MEDECINS SANS FRONTIERES	To be printed in 2 copies: Contractor – Dept. Log **CONSTRUCTION TENDER DOCUMENT** **SUPPORTING BUILDING**

Construction Site Safety Checklist
Construction of Supporting Building

All the following rules must be respected in any case (if MSF is the direct implementer of the Works or if it is the CLIENT and the Works are done by a CONTRACTOR). This checklist is intended to help prevent accidents/injuries that can happen on a construction building site during renovation or new construction Works.
On every building site, it is mandatory that all National Safety Laws (of the Country where the Works will be done) be respected for the entire duration of renovation / construction activities. Before the construction activities start, the implementer (MSF or CONTRACTOR) should carefully read this document and all Safety rules. During the execution of the Works, everyone on site must strictly follow Safety rules. For an EXPERT Contract and when the size of the site and Works are significant (e.g. at least fifty workers [50] with more than a ward under construction/renovation), periodical worker safety training should be planned and given.

Risk	Vulnerability (exposures)	Preventive Actions
Landslide into excavations Falling into excavations	1) If the excavation is deeper than 1.2 m; 2) If a side exceeds the angle of natural slope; 3) If the soil is subject to landslides; 4) If in presence of intense or prolonged rainfall;	To safeguard the excavation; NOT put weight on the edge of excavation; Point out well (at an adequate distance) the presence of an excavation; Isolate the excavation with protections at least one meter (1m) high;
Falling from above	If the obstacle to cross over is higher than 1.2 m and longer more than one step (approx. 80 cm)	Always check the stability of the walkways before using them;
Falling from scaffolding	Need to use the scaffolding for plastering / painting etc. the surfaces of the structure	1) Under the base should be laid robust pieces of plank and NOT weak material; 2) Scaffolding should absolutely be well attached to the structure; 3) The scaffolding has to be complete with railing and stop foot (at least 20 cm high); 4) Never leave opening on empty spaces; 5) The scaffolding has to be protected even inward, if the structures is more than twenty centimeters (20 cm) distant from the scaffolding; 6) Use only genuine planks (wooden or metallic one); 7) Walkways must always be clean and clear; 8) Use only a correct ladder to access the different levels of the scaffolding; 9) NO climbing up;

Risk	Vulnerability (exposures)	Preventive Actions
Falling from the steps	Need to reach a higher position of the building site NOT otherwise accessible	1) Positioning ladder with an angle of 75°; 2) Ladder must extend at least one (1) meter above the floor; 3) NEVER work on a ladder (except for casting of concrete);
Falling from the pillars	Casting pillar higher than 1.0 m	Use ladders with regular rails (see previous point);
Falling out of the slabs	Casting a slab not at ground level	Set up a stable wooden layer or a bridge on sawhorses;
Falling into stairwells and elevator shafts	Work around the area of the stairwells and elevator shafts for any related activity	Provide complete protection (at least one [1] meter high), including the foot stop;
Falling outside (of the building)	Work around the area of the external structure or walls of the building for any related activity (not basement level)	Provide complete protection (at least one [1] meter high), including the foot stop;
Falling off the roof	Work around the area of the roof for any related activity	If slope is less than 15%: Provide fence (including foot stop) one meter (1.0 m) high; If slope is between 15% and 30%: Provide fence (including foot stop) one meter and twenty centimeters (1.2 m) high; If slope is higher than 30%: Provide continuous (for all perimeter of the roof) fence (including foot stop) one meter and twenty centimeters (1.2 m) high; If there are scaffoldings: A railing must be at least one meter and twenty centimeters (1.2 m) height and the width must be at least sixty centimeters (60 cm); If there are NO scaffoldings: To tie in with a harness securely anchored to a stable and resistant part of the building;

