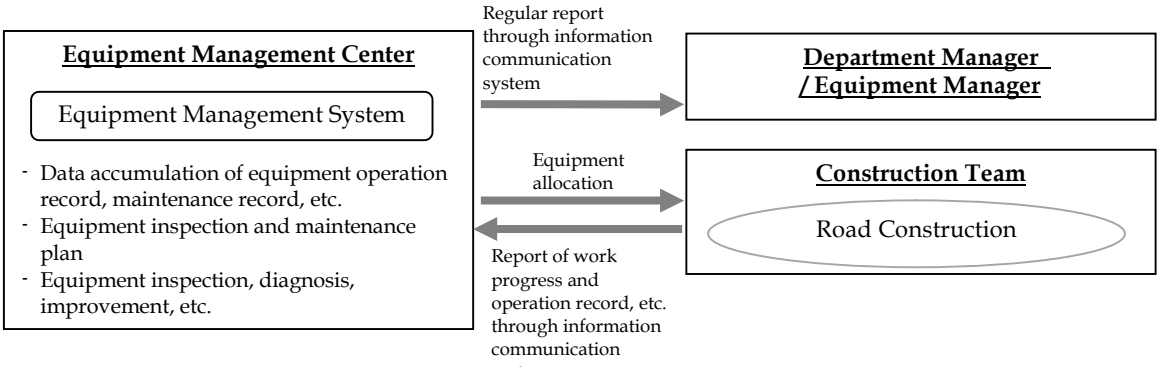
3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original *(at the time of outline design)*

The communication and reporting structure about equipment operation and maintenance is as shown below.



The Supplier(s) should secure an after-sales service system to all the equipment procured by the Project including sale of spare parts after delivery of equipment by appointing a service agent in Ethiopia or neighboring countries.

For the proper operation and maintenance of the equipment to be procured in the Project, AACRA requires workforce corresponding the change. AACRA owns a total of 580 units of construction equipment (313 of them are operational), and it has approximately 100 workers (including part time workers) including drivers and operators of the equipment (as of April 2019). Meanwhile, the main equipment to be procured in the Project is estimated to require the workforce in Table below. Thus, AACRA needs to secure drivers and operators and have them acquire knowledge and skills through the initial operation training and soft component to be provided in the Project before the delivery of equipment to be procured.

No.	Name of Equipment	Number of Equipment (e)	Personal needed (p.)
1	Wheel Loader	3	3
2	Backhoe Loader	7	7
3	Excavator	5	5
4	Road Stabilizer	1	1
5	Sheep Foot Compactor	5	5
6	Vibratory Tandem Roller	5	5
7	Tire Roller	3	3
8	Water Truck	3	3
9	Dump Truck	10	10
10	Cab-back Crane (3t)	2	2
11	Cab-back Crane (8t)	1	1
12	Aerial Work Platform Vehicle	4	4
13	High-pressure Drainage Cleaning Vehicle	3	3
14	Vacuum Tank Truck	3	3
15	Bitumen Distributor	3	3
16	Asphalt Burner	5	-
17	Asphalt Cutter	5	-
18	Asphalt Crack Sealer	5	-
19	Air Compressor	4	-
20	Air Breaker	5	-
21	Asphalt Mixer	3	3
22	Asphalt Plant	1	5
23	Mobile Workshop	1	1
		Total	67

Actual *(PMR)*

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original *(at the time of outline design)* The annual maintenance cost (regular maintenance and on-site repair, etc.) of the road maintenance equipment to be procured in the Project is estimated to be 515,317 Ethiopian birr (approximately 18,000 USD) in the target road maintenance period of approximately three years after the delivery of the equipment. This is mainly the cost of improvement and maintenance with the spare parts for about 3,000 hours of operation) to be procured in the Project. AACRA also needs to procure additional spare parts continuously during the useful-life period of the equipment after all the parts to be procured in the Project are used, and it needs to perform proper maintenance including heavy maintenance. The annual maintenance cost after the use of the Project spare parts (for 3,000 hours of operation mentioned above) is estimated to be 5,436,507 Ethiopia birr (approximately 190,000 USD). The annual fuel cost required for the target road maintenance is estimated to be 24,579,000 Ethiopia birr (approximately 860,000 USD).
Actual *(PMR)*

