



## Health and Safety Requirements

## Table of Contents

1. Introduction
  - 1.A- Abbreviations
  - 1.B- Definitions
  - 1.C- UNDP's Health and Safety Policy
2. Roles and Responsibilities
  - 2.A- UNDP Duties
  - 2.B- Contractor's Project Manager Safety Duties
  - 2.C- Contractor Health, Safety and Environmental (HSE) Officer Qualifications
  - 2.D- Contractor Health, Safety and Environmental (HSE) Officer Duties
3. Contractor's Health & Safety and Environmental (HSE) Management Plan
4. Health and Safety Site Rules and Regulations Briefing
5. Site Mobilization / Organization
  - 5.A- Security Arrangements
  - 5.B- Site Offices
  - 5.C- Sanitary facilities
  - 5.D- Water supply
  - 5.E- Temporary Lighting
  - 5.F- Warehouse (s)
  - 5.G- Welfare area, and clothes changing area
  - 5.H- Assembly point (s)
  - 5.I- First Aid Kits and Fire Extinguishers
  - 5.J- Parking (s)
  - 5.K- H&S and Environmental Signage
6. Personal Protective Equipment (PPE)
7. Excavation Safety Mitigations Measures:
8. Working on Heights / and Measures of Fall Prevention
  - 8.A- Scaffolding
  - 8.B- Low portable Heavy scaffolding
  - 8.C- Independent scaffolding Tower (Mobile or fixed)
  - 8.D- Other Types of scaffolding

*8.E- Ladders*

*8.F- Stairways*

*8.G- Traditional Shuttering systems (not exceeding 2.8-meter height):*

*8.H- Ready-Made Shuttering Panels*

*8.I- Fall Protection*

## **9. Permit System**

*9.A- Entry / Working in Confined Space Permit*

*9.B- Hot Works Permit*

*9.C- Excavation Permit*

*9.D- Lifting Permit*

## **10. Electrical Hazards**

*10.A- General Electricity*

*10.B- Electric Equipment and Handheld tools*

*10.C- Extension Cables*

## **11.Vehicular Operations Minimum requirements**

## **12.Housekeeping**

## **13.Fire Protection**

## **14.Working Overtime Hours**

## **15.Emergency Measures and Accident/Incident Reporting**

## **16.Safety Violations and Penalties Procedures**

## **17.Method Statements and Risks Assessment**

## **18.Health and Safety Project Documentation**

## **19.Training (Safety Toolboxes Talks and Safety Inductions)**

## **20.Safety Meetings**

## **21.Worker Rights**

## **22.Force Majeure (i.e. COVID-19 Pandemic)**

## **23.Traffic Management**

## **ANNEX I- Health and Safety Signs**

## **CONTRACTOR'S DECLARATION OF COMMITMENT OF IMPLEMENTING HEALTH AND SAFETY MEASURES**

## 1. Introduction

The purpose of this Manual is to define and set UNDP's requirement of the Health and Safety Management System for Infrastructure and Construction Project. Those requirements are in line with internationally recognized Safety and Health programs. Those requirements will enable the stakeholders to achieve and deliver Construction and Infrastructure projects in safe manner.

**According to this manual, contractors are requested to strictly adhere UNDP's Health, Safety and Environmental requirements and endorse the expenses in the of these requirements during their pricing of the bid, throughout the productions of plans and the implementation of the Works.**

This document is in integral document with Tender Documents, Drawings, Bill of Quantities, general provisions of this contract including general and particular conditions and specifications, apply to this manual.

UNDP Considers this manual is a live document and shall adapt to ongoing changes in the project activities risks throughout the project implementation period.

UNDP considers the Contractor to be the “controlling responsible authority” for all site safety and health of any person in the site including his workers, any third party, visitors, engineers and subcontractors. The contractor shall be responsible for:

- Strictly implementing and Enforcing Health and Safety Mitigation Measures and Requirements.
- Informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance;
- Coordinating works to prevent one craft from interfering with or creating hazardous working conditions for the other crafts;
- Inspecting subcontractors' operations to ensure that accidents prevention responsibilities are being carried out.
- Provide all necessary safety equipment, tools and physical requirements that are best for practice.

## 1.A - ABBREVIATIONS

Accident Prevention Plan	APP
Activity Hazard Analysis	AHA
Emergency Safety Plan	ESP
Fall Protection and Prevention Plan	FP&P
Health Safety and Environment	HSE
Occupational Safety and Health Administration	OSHA
Personal Protective Equipment	PPE
Safety Management Plan (Safety Plan	SMP
Site Safety Management Plan	SSMP

This manual applies for all UNDP Infrastructure projects in Palestine. Construction projects include:

1. Building construction (Skeleton and finish works) including excavation structural alteration, renovation, repair, maintenance and demolition of any type of buildings or structures.
2. Infrastructure including roads and highways, bridges, tunnels and works related to the provision of services such as communications, drainage, sewerage, water and energy supplies.

## 1.B - Definitions:

- A. The Contractor: The body in the project that implements the project, in which this body, employs engineers, technicians, worker and provides materials and equipment to implement and deliver the project. The contractor is the responsible body to strictly implement mitigation measures for safe implementation and delivery of the project.
- B. The “Sub-Contractor”: is an implementing body that the contractor may contract to implement part of the work. The “Sub-Contractor” must comply with the Health and Safety Rules and Regulations, the Contractor is responsible to enforce the mitigation measures on the “Sub-contractor”.
- C. Contractor HSE Officer: Contractor Health, Safety and Environmental Officer is a safety manger, specialist or safety engineer who has met the experience and testing requirements set forth by UNDP and obtains the certifications in line with local Rules and Regulations. This person will be representing the contractor and

- be responsible for implementing the Health and Safety Procedures requirements in line with the Local Rules and Regulations and UNDP requirements. And implementing procedures set by the Contractor Health and Safety Plan.
- D. Competent Person: One who is capable of identifying existing and predictable hazard in area of construction and its surrounding and can be fully reliable and authorized to take prompt corrective measurements to eliminate hazard.
  - E. First Aid. Immediate assistance, emergency care, or treatment given to an ill or injured person before regular medical aid can be obtained.
  - F. Safety and Health Plan: A Plan for ensuring the safety and health of employees as required by the specifications.
  - G. Qualified Person: One who;
    - a. by possession of a recognized degree, certified, or professional standing, or extensive knowledge, training and experience.
    - b. has successfully demonstrated his or her ability to solve or resolve problems related to the subject matter, the work, or the project.
    - c. has full authority to bear all responsibility and ability to implement requirements within his or her scope of work.
  - H. Qualifications of competent and qualified person: As a minimum, competent person shall be designated, and qualifications submitted for each of the following major areas of work:
    - a. Excavation.
    - b. Scaffolding.
    - c. Fall Protection.
    - d. Electrical and Mechanical hazards.
    - e. Heavy Equipment Operations.
    - f. Health hazard recognition.
    - g. Personal protective equipment and clothing to include selection, use and maintenance.

### ***1.C- UNDP's Health and Safety Policy:***

If a job represents a potential safety or health threat, every effort should be made to plan a safe way to do the task. Every procedure must be a safe procedure. Shortcuts in safe procedures and mitigation measures shall not be accepted.

Planning and Implementation of Infrastructure and Construction Projects shall include international high standards for the protection of its employees in safety, health and welfare. Needed time shall be allocated to ensure tasks are planned and implemented in a safe and proper manner.

#### **Do It Once, Do It Right, But Don't Try Doing It If It's NOT SAFE**

The Contractor shall strictly adhere to the UNDP's Health and Safety standards mentioned in this manual. Moreover, the Contractor is requested to implement the Works in accordance with:

- Local Governmental Laws, Rules, Regulations, specifications, notices and circulars.
- UNDP Requirements mentioned in this Health and Safety Manual
- International Labor Office Safety Standards and Codes of Practice
- OSHA Safety standard and regulations
- National Institute of Occupational Safety and Health (NIOSH)
- The guidelines of the Health and Safety Executive, UK

The Health and Safety Standards set by UNDP are not to be considered as "all inclusive." Where any portion of this plan is in conflict with, or less stringent than, any applicable international or local safety regulations, the more stringent regulation shall take precedence.

The contractor shall be deemed to have his own copy of mentioned specifications, regulations, notice and circulars given at above.

## ***2. Roles and Responsibilities***

UNDP requires from the Contractor, his/her Project Manager, Contractor HSE Officer and all other engineers to play an important part in creating and maintaining safe and healthful work practices, policies, and procedures. UNDP requires the contractor to be able to identify potential hazards, identify methods to control or eliminate the hazards, ensure employees engage in safe and healthful work practices, and ensure employees receive safety and health training to do their work.

### ***2.A- UNDP Authorities:***

Through UNDP employees or contracted third party, UNDP will monitor the Contractor's performance at site, and his methodology in implementing and managing the Health, Safety and Environmental Measures. UNDP is authorized to:

- Enter and Audit at any time the mitigation measures in any place on site.
- Inspect the areas at site and take photos, any temporary works, welfare area, site offices, scaffolding and all the safety arrangements done by the contractor
- Request any of the documents, photos related to the Contractor's safety activities
- Investigate with anyone (weather alone or Infront of anyone) on site including the contractor team, workers on the safety activities, and in safety incidents, and seek causes of any incident.
- Take sample, certificate or other document related to the project safety procedures.
- Stop the works in any unsafe working zone or activity.

The Contractor is considered fully responsible of the application of the safety management system. The Contractor Project Manager shall be delegated for the application the Health and Safety throughout the project implementation period. In return, the Contractor Project Manager shall provide the full authority to the Contractor's HSE Officer to enforce the safety instructions and mitigation measures on site. Any failure in safety performance on site and during the project period, the contractor, Project Manager, technical team including the HSE Engineer shall hold full responsibility accordingly.

The Tenderers are referred to ***(Refer to required staff schedule of the project in the ITB)***, which describes UNDP's minimum qualification requirements for the key personnel to be



employed for this project. CV's shall be used to verify the expertise and experience of the contractor's personnel and if needed, interviews shall be conducted with the contractor's proposed key personnel and are subject to UNDP's approval.

In All cases, all the project staff and workers are obliged to work safely and ensure they implement the safety mitigation measures. UNDP requires the following key duties in both the Contractor Project Manager and Contractor HSE Officer in the Construction and Infrastructure Projects are as follows:

### ***2.B- Contractor Project Manager Safety Duties:***

- Apply and Oblige the Health and Safety Requirements to the Project stakeholders, engineers, sub-contractors and workers.
- Delegate and support and the Contractor HSE Officer to fulfill his duties on controlling the site safety.
- Provide the needed materials and safe equipment for use of the manpower.
- Provide the needed PPE for the use of the manpower. And others present at the site.
- Continuously coordinate between project stakeholders, local authorities, workers and any other subcontractors, and ensure that works are implemented in safe and adequate matters.
- Advice and Follow-up on the duties of the Contractor HSE Officer that are mentioned below and ensure that the HSE is fulfilling his duties properly.

### ***2.C- Contractor Health, Safety and Environmental (HSE) Officer Qualifications***

In all cases in the required project staff. The Contractor HSE Officer shall have a minimum of:

- 5 years of experience in Health and Safety Control and Management at the Infrastructure and Construction Projects.
- Certified Safety officer from local authorities
- Obtained relevant certificates in H&S Management.

- Certified First Aider and Experience knowledge in Handling First aid and Emergency for site related accidents (i.e. safe handling for workers falling from heights, cuts, bruises, eye injury, breaks, bleeding and other site related injuries)

## ***2.D- Contractor Health, Safety and Environmental (HSE) Officer Duties***

1. Perform safety management, surveillance, Daily and Periodic Inspections and safety enforcement for the contractor., including but not limited to:
  - a. Preparedness of Mobilization/Welfare area
  - b. Excavations, shoring, edge protections, and access
  - c. Scaffolding (different types used)
  - d. Ladders
  - e. Heavy and Light electrical equipment
  - f. Machinery inspection (operators and plants)
  - g. Housekeeping and edge protections.
  - h. Lifting equipment, stairways
  - i. Disposal of waste, and waste segregation
  - j. Firefighting equipment
2. Communication, perform internal and external required Contact with all parties related to safety and health issues
3. Regulatory compliance, statutory and site inspection, records maintenance necessary in work sequences. Ensuring:
  - a. All engineers, subcontractors, workers are briefed with safety instructions and signed on commitment letters
  - b. All documents for operators, vehicles and trucks, licenses, insurance, registration are valid and documents.
4. Accident/ incident capturing, investigation, root cause analysis. In addition to maintaining all required records as are necessary relating to Accidents, occupational diseases and dangerous occurrences.
5. Advise on safety aspects in all job studies and to carry out detailed job safety studied to selected jobs.
6. Perform and follow up PPE management including records and maintenance.
7. Ensure corrective & preventive action measures are applied and be emergency preparedness
8. Safety & environment promotion, training, instruction, display board
9. Fire Safety, Electrical, chemical safety & environment management.
10. Work permit management that includes working at heights, scaffolding, confined spaces, Hot or dangerous materials, works in confined spaces and High-risk activities.



