TOROS MERAM RENEWABLE ENERGY PRODUCTION INC.

MERAM BIOGAS POWER AND ORGANOMINERAL FERTILIZER PRODUCTION PLANT

Traffic Management Plan (TMP)

(Plan No: MRM-PLN-HSS-001)

MGS PROJECT CONSULTANCY
ENGINEERING TRADE LIMITED CO.

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Abbreviations

AIIB	Asian Infrastructure and Investment Bank
DCC	Document Control Center
EHS	Environmental, Health and Safety
EHSS	Environmental Health, Safety, and Social
EIA	Environmental Impact Assessment
ESDD	Environmental and Social Due Diligence
ESMS	Environmental and Social Management System
ESS	Environmental and Social Standard
HS	Health and Safety
HSE	Health, Safety, and Environmental
IFC	International Finance Corporation
KPI	Key Performance Indicator
MWe	Megawatt Electrical
OHS	Occupational Health and Safety
PS	Performance Standards
SRS	Social Responsibility Staff
TMP	Traffic Management Plan
The Project	Meram Biogas Power and Organomineral Fertilizer Production Plant Project
Toros Energy	Toros Meram Yenilenebilir Enerji Üretim A.Ş.

1 INTRODUCTION

This Traffic Management Plan ("TMP") is prepared for Meram Biogas Power and Organomineral Fertilizer Production Plant Project to complete the studies conducted for assessment of the Environmental and Social Impacts of the Project as per the IFC Performance Standards ("PSs") and Asian Infrastructure and Investment Bank (AIIB) Environmental and Social Standards (ESSs). The reference number of this Management Plan is MRM-PLN-HSS-001.

1.1 Background

Meram Biogas Power and Organomineral Fertilizer Production Plant Project with an installed capacity of 6.17 MWe, hereinafter referred as "the Project", is planned to be established and operated within borders of Çomaklı Neighborhood, Meram District of Konya Province. Toros Meram Yenilenebilir Enerji Üretim A.Ş. ("Toros Energy") is the Project Company. The Project consists of Waste Acceptance and Raw Material Preparation System, Anaerobic Digestion System and Heat Center, Gas Cleaning, Gas Conditioning and Storage System, Energy Generation System (Cogeneration), Solid Fertilizer Composting and Drying System, Liquid Fertilizer Production System, and a Wastewater Treatment Plan.

1.2 Scope

This Traffic Management Plan is a part of the Environmental and Social Management System (ESMS) of the Project and it covers all Project activities during the construction and operational phases. This plan describes commitments and approaches of the Project to minimize and mitigate the potential adverse impacts and risks of road usage due to the Project activities related to traffic and transportation. Within the scope of this plan, traffic management of pedestrians, vehicles and machinery are discussed.

In the scope of this plan, it is aimed to minimize the possible impacts by the addition of vehicle movements created by the Project activities. This plan can be updated and revised if necessary. The following aspects are included in the scope of this plan:

- Legislative requirements and standards,
- Key roles and responsibilities,
- Measures to be taken regarding traffic and transportation management,
- Monitoring and reporting/recording,
- Training of personnel regarding traffic and transportation management issues.

This Traffic Management Plan overlaps and cross-linkages to number of the other Management Plans given as follows:

- Environmental and Social Management and Monitoring Plan (MRM-PLN-HSSE-001),
- Stakeholder Engagement Plan (MRM-PLN-SOC-001),
- Grievance Mechanism Procedure (MRM-PRC-SOC-001).

1.3 Purpose

The purpose of this plan is to describe and explain various measures to prevent, minimize and mitigate the adverse impacts for the lifetime of the Project. In order to achieve this goal, the Plan will comply with the national legislation, requirements of International Finance Corporation (IFC) and international best practices. The main focus of this Traffic Management Plan is to provide a detailed description of the mitigation measures and control practices in order to minimize and manage impacts related to traffic and transportation to be resulted from the Project activities during the construction and operational phases and to maintain traffic safety of the roads for the residents and employees.

