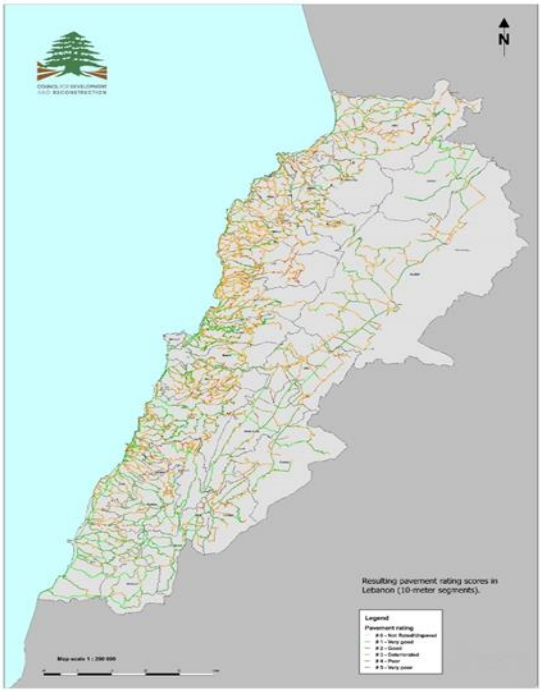
COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION

LEBANESE REPUBLIC
COUNCIL FOR DEVELOPMENT AND RECONSTRUCTION (CDR)

ROADS & EMPLOYMENT PROJECT
LOAN NO. 8705-LB



ENVIRONMENTAL & SOCIAL SAFEGUARD INSTRUMENT REPORT FOR

ROADS ROUTINE MAINTENANCE OF REMAINING ROADS LOT 5 – (TRIPOLI CAZA)

August 2022

TEAM INTERNATIONAL Engineering & Management Consultants

GEOflint

EXECUTIVE SUMMARY

INTRODUCTION

The Government of Lebanon (GOL) has solicited and obtained World Bank (WB) financing for the Roads and Employment Project (REP). The Council for Development and Reconstruction (CDR) is acting as the executing agency on behalf of the GOL and its Council of Ministers (COM). The REP involves maintenance activities that are confined within the alignments of existing roads with no road widening, no involuntary resettlement, and no land acquisition. As such, the WB classified the REP as a category B project that require the preparation of an Environmental and Social Management Plan (ESMP) for its sub-components. Noting that the Project was signed before October 2018, date of effectiveness of the Environmental and Social Framework (ESF). Accordingly, a series of ESMPs were stipulated to be prepared for these roads and put together by CDR in packages for bidding purposes. In this context, CDR awarded the contract number 20379 to TEAM International, hereinafter referred to as the Consultant, to prepare the assessment, design and ESMPs for roads in the districts of Bcharre, Batroun, Koura, and Tripoli. This ESMP is concerned with roads within the Tripoli district.

PROJECT DESCRIPTION

The REP consists of the maintenance activities to be performed during the project vary between one road and the other, depending on the road rating in terms of the condition of the pavement, shoulders, potential flooding and drainage, potential landslide/soil erosion and retaining walls, pedestrian walkways, and addition or maintenance of street lighting. Routine Maintenance activities will be executed for a period of two years, for each Caza in Lot 5- Bcharre, Koura, Batroun and Tripoli Cazas, for Primary roads (including International roads/ Highways) as priority and for Secondary roads where funds are available. This report will further study the Tripoli Caza.

The land acquisition did not occur during the design of any road under study. In the Tripoli district, four primary road are proposed, where their details are elaborated within the ESMP. However, in case the suggested maintenance work is not applicable, the secondary roads will be considered.

During the execution of maintenance activities, roads will not be closed or shutdown. Before the execution of maintenance works, the Contractor will secure the access and traffic movement via other alternative routes (if needed) and means in coordination with the related Municipality. The duration of the project is 24 months. It is assumed that an estimate total number of workers shall range between 10 and 20 labor, 2 Forman, 2 Engineers and 2 skilled drivers. These workers must be hired preferably from the same Caza (including Syrian labors that reside in the concerned project areas).

BASELINE ASSESSMENT

The environmental and social assessment recorded the existing conditions within the project area including physical, biological, and socioeconomic conditions prior the project implementation and operation. Baseline data and field surveys were conducted to describe the status of the following environmental receptors: air quality, water quality, soil quality, geological conditions, climate and meteorology, natural habitats and biodiversity, land-use/land-cover, acoustic environment, cultural resources, and socio-economic conditions (employment opportunities, labor influx, social tensions, labor induced Sexual Exploitation and Abuse (SEA) Sexual Harassment (SH), occupational health and safety).

The topography shows that the four selected roads for maintenance in the Tripoli Caza pass over the coastal plane with elevations between sea-level up to 22 m ASL. Roads T1 and T2 (Abdul Hamid Karami Treet and Azmi Beik street) are internal roads that stretch for 3.28 km and 1.48 km respectively with elevations ranging between 3m – 20m for T1 and 2m – 22m for T2. Whereby, road 3 is a coastal road which is relatively flat at an elevation of 3m ASL as it stretches from the Tripoli Olympic Stadium until the Lebanese Red Cross Gamma for 4.1km. Finally, road 4 revolves around the Rachid Karami International fair for 3.13km with elevations ranging between 3 and 13m ASL.

The geology of the studied roads was investigated for outcropping formations, subsurface stratigraphy, structure (faults, folds, seismic, etc.), hydrogeology (groundwater and sea water intrusions) and hydrology (surface water). Assessments showed that Roads T1 and T2 (Abdul Hamid Karami Street and Azmi Beik Street) crosses exclusively in the quaternary recent deposits. On the other hand, Roads T3 and T4 (Mina Road and Maarad Round Road) through the quaternary marls and recent deposits. The road transitions from the Miocene to the quaternary deposits as it moves closer to the sea and city.

The climate and meteorological parameters play an important role in the transport and dispersion of pollutants in the atmosphere. Precipitation is negligible in the summer season between the months of June and September, the highest precipitation is recorded for the month of January. The total precipitation in Tripoli, like the rest of Lebanon, shows large variability across years and locations. The wettest month is the month of January with an average rainfall of 190 mm. The average annual precipitation is known to exceed 1,000 mm. No snow is recorded in the Tripoli caza. As for temperature, the lowest are recorded in January (average at 10 C) and the highest in August (average at 30 C).

Data regarding air pollution levels in the area was also obtained. The study showed that the concentrations collected by the MoE stations for all criteria air pollutants in 2018 for the studied area are within the national ambient air quality standards defined by MOE Decision 16/1 dated 2022. However, TSP and PM measurements were collected by the Tripoli Environmental and Development Observatory (TEDO) in 2008, which showed that TSP values exceeded the Daily National Standard of 120 μg/m3 25 times out of 105 measurements. Moreover, the mean PM2.5 in downtown Tripoli (34.6 μg/m3) was consistently higher than PM2.5 values at the seafront station (23.6 μg/m3), principally due to heavier traffic in downtown Tripoli

Regarding natural habitats and biodiversity, given the nature of the project, the direct influence area concerns existing roads. Consequently, a rapid biological assessment has been carried out to draw the ecological profile of the adjacent areas to the concerned roads. The field investigation did not aim for an exhaustive inventory of the biodiversity of the project area but a general overview of present species (mainly flora) and habitats.

Overall, the natural environment in the study area is degraded by heavy urbanization with limited agricultural activity and does not harbor pristine habitats of conservation importance.

Finally, a socio-economic assessment was conducted in the project area to map the demographic, social, and economic baseline conditions at the level of Tripoli Caza. The assessment allowed drawing conclusions regarding the project's potential impacts on the socio-economic conditions of the study area.

Hence, when considering the demographic profile of the study area, according to the statistics provided by the UN-Habitat (2016), the total population in the Caza for 2010-2011 is estimated at 428,170. The average household size in the Tripoli Caza is 4.4 persons, which is higher than the national average of 3.8 (CAS & ILO, 2019). Around 65 percent of the population is between 15 and 64 years old and 8.5 percent is aged above 65 years.

Moreover, there are several Primary Healthcare Centers (PHCs), hospitals and schools in Tripoli, however, none were encountered directly along the selected roads for maintenance. Further, there are no sites of cultural heritage significance that are located directly along the roads to be maintained.

POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

The maintenance phase of any development is known to have potential adverse impacts on several indicators including traffic, air quality, noise level, construction waste, water and soil quality, landscape and visual intrusion, resources consumption, damage to existing utilities, health and safety, as well as socio-economics. During the maintenance phase, these impacts are temporary with the majority being minor or moderately negative (Table I). During operation, the maintenance of the road, combined with the natural increase in the vehicle fleet size, will ultimately increase traffic volume and hence, typical impacts associated with increased traffic will be inevitable in the long term. Yet, improved traffic flow on maintained roads will lead to improved fuel efficiency and better engine performance, thereby reducing vehicle emissions and maintenance. Maintained roads can lead to improved landscape and visual intrusion, albeit some increase in light glare. Finally, improved safety design of roads can reduce the potential for accidents. The magnitude and significance of these impacts is similar along both roads.

Table I. Summary of potential impacts of selected roads for maintenance in Tripoli district

Potential Impact	*Maintenance phase*	*Operation phase*
Traffic	Moderate negative	Minor negative to Positive
Air quality	Minor negative	Minor negative to Positive
Noise	Moderate negative	Minor negative to Positive
Biodiversity	Minor negative	Minor negative
Construction Waste	Minor negative	Neutral
Soil and water	Moderate negative	Minor negative to Zero
Resources consumption	Moderate negative	Neutral
Existing infrastructure	Minor negative	Neutral to Positive
Visual Intrusion	Minor negative	Minor negative to Positive
Health and Safety	Moderate negative	Minor negative to Positive
Socio-Economic	Moderate negative to Positive	Positive
Archaeology / Cultural Heritage	Neutral	Neutral
Expropriation/involuntary resettlement	Neutral	Neutral

As for socio-economic impacts, during the maintenance phase, they are expected to be positive in terms of providing job opportunities and moderately negative in terms of temporary increase in travel time, impeded accessibility to residences / businesses, and potential health and safety, and social tensions that could lead to exploitation, abuse and harassment. During the operation phase, the maintenance of roads is expected to have positive impacts by improving access to remote areas, reduced trip times, reduced traffic congestion and accidents, and enhanced livelihood opportunities.

ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

Mitigation Plans

While the road maintenance is associated with some potential negative impacts, most of them can be alleviated. Environmental and Social mitigation measures should be adopted to eliminate or minimize these impacts.

Monitoring Plan

Since the project is a category B, monitoring activities for such projects rely primarily on visual observation and documentation with photos although measurements of certain indicators (traffic count, air / water quality and noise level) can be conducted upon public complaints. The project supervising consultant holds the responsibility of monitoring activities during the maintenance phase to ensure the implementation of the mitigation plan by the contractor. Upon public complaints, a third party (consultant) can also be appointed by CDR to conduct periodic monitoring with measurements of environmental indicators depending on the nature of the complaint. Monitoring indicators / activities during the maintenance phase is define in this report as a guidance for the contractor to submit his Construction Environmental and Social Management Plan – CESMP before work commencement.

During the maintenance phase, the Supervising Consultant shall submit a quarterly report about the monitoring activities to various stakeholders including the CDR and the municipalities. These reports shall be made readily available or accessible to the public upon submittal. The content of a typical report should mirror the indicators of the mitigation plan with proper documentation with photos taken in the event of accidents, concerns or complaints.

During the operation phase, regular monitoring activities become more part of the duties and responsibilities of local municipalities and stakeholders. Like the maintenance phase, upon public complaints, a third-party consultant can also be appointed by CDR (up to 2 years after project completion) to conduct periodic monitoring with measurements of environmental indicators depending on the nature of the complaint.

CONSULTATION, DISCLOSURE AND GRIEVANCE REDRESS MECHANISM

Public Consultation

The public consultation is to inform the local authorities about the project and get their opinion in the project implementation. Due to the project extent over the entire Caza, the union of municipalities is the party that will represent all concerned municipalities. As well, local concerned NGOs are to be informed with the project and a virtual meeting is to be planned to get their feedback.

Grievance Redress Mechanism (GRM)

A grievance redress mechanism (GRM) is in place to allow stakeholders to voice their concerns during the project phases: pre-construction, construction, and operation. The GRM is designed to allow a timely resolution of concerns, assuring stakeholders that grievances have been heard and that the institutionalized mechanism will yield a fair and impartial outcome. Furthermore, the grievance mechanism is applicable for both Lebanese and Syrian workers with the option to remain anonymous when filing a grievance to encourage workers to speak out without potential fear of repercussions.

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LIST OF ABBREVIATIONS

CDR	Council for Development and Reconstruction
CoC	Code of Conduct
DoA	Department of Antiquities
EA	Environmental Assessment
EIA	Environmental Impact Assessment
ESC	Environmental and Social Consideration
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FI	Financial Intermediary
GIS	Geographic Information Systems
GOL	Government of Lebanon
GRM	Grievance Redress Mechanism
IBA	Important Bird Area
IEE	Initial Environmental Examination
LARI	Lebanese Agricultural Research Institute
MoA	Ministry of Agriculture
MoC	Ministry of Culture
MoE	Ministry of Environment
MoEW	Ministry of Energy and Water
MoIM	Ministry of Interior and Municipalities
MoL	Ministry of Labor
MoPWT	Ministry of Public Works and Transport
MSL	Mean Sea Level
NGO	Non-Governmental Organization
OP	Operational Policy
PHC	Primary Healthcare Center
PIU	Project Implementation Unit
REP	Lebanon Roads and Employment Project
SEA/H	Sexual Abuse and Exploitation and Harassment
WBG	World Bank Group

LIST OF NOMENCLATURES

%	Percent
µg	Microgram
g	Gram
kg	Kilograms
km	Kilometers
Leq	Average equivalent noise levels
Lmin	Minimum noise level
Lmax	Maximum noise level
MJ	Mega Joules
min	Minutes
mm	millimeter
hr	Hour
ha	Hectare
m^2	Square meter
m^3	Cubic meter
ppm	Parts per million
s	Seconds

1 INTRODUCTION

1.1 Project background

The Government of Lebanon (GOL) has solicited and obtained World Bank (WB) financing for the Roads and Employment Project (REP). The Council for Development and Reconstruction (CDR) is acting as the executing agency on behalf of the GOL and its Council of Ministers (COM). The REP seeks to improve transport connectivity along select paved road sections, create short-term employment opportunities for local communities, and support farmers engaged in crop and livestock production.

Therefore, under Lebanese regulations, the REP does not fall under either Annex I (projects requiring a full EIA) or Annex II (projects requiring an Initial Environmental Examination (IEE) of the EIA Decree No. 8633/2012 on the Fundamentals of Environmental Impact Assessment (EIA) in Lebanon. However, the REP triggered the World Bank Operational Policy OP 4.01 requiring Environmental and Social assessment. As such the prepared Environmental and Social Safeguard report will be conducted for the roads within the Tripoli district (Caza) of the North Lebanon governorate (Mohafazah).

This report represents the Environmental and Social Management Plan (ESMP) for Roads Routine Maintenance activities in Tripoli Caza (Lot 5) in line with WB safeguard Operational Policies, guidelines and national legislation. Noting that the Project was signed before October 2018, date of effectiveness of the Environmental and Social Framework (ESF). It is worth mentioning that some roads under the REP are already under rehabilitation and that the roads under this ESMP are new roads (primary roads (including International roads/ Highways) as priority and for Secondary roads where funds are available) eligible for maintenance.

1.2 Project Rationale

The ESMF (CDR, 2018) provided the main rationale behind the REP by elaborating about Lebanon's largely adequate extent and coverage of the road network, but with a substantial percentage in poor condition, hindering local and economic development particularly in rural and lagging underserved regions where the condition of the main network is worse than the national average. The ESMF attributed these poor conditions to several factors including years of underinvestment, inefficient spending, weak capacity in road agencies and the absence of asset management tools. The ESMF stressed that this situation was aggravated by the influx of Syrian refugees which has substantially increased traffic demand and the utilization of the road network. Hence, the general objectives of the REP are to improve transport connectivity along select paved road sections and create short term jobs for Lebanese and Syrians through specific components that encompass maintenance, improvement of emergency response capacity, and capacity building and implementation support.

1.3 Report Objectives

The main objectives of the report are the design of the activities that include the maintenance/repair of the following items:

- Roadway pavement repair and milling/overlay of localized pavement depressions
- Damaged reinforced concrete retaining walls/Footwalls/ Masonry Walls repair
- Sidewalk and safety barrier repair
- Storm water drainage network repair

- Lighting Networks and all related electrical and civil works repair
- Road marking & signing implementation
- Other ancillary associated works including traffic management during maintenance.

The Maintenance Standards should generally be based on American Association of State Highway and Transportation Officials AASHTO Maintenance Manual for Roadways & Bridges, 4th Edition 2007, guided modified only where needed to suit local conditions.

1.4 Methodology

In order to achieve the ESMP objectives outlined above, we have reviewed relevant project designs and studies particularly the ESMP prepared for the project. In addition, we will:

- Examine the national legislation and World Bank safeguard policies relevant to the project
- Synthesize and process information related to coverage using the geographic information systems (AcrGIS Desktop Version 10.61 by ESRI, License type: Advanced) to prepare baseline maps
- Assess environmental and social impacts associated with the project at various stages of the project using factors such as health and safety as well as the natural environment
- Define mitigation measures, wherever relevant, to alleviate or reduce potential adverse impacts
- Develop a monitoring plan with emphasis on the maintenance phase when impacts are expected with estimated implementation resources
- Document public consultation and opinions with potentially affected stakeholders
- Use the grievance redress mechanisms (GRM) that was developed and is operational.

Note that since the project is category B under the World Bank guidelines, no field measurements of environmental indicators were anticipated (i.e. traffic, air quality, noise levels, water quality) under this contract. Instead, we relied on data from existing studies wherever available. We equally used a worst-case condition approach that would form an envelope of the maximum possible impact which when judged to be minor or moderate reflect an acceptable project impact. Details of such an approach are outlined when assessing a specific indicator below (i.e. air quality and noise).

2 LEGAL, INSTITUTIONAL, STANDARDS AND POLICIES FRAMEWORKS

2.1 Legal Framework

Several laws, decrees, and decisions in Lebanon define the environmental standards and regulations to be met while implementing projects. The most basic and general law is Law No. 444 (Environment Protection Law) dated 8 August 2002. Table 2-1 presents a list of selected legislation relevant to the Project.

2.2 Institutional

A statement of the transport/traffic related mission of each including aspects related to road-highway construction is summarized in Table 2-2 below. At this stage, it is expected that the proposed project will involve primarily the CDR. Since some selected roads for maintenance may pass near sensitive areas, close coordination with relevant ministries is also anticipated in the event any finds are made. At the completion of the project, the road becomes under the jurisdiction of the MoPWT for the purpose of maintenance and maintenance whenever required.

Table 2-1 Summary of functional responsibilities of transport/traffic involved ministries/agencies

Agency	*Role in project*
Council for Development & Reconstruction (CDR)	❑ Monitors activities of construction contractors to ensure delivery as per contracts, which will include mitigation and monitoring measures identified in the ESMP
Ministry of Public Works and Transportation (MoPWT)	❑ Responsible for operating and maintaining these roads following project completion.
Ministry of Interior and Municipalities (MoIM)	❑ Municipalities involved in the project have a role in collaborating with the contractor to implement environmental management related measures including solid waste management, wastewater management, traffic management, etc.
Ministry of the Environment (MoE)	❑ Compliance of ESMP with the Lebanese environmental standards and regulations issued by MoE
Ministry of Culture (MoC) –Department of Antiquities	❑ In case of archaeological chance finds, review and approve project specific "Archaeological Chance Find" procedures which would be used by construction contractors, consulting engineer and archaeological consultants to address actions to be taken if unrecorded archaeological materials are encountered during the course of project implementation
Ministry of Energy and Water (MOEW)	❑ Coordinate with relevant authorities under the MOEW in case of accidental damage to water and electricity related infrastructure during project implementation.
Ministry of Agriculture (MoA)	❑ Coordinate with MOA in case of the need for tree cutting
Ministry of Labor (MoL)	❑ Ensure labor laws are adhered to ❑ Issue work permits for foreign labor

Table 2-2 List of selected legislation relevant to the Project

Legislation	*Date of Issue*	*Subject*	*Relevance to the project*
Environment-related legislation			
Law 80	10/10/2018	Integrated solid waste management law	The requirements of the law shall be adhered to for the management of solid wastes generated from the project.
Law 78	13/04/2018	Law for the protection of air quality	The requirements of the law shall be adhered to for the management of air emissions from the project.
Law 77	13/04/2018	Water Resources Law	Penalizes unauthorized discharges or disposal of any kind of waste in water resources
MOE Decree 8803/2002 and its amendments	04/10/2002	Organizes the activity of quarries and crushers, licensing procedures, as well as the operation, management and maintenance of quarries	Ensures the provision of construction material and the disposal of construction waste comply with the decree
Law 444	29/7/2002	Environmental protection framework law, includes the general provisions for the protection of the environment	Ensures project activities are in line with the requirements of the Law, particularly the articles in Chapter 5 on the protection of environmental media (air, coast, water, noise, facilities, natural resources, etc.)
MOE Decision 8/1	30/1/2001	Updates Decision 1/52 and in setting of the National Standards for Environmental Quality by the MOE	Ensures project activities comply with national environmental standards
MOE Decision 1/52	12/9/1996	Setting of the National Standards for Environmental Quality by the MOE	Ensures project activities comply with national environmental standards
Law 558	24/07/1996	Law for the protection of forests	The requirements of the law shall be adhered to for the protection of forests.
Decree 2761	19/12/1933	Guidelines related to wastewater management and disposal	Ensures waste management activity comply with the decree
Decree Law 8735	23/08/1974	Maintaining general cleanliness	Ensures project activities adhere to this decree particularly in terms of waste disposal
Decision 16/1	2022	Sets the National Standards for Environmental Air Quality	Ensures that project activities abide by the National Standards
Cultural heritage related legislation			
Decree law 166	7/11/1933	Antiquity law	Defines chance find procedures that should be followed in case antiquities were identified in the project site
Urban/ rural planning and construction-related legislation			
Law 58	29/05/1991	Expropriation Law	Adhere to provisions in case the project requires expropriation.
Law 118	30/06/1977	Municipalities Law. It stipulates the role of the Municipalities and Municipalities councils.	Defines the roles of municipalities in the provision of environmental services such as solid waste management, wastewater management, etc.