11. To advise Project Manager on matters relating to site safety
12. Setting objectives and targets for enhanced safety & environment performance
13. To evaluate the effectiveness of actions to prevent personal injuries and provide the required advice to all concerned departments
14. Responsible for risk assessment for various site activities
15. Responsible for maintaining all safety records on site.
16. Authorized to stop the work if it is unsafe at site with coordination with the Project Manager.
17. Authorized to conduct various training programs and toolbox talks to various activities on site
18. Supervises, trains and counsels' employees under his direction.
19. Performs activities, function and other related tasks and duties as assigned or required

### ***3. Contractor's Health & Safety and Environmental (HSE) Management Plan:***

The Contract shall submit to UNDP the Project Health & Safety and Environmental Management Plan (HS), that sets the Contractor's policies and procedures applicable to all subcontractors and contract employees regarding safety, health, and environmental responsibilities on this project.

The purpose of HSE Management Plan is to summarize basic safety, health and environmental standards and to establish minimum standards that promote safety, and control hazards and risks associated with this project. The safety provisions set by the contractor in the HSE Management Plan are not to be considered as "all inclusive." Where any portion of this plan conflicts with, or less stringent than, UNDP standard or the applicable international or local safety regulations mentioned in the Framework above, the more stringent regulation shall take precedence.

The minimum standards set by the contractor in the HSE Management Plan shall be applicable to all activities required of subcontractors (including subcontractors of any tier) and all other people authorized to be on the project site.

Contractor's HSE Management Plan should include, but not limited to, the following contents

- 1- Introduction
- 2- Project Description
- 3- Contractor's Company HSE Policy
- 4- General HSE Rules and Regulations
- 5- Project HSE Organization Chart
- 6- HSE Roles and Responsibilities
- 7- Training
- 8- HSE Qualifications of the Project Key employees
- 9- Communications
- 10- HSE Audits and Inspections
- 11- Mobilization and Logistics
- 12- Medical, Health and Hygiene Management/Arrangement

**United Nations Development Programme**

Programme of Assistance to the Palestinian People

برنامج الأمم المتحدة الإنمائي / برنامج مساعدة الشعب الفلسطيني

- 13- Welfare Facilities
- 14- Control of contractors
- 15- Excavations
- 16- Concrete Casting
- 17- Scaffolding
- 18- Traffic Management
- 19- Incident Reporting
- 20- - Method Statement and Risk Assessment of Key tasks
- 21- -HSE Procedures for high risk activities
- 22- Environmental Management Requirements
- 23- - Emergency Preparedness.

## ***4. Health and Safety Site Rules and Regulations Briefing***

Many new workers arrive to the project site unaware of the associated risks in the infrastructure / construction environment. UNDP, and in line with local rules and regulations, requires that the Contractor provides Health and Safety briefing to all the workforce, engineers and visitors, explaining to the new comers, the site Health and Safety Rules and regulations, and allow them to get introduced to the site, and the associated risks in the Project. Once briefed, the worker should sign to the briefing register, and sign on commitment letter that he is aware, and will be responsible to comply with the Project Health and Safety Rules and Regulations.

UNDP requires the contractor to cover as a minimum the following Health and Safety Rules at site, and document it in the project safety file:

\* Provide introduction on the Project, Donor, Implementing Agency, Contractor.

1. It is prohibited to start work before receiving safety instructions from Contractor HSE Officer at the site.

2. Know the site, the orientation and movement methods, the location of the tools and facilities, the construction and excavation areas, and the special risks such as: Active facility, proximity to streets, sidewalks or public spaces, high places, potholes and trenches, the works performed in the depths of the ground, places surrounded by chemical or biological hazards, electrical hazards, mechanical hazards.

3. Special care must be taken when working near other workers and users of the customer's facility. 4. Avoid knowing the instructions and regulations of the applicant or his client and acting carefully according to them.

5. The use of protective equipment is mandatory in every location: protective helmet, safety shoes, full work clothes, protection  
Eyes, hearing, face, hands - in every work in which there is a danger to one of these members, and in accordance with the requirements of the law, including  
This includes safety equipment for works carried out in high places. Slotting and development work, gardening and mechanical equipment

6. Special protection equipment should be used according to the directives of the Contractor HSE Officer, the type of work and its risks.

7. In every work that is carried out in a high place (2 meters or higher), work must be done according to the law, appropriate qualification and according to instructions Contractor HSE Officer
8. Only valid and stable stairs and movements should be used.
9. Working at height on flat ground / roof / floor unlevelled, is dangerous work and must be done across, the use of protective belts fixed at an appropriate point (at least 1500 kg load), and above 6 meters a power ballast must be used.
10. Work on lifting platforms is only possible after receiving appropriate guidance. The operator must also be a license holder  
A valid driver.
11. The excavation works, which are carried out at a depth of more than 1.20 meters, are only carried out after strengthening the wall / adequate protection, approved.  
By the security and safety official.
12. It is prohibited to stand under and near an elevated load.
13. It is prohibited to stand near the lift while it is operating, without coordinating this with the operator / signal driver.
14. Only usable work tools should be used.
15. It is prohibited to operate work tools without receiving guidance from the security and safety official.
16. Do not take off the protective shields or safety devices provided by the producer.
17. It is forbidden to violate or dismantle safety installations, dabs, without prior permission to do so from the security and safety official.
18. Electricity works are carried out by a qualified electrician only (in accordance with the Electricity Law and its regulations).
19. The electricity infrastructure, electrical panels, wires, equipment, and electrical appliances must be avoided.
20. The electrical tools should be kept away from the wet environment.
21. With the discovery / suspicion of a problem in everything related to the issue of electricity, the security and safety official must be notified immediately, and the workers should be warned.
22. Safety distances must be taken from the power lines that have been fed, and it is forbidden to touch them.
23. It is forbidden to start electricity and work in high places, while you are alone.
24. When carrying out hot works, an appropriate fire extinguisher must be provided, and flammable materials must be kept away.
25. The welding / flame cutting work shall be carried out by a qualified person only after he has taken the safety measures in place.

## United Nations Development Programme

Programme of Assistance to the Palestinian People

برنامج الأمم المتحدة الإنمائي / برنامج مساعدة الشعب الفلسطيني

26. Any work in a (closed) enclosed space is carried out only after receiving permission and direction from the security and safety official.

27. It is prohibited to operate a vehicle / engineering mechanical equipment / crane / lifting device without obtaining appropriate permission and training.

28. It is prohibited to use the equipment of other contractors without coordinating the matter and receiving prior approval for that.

29. It is prohibited to throw equipment or any other object from the building / work site.

30. Care must be taken of order, cleanliness and preservation of equipment on the work site.

31. It is prohibited to bring visitors and guests to the site without obtaining a permit to do so from the security and safety official.

32. The security and safety official / site manager must be informed of any danger / damage / defect immediately.

33. It is forbidden to perform work under the influence of alcohol or drugs.

34. It is forbidden to pose a risk to other workers and take risks at work is forbidden, if it is not according to the law.

35. COVID 19- Special Briefing

\* Comply with Local Regulations regarding Covid 19

\* Everyone should enter the site through the dedicated pedestrian path

\* Maintain 2 meters distance as much as practicably possible

\* Continuous cleaning of hands

\* Any symptoms of fever or cold should be reported immediately

\* Always wear the Masks and gloves

\* dis-infect and clean all the working tools

تعريف بالمشروع, الممول, الجهة المنفذة والمقاول

1. يمنع البدء بالعمل قبل تلقي إرشاد أمان من مسؤول الامن والسلامة بالموقع.
2. تعرف على الموقع, على طرق التوجه والتنقل, موقع الأدوات والمنشآت, مناطق البناء والحفر, والمخاطر الخاصة مثل:  
منشأة نشطة, القرب من الشوارع, الأرصفة أو المساحات العامة, الأماكن المرتفعة, الحفر والخنادق, الأعمال المنفذة  
في عمق الأرض, الأماكن المحاطة بمخاطر كيماوية أو بيولوجية, أخطار الكهرباء, المخاطر الميكانيكية.
3. يجب الحرص على الحذر الخاص عند العمل قرب عاملين آخرين ومستخدمي منشأة الزبون.
4. تجنب معرفة توجيهات وأنظمة صاحب الطلبية أو موكله والعمل بحرص وفقاً لها.
5. استعمال معدات الوقاية هو أمر إلزامي في كل موقع: الخوذة الواقية, أحذية الأمان, ملابس العمل الكاملة, حماية العينين, السمع, الوجه, اليدين - في كل عمل يوجد فيه خطر على أحد هذه الأعضاء, ووفقاً لمتطلبات القانون بما في ذلك معدات أمان للأعمال المنفذة في الأماكن العالية. أعمال الشق والتطوير, البستنة وإلى جانب معدات ميكانيكية هندسية – تفرض استعمال السترة الواقية.



6. يجب ارتداء معدات حماية خاصة، وغير ذلك (وفق توجيهات مسؤول الامن والسلامة، نوع العمل ومخاطره).
7. في كل عمل يتم تنفيذه في مكان مرتفع ( 1.5 متر وما فوق) يجب العمل وفق القانون، التأهيل الملائم ووفق توجيهات مسؤول الامن والسلامة ورئيس الطاقم.
8. يجب استعمال السلالم والتقلات الصالحة والثابتة فقط.
9. العمل في مكان مرتفع على أرض مسطحة / سقف / أرضية طابق غير مستوية، هو عمل خطر ويجب أن يتم عبر استعمال أحزمة واقية مثبتة بنقطة ملائمة ( 1500 كغم حمل على الأقل )، و فوق 6 أمتار يجب استعمال كابح الطاقة.
10. العمل على منصات رفع يكون ممكنا فقط بعد تلقي الإرشاد الملائم. يجب أن يكون المشغل أيضا حامل رخصة سياقة سارية المفعول.
11. أعمال الحفريات، التي تنفذ في عمق يزيد عن 1.20 متر، تتم فقط بعد تقوية الجدران/ حماية ملائمة، مصدق عليها من قبل مسؤول الامن والسلامة.
12. يمنع الوقوف تحت حمولة مرفوعة وعلى مقربة منها.
13. يمنع الوقوف قرب الرفع وهي تشتغل، من دون تنسيق ذلك مع المشغل/ الموجه بالإشارات.
14. يجب استعمال أدوات عمل صالحة للاستعمال فقط.
15. ممنوع تشغيل أدوات عمل من دون تلقي إرشاد من مسؤول الامن والسلامة.
16. ممنوع خلع الدروع الواقية أو وسائل الأمان التي زودها المنتج.
17. ممنوع المساس ب أو فك منشآت أمان، دربينات، من دون الحصول على تصريح مسبق بذلك من قبل مسؤول الامن والسلامة.
18. أعمال الكهرباء تنفذ من قبل كهربائي مؤهل فقط ( بموجب القانون الكهرباء وأنظمتها).
19. يجب الامتناع عن المساس بالبنى التحتية للكهرباء، ألواح الكهرباء، الأسلاك، المعدات، والأدوات الكهربائية.
20. يجب إبعاد الأدوات الكهربائية عن المحيط الرطب.
21. مع اكتشاف/ الشك في مشكلة في كل ما يتعلق بموضوع الكهرباء يجب اعلام مسؤول الامن والسلامة فوراً وتحذير العاملين.
22. يجب الحرص على مسافات أمان عن خطوط الكهرباء التي تمت تغذيتها، ممنوع المساس بها .
23. ممنوع أن تبدأ اعمال كهرباء وأعمالاً في اماكن مرتفعة، وأنت وحدك.
24. عند تنفيذ أعمال ساخنة يجب التزود بمطفأة حارقة ملائمة، ويجب الابتعاد عن المواد القابلة للاشتعال.
25. أعمال اللحام / القص بالشعلة، تنفذ بأيدي شخص مؤهل وذلك فقط بعد أن يكون قد اتخذ وسائل الأمان.
26. أي عمل في مساحة محاطة (مغلقة) ينفذ فقط بعد تلقي إذن وتوجيه من مسؤول الامن والسلامة.
27. ممنوع تشغيل مركبة / معدات ميكانيكية هندسية / ارفع / وسيلة رفع، من دون الحصول على إذن وتأهيل ملائمين.
28. يمنع استعمال معدات مقاولين آخرين، من دون تنسيق الأمر وتلقي موافقة مسبقة على ذلك.
29. يمنع إلقاء معدات أو أي غرض آخر من البناية / موقع العمل.
30. يجب الحرص على النظام، النظافة والحفاظ على المعدات الموجودة في موقع العمل.
31. ممنوع إدخال زوار وضيوف الى الموقع، من دون الحصول على تصريح بذلك من مسؤول الامن والسلامة.
32. يجب إبلاغ مسؤول الامن والسلامة / مدير الموقع بأي خطر/ ضرر / خلل، بشكل فوري.
33. ممنوع تنفيذ عمل تحت تأثير الكحول، المخدرات.