Risk	Vulnerability (exposures)	Preventive Actions
Falling through openings	Work around the area of the opening for any related activity	All openings must be clearly signposted, closed, or well protected with planks;
Risk of being struck by objects	All work on the building site with a crane	1) Create particular protective structures for workstations within the range of crane; 2) Create canopies in order to protect mixer, iron and silo workers; 3) Balance crane load with appropriate tools;
Electrical risks in the building site system	1. Electrocution; 2. Fire and 3. Equipment Destruction;	The following points concern only the provisional installation of electricity supply for the building site during the Works (for electrical tools and equipment of the workers during the construction works) and NOT the final installation, for the (future) health structure. <u>Electrical Devices on the building site</u>: a) <u>Distribution panels</u>: • All devices must be protected to prevent direct contact (no electrical part can be touched directly - e.g. cover for the electrical boards); • The entire installation has to be grounded; • All electrical devices (main and distribution panels etc.) must be in safe, good electrical and mechanical condition; • All output must have a cross section Ø minimum of the required one determined by the protection device (DMT / MCB) installed in the distribution panel before on the line: **A)** Lights equipment's: 10 A = 2.5 mm²; **B)** Sockets: 16 A = 2.5 mm²; **C)** Dedicated circuits (e.g.: welding post: 32 A = 6 mm²); • The building site electrical supply must be protected by circuit breakers and by a Residual Current Device zero point zero three Ampere (0.03 A);

Risk	Vulnerability (exposures)	Preventive Actions
Electrical risks in the building site system	1. Electrocution; 2. Fire and 3. Equipment Destruction;	• The ground pole must be placed at maximum 5 m of the main distribution panel; • All panels, lights and sockets must be waterproof. b) Cables: • All extension cables must have a cross section Ø minimum of two point five squared millimeters (2.5 mm^2) and flexible with external protection in natural rubber o similar (e.g. pvc). All power sockets are protected by 16 A circuit breakers. Suggested colours are yellow and orange, in order to be easily recognized and seen; • The entire installation has to be grounded; • All electrical devices (extensions cords etc.) must be in safe, good electrical and mechanical condition; • All cables must be mechanically protected as follows: **1) Out of the way** (all cables must be placed in positions where they cannot be damaged); **2) Direct deterioration** (protection from vehicle and people traffic, in order to prevent deterioration); • All electrical devices must be placed in dry places and NEVER be in direct contact with stagnant water; c) Fixed devices: • All NOT movable electrical devices and generators must be well grounded; d) Mobile devices: • Electrical installation and fixed devices must be grounded except for mobile electrical tools marked “Class 2” equipment (NOT grounded);  Qualified technician (Electrician): The ONLY persons authorized

Risk	Vulnerability (exposures)	Preventive Actions
Electrical risks in the building site system	1. Electrocution; 2. Fire and 3. Equipment Destruction;	to work on the electrical system (it does NOT matter if UNDER TENSION or NOT) are competent, qualified electricians. All electrical tools used by electricians (gloves included when UNDER TENSION) must be insulated up to one thousand Volts (1000 V). Circuits on which an electrician is working must be OFF on the electrical panel and for the entire duration of the intervention. In addition, it must be clearly highlighted at the concerned panel that a technician is working on the system and it is forbidden to reconnect the circuits that are OFF. This action must be done only by the person who is working on the circuit.
Risk of laceration	Working with steel bars for reinforcement and/or with associated machinery for any related activity	Steel bars: Curve the extremities. Cover the extremities (if NOT curved) with plastic protection (mushroom caps); Machinery: All machines must have adequate protections;
Risk of being injured by machines	Working with or close to machines for any related activity	1) Read the instruction booklet before using a machine; 2) Regularly check the status of maintenance of the machines and of the ropes, hooks and chains (maximum every three [3] months); 3) Do NOT stand within range of machine action; 4) Machine working areas must be clearly spotlighted;
Prevent injury and avoid risks with the use of personal protective equipment	All work on the building site done directly by personnel with or without machines	Use appropriate personal protective equipment (suit, helmet, leather gloves, etc.) and Identification card.
Risks related to manual handling and mechanical loads	Movements of loads by hand or with a crane	The manual handling of loads: Man, maximum 25 kg; Woman, maximum 15 kg;

Risk	Vulnerability (exposures)	Preventive Actions
Risks related to manual handling and mechanical loads	Movements of loads by hand or with a crane	The mechanical handling of loads: 1) Machinery must be in perfect working order and equipped with an instruction manual (available on site); 2) Must be properly grounded, if necessary; 3) Protective parts should NOT be removed; 4) Ropes and chains have documented quarterly inspections; they should be kept under observation to detect any damage; joints / fastenings are correctly installed; 5) Check the suitability of the hooks used or to be used for the transport of materials; 6) No one should be under moving loads and everybody will wear a helmet.
Risks related to vehicle movement	Work done by vehicles	1) Respect the site boards; 2) Keep all transit areas free; 3) NEVER pass with heavy vehicles along the edges of excavation sites, near scaffolding or other dangerous places; 4) Do NOT pass near the work range of moving vehicles.