Legislation	*Date of Issue*	*Subject*	*Relevance to the project*
Labor-related legislation			
Decision 29/1	2018	Businesses, professions, trades, and jobs that should be restricted to Lebanese only	Restricts significant number of jobs to Lebanese only and allows Syrians to occupy jobs that are not restricted to Lebanese especially in the construction sector
Decree 3791	30/06/2016	Sets minimum wage for employees and workers	Adhere to the requirements of this decree with regards to wages of employees on this project.
Decree 8987	29/09/2012	Prohibition of employment of minors under the age of 18 in work that may harm their health, safety or morals	Adhere to the requirements of this decree with regards to employment for this project.
Decree 11802	30/01/2004	Organizes prevention, safety and occupational health in all institutions subject to the Labor Law	Adhere to the requirements of this decree in terms of occupational health of staff working on the project
Law 400	05/06/2002	Allows the Government to ratify the Minimum Age Convention C-138, 1973	Adhere to the provisions of the convention in terms of prohibition of work to children less than 15 years of age
Law 335	02/08/2001	Allows the Government to ratify the Worst Forms of Child Labor Convention C-182, 1999 (Ratification of ILO convention)	Adhere to the provisions of the convention in terms of prohibition of work which is likely to harm the health, safety or morals of children
Law 28	10/02/2017	The right to access information.	Every person, natural or legal, has the right to access and review the information and documents held by the administration, in accordance with the provisions of this law, taking into account that the right is not abused.
Labor Law	23/09/1946	Labor law and its amendments	Adhere to provisions of the law and its amendments related to employment contracts, employment of children and women; work hours and holidays, wages, dismissal, inspection, health and safety.
Penal Code 340	01/03/1943	Penal code	Abide by Article 522
Decree 6940	08/09/2020	Determining the minutes of implementing Law No. 28 of 10/02/2017	-
Law 205	30/12/2020	This aims to criminalize sexual harassment and help its victims	In case of any sexual harassment in the workplace, this laws protects people subjected to sexual harassment and punish the perpetrators.
Traffic-related legislation			
Law 243	25/10/2012	New traffic law	Adhere to requirements of this Law with regards to traffic movement of construction-related equipment, re-routing schemes, design of road signage, etc.

2.3 World Bank Policies

In addition to the Lebanese legislation, two safeguards policies apply to Lebanon Road and Employment Project (1) OP 4.01 Environmental Assessment and OP 4.12 and (2) Involuntary Resettlement.

2.3.1 Safeguard Policies

OP 4.01 Environmental Assessment.

The ESMP for the selected roads in Tripoli should comply with the safeguard policy of the World Bank, specifically, the OP/BP 4.01 regarding Environmental Assessment. The OP 4.01 is triggered as the project could have impacts on the environment due to the maintenance of roads.

Under the requirements of OP4.01, the proposed project is classified as Category B. Simple and low/moderate cost mitigation measures will be sufficient to restore the potential damage or keep it to the lowest possible since the environmental impacts are expected to be minimal, during the maintenance phase, and can be mitigated via an environmental management plan.

OP 4.12 Involuntary Resettlement.

Despite that OP 4.12 was triggered by this project, in the case of Tripoli and in accordance with site specific design plans, involuntary resettlement or land acquisition will not take place. As the project will be implemented primarily within the existing "right of way" there will be no displaced persons by the project activities (this includes local, street vendors and Syrian refugees).

2.3.2 Access to Information (AI) policy

Introduced in 2010, the World Bank's Policy on Access to Information (AI Policy) has made the Bank a more effective development partner. Based on the concept that any information in the Bank's possession is public, except for that which falls under a defined list of exceptions, the AI Policy remains the standard for international development institutions. It has also provided the basis for the accompanying open initiatives—including Open Data, Open Finances, the Open Knowledge Repository, and the Open Archives—all of which make the Bank's work more transparent, accessible, and accountable.

2.3.3 EHS guidelines

The preparation of this ESMP considered the WBG Environmental Health and Safety General Guidelines which are consistent with the CDR Safety, Health, and Environmental Regulations for Construction Projects.

2.3.4 Consultation and Disclosure Policy

According to OP/BP 4.01, a public consultation with project-affected people and local nongovernmental organizations (NGOs) must be conducted for all projects under Category A and Category B. The aim of the consultation is to present to the public the components of the

project along with potential environmental and social impacts and take their comments and concerns into consideration.

3 PROJECT DESCRIPTION

The selection of road sections was based on a number of criteria that considers the pavement and safety condition of the road, the level of traffic, the balancing of roads between regions and communities, the balancing of road sections by categories (primary, secondary, and tertiary), and the labor creation potential with broader socioeconomic impacts. Using these criteria, several roads were selected in the Tripoli Caza for maintenance, and minor construction. The land acquisition did not occur during the design of any road under study. Activities to be performed vary between one road and the other, depending on the road rating in terms of the condition of the pavement, shoulders, potential flooding and drainage, potential landslide/soil erosion and retaining walls, and/or pedestrian walkways.

Annex A includes details about type of equipment used and their technical environmental specifications (air emission levels, noise levels, vibration levels, etc.), activities management and staffing, and expected number of Labors. This annex also comprises maps of the roads location and the surrounding villages and/or towns.

3.1 Location

A general layout of the selected roads for maintenance in the Tripoli Caza is presented in Figure 3-1 including International roads ranging from one lane in each direction with low traffic volume to multiple lanes in each direction with high traffic density known as Highways. The location and coordinates of the selected roads for maintenance in addition to key characteristic features or potential sensitive receptors are presented in Table 3-1

Table 3-1. Location and characteristics of Tripoli district selected roads for maintenance

Road code	*From to*	*Coordinates*		*Classification*	*Length (Km)*	*Width range(m*	*Elevation range (m)*	*Key features*
		Start	*End*					
Road	St. Elie School – Al Tal Street	34°27'10.34"N 35°48'26.79"E	34°26'13.02"N 35°50'13.36"E	Primary	3.28	10-14	3-20	Dense residential and commercial facilities
Road	The roundabout near the old train station - internal intersection close to the municipality of Tripoli	34°26'53.30"N 35°49'33.68"E	34°26'19.85"N 35°50'15.29"E	Primary	1.48	10-14	2-22	Islamic Charitable Hospital - Dense residential and commercial facilities
Road	Tripoli Olympic Stadium - Lebanese Red Cross Gamma	34°25'25.30"N 35°49'16.21"E	34°27'09.50"N 35°48'26.10"E	Primary	4.1	10-14	3-11	Seaside – Low density residential and commercial facilities

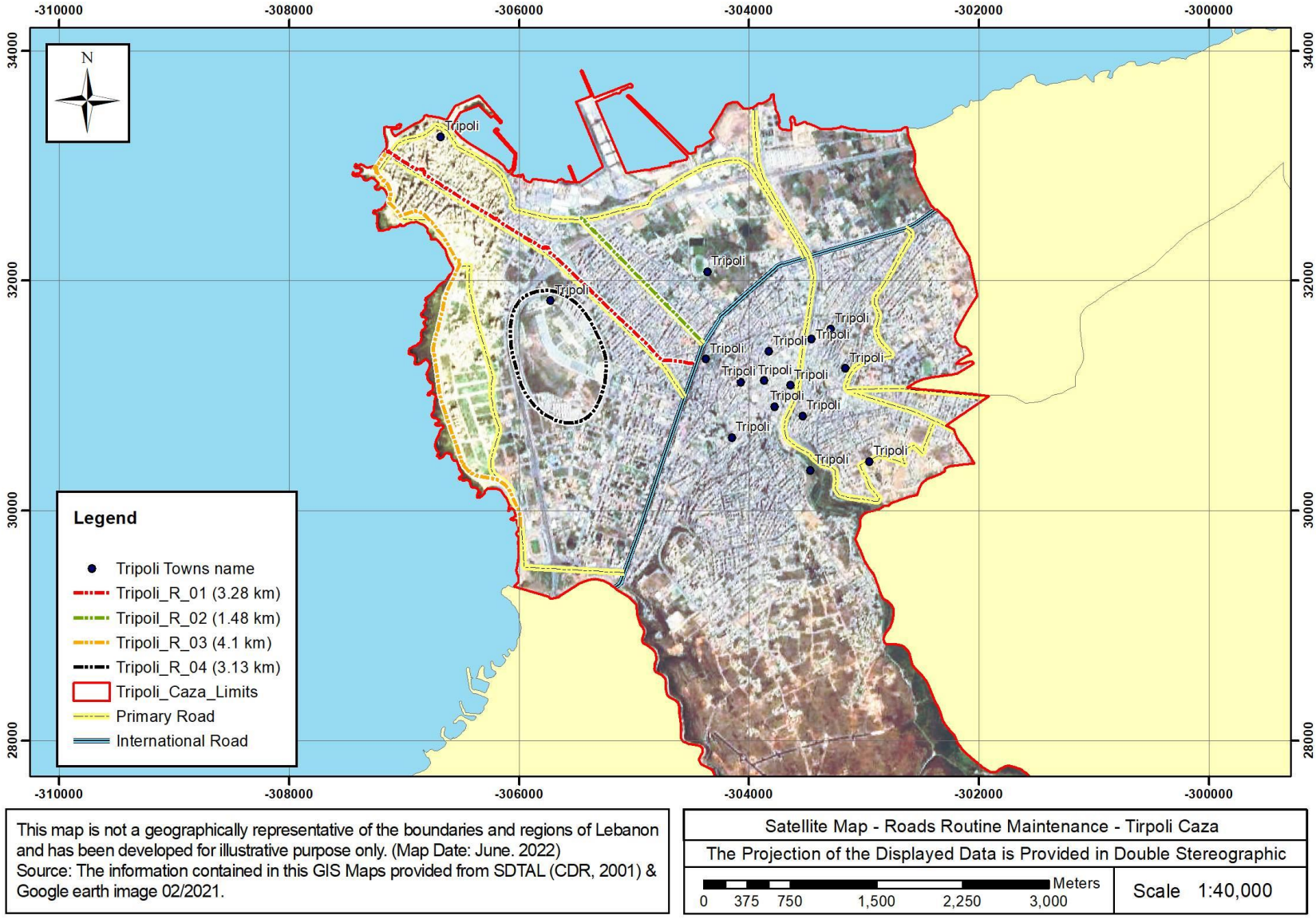
Road	Revolves around the Rachid Karami International Fair	34°26'13.26"N 35°49'43.31"E	34°26'12.65"N 35°49'43.45"E	Primary	3.13	10-14	3-13	Low to medium density residential and commercial facilities

The alignment of each road as stated below is stated below:

- *Road T1 Abdul Hamid Karami Treet in Tripoli Caza starts at the Sea Side Road Mina next to the St. Elie School and extends for 3.28 km towards Al Tal Street.*
- *Road T2 Azmi Beik Street in Tripoli Caza starts at the roundabout near the old train station and extends for 1.48 km till it reaches an internal intersection close to the municipality of Tripoli*
- *Road T3 Mina Road in Tripoli Caza starts at the Tripoli Olympic Stadium and extends for 4.1 km reaching the Lebanese Red Cross Gamma.*
- *Road T4, Maarad Round Road in Tripoli Caza revolves around the Rachid Karami International Fair for 3.13 Km.*

Still, depending on the quantities of maintenance works required to these selected primary roads, the remaining of funds and contract duration; other secondary selected roads may be included to the maintenance and in this case the ESMP shall be updated accordingly. In this case, the same E&S safeguards and policies applied to the primary roads will be applied to the secondary ones.

Figure 3-1 Location overview of selected roads for maintenance within the Tripoli district



3.2 Project activities

The maintenance works, which are expected to take place in general under the REP including the Tripoli district, may include:

- Roadway pavement by Deep & shallow pothole patching, crack sealing repair
- milling and overlay of localized pavement depressions such as failed pavement applied over utility trenches/ depressions repair
- damaged reinforced concrete retaining walls/Footwalls/ Masonry Walls repair
- Sidewalk including tiles, curbstones repair
- Safety barriers: New Jersey/ Texas barrier and steel guardrail repair
- Storm water drainage network repair
- Lighting Networks and all related electrical and civil works repair
- Road marking & signing implementation
- Other ancillary associated works including traffic management during maintenance.

The following tasks shall also be presented separately for each road:

- Reference road layout plan based on an aerial map,
- Select photos reflecting defects of selected roads and the required maintenance works,
- Assess the existing roads conditions and the required maintenance works, this shall cover the following:
  - Travel Way & Shoulder including road pavements.
  - Roadsides stability, including retaining system and slope protection
  - Drainage networks and the related pipes and box culverts
  - Traffic Control & service facilities
- Propose methodology for the required maintenance works in conformity with the relevant manual and standards,
- Require preventive measures,
- Propose materials for roadway Maintenance

During the execution of maintenance activities, roads will not be closed or shutdown. Works will be executed on the road right of way/passageway only and will not use or undermine any existing adjacent facilities. In addition, the maintenance activities will maintain a passing corridor within the alignment to grant access to nearby properties.

In case the works imply any temporary closure of the road, the project contractor will assign alternative routes to secure traffic and reach relevant destinations. Detours and diversions were not included in the design. Therefore, before the execution of maintenance works, the contractor based on the schedule of works and if needed, will secure the access and traffic movement via other alternative routes and means in coordination with the related Municipality. Accordingly, all detours will be on existing alternative roads (public domain properties) and there is no need to use or rent some land to create the detour. The duration of the project is 18 months with a one -year liability period

4 BASELINE ENVIRONMENTAL AND SOCIAL CONDITIONS

The preparation of the ESMP report included field surveys to observe and document baseline conditions. Information related to coverage deemed important in the context of the ESMP was synthesized and processed to prepare the maps presented in this report. Field observations coupled with reported literature form the basis for defining the physical, biological, and socio-economic characteristics of the general project area as outlined below.

All baseline related figures, tables and photos are included in Annex B.

4.1 Physical environment

4.1.1 Topography

Roads T1 and T2 (Abdul Hamid Karami Treet and Azmi Beik street) are internal roads that stretch for 3.28 km and 1.48 km respectively with elevations ranging between 3m – 20m for T1 and 2m – 22m for T2. Whereby, road 3 is a coastal road which is relatively flat at an elevation of 3m ASL as it stretches from the Tripoli Olympic Stadium until the Lebanese Red Cross Gamma for 4.1km. Finally, road 4 revolves around the Rachid Karami International fair for 3.13km with elevations ranging between 3 and 13m ASL. See figure 2-2 Annex B – Topographical map of the project.

4.1.2 Geology

4.1.2.1 Lithology and main geological formations

The main city of Tripoli and its suburbs are mostly flat with minor relief contrasts. The city of Tripoli is covered by a series of quaternary deposits mainly of alluvial origin (Figure 2-3 & Table 3-1 Annex B). It shows lithological variations composed of sand pebbles, sand dunes, and sequences of gravel, sand, silt and clay. A major accumulation of fluvial conglomerates occurs to the south as well. Heading eastward, the area is occupied by three major geological formations of the Neogene period. They are made up of massive limestone cliffs (the Miocene Vindobonian Formation “m2”), lacustrine marl with interstratifications of limestone beds (the Miocene Pontian Formation “mL”), and marl and limestone beds (the Pliocene Formation “P”). At a larger scale, the Tripoli and the coastal regions of Koura are predominantly made of quaternary deposits. These include the continental deposits found in the Koura and the Zgharta Basin and marine deposits along the coast. The Kousba-Zgharta basin can be described as a lowered structure formed by multiple faults. The tertiary layer in the study area includes Pliocene Marl, Miocene conglomeratic deposits, and the Eocene marl. The Eocene deposits are comparable with the Senonian (C6) marl, which is an aquiclude. The Eocene is around 300 m in thickness and the lacustrine marl, which is part of the Miocene, is around 50 m. Note that the Pliocene is a whitish limestone with sandy marl lenses. With regards to the Cretaceous areas, they are located in the upper end and it ranges from Marl, which is an aquitard (Senonian C6) that is made of around 200 m and Limestone dolomite (Turonian Cenomanian C4-C5). It is considered to be an excellent aquifer. Note that the latter sometimes can reach thicknesses up to 600 m for example when it outcrops along the Koura Basin and Amioun outcrop (Khayat, 2001).

The main lithology and formations crossed by the roads are presented in Table 3-1 (Annex B). Roads T1 and T2 (Abdul Hamid Karami Street and Azmi Beik Street) crosses exclusively in the quaternary recent deposits. On the other hand, Roads T3 and T4 (Mina Road and Maarad Round Road) through the quaternary marls and recent deposits. The road transitions from the Miocene to the quaternary deposits as it moves closer to the sea and city.

4.1.2.2 Faults, erosion, landslides, and earthquakes

No earthquakes were recorded in the Tripoli caza between 2001 and 2010; yet two earthquakes with a magnitude of 3.5 on Richter's scale were recorded in Koura, namely the Bechmezzin earthquake on May 6 2006 and the Majdel El Koura earthquake on 7 June 2003 (MOE, 2011). Moreover, the nearest fault to the roads is more than 6 km away.

Seismic risks in the study area exist, given that it lies along the 1,000-km-long left-lateral Levant fault system (LFS). This fault system is responsible for a significant amount of seismic events in the eastern Mediterranean (Hujeir et al., 2011). For the study area, the EZ-FRISK^{TM} model developed by Hujeir et al. (2011) predicts that the 10% probability of peak ground accelerations (PGA) exceedance in 100 years, ranges between 0.3 and 0.35 g. With these levels of seismic hazards, civil engineering projects such as bridges should adopt reinforcement (in reinforced concrete structures) of "high seismic hazard" as established in international codes of practice (Hujeir et al., 2011). Refer to the geology map in Annex B.

4.1.3 Hydrology

The main roads previously mentioned do not cross any water body. However, Abou Ali River, a main river, flows through Tripoli. Few groundwater wells have been reported in the area as shown in (Figure 2-4 & Table 4-1 Annex B). Flows in the Abou Ali River have been estimated to range between 0.83 m^3/sec and 19.5 m^3/sec, depending on the season (UNDP, 2014). The average annual discharge rate of the river has been estimated to be around 262 million m^3 (MOE, 2001). The river overall has a length of 44.5 km, while its 484 km^2 basin encompasses nearly 236 towns and villages distributed among several northern cazas (Massoud, 2006). The funnel shape of the basin makes it prone to flooding in its lower portion, with significant floods reported between 1942 and 1955, causing extensive property damage and loss of life. As a result, by the end of 1968, the downstream river course was re-engineered and an artificial, near rectangular concrete channel was constructed with vertical lateral retaining walls (≈ 5 m high). The channel has a total length of approximately 3 km and its width varies between 24 and 29 m (Massoud, 2006). The channel capacity was designed for flows of 1500 m^3/s, which allows for the safe routing of a 1000-year flood event in combination with the upstream retention basin.

4.1.4 Climate and meteorology

The climate and meteorological parameters play an important role in the transport and dispersion of pollutants in the atmosphere. Moreover, climate and meteorology play a role in the timing of work activities and potential road closures during both the maintenance and operational phases. On the other hand, precipitation controls the rates of runoff. Meteorological data for the study region are best represented through long term monitoring stations in that region.

While there are no monitoring stations in the immediate vicinity of the selected roads for maintenance, data from the entire of Lebanon (Figure 5-1 Annex B) have recently been

synthesized in the context of climate change modeling (El-Samra et al., 2018) which can be relied upon to some extent to provide general guidelines of what to expect in terms of meteorology in the project area (present and future). The duration, quality, and exhaustiveness of several climatic data sources (Atlas Climatique du Liban; NOAA's National Climatic Data Center, Lebanese National Meteorological Services (LNMS), Lebanese Agricultural Research Institute (LARI), American University of Beirut Advancing Research Enabling Communities Center (AREC)) were assessed to identify the spatial and temporal climatic data that can be relied upon albeit the variation in span and quality.

The closest station to the selected roads for maintenance is in Tripoli. Long-term average representative precipitation and temperature for the Tripoli Caza are presented in Figures 5-2 and 5-3 in Annex B, respectively. While precipitation is negligible in the summer season between the months of June and September, the highest precipitation is recorded for the month of January. The total precipitation in Tripoli, like the rest of Lebanon, shows large variability across years and locations. The wettest month precipitation is the month of January with an average rainfall of 190 mm (Figure 5-2 in Annex B). The total number of rainy days amounts to around 82 per year. No snow is recorded in the Tripoli caza. As for temperature, the lowest is recorded in January (average at 10°C) and the highest in August (average at 30°C) (Figure 5-3 in Annex B). With respect to wind, the closest weather station equipped with a functional anemometer is in Tripoli. The windrow over a 7-year period from that station is shown in Figure 4-4 in Annex B. Predominant wind blows from the West (20 percent of the time) and South-West (10 percent of the time). Wind speed varies throughout the year from a low of 2.5 m/s to a high of 4.15 m/s.

4.1.5 Ambient air quality and noise levels

Traffic emissions represent the main source of air pollution in the project area with generators constituting another source in residential areas at times of electricity disconnection. Major air pollutants induced by traffic include Carbon monoxide (CO), Nitrogen Oxides (NO_x), Sulfur oxides (SO_x), Hydrocarbons (HC), and Particulate matter (PM). These pollutants are associated with potential adverse health impacts with long-term exposure to atmospheric concentrations exceeding threshold limits. Air quality monitoring in Lebanon in general is weak and adhoc with no systematic continuous monitoring. It is based mostly on individual efforts at academic institutions with a recent effort through the MoE that acquired several stations spread throughout Lebanon, particularly in urban areas. Unfortunately, the stations have stopped because of lack of resources and the existing data is not reliable because of lack of equipment calibration, to the best of our knowledge.

Annual average ambient air quality data were reported by JICA (2018) for part of the Koura and Tripoli Cazas (Figure 6-1 in Annex B). Data were obtained from data gathered from the MOE/ UNDP project, ‘Air quality assessment in an East Mediterranean country: the case of Lebanon, 2014’ which monitored criteria air pollutants. Data for Cell 3 are considered to be representative, being close to this study area in terms of distance as well as prevalent socio-economic activities as all roads under study fall in Cell 3 representing. Table 6-1 in the Annex B shows that the annual concentrations for all criteria air pollutants for cell 3 are below the national ambient air quality standards defined by MOE Decision 16/1 dated 2022.

Similarly, vehicles and some generators in residential areas constitute the main source of noise. While no noise measurements are available along the selected roads for maintenance, various studies have been conducted on noise measurements in specific projects / studies although no systematic noise monitoring in the country exists. The selected roads for maintenance are

considered to extend through urban residential areas. Accordingly, it is expected that the baseline average continuous A-weighted noise levels during the daytime will vary between 68 to 75 dBA depending on time of day, traffic conditions and proximity to the roads, with an average of 71 dBA. This range was deduced from noise measurements conducted in 2017 along segments of a nearby roads of similar nature in the Tripoli Caza (JICA 2018). Note that these levels exceed the national standards of 50-60 dBA for residential area with few construction sites, commercial activities or on highway. However, as mentioned earlier, the national standards are very stringent and hard to meet along roads. Hence, it is more realistic to consider the FHWA (1997) noise criterion of 67 dBA for residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, picnic areas, recreational areas, playgrounds, parks.