The purpose of this Traffic Management Plan is to:

- Define the scope of the Management Plan and set out applicable management interfaces,
- Define key roles and responsibilities,
- Outline the applicable Project Standards relevant to this Management Plan,
- Define Project commitments, operational procedures and guidance relevant to this Management Plan,
- Define monitoring, reporting procedures and Key Performance Indicators (KPIs),
- Define training requirements,

2 ROLES AND RESPONSIBILITIES

Table 1. Key Roles and Responsibilities

Roles	Responsibilities
General Manager/ Board of Manager	• Ensuring this management plan will be implemented during the lifetime of the Project.

Roles	Responsibilities
Operational Manager	• Approval of this Plan and resources required for implementation, • Informing the General Manager/ Board of Manager about the performance and needs of the TMP.
Health, Safety and Environment (HSE) Manager	• Has overall responsibility for the implementation of Traffic Management Plan by fulfilling project requirements, • Ensuring that relevant activities are undertaken following this Management Plan and related Procedures, • Ensure compliance of the Project with the Project Standards and requirements set out in this Plan, • Providing technical support to the departments of the Project and Contractors to ensure compliance with this Plan, • Auditing periodically and inspecting of the workplaces of the Project Departments and Principal Contractors against the requirements of this Plan and related Procedures, • Ensuring that the department personnel are fully trained in traffic management practices, • Ensuring all the incidents are investigated and reported properly, • Reporting all hazards, non-conformances, and incidents, • Informing the Operational Manager during the implementation.
Social Responsibility Staff (SRS)	• Supporting the HSE Manager for the implementation of the Plan, • Ensuring management of the grievance procedure in terms of traffic and transportation safety, and informing HSE Manager about traffic-related complaints and concerns, • Engaging with local stakeholders relevant to off-site traffic.
Site Engineers	• Providing oversight and conduct routine works to ensure relevant activities are in accordance with the Management Plan.
Contractors / Subcontractors	• Ensuring that relevant activities are undertaken in accordance with this Management Plan and related Procedures, • Fulfilling the works under their contracts, • Providing necessary vehicles and equipment are in good working order in accordance with the manufacturer's specifications.

3 PROJECT STANDARDS

During the construction and operational phases of the Project, applicable national and international standards must be compiled for all the Project activities. The applicable Turkish standards and requirements, Turkish EIA requirements, international standards, IFC Performance Standards and guidance notes are the base of the Project Standards.

3.1 Turkish Standards and Requirements

In the scope of the Project, following Turkish Legislation will be complied with:

- Highways Traffic Law No. 2918 and Article 134 of the Traffic Regulation,
- Notice on prevention of Pollution Caused by Exhaust Gases of Motor Vehicles (Official Gazette 22/10/1992 and No:21383),
- Regulation on the Transportation of Dangerous Materials by Road (Official Gazette of 24.10.2013; No:28801)
- Transportation Law No. 4925, Road Transport Regulation (Official Gazette 19/7/2003 No:25173).

During transportation, tonnage, truck sizes, and load limit will be followed according to legislations and the existing roads will be repaired due to the projected traffic type and volume in compliance with Turkish standards.

3.2 Applicable International Standards

Applicable international standards and guidelines are IFC Performance Standard 4: Community Health, Safety & Security, IFC General EHS Guidelines: Community Health and Safety and EHS Guidelines of World Bank Group, AIIB ESS 1: Environmental and Social Assessment and Management. According to IFC PS4, the role of the Project in the scope of its activities is to define, evaluate, and monitor the potential traffic and road safety risks. The implementation of the Plan should involve preventing road accidents to safeguard the lives of community residents along transport routes as well as the lives of their employees.

4 MANAGEMENT CONTROLS AND MITIGATION MEASURES

The existing roads in the close vicinity of the Project area and the Project Area are indicated in Figure 1 and Figure 2.

Within the scope of the Project, there is no planned off-site access roads. The existing roads which are represented below in Figure 1 are used. These roads are:

- Konak Avenue,
- 17433rd Street.

The main road to be used as the access road of the Project is Konak Avenue. For transportation of equipment, Konak Avenue and 17433rd Street will be used. The main access to other nearby neighborhoods, which are Yenibahçe, Boruktolu and Çomaklı, is also provided by this road.