Immediately, in case of any accident, the following referent persons must be alerted physically or by phone:

Organization	Title	Person	Contact mobile
CONTRACTOR's name	Site Manager	……	……
MSF	Log Constructor	……	……

NEVER work/be alone (at least two workers together and a supervisor of the CLIENT and CONTRACTOR have to be made aware of the exact location and time scheduling of the Works) during the following situations:

- Working on the roof / in a basement /on the scaffoldings;
- Working before and/or after normal working hours;
- Working close to some excavations (deeper than 1.2 meters);
- Working in a remote and NOT visible area of the building site;
- Working during supposed time off (National holidays, weekend etc.);
- Working in a floor higher than the ground floor without external walls finished;
- Working close to an opening (it does NOT matter which type, vertical and/or horizontal ones);
- Working with (giving indications) or close to building site vehicles (e.g. truck, concrete mixer, crane, etc.);
- Working with machinery and/or heavy tools (e.g. electric saw bench, cement mixer, jackhammer, etc.).

It is up to the personnel on-site to verify if the use of whistles can be useful for safety reasons.

Chapter 1 Risk of being swept away by landslides

Always make sure that the excavation is secured. The excavations (e.g. foundations, construction of septic tanks, soak away pits, infiltration trenches and many other watsan and only works) are really dangerous for the risk of landslide soil that can bury those who are working. That is why it is necessary to safeguard the excavation, if exceeds the height of one meter and twenty centimeters (1.2 m), the angle of natural slope or if the soil is subject to landslides. In this regard, when we are in the presence of intense or prolonged rainfall is necessary to verify that infiltration of water into the ground does NOT affect the stability of the excavation.

Avoid putting weight on the edge of the excavation. To prevent landslides, do NOT set down materials or equipment, heavy loads, on the edge of the excavation. This is the main cause of landslides which fall on workers.

In the majority of excavation landslides, there are fatalities.

Chapter 2 Risk of falling

There are various types of risk of falls as follow:

1) Falling into excavations: In order to prevent falls into excavations, signpost well the presence of an excavation. Excavations should be well marked and isolated with protections at least one meter high at an adequate distance from the edge of the excavation;
2) Falling from above: Always check the stability of the walkways (before using);
3) Falling from scaffolding: Check that the base of the scaffolding is solid. Under the base should be laid robust pieces of plank and NOT weak material. The scaffolding must be complete with railing and foot stops, at least twenty centimetres (20 cm) high every point. If the wall is more than twenty centimeters (30 cm) far from the scaffolding, there must also be inward protections. Never leave openings on empty spaces. The scaffolding should absolutely be well attached to the structure. Be sure to use only genuine scaffolding (wooden or metallic ones). Planks and walkways must always be clean and clear. Use correct ladders to access the different levels of the scaffolding. Do NOT climb up (outside and inside);
4) Falling from the steps: The ladder is positioned at an angle of 75 degrees. The ladder must extend at least one meter above the floor where it rests (NOT for the scaffolding). The ladder should never be used as a platform for working. The ladder serves only to reach a location;
5) Falling from the pillars: In preparation for and during concrete casting, scaffolding with regular rails must be used;
6) Falling out of the slabs: A continuous stable wooden layer or a bridge on sawhorses is needed to avoid falling during casting of slabs;
7) Falling into stairwells and elevator shafts: The stairwells are used in the course of the Works. It is important to provide them with complete protection including a foot stop. The openings on the top of the staircases should always be closed with wooden scaffolding planks that never get removed. The lift shafts, which are not used during the execution of the works has to be completely closed to each floor with scaffolding planks. You should put a bar against the access with a parapet one meter high and a foot stop;
8) Falling outside (of the building): The basic precaution is for workers to always protect themselves when the height is more than two meters (2 m). The workplace at a height greater than two meters (2 m) always constitutes a danger: while someone is working on a level, while someone reaches it and

also as someone builds the protections. On the openings should put a bar against the access with a parapet one meter high and a foot stop;