4.1.6 Land use land cover

The land use and land cover in an area refers to both natural landscape and anthropogenic activities occupying the regions.

Road T1 Abdul Hamid Karami Treet in Tripoli Caza starts at the Sea Side Road Mina next to the St. Elie School and extends for 3.28 km towards Al Tal Street.

Road T2 Azmi Beik Street in Tripoli Caza starts at the roundabout near the old train station and extends for 1.48 km till it reaches an internal intersection close to the municipality of Tripoli.

Road T3 Mina Road in Tripoli Caza starts at the Tripoli Olympic Stadium and extends for 4.1 km reaching the Lebanese Red Cross Gamma.
Road T4, Maarad Round Road in Tripoli Caza revolves around the Rachid Karami International Fair for 3.13 Km.

The studied area in the Tripoli Caza consists of an area that's urban residential in nature with a medium density urban fabric covering the road. It also encompasses a small industrial or commercial area and tourist resorts facing the sea. The natural vegetative cover in Tripoli consists of grasslands, scrublands, and scrublands with some dispersed bigger trees, agriculture, Olive trees and citrus fruits (refer to Figures 2-5 Annex B).

4.2 Biological Environment

The natural environment in the study area is degraded by heavy urbanization with limited agricultural activity and does not harbor pristine habitats of particular conservation importance. The studied roads in the Tripoli Caza extend within an altitude ranging between sea level and 22 m ASL, and are thus lying within the thermo-Mediterranean vegetation zone, which extends between 0 and 500 m altitude. More specifically, regarding the roads under study, natural vegetation covers only 0.2 percent of the area and consists of grasslands. However, Tripoli caza hosts a vegetative cover that is mainly agricultural in nature and consists of grasslands, scrublands, and scrublands with some dispersed bigger trees, Olive trees and citrus fruits.

4.2.1 Flora

In the very few natural areas bordering the roads, one can identify the thermo-Mediterranean vegetation zone (0-500 m ASL). Typical flora in scrublands includes various types of garrigue vegetation, discontinuous bushy associations of the Mediterranean calcareous plateaus,

dominated by Kermes oak (*Quercus calliprinos*) and dwarfshrubs (*Poterium spinosum*) (JICA, 2018). As for shrubs, they include false plumed-thistle (*Onopordum carduiforme Boiss*.), viscous inula (*Inula viscoa*) and throny-broom (*Callicotome villosa*).

4.2.2 Fauna

Due to the heavy anthropogenic influence along both roads and the degraded natural ecosystem, no fauna of concern or need for protection are expected to be present within the study area.

4.2.3 Ecologically Sensitive Areas

As mentioned earlier, the four roads proposed for maintenance are influenced by anthropogenic activities and do not pass in the proximity of ecologically sensitive area.

4.3 Socioeconomic Environment

4.3.1 Demographic Profile

The selected roads for maintenance serve all towns in the Caza, However, the mainly served towns are El-Mina and Tripoli, as illustrated in Figure 7-1 in the Annex B. Hence, when considering the demographic profile of the study area, the population of all the towns in the Tripoli Caza was considered. According to the statistics provided by the UN-Habitat (2016), the total population in the Caza for 2010-2011 is estimated at 428,170. The average household size in the Tripoli Caza is 4.4 persons, which is higher than the national average of 3.8 (CAS & ILO, 2019). Around 65 percent of the population is between 15 and 64 years old and 8.5 percent is aged above 65 years. The average dependency ratio is high, reaching 54 percent. School enrollment in the Tripoli Caza is 86.2 percent and the illiteracy rate among the population aged 10 years and above is 14.2 percent (MOPH, 2016). The reported numbers exclude Palestinian camps and Syrian refugees.

According to the 2016 statistics by UNHCR, there are around 96,229 registered refugees in the Tripoli urban area with 33% (31,797) being Palestinian refugees. The Syrian refugees (64,432) located there can be considered mainly post-2011 incomers driven by the Syrian crisis (UN-Habitat, 2016).

Syrian and Palestinian Refugees live in Tripoli. Syrian refugees are integrated in the community, whereas, 69.9% of the Palestinians live in camps. The nearest Palestinian refugee camp is Baddaoui Camp. Hence, refugee camps do not exist in the surrounding area of the roads to be subjected to maintenance works in Tripoli and the existing refugees in Beddaoui Camp will not be affected by the project.

4.3.2 Social Activities

Tripoli offers various social outlets and activities including public gardens and parks, movie theaters, public libraries, as well as cultural, commercial, industrial, and educational centers (schools and universities), coastal resorts, numerous hospitals and clinics, restaurants, and religious buildings etc. It offers an environment rich with cultural heritage with people visiting from inside and outside the city. Concurrently, many communities in various part of the city, suffer from serious poverty and unemployment, perhaps one of the highest rates in the country.

4.3.3 Economic Activities

Tripoli is considered one the poorest cities not only in Lebanon but in the region. The city (on all geographic definitions) now manifests some of the highest poverty rates nationally. It was estimated that 51% of Tripoli's residents live in extreme poverty, on an income of less than 6,000 Lebanese pounds (LBP)/day for a household of five. This compares to the national minimum monthly wage of 675,000 LBP, or about 22,500 LBP/day (UN-Habitat, 2016). The unemployment rate in the Tripoli Caza is 14.5 %, which is higher than the national average of 11.4 % (CAS & ILO, 2019). It reaches 35 % in the Tripoli city.

The services sector employs about 20% of the cities' working population (comprising >14% in services and >6% in tourism) in Tripoli. Education services and health services are the major activities in this sector, accounting for 10% and 4% respectively of the economically active population in Tripoli. The overwhelming majority of workers are engaged in the category 'Trade' (54% of working population). The concentration in trade and services is positive in principle, but the figures do not factor in the high unemployment rates among the work age population, known to be high. Tripoli is known as the major industrial area of the North, ranking second for industrial activity nationally behind Mount Lebanon. The major industry type in Tripoli is furniture. Handicrafts (gold and silver, copper, furniture and wooden crafts, traditional clothing, blown glass, pottery, leather works, soap, sweets), in which Tripoli has a local specialization, is combined with manufacturing (a sugar plant, Arabic sweets production, blossom and rose water distillation, salt refining plant etc.) that comprises a mere 2% of the active workforce.

4.3.4 Street Vendors

A particular socioeconomic feature in Tripoli is the presence of street vendors. They use stall and offer goods for sale to the public without having a permanently and fixed built structure but with a temporary structure. According to the survey conducted by CDR in 2016 under Cultural Heritage and Urban Development Project, 402 vendors were located on both the Eastern and Western banks of Abou Ali River. The total number of the stalls was 280 and the majority was concentrated in the eastern bank of the river (223 are located on the river's eastern bank and 57 are located on the river's western bank which is out of REP scope). These vendors sell several types of goods. In the eastern bank, the vendors mainly sell vegetables and fruits. Other vendors selling clothes, used shoes and other items such as household decorative item can be found as well.

Previously in 2012, two categories of vulnerable groups namely, women and children/adolescents below age of 16, used to be identified as vendors. They had to work due to the absence of the head of the family for several reasons such as sickness, death and others (CDR, 2016). However, the survey conducted in 2016, revealed that children and adolescents below the age of 16 are no more available as a vulnerable group in the market. Therefore, the only vulnerable category identified are women that are less than 3.6% (10) of the vendors and almost 89% of them are vegetable vendors (CDR, 2016).

While taking appropriate precautions from COVID-19, the above information was validated on site through visit made during January 2022.

The four selected roads for maintenance were surveyed before the finalizing of this document and only ambulant street vendors were observed (see figure 1-4 in Annex B). Only some mobile

vegetable and fruits sellers whom shifts from one spot to another. The absence of permanent street vendors was related to the fact that the selected roads passes mainly within residential areas, main roads similar to Maarad area and remote areas similar to the costal road. Such characteristics reduced the desire in considering it to be a desired retail for street vendors.

4.3.5 Educational Services

In terms of educational services, the Tripoli Urban Area encompasses 38 private schools, 26 private free schools and 108 public schools.

4.3.6 Traffic Assessment

No specific data were recorded regarding traffic flow, as the proposed project is not limited to a specific location, and the type of maintenance works do not cause any blockage of the roads.

4.3.7 Healthcare Services

Healthcare services in the Tripoli Caza include 24 Primary Healthcare Centers (PHCs) and 11 hospitals across the Tripoli urban area. The latter have a combined bed capacity of 1,169 (UN-Habitat, 2016). The Islamic Charitable Hospital was encountered on the Azmi Beik T2 Road. Also, on Maarad Round Road T3, Vee Clinic, the Lebanese red cross, an Orthodontist clinic and Monla Hospital were encountered.

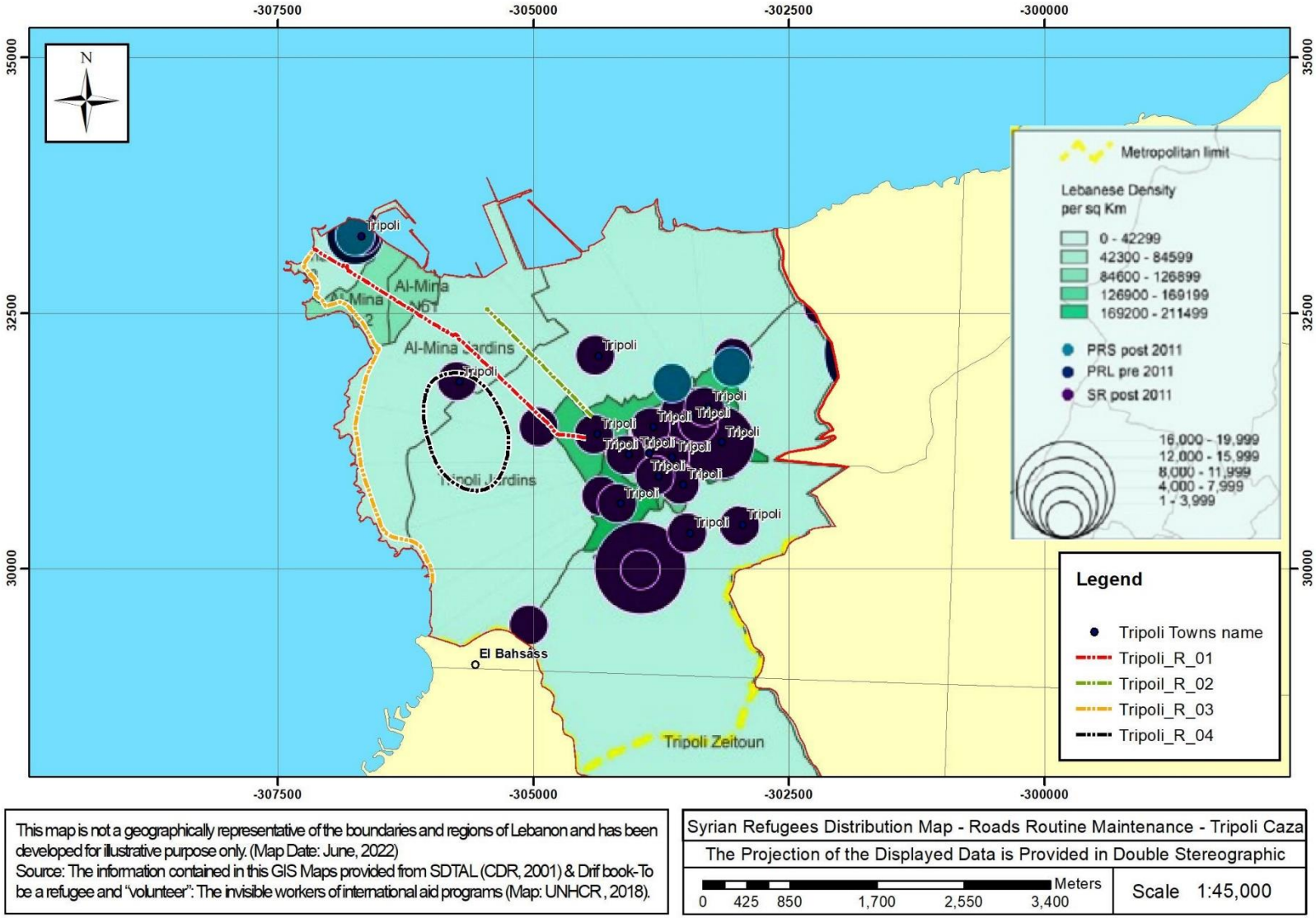
4.3.8 Road Sensitive receptors

Categories considered as sensitive receptors during road maintenance are schools, churches, hospitals, mosques, closest residential buildings and commercial shops, and other archeological features.

As evident from Figure 1-6 in Annex B Tripoli Caza is predominantly urban residential in nature with a medium density urban fabric covering 47 percent of the area. It also encompasses a small industrial or commercial area (4 percent) and tourist resorts facing the sea (9 percent). The natural vegetative cover along the roads under study consist of grasslands, scrublands, and scrublands with some dispersed bigger trees. Olive trees cover an additional 10 percent of the area.

Figure 1-6 in Annex B illustrates the sensitive receptors existing on the studied roads including Mosques, Schools, hospital, and public zones.

Figure 4-1 Syrian refugees distribution in Tripoli (Drift book-To be a refugee and "volunteer": The invisible workers of international aid programs (Map: UNHCR , 2018).



5 POTENTIAL ENVIRONMENTAL & SOCIAL IMPACTS

This chapter describes the environmental and social impacts that are likely to result from the maintenance of the roads. Due to the nature of the activities, the anticipated negative environmental and social impacts are expected to be minor to moderate during the maintenance phase and of temporary nature including dust, noise, waste generation, disruption to traffic and movement and possible damage to existing utilities; and of little consequence during the long-term operational phase. Such impacts can be minimized by implementing the environmental and social management plan.

The assessment methodology is attached in Annex A.

5.1 Potential Environmental impacts during the maintenance phase

Table 5-1 Environmental and Social Impact for the Tripoli district roads during the maintenance phase.

Potential Impact	*Receptor*	*Activity generating impacts*	*Impacts Description*	*Rating*
Environmental Impact				
Air quality	Surrounding Communities, Fauna and Flora, and Water resources.	▪ Usage of construction equipment Shallow excavation ▪ Levelling works ▪ Transport vehicles delivering construction materials, ▪ Disturbances of stockpiles by winds and material handling	Negative impact from Dust Emission	Minor negative impact
Noise	Surrounding Communities, and Fauna.	▪ Excavation and milling works ▪ Labours shouting ▪ Evacuation of materials	Negative impact creating stress on local inhabitants, and close vicinity to road works	Moderate negative impact
Biodiversity	Surrounding Fauna and Flora	▪ Dust from construction works ▪ Wastewater from construction and domestic disposal ▪ Disturbance of surrounding inhabit ate with load sounds	Negative impact that could cause loss of surrounding inhabitant	Minor negative impact
Construction and excavation waste	Biodiversity, surface and ground water and soil	Soil waste, milling materials, domestic wastes improperly disposed	Negative impact from contamination water resources and soil. Also, possible blocking of streams.	Minor negative impact
Water and soil quality	Surrounding Communities, Fauna and Flora, and Water resources.	▪ Runoff and erosion from site surfaces, drainage channels, earth working areas and stockpiles; ▪ Wash water from dust control; Fuel, oil, solvents and lubricants leakage from machinery and equipment ▪ Domestic wastewater from project offices	Negative impact from contamination water resources and soil.	Moderate negative impact
Resources consumption	Surrounding Communities, Fauna and	▪ Increase quarrying causing raw materials depletion	Negative impact from fill and construction	Moderate negative impact

Potential Impact	*Receptor*	*Activity generating impacts*	*Impacts Description*	*Rating*
	Flora, and Water resources.	▪ Increase quarrying causing dust, noise, and vibrations ▪ Increase transportation of heavy vehicles ▪ Increase water pumping	material, and water depletion	
Landscape and visual intrusion	Surrounding Communities	▪ Soil erosion	Negative impact from depletion of the vegetative cover on the side roads and visual impact on the landscape	Minor negative impact
Social Impact				
Traffic	Surrounding Communities and road users, and workers	▪ Reducing traffic flow ▪ Possible temporary block of accessibility	Negative Impact due possible traffic congestions or accidents occurrence.	Moderate during short time negative impact
Existing infrastructure	Surrounding Communities	▪ Cut-off water supply pipes ▪ Destruction of electricity cables or/and phone lines. ▪ Block of drainage channels and/or wastewater collection network	Negative Impact due to possible loss of services	Minor during short time negative impact
Social tensions	Surrounding Communities and workers	The feeling of discrimination or harassment due to hiring of forging labours	Negative impact due to conflict over jobs or dissatisfaction	Minor to low negative impact
Child labour	Refugee and poor communities	Allowing child to work in unsafe construction environment and preventing him the right of proper education	Negative Impact due to abuse and exploitation	high during long time negative impact
Labour Influx	Women and children	Verbal and/or action harassment	Negative Impact due to possible Sexual Abuse and Exploitation and Harassment (SEA/H)	high during short time negative impact
Health and safety impacts	Surrounding Communities and road users, and workers	▪ Improper traffic management ▪ Work accident due to PPE noncompliance ▪ Land obstacles and uncovers holes ▪ Speedy project heavy machineries ▪ Improper covering of pointy construction materials.	Negative Impact due to accident occurrence	Moderate during long time negative impact

5.2 Potential positive impacts during maintenance

During maintenance, the project is expected to have positive impacts on socio-economics. Being labor intensive, construction projects will result in job creation and in business opportunities for skilled and unskilled labor among local residents and Syrian refugees, such as construction labor and the supply of construction material and provision of food to the construction workers. Based on the past experience of construction work in the country, there is a higher probability of Syrians-refugees to apply and work in unskilled and low-skilled labor positions. The number of jobs created for roads maintenance within the Tripoli Caza could not

be estimated at this stage, however, compared to other similar projects, the project shall require between 10 and 20 workers.

5.3 Potential positive impacts during the operation phase

Table 5-2 Environmental and Social Impact for the Tripoli district roads during the operation phase

Potential Impact	*Receptor*	*Activity generating impacts*	*Impacts Description*	*Rating*
Environmental Impact				
Air quality & Traffic	Surrounding Communities, Fauna and Flora, and Water resources.	Improve traffic flow that lead to improved fuel efficiency and better engine performance,	Positive impact due to reducing vehicle emissions Dust Emission	Minor to moderate positive impact
Noise	Surrounding Communities, and Fauna.	Reduce traffic congestion	Positive impact by reducing stress on local inhabitants	Minor positive impact
Water and soil quality	Surrounding Communities, Fauna and Flora, and Water resources.	Improve the water drainage collection system	Positive impact protection of water resources and soil.	Minor negative during long time impact
Landscape and visual intrusion	Surrounding Communities	Elimination of road holes, falling retaining walls and improving stress lights and guardrails	Positive impact due to the road refurbishment to improved appearance	Minor negative to positive during long time impact
Social Impact				
Traffic	Surrounding Communities and road users, and workers	Reducing traffic congestion	Positive Impact due to reducing traffic travel time.	Minor during long time positive impact
Socio-economics	Surrounding Communities and road users	▪ Improve accessibility of people (including school and university students), goods and services ▪ Reduced trip times and less traffic congestion ▪ Smoother road surfaces may lead to fewer vehicle repairs	Positive Impact due to improvement in local economic and social development and enhanced livelihood opportunities	Positive impact
Health and safety impacts	Surrounding Communities and road users, and workers	With proper maintenance and signage, the roads can be safer with less potential for accidents	Positive Impact due to of accident occurrence	Minor negative to positive

5.4 Summary of impact analysis

The maintenance phase of any development is known to have potential adverse environmental and social impacts. The potential environmental and social impacts during both phases of the project were assessed to range from minor to major negative, with the majority being moderate negative.

Table 5-3 summarizes the significance of impacts associated or expected with both the maintenance and operation phases. Negative impacts are mostly temporary or not significant in nature with similar size projects.

Table 5-3 Summary of potential impacts of selected roads for maintenance in Tripoli district

Potential Impact	*Maintenance phase*	*Operation phase*
Traffic	Moderate negative	Minor negative to Positive
Air quality	Minor negative	Minor negative to Positive
Noise	Moderate negative	Minor negative to Positive
Biodiversity	Minor negative	Minor negative
Construction Waste	Minor negative	Neutral
Soil and water	Moderate negative	Minor negative to Zero
Resources consumption	Moderate negative	Neutral
Existing infrastructure	Minor negative	Neutral to Positive
Visual Intrusion	Minor negative	Minor negative to Positive
Health and Safety	Moderate negative	Minor negative to Positive
Socio-Economic	Moderate negative to Positive	Positive
Archaeology / Cultural Heritage	Neutral	Neutral
Expropriation/involuntary resettlement	Neutral	Neutral

6 MITIGATION OF ENVIRONMENTAL AND SOCIAL IMPACTS

Mitigation measures are typically recommended whenever the potential impact is moderately significant with the ultimate purpose to eliminate or reduce the potential negative impacts of the proposed project. Mitigation measures are highly dependent on the significance of the predicted impact, the nature of the impact (permanent vs. temporary), or the phase of the project (maintenance vs. operation). Possible measures to mitigate potential impacts described in the previous section are outlined below, particularly during the maintenance phase. The operation phase will experience mostly general socio-economic improvements which is the purpose of the project although minor impacts are inevitable such as the increase of noise and vehicle emissions due to traffic increase.

6.1 Environmental Mitigation Measures during maintenance

Table 6-1 Environmental and Social Mitigation Measures for the Tripoli district roads during the maintenance phase

Receptor	*Activity generating impacts*	*Impacts Description*	*Mitigation Measure*
Environmental Impact			
Surrounding Communities, Fauna and Flora, and Water resources.	▪ Usage of construction equipment Shallow excavation ▪ Levelling works ▪ Transport vehicles delivering construction materials, ▪ Disturbances of stockpiles by winds and material handling	Negative impact from Dust Emission	▪ Ensuring adequate maintenance and repair of construction machinery and vehicles ▪ Maintaining good housekeeping practices ▪ Turning off all equipment when not in use ▪ Sprinkling water on the construction site on windy days ▪ Proper handling of cement material ▪ Covering all vehicles hauling materials ▪ Ensuring good fuel quality is used in trucks transporting construction material to and from site ▪ Ensuring optimum and regular transportation of construction materials to minimize storage of large heaps ▪ Restricting vehicle speeds to 15km/h on unpaved roads and trucks
Surrounding Communities, and Fauna.	▪ Labours shouting ▪ Evacuation of materials	Negative impact creating stress on local inhabitants, and close vicinity to road works	Use of quiet equipment and noise mufflers, proper maintenance of equipment, and limiting noisy activities to normal daylight working hours.