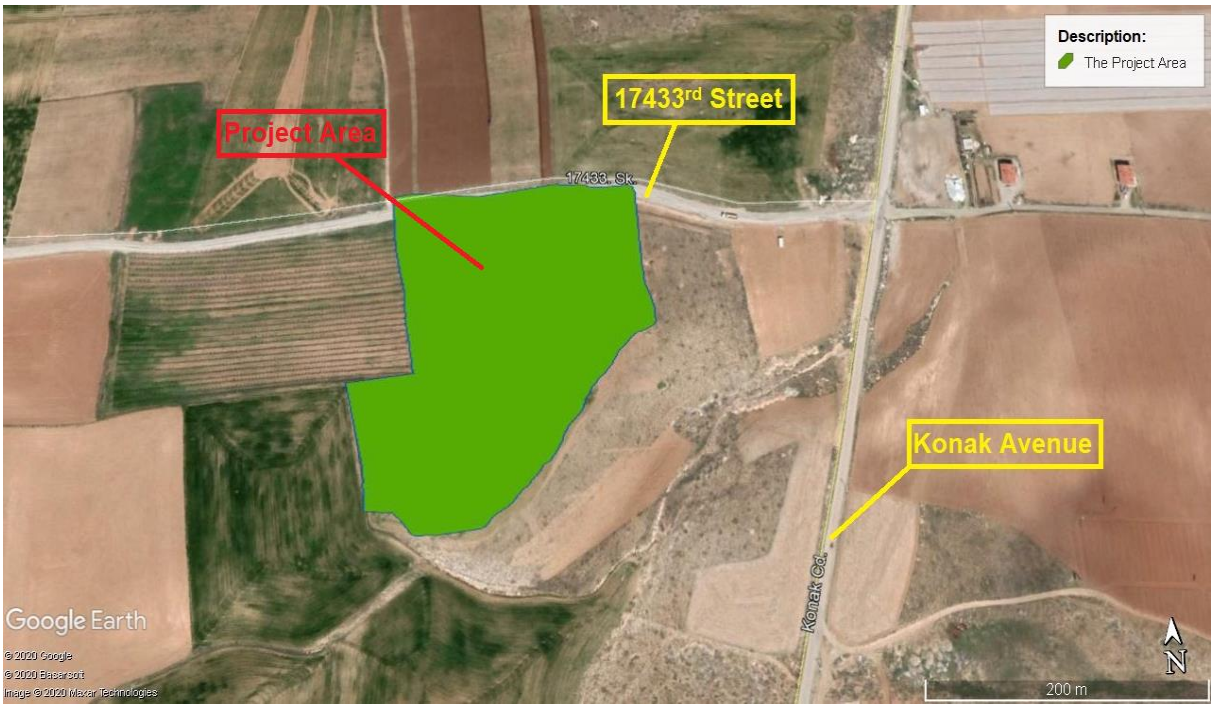

Figure 1. View of Existing Roads

As given in Figure 2 below, Konak Avenue is used also by the nearest stone quarries and Boyalı Neighborhood. In order to minimize and prevent traffic load, necessary mitigation actions should be taken by the Project. Activities of the Project should not affect the transportation of the nearest neighborhood. In this context, if there are any disruptions on the road due the Project activities, necessary improvements will be made by the Project.

Table 2 below presents the key management controls and mitigation measures regarding public health and safety, nuisance, monitoring and coordination, preparedness and response, training, machinery/vehicle registry, transportation of the Project components and warning signs which are directly or indirectly related to traffic and transport safety. Safe driving and traffic safety training has been provided to truck drivers and construction machinery operators for providing general awareness.