9) Falling off the roof: If the slope of the roof is less than fifteen percent (15%), the fence (including foot stop) must be at least one meter (1 m) tall, if the slope is higher, a fence is needed (including foot stop) at least one meter and twenty centimeter (1.2 m) high. If the slope exceeds thirty percent (30%), the railing must be continuous everywhere. On the roof, there is also the risk of falling off if there are no external protections. First, if there is scaffolding till the last slab, a railing of at least one meter and twenty centimeters (1.2 m) height must be present. The walkway of the same scaffolding must be at least sixty centimeter (60 cm) width. In case all these precautions are not possible, it is necessary to tie oneself in with a harness securely anchored to a stable and resistant part of the building. Close all empty space openings well with correct wooden planks (i.e. elevator shafts, staircases etc.);

10) Falling through openings: Skylights that are open must be signposted, closed or well protected with planks. Obviously protections must remain on place till the end of the Works.

It is mandatory to ALWAYS cordon off and protect the entire Works area and NEVER remove the collective protective devices (parapets, bracings, nets etc.). Report to the person in charge if they are damaged or unusable.

Chapter 3 Risk of being struck by objects

A helmet is essential to protect yourself from falling objects from above. Crossing the site it is a mandatory protection for everybody. To avoid the risk of falling objects also requires specific measures: safe pathways must be identified and provided with collective protections.

The workstations that are within range of the crane must be protected with particular structures; appropriate canopies are needed to protect those working at the mixer, the irons and silos. These protections must NOT exceed three meters (3 m) in height. Concerning the crane loading materials, it is necessary that the harness is made by appropriate tools, so that the load is balanced and will not fall over. The crane operator must have a valid crane operators license and be properly trained.

Chapter 4 Electrical risks in the building site system

Introduction: The following points concern only the provisional installation of electrical supply for the building site during the Works (it concerns all the electrical tools and equipment of the workers during the construction works) and NOT the final installation, for the (future) health structure.

General safety rules follow these guidelines:

A. Safety of People:
1) Avoid direct contact (insulation);
2) Avoid indirect contact (grounding);
3) Residual Current Device;

B. Protection of Devices:
1) Good choice;
2) Good installation;
3) Good use;
4) Good maintenance.

Electrical Devices on the building site:

For the entire duration of Works at the building site all electrical materials must respect the following rules:

a. Distribution panels:
- All devices must be protected from direct contact (no electrical part can be touched directly - e.g. cover for the electrical boards);
- The entire installation has to be grounded;

- All electrical devices (main and distribution panels etc.) must be in safe, good electrical and mechanical condition;
- All output must have a cross section Ø minimum of the required one determined by the protection device (DMT / MCB) installed in the distribution panel before on the line:
  - Lights equipment's: 10 A = 2.5 mm²;
  - Sockets: 16 A = 2.5 mm²;
  - Dedicated circuits (e.g.: welding post: 32 A = 6 mm²);
- All the circuits breakers must be identified with their related outlet (e.g.: we paste a "1" number on the circuit breaker of the line 1 and we identify the related sockets by pasting on them a "1" number as well);
- The building site electrical supply must be protected by circuit breakers and by a Residual Current Device zero point zero three Ampere (0.03 A) in the main distribution panel we can use a 0.3 A Residual Current Device if it is supplying secondary panels protected with 0.03 A Residual Current Devices, but in NO case if we plug consumers on that main panel, then we should use 0.03 A RCD's;
- The ground pole must be placed at maximum 5 m of the main distribution panel;
- All panels, lights and sockets must be waterproof.

b. Cables:

- All extension cables must have a cross section Ø minimum of two point five squared millimeters (2.5 mm²) and to be flexible with external protection in natural rubber o similar (e.g. pvc). All power sockets are protected by 16 A circuit breakers. Suggested colour is orange, in order to be easily recognized and seen (even the black cables supplied by MSF are in good quality);
- The entire installation has to be grounded;
- All electrical devices (extensions cords etc.) must be in a safe and good electrical and mechanical condition;
- All cables must be mechanically protected as follow: **1) Out of the way** (all cables must be placed in position where they cannot be directly damaged); **2) Direct deterioration** (protection from the movement of vehicles and people, in order to prevent any deterioration);
- All electrical devices must placed in dry places and NEVER be in direct contact with stagnant water;
- All electrical cables should be fixed at an aerial position (at least 2.00 m) and NOT along ground floor;

c. Fixed devices:

- All NOT movable electrical devices and generators must be well grounded;

d. Mobile devices:

e. Electrical installation and fixed devices must be grounded except for mobile electrical tools marked "Class 2" (double insulation) equipment (NOT grounded);

Qualified technician (Electrician):

The ONLY persons authorized to work on the electrical system (it does NOT matter if UNDER TENSION or NOT) are competent, qualified electricians.

All electrical tools used by the electricians (gloves included only if UNDER TENSION) must be insulated to at least one thousand Volts (1000 V). Do NOT forget to always wear the Adjustable Face Shield as per pictures

Those circuits on which the electrician is working must be OFF on the electrical panel and for the entire duration of the intervention. In addition, it must be clearly highlighted at the panel concerned that a technician is working on the system and it is forbidden to reconnect the circuits that are OFF. This action must be taken only by the person who is working on the circuit.

Chapter 5 Risk of laceration

Steel bars: During any step of the work with the steel it is extremely important to curve the extremities at the end of the work or to cover them with correct plastic protection (informally called mushroom caps).

Machinery: The machines to be used on site must be provided with adequate protections. Who uses machinery on construction building site must be previously trained on the use of the specific machines.

Chapter 6 Risk of being injured by machines

It is mandatory that each machine has its own instruction booklet (well-preserved). Before using any machine it is required that the operator carefully read the instruction booklet.

For safety, the maintenance status of all machines must be verified. These, small or large, are moved from site to site and every time it is necessary to regularly verify before starting to use them, NOT only for efficiency, but also to ensure that protections in place. Normally, the machines on the building sites are large and so it is necessary to pay particular attention to their movements and do NOT stand in their range (a part of the responsibility of the person supervising machine movement). Areas where Works should NOT interfere with the mobility of the site must be clearly spotlighted. No matter how much attention is paid, an operator is always in danger of being injured by a vehicle in operation. For this reason it is always strictly forbidden to stay and or walk on the area of the operations.

When working with cranes, great caution is required during loading and unloading, paying close attention to the signals with the operator. Ropes, hooks and chains should be checked periodically (maximum every three [3] months). Always balance suspended loads. If the materials are NOT properly secured for hoisting, it creates a huge danger with the suspended load which can not only fall, but also damage other structures causing serious injury to other workers.

Chapter 7 Prevent injury and avoid risks with the use of personal protective equipment

Identification card: Remember that this is a must practice. Always wear an identification card (with Name, Surname, Work Site, Client, Company employer, date of expiring and number of ID card).

The suit: It protects the body from abrasion and even from heat. The suit must have no loose parts, such as for example sleeves or pants that are too long, that could get caught in machinery.

The helmet: It is essential during the preparation of the formworks and the removal of the same, or when the person is in radius of action of the crane or under the scaffolding. But on the site, the danger of material falling on the top of the head or shock from dangerous elements is always present. The helmet is kept tied to the belt and should be used every time you are on the site.

Leather gloves: On site, the skin is often exposed to factors which may cause damage. Use leather gloves to avoid injury from sharp materials, rubber ones to handle acids or hazardous substances, and breathable cut-resistant gloves to work iron.

Safety shoes: On a construction site, use safety shoes with reinforced toes and soles. It is useful to use safety boots in processes such as the casting of concrete, while for asphalt, shoes with soles which insulate from the high temperatures of the bitumen are needed.