Receptor	*Activity generating impacts*	*Impacts Description*	*Mitigation Measure*
Surrounding Fauna and Flora	▪ Dust from construction works ▪ Wastewater from construction and domestic disposal Disturbance of surrounding inhabit ate with load sounds	Negative impact that could cause loss of surrounding inhabitant	▪ Workers' movement and activities should not infringe on the nearby ecosystems including agricultural areas. ▪ Workers should be instructed to protect flora and fauna when feasible as well as their habitats. ▪ Solid and liquid waste should not be dumped into the natural environment (See below).
Biodiversity, surface and ground water and soil	Soil waste, milling materials, domestic wastes improperly disposed	Negative impact from contaminati on water resources and soil. Also, possible blocking of streams.	▪ Properly dispose construction waste at suitable permitted locations by local municipalities ▪ Ensure proper handling of fuels, lubricants and other chemicals while maintaining construction equipment and prevent possible leakage. Maintain equipment in dedicated repair shops. ▪ Collect waste to hand to recycling entity
Surrounding Communities, Fauna and Flora, and Water resources.	▪ Runoff and erosion from site surfaces, drainage channels, earth working areas and stockpiles; ▪ Wash water from dust control; Fuel, oil, solvents and lubricants leakage from machinery and equipment ▪ Domestic wastewater from project offices	Negative impact from contaminati on water resources and soil.	▪ Building materials, asphalt, oil, fuel and chemicals should be stored away from river banks in well controlled areas ▪ Any stockpiled construction material should be covered with an impermeable layer ▪ All refueling operations shall take place off-site. ▪ Each container should be marked with the correct technical name of the substance it contains ▪ A spill response plan shall be in place and all workers should be trained on its implementation ▪ Used or waste fuel or other waste chemicals shall be stored in an isolated area until collected for off-site disposal by an approved waste contractor ▪ Vehicle and equipment wash-down should only be done in designated areas. ▪ A collection system shall be provided under any machinery or equipment that may leak hydrocarbons (e.g. mobile generator)
Surrounding Communities, Fauna and Flora, and	▪ Increase quarrying causing raw materials depletion ▪ Increase quarrying causing dust, noise, and vibrations	Negative impact from fill and construction	▪ Using water-efficient equipment during maintenance operations to avoid excessive and overuse of water

Receptor	*Activity generating impacts*	*Impacts Description*	*Mitigation Measure*
Water resources.	▪ Increase transportation of heavy vehicles ▪ Increase water pumping	material, and water depletion	▪ Recording monthly fuel consumption. ▪ Dry clean-up methods should replace wet cleaning methods to reduce water consumption ▪ Appropriate plastic sheeting or waterproof paper should be used to cover the concrete after water curing to preserve moisture and reduce the evaporation ▪ Turn off equipment when not in use ▪ Regularly maintain machinery and generators ▪ Do not leave vehicles idle for long periods ▪ Site offices shall be well insulated to retain heat or cool, ▪ Reuse excavated material whenever feasible ▪ Accept construction material only from permitted quarrying sites
Surrounding Communities	▪ Soil erosion	Negative impact from depletion of the vegetative cover on the side roads and visual impact on the landscape	▪ Documenting existing conditions prior to initiation of the works ▪ Preserving existing vegetation when feasible and ensure a permit from the MoA prior to cutting trees ▪ Restoring depleted vegetative cover by replanting with endemic trees (pine, oak, etc.) where cutting is necessary during maintenance. ▪ Clearance of all equipment, spoil heaps, and other materials after construction ▪ Ensuring that lights are turned off when not needed
Social Impact			
Surrounding Communities and road users, and workers	▪ Reducing traffic flow ▪ Possible temporary block of accessibility	Negative Impact due possible traffic congestions or accidents occurrence.	▪ Scheduling transportation of construction material during off -peak traffic hours and during night time. ▪ Informing the public about the schedule of maintenance activities ▪ Maintaining access to roadside businesses and ▪ Ensuring adequate warning, signing, delineation and channeling ▪ Providing personnel to manage traffic at the maintenance site, supported by Municipal police if needed

Receptor	*Activity generating impacts*	*Impacts Description*	*Mitigation Measure*
Surrounding Communities	▪ Cut-off water supply pipes ▪ Destruction of electricity cables or/and phone lines. ▪ Block of drainage channels and/or wastewater collection network	Negative Impact due to possible loss of services	▪ Avoid damaging any possible existing infrastructure and try to obtain plans prior to commencement of any maintenance works. ▪ Procedures for rapid notification in the case of disruption of any existing utility, ▪ Immediate assistance with re-instatement, and close follow-up with concerned authorities.
Surrounding Communities and workers	The feeling of discrimination or harassment due to hiring of forging labours	Negative impact due to conflict over jobs or dissatisfacti on	▪ Keep close coordination with municipal authorities to avoid any tension escalation and provide working vacancy for local community ▪ Ensure requirements in CoCs are clearly understood. ▪ Ensure that the sanctions embodied in the CoC are be clearly explained. ▪ Verify that GRM is adequately implemented
Refugee and poor communities	Allowing child to work in unsafe construction environment and preventing him the right of proper education	Negative Impact due to abuse and exploitation	Prevent any child labour and keep close monitoring to avoid any similar action
Women and children	Verbal and/or action harassment	Negative Impact due to possible Sexual Abuse and Exploitation and Harassment (SEA/H)	Provide workers with the necessary training and awareness raising session on issues regarding SEA/H, prior to signing the CoC.
Surrounding Communities and road users, and workers	▪ Improper traffic management ▪ Work accident due to PPE noncompliance ▪ Land obstacles and uncovers holes ▪ Speedy project heavy machineries ▪ Improper covering of pointy construction materials.	Negative Impact due to accident occurrence	▪ Work within work zone only ▪ Comply with the standard safety, health and environmental regulations of the CDR and the WB. ▪ Installing proper warning signs, ▪ Providing personnel protective clothing and equipment PPEs.
Health and Safety			
Surrounding Communities and road users, and workers	Accident and injuries to workers and public because of maintenance activities	Negative Impact due to accident occurrence	▪ Develop a site-specific Public Health and Safety Plan and Occupational Health and Safety (Annex E)

7 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

Effective mitigation and monitoring plans require the presence of adequate capacity for environmental management at the national level. For the REP, the CDR plays a major role in ensuring the implementation of environmental mitigations by:

Table 7-1 Environmental and Social Monitoring Plan for the Tripoli district roads during the maintenance phase

Impact	***Monitoring indicators***	***Responsibility***	***Frequency/ Duration***	***Location***	***Methods***	***Estimated Cost[1]***
Traffic	Periodic site inspection by traffic expert with documentation and photos of mitigation measures (traffic management plan-TMP)	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	TMP experts employment salary of about $1,500/month salary
Air quality	Periodic site inspection by EHS expert with documentation and photos of mitigation measures (vehicle and excavation emissions, turning off of equipment not in use, equipment maintenance, ect)	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	Environmental, Health & Safety, and Social EHS expert employment salary of about $2,500/month
	Total Suspended Particles (TSP), PM_{10}, $PM_{2.5}$ (wherever feasible), SOx, NOx and CO	Contractor under supervision of the Consultant	Upon public complaint	At site and at sensitive receptors within 100 m from site	1-hr measurements, and visual observation of dust dispersion (scale and direction)	1,800$/event
Noise	Periodic site inspection by EHS expert with documentation and photos of mitigation measures (equipment mufflers, equipment maintenance, equipment turned etc.) and measurements of indicators in case of public complaints	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	Environmental, Health & Safety, and Social EHS expert employment salary of about $2,500/month
	L_{eq}, L_{min} and L_{max}	Contractor under supervision of the Consultant	Upon public complaint	At site and at sensitive receptors within 100 m from site	Single sample per location (average 1hr reading-15min intervals) during morning (7-8am), evening (1-2pm) and night (4-5pm)	500$/ event

Impact	*Monitoring indicators*	*Responsibility*	*Frequency/ Duration*	*Location*	*Methods*	*Estimated Cost*[1]
Construction and other solid waste	Periodic site inspection by EHS expert with documentation while maintaining a record of waste generation, collection, segregation, storage, transportation and disposal in terms of type, quantity, and disposal location of generated waste	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	Environmental, Health & Safety, and Social EHS expert employment salary of about $2,500/month
Runoff water/ drainage	Periodic site inspection by EHS expert with documentation	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	Environmental, Health & Safety, and Social EHS expert employment salary of about $2,500/month
	Water quality analysis	Contractor under supervision of the Consultant	Upon public complaint	At nearby river/ stream	Totals suspended solids, BOD, COD, Oil and grease	1000$/ event
Resource consumption	Periodic site inspection by EHS expert with documentation of excavated material, water and energy conservation practices and design elements	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	Environmental, Health & Safety, and Social EHS expert employment salary of about $2,500/month
Existing infrastructure	Periodic site inspection by EHS expert with documentation of excavation works and response to disruption of underground utilities	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	Environmental, Health & Safety, and Social EHS expert employment salary of about $2,500/month
Visual intrusion	Periodic site inspection by EHS expert with documentation of excavation and re-planting / re-vegetation while checking on culverts particularly following rainfall events	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	Environmental, Health & Safety, and Social EHS expert employment salary of about $2,500/month
Health and Safety	Periodic site inspection by EHS expert with documentation (PPE, site enclosure, buffer zones, warning signs, first aid kit), while maintaining a record of injuries	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	Environmental, Health & Safety, and Social EHS expert employment salary of about

Impact	*Monitoring indicators*	*Responsibility*	*Frequency/ Duration*	*Location*	*Methods*	*Estimated Cost*[1]
						$2,500/month
Socio-economic	Periodic site inspection by EHS expert with documentation of employment and grievance, sharing construction schedule with the public, access to roadside businesses, vendors and residences, and grievance record. Documentation of training and raising awareness for SEA/H and signing of the CoC as well as record of age verification against child labor.	Contractor under supervision of the Consultant	Daily	At maintenance site	Visual observation and documentation with photos	Environmental, Health & Safety, and Social EHS expert employment salary of about $2,500/month

7.1.1 Training

In the context of the proposed project that encompasses simple maintenance activities, environmental management during the maintenance and operation activities are relatively simple to ensure environmental protection. This can be accomplished through competent personnel with appropriate educational and professional background and instituting a periodic training program and site-specific plans that are adequate for protecting the general public and the environment as well as contributing to the mitigation of potential environmental impacts. Thus, contractor's personnel who will be involved in the construction of the proposed project as well as personnel who will be involved in monitoring activities from the supervising Consultant must attend an environmental training workshop prior to the initiation of project activities. Relevant staff from the concerned municipalities must attend, as they will be indirectly supervising the works on the ground. The objective of this training is to ensure appropriate environmental awareness, knowledge and skills for the implementation of environmental mitigation measures. The training shall include CoC, SEA and GRM. Environmental training sessions will be conducted twice a year for a period of one day during the construction phase. The training program will emphasize on pollution prevention measures and techniques during both phases. The cost and schedule of this training program will be 1,000 USD per day including material preparation. Repeat workshops will be at 500 USD per day.

7.1.2 Reporting

Progress reporting on safeguards compliance will take place as indicated in the ESMF (CDR, 2018) and listed below:

- Contractor's environmental compliance reports to the Environmental Supervision Consultant on monthly basis;
- Environmental Supervision Consultant reviews and approves the contractor reports and submits to the PIU at the CDR Roads and Transport Department on monthly basis
- PIU environmental/social progress reports to the WB, on a quarterly basis.

7.1.3 Documentation and Reporting

During the maintenance phase, the Supervising Consultant shall submit a monthly report about the monitoring activities to various stakeholders including the CDR and the municipalities. These reports shall be made readily available or accessible to the public upon submittal. The content of a typical report should mirror the indicators of the mitigation plan with proper documentation with photos and actions taken in the event of accidents, concerns or complaints.

7.1.4 Guidelines for Health and Safety Plan during maintenance

During maintenance, the contractor shall abide by the CDR Safety, Health, and Environmental Regulations for Construction Projects as well as the WBG Environmental Health and Safety General Guidelines.

8 CONSULTATION, DISCLOSURE AND GRIEVANCE REDRESS MECHANISM

8.1 Public Consultation

A public consultation meeting was conducted at the Municipality of Tripoli. The number of attendees was 12, including 4 females. The attendees consisted of the acting Head of the Tripoli Municipality (KaemKam Zgharta), Tripoli union GM, 2 municipal board members, vice. President of Tripoli Engineering Order, and staff from the various municipal departments related to infrastructure planning and implementation. The complete attendance list of the Public consultation is presented in Annex E. As well, an online public consolation was held on February 23, 2022 with a number of NGOs operating mainly at the North of Lebanon Governance. Many NGOs were invited by few attended the meeting on Google Team (list is presented in Annex F).

It is worth mentioning here that all relevant municipalities will be informed upfront before the commencement of works about the Project since public consultation was conducted back in February 2022. In addition, a public notice will be posted at each relevant municipality including the GRM procedure. This will disseminate the Project and ensure that its activities are implemented in a transparent manner.

The session started with a welcome note from Mrs. Rafie, the Head the acting Head of the Tripoli Municipality (KaemKam Zgharta). This was followed by a presentation by Geoflint consultant (Mr. Khalil Zein), the environmental expert from TEAM International who explained the components of the selected roads for maintenance project, displayed the layout of the selected roads in the Tripoli Caza, and discussed the proposed ESMP, which included the idea that proper permits should be obtained through local municipalities whereby inert waste materials (excluding asphalt) can be used as filling material for local road reconstruction projects within the caza or disposed of at local sites like quarries, only if designated / approved for that purpose.

The main issues raised by the attendees were as follows.

- The selection criteria applied for road selection are not clear and most of the comments were indicating that the selected roads re well maintained and such project should be conducted in other in need roads in the Caza. Geoflint consultant explained that this project is related to the available budget and the maintenance requirement on the selected roads. However, if the budget is not spent it will be used in maintaining other roads on secondary roads along the two years contract period.
- Most of the attendees indicated that they were not aware of the REP project until now. Though, it was explained for everyone that the REP section of Tripoli caza did not start until the date of the meeting.

- Reinforcement of the walls and the ground base of the Abou Ali River as they are in bad condition and will affect the foundations / stability of the rehabilitated road.
- Employment opportunities were discussed for both Lebanese and Syrian workers. There appears to be a clear split in job types between local communities. The delineation line is between skilled jobs (mainly taken by the Lebanese workforce) and unskilled labor (filled primarily by Syrian workers).

As for the meeting that was held with the NGOs the consultant discussed the purpose of the project which is the maintenance of the selected roads, the improvement of roads emergency responses and to provide a solid environmental and social management plan being both long-term and short-term.

No disputable issues were raised from the NGO's side on the project components, however; all discussion was related to the type of works, the funder, the duration and the executer of the project. All requested explanation were tackled as the presenter mentioned that this project is WB funded project and it is part of REP that is already executing a rehabilitation activates, will extend for two years and can be extendable depending on the funds availability, and the contractor is not yet selected waiting for the tendering procedure to completed

8.2 Grievance Redress Mechanism

8.2.1 GRM for Communities

The GRM will be accessible to all relevant stakeholders who can use this mechanism to send their suggestions, concerns and complaints related to the PIU. The complaints, suggestions and concerns can be sent by email, mail, phone (through a hotline), in person and other means such as a grievance compliant logging sheet where grievances are registered in writing and maintained as a database. The phone number, e-mail address, and address for receiving complaints will be disclosed among the population and will be posted at the maintenance sites in Tripoli Caza, before commencement of project implementation. Moreover, the information on how to access the GRM should be available on CDR website.

As well, the contract will have to coordinate with the relevant municipalities prior to the works commencement to disseminate the availability of a GRM to the public and affected communities. The social expert of the contractor is responsible for addressing and explaining the grievances arising from to the municipality officials and the surrounding communities. The experts will make sure to clarify that in the occurrence of any Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) (SEA/SH) complaints, these will be immediately reported to the CDR who will in turn report to the World Bank.
The GRM levels of the project are the following:

- Level 1: If any person has any complaint, concern or suggestion regarding the project implementation, he or she can lodge an oral or written grievance through e-mail (GRM.REP@cdr.gov.lb), phone call or text message (01980096 ext:317), or website link (http://www.cdr.gov.lb/study/RoadsEmp/RoadsEmp.htm) to the site engineer or manager of the roads to be maintained in Tripoli Caza. In case an oral complaint is made, it should be written on paper by the receiving unit. The above issue will be resolved within a maximum duration of one week.
- Level 2: If the person is not satisfied with the action of the site manager's Office, he or she can bring the complaint to the attention of the Environmental and Social Specialist of the PIU for the project through e-mail (rstephan@cdr.gov.lb), phone call or text

message (01980096 ext: 317), or website link (http://www.cdr.gov.lb/study/RoadsEmp/RoadsEmp.htm). The issue shall be resolved within a maximum of two weeks.

- Level 3: If the person is not satisfied with the decision of the Environmental and Social Specialist of PMU, he or she can bring the complaint to the attention of the PMU Director's Office through e-mail (elieh@cdr.gov.lb), phone call or text message (01980096 ext:159), or website link (http://www.cdr.gov.lb/study/RoadsEmp/RoadsEmp.htm). Once the PIU Director receives the complaint, it needs to be resolved within a maximum of two weeks.

Meanwhile, it is recommended that the aggrieved party is consulted and be informed of the course of action being taken, and when a result may be expected.

Moreover, reporting of the complaints to the PIU should be done regularly. The designated person at each level should report to the PIU on the number and subject of new complaints received, and the status of the already existing complaints, if any. The report should also inform the PIU of complaints that could not be resolved at the lower levels and are being elevated to the PIU Director's attention. The PIU aggregates information received into a status report each quarter, indicating the number and subject of complaints. The quarterly status report also provides up-to-date information on the number and subject of complaints that have been resolved, and the manner in which they have been resolved. This information will be shared with the Bank.

The Complaints Register form (refer to Annex F) includes the following:

i) details and nature of the complaint
ii) the complainant's name and their contact details
iii) date
iv) Corrective actions taken in response to the complaint.

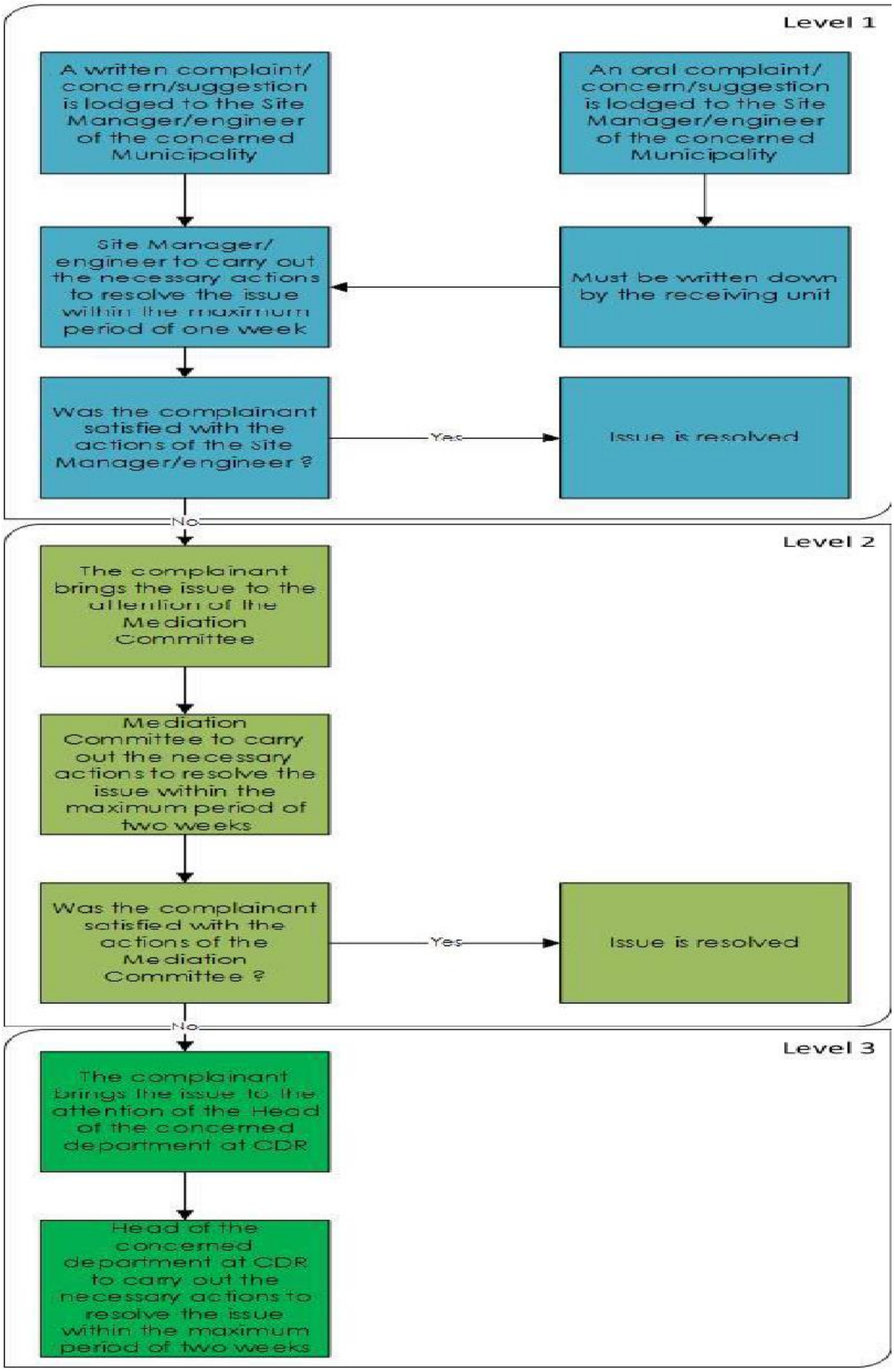
The GRM does not exclude the formal legal process of the national law. If a grievance remains unresolved following application of the project GRM process, the affected person can initiate legal proceedings in accordance with national law and may have recourse to the Appeals Court as warranted.

A detailed flowchart describing the process of grievance starting form reception of grievance to implementation of corrective measures.

8.2.2 GRM for Workers

A GRM for internal employees, namely the laborers onsite are also necessary. It aims to allow labors to report any wrongdoings in their favor or important concerns they might have. This internal GRM is similar in nature to the one previously discussed (in terms of accessibility, reporting means, etc.…). The only main difference is the contact people for each level. In this context, the first level involves reporting to the health and safety officer and has a duration of one week. The second level involves reporting to the PMU Director and should be resolved within one week. It also follows the Complaints Register form (refer to Annex F).