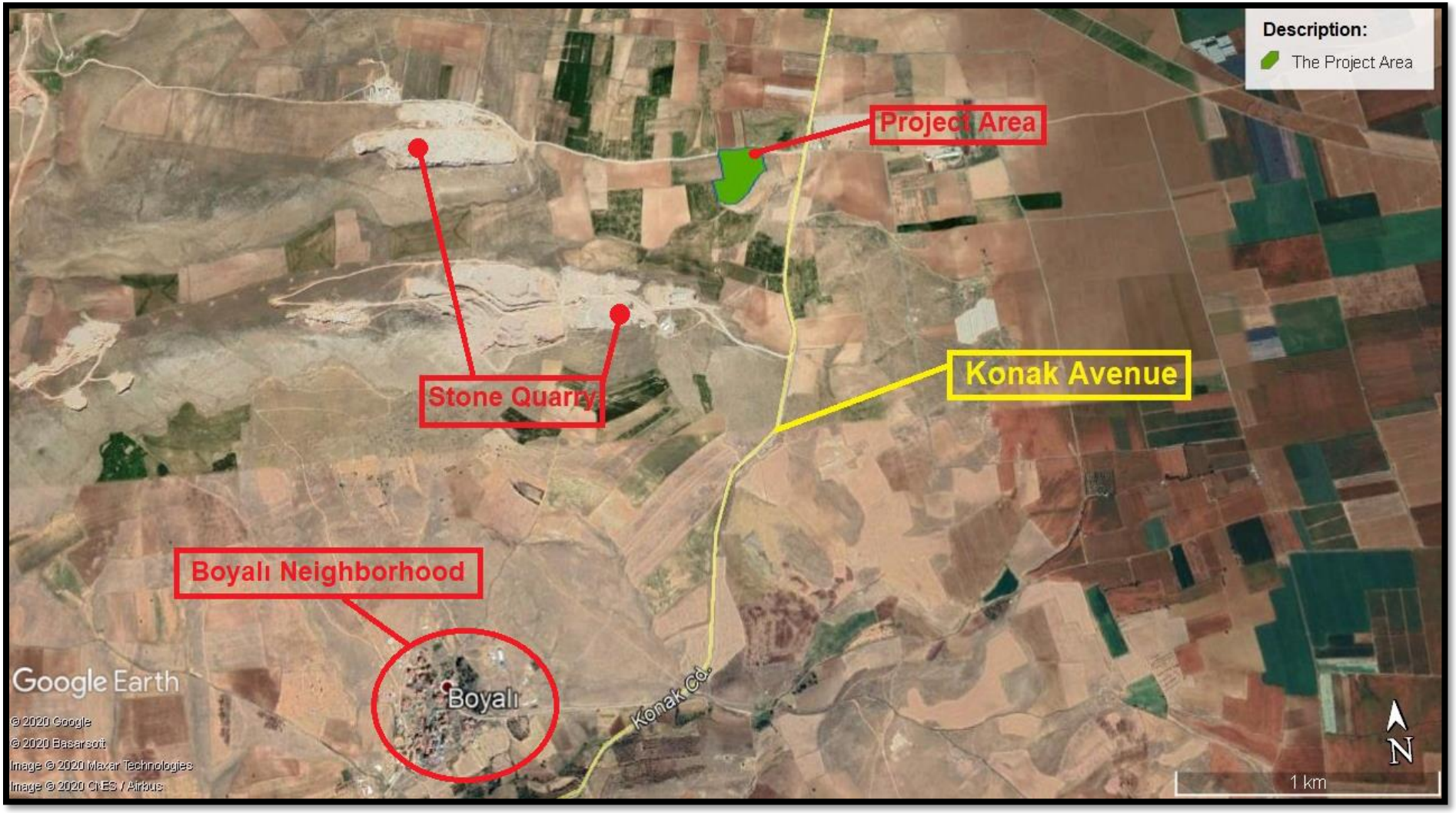

Figure 2. Cumulative Usage of Existing Roads

Table 2.Mitigation Measures and Management Controls

	Applicability/ Activity	Control Description	Responsible Parties	Means of Verification
COMMUNITY HEALTH AND SAFETY	**Supporting existing infrastructure**	• Providing and placing of safe traffic control measures, including road warning signs and speed bumps to warn the Project personnel of dangerous conditions where necessary, • Placing speed bumpers, danger warnings, and information signs at the Project site entrance, • Placing convex road safety mirrors at the approach of dangerous bends around the Project area and through Konak Avenue and 17433rd Street, • Ensuring regular maintenance of vehicles and the use of manufacturer-approved parts to minimize potentially serious accidents caused by equipment malfunction or premature failure, • Placing warning signs such as "*Dikkat Çalışma Var*" etc. in the working area, • Obeying related Turkish legislation on speed limits depending on the type of vehicles and roads (*see Appendix A*), • Providing consultation meetings to residents to support safe traffic and recording the consultation for evaluation.	• HSE Manager • Social Responsibility Staff (SRS)	• Direct implementation • Reporting after completion of each issue • Internal audit program and records • Consultation with residents and consultation records