Respiratory masks and breathing apparatus: To avoid being poisoned and respiratory problems, protective respiratory masks and breathing apparatuses are needed. This is the case when working with bitumen or asphalt, paint spraying, welding, or more generally when working in dusty environments such as in demolition.

Welding mask and safety glasses: The eyes need to be protected when welding (in this case a welding mask must be used), using a circular saw, using a gun which shoots nails, hammers, chisels and spray equipment.

Hearing protection (i.e. headphones or earplugs): These should be used when using demolition hammers, saws cutter, grinders and whenever a sign there indicates. It is really important: normally use caps and put the headphones in noisier locations, such as near the machine or near sources of noise.

On the building site it is strictly forbidden to use any type of headphones and/or listening music etc. in any situation. The use of any type of headphones has to be strictly restricted for the correct Works (using machines doing noises more than 85 dB), in any other situation all people on the building site must have possibility to hear at any time possible noises from vehicles, activities etc.

Safety belts: When assembling and disassembling scaffolding, cranes or concrete plant or working on eaves, roofs, walls, and demolition cannot be used parapet protection, the use of safety belts is mandatory. These slings are an integral part of fall arrest systems, along with the anchors and links, i.e. ropes and cables. Slings should be well-adjusted measures of the user. They are personal, and their use requires training. The safety belt should always be anchored to stable building parts. Always check before using it.

Chapter 8 Risks related to manual handling and mechanical loads

The manual handling of loads: a weight exceeding twenty five (25) kg should never be raised by a man (fifteen [15] kg by a woman), since this puts at serious risk the integrity of the spinal column. Above this value the handling will be of type "auxiliary company," with two or more people or possibly mechanically.

The mechanical handling of loads:

- Machinery must be in perfect working order and equipped with an instruction manual (which must be available on site);
- Must be properly grounded, as necessary;
- Protective parts should NOT be removed;
- Ropes and chains must have documented quarterly inspections; they should be kept under observation to detect any damage; joints / fastenings correctly attached;
- Particular attention should be given to the suitability of the hooks used or to be used for the transport of materials;
- Issue of material falling from above: no one should be under moving loads and everybody will use the helmet.

Chapter 9 Risks related to vehicle movement

These symbols (like others depending on the needs) must be visible, in reference on the location in which there are activities on going (please find samples at the end of this chapter):

- Work on progress;
- No overtaking;
- Maximum speed;
- Obligatory direction;
- Two-way traffic;
- Road closed
- Bumps;
- Road slippery;

All warning signs deemed necessary always with a yellow background color (excluding the Obligatory direction).

Keep all transit areas free from any type of obstacle (materials, tools, debris, etc.) in order to guarantee at any time an easy and safe evacuation of the workers from the site.
NEVER pass with heavy vehicles along the edges of the excavation sites, near scaffolding or other dangerous places and NEVER deposit materials in these areas.
Do NOT pass near the work range of moving machinery (excavators, blades, circuits etc.).





Chapter 10 Medical measures for first aid

In case of any accident on site, the direct supervisor and the MSF person included in the matrix at the beginning of this document have to be informed immediately.

In any construction building site there should be at least a health center (emergency room), which is essential for the safety of workers and useful to first aid, pending the arrival of rescue specialists. On every construction site it has to be assured at least the presence of a trained person (even better if nurse or doctor etc.) who can be reachable in few minutes (less than ten) for First Aid every working day.
Below a list of the different levels of response to medical emergencies:

First aid kit: Must be present in every workplace, NOT only at construction building sites. Depending on the risk classification its minimum content varies and takes into account the number of workers employed. In order to prepare a First Aid Kit with the correct contents, consult the MSF PMR (Project Medical Referent) and/or MedCo (Medical Coordinator, normally in Capital). A First Aid Kit has to be well visible (and well signaled with the correct symbol) and reachable at any time. Its content has to be regularly verified and if something is missing, it must be replaced immediately (every First Aid Kit must have inside the list of all contents and the paper with the date of verifications). Only authorized personnel (nurses, doctors etc.) can use the First Aid Kits;

Means of communication: Identifiable with a landline or mobile, must be present in all places of work, so it can be possible to communicate quickly with supervisors and medical personnel;