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks (*at the time of outline design)*

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):

Actual Situation and Countermeasures
(PMR)

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

5-2 Lessons Learnt and Recommendations

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

Attachment

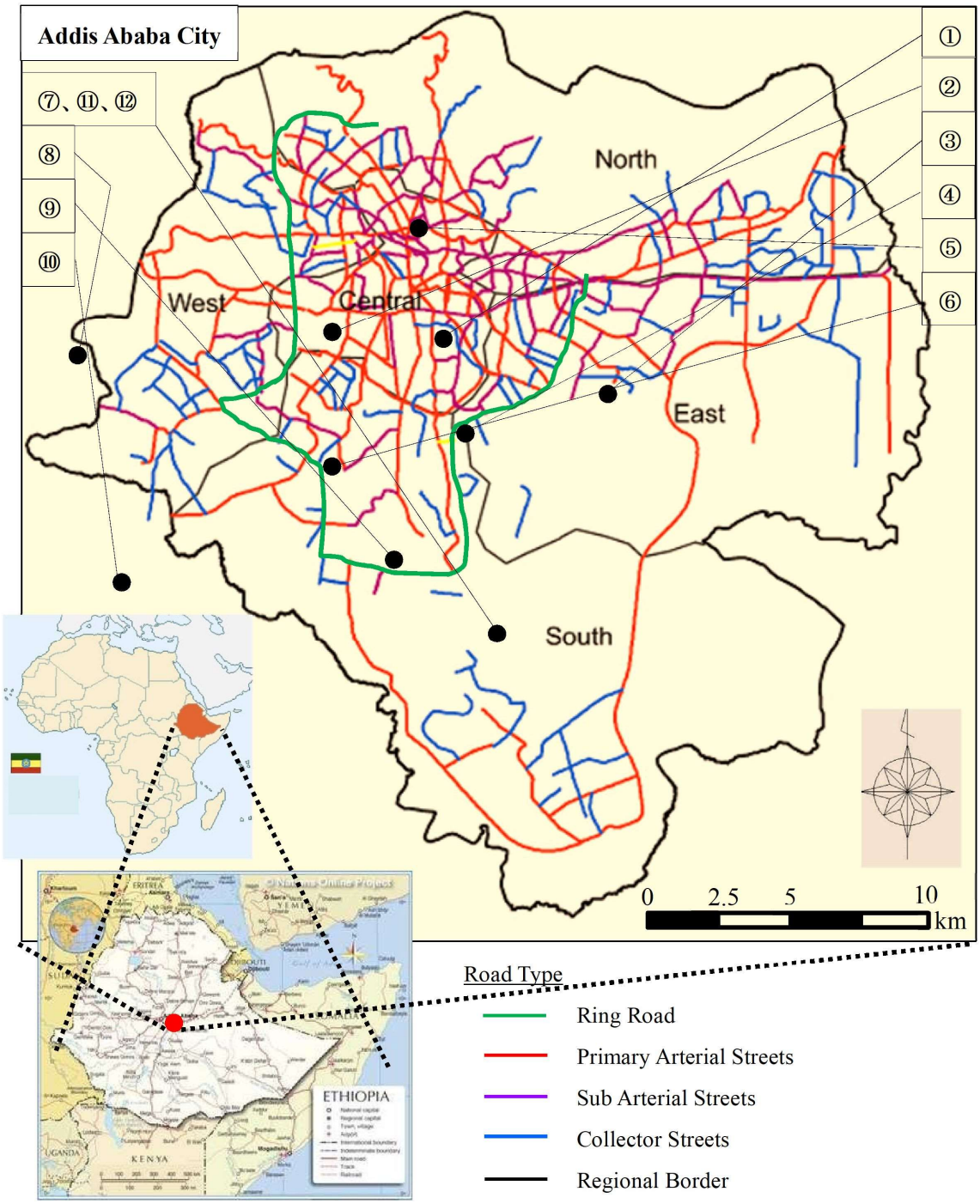
1. Project Location Map
2. Specific obligations of the Recipient which will not be funded with the Grant
3. Monthly Report submitted by the Consultant**[To be attached]**

Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
- Contractor's Main Staff List

4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment) **[To be attached]**
5. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final)only) **[To be confirmed]**
6. Pictures (by JPEG style by CD-R) (PMR (final)only) **[To be confirmed]**
7. Equipment List (PMR (final)only) **[To be confirmed]**
8. Drawing (PMR (final)only) **[To be confirmed]**
9. Report on RD (After project) **[To be confirmed]**

Attachment 1

Project Location Map



①Vehicles and Construction Machinery Administration and Maintenance Center ②Construction Base Lot 1 ③Construction Base Lot 2 ④Construction Base Lot3 ⑤Maintenance Base Lot 1 ⑥Maintenance Base Lot 2 ⑦Existing Asphalt Plant 1 ⑧Existing Asphalt Plant 2 ⑨Existing Concrete Plant ⑩ERA Training Center ⑪Crushing Plant ⑫Planned Location of Vehicles and Construction Machinery Administration and Maintenance Center

Attachment 2

Major Undertakings to be taken by Recipient Government

1. Before the Tender

NO	Items	Deadline	In charge	Cost	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A	[TBD]	100	
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the contract(s)	[TBD]		
3	1) Payment commission for A/P	within 1 month after the signing of the consulting services agreement	AACRA	17,900	
4	To submit the Project Monitoring Report (with the result of Detail Design)	before preparation of bidding document(s)	AACRA	N/A	

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

2. During the Project Implementation

NO	Items	Deadline	In charge	Cost	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)	within 1 month after the signing of the contract(s)	[TBD]		
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A				
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)	AACRA	This cost is included in Item No.2 of above "(1) Before the Bidding".	
	2) Payment commission for A/P	every payment	AACRA		
3	To construct a new equipment management center for the garage of equipment and spare parts	before the delivery of equipment	AACRA	27,000	
4	To secure and clear the sites for the Asphalt Plant and leveling, storage for materials and equipment, security measures, etc.	before the delivery of equipment	AACRA	18,000	
5	To ensure prompt customs clearance and to assist the Supplier(s) with internal transportation in the country of the Recipient	during the Project	AACRA	N/A	
6	To accord Japanese physical persons and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work	during the Project	AACRA	N/A	
7	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services be exempted or be borne by its designated authority without using the Grant;	during the Project	AACRA		
8	To secure costs for operation and maintenance training for the Road Stabilizer which will be supplied under the Project				
	1) Pilot works and mix design	before the delivery of equipment	AACRA	9,000	

	2) Preparation of pilot works, and asphalt pavement works after training	before the delivery of equipment	AACRA	27,000	
9	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	AACRA		
10	1) To submit the Project Monitoring Report after each work under the contract(s) such as shipping, hand over, installation and operational training	within one month after completion of each work	AACRA		
	2) To submit the Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)	AACRA	N/A	
11	To submit a report concerning completion of the Project	within six months after completion of the Project	AACRA	N/A	

3. After the Project

NO	Items	Deadline	In charge	Cost	Ref.
1	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine check/Periodic inspection	After completion of the construction	AACRA	N/A	

Major Undertakings to be covered by the Japanese Grant

NO	Items	Deadline	Amount (Million Japanese Yen)*
1	To procure equipment 1) To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country a) Marin (Air) transportation of the products from Japan to the country of the Recipient b) Internal transportation from the port of disembarkation to the project site		
	2) To provide equipment with installation and commissioning		
2	To implement detailed design, bidding support and procurement supervision (Consulting Service)		
	Total		

*The Amount is provisional. This is subject to the approval of the Government of Japan.

Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
（Actual Expenditure by Construction and Equipment each）

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	