34. ممنوع تشكيل خطر على عاملين آخرين وأخذ المخاطرة في العمل.

35. تعليمات خاصة بفيروس كورونا:

- التقيد التام بتعليمات السلطات المحلية
- الدخول فقط من البوابة الخاصة بالمشاة والتعرق للتعقيم
- المحافظة على مسافة مترين قدر المستطاع
- التنظيف المستمر لليدين
- التبليغ المباشر عن أية أعراض مثل الحرارة
- ارتداء الكمامة الواقية
- تنظيف وتعقيم كافة الأدوات الشخصية المستخدمة

## ***5. Site Mobilization / Organization:***

Site Mobilization / Organization is one of the key tasks in project site setup, and if planned adequately, may ease the movement, and provide a safe access and storage at the Project site. Contractor at his own expense shall prepare the Site Mobilization / Organization Drawing and implement it on site, considering available site utility plan from relevant authorities and municipalities that show infrastructural installations such as water, sewage, electricity, telephone, etc.

The contractor at his own expense shall provide the following site mobilization components, within **14 calendar days** from the site possession and commencement date. And once the project is handed over, the contractor is responsible for demobilization, and removing all temporary facilities provided.

***The following are UNDP's minimum requirements in the site Mobilization:***

### ***5.A- Security Arrangements***

Contractor shall establish site access rules and implement and maintain these throughout the construction period. Security arrangement shall include:

- Temporary physical barriers to frame project site. Boundaries shall be with the height of 2 meters, made of steel structure with corrugated metal sheets, unless requested otherwise, and shall always be maintained throughout project duration. Boundaries surrounding are to:
  - Provide segregated access doors for vehicles and pedestrians each separately.
  - Provide Signs and barrier and shall be maintained throughout the project duration.
- Ensure and maintain an access control for pedestrians and vehicles without any interruption to construction facilities, storage and work areas, and for use of an emergency.
- No visitor shall be allowed for access, prevent unauthorized access, allowed visitors shall previously be coordinated
- Access control must include the rule that non-employees shall always be provided with fulltime supervision while on site.
- Provide and maintain temporary parking facilities for use by construction personnel.

### 5.B- Site Offices:

Providing site offices for both UNDP and Contractor teams, the offices shall include the following:

#### UNDP's Site Offices (Temporary Mobile Offices)

The Contractor shall, provide UNDP team with site offices, with a space not less than 70m<sup>2</sup> at a close location to the site. This office should remain on the site until the completing of the construction works. The office shall consist of the following spaces as a minimum.

Space	No.	Min. Area m <sup>2</sup>
Office room	2	3.5 x 3.5 m (12.25 m <sup>2</sup> )
Meeting room	1	5X3.5m(17.5m <sup>2</sup> )
Toilet	2	2 x 1.5 m (3m <sup>2</sup> )
Kitchen	1	3 x 3 m (9 m <sup>2</sup> )

**The Contractor shall also furnish at his own expense UNDP's site offices new furniture, equipment and consumables (with continuous refilling upon completion of the project) comprising of the following:**

No.	Item
1	Four office desks with three drawers each with a cylindrical lock. Minimum dimensions of the desk are 120x70 cm.
2	Four Office adjustable chairs with cushions for the approval of the Engineer
2	Filing cabinet with six shelves with lockable doors.
3	New Files and other stationary items as requested by the Engineer (Until Completion of the construction Works).
4	Two Calculators.
5	Two office chairs to the approval of the Engineers.
6	Four chairs metal and cushions.
7	Three vertical map holders with accessories to the approval of the Engineer.
8	Eight adjustable chairs for meeting room
9	One meeting wooden table 3 x 1.2 m
10	Measuring tools as specified below.
11	One concrete curing tank 2 x 1.0 x 0.5 m with a thermostat.
13	An appropriate A3 colour printer (the latest high speed performance) with photocopying & scanning and fax options.
14	Heater and ventilator and Air conditioning for all rooms.
15	External Hard disk 1 TB
16	Digital Camera 10.0 mega pixel
17	Refrigerator

18	Three Air Conditions - split Units appropriate for room sizes
19	Gas Stove
20	Microwave
21	Coffee Machine with daily guest supplies throughout the project period
22	Water Cooler / Plastic cups and Drinking water, throughout the project period
23	Cleaning materials and tools, office boy for cleaning

The Contractor shall supply separate offices, furniture and equipment that are suitable for his team that will be working in this project.

### **5.C- Sanitary facilities:**

Contractor shall provide portable Toilets shall wherever needed. Adequate sanitary facilities shall be provided on construction sites for employee use. Sanitary facilities shall not be in the public right-of-way or closer than 3 meters from a side or rear property line. Sanitary facilities shall be screened and/or located in a location that is the least visible to adjacent properties. Number of required units are based on the following schedule:

	No. of workers	No. of Toilets	Sinks	Shower
1	1-15	1	1	---
2	16-25	2	2	---
3	26-75	3	2	1 unit
4	76-100	4	4	Each unit combined with a shower unit
5	More than 100	4 for the 1 <sup>st</sup> 100 and additional one for every 35	4 for the 1 <sup>st</sup> 100 and additional one for every 35	

### **5.D- Water supply:**

Contractor shall obtain water service connection and provide facilities necessary to convey the water from the source to the points of use Potable water /drinking water will be sufficient at site for all manpower, key personnel and Engineers.

**Temporary connections for electricity** Shall be subject to approval of the power company representative, Construction wiring for temporary electric light and power shall be properly installed and maintained and shall be securely fastened in place. Electrical facilities shall conform to the requirements of local electric utility providers.

### **5.E- Temporary Lighting:**

Contractor shall provide a general, weatherproof, grounded temporary lighting system if needed during working at night shift to ensure proper performance and safe work.

Where natural lighting is not adequate, contractor shall ensure adequate and suitable lighting system, this includes portable lighting where appropriate and at every workplace and any other place on the construction site where a worker may have to work or pass, in particular, staircases should be shadow free.

- Adequate feasible artificial lighting should not produce glare or disturbing shadows and;
- Wherever necessary to prevent danger, lamps should be protected by suitable guards against accidental breakage.
- Cables of portable electrical lighting equipment should be of adequate in size, power requirements and mechanical strength.
- Cables used for temporary lighting shall be protected from being teared, scratched or damaged. Contractor shall ensure the protection of portable cables by performing an overhead installation system.

### **5.F- Warehouse (s)**

Contractor shall arrange and secure a place for storing construction tools & materials, this place should be healthy and to be provided with lights, suitable fire extinguisher. Also, contractor shall provide a hazardous material store and non-hazardous material store.

Contractor, if requested by UNDP according to project type and feature, shall designate a place to be as smoking area if the smoking is prohibited onsite. It shall be away from flammable materials.

### ***5.G- Welfare area, and clothes changing area***

Contractor shall designate a place to be used as food and rest area for workers and subcontractors. It shall be suitable for all weather conditions and healthy and shall be provided with all necessary utilities.

The changing area must be Near the Project Pedestrian Entrance.

Welfare area and clothes changing area shall include

- Shaded resting space (but naturally or mechanically ventilated)
- Wooden or plastic tables and seats for workers
- Toilets and wash basins (a minimum of 1 toilet for every 10 workers)
- Cold water drinking refrigerators.
- Trash Bins
- Changing room and lockers
- Clothes hangers
- Refrigerators for food
- Powder Fire Extinguisher
- The Welfare Facilities shall be cleaned on daily basis

### ***5.H- Assembly point (s)***

Contractor shall designate one or more assembly points to be used by the staff during emergency cases and evacuation activity. It shall be away from the workplace (like building) 1.5 times more than the building height.



### **5.1- First Aid Kits and Fire Extinguishers:**

Contractor shall provide first aid facilities on site for the Contractor's employees including subcontractors and all involved in the project, first aid supplies shall be kept readily available in first aid boxes.

Contractor's employees, workers including temporary and subcontractors should be medically evaluated to minimize the severity of injuries and illnesses that may occur in the workplace. Each individual should be requested for a formal medical report. Reports are to be documented properly within personnel safety files.

First aid should be placed under the charge of first aid attendant who shall ensure the cabinet is always well stocked.

First aid kits should be inspected at least monthly and replenished as necessary. Medical exam gloves will be replaced in accordance with manufacturer's recommendations. Any item beyond its marked expiration date will be removed from the kit and replaced.

- At least Three First Aid Kits to be placed at the Contractor's and Engineer's site offices, the content of the Kit should be inspected periodically and refilled if needed regularly.
- 

List of First Aid main supplies are as follows but not limited to:

- *First Aid Manual*
- *Medical Plastic Gloves*
- *Anti-Septic Solution*
- *Adhesive Bandages*
- *Alcohol Pads*
- *Rolled Gauze*
- *Cleaning Wipes*
- *Tightening Self-adhesive bandage*
- *Waterproof Adhesive Tape*
- *Contents Card*
- *Eye wash, Ammonia Inhalants*

- *Absorbent Cotton, triangular bandages, instant cold bandages (artificial ice), CPR Mask, Thermometer, Infra-Red Thermometer.*
- *Scissors, Burn Ointment*
- *Stretch Bandages*
- *Composite Pad*
- *Gauze Pads*
- *First Aid handbook*
- *Triangular Bandage*

NOTE:

The contents of first aid kits should be based on a risk assessment. Size and number of required contents shall be approved by UNDP team.

- At least Three Fire Extinguishers (Powder) to be placed at the Contractor's office, Engineer's offices, and the welfare area the extinguishers shall be periodically inspected, and refilled if needed.

### **5.J- Parking (s)**

Contractor shall designate parking places for:

- Staff and visitors.
- Project Machineries
- Concrete pump location
- Tower crane locations (showing the height and radius of tower crane)
- Indication of location of nearest medical service.

### **5.K- H&S and Environmental Signage:**

- The Contractor at his own expense should supply, install the following signs and add as needed for the project. (i.e. site plans, YOU ARE HERE sign, traffic signs...etc.).
- Location of signs shall be coordinated by the Contractor HSE Officer and UNDP. The general locations to include Entrance, welfare areas, around electricity, excavations, traffic signs around the project, ...etc)
- The Price includes as much as needed signs as Indicated by Contractor HSE Officer and UNDP, and all the works, excavation, concrete, 2" galvanized

poles, bases and accessories needed to complete the job. Signs should be maintained and renewed as needed throughout the project implementation period.

- Quantity, Materials and Dimensions: The Signs Materials, Quantity and Dimensions shall be approved by UNDP, and the material of the signs shall be made of 2mm galvanized steel sheets, and 3mm aluminium sheets rectangular or square shape as noted, with outdoor diamond grade reflective sheeting on both sides of the sign. The dimensions as indicated under each sign. (Contractor May obtain a PDF copy of the sign for printing purposes).
- All signs must be presented in Both Arabic and English languages.
- All signs must be adequate in use, size and context.
- Within the Construction areas, contractor should post warning signs with legible traffic signs at points of hazard.
- Contractor should provide Flaggers (if necessary) that requires their presence certain activities, flaggers shall be provided with all needed tools to confirm job accordingly.
- **Please refer to Annex-I showing Signs that should be used by the contractor (Contractor may submit his equivalent to each sign and add according to the need for warning or instruction for various risk).**

**\*\* All the Site Organization Components mentioned, and designated areas shall be discussed with the UNDP Team prior to execution and reflected on Drawing plans. In addition, a clear directional sign shall be installed in this matter. The Site mobilization shall be completed within 14 calendar days from the commencement day.**

**The contractor is responsible at his own expense to re-organize/relocate the elements mentioned in the site organization plan, throughout the project cycle in order to keep the project flow in a safe manner.**

**The Contractor is responsible at his own expense to De-mobilize and remove All the Site Organization Components mentioned, and to clear all the construction debris once the project is handed over.**

## 6. Personal Protective Equipment (PPE)

As the construction environment includes numerous risks that require mitigation measures. UNDP and in line with local rules and regulations strictly requires from the contractor to oblige every person at site to wear the proper attire and personal protective equipment PPE to have the direct protection needed. UNDP minimum requirements in this issue are as follows:

- Contractor responsibility to forecast potential hazards at site and stock up on personal protective equipment. PPE is to be available for all involved in construction site including subcontractors, suppliers and visitors; The Contractor should ensure defective or damaged equipment is immediately removed from service.
- Long pants, shirts with sleeves. Shorts, sleeveless shirts and athletic or tennis type shoes will not be permitted.

**Hard Hats** shall be worn 100% of the time on the project. Safety hats or helmets shall be of hard materials which will protect the head from flying particles, electric shock or any combination. Contractor HSE Officer must ensure that the plastic helmet shall not be painted. The helmet must be cleaned regularly with soap and water, it must always be worn when on construction job site or with no exemptions. job title should be shown on the helmet and color coding shall be used in coordination and approval of UNDP Team.