Figure 8-1 Typical grievance redresses mechanism for the REP



Source: CDR, 2018

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ANNEX A - PROJECT DESCRIPTION

1. Material and Equipment

The following are the types of construction equipment which may be used. Other equipment may be added as needed by the site activities.

Table 1-2 Materials and equipment to be used during maintenance

Material	*Equipment*
Aggregates for concrete, base and asphalt mix	Compressors and excavators
Ordinary Portland cement	Tractor
Sulphate-resisting cement	Motor blade grader
60-70 pen and liquid asphalt	Generators
Steel reinforcement	Crane mobiles
Timber	Dumper
Manhole frames	Lorry
RC pipes	Water sprayer and asphalt sprayer
Agricultural soil and grass seed	Concrete mixer and steel roller
	Portable pump and soil compactor

The Contractor will not install on-site any plants for asphalt and concrete batch and will be getting his required quantities from already existing licensed plants located near the maintenance activity.

2. Site Staffing

At this stage, the final number of workers needed for the REP in Caza of Tripoli is based on estimation since the total volume of each activity as per the bill of quantities of the tender documents is not prepared yet by the awarded Contractor. Therefore, it is estimated that the maintenance works would require the workforce of 10 to 20 laborers.

3. Site Facilities

The Project site will not include on-site facilities such as site offices for Engineers and for the Contractor, laborers camps, lodging on site, containers, power generators and repair garages.

The work implementation will also require unskilled workers (laborers) needed to perform earthworks on-site. The Contractor will be encouraged to hire laborers from the local community living in the Project area. During working hours, laborers will be entitled with a one-hour break on-site. Usually, every laborer brings from home his own food and drinking water. The on-site rest point will be decided by the Contractor at the time of works.

The Contractor will have to service the on-site staff with portable cabin toilet. The porta cabin will be mobile, and its placement depends on the length of the work zone. Accordingly, the Contractor will have to move it based on the progress of maintenance works. The Contractor should link the porta cabin toilet to the existing wastewater network. In case the network is not available within the work zone, the Contractor will need to link it to a polyethylene storage

tank and the Supervising Consultant shall inspect it on a regular basis and ensure emptying the tank when filled into the nearest wastewater network.

For vehicles and equipment, the Contractor will have to rent a land within the Project area. This land should be fenced and used for parking purpose only. The Contractor shall not perform any repair on site and is obliged to execute vehicles and equipment maintenance in a repair shop preferably located within the Project area.

4. Equipment used and their technical environmental specifications

XA(H,V,T)S 106-186 Deutz
Oil-injected rotary screw compressors

The XA(H,V,T)S 106-186 range of portable air compressors from Atlas Copco

All compressors are manufactured in accordance with Atlas Copco's Quality and Environment Management System. This system complies fully with ISO 9001 and ISO 14001. All Atlas Copco compressors are tested to perform under the most demanding conditions.

Features	Benefits
Full compliance with 2000/14/EC, the latest European Outdoor Noise Directive	Units can be operated in the vicinity of hospitals, schools, residential areas and even at night and comply with international legislation
Compliant with exhaust emission standards 97/68/EC step II (Europe) & EPA Tier II (U.S.)	Meets the strictest environmental requirements

Technical data

Compressor data

Type	Actual free air delivery (1)	Normal effective working pressure	Compressor oil system capacity	Sound power level (2)	Sound pressure level (3)	Maximum ambient temperature	Air outlet valves
	l/s	bar(e)	l	dB(A)		°C	
XAS 126 altitude	**128**	**7**	**14.5**	**101**	**73**	**50**	**1x11/2" and 3x3/4"**
XA(S) 136	135	7	14.5	101	73	50	1x11/2" and 3x3/4"
XA(S) 136 DdG	103	7	14.5	101	73	50	1x11/2" and 3x3/4"
XA(S) 186	185	7	24	101	73	50	1x11/2" and 3x3/4"

XATS 116	113	10.3	14.5	101	73	50	1x11/2" and 3x3/4"
XATS 156	166	10.3	24	100	72	50	1x11/2"and 3x3/4"
XAHS 106	101	12	14.5	101	73	50	1x11/2" and 3x3/4"
XAHS 146	141	12	24	100	72	50	1x11/2" and 3x3/4"
XAHS 186	175	12	24	101	73	45	1x11/2" and 3x3/4"
XAVS 136	133	14	24	100	72	50	1x11/2" and 3x3/4"

(1) According to ISO 1217 edition 3 1996 annex D
(2) According to 2000/14 EC, guaranteed sound power level
(3) According to ISO 2151 from 7 m

Bobcat S450

Environmental Specifications

Operator LpA(98/37 & 474-1) 87 dB(A)
Noise level LWA(EU Directive 2000/14/EC) 101 dB(A)
Whole body vibration (ISO 2631–1) High speed 1.29 ms-2
Whole body vibration uncertainty 0.52 ms-2
Hand-arm vibration (ISO 5349–1) High speed 1.73 ms-2

ANNEX B - BASELINE ENVIRONMENTAL AND SOCIAL DATA

1. Roads Photos

Figure 1-1 Medium density urban fabric

Figure 1-2 Residences on the sides of the Roads

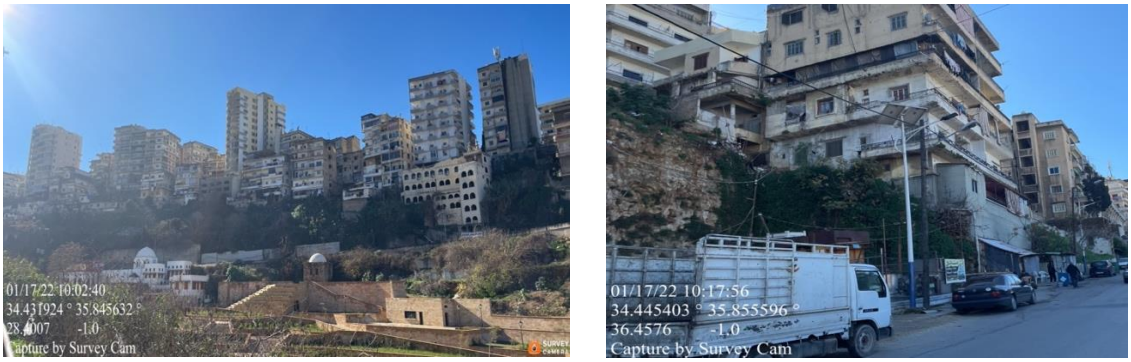


Figure 1-3 Limited Vegetative Cover

Figure 1-4 Ambulant street vendors

Figure 1-5- Aerial view of the studied roads showing the sensitive receptors

2. Roads Maps

Figure 2-1 Topography Map for Tripoli District

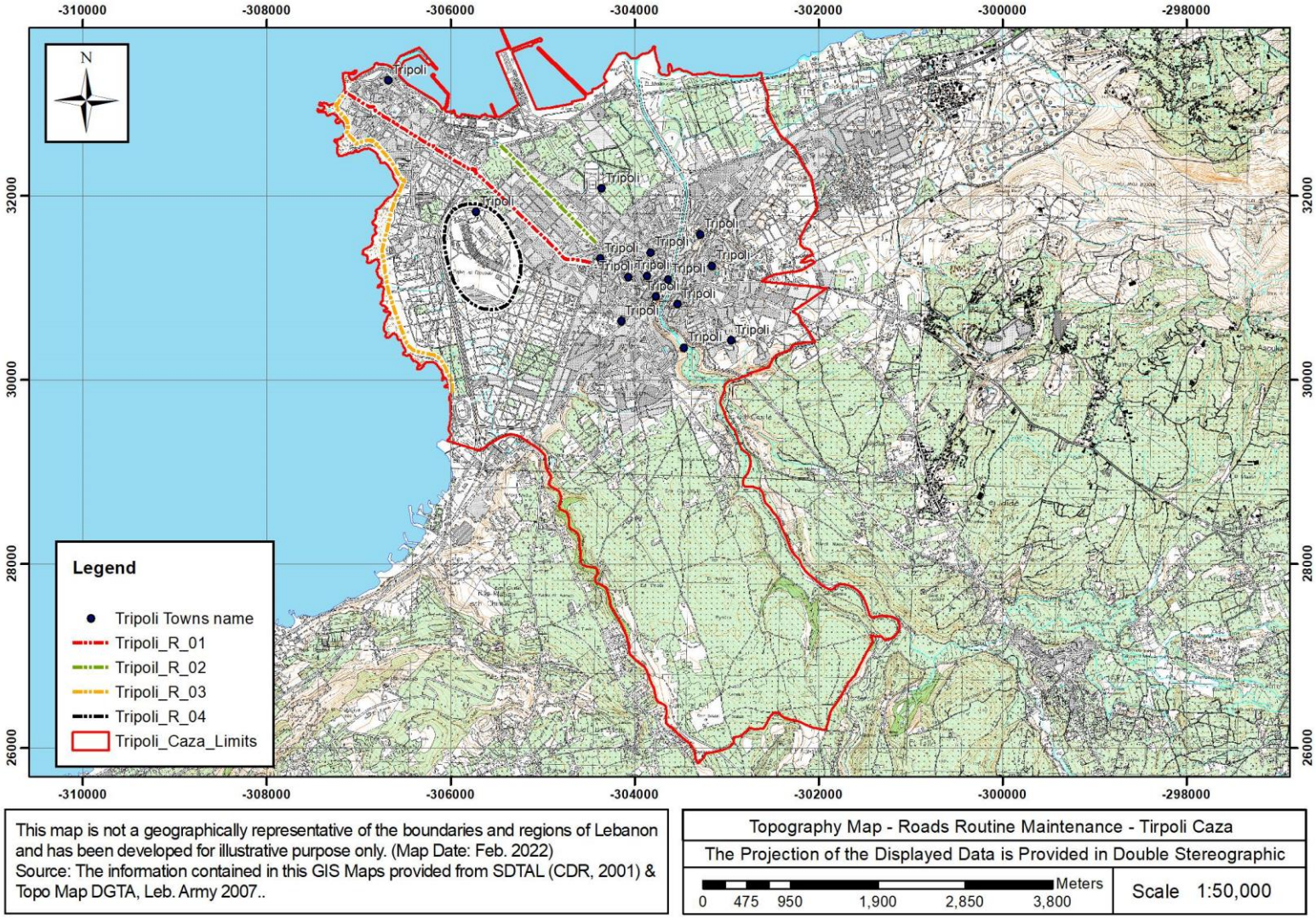


Figure 2-3. Administrative map of the Tripoli district

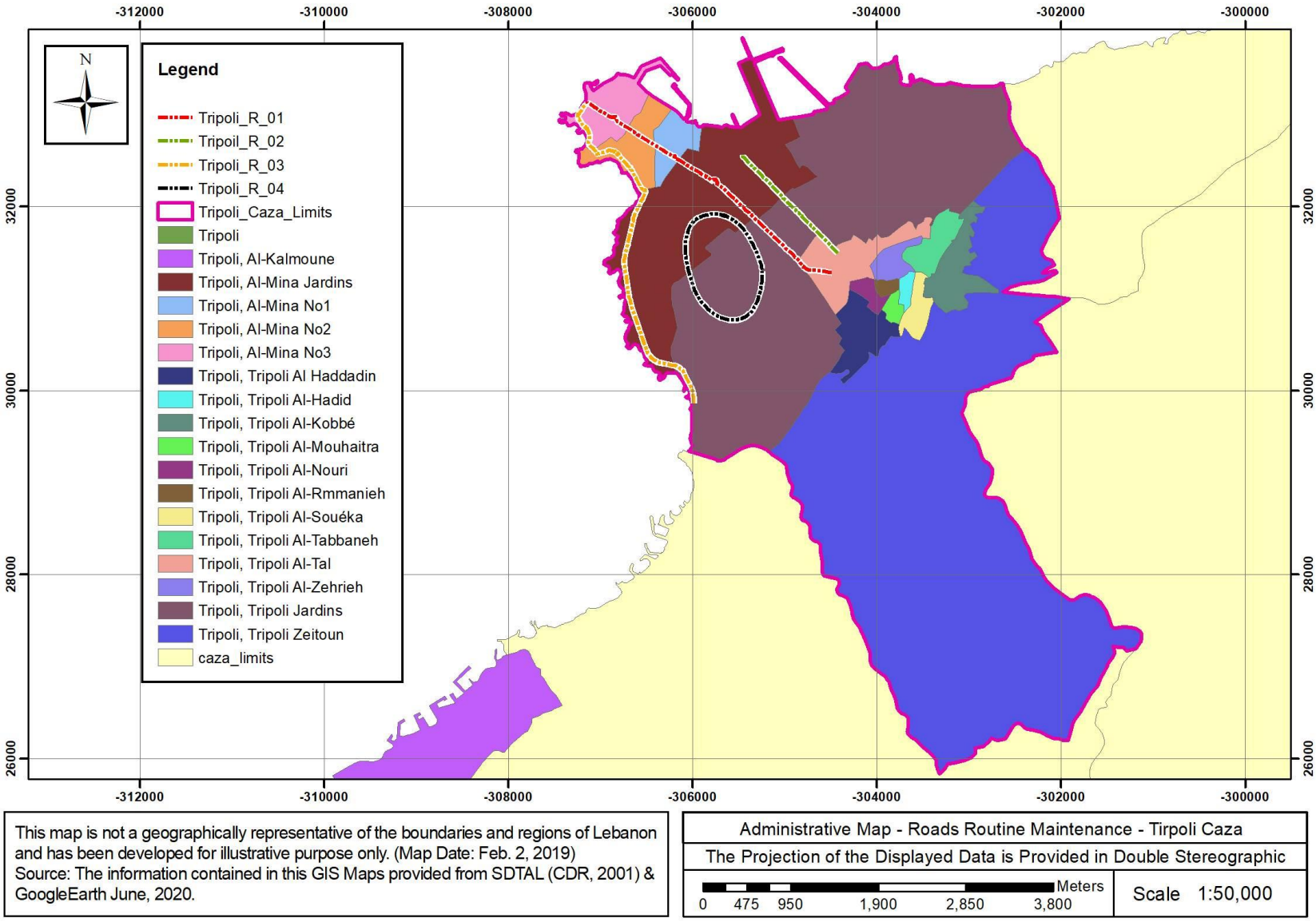


Figure 2-3. Geological map of the Tripoli district

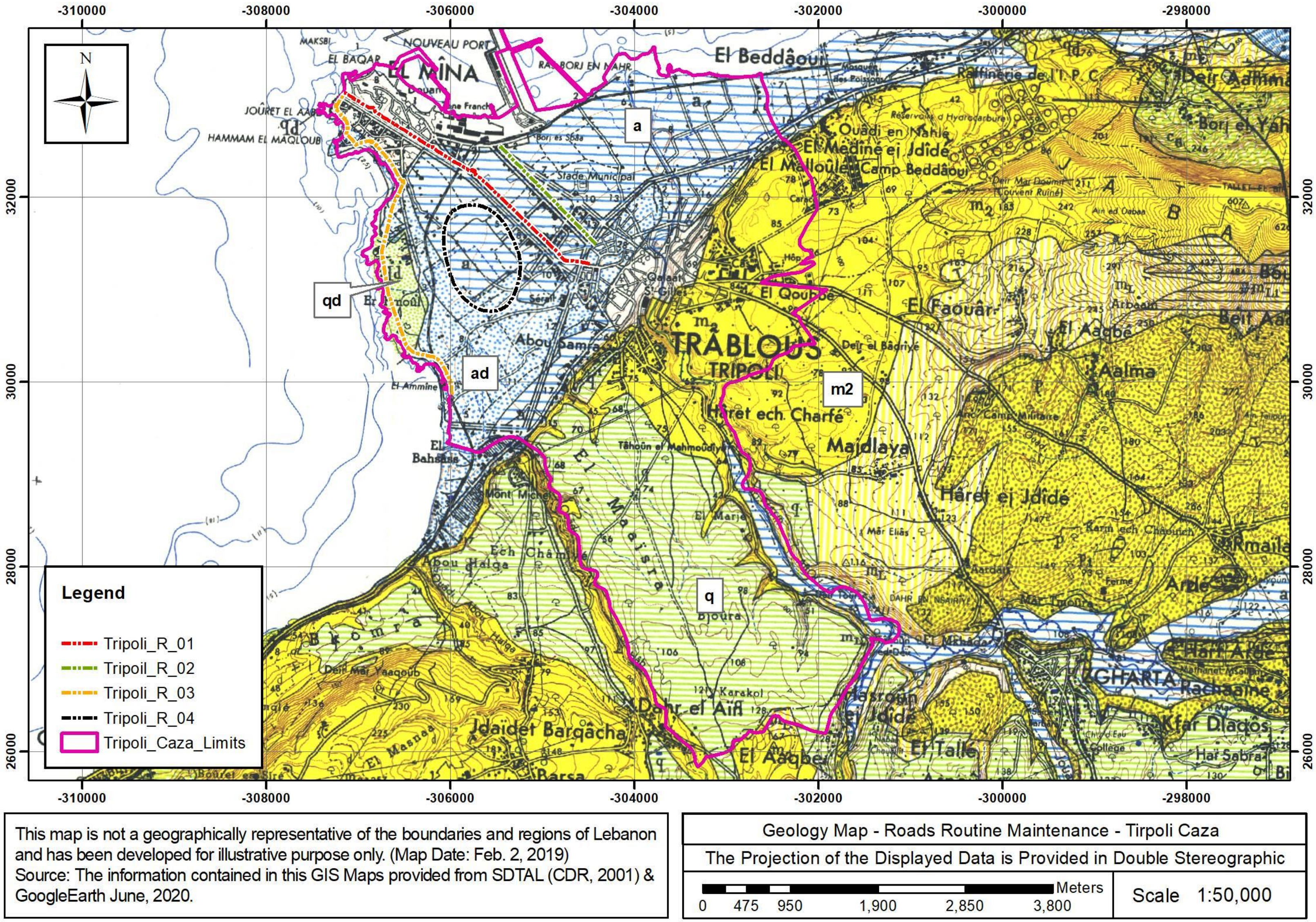


Figure 2-4. Hydrology and Hydrogeology of Tripoli district

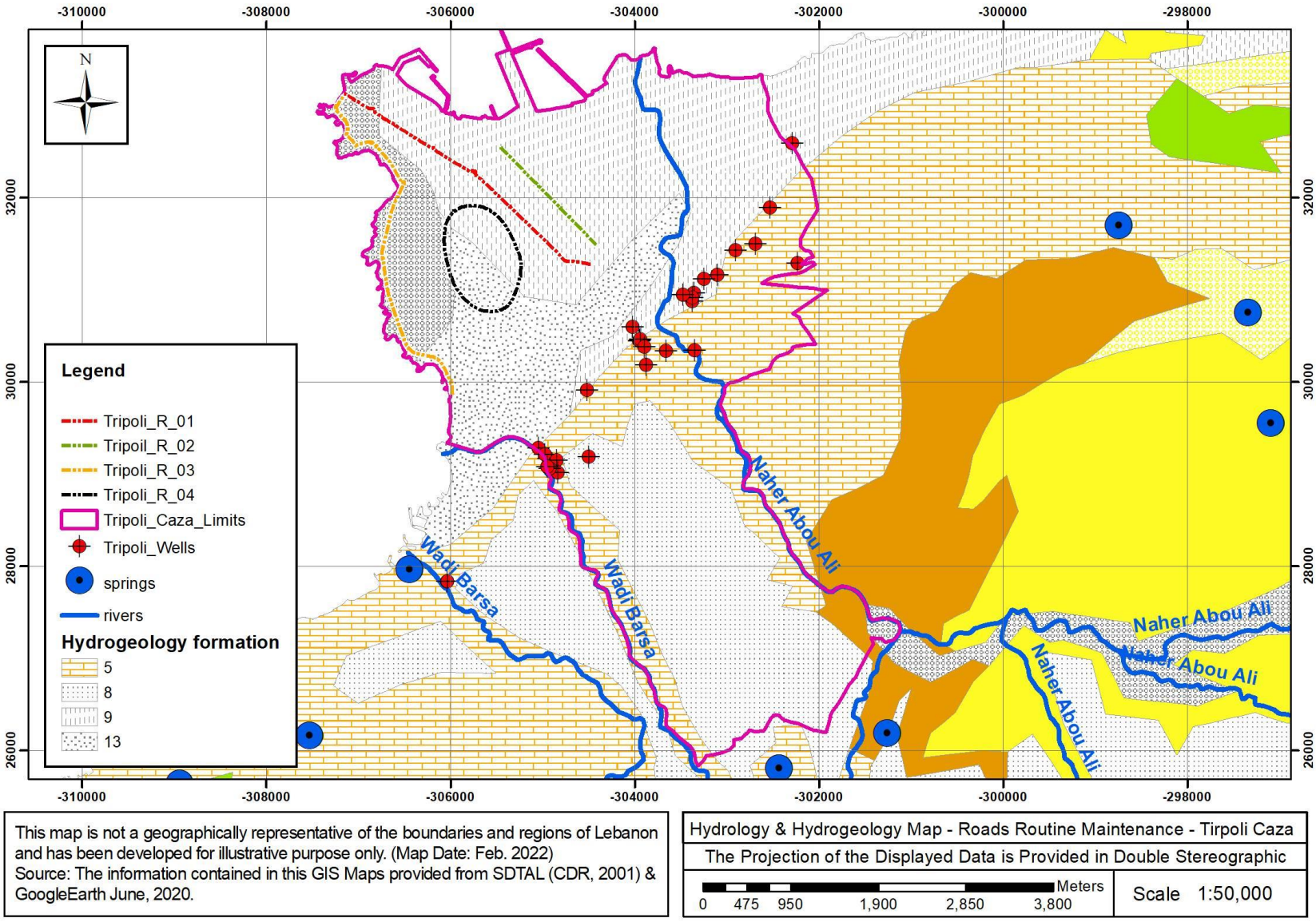
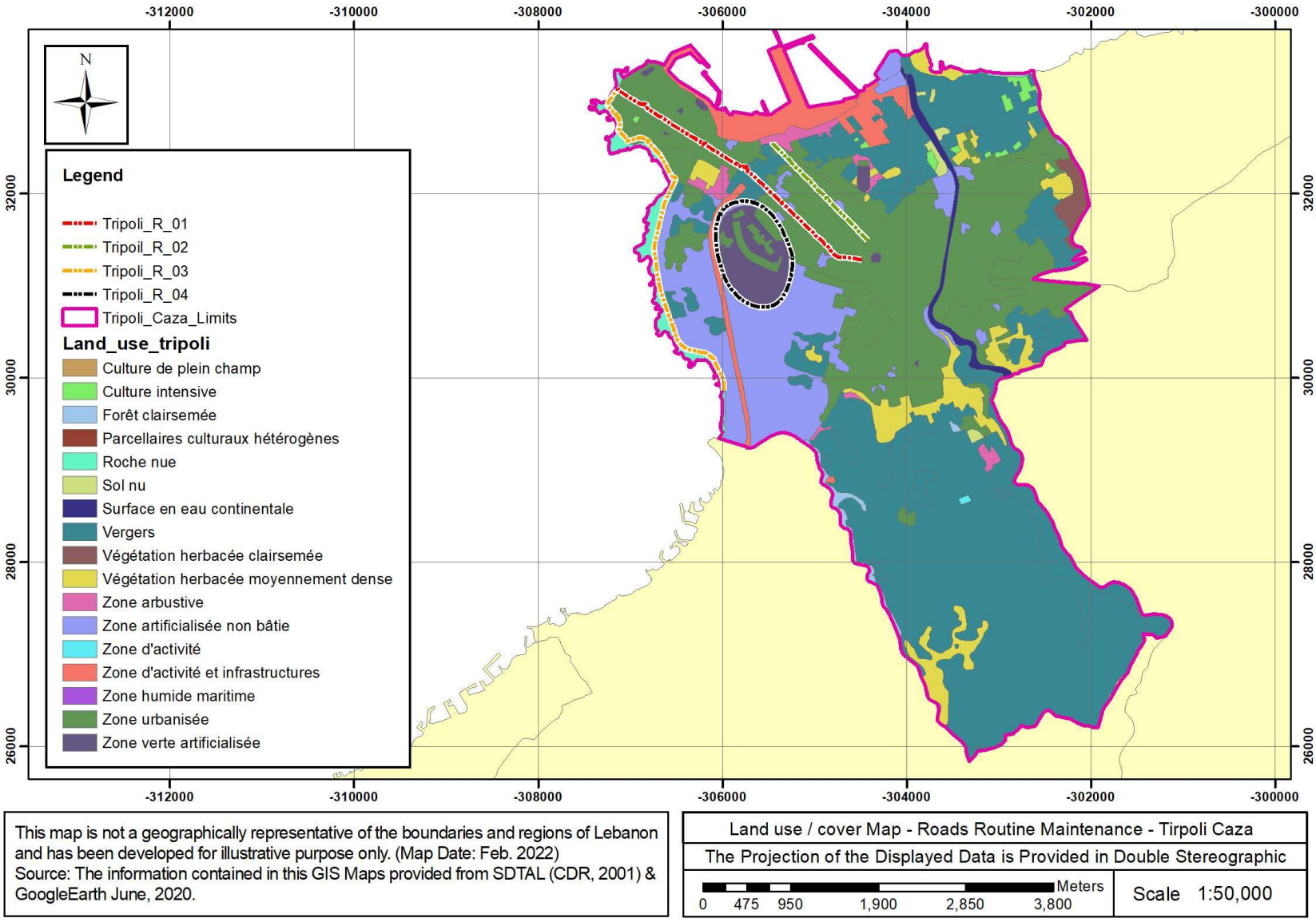