	Applicability/ Activity	Control Description	Responsible Parties	Means of Verification
COMMUNITY HEALTH AND SAFETY	**Supporting existing infrastructure**	• Imposing the maximum speed limit of 10 km/h for all access roads in the Project site, • Providing this Plan promptly for the Project components and related equipment to all Mukhtars' of the villages from which transportation routes will be passing through, before transportation, • Ensuring collaboration with local communities and responsible authorities to improve signage, visibility, and overall safety of roads, particularly along stretches located near schools or other locations where children are present.	• HSE Manager • Social Responsibility Staff (SRS)	• Direct implementation • Reporting after completion of each issue • Internal audit program and records • Consultation with residents and consultation records
COMMUNITY HEALTH AND SAFETY	**Adoption of best transport safety practices**	• Ensuring the necessary licensing of the drivers, • Emphasizing of traffic and transportation safety aspects among the drivers, • Following limits for the duration of trips, • Arranging driver rosters to avoid overtiredness, • Avoiding dangerous routes and busy times of day to reduce the risk of accidents, where possible, • Communicating traffic measures and the Project road usage to the mukhtars and nearest quarries to avoid dangerous traffic load.	• HSE Manager • Social Responsibility Staff (SRS)	• Direct implementation • Internal audit program and records • Incident records and reports • Consultation with residents and consultation records
NUISANCE	**Noise and dust control**	• Training of truck drivers about not using unnecessary horns, • Absolutely and necessarily covering of trucks, • Prevention of falling and non-fitting materials in terms of safety, • Washing of tires at the facility exit and periodical cleaning of the vehicles to avoid leaving mud on the roads.	• HSE Manager	• Internal audit program and records • Visual confirmation of implementations.

	Applicability/ Activity	Control Description	Responsible Parties	Means of Verification
MONITORING AND COORDNATION	**Monitoring**	• Training/informing of drivers how to act in case of any failure, accident, etc. • Recording any incident/accident to improve the efficiency of this management plan and corrective actions.	• HSE Manager	• Internal audit program and records • Driver training records • Driver performance records regarding incident and accident information
PREPAREDNESS AND RESPONCE	**Emergency response**	• Coordination among the emergency responders to ensure that appropriate first aid is provided. • Implementation of emergency preparedness and response plan prepared in the scope of the Project.	• HSE Manager • Social Responsibility Staff (SRS)	• Emergency Response Plan • Incident records and reports.
TRAINING	**Training of Drivers**	• Ensuring that drivers have a minimum 5-years driving license for driving heavy vehicles, • Putting warning signs about heavy vehicle traffic in both directions at the points where the village road passes close to the sharp curve and the houses, • Performing periodical warnings and training to ensure that drivers are extra cautious at such critical locations, • Distribution of a map showing the navigational route to all drivers, and providing necessary driver pieces of training, checks, and warnings periodically to prevent using other roads, • Compliance with the speed limits, • Periodical maintenance of all warning signs and accessories placed and replacement of those if necessary, • Obeying the traffic rules of the state roads.	• HSE Manager	• Driver database including training records, physical health test results, penalties, incident and accident records. • Training materials and records