- **Body Protection** High Visibility Vests / Clothing must always be worn on the project. Size appropriate protective clothing and equipment shall be worn to protect against injury from flash fire hazards, water hazards, contact with hot or molten metal, chemical exposure, weather conditions, and hazards due to low visibility (such as on road construction sites).
- **Safety Boots** (with thick rubber or steel toe cap and midsole) shall be worn at all time of the project. The safety shoe is fitted with a rubber or metal toe cap. The toe cap is capable of withstanding both compression and impact loads of 25000 lbs. and 75 lbs. respectively. Some construction activities require some other types of safety boots, contractor must always arrange the availability of required use; Safety footwear with special soles to resist oil, abrasion, heat and spark resistance will be used. It must be comfortable and fit properly. Safety foots are always to be worn by all personnel in the site.

***Task Specific PPE shall be worn during certain tasks:***

- **Hand Protection** must be worn by all workers while performing a task and must be carried on their person at all times. Kind of gloves used depends primarily upon the material or equipment being handled. Gloves used shall be checked and approved by a competent person if it fits required work to do.
- **Welding shields** must be worn with a hard hat.
- **Safety Goggles:** The protection of the eyes and face from injury by physical or chemical agents or any expected agent is of primary importance. The type of protection must be selected, fitted and used with regard of both types of hazard and the optical condition of the user. Wherever hazards exist that may require additional eye protection, goggles or face shields will be worn.
- **Foot covers** shall be used with any ground engaging equipment, such as jumping jack compactors and jackhammers.
- **Fall arrest system** shall be strictly used when there is a risk of falling and there is no other way for providing guard rails. Safety belts or harnesses of approved type shall be worn and utilized by individuals working on non-approved work platforms 180 cm or more above ground.
- **Respiratory Protection:** In emergency, or when adequate controls are not feasible to prevent harmful respiratory exposures to employees, adequate approved respiratory devices shall be used.

All PPE procured shall be designed to meet relevant National Institute of Occupational Safety and Health (NIOSH), American National Standards Institute (ANSI) or other generally accepted industrial standards.

Equipment will be maintained and worn in accordance with manufacturer's specifications.

1. Care will be taken to ensure that the correct size is selected.
2. Regarding contractor's employees and subcontractors' team, clothing shall meet the following:
  - a. The minimum clothing shall be short sleeve shirt and long trousers and reflective vests.
  - b. Employees shall not wear loose clothing (e.g. saris, dangling neckties, necklaces) or unrestrained long hair.

## ***7. Excavation Safety Mitigations Measures:***

The following are the minimum requirements that are requested by UNDP in the Excavation activities that are implemented by the Contractor:

It is the responsibility of the contractor, prior excavation, to coordinate with local authorities and investigate all the actual locations and levels of all types of underground services, including but not limited to Electricity, Water, Sewage, Telephone lines, and other services). And obtain the approval permit for the excavation.

Contractor is required to excavate test pits prior to commencement of the excavation activity.

Prior the excavation, the Contractor is responsible to study and make soil test for the type of land that the excavation will be implemented in, and to comply with requirements mentioned in the soil investigation report. The test must recommend the type of sloping, benching, shoring and shielding.

Fall and edge protection must be initiated as the excavation starts. All excavations with variables depths, must have edge protection / temporary fencing with 1-meter height that is installed at least 1m away of the edge of the excavation (please refer to edge protection specifications mentioned in Section **8.D- The External Metal scaffolding. And including reflective perforated sheet on the edge protection.**

The temporary fencing should be able to tolerate vertical and horizontal forces adequate with the zone that it is protecting (**i.e., temporary New Jersey heavy-duty barriers should be installed adjacent to vehicular movement**).

Contractor is responsible to prevent the collapse in any excavation that is below than 1-meter depth, the protection can be either with natural slope depending on the type of soil. Or through shoring system.

If the excavation depth is exceeding 4 meters height, the contractor is responsible to provide structural design for the temporary shoring system must be done by a certified structural engineer and must be implemented on site.

The contractor must not store any of the excavated soil at the edge of the excavation, any backfilling must be at least 1 meter away from the edge of the excavation.

Excavations are required to be supported or battered back where necessary to prevent collapse. Ongoing review and inspection of supports is required to ensure unauthorized removal and alterations of supports and braces are identified and rectified. Careful excavator operation is required in and around supports to prevent striking damage.

Access to the excavation must be ladders with a slope of 4 vertical and 1 horizontal. The ladder height must exceed 1 meter above the top level of the excavation. **Access ladder must be every 20 m in the excavation trench.**

Trenches deeper than 1.0 m shall have safety mean of egress, if trench more than 7 m wide, suitable escape ladders shall be set every 7 m distance.

When vehicles are operating in the vicinity of the excavation, i.e. trucks tipping for backfilling, use stop blocks or create berms/kerbs to prevent vehicles driving into excavations.

Excavations should be checked daily before entering for any change in condition which may make the excavation unsafe, i.e. after heavy rainfall, changes in support and shoring etc.

Employees should be protected from cave-ins by using an adequately designed protective system that must be able to resist all expected loads to the system.

Daily checks of the warning tape will be carried out at the end of the day.

Verify that materials excavated from the site are properly disposed of in a designated site which is previously agreed upon prior to commencement of the works.

Contractor is responsible for no unauthorized entry for the excavation when it is not protected / or not supported.

## 8. Working on Heights / and Measures of Fall Prevention

UNDP will be maintaining a **zero-tolerance policy** for fall prevention infractions. Anyone found violating this policy shall be removed from the site immediately. Contractor is responsible to:

- A. Install a Fall prevention system at any height starting from 1.5-meter-high or greater, including any working platform or access ramp. This must be achieved using a guard rail system, safety net system or personal fall arrest system.
- B. Provide a stable structural platform (Metal or wooden temporary structure), on compacted and levelled land, and away from water source or water accumulation.
- C. Provide temporary ramps with guard rails. The ramps shall be adequate width not less than 90cm.
- D. Ramps shall be installed with a wooden strip with a size of 5cm X 10cm dimensions and reinforced with periductular supports as needed.
- E. Ramp shall have wooden horizontal steps (5cm x 10cm) every 30cm. And Slope of Ramp shall not exceed a ratio of 1 Vertical: 4 Horizontal.
- F. Edge protection shall be installed at three lines and installed from the inner side of vertical supports.
  - 1. Toe board at the level of the access platform
  - 2. Mid rail at 50cm height from platform
  - 3. Handrail at 90cm height from platform
- G. In case of other fall preventions system shall be in line with manufacturer requirements and inspected on daily basis.
- H. Contractor HSE Officer must make daily inspections of the site including protective systems scaffolding, shuttering systems; this should be done before work starts and as needed, after rainstorms, snow, high winds or other occurrence which may increase hazards, and when reasonably anticipated that an employee will be exposed to hazards.
- I. All elevated surfaces (beneath which people or machinery could be exposed to falling objects) should have standard min 7cm toe boards.
- J. A permanent means of entry and exit with handrails is provided to elevated storage and work surfaces



### **8.A- Scaffolding:**

Scaffolding is a temporary working platform that is used when work on the ground is not possible to implement the task. UNDP have zero tolerance when it comes to the safety of the scaffolding.

Contractor must strictly follow all safety procedures and regulations when erecting, using and dismantling supported, suspended and Aerial lift scaffolding, the following are using harnesses and safety life belts is a MUST.

- The Contractor, and Contractor HSE Officer are responsible for inspecting the material that will be used in the assembly of the scaffolding (i.e. no rust or bends in the metal material. And in the wooden material no nails, no barks in the wooden material, straight-grained, sound, and free from large knots, dry rot, worm holes and other defects likely to affect its strength.
- All types of scaffolding mentioned shall be implemented strictly as per manufacturer's instructions and were required a structural engineering certification.
- The Contractor HSE Officer must directly supervise on building the scaffolding.
- A competent scaffolder must build the scaffolding who have at least 3 years' experience in building scaffolding.
- The Contractor HSE Officer must inspect the scaffolding on daily basis, after 3-days holidays, after rainy days. All the findings must be registered and documented in the project safety file.
- If during the inspection a defect or damage to the scaffold is discovered, the scaffold must be tagged out and not used until repairs are made. Attach tags at the access point to the scaffold.
- Contractor must make sure that only trained and authorized persons should be allowed to use a scaffold.

### **8.B- Low portable Heavy scaffolding:**

- Should be installed on Land should be levelled, compacted, with no water sources

- Height should not exceed 2 m, and no scaffolding to be placed on another one.
- Platform should be fully boarded and made of 5cm thick wood
- Platform should exceed on the support with 10cm. Distance between supports should not exceed 1.5 meters. No ladder or other scaffolding should be placed on the “Low portable heavy scaffolding”.

### ***8.C- Independent scaffolding Tower (Mobile or fixed):***

- Should be placed securely on levelled, compacted, with no water accumulation.
- The height of the independent scaffolding tower should not exceed 3 times its smaller base dimension. And in the internal areas it should not exceed 4 times its smaller base dimension.
- The structure must be built with vertical, horizontal, diagonal elements from the bottom to the top level of the scaffolding.
- Access to the scaffolding shall be only through internal stairs or ladder. The ladder must be installed on the narrower dimension of the height, in a way that don't alter the stability of the scaffolding independent tower.
- In case of a Mobile scaffolding tower:
- Mobile scaffolding tower should have positive wheel and/or swivel lock casters to prevent movement.
- The Mobile scaffolding tower should only use on land that is paved with concrete or asphalt.
- Mobile scaffolding towers must not be moved while workers are on them.
- When moving the Mobile scaffolding towers, it should be pushed from near the base and from the side of smaller dimension.
- When workers are on them, the wheels of the Mobile scaffolding tower must be locked, particularly the wheels that are diagonal to each other.

### ***8.D- The External Metal scaffolding:***

#### ***UNDP Minimum requirements in Design and Erection Considerations for the External Metal Scaffolding:***

Scaffolds must be designed by a qualified person. Tube and coupler scaffolds over 125 feet (38 m) in height must be designed by a registered professional engineer. Tube and coupler scaffold design must comply with OSHA Standard The scaffold design must include:

- Proper materials to construct the scaffold.
- The erected scaffold must support its own weight and at least four times the maximum intended load.
- Scaffold design must incorporate a realistic assessment of maximum intended loads on the scaffold at all stages of erection and loading.
- The scaffold design must also ensure that it can support the weight of both horizontal and lateral loads.
- Scaffold design must consider supports for expected wind loads.
- Construction and loading must comply with engineered designs and manufacturers' requirements.
- Guardrails and toe boards.
- The amount of time needed to erect and dismantle the scaffold.
- Scaffold must be sound, rigid and Stable. It must be erected on solid straight footing and not allowing unstable objects, such as barrels, boxes, loose bricks or concrete blocks, to be used to support scaffolds or planks.
- Scaffold accessories such as braces, brackets, trusses, screw legs or ladders that are damaged or weakened from any cause must be immediately repaired or replaced.
- Scaffold platforms must be tightly planked with scaffold plank grade material or equivalent.
- Scaffold must be fully boarded. The planks will not extend less than six inches and not more than 18 inches from the end.
- Rigging on suspension scaffolds must be inspected by a competent person before each shift and after any occurrence that could affect structural integrity to ensure that all connections are tight and that no damage to the rigging has occurred since its last use.
- Synthetic and natural rope used in suspension scaffolding must be protected from heat-producing sources.
- Scaffold must be accessed by using suitable ladders and stairwells, access must be clearly defined.
- Scaffolds must be at least 3 meters from electric power lines at all times

***Minimum Common requirements in the implementation of the traditional External Metal Scaffolding (below 38 meters height):***

The land that the scaffolding will be built on, Levelled, Compacted and No water source or tap next to it, no accumulation of water should be present. Never place the vertical columns on loose materials or block.

- ***Base of External Metal scaffolding:***
  - Wooden strip base: 20cm wide and 4.5cm thick (bond wood), OR, 2 wooden strip 10cm wide/4.5 cm thickness combined on top with 20cm wide 2cm thick plywood. Length of wooden base to be exceeding 10cm the metal vertical pipes/columns.  
The wooden strip should be combining two legs (perpendicular to each other)
  - Metal base plate (types of metal bases attached): 10x10cm with thickness 4mm fixed with nails on the wooden strip and opened for 2" pipes. Other types of bases are as attached.
- ***Metal vertical pipes:***
  - shall be installed and shall be fixed with closed eye Jumbo bolts to the building, and with the vertical pipes with 2" pipes space keepers and tied with couplings.
  - The scaffolding shall be fixed to the building, through fixing the vertical columns with the building façade, every 5m horizontally. And 4m vertically in a staggered manner (meaning the adjacent column at 2.5 meters should be fixed at different height every 4 meters).
  - In case where fixation is faced by window ties, fixing internally with 2" pipes and couplings shall be done.
  - A maximum of 1m high shall be kept untied on the top level of scaffolding.
- ***Bracing:***
  - Shall be installed in parallel during erecting vertical columns.
  - Shall be installed in an angle of 45, combining 3 vertical pipes
  - Material of bracing shall be 2" pipe, fixed with the vertical pipes with couplers.
- ***Metal Beds:***
  - The Thickness of wooden bedding strips depends on horizontal supports.
  - If the platform is from wooden material, the wooden beds shall have a thickness of minimum 2.5cm with width of 10cm, fully boarded and

connected to each other, with a maximum of 1cm gap. Horizontal stiffeners should be fixed every 80cm.