Figure 2-5. Land use / Land Cover of Tripoli district



3. Geology Description

Table 3-1 Main lithology and formations crossed by proposed roads

Road	*Name*	*Lithology*	*Formation*
Tripoli Roads	Miocene	Conglomerates/limestone	mcg
	Miocene	Conglomerates/limestone	mcg
	Quaternary	Recent deposits	q

4. Hydro-geology Description

Table 4-1 Description of the hydrogeological classes

Geology Class	Groundwater Sheets	LITHOLOGIE / FACIES	AGE	FLOWS OF the SOURCES I/sec.	PROBABLE INSTANTANEOUS FLOWS OF THE WORKS I/sec.	Transmissivity m^2/sec
5	IN KARSTIC FORMATIONS Wide and rich watertable	Reef limestone thickness: 200 to 250 m.	NEOGENE Miocène	100-1000	<100	Often High
8	In Porous Formations Water Table extended	Alluvions anciennes	QUATERNAIRE	DIFFUSE DISCHARGE	<30	$10^{-4} \leq T \leq 10^{-3}$ Poor
9		Silt and "terra rossa" Thickness: 600 m.	QUATERNAIRE	DIFFUSE DISCHARGE	<10	Poor with weak very changing
13	In Porous Formations Local or discontinuous water table	Sables littoraux Epaisseur: variable	QUATERNAIRE	DIFFUSE DISCHARGE	<10	Poor with weak

5. Climate and meteorology

Figure 5-1. Lebanon geoclimatic regions, (b) 43 rain gauges locations, (c) 31 temperature stations locations with records of both daily average and/or maximum and minimum temperatures, per geoclimatic region

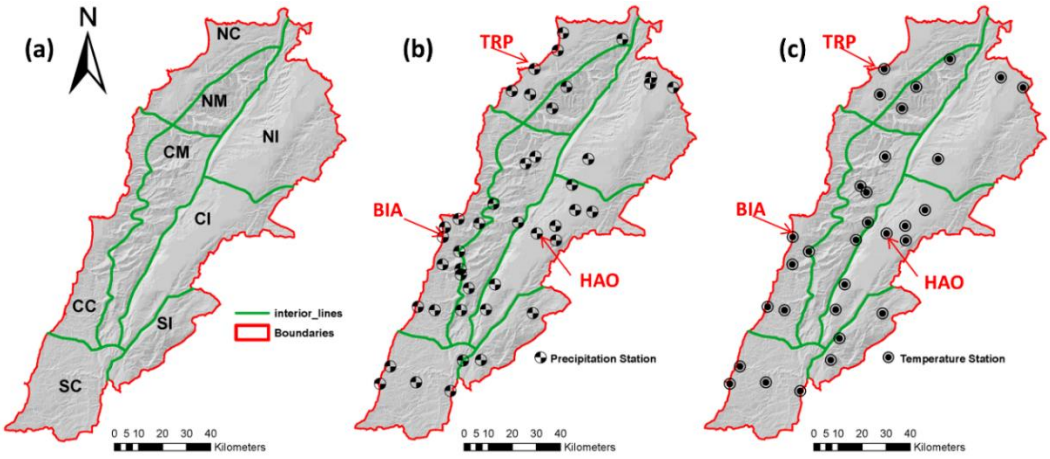
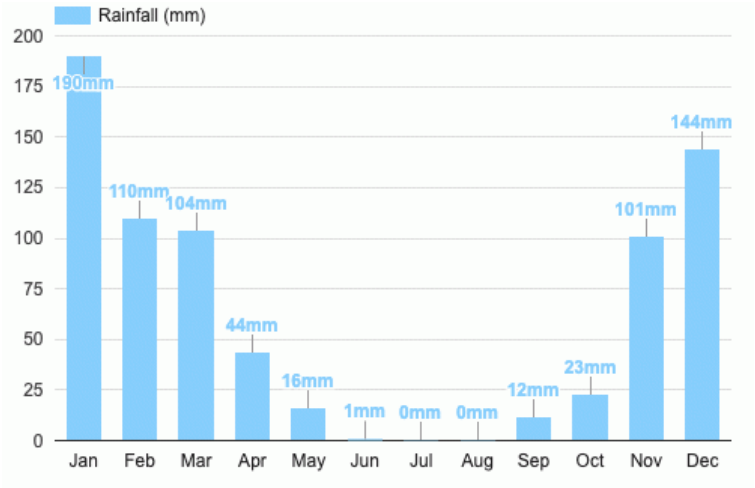
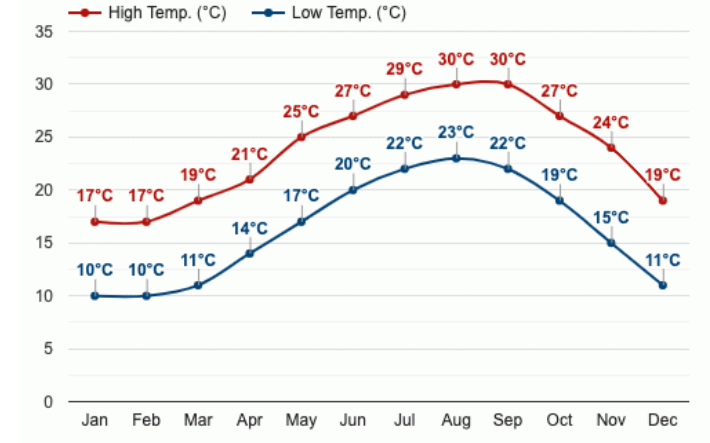


Figure 5-2. Average monthly rainfall values for Tripoli district



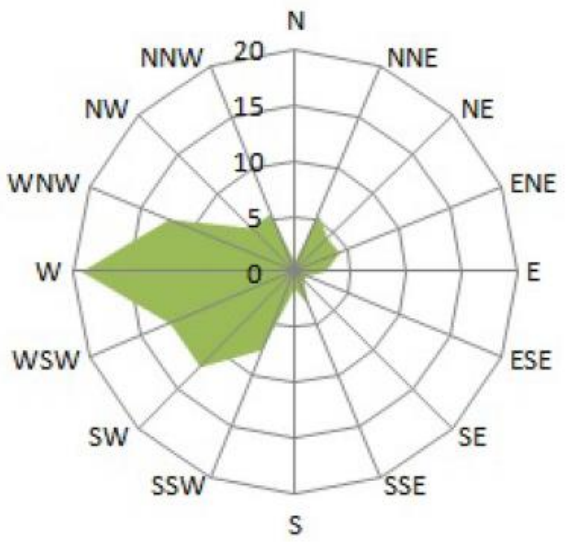
Source: https://www.weather-atlas.com/en/lebanon/tripoli-climate

Figure 5-3. Average monthly temperature values for Tripoli district



Source: https://www.weather-atlas.com/en/lebanon/tripoli-climate

Figure 5-4. Wind speed and wind direction from the Tripoli weather station over a 7-year period (2010–2016)



6. Ambient air

Figure 6-1. Air quality cells as per the JICA (2018)

Table 6-1 Average annual ambient concentrations of air pollutants in the Tripoli district

Pollutant	*Annual average concentration (µg/m³)* *Cell 3*	*National ambient air quality standards (MOE Decision 52/1)*
$PM_{2.5}$	30.9	80 µg/m³
PM_{10}	36.3	120 µg/m³
CO	852.2	10,000 µg/m³
SO_2	41.2	80 µg/m³
NO_2	60.2	100 µg/m³
O_3	55.9	100 µg/m³

Source: JICA 2018

Impact Assessment Methodology and Methodology for estimating impact on air quality

Impact assessment Methodology

The process of impact assessment is undertaken taking into consideration direct, indirect, planned or unplanned (accidental) impacts during the Project's construction (maintenance) and operation phases. Identified potential impacts are assessed for overall significance based on consequence and likelihood ranking where the impact significance is expressed as the product of the consequence and likelihood of occurrence of the activity as outlined below.

Significance = Consequence x Likelihood

Where "Consequence" is the resultant effect (positive or negative) of an activity's interaction with the legal, natural and/or socio-economic environments. "Likelihood" is the possibility that an impact will occur.

The assignment of the level of consequence and potential likelihood depends on the professional experience and judgment of the study team. This judgement followed the consequence categories defined in Table 5-1. The potential overall consequence is then

combined with the "Likelihood" to give the impact significance as presented in Table 5-2, which illustrates the likelihood scores and the resulting significance based on consequence-likelihood interaction.

Table 6-2 Consequence scores

Consequence Score	*From Planned Activities*	*From Unplanned/ Accidental Activities*
5 (Severe)	Severe environmental damage or severe nuisance extending over a large area and continuous emission or permanent change over more than 5 years. Likely major breach in compliance resulting in prosecution. Stakeholders concern is triggered on an international level.	Certain (event likely to occur more than once on the facility)
4 (High)	Continuous emission or permanent change over less than 5 years leading to a major impact. Possible major regulatory noncompliance. Stakeholders concern is triggered on a national level.	Possible (could occur within the lifetime of the development)
3 (Medium)	Regular over short-term (less than 3 years) or intermittent over long-term (more than 3 years) leading to repeated breaches of statuary limit. Spontaneous recovery of limited damage within one year. Possible regulatory noncompliance. Stakeholders concern is triggered on a regional level.	Unlikely (event could occur within the life of 10 similar facilities, has occurred at similar facilities)
2 (Low)	Minor magnitude effect on the environment but no permanent effect. Regulatory terms or corporate policy set defined conditions. Stakeholders concern is triggered on a local level.	Remote (similar event has occurred somewhere with similar projects but not likely to occur with current practices and procedures)
1 (Negligible)	Local environmental damage within the fence and within systems with negligible severity. No specific statutory control. Stakeholders concern is triggered on an individual level.	Extremely remote (has never occurred within similar projects but theoretically possibly)
0 (None)	No impact.	-
+ (Positive)	Beneficial impact that enhances the environment. No public interest or improves aspect of community importance.	-

Table 6-3 Significance categories based on consequence-likelihood interaction

Significance = Consequence x Likelihood							
	Likelihood						
	5	*4*	*3*	*2*	*1*	*0*	
Consequence	*Certain*	*Possible*	*Likely*	*Unlikely*	*Extremely Remote*	*Will Not Occur*	*Significance*
5	25	20	15	10	5	0	Severe
4	20	16	12	8	4	0	Major
3	15	12	9	6	3	0	Moderate
2	10	8	6	4	2	0	Minor
1	5	4	3	2	1	0	Negligible
0	0	0	0	0	0	0	No Impact
+							Positive Impact

Methodology for estimating impact on air quality

Maintenance phase

Heavy construction is a source of dust emissions that may have substantial temporary impact on local air quality. Road construction is an example of a construction activity with high emissions potential. Emissions during the construction of a road in general, and the REP in particular, are a function of the excavation scheme, building demolition and the machinery used on-site. Emissions will consist primarily of particulate dust matter released as a result of earth removal activities, and to a lesser extent of emissions from the on-site usage of heavy construction equipment. Dust emissions often vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing meteorological conditions. A large portion of the emissions results from equipment traffic over temporary roads at the construction site. For this phase, it is expected that negative impacts on air quality will occur in and around the immediate vicinity of the site under construction. In order to quantify this impact, the total construction emissions and the corresponding ambient particulate matter concentration were estimated as described below.

Estimation of the total construction emissions using the area wide method.

In this method, the quantity of particulate matter emissions from maintenance operations is considered proportional to the area being worked and to the level of construction activity. Emissions from heavy construction operations are positively correlated with the silt content of the soil (particles with a diameter <75 micrometers [µm]), as well as with the speed and weight of the average vehicle, and negatively correlated with the soil moisture content. An approximate aerial emission factor (EF) for the construction activities that is used in the estimation of total emissions (USEPA, 1995) is:

EF = 0.3 Kg/m^2/month of activity[1]

Assuming the road maintenance will take place in various spots and that a 10 m road section will be maintained per spot, the temporal emission factor for the total construction area of 10-20 m^2 and a duration of 4 days of activity, considering 6 working days/month and 8 hours/day of work is:

S = 0.3 □ (2500-3500) /(2 x 22 □ 8 □ 3600)
S = 0.000592- 0.000829 Kg/s = 592,000-829,000 □g/s

Note that a better method is to estimate emissions for a particular site, the maintenance process be broken down into component operations, each involving traffic and material movement. However, due to the random nature of activities, and lack of specific design data, the extent of PM impact may differ from the quantified emission using this method.

7. Socioeconomic Environment

Table 7-1. Population size in the Tripoli Caza in 2019

Village	*Population*
Beddawi	40,476
El-Mina	72,133
Tripoli	311,212
Qalamoun	4,319[a]
Total	428,140
[a] based on the number of registered electorates in 2010 reported online: http://www.localiban.org/tripoli-district	

(UN-HABITAT, 2016)

[1] The value is most applicable to construction operations with (1) medium activity level, (2) moderate silt contents, and (3) semiarid climate.

ANNEX C - ESMP CHECKLISTS

Table C1 ESMP Risk Classification Criteria Checklist

Criteria	YES / NO	Description
Subproject is classified as Category A according to World Bank classification.	NO	The subproject is classified as Category B according to the Word Bank classification.
Subproject activities have significant adverse environmental or social impacts that are sensitive, diverse, or unprecedented.	NO	Not likely as the project is targeting slight construction activities.
Activities affect an area broader than the sites or facilities subject to physical works	NO	The project activities include only maintenance works therefore; this criterion may not be applicable.
Subproject will result in conversion/alteration of natural habitats	NO	As the selected alignments are already altered with existing roads and only requires maintenance, there should not be any new type alterations.
Generation of significant quantities of hazardous waste	NO	Depending on the type of activities and machinery used during maintenance, the hazardous wastes will be further evaluated during the field activities.
Will the sub-project trigger a new World Bank Policy other than OP4.01 and OP4.12?	NO	This policy is not part of the scope of work due to the estimated level of work.
Will the sub-project increase the footprint or includes new construction of roads?	NO	The project activities include only maintenance, are temporary and localized.
Subproject Project is Eligible to be financed under REP	**YES**	-

Checklist of Possible Environmental and Social Impacts of Projects

Table C2 Subcomponent Related Issues

S No	ISSUES	YES	NO	Comments
A. Zoning and Land Use Planning				
1.	Will the subproject affect land use zoning and planning or conflict with prevalent land use patterns?		x	The project activities include only maintenance, are temporary and localized.
2.	Will the subproject involve significant land disturbance or site clearance?		x	
3.	Will the subproject land be subject to potential encroachment by urban or industrial use or located in an area intended for urban or industrial development?		x	
B. Utilities and Facilities				
4.	Will the subproject require the setting up of ancillary production facilities?		x	Since the activities are only road maintenance, this issue is not addressed.
5.	Will the subproject require significant levels of accommodation or service amenities to support the workforce during construction (e.g., contractor will need more than 20 workers)?		x	No accommodation will be available due to the Covid-19 restrictions.
C. Water and Soil Contamination				

S No	ISSUES	YES	NO	Comments
6.	Will the subproject require large amounts of raw materials or construction materials?		x	The project activities should not require large quantities of raw or construction materials since maintenance activities that are limited will be conducted.
7.	Will the subproject generate large amounts of residual wastes, construction material waste or cause soil erosion?		x	But will depend on the type of works.
8.	Will the subproject result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?		x	This issue depends on the machinery or equipment used.
9.	Will the subproject lead to contamination of ground and surface waters by herbicides for vegetation control and chemicals (e.g., calcium chloride) for dust control?		x	Any contamination that may occur is not advisable and should be controlled in case a potential risk arises.
10.	Will the subproject lead to an increase in suspended sediments in streams affected by road cut erosion, decline in water quality and increased sedimentation downstream?		x	Any risk of pollution that may occur is not advisable and should be controlled in case a potential risk arises.
11.	Will the subproject involve the use of chemicals or solvents?		x	The type of chemicals/solvents that may be used depend on the maintenance activity.
12.	Will the subproject lead to the destruction of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards?		x	The type of work will not lead these kinds of issues based on site fields.
13.	Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors?		x	The project activities include only maintenance, are temporary, therefore it is expected to cause such issues.
D. Noise and Air Pollution Hazardous Substances				
14.	Will the subproject increase the levels of harmful air emissions?	x		Air emissions are possible, but should be controlled.
15.	Will the subproject increase ambient noise levels?	x		An increase in noise levels is expected, but their effect should be minimized through the proper use of PPEs and silencers in the machines. However, their effect is not expected of great significance since the work activities are temporary.
16.	Will the subproject involve the storage, handling or transport of hazardous substances?		x	Yet this depends on the type of activities and machinery used during maintenance, the hazardous wastes will be further evaluated.
E. Fauna and Flora				

S No	ISSUES	YES	NO	Comments
18.	Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?		x	Based on the site visit, there will be no modifications or disturbances.
19.	Will the subproject lead to the destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?		x	Since the activities are only road maintenance, this issue will not be addressed.
20.	Will the subproject lead to the disruption/destruction of wildlife through interruption of migratory routes, disturbance of wildlife habitats, and noise-related problems?		x	Since the activities are only road maintenance, this issue will not be addressed.
F. Destruction/Disruption of Land and Vegetation				
21.	Will the subproject lead to unplanned use of the infrastructure being developed?		x	Since the activities are only road maintenance, this issue will not be addressed.
22.	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?		x	Since the activities are only road maintenance, this issue will not be addressed.
23.	Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?		x	Since the activities are only road maintenance, this issue will not be addressed.
24.	Will the subproject lead to landslides, slumps, slips and other mass movements in road cuts?		x	Since the activities are only road maintenance, this issue will not be addressed.
25.	Will the subproject lead to erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains?		x	Since the activities are only road maintenance, this issue will not be addressed.
26.	Will the subproject lead to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles?	x		Depending on the type of vehicles used during maintenance.
G. Cultural Property				
27.	Will the subproject have an impact on archaeological or historical sites, including historic urban areas?		x	Since the activities are only road maintenance, this issue will not be addressed.
28.	Will the subproject have an impact on religious monuments, structures and/or cemeteries?		x	Since the activities are only road maintenance, this issue will not be addressed.
29.	Have Chance Finds procedures been prepared for use in the subproject?		x	Based on the site visit, there will be no actual encounter of archeology or heritage. However, in case, during maintenance, antiquities were identified in the project site chance find procedures should be followed
H. Expropriation and Social Disturbance				
30.	Will the subproject involve land expropriation or demolition of existing structures?		x	No land expropriation and demolition is required.
31.	Will the subproject lead to induced settlements by workers and others causing social and economic disruption?		x	The level of proposed activities should not include such impact.

S No	ISSUES	YES	NO	Comments
32.	Will the subproject lead to environmental and social disturbance by construction camps?		x	No construction camps are going to be constructed.
33.	Will the sub-project lead to physical displacement (title-holders, squatters, and vulnerable groups)?		x	Since the activities are only road maintenance, this issue will not be addressed.
34.	Will there be economic displacement?		x	Since the activities are only road maintenance, this issue will not be addressed.
35.	Will there be loss of assets/infrastructure?			This issue will be difficult to assess as it depends on the required depth of excavations and the undeclared local infrastructure
36.	Will the sub-project impact livelihood of non-titled persons and vulnerable groups?		x	Since the activities are only road maintenance, this issue should not be addressed.