Health personnel: The implementer, in conjunction with MSF's medical representative must make decisions regarding first aid, from emergency personnel to the mode of contact with external services. Personnel in charge of first aid must be trained by competent authorities on this matter (an MSF representative must validate this in writing). Only authorized personnel can give First Aid support to the injured;

Transport injured: Construction sites, especially if very large, need a vehicle (better if a real ambulance) that can carry an injured worker from a point nearest the emergency. Every case will be decided in collaboration with a medical and a technical representative of MSF;

Infirmary: It is strongly suggested on construction building sites employing at least fifty (50) workers, in addition to a local emergency room, to also plan a room for the infirmary with at least two (2) beds and one (1) nurse present full time on site. It will be a must if there will be more than one hundred (100) workers constantly on site. Advice by MSF staff e.g. PMR, MedCo, LFP and CoTL is always welcome on this subject.

Chapter 11 Organization and procedures of fire emergency

In situations with possible fire emergencies and accidents, a prevention plan with all the following points should be prepared:

- Placing (in the main strategic places of the building site) the "Building site maps" indicating all fire extinguishers or other anti-fire systems on the building site;
- Placing the fire extinguishers or other anti-fire systems according to the "Building site maps";
- Prepare storage space for inflammable materials;
- Prepare a waste management protocol;
- Forbid smoking and using of any flame/fire without a written approval by the CLIENT, on the building site;
- Keep the building site clean on daily basis;
- Verify that the safety exits are always unlocked, functioning and protected;
- Prepare an evacuation plan available to everybody and instruct all workers on the building site on its contents;
- To do training on the responsibility and respect for all National Laws on Safety on building site and practical training about how to use fire extinguishers or other anti-fire systems.

Concerning training, it must be done every six (6) months by the implementer for his / her staff, using the same model of the fire extinguishers or other anti-fire systems placed on the building site. A check list has to be prepared in local language and French / English with clear and simple instructions ***"what to do in case of fire"*** and a copy of it has to be placed in a visible and reachable position next to each fire extinguisher or other anti-fire system.

What to do in case of fire.pdf

Every worker has to be informed through correct training about the rescue services available in the district where MSF project activity is. An evacuation plan has to be known by all people who work on the building site (the evacuation ways must be well and clearly shown on the “Building site maps”). If fire extinguishers are the solution chosen for the building site, here is a matrix on the extinguisher types that must be used for various fire classifications:

Fire class	Water	Powder ABC	Powder D	Foam	CO2	Chemical
A (solids)	X	X		X		X
B (liquids)		X		X	X	X
C (gases)		X			X	X
D (metals)			X			
E (electrical systems)		X			X	X

Extinguisher Type	Recommended use	Precautions
A	The water extinguisher is used on ordinary fuel fires such as wood, paper, cloth, mattresses, some plastics	Not for use on fires involving flammable liquids, energized equipment, metal fires such as magnesium, lithium and others. Avoid freezing
A + B	The AFFF extinguisher is used on ordinary fuel fires, Class A or flammable liquid. Select the type of foam depending on the presence of alcohol or not	Not for use on fires involving energized equipment, metal fires such as magnesium, lithium and others. Avoid freezing
A + C	The extinguisher with distilled water is used on regular fuel fires such as wood, paper, cloth, mattresses, some plastics and energized equipment	Not for use on flammable liquid fires and fires metals such as magnesium, lithium and others. Avoid freezing
A + B + C	The dry chemical fire extinguisher is used on fuel fires, Ordinary Class A, flammable liquid or equipment under voltage. It is the most used extinguisher	Not for use on metal fires such as magnesium, lithium others. Warning! Extinguishing powder possibly contaminating