	Applicability/ Activity	Control Description	Responsible Parties	Means of Verification
MACHINERY /VEHICLE REGISTRY	**For each machinery / vehicle at site**	• Creation of a "Machinery / Vehicle Registry File" for each machinery / vehicle including heavy vehicle which will be used at site and keeping the file available for non-routine audits to be conducted by Project HSE Manager. File will include vehicle registry (ruhsat), maintenance and insurance reports, and operator licenses.	• HSE Manager	• Machinery /vehicle registry file (vehicles registries (ruhsat), maintenance and insurance reports and operator licenses)
TRANSPORTATION OF THE COMPONENTS	**Traffic safety**	• Accompanying the heavy trucks with two escort vehicles during the transportation of the large part of the components, if any. This will be included in the contract of the transportation company.	• HSE Manager	• Visual monitoring while transportation of the large components • Contract of the transportation company
WARNING SIGNS	**Traffic safety**	• Placing warning signs such as *"Dikkat Yerleşim Yeri Geçişi"* or *"Dikkat Çocuk Çıkabilir."* etc. at the village entrances to attract the attention of the drivers.	• HSE Manager	• Visual inspection of placing at the village entrances, to check if it is required.

5 MONITORING

5.1 Overview of Monitoring Requirements

The monitoring measures to be implemented during the construction and operation phases are described in this section in order to assess compliance of the Project with the relevant national and international legislation and Project Standards. Based on the monitoring results, necessary corrective and preventive actions will be identified and required changes will be reflected to the Plan. Training program will also be updated accordingly. In case that any non-conformances with the Project Standards are identified, these will be investigated, and appropriate corrective actions will be performed.

5.2 Key Monitoring Activities

The table below presents the key monitoring activities that are set out for the Project.

Table 3. Key Monitoring Activities

Topic	Indicator	Method	Periodicity	Location
Driver Competency	Training	• All Project drivers including the drivers of contractors and subcontractors will be trained theoretically and practically on defensive driving, off-road driving and anti-skid driving by third party trainers.	• Periodically • As required, if the non-compliances or knowledge deficiency are observed	• Project site
	Driving Licenses Operator Licenses	• All Project drivers including contractors' and subcontractors' drivers and construction equipment operators are required to hold a valid Turkish driving licenses and other necessary licenses such as operator licenses and internal permits. Moreover, they are required to attend to trainings of the Project. • Drivers of the commercial vehicles including the contractors and subcontractors are required to hold SRC 2 and SRC 4 commercial driver's licenses. • List of the SRC2-4 drivers and operators of the construction machines and their licenses will be kept in the Project Document Control Center (DCC).	• Prior to hiring a driver and/or an operator	• Project site

Topic	Indicator	Method	Periodicity	Location
Contractor Management	Contractor Performance	The Project will establish an inspection and audit program to assess contractors' performance concerning this Management Plan, including: • Review of Contractors' ability to meet the requirements of this Plan • Contractors' emergency response procedure (including actions to be undertaken by drivers) • Analysis of incident investigation reports • Audit of driver competency • Vehicle equipment and maintenance records • Drivers' training records.	• Prior to initial appointment of a contractor, and then monthly during construction • Needed frequency depending on the performance of the contractor over time	• Contracts' depots
Impacts on Communities	Community Health and Safety	• The Project will continue to interact with the local communities close to the site access roads and nearest quarries to establish the extent of impact caused by Project traffic and transportation.	• On-going	• Residential areas along or near to the site access roads
Community Traffic Safety Training	% of community received community traffic safety training	• Communities living in the closest villages of the Project site will receive community traffic safety training before the transportation activities started in order to minimize effects on children used mobile teaching.	• As needed (prior to transportation activities)	• Community living in the closest villages
Additional traffic safety training for concrete mixer truck operators (if any)	Number and % of concrete mixer truck operators received additional traffic safety training	• An additional traffic safety training will be provided to concrete mixer truck operators at the companies' concrete plant.	• When the contracts signed	• To concrete mixer truck operators at the companies' concrete plant

5.3 Key Performance Indicators (KPIs)

The summary of the key performance indicators for the assessment of the progress and effectiveness of the proposed mitigation measures are given in the below table.