Table C3 Site Characteristics

S. No	ISSUES	YES	NO	Comments
1.	Is the subproject located in an area with designated natural reserves?		x	-
2.	Is the subproject located in an area with unique natural features?	x		-
3.	Is the subproject located in an area with endangered or conservation-worthy ecosystems, fauna or flora?		x	-
4.	Is the subproject located in an area falling within 500 meters of national forests, protected areas, wilderness areas, wetlands, biodiversity, critical habitats, or sites of historical or cultural importance?		x	-
5.	Is the subproject located in an area which would create a barrier for the movement of conservation-worthy wildlife or livestock?		x	The subproject will not affect wildlife or livestock, keeping in mind that it is also temporary.
6.	Is the subproject located close to groundwater sources, surface water bodies, water courses or wetlands?		x	-
7.	Is the subproject located in an area with designated cultural properties such as archaeological, historical and/or religious sites?	x		The subproject will not affect the designated cultural properties, keeping in mind that it is also temporary and only maintenance will be performed.
8.	Is the subproject in an area with religious monuments, structures and/or cemeteries?	x		The subproject will not affect the religious monuments, keeping in mind that it is also temporary and only maintenance will be performed.
9.	Is the subproject in a polluted or contaminated area?		x	-
10.	Is the subproject located in an area of high visual and landscape quality?	x		The maintenance of roads will not affect

S. No	ISSUES	YES	NO	Comments
				the visual and landscape quality.
11.	Is the subproject located in an area susceptible to landslides or erosion?		x	-
12.	Is the subproject located in an area of seismic faults?		x	-
13.	Is the subproject located in a densely populated area?		x	-
14.	Is the subproject located on prime agricultural land?	x		It consists mainly on fruits. However, agriculture will not be influenced.
15.	Is the subproject located in an area of tourist importance?	x		The maintenance activities are minimal and temporary so no issues will be arised.
16.	Is the subproject located near a waste dump?		x	-
17.	Does the subproject have access to potable water?	x		-
18.	Is the subproject located far (1-2 kms) from accessible roads?		x	The subproject involves the maintenance of the roads.
19.	Is the subproject located in an area with a wastewater network?		x	-
20.	Is the subproject located in the urban plan of the city?	x		-
21.	Is the subproject located outside the land use plan?		x	-

CONCLUSION

	High	Substantial	Moderate	Low
RISK CLASSIFICATION OF THE SUBPROJECT			x	

ANNEX D - CODE OF CONDUCT

Contractor Code of Conduct Form

Code of Conduct - مدونة سلوك

مشروع الطرقات والعمالة – Roads & Employment Project
الممول من قبل البنك الدولي (القرض رقم ٨٧٠٥ – لبنان)، بإدارة وتنفيذ مجلس الانماء والإعمار لصالح وزارة الأشغال العامة والنقل

تعتبر مدونة السلوك هذه وثيقة ضرورية لحماية جميع العاملين في مشروع الطرقات والعمالة من جميع مظاهر العنف القائم على أسس اجتماعية، التنمر، سوء المعاملة، التحرش والاعتداء والاستغلال الجنسي وأي سلوك اجتماعي أخر يخلّ بحقوق الانسان، المجتمع المحلي والآداب العامة، بما في ذلك المعايير التالية:

١- التزام الاحترام والآداب العامة	●الالتزام بمعاملة النساء والرجال والشباب باحترام بغض النظر عن انتمائهم الديني، العرقي، الطائفي، اللغوي، التوجه السياسي، الاعاقة، الجنسية، الجندرة، الخ. ●احترام موقع العمل وادوات العمل المشتركة: نظافة المكان، عدم التعدي على الممتلكات العامة المجاورة للأعمال، الخ.
٢- عدم استعمال العنف بشتى اشكاله	●العنف القائم على النوع الاجتماعي: أيّ فعل مؤذٍ يُرتكب ضدّ إرادة الشخص. وهو مبنيٌّ على الفروق بين الذكور والإناث التي يُعزى وجودها لأسباب اجتماعية. ●العنف الجنسي: الاغتصاب، الاعتداء الجنسي، التحرش الجنس، الخ. ●العنف الجسدي: الضرب، الصفع، الضرب المتكرر أو باستعمال أداة، الخ. ●العنف العاطفي: الاستغلال النفسي، والابتزاز، الخ. ●العنف الاقتصادي: الحرمان من الموارد، الحصول على أدوات العمل ، عدم الالتزام بالأجر المتفق عليه، الخ.
٣- التحرش والاعتداء والاستغلال الجنسي	الالتزام بالتصدي لأي شكل من أشكال التحرش أو التمييز أو التخويف أو الاستغلال أو الاعتداء الجنسي بما في ذلك التعليقات المهينة المتعلقة بالميل الجنسي، القدح بألقاب أو عبارات ذات دلالات جنسية، التحديق بطريقة ذات إيحاء جنسي، اللمس غير مرغوب فيه، القيام بحركات جنسية غير لائقة، تبادل الحكايات أو النكات الجنسية، توجيه رسائل ذات إيحاء جنسي بأي شكل من الأشكال، محاولة الاعتداء الجنسي أو ارتكابه، بما في ذلك الاغتصاب.

أنا الموقع أدناه، أقر بأني قرأت وتُلِيَ عَلَيَّ وفهمت وتلقيت الشرح والتدريب والمعلومات الكافية عن مدونة السلوك التابعة لمشروع الطرقات والعمالة. وأوافق على الامتثال للمعايير الواردة فيها وأعرف أن أي إجراء يتعارض مع مدونة السلوك هذه قد يؤدي إلى اتخاذ إجراء تأديبي وقد يؤثر على استمرارية عملي ضمن مشروع الطرقات والعمالة.

أسم وامضاء العامل	أسم وامضاء مسؤول الموقع (من قبل المتعهد)	أسم وامضاء المشرف على الاعمال (من قبل الاستشاري)
التاريخ:	التاريخ:	التاريخ:

☐ العامل يجيد القراءة، وقد دوّن اسمه وإمضاءه

☐ العامل لا يجيد القراءة، وقد تُلِيَت عليه مدونة السلوك وتمّ الامضاء نيابةً عنه من قبل الأخصائي الاجتماعي

ANNEX E: PLANS AND PROCEDURES DURING MAINTENANCE ACTIVITIES

Pollution Prevention Plan

The Contractor shall prepare and abide by a Pollution Prevention Plan to ensure that pollution to air, water or land is prevented or, where this is not possible, reduced and mitigated as far as practicable during the construction phase. The Pollution Prevention Plan will be developed for managing:

- liquid effluents
- air emissions
- noise and vibration
- fuel, oil, and chemical storage and handling
- hazardous, non-hazardous, and household waste handling, storage and final disposal
- vehicle and equipment selection and maintenance

Effluent Management Provisions

- No effluent shall be discharged under any condition neither into water courses or bodies including surface water bodies nor to ground surface or infiltrated into subsoils
- Install mobile porta-cabins and connect the generated wastewater from workers to the existing sewage network or to polyethylene tank
- Empty the tank in the sewer network or into nearby operational wastewater treatment plants either by municipality-owned or contracted wastewater tankers

Rainwater run-off Management Provisions

- Install temporary structures to prevent runoff from reaching nearby water bodies
- Remove base coarse and sand from active maintenance sites to prevent the transfer of suspended solids in rainwater
- All platforms where generators or hydrocarbon storage tanks are installed have an impervious layer
- Restrict excavation activities during periods of intense rainfall

Atmospheric Emissions and Dust Management Provisions

- Exercise care to minimize emissions of dust from its activities, including traffic, at work sites, in residential areas and on access roads.
- Stop dust generating activities during windy weather especially in residential areas
- Where it is deemed that dust is impacting or may have an impact on human, plant or animal receptors or where dust may cause sedimentation of watercourses/water bodies or unacceptable levels of soil loss, water shall be applied to the area creating the dust

- Control vehicle speeds to reduce traffic-induced dust dispersion and resuspension by setting and enforcing speed limits
- Post speed limit signs in sensitive areas
- Ensuring trucks hauling sand, dirt or other loose materials are covered (sheeting trucks)
- Cover dusty stockpiles
- Suspending topsoil stripping and replacement during strong winds
- Using a dust collection system for bulk materials unloading
- Ensure proper handling and storage of materials thus minimising the areas of stockpiled materials
- When storage, transport and handling of bulk materials is made in the open air and exposed to the wind, necessary dust abatement measures shall be implemented
- Regular maintenance of construction machinery, equipment and vehicles

Spill Prevention and Management

- Spill clean-up procedure to reduce the risks of accidental leakages
- Carry out all re-fuelling in designated areas with impervious surfaces and guarantee no fuel spills
- A spill collection tank must be installed under generators and specific equipment
- All chemicals shall be stored in dedicated areas on a paved or sealed floor and in tightly closed containers and be protected from adverse weather conditions
- Used oil or chemical must be stored in an appropriate area until it is collected and disposed in licensed sites
- Use of secondary containment basins for long term storage of lubricants and fuels
- Ensure that the plan is present at the construction site and that oil spill response kits are available
- Ensure proper housekeeping conditions are maintained at the oil/chemical storage areas
- Train all workers to implement this plan in case of accidental spillage

Waste Management Plan

This plan shall be developed and implemented by the Contractor to manage the generated waste effectively. The plan shall include the following components:

- Establish and maintain a waste register which is at the disposal of the Engineer. This register will record all waste management operations: production, collection, transport and disposal. Waste shall be categorized according to the following definitions:
    - Non-hazardous solid waste generated at maintenance sites and offices includes excess fill materials from grading and excavation activities, scrap wood and metals, and small concrete spills. Other non-hazardous solid wastes include office and kitchen wastes.

- Hazardous solid waste includes contaminated soils, oily rags, used oil filters, used oil, as well as spill cleanup materials from oil and fuel spills

- Waste shall be collected from each maintenance sites and from offices at the same rate that it is produced
- All the waste materials generated at work sites and offices shall be segregated into domestic (organic/ paper and cardboard/ metals, glass and plastics) and hazardous waste and disposed into the color-coded containers (one for the disposal of organic waste, one for paper and cardboard and one for aluminium, glass and plastics)
- The domestic waste containers shall be emptied 2 to 3 times per week by the municipality to maintain maintenance sites sanitation
- Segregated recyclables shall be sent to recycling facilities in the area where possible
- Reuse of excavation materials generated during cutting and filling activities whenever possible and disposal of remaining material in controlled disposal site to be identified by the contractor in coordination with the relevant municipality
- Approval letters shall be obtained from the concerned municipalities for domestic and construction waste disposal
- Reuse or recycle the generated waste whenever possible
- Train workers on waste reduction procedures
- Provide workers with nearby sanitation facilities and inform them about their location
- The work zone shall be cleaned on a daily basis. Construction leftovers that are external to the working zone shall be removed regularly. Site housekeeping must be maintained

Hazardous Materials Management Plan

A Hazardous Materials Management Plan will be developed for hazardous materials that pose a potential risk to human health or the environment and include cleaning chemicals, solvents and fuels. The plan shall include the following:

- Fuel and hazardous chemicals/materials shall be stored in designated areas, except for quantities generated or required for the daily construction activities.
- All fuel and hazardous chemical storage facilities shall be located on flat or gently sloping ground and shall be contained within a bund designed to contain at least 110% of the total capacity of the storage containers plus 10% of the aggregate tank volume within the containment area or as otherwise specified by regulatory requirements. The bund walls and floor shall be constructed of concrete or other suitably impermeable material. The filling connection must be within the bund. No drain valves or other connections through the bund walls shall be permitted. Tanks shall be fitted with a gauge to allow the fill level to be monitored during refilling and preferably with a high-level alarm.
- Hydrocarbons, lubricants, paints, solvents and batteries are transported in drums to suitable waste management facilities, if available

Emergency Preparedness and Response Plan

An Emergency Preparedness and Response Plan (EPRP) will be developed so that the Contractor is prepared to respond to accidental and emergency situations in a manner that prevents and mitigates harm to people and the environment. The EPRP needs to be discussed and disclosed to service providers and local affected communities prior to construction. The EPRP shall cover the following emergency situations as a minimum/;

- Medical emergency
- Fire or explosion;
- Hazardous Material Spill or Release;

The EPRP will identify

- Accidents and emergency situations and the communities and individuals that may potentially be impacted
- Response procedures, provision of equipment and resources, designation of responsibilities, communication systems and channels and periodic response training

The Project will need to ensure that the Contractor shall

- Maintain fit-for-purpose Emergency Response Capability, which shall be clearly documented
- Make contingency arrangements for calling a Doctor and transporting injured persons to hospital. The telephone numbers of the emergency services and the name, address and telephone number of the Doctor and the nearest hospital shall be prominently displayed in the Contractor´s office.
- Ensure that all personnel are informed and aware of how to react in an emergency situation, and responsibilities are defined. Information and awareness training shall be documented, and available on all Project Areas
- Organize and document emergency simulation exercises within 3 months of the physical start of the works, and subsequently once every 12 months

Traffic Management Plan

A Traffic Management Plan (TMP) will need to be developed by the main contractor. The TMP shall be a starting point for further discussion between the main contractor, local authorities and road agencies. The plan will include preventative measures to manage the risks from potential increases in traffic from construction activities including transportation of material and workers to and from the maintenance activity sites. In addition, it will include measures to protect workers and manage the risks from civilian traffic within close proximity to maintenance activities especially within residential areas. The TMP will be refined and updated as access routes are confirmed and the timing and type of abnormal loads become known.

The TMP shall include the following:

- Proposed program of works;

- Details of key stakeholders;
- Details regarding the proposed method of construction;
- Proposed Temporary Traffic Control/ Management Plans (TTCP/ TMP);
- Various traffic diversion plan layouts for various type of activities;
- Diversion signs;
- Regulatory signs;
- Informative signs;
- Analysis of impacted roads;
- Risk Assessment;
- Proposed working hours; and
- Protection of Work Zones and road users including pedestrians;

The TMP shall be approved by the Consultant prior the execution of work.

A special TMP shall be prepared regarding works on Highways.

Noting that Works on Highways shall be minimized during Peak- Hours and maximized during off-peak hours, 7 days a week.

Public Health and Safety Plan

An effective Public Health and Safety Plan for construction shall include at least the following components:

- Secure the site and restrict access to it
- Prohibit unattended/unauthorized public access
- No children are allowed to be present on the work site, reminding workers and community members of this in all related communications
- Install barriers with warning lights at night around excavations, material dumps or other obstructions at the maintenance sites
- Install warning signs for drilling and maintenance at the external part of the site and at a distance of 100 meters
- Inform residents and place proper safety and diversion signs at sensitive areas within the project area (i.e. near schools, shops hospitals and agriculture areas)
- Install pedestrian and vehicular passages near residential areas
- Accidental oil spillage shall be well controlled
- Make sure at least three sets of first aid kits are present on the construction site.
- Access to hospitals should not be impeded at any time
- Properly manage trucks and heavy machinery entering and exiting the construction site.
- Training of heavy machinery drivers about road safety

- Equip Project drivers with telephones for contacting the emergency services to enact the EPRP if necessary in case of emergency.
- Keep stakeholders informed of maintenance schedule and abide by assigned timing
- Manage the grievance mechanism through which community members can make complaints about project activities
- The community health and safety plan shall cross reference with other relevant management plans such as the TMP and EPRP. Local health care and emergency services shall be consulted in the development of the plan.

Occupational Health and Safety (OHS) Plan

In addition, the Contractor shall ensure the workers' health and safety against possible accidents and injuries from the various maintenance activities. The plan shall include the following:

- Hazard Identification and assessment including (Physical injuries from: Traffic accidents, Falling from moving vehicles, Loss of stability and overturning of equipment, Falling from height, Hit by construction materials, Slips, trips and falls, Electrical incidents, Burns from hot works, Health problems due to: Fumes and dust, Noise and vibration, Excessive manual handling, Disease outbreaks, Asphyxiation in confined spaces and Fire)
- OHS protection measures for the identified hazards
- OHS protection measures for Unexploded Explosive Ordnance
- Prevention and precaution measures for COVID-19
- Identify the mandatory personal protective equipment (PPE) to be used including hard hats, safety boots, reflective vest as well as specific PPEs
- Identify and manage dangerous substances planned to be used on the project area
- Work Permit System for Confined Space Entry, Hot Works, Excavation, Lifting, Working at Height, Handling of Hazardous Materials, and Electrical works
- Safe Work Method Statements
- Hazard communication
- Emergency and Evacuation procedures
- Accident and incident reporting and investigation

The Contractor shall implement mitigation measures as per the Occupational Health and Safety Plan. Measures include but not limited to:

- Personnel and visitors to maintenance activity areas shall be equipped with a safety helmet, safety shoes and a reflective jacket as a minimum.
- Adequate quantities of PPE shall be available on the project areas and stored properly
- Personnel shall be trained on how to use and care for PPE

- Conduct training and awareness meetings including correct use of PPE, health and safety procedures, and handling hazardous material containers and related wastes
- Ensure refreshing training session on occupational health and safety measures is conducted on a monthly basis
- Ensure that supervision, directly in charge of construction activities, fully brief and discuss with Personnel HS Tool Box Talks at the start of each work day and prior to commencing new activities. These talks shall be conducted in a language understood by the workforce. A checklist shall be utilised for this purpose. At a minimum it shall include the following: Nature of the job, associated hazards, safe working methods to be adopted and requirements of the Permit to Work
- Ensure a minimum of first-aid provisions on any work site, including: suitably stocked first-aid kits; a person, respectively an adequate number of staff appointed and trained to take charge of first-aid arrangements and ensure that staff and workers are informed about first-aid arrangements
- Equip the project area with a communication system exclusively for the purposes of communication with the first aid services. Information on how to communicate with the first aid services shall be clearly indicated near the communications equipment
- Collaborate with local health authorities and make arrangement with an appropriate number of local doctors, and/or nurses, hospitals and ambulance services to ensure that medical staff, first aid facilities, and ambulance service are available within the project area
- Measures as per national guidelines published by WHO and Ministry of Public Health regarding COVID-19 prevention and quarantine procedures
- Workplace inspections

Chance Finds Procedure

The chance find procedure is a project-specific procedure that identify actions necessary if previously unknown heritage resources, particularly archaeological resources, are unexpectedly encountered during project construction phase.A Chance Find Procedure will set out how chance finds associated with the project will be managed and will include the following requirements:

- Notify relevant authorities (Directorate of General of Antiquities) of found objects or sites
- Fence the area of finds or sites to avoid further disturbance
- Conduct an assessment of found objects or sites by cultural heritage experts in order to identify and implement actions consistent with the requirements of ESS8 and national legislation
- Train project personnel and project workers on chance find procedures

ANNEX F - PUBLIC PARTICIPATION

Invitation letters

REPUBLIQUE LIBANAISE
Ministère de l'Intérieur et des
Municipalités
Communauté Urbaine AL-FAYHAA
Tripoli – Mina – Beddaoui- Kalamoun

الجمهورية اللبنانية
وزارة الداخلية والبلديات
اتحاد بلديات الفيحـــــاء
طرابلس – الميناء – البداوي- القلمون
الرقم المالي : ٨٣٣٨٥٥

رقم الصادر : ١٢
التاريخ : ١٨ – ١ – ٢٠٢٢

الموضوع: دعوة لحضور إجتماع مشاركة عامة حول مشروع "الطرق والعمالة"

تحية طيبة وبعد،

لما كانت الحكومة اللبنانية قد حصلت على تمويل من البنك الدولي لمشروع الطرق والتوظيف (REP)، يقوم مجلس الإنماء والإعمار بصفته الجهة المنفذة بتحديد أنشطة إعادة الصيانة المحصورة ضمن محاذاة الطرق الحالية (مع عدم وجود توسيع للطرق، وعدم إعادة التوطين القسري، وعدم إستملاك الأراضي).

في هذا السياق، منح مجلس الإنماء والإعمار العقد لشركة TEAM International لإعداد التقييم والتصميم وخطط الإدارة البيئية والاجتماعية للطرق في مناطق البترون وبشري والكورة وطرابلس وبعلبك والهرمل.

ولما كانت بدورها شركة جيوفلنت ش.م.م. للإستشارات البيئية قد كلفت بإعداد خطة ادارة بيئية وإجتماعية وإجتماعية للمشروع المذكور،

وحيث أنه برزت الضرورة لعقد اجتماعات تشاورية مع الجهات المعنية والعامة بشؤون البيئة والأمور الإجتماعية ذات الصلة بمشاريع الطرق والإستماع إلى آرائهم المتعلقة بالمشروع؛

وبما أن قضاء طرابلس يتضمن طرقات من مجموع الطرقات الملحوظة للصيانة في هذا المشروع ؛

لذلك ندعوكم لحضور إجتماع مشاركة للعامة وذلك:

في تمام الساعة العاشرة صباحاً من يوم الإثنين في ٢٠٢٢/٠١/٢٤ في قاعة المؤتمرات في بلدية الميناء – الكورنيش البحري.

ونتمنى على المواطنين الكرام، إبداء الملاحظات الخطيّة، في حال وجودها، حول المشروع المذكور، وإرسالها إلى إتحاد بلديات الفيحاء عبر البريد الإلكتروني: alfayhaa@gmail.com.

يرجى تسمية من ترونه مناسبا" للمشاركة في الجلسة أعلاه، كما يرجى تأكيد الحضور أو الإعتذار على الرقم ٠٦-٤٢٤١٨٠ أو عبر الفاكس على الرقم ٠٦-٤٢٤٣٦٥ أو عبر البريد الإلكتروني: alfayhaa@gmail.com.

شاكرين لكم تعاونكم وتفضلوا بقبول فائق الاحترام والتقدير.

رئيس إتحاد بلديات الفيحاء بالإنابة

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REPUBLIQUE LIBANAISE
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الجمهورية اللبنانية
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اتحاد بلديات الفيحـــــاء
طرابلس – الميناء – البداوي- القلمون
الرقم المالي : ٨٣٣٨٥٥

رقم الصادر : ١٣
التاريخ : ١٨-١-٢٠٢٢

سعادة محافظ لبنان الشمالي القاضي رمزي نهرا المحترم

الموضوع: دعوة لحضور إجتماع مشاركة عامة
حول مشروع "الطرق والعمالة"

تحية طيبة وبعد،

بالاشارة الى الموضوع أعلاه،

ندعوكم لحضور الجلسة العلنية لعرض مكونات مشروع "الطرق والعمالة" وإستعراض ومناقشة الجوانب البيئية للمشروع وذلك:

في تمام الساعة العاشرة صباحاً من يوم الإثنين في ٢٠٢٢/٠١/٢٤ في قاعة المؤتمرات في بلدية الميناء –الكورنيش البحري.

يرجى تسمية من ترونه مناسبا" للمشاركة في الجلسة أعلاه، كما يرجى تأكيد الحضور أو الإعتذار على الرقم ٠٦-٤٢٤١٨٠ أو عبر الفاكس على الرقم ٠٦-٤٢٤٣٦٥ أو عبر البريد الإلكتروني: alfayhaa@gmail.com.

كما يرجى من جانبكم تعليق الدعوة المرفقة على لوحة الإعلانات الخاصة بالبلدية.

شاكرين لكم تعاونكم وتفضلوا بقبول فائق الاحترام والتقدير.