- Load on the bed shall not exceed 100 kg/m<sup>2</sup>. If it exceeds this load, it shall be designed by certified structural engineer.
- **Width of platform shall be minimum:**
  - 60 cm if it is intended for workers sitting or standing and not building materials.
  - 80 cm if it is intended for workers and building materials.
  - 130 cm if it is intended for stone cutting, grinding works
- **Edge protection shall be three levels of guard rails installed from the inner face of the vertical posts**
  - 0-15 toe board
  - 50cm mid rail
  - 90-115 handrail
  - If distance between scaffolding and building exceeded 30cm then, internal edge protection must be installed, like the external edge protection.
- Ladders shall be installed between ALL metal levels with clear access, and in continuous manner
- Other access of scaffolding shall be closed, and beds that are not boarded shall be closed.
- If height of scaffolding is increased from 20m height until 38m height to double bases and double vertical pipes shall be installed next to the existing vertical pipes connected with couplers every 2m height.
- The double column height shall be with a height of (scaffolding height (minus) 15).
- Scaffolding exceeding the 38 m height requires additional structural design by a certified structural engineer.
- The External Metal scaffolding at the corners must have separate columns, each scaffolding on each elevation must be structurally independent for the scaffolding that is perpendicular to it in the nearby elevation.

***Working on External Scaffolding Minimum Requirements:***

- Contractor must ensure that no work or any activity on scaffolding platforms that are covered with slippery material. Scaffolds must not be used during storms, high wind, or when covered by ice or snow.

- Contractor must provide suitable access to and between scaffolds, such as portable ladders, hook-on ladders, attachable ladders and stairway-type ladders.
- Contractor shall use one of the common tagging systems used as a sign of permission on scaffolding, the following tags are:
  - ✓ **Red** tag indicator: **unsafe, do not use.**
  - ✓ **Yellow** tag indicator: **Limited, Authorized Person Only, Use Harness.**
  - ✓ **Green** tag indicator: **ready to use.**

### ***8.C- Extended Scaffolding (cantilever Scaffolding):***

- The scaffolding that is intended to store material on them. (this type of scaffolding must be structurally designed by certified structural engineer).
- Metal I-Beams with adequate structural strength to tolerate the load. (approximately 1/4 of length outside the building, 3/4 inside).
- Additional counter-weight vertical columns to be fixed at the internal edges of the I beams and reaching the above concrete slab.
- No building materials should be used as counterweights.
- The load should not increase more than 100 kg/m<sup>2</sup>, otherwise it requires certification from structural engineer.
- 3 layers Edge protection should be used as described previously.

### ***8.D- Other Types of scaffolding:***

Other types of scaffolding, like mechanical forklifts, extended scaffolding (platforms supported on bracings), suspended scaffolding and other types) all should be under the direct responsibility of the contractor, Contractor HSE Officer, and implemented as per manufacturer's instructions, and structural engineer's certification.

### ***8.E- Ladders:***

Ladders could be considered a safe method of vertical access, if it was implemented in the safe manner. UNDP requires that ladders should comply with the minimum requirements:

- The material of ladders weather steel, aluminum or wood should be in a good condition that is fit-for-purpose, and don't have any damages. Contractor HSE Officer is responsible for accepting and rejecting the ladders brought to site. Any rejected ladder must be removed out of the site boundaries.
- Contractor and the Contractor HSE Officer are responsible for labelling the ladders that are used and conduct periodic inspections on the ladder and its fixation. such as:
  - Structural damage, split/bent side rails, broken or missing rungs/steps/cleats and missing or damaged safety devices;
  - Grease, dirt or other contaminants that could cause slips or falls;
  - Paint or stickers (except warning labels) that could hide possible defects.
  - Damaged or defective ladders must be repaired or replaced immediately.
  - Ladders should be used under the maximum intended load and beyond within the manufacturer's rated capacity, load rating must support the weight of the user, including materials and tools.
- Avoid using ladders with metallic components near electrical work and overhead power lines.
- Fall prevention shall be considered by the competent person if workers work from a ladder 1.5 meters or more above a lower level. Metal ladders shall only be used when there are no electrical hazards.
- Workers shall be facing the ladder when Ascending and descending and maintain a three-point contact at all time, and not carry anything that could cause them to fall when ascending or descending a ladder.
- Pull ropes should be placed at all access ladders to lift tools or equipment from level to level.
- Ladders should be placed on solid levelled ground, fixed at top and bottom points, installed in 1 horizontal :4 vertical slope, with additional extension of 1m height above the landing height at the top for safe ascending and descending. If it is not placed on levelled ground, a person should stay holding the ladder and fixing its position.
- Ladders exceeding 2m height must be strengthened between each ladder step with 5x5x25cm wooden stiffeners. And reinforced by tying screws every 1.5 meters.

- It is prohibited to have ladders with missing steps. And each step is between 30-35 cm. the steps should be a good fit for purpose condition without any defects.
- Appropriate measures must be taken to prevent slippage of the ladder and overturning.
- The surface area of the wooden ladder uprights shouldn't be less than 45cm<sup>2</sup>, and with the smaller dimension of the upright to be 4.5cm.
- The wooden fibers of the ladder should be parallel to the length of the uprights, and shall be straight as much as possible
- Any extension in the wooden ladders, the extension should be on the same axis of the ladder legs, with extension of at least 1.2m connectors fixed by nails from both sides of the legs.
- Contractor must train workers to use the correct ladder for the task and should provide necessary ladders for the job.
- There are other mitigation measures for other fixed ladders that exceed 4 meters heights, including cage, use of waste harness and other measures that are job specific, that should be implemented under direct supervision of the Contractor HSE Officer, and in line with manufacturer's requirements.

#### **8.F- Stairways:**

- Stairway, ramps and walkways must be free of dangerous objects, debris and materials.
- Stairs, ramps and walkways must be clear and in good condition. Handrails should be provided on stationary or temporary stairs, ramps and walkways as per needed safety regulation.
- Slippery conditions on stairways and walkways must be corrected immediately.
- Make sure that treads cover the entire step and landing.
- Stairways having four or more risers or rising more than 60 cm must have handrails.
- At heights more than 3.5 m, stairways must not be continuous without having a landing.



### **8.G- Traditional Shuttering systems (not exceeding 2.8-meter height):**

Below are the minimum requirements of UNDP for traditional shuttering system

- Contractor must provide material for shuttering of vertical and horizontal elements of the construction.
- Contractor HSE Officer must inspect material and discard any damaged material out of the site.
- Some construction elements require structural engineer certification and should be implemented according to drawings, drawings that must be remaining in the project site:
  - Slabs / walls that are exceeding 4 meters height.
  - Slabs with thickness exceeding 40 cm.
  - Drop beams with height exceeding 75cm
  - Elements that have non-traditional shape.
- Base of the shuttering: Vertical elements of the shuttering (props) must be placed on land that is levelled, compacted, and not near water accumulation, and never place vertical elements on loose materials or blocks.
- Placement of vertical elements: Vertical elements must not be placed directly on the ground, it should be placed on wooden strips with thickness of 4.5cm and width of 20cm. if the ground was casted with concrete, wooden strips may be of 12cm width, and 2.5cm thickness.
- Vertical Elements can be the traditional with cross section of 2-inch metal props. With baseplate of 10x10cm and thickness of 4mm.
- If vertical elements are from wood, then the dimensions should not be less than 5 cm x 10 cm. and any connection must be in the same axis of the vertical element, with additional 120 cm wood connection on each side of the connected columns.
- All the vertical elements must be reinforced with horizontal supports connecting all vertical elements with each other to prevent buckling or collapse. Wooden vertical elements should be connected with same wooden horizontal elements that is connected with each other via nails. Whereas, metal elements should be connected with same metal horizontal elements and connected with each other via couplers.
- Metal vertical elements should have a pin with a minimum dimension of 12mm, and exceeding 5cm from the mid of the vertical element.

- It is prohibited to have columns placed on columns for the increased height slabs. Special shuttering systems must be used for the height increasing than 2.8 meters of shuttering.
- Shuttering of slab must have main wooden beams, and secondary wooden beams. All connected with each other.
- Distance between elements must be sufficient to carry the load of the casted slab.
- Dismantling of the shuttering:
  - Dismantling of the slab should be done by Competent scaffolders and under the direct supervision of the Contractor HSE Officer.
  - Measures should be taken to avoid sudden collapse of the shuttering.
  - Shuttering should be dismantled partly, while securing the remaining parts.

### ***8.H- Ready-Made Shuttering Panels:***

- The Contractor must provide the “Ready-Made” in a good fit-for-purpose condition.
- All elements for suspension and fixing the ready-made partition must be inspected by the Contractor HSE Officer and ensure that are adequate for using. The “Ready Made” panels must not be lifted until all the suspension and fixing elements are inspected and cleared.
- The Contractor HSE must ensure that the Ready-Made Panels placed in a safe and stable position before the final fixation. To avoid falling due to in-balance or windy condition.
- The Ready-Made panels must not be lifted in windy weathers, that may jeopardize the workers.
- Any scaffolding the is attached to the Ready-Made partition must be installed in accordance to the manufacturer instructions.

### ***8.I- Fall Protection***

Falling Hazard is a major issue in construction projects. UNDP, through their safety policy gives high attention to fall protection plan in order to minimize injuries due to falling to

zero level. Contractor must be fully aware to cover this issue promptly; contractor's procedures should follow and consider the following:

- Contractor shall identify all locations where fall protection is necessary before any work activity.
- Contractor must train employees, workers and subcontractors about his fall protection program and maintain regular audit.
- Consider using aerial lifts or elevated platforms to provide safer elevated working surfaces;
- Erect guardrail systems with toe boards and warning lines or install control line systems to protect workers near the edges of floors and roofs;
- Floor and wall holes and openings should be protected by a safety guard railing.
- All open-sided floors or platforms that are 1.2 m or more above ground level should be provided with proper safety guard railing.
- Contractor should provide all needed equipment and components for the particular fall protection system to be utilized.
- Equipment selected should be appropriate for the operation and according to safety standards.
- Equipment should be inspected before each use for any defects that could affect the system's safe operation and function.
- Defected equipment and components should not be used and to be maintained or kept out.
- No fake or fabricated components, pieces and parts of any fall safety system should be allowed.
- Contractor shall ensure that employees and workers have the knowledge and skills required for the safe application and use of fall protection systems.
- Use of safety personal fall arrest systems (body harnesses) is a must in particular activities, contractor should make sure the availability of multiple components, number of components shall be defined by UNDP team as per requested
  - Only appropriate full body harnesses should be used.
  - Only appropriate lanyard(s) and connecting hardware should be used.
- Contractor should consider the availability of a fall net system as per UNDP's team request.
- **The Life- line system:** should be used when no edge protection or safe scaffolding can be installed, life-line must be used ensure it is fastened with adequate anchoring points that tolerate at least 10 times that actual intended load that is used. The life-line should be used with shock absorber with the lanyard that is connected to the harness of the worker.

## 9. Permit System

There are several construction activities that is mandatory to prepare for them several pre-requisites, to mitigate the potential risks associated in such activities and pre-approval by the Contractor HSE Officer. The following works require Permits prior implementation:

**9.A- Entry / Working in Confined Space Permit** (i.e. septic tanks and manholes): as it is important to have ensure that the space is free from dangerous gases and fumes, there is continuous gas monitoring, if breathing apparatus is required, lifeline winch tripod, workers are trained, natural or mechanical ventilation is installed...etc).

**9.B- Hot Works Permit:** it is important to ensure that combustible materials are away 10 meters radius away, ensure the special PPE are used, Fire extinguisher is present... etc.

**9.C- Excavation Permit:** ensure that as built locations of below ground infrastructure is known from local authorities, overhead services, stockpiling place is located, temporary barriers are in place, uncovered archaeological items during excavation is reported, ensure that excavation is left in a safe protected manner....etc).

**9.D- Lifting Permit:** Ensure that there is a trained dedicated person for the activity, banksman, licensed operator, adequate lifting tools and belts, ensure no workers will be under suspended load, crane operator has round vision, no windy weather that may jeopardize the workers or the operator...etc).