Extinguisher Types	Recommended use	Precautions
B + C	The gas CO2 fire extinguisher is used on flammable liquid fires or equipment in use. Proposed for protecting specific equipment. Extinguishing agent as a gas cooler. Cylinder under high pressure	Not for use on regular fuel fires (Class A) or on metal fires such as magnesium, lithium and others. Possibility of restrike of the fire once the gas is evaporated
B + C	Standard powder extinguishers BC and purple K powder are used on flammable liquid fires or energized equipment. The purple K is more powerful and is used on flammable liquid layers	Not for use on regular fuel fires (Class A) and on metal fires such as magnesium and others. Little used today
D	Class D fire extinguishers are used on metal fires. Choose the type of extinguishing agent depending on whether magnesium or lithium extinguisher. Special risks	Not for use on fires other than that specified
A + K	Use on commercial kitchen fires. e.g.: fryers. Agent compatible with those of extinguishing sprinkler systems	Not for use on fires other than that specified

Chapter 12 Safety Signs

Signs on construction building site: There must be correct indication of the potential risks, through the presence of a person in charge and making use of conventional hand gestures, as needed. Signs of different ongoing activities must be placed on the right places, before reaching risk area and must be at a minimum height of one point five (1.50) metres and not higher than two (2) metres. The signs must be "suitable, consistent, credible, visible and legible". Warning signs must have a yellow background, placed on supports or braces furniture, ballasted with soft materials.

Building site map: The Building site map must be installed at strategic locations with details indicating all the ways of access, escape, the positioning of the means of active protection, the location of the main switch of the power supply, the location of the fire extinguishers, the shut-off valves adductions of water, gas and other combustible fluids and the rallying points;

Information main board: On each building site where activities will take longer than seven days, an information main board must be placed at the entrance. The information main board (in plastic, in order to hang it in all-weather without problems), has to clearly include the following information:

- Municipality/District;
- Type of Works;
- Building permit;
- Owner of the Works (Client);
- Designer/Engineer/Architect 5it can be possible to not specified a person but a team);
- Director of Works;
- Calculation of structures;

- Building company;
- Person responsible for safety;
- Electrical system (if the company in charge is different from the Building company);
- Hydraulic system (if the company in charge is different from the Building company);
- Gas system (if the company in charge is different from the Building company);
- Date of beginning of Works;
- Date of end of Works.

Other signs: The following signs must be present on site and next to the item described:

- Fire extinguishers;
- First Aid Kits;
- Electrical panels;
- Exit;
- Rallying point;
- Obligation to wear safety boots, safety glasses, safety face mask, safety earphones, etc.

Please find samples here below:

Chapter 13 Briefings / Debriefings /Trainings

Technical Briefings / Debriefings will be done by the Back Office Construction referent and /or the Back Office Health Structures Team to all Log Constructors and all CoTLs who will leave for missions where construction Works are ongoing or planned.

Training for general measures of health and safety of workers in the workplace is the following:

- Information and training for workers;
- Information and training for directors and appointed officers;
- Information and training for representatives of workers' safety.

The implementer shall also ensure that each worker receives sufficient and adequate training on the specific risks of each specific activity on the building site (e.g.: foundations, building roof, etc.).

The training of workers and their representatives must be repeated periodically in relation to increasing or new risks.

All people involved on the building site (even people who do not work directly on the building site but are working for the Works, e.g.: HR, finance, etc.) must receive by the implementer, adequate and specific training and regular updates in relation to their duties in the field of health and safety at work. The content of the training must include:

- Key stakeholders and their obligations;
- Definition and identification of risk factors;
- Risk assessment;
- Identification of appropriate technical, organizational and procedural prevention and protection.

A MSF representative should be present at all training (fire extinguishers included) and the implementer has to submit to the MSF representative the signed presence lists (pictures of the training etc. are always welcome). In case the implementer is MSF, it is up to the Log constructor to follow directly all these procedures and to make a data base of all documentation.

The training program has to respect the Safety National Rules and Laws of the country where MSF is working. If there are no National Rules, it will be up to the field mission staff to decide in agreement with the implementer what training is to be done and when.

This document is based on the following:

"Practical advice for those working in the building sites – A secure site will lengthen the life" by A.S.L.E.

DL 9 April 2008 Number 81 "Protection of health and safety in the building sites"

Yours sincerely,

Representing the CLIENT
Médecins Sans Frontières OCG
Representative

Technical Project Coordinator (TechPC)

Saduddin Resha

RECEIVED

Representing the Bidder / CONTRACTOR
Construction Company

……..