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جانب بلدية طرابلس

الموضوع: دعوة لحضور إجتماع مشاركة عامة
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جانب بلدية الميناء

الموضوع: دعوة لحضور إجتماع مشاركة عامة
حول مشروع "الطرق والعمالة"

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REPUBLIQUE LIBANAISE
Ministère de l'Intérieur et des Municipalités
Communauté Urbaine AL-FAYHAA
Tripoli – Mina – Beddaoui- Kalamoun

الجمهورية اللبنانية
وزارة الداخلية والبلديات
اتحاد بلديات الفيحـــــاء
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التاريخ : ١٨-١-٢٠٢٢

جانب بلدية البداوي

الموضوع: دعوة لحضور إجتماع مشاركة عامة
حول مشروع "الطرق والعمالة"

تحية طيبة وبعد،

بالاشارة الى الموضوع أعلاه،

ندعوكم لحضور الجلسة العلنية لعرض مكونات مشروع "الطرق والعمالة" وإستعراض ومناقشة الجوانب البيئية للمشروع وذلك:

في تمام الساعة العاشرة صباحاً من يوم الإثنين في ٢٠٢٢/٠١/٢٤ في قاعة المؤتمرات في بلدية الميناء –الكورنيش البحري.

يرجى تسمية من ترونه مناسبا" للمشاركة في الجلسة أعلاه، كما يرجى تأكيد الحضور أو الإعتذار على الرقم ٠٦-٤٢٤١٨٠ أو عبر الفاكس على الرقم ٠٦-٤٢٤٣٦٥ أو عبر البريد الإلكتروني: alfayhaa@gmail.com.

كما يرجى من جانبكم تعليق الدعوة المرفقة على لوحة الإعلانات الخاصة بالبلدية.

شاكرين لكم تعاونكم وتفضلوا بقبول فائق الاحترام والتقدير.

رئيس إتحاد بلديات الفيحاء بالإنابة

حسن غمراوي

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العنوان : شارع المرفأ ، طرابلس - لبنان
هاتف : ٤/٤٢٤٣٦٣ ٦ ٩٦١ – فاكس : ١/٤٢٤١٨٠ ٦ ٩٦١
بريد الكتروني : alfayhaa@gmail.com

REPUBLIQUE LIBANAISE
Ministère de l'Intérieur et des
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Communauté Urbaine AL-FAYHAA
Tripoli – Mina – Beddaoui- Kalamoun

الجمهورية اللبنانية
وزارة الداخلية والبلديات
اتحاد بلديات الفيحـــــاء
طرابلس – الميناء – البداوي- القلمون
الرقم المالي : ٨٣٣٨٥٥

رقم الصادر : ١٧
التاريخ : ١٨ - ١ - ٢٠٢٢

جانب بلدية القلمون

الموضوع: دعوة لحضور إجتماع مشاركة عامة
حول مشروع "الطرق والعمالة"

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بريد الكتروني : alfayhaa@gmail.com
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موقع الأنترنت : http://www.urbcomfayhaa.gov.lb

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Tripoli – Mina – Beddaoui- Kalamoun

الجمهورية اللبنانية
وزارة الداخلية والبلديات
اتحاد بلديات الفيحـــــاء
طرابلس – الميناء – البداوي- القلمون
الرقم المالي : ٨٣٣٨٥٥

رقم الصادر : ١٨
التاريخ : ١٨ - ١ - ٢٠٢٢

حضرة نقيب المهندسين في الشمال المهندس بهاء حرب المحترم

الموضوع: دعوة لحضور إجتماع مشاركة عامة
حول مشروع "الطرق والعمالة"

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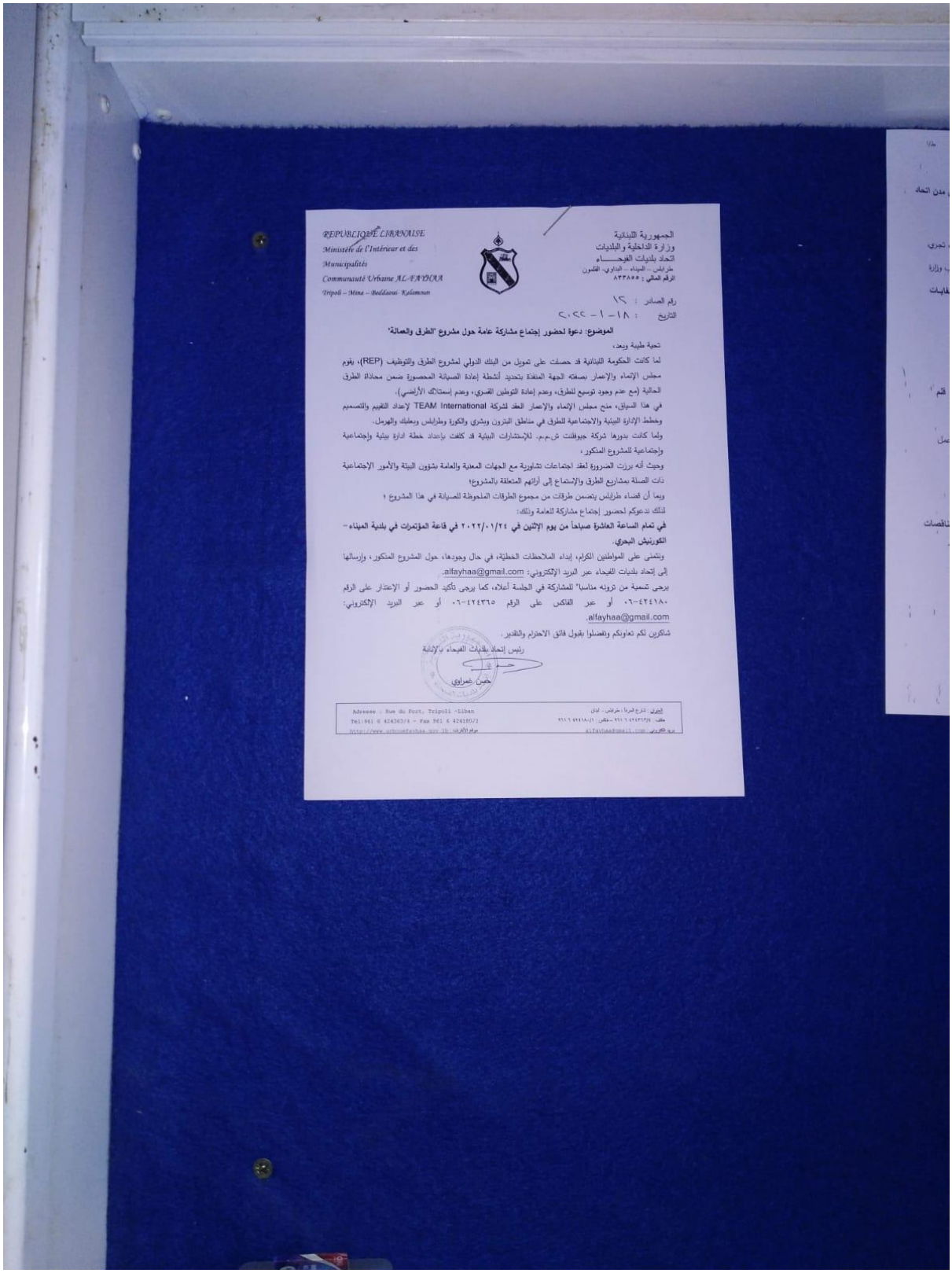
العنوان : شارع المرفأ ، طرابلس - لبنان
هاتف : ٩٦١ ٦ ٤٢٤٣٦٣/٤ – فاكس : ٩٦١ ٦ ٤٢٤١٨٠/١
بريد الكتروني : alfayhaa@gmail.com



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الجمهورية اللبنانية
وزارة الداخلية والبلديات
اتحاد بلديات الفيحـــــاء
طرابلس - الميناء - البداوي- القلمون
الرقم الهاتفي : ٨٣٣٨٥٥

رقم الصادر : ١٧
التاريخ : ١٨ - ١ - ٢٠٢٢

الموضوع: دعوة لحضور إجتماع مشاركة عامة حول مشروع "الطرق والعمالة"

تحية طيبة وبعد،

لما كانت الحكومة اللبنانية قد حصلت على تمويل من البنك الدولي لمشروع الطرق والتوظيف (REP)، يقوم مجلس الإنماء والإعمار بصفته الجهة المنفذة بتحديد أنشطة إعادة الصيانة المحصورة ضمن محافظة الطرق العالية (مع عدم وجود توسيع للطرق، وعدم إعادة التوطين القسري، وعدم إستملاك الأراضي).

في هذا السياق، منح مجلس الإنماء والإعمار العقد لشركة TEAM International لإعداد التقييم والتصميم وخطط الإدارة البيئية والاجتماعية للطرق في مناطق البترون وبشري والكورة وطرابلس وبعلبك والهرمل.

ولما كانت بدورها شركة جيوفلنت ش.م.م. للإستشارات البيئية قد كلفت بإعداد خطة ادارة بيئية وإجتماعية وإجتماعية للمشروع المذكور ،

وحيث أنه برزت الضرورة لعقد اجتماعات تشاورية مع الجهات المعنية والعامة بشؤون البيئة والأمور الإجتماعية ذات الصلة بمشاريع الطرق والإستماع إلى آرائهم المتعلقة بالمشروع؛

وبما أن قضاء طرابلس يتضمن طرقات من مجموع الطرقات الملحوظة للصيانة في هذا المشروع ؛

لذلك ندعوكم لحضور إجتماع مشاركة للعامة وذلك:

في تمام الساعة العاشرة صباحاً من يوم الإثنين في ٢٠٢٢/٠١/٢٤ في قاعة المؤتمرات في بلدية الميناء – الكورنيش البحري.

ونتمنى على المواطنين الكرام، إبداء الملاحظات الخطية، في حال وجودها، حول المشروع المذكور، وإرسالها إلى إتحاد بلديات الفيحاء عبر البريد الإلكتروني: alfayhaa@gmail.com.

يرجى تسمية من ترونه مناسباً للمشاركة في الجلسة أعلاه، كما يرجى تأكيد الحضور أو الإعتذار على الرقم ٠٦-٤٤١٨٠ أو عبر الفاكس على الرقم ٠٦-٤٢٤٣٦٥ أو عبر البريد الإلكتروني: alfayhaa@gmail.com.

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حسن عمراني

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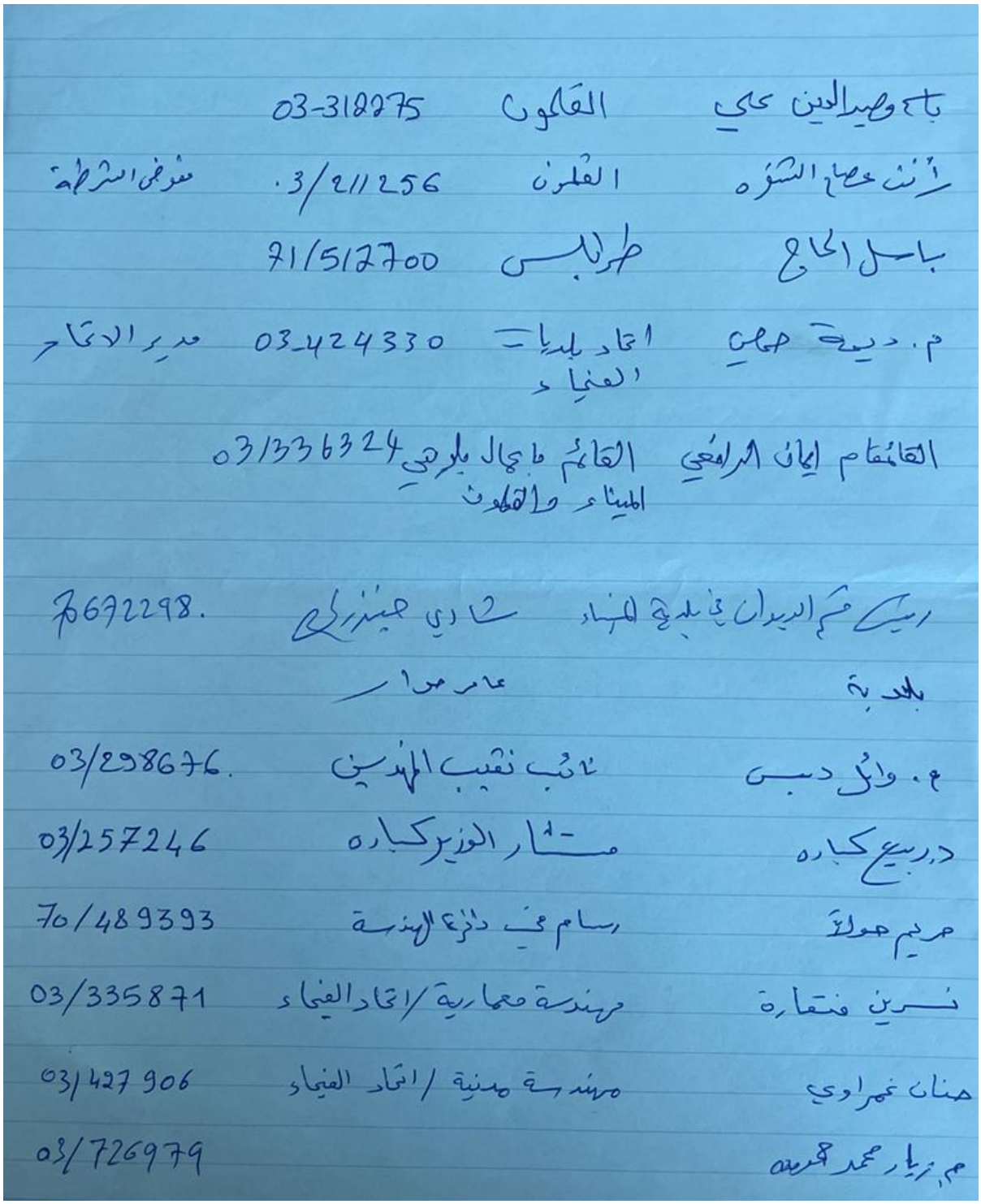
alfayhaa@gmail.com بريد الكتروني

List of attendees



NGO's Consultation

Contacts with local NGOs and stakeholders Table

Organization	*Person*	*Position*	*Comments*	*Phone*
Rene Mouawwad Foundation	Khouloud Al Ali	RMF Center Manager, Bab El Tebbaneh	Have current projects in Bab El Tebbaneh near Road 5	+961 70 115487
Alliqaa' Alnissa'i Al Khairi Association	Rouba Shaarani	Manager	Social development with a focus on women empowerment Syrian labour available in Tripoli district and paid mostly in cash	+961 76 415800
Rouwwad Al Tanmia Association	Sarah Al-Sharif	Manager	Syrian labour available in Tripoli district and paid mostly in cash	+961 3 198516
Al Ittiad Al Nissa'i Al Taqaddoumi	Inaam Al Mahmoud	Manager	Social development with a fccus on women empowerment Syrian labour available in Tripoli district and paid mostly in cash	+961 3 980547
Utopia	Chadi Nashabeh	Office Manager Tripoli	Syrian labour available in Tripoli district and paid mostly in cash	+961 3 988099
Rene Mouawwad Foundation	Natasha Marashelian	Director, Main Office, Beirut	Works throughout Lebanon including the Tripoli district. Had many sub-contractors with construction activities	+961 3 850 692

PowerPoint Presentation

2/14/2022

خطة الإدارة البيئية والإجتماعية لمشروع الطرق والعمالة

الإجتماع التشاوري لصيانة الطرق في قضاء طرابلس

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TEAM INTERNATIONAL

المقدمة

- بحسب تقرير التنافسية العالمية الذي للمنتدى الاقتصادي العالمي 2018 فإن البنية التحتية في لبنان هي ثالث عقبة رئيسية للنمو الإقتصادي.
- ومن بين المؤشرات الفرعية التسعة للبنية التحتية التي يستخدمها المنتدى الاقتصادي العالمي، يحتل لبنان المرتبة الـ 121 بالنسبة لنوعية الطرق (المنتدى الاقتصادي العالمي، 2018).
- يعاني لبنان من حوادث السير بحيث معدلاتها هي الاعلى عالمياً مقارنةً بعدد السكان.

أهداف المشروع

يهدف هذا المشروع إلى صيانة الطرق بحيث تتنوع وتختلف الأنشطة بين طريق وآخر، اعتماداً على تصنيف الطريق من حيث حالة الرصيف والكتفين ومجاري الصرف والانهيار الارضي المحتمل وأو تآكل التربة والجدران الاستنادية وممرات المشاة وإضافة وأو إعادة تأهيل إنارة الشوارع

سيتم تنفيذ أنشطة الصيانة الروتينية لمدة عامين، للطرق الرئيسية كأولوية والطرق الثانوية حيث تتوفر الأموال

أهداف مشروع الطرق والعمالة

المكوّن الاول اعادة تأهيل الطرق وصيانتها	المكوّن الثاني تحسين القدرة على الإستجابة لطوارئ	المكوّن الثالث بناء قدرات ودعم التنفيذ
• إعادة تأهيل حوالي ٥٠٠ كم من الطرق الأساسية والثانوية والفرعية • تحسين ترابط خطوط النقل وخلق وظائف مباشرة وغير مباشرة للبنانيين والسوريين	• تحسين قدرات وزارة الأشغال العامة والنقل على التعامل مع الطوارئ المتعلقة بالطرق (المواسم...) • مراجعة إجراءات الطوارئ الحالية التي تتبعها وزارة الأشغال العامة والنقل وقدرتها على التخطيط والإستعداد للحالات الطارئة	• بناء قدرات الهيئات القيادية في التخطيط وإدارة قطاع الطرق • المساهمة في تدريب وبناء قدرات المقاولين والعاملين على المشاريع حول تقنيات جديدة محسنة لبناء الطرق وصيانتها

1

2/14/2022

أهداف الخطة الإدارة البيئية والإجتماعية

أهداف خطة الإدارة البيئية والإجتماعية

الأهداف قصيرة الأمد

- ضمان التوافق مع المعايير البيئية
- تحديد الآثار والإجراءات التخفيفية
- تحديد خطة إدارة المشروع وفق لمبدأ السلامة والاستدامة البيئية
- تحقيق الشفافية عبر إطلاع العامة على المشروع وشرح مكوناته

الأهداف بعيدة الأمد

- تحسين الأوجه الاجتماعية للمشروع
- تفادي الضرر الذي لا يمكن إزالة أثره على البيئة
- حماية الصحة البشرية والسلامة العامة
- حماية الموارد البيئية
- تحقيق مبدأ الإستدامة

فهرس خطة الإدارة البيئية والإجتماعية

1. ملخص تنفيذي
2. مقدمة
3. أطر السياسات والأطر القانونية والإدارية
4. وصف مكونات المشروع
5. وصف البيئة المحيطة
6. مشاركة العامة
7. تقييم الآثار البيئية المتحملة
8. خطة الإدارة البيئية

أطر السياسات والأطر القانونية والإدارية

- القانون رقم ٤٤٤ /٢٠٠٢ قانون حماية البيئة
- مرسوم رقم ٨٦٣٣/ ٢٠١٢ أصول تقييم الأثر البيئي الذي حدد المشاريع التي تستلزم حكماً إعداد دراسة تقييم أثر بيئي.
- قرار 52/1 (1996)
- قرار 8/1 (2001)
- السياسات التشغيلية للبنك الدولي (OP4.01, OP4.12)

الأشغال المقترحة

- إصلاح ورصف الطرق فقط وزيادة طبقات لتصحيح المنخفضات الموضعية
- إصلاح الجدران الاستنادية الخرسانية التالفة / جدران الصخرية
- إصلاح الأرصفة وحواجز الأمان
- إصلاح شبكة تصريف مياه الأمطار
- إصلاح شبكات الإنارة وكافة الأعمال الكهربائية والمدنية المتعلقة بها
- تنفيذ علامات الطرق
- الأعمال المساعدة الأخرى المرتبطة بما في ذلك إدارة حركة المرور أثناء الصيانة.

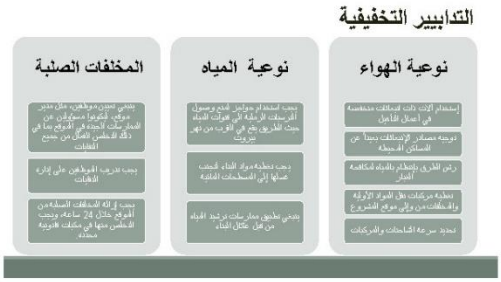
مدة المشروع هي سنتين

وصف البيئة المحيطة

- نوعية التربة والمياه السطحية والجوفية
- تقييم الوضع الجيولوجي والهيدروجيولوجي
- تقييم الوضع البيولوجي
- وضع الضجيج
- الوضع الاجتماعي والاقتصادي للمنطقة
- مدى توفر البنى التحتية

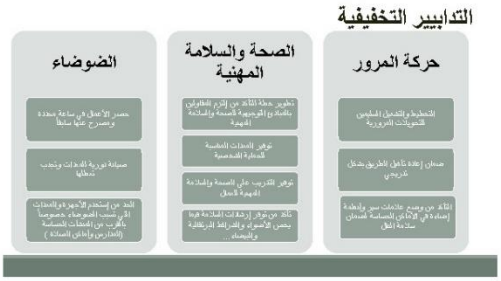
2

2/14/2022



الآثار البيئية المحتملة

- التأثير على نوعية الهواء ونوعية المياه
- زيادة في نسبة المخلفات الصلبة الناتجة عن عملية التأهيل
- زيادة في مستوى الضجيج
- ذكر الحركة التجارية للمؤسسات والمحال الفاتحة على جانبي الطريق
- تعثر في حركة السير
- خطر على الصحة والسلامة المهنية والعامة (في حال حصول اي حادث)



خطة الإدارة البيئية والإجتماعية

هدف الخطة الادارة البيئية: مراقبة المشروع والتأكد من مطابقته مع جميع المعايير البيئية.
بعد دراسة الاثار المحتملة للمشروع ،تقوم الدراسة باقتراح اساليب تخفيفية لهذه الاثار وسبل لمراقبتها.

خطة الادارة البيئية تتضمن:

- مراقبة نوعية المياه
- مراقبة نوعية التربة
- مراقبة نوعية الهواء
- مراقبة نوعية التنوع البيولوجي
- مراقبة الصحة والسلامة العامة
- خطة طوارئ للتصرف السليم في حال حدوث اي حادث مفاجئ

شكراً لحضوركم

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ANNEX F - COMPLAINTS REGISTER FORM

Name, phone and address of Complainant	Date of the complaint	Complaint issue and action taken	Corrective Action	Name of employer/ representative notified of complaint	Type of Complaint	Date of close out