The Contractor HSE must be the issuer of those permits after inspecting that all the mitigation measures are in place prior the implementation of the needed task.

## **10. Electrical Hazards**

Electricity and electric tools are used in the construction environment. However, such equipment may provide serious injury or fatality if they were operated by a person who is not licensed or qualified. Accordingly, UNDP requests that the contractor to confirm to strict measures when it comes to electricity, electrical tools and extension cables. The following are the minimum requirements that the contractor should comply with:

### **10.A- General Electricity:**

As mentioned in the excavation section, contractor is responsible to investigate all below ground infrastructure must be obtained from local authorities and know the location and level for them.

- Supply and install temporary distribution boards (as required for the project). Installed by a certified electrician.
- Ensure that the temporary distribution board is grounded, with earth leakage disconnectors. (disconnectors to have a “Test” buttons to inspect the earth leakage works).
- There should be a minimum distance of 3.5 meters when working next a power line of between 1000 to 33,000 Volts. Also, a minimum distance of 5 meters when working next to a power line exceeding 33,000 Volts.
- Contractor shall ensure that only certified electrician installs and periodically test the electrical condition of the project.
- Ensure that temporary sockets are installed on walls and not thrown on the ground.
- Contractor should use safety-related work practices to safeguard inspectors and employees from injury while conducting inspections on or near exposed electrical conductors or circuit parts that are or can become energized
- The nature and extent of the electrical hazard should be determined, including any flash hazard, prior to proceeding with any inspection of the hazard.

### **10.B- Electric Equipment and Handheld tools**

- All electric tools (i.e. electric cutting saws) shall have the adequate manufactured protections, and cables feeding those tools shall be used with standard plugs, no connection shall be made manually, removing earthing isolation is prohibited
- Make sure that construction material and equipment are properly stored, protected and transported.
- Contractor to label all the machineries and tools that are used in the project. And conduct periodic inspection on them. Any damaged electric tool should be removed from site immediately.
- Electrical equipment and wiring should be approved and used in accordance with manufactures guide booklets and manuals.
- Equipment used for works execution must be suitable and fit for purpose, and in compliance with Occupational Safety and Health Administration (OSHA) requirements, and operated by competent persons
- Contractor shall ensure that each tool is used for the right job, inadequate tools shall be maintained or removed from service.
- Ensure defective or damaged equipment is immediately removed from service.

### **10.C- Extension Cables**

- Contractor to use the dedicated extension cable (orange color) cable, that is stamped as per the local standards.
- Electrical cords must be examined on a routine basis for fraying and exposed wiring. Defective cords should be replaced or repaired as needed.
  - Extension cords should be kept in good repair, free from defects in their insulation. Defective cords will be removed from service until repaired or replaced.
  - Extension cords must be positioned so that they do not present a tripping or slipping hazards.
  - All extension cords must be of the grounding type (three conductors).
- Extension cords must only be used as temporary wiring in accordance with Safety electrical standards.

## ***11- Vehicular Operations Minimum requirements:***

Safety procedures shall serve as the guideline for protecting all employees and workers due to using contractor's and /or subcontractor's vehicles operated while performing work at construction site. This includes all kind of vehicles.

- Machineries, vehicles plants all must have valid license and insurance throughout the project implementation period.
- Vehicles used to conduct any type of work are to be operated in a safe manner consistent with local laws.
- Contractor should ensure that vehicles are periodically inspected regarding their external appearance and maintenance schedules;
- Contractor should ensure that employees under his supervision who drive vehicles possess a valid state driver's license.
- Contractor should ensure that vehicle is operated in a safe manner conforming to allowed vehicles load capacity.
- Contractor should take safety measurements regarding dust control.
- Any unsafe vehicle is not to be operated, until maintained or kept out.
- Contractor shall ensure safe traffic routes: Safe routes should be designed and organized for pedestrians and vehicles in workplaces
- During excavation, the contractor must provide a "Banksman" to direct the operator of the machine particularly in dead zones were the operator doesn't see the bottom of the excavation, or the backfilling.
- There should be no passenger in any machinery that is not designed for additional passenger, holding, standing in the machinery during its movements

## 12- Housekeeping

The construction environment produces different types of construction debris, housekeeping activity is vital to be done continuously throughout the implementation period. UNDP requires the contractor to provide housekeeping and segregate the waste as much as practicably possible. The following is UNDP's minimum requirements when it comes to housekeeping throughout the implementation period:

- Workplace must be kept tidy during and after work. Rubbish must be placed in the bins or skips provided and not discarded on the site and avoid congestion and tripping.
- Extra Tie reinforcements to be immediately cut after de-shuttering
- Reinforcement anchors shall be covered to reduce risk of injury
- Site fencing and pedestrian fencing must remain in place. If there is a requirement to open it for access purposes, then ensure it is immediately reinstated.
- Ensure that openings such as manholes and gully pots are always securely covered
- If the cover must be removed temporarily, then physical barriers must be provided around the opening.
- Assure proper storage of flammable materials such as lubricants, oils, diesel fuel, etc.
- Ensure to control and clean all spills that are caused by Works in order to contaminate ground.
- A suitable programmed housekeeping shall be established and continuously implemented, and should include provisions for:
  - proper storage of materials and equipment;
  - removal of scrap, waste and debris at appropriate intervals.
  - Loose materials which are not required for use shall not be allowed to accumulate on anywhere on site.
  - Loose materials are not allowed to obstruct means of access, egress, workplaces and passageways.
- Adequate and safe means of access and egress in all workplaces shall be provided. Access and egress shall be indicated where appropriate and maintained in a safe condition.
- Warning signs to be posted, when appropriate, showing allowable accesses, prohibited areas, visitors' route, PPE use, and any related safety instructions.
- Surfaces elevated more than 120 cm above the floor or ground must be guard railed.
- Any material lifted to elevated surfaces should be piled, stacked or racked in a way that prevents it from tipping, falling, collapsing, rolling or spreading.



## ***Floor and Wall Openings***

- Floor openings (12 inches or more) are guarded by a secured cover, a guardrail or equivalent on all sides (except at entrances to stairways).
- Toe boards are installed around the edges of permanent floor openings (where persons may pass below the opening).

## ***13. Fire Protection***

UNDP requires the Contractor to take the right precautions that ensures fire control in the project and shall take all necessary procedures required by an emergency preparedness plan, procedures shall include:

- Registration system for combustible materials and Flammable Liquids.
- All flammable liquids to be stored separately with providing fire extinguisher
- Periodic Safety Inspection; Fire extinguishers (monthly inspection records).
- Clear Access/Egress.
- safety signs (exit, no smoking)
- Safety training (how to use fire extinguishers)
- Hot work permits system

## ***14. Working Overtime Hours***

- In order to maintain noise pollution reduction measures, the contractor is not allowed to work overtime hours, beyond working daylight working hours i.e. 8:00 am till 4:00 pm. In exceptional cases when work is needed beyond such hours, the contractor is requested to secure UNDP approval before being able to work after regular working hours (i.e. heavy machinery operation, and steel erection).

## ***15. Emergency Measures and Accident/Incident Reporting:***

Below are UNDP'S minimum requirements for Emergency procedures and Accident / Incident reporting:

Contractor must ensure the Contractor HSE Officer is a certified First Aider.

- Emergency Contact Details signs shall be supplied and installed in UNDP and Contractor Offices, Welfare areas, and in main locations in the project site.
- The contractor should specify a clear emergency procedures plan especially for the contractor's staff that includes:
  - Nearest Medical emergency services
  - Nearest Civil Defense / Fire department
  - Security Service (Police)
  - Emergency evacuation plan
  - Contractor HSE Officer
  - Contractor Project Manager
  - Any other emergency service contact
  - Water service provider, electricity service providers.
- Evacuation drills (Fire, earthquake scenarios) shall be conducted at least twice throughout the project implementation

**In the event of Accident/Incident, the Contractor HSE Officer is responsible for:**

- Immediately take control of the situation and implement the relevant steps outlined below and contact relevant emergency services
- Ensure that injured persons are attended to by first aiders and secondly that appropriate steps are taken to facilitate further critical medical treatment
- Make the site and surrounding area safe, this may require emergency barriers and cordons depending on the nature of the incident. The evacuation of the site and neighboring properties may also be necessary.
- Notify your UNDP engineers line manager of the situation
- Once the situation has stabilised with injured persons off the site and receiving treatment and/or the dangerous incident is controlled, situation stable with little

or no risk of further injury or damage, then the following actions can be considered.

- Begin to gather evidence regarding the Accident/Incident. Take photos, video and sketches as required. Identify witnesses to the event and record statements.

## ***16. Safety Violations and Penalties Procedures***

### ***UNDP Requirements for the Contractor's Procedure with Safety Violators***

Contractor is requested to use a four (4) step corrective action procedure with his workers and employees at site; These four steps should be always followed by the contractor with exception of the most serious violations. Serious violations will be handled on a case by case basis depending on their severity. They may result in expedited occurrences and/or immediate discharge on a first occurrence, pending an investigation.

- First Occurrence: Verbal Warning, Documented in File
- Second Occurrence: Written Warning, Documented in File
- Third Occurrence: Three-Day Suspension, Documented in File
- Fourth Occurrence: Termination

**NOTE:** Contractor shall ensure his procedures are well documented and reported to UNDP team appropriately through the daily joint and Monthly reports.

### ***Safety Violation Penalties by UNDP***

Every Person should inform the site management on Safety Violations. The Contractor HSE Officer must stop the works in the zone in which there is a safety violation

UNDP reserves the right to terminate the contract with the contractor regarding Health and Safety violations.

UNDP also may – as its own discretion- apply penalties with administrative decisions on the following are violation categories during the project implementation:

1. High Risk Violations: is a violation committed on site by the contractor and/or any of his subcontractors where there is a substantial probability that death or serious physical harm could be an outcome result.

2. Low Risk Violations: is a violation committed on site by the contractor, contractor's personnel, workers and any of his subcontractors, and this violation has a direct relationship to job safety and health but probably would not cause death or serious physical harm.

***Penalties schedule per violation occurrence in project site:***

	Violation type	Penalty assessed	Administrative Procedure
1.	High Risk Violation	1000 \$	Termination of Individual/s involved
2.	Low Risk Violations	500\$	Warning for the violators or Termination upon UNDP decision

## ***17. Method Statements and Risks Assessment***

As every task in the construction environment comes with associated risks. UNDP requests the contractor to carefully plan for each task and provide a method statement and risk assessment for each activity in the construction, to explain the procedure of works, and mitigate the associated risks in each activity. UNDP requests the Contractor to apply the following:

***The Risk Assessment should go through the 5-step procedure:***

1. **Identify the Hazard in the activity:** understanding the risk and how it may affect the project objectives (through reviewing lessons learned, risk register, brainstorming with the team).
  - **Through Applying lessons learned, brain storming, refer to Health and Safety References**
2. **Decide who might be harmed in the activity**
3. **Evaluate the Risk and Decide on the Precaution**
  - a. Evaluation through giving the activity it a rank, and estimate it in comparison to likelihood and impact
  - b. Decision maybe by: Elimination, Substitution, Reduce by Engineering Control or Administrative Control, and as a final option use the PPE.

**4. Record the Findings and Implement them**  
**5. Review the Risk Assessment and update if necessary**

- The Contractor should Submit Risk Assessment for review at least 7 calendar days prior the start of each phase in the project.
- The Assessment must include UNDP's requirements in the planned mitigation measures
- The Risks Assessment list will be reviewed periodically (at least monthly) at a Contractor supervisory safety meeting and updated as necessary when procedures, scheduling or hazard change.
- The Risk Assessment shall be developed using the project schedule as the basis for the activities performed. Any activities listed on the project schedule will require a Risk Assessment.
- The Risk Assessment will be developed by the contractor and on behalf of suppliers or subcontractors for submittal to the Engineer/Project Manager.

## ***18. Health and Safety Project Documentation***

Onsite safety record system shall be established from day one and maintained throughout all phases of construction. The record contained filing system to be updated regularly all documentation and maintaining a complete and organized filing system for all safety related documents. The contractor shall provide UNDP with a list of safety record and shall submit a copy of all safety documentation that includes safety paperwork procedures taken on site.

The following documents should include:

1. Project Insurance Certificates.
2. Workers Health & Safety Induction Briefings and Commitment letters
3. Contractor's staff Medical files and reports including subcontractors and their teams.
4. Method Statements and Risk Assessments for Various Project Activities
5. All onsite equipment licenses, insurance and Equipment Inspections.

6. All permits (traffic, constructions permit, entry for confined space, etc.).
7. Safety plan and other pre-construction plans.
8. Toolbox talks (meetings).
9. Safety Meeting Minutes.
10. Daily safety report and / or Monthly safety reports.
11. All accident reports.
12. All safety inspections and correctional steps.
13. Corrective action procedure of warning and penalties in committed violation cases by personnel staff.
14. Scaffolding Inspections
15. Ladders Inspections
16. Excavation Inspections
17. Tower Cranes Inspections and Licenses
18. Health and Safety Reference Materials
19. Manufacturer Requirements
20. Material Safety Data Sheets
21. Health and Safety Reference Materials

## ***19. Training (Safety Toolboxes Talks and Safety Inductions):***

Contractor shall ensure that all workers are well instructed about all hazards related to their work and environment and well for necessary precautions to avoid accidents and injury to health. Contractor shall not be allowed to start any

construction activity without the “Initial training” which is required prior to beginning work.

- Contractor’s training shall include all relevant construction works issues mentioned in this manual which includes the safety Plan, Safety policies and specific safety and health measurements.
- Specialized technical training should be provided for employees and/or workers who may encounter unique hazards associated with a particular activity, such as but not limited to:
  1. Working at height (Life-line use).
  2. Firefighting.
  3. Erecting and dismantling scaffolds.
  4. In site built-up ladders
- Appropriate training given shall cover the following:
  - Hazards type expected by a certain activity.
  - Necessary precautions needed to keep safe.
  - The higher the hazard the more detailed will be the training.
- Written records shall be kept of the names of persons trained, the type of training provided, and the dates when training occurred.
- All training records shall be maintained at the field office.
- When new activity starts contractor’s HSE Engineer shall conduct a Toolbox meeting and when any new assigned personnel on site.
- Contractor’s HSE Officer shall conduct toolbox meetings (talks) with all trades to cover various topics as but not limited to:

First day on the job	Sanitation	Electrical Grounding
Accident Factors/prevention	CPR	Cranes & overhead wires
First Aid	Hand tools	Heavy equipment backing
Cold weather	Heat stroke	Chemical inventory
Confined space	Crane hand signals	Don’t neglect guts

Dress for the job Emergencies	Fall protection	Electricity
Personal protection equipment (PPE)	First aid	Fire extinguishers
Traffic Control	Floor openings	High voltage
Forklifts	Gas cylinder dos & don'ts	Power saws
Guard/handrails	Heavy equipment	Scaffolding
Excavation & trenches	Housekeeping	Steel erection
Concrete masonry	Arc Welding	Fire Protection/Prevention
Fall causes	Concrete/Masonry	Flammable liquids

## 20. Safety Meetings

All related safety meetings should be documented. Minutes showing contract title, signatures of attendees and list of topics discussed. All safety meetings should be referred in Daily and Monthly Reports

- **Establishing a Health and Safety and Environmental (HSE) Committee**

HSE Committee shall be established consisting of designated HSE representatives together with a number of UNDP Representatives appointed. Membership of this committee shall include contractor's PM and the Contractor HSE Officer in addition to two members appointed by UNDP. The H&S Committee shall co-opt advisory (temporary) members and determine the procedures of the meetings including the chairmanship.

The HSE Committee must meet minimum monthly and consider, at least, the following Agenda for the first meeting. Thereafter the HSE Committee shall determine its own procedures as per the previous paragraph.



- **HSE Committee's Agenda (But not limited to):**

- 1) Opening and determining of chairmanship (only when necessary)
- 2) Minutes of Previous Minutes
- 3) Observations
- 4) Program and Safety considerations
- 5) Hygiene
- 6) Housekeeping improvement
- 7) Incidents & Accidents / Injuries
- 8) Registers:
  - a. H&S Rep. Inspections
  - b. Matters of First Aid
  - c. Scaffolding
  - d. Ladders
  - e. Excavations
  - f. Portable Electric Equipment
  - g. Fire Equipment
  - h. Explosive Power Tools
  - I. Power Hand tools
  - j. Incident! Report Investigation
  - k. Pressure Vessels
  - l. Personal Protective Equipment
- 9) Safety performance Evaluations
- 10) Education & Safety promotion program
- 11) First Aid Officials and training in First Aid
- 12) Demarcation of work- /hazardous-/safe areas/walkways
- 13) Posters and signage
- 14) Environmental preservation and conservation
- 15) Specific training programs
- 16) General
- 17) Date of Next Meeting
- 18) Closing

## ***21. Worker Rights***

Contractor must fully acknowledge Worker rights in a safety and healthy working environment, in line with local rules and regulations, and labor laws, this includes having the right, but not limited to:

- Working conditions that do not pose a risk of serious harm.
- Receive adequate Personal Protective Equipment in a good condition fit-for-purpose use.
- Receive safety training (in a language and vocabulary the worker understands) about their workplace environment, hazards, methods to prevent them, and safety standards to use and how it's applied to their workplace.
- Workers including temporary workers should be allowed to exercise their rights of reporting an injury or raising health and safety concerns with their employer or UNDP staff in site.
- Workers are to be assessed according to their skills, experience and capabilities to the appropriate working activity.

## **22. Force Majeure (i.e. COVID-19 Pandemic):**

In line with the Conditions of Contract, Force Majeure are circumstances that are beyond of the Party's control, that cannot be avoided. Force Majeure may include-but not limited to- war, riots, revolutions, war, explosive materials, natural disasters/ catastrophes, epidemics and pandemics.

Covid 19 which erupted in late 2019, is considered one of the "Pandemic" Force Majeures which impacted the world. Construction/Infrastructure Projects, among other economies were substantially impacted. Accordingly, UNDP requires the following in this regards:

Contractor is requested at his own expense to implement the following procedures regarding COVID-19 Pandemic:

- Strictly adhere and comply with all rules and regulations in this matter from local authorities particularly Ministry of Health
- Ensure that all workers are aware of Covid 19 mitigation measures
- Ensure that all workers pass the Project through a dedicated pedestrian Entrance
- All Pedestrian Entrances shall dis-infecting gates, and continuously re-fill it with dis-infecting alcohol.
- Ensure that all workers/personnel temperature is measured and not exceeding 37.5 c, and not to have any new dry coughing symptoms.
- Always maintain hygiene and cleaning fixtures and materials to be available at site, ensure that workers continuously.

- Ensure all workers have the needed PPE (dedicated for each worker), including gloves, masks / face shields, and to wear them throughout the implementation, and dispose for the types that are disposable in adequate storages as per manufacturer's instructions.
- Maintain distance of 2 meters between workers as much and as practicable as possible.
- Continuously disinfect and clean working surfaces and tools before use.
- In elevators reduce the number to 2 personnel and maintain 2 meters distance.
- Ensure that workers declare their medical status, and not to be interacted with a person with COVID 19 case.
- Spacing between workers during meals
- Any worker who has a cold will not enter the site and must conduct Covid 19 test

It is to be noted that if the works stopped or there has been any closures due to COVID-19, UNDP will not compensated the Contractor.

## **23. Traffic Management**

Before Implementation of Trench excavation, the Contractor is requested to provide a traffic management plan for the segments he is forecasting to work in, the plan shall be approved by the engineer. The minimum requirements for the traffic planning:
















- Coordinate with local authorities on the routes he is planning and obtain any permits in line with the local rules and regulations.
- Supply and install signage and lighting orange flashers alerting the people that works are ahead (1 km ahead, 500 m ahead, 300 m ahead, 100 m ahead and at the location working site.)
- Provide Detours for the closed lanes in line with local authorities' approval, and ensure that sufficient signage in all the junctions added for the detour (beginning from the beginning of closed road until returning and end of closure)
- Contractor to segregate between working zones and non-working zones with physical barriers and appropriate signage.

- Wherever there are trenches excavations contractor shall provide separate temporary route for the pedestrians with physical barriers, protection and sufficient guidance signage.
- Contractor to provide temporary crossing metal bridges for pedestrians over the excavated trenches, bridges shall be least 1.2 m, able to tolerate pedestrian loads, have the proper alerting signage, have 1m height edge protection on both sides of the crossing bridge.
- Contractor to provide competent flagmen to manage the traffic at the beginning of the closure and end of closure with communication means.
- Contractor to provide competent workers to guide the pedestrians to the temporary pedestrian routes
- Contractor to provide competent banksman to guide the machineries and excavator.
- For the trench excavation safety measures, please refer to section 7 (***Excavation Safety Mitigations Measures***)

## ANNEX I

### Health and Safety Signs

- Contractor at his own expense should supply, install the following signs and add as needed for the project. (i.e. site plans, YOU ARE HERE sign, traffic signs...etc.). The Price includes as much as needed signs as Indicated by Contractor HSE Officer and UNDP, and all the works, excavation, concrete, 2" galvanized poles, bases and accessories needed to complete the job. Signs should be maintained and renewed as needed throughout the project implementation period.
- Quantity, Materials and Dimensions: The Signs Materials, Quantity and Dimensions shall be approved by UNDP, and the material of the signs shall be made of 2mm galvanized steel sheets, and 3mm aluminium sheets rectangular or square shape as noted, with outdoor diamond grade reflective sheeting on both sides of the sign. The dimensions as indicated under each sign. (Contractor May obtain a PDF copy of the sign for printing purposes).

<table border="1"> <tr> <td colspan="2">اسم المشروع Name of the Project</td> </tr> <tr> <td colspan="2">3D Photo of the Project</td> </tr> <tr> <td>Logo for Project Owner</td> <td>المالك المشروع Project Owner</td> </tr> <tr> <td>Logo for Project Donor</td> <td>ممول المشروع Project Donor</td> </tr> <tr> <td> United Nations Development Programme Programme of Assistance to the Palestinian People برنامج الأمم المتحدة الإنمائي / برنامج مساعدة الشعب الفلسطيني</td> <td>المؤسسة المنفذة Implementing Agency</td> </tr> <tr> <td>Logo for Project Designer</td> <td>مصمم المشروع Project Designer</td> </tr> <tr> <td>Logo for Project Contractor</td> <td>مقاول المشروع Project Contractor</td> </tr> </table> <p>Project Stakeholders: Dimensions: H: 220 cm X W 100 cm</p>	اسم المشروع Name of the Project		3D Photo of the Project		Logo for Project Owner	المالك المشروع Project Owner	Logo for Project Donor	ممول المشروع Project Donor	 United Nations Development Programme Programme of Assistance to the Palestinian People برنامج الأمم المتحدة الإنمائي / برنامج مساعدة الشعب الفلسطيني	المؤسسة المنفذة Implementing Agency	Logo for Project Designer	مصمم المشروع Project Designer	Logo for Project Contractor	مقاول المشروع Project Contractor	<table border="1"> <tr> <td colspan="2">انتبه ! موقع عمل Warning! Construction Site</td> </tr> <tr> <td colspan="2">على الجميع الالتزام بقوانين وأنظمة الأمن والسلامة المهنية داخل الموقع Everyone is obliged to comply with the Site Safety Rules in the site</td> </tr> <tr> <td>يمنع الدخول للأشخاص غير المصرح بهم No Access for Unauthorized persons</td> <td></td> </tr> <tr> <td>مواقع البناء قد تكون خطرة وهناك معدات تتحرك، على جميع الأهل إبعاد أطفالهم لمواقع آمنة Construction Sites can be dangerous; Machineries are moving, Parents please</td> <td></td> </tr> <tr> <td>على جميع الزائرين وجميع سائقي المركبات التوجه لمكتب الموقع. يمنع الدخول للموقع ما لم يصرح لك بذلك All Visitors and Delivery Drivers must report to the Site Office. Do Not Enter the Site unless you are authorized</td> <td></td> </tr> <tr> <td>على الجميع داخل الموقع ارتداء الحذاء الآمن والأحذية لآمنة والسفرة العاكسة. يمنع منعاً باتاً التواجد بدونهم Safety Helmets, Protective Footwear and High Visibility Vests must be worn by everyone in this site</td> <td></td> </tr> <tr> <td colspan="2">على الجميع تنبيه عن أية حوادث للمسؤول ومكتب الموقع مباشرة Report All Accidents Immediately to your Supervisor and to the Office</td> </tr> </table> <p>Site Entrance: Dimensions: H: 220 cm X W 100 cm</p>	انتبه ! موقع عمل Warning! Construction Site		على الجميع الالتزام بقوانين وأنظمة الأمن والسلامة المهنية داخل الموقع Everyone is obliged to comply with the Site Safety Rules in the site		يمنع الدخول للأشخاص غير المصرح بهم No Access for Unauthorized persons		مواقع البناء قد تكون خطرة وهناك معدات تتحرك، على جميع الأهل إبعاد أطفالهم لمواقع آمنة Construction Sites can be dangerous; Machineries are moving, Parents please		على جميع الزائرين وجميع سائقي المركبات التوجه لمكتب الموقع. يمنع الدخول للموقع ما لم يصرح لك بذلك All Visitors and Delivery Drivers must report to the Site Office. Do Not Enter the Site unless you are authorized		على الجميع داخل الموقع ارتداء الحذاء الآمن والأحذية لآمنة والسفرة العاكسة. يمنع منعاً باتاً التواجد بدونهم Safety Helmets, Protective Footwear and High Visibility Vests must be worn by everyone in this site		على الجميع تنبيه عن أية حوادث للمسؤول ومكتب الموقع مباشرة Report All Accidents Immediately to your Supervisor and to the Office	
اسم المشروع Name of the Project																													
3D Photo of the Project																													
Logo for Project Owner	المالك المشروع Project Owner																												
Logo for Project Donor	ممول المشروع Project Donor																												
 United Nations Development Programme Programme of Assistance to the Palestinian People برنامج الأمم المتحدة الإنمائي / برنامج مساعدة الشعب الفلسطيني	المؤسسة المنفذة Implementing Agency																												
Logo for Project Designer	مصمم المشروع Project Designer																												
Logo for Project Contractor	مقاول المشروع Project Contractor																												
انتبه ! موقع عمل Warning! Construction Site																													
على الجميع الالتزام بقوانين وأنظمة الأمن والسلامة المهنية داخل الموقع Everyone is obliged to comply with the Site Safety Rules in the site																													
يمنع الدخول للأشخاص غير المصرح بهم No Access for Unauthorized persons																													
مواقع البناء قد تكون خطرة وهناك معدات تتحرك، على جميع الأهل إبعاد أطفالهم لمواقع آمنة Construction Sites can be dangerous; Machineries are moving, Parents please																													
على جميع الزائرين وجميع سائقي المركبات التوجه لمكتب الموقع. يمنع الدخول للموقع ما لم يصرح لك بذلك All Visitors and Delivery Drivers must report to the Site Office. Do Not Enter the Site unless you are authorized																													
على الجميع داخل الموقع ارتداء الحذاء الآمن والأحذية لآمنة والسفرة العاكسة. يمنع منعاً باتاً التواجد بدونهم Safety Helmets, Protective Footwear and High Visibility Vests must be worn by everyone in this site																													
على الجميع تنبيه عن أية حوادث للمسؤول ومكتب الموقع مباشرة Report All Accidents Immediately to your Supervisor and to the Office																													

	
Closed Road: Dimensions: H: 100 cm X W 60 cm	Site Office: Dimensions: H: 60 cm X W 100 cm
	
First Aid: Dimensions: H: 60 cm X W 100 cm	Storage: Dimensions: H: 60 cm X W 100 cm

	 <p><b>Inlcuding Covid 19 PPE</b></p>
<p>Welfare Area: Dimensions: H: 60 cm X W 100 cm</p>	<p>Site Specific Rules: Dimensions: H: 200 cm X W 100 cm</p>
	
<p>Site Perimeter: Dimensions: H: 60 cm X W 100 cm</p>	<p>Restrooms: Dimensions: H: 100 cm X W 600 cm</p>

	
<p>Men WC: Dimensions: H: 100 cm X W 600 cm</p>	<p>Women WC: Dimensions: H: 100 cm X W 600 cm</p>
	<p>Insert Contractor's Logo</p> <p>مكتب الموقع للمقاول  <b>Contractor's Site Office</b></p>
<p>Assembly Point: Dimensions: H: 100 cm X W 600 cm</p>	<p>Contractor Site Office: Dimensions: H: 60 cm X W 100 cm</p>



أرقام الاتصال لحالات الطوارئ  
Emergency Contact Numbers

التفاصيل (اسم، عنوان) Details (Name, address)	رقم الاتصال Contact Number	الخدمة Service
		الإسعاف Ambulance
		مقدمي الإسعاف بالموقع First Aiders at Site
		أقرب مستشفى Nearest Hospital
		أقرب عيادة Nearest Clinic
		خدمات الدفاع المدني Nearest Civil Defense Service
		أقرب مركز شرطة Nearest Police Station
		برنامج الأمم المتحدة الإنمائي UNDP
		مكتب المقاول Contractor Office
		البلدية (أو المجلس البلدي) Municipality (or Village Council)
		خدمات الماء Water Services
		خدمات الكهرباء Electricity Services



Emergency Contacts: Dimensions: H: 100 cm X W 600 cm

Exit Left: Dimensions: H: 50 cm X W 100 cm



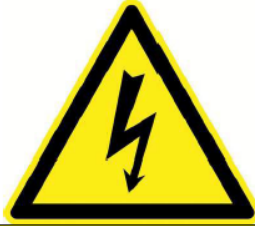



Exit Right: Dimensions: H: 50 cm X W 100 cm

Exit Straight: Dimensions: H: 50 cm X W 100 cm



Exit Gate: Dimensions: H: 50 cm X W 100 cm

Fire Extinguisher: Dimensions: H: 100 cm X W 600 cm

 <p><b>تحذير: جهد عالي, خطر الموت</b>  <b>Warning: High Voltage, Danger of Death</b></p>	 <p><b>تحذير: منطقة مغلقة – يمنع الاقتراب</b>  <b>Warning: Closed Zone – Keep Out</b></p>
<p>Warning High Voltage: Dimensions: H: 60 cm X W 100 cm</p>	<p>Closed Zone: Dimensions: H: 60 cm X W 100 cm</p>
 <p><b>تحذير: حفریات عميقة, يمنع الاقتراب</b>  <b>Warning: Deep Excavations, Keep out</b></p>	 <p><b>HAZARDOUS STORAGE AREA</b>  <b>مخزن للمواد الخطرة</b>  <b>الدخول فقط للمصرح لهم</b></p>
<p>Excavation Warning: Dimensions: H: 60 cm X W 100 cm</p>	<p>Hazardous Storage: Dimensions: H: 100 cm X W 600 cm</p>

 <p><b>تحذير: فتحة بالأسفل, خطر الوقوع</b>  <b>Warning: Hole Below, Risk of Falling</b></p>	 <p><b>تحذير: أعمال بالأعلى</b>  <b>Warning: Overhead Works</b></p>
<p>Hole Below Warning: Dimensions: H: 60 cm X W 100 cm</p>	<p>Overhead Warning: Dimensions: H: 60 cm X W 100 cm</p>
 <p><b>تحذير: خطوط كهرباء بالأعلى</b>  <b>Warning: Overhead Power lines</b></p>	 <p><b>ممر مشاة</b>  <b>Pedestrians Route</b></p>
<p>Overhead Power: Dimensions: H: 60 cm X W 100 cm</p>	<p>Pedestrian path Left: Dimensions: H: 100 cm X W 600 cm</p>



Construction Works: Dimensions: H: 60 cm X W 100 cm



تمهل: اعمال على الطريق

**150 متر**

**Slowdown: Construction Works — 150 M**

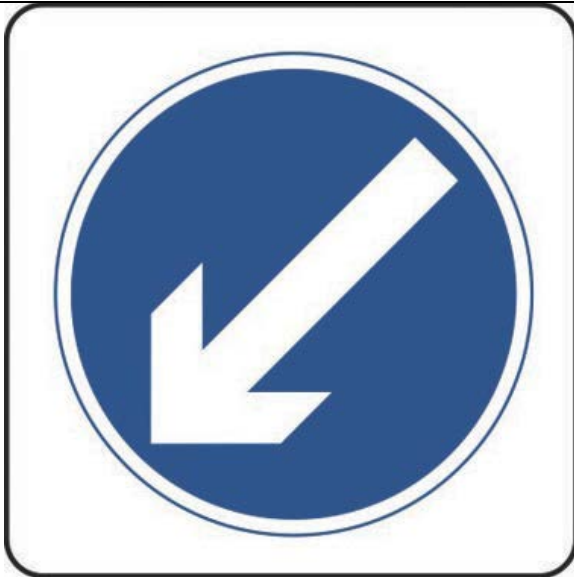
 <p>تمهل: اعمال على الطريق  <b>300 متر</b>  <b>Slowdown: Construction Works – 300 M</b></p>	 <p><b>تحذير: جهد عالي, خطر الموت</b>  <b>Warning: High Voltage, Danger of Death</b></p>
<p>Contruction 300 m: Dimensions: H: 60 cm X W 100 cm</p>	<p>High Voltage Warning: Dimensions: H: 60 cm X W 100 cm</p>
	 <p>تمهل: مشاة يقطعون الشارع  <b>Slowdown: Pedestrians Crossing Street</b></p>
<p>Left Curve Traffic: Dimensions: H: 60 cm X W 100 cm</p>	<p>Pedestrians Crossing: Dimensions: H: 60 cm X W 100 cm</p>



Right Curve Traffic: Dimensions: H: 60 cm X W 100 cm



Students Crossing: Dimensions: H: 60 cm X W 100 cm



Left Vehicle Path: Dimensions: H: 80 cm X W 80 cm



Right Vehicle Path: Dimensions: H: 80 cm X W 80 cm



Road Narraowing Left: Dimensions: H: 80 cm X W 80 cm



Road Narraowing Right: Dimensions: H: 80 cm X W 80 cm

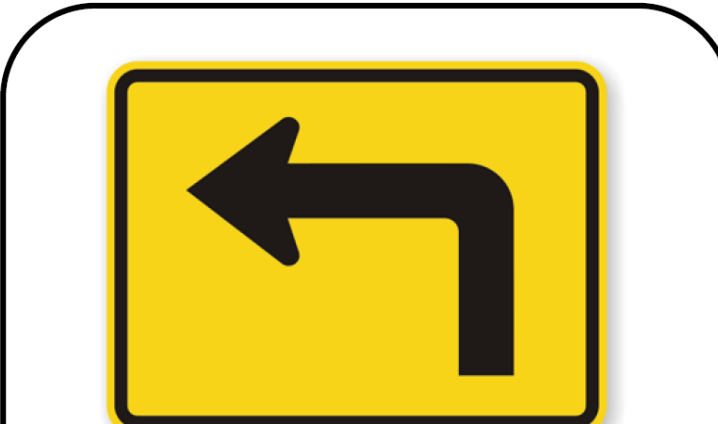
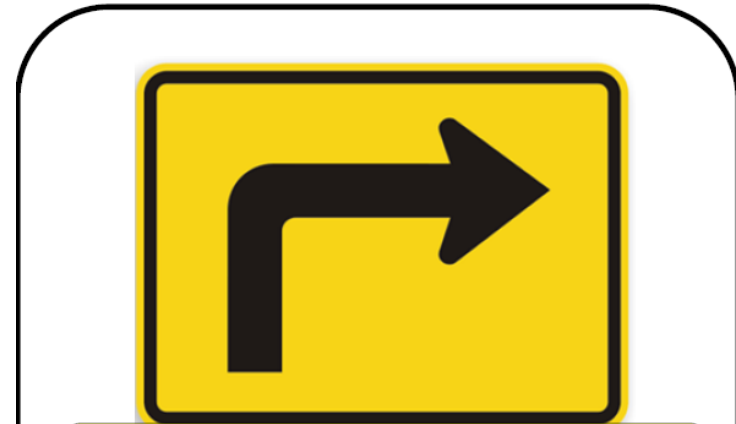




30 Speed: Dimensions: Diameter 80 cm



End of 30 Zone: Dimensions: Diameter 80 cm



 <p><b>تحويلة Detour</b></p>	 <p><b>تحويلة Detour</b></p>
<p>Traffic Detour Left: Dimensions: H: 60 cm X W 100 cm</p>	<p>Traffic Detour Right: Dimensions: H: 60 cm X W 100 cm</p>
	
<p>No Entry: Dimensions: Dimensions: H: 80 cm X W 80 cm</p>	<p>No Entry: Dimensions: Diameter 80 cm</p>



## CONTRACTOR'S DECLARATION OF COMMITMENT OF IMPLEMENTING HEALTH AND SAFETY MEASURES

I/We (...Contractor Company Name...) declare that I/we have taken into consideration when pricing the individual unit rates and Tender Sum that:

The Rates in the Bills of Quantities will be deemed to include for the full cost of the Safety Works as described and/ or as instructed.

I/We (...Contractor Company Name...) declare that I/we have taken into consideration all the above-mentioned safety matters and all safety instructions written in this manual and fully meet the eligibility criteria defined within the context.

I/We (...Contractor Company Name...) declare that I/we and on the behalf of all our working team and subcontractors supported by our entire internal line management is accountable for the implementation of this HSE Manual and Policy and shall remain committed to:

- Protect the health & safety of our employees, visitors, subcontractors and clients.
- Prevent pollution; minimize our resource use and waste generation through sustainable development initiatives.
- Increase our employee awareness of HSE concerns and issues.
- Comply with relevant HSE legislation, Group and other applicable requirements.
- Provide the tools, internal HSE resources and training necessary for the implementation of effective HSE management systems.
- Fully respond to all HSE Instruction by UNDP Team and/or their HSE representatives and consultants.
- Fully respond to any request from UNDP and/or the donor of the project and/or their representative/s to audit our project safety files and documentation at any time.

I/We acknowledge the importance of creating a positive safety culture through employee involvement and effective policies and procedures and I/We hereby confirm the receipt and understanding of the above letter.

NAME OF CONTRACTOR	ADDRESS	SIGNATURE AND STAMP	DATE