Table 4. Key Performance Indicators and Monitoring Measures

KPI	Target
Number of non-compliances against the mitigation controls identified in this Plan	• Decreasing the number of non-compliances (to Zero) • Continuous improvement in the compliances
Number of drivers/operators found to be exceeding speed limits or driving unsafely	• Decreasing the number of the drivers/operators who exceed speed limits (to Zero) • Zero speed exceedances per year
Number of road traffic accidents involving: • Accidental injuries and deaths • Spillages (such as cargo or fuel)	• Zero road traffic accidents per year
Number of traffic-related grievances/complaints	• Zero traffic-related grievances/complaints per year • Any grievances to be resolved within the timeframes specified in the grievance procedure
% of community received community traffic safety training	• 80%
% of concrete mixer truck operators received additional traffic safety training	• 80%

6 TRAINING

The Project will provide the necessary training and ensure effective traffic and transportation training/awareness. Both the Project employees and contractors' will be involved in the training program. All necessary training is provided as part of induction training and job-specific training to ensure that all personnel are aware of traffic and transport management system and its responsibilities. All employees and contractors are trained about the specific hazards and control measures for traffic and transportation safety.

6.1 Induction Training

All personnel of the Project and contractors/subcontractors working at the Project site will be provided with general induction, site specific induction and a broad range of health, safety and environmental awareness training.

6.2 Job Specific and Other Training Requirements

All the personnel related to transportation will take job-specific training to raise the awareness of road safety, general traffic rules, and respect of the environment. The minimum requirements to drive on site are valid driver licenses and the Project EHSS General induction training.

Besides, drivers of heavy vehicles using public roads will be provided with annual awareness training of risks associated with the use of heavy vehicles on public roads and associated road safety rules.

All employees of the Project and the contractors/subcontractors to the Project responsible for transport and traffic-related activities should be provided with toolbox training that outlines the mitigation measures identified in Section 4 of this Traffic Management Plan.

7 AUDIT AND REPORTING

7.1 Auditing

In the scope of this TMP, monitoring activities will be carried out in order to assess the level of implementation of the mitigation measures identified for the Project. Daily inspections will be carried out by HSE Manager covering a broad range of operational aspects. Any incidents identified during these inspections will be reported to the incident management system of the Project. The conformance will be monitored in accordance with the Environment/OHS and Social Management System.

All incidents and non-conformances will be reported as per the requirements of the Environment/OHS and Social Management System. The aspects of this management plan are subject to regulatory audits.

Following the EHSS Management System, all incidents ad non-conformances will be reported with Incident Report and Register Form (*see Appendices B and C*) as per the requirements of the EHSS Management System.

7.2 External Auditing

The conformance with this Traffic Management Plan will be subject to periodic assessment as part of the Project audit program and separately by Project Lenders to increase the performance of this Management Plan.

7.3 Record Keeping and Reporting

Records of audits, inspections, incidents and complaints will be reported, kept and managed in accordance with the Project procedures. The Project will comply with Turkish Government reporting requirements relevant to this Management Plan. The Project will develop an internal reporting program relating to this Management Plan.

APPENDICES

Appendix A: Turkish Legislation on Speed Limits Depending on the Type of Vehicles and Roads

Vehicles (Code of Categories)	Urban	Urban Double Direction	Divided Roads	Motorways
Cars, SUV's (M1), (M1G),	50	90	110	120
Minibuses (M2),	50	80	90	100
Buses (M2-M3),	50	80	90	100
Pickups (N1), N1G)	50	80	85	95
Panel Vans (N1)	50	85	100	110
Trucks (N2-N3),	50	80	85	90
Motorcycle (L3)	50	80	90	100
Motorcycles (L4, L5, L7)	50	70	80	80
Motorized Bicycle (L1, L2, L6) Bicycle	30	45	45	-
Vehicles Carrying Dangerous Goods Special Certificated	30	50	60	70
Rubber Track Type Tractors	20	30	40	-
Towing	20	20	30	40
Heavy Machineries	20	20	20	-

Appendix B: Incident Report

INCIDENT REPORT	
Project Name:	**Project No:**
Date of the Report:	
Classification:	□ Environmental □ Lost Time Accident □ Near Miss
Date of the Incident:	__/__/___
Location of the Incident:	
Who Reported the Incident:	
Description of the Incident:	*Who, what, when, where, how, and why? Supporting photos, as relevant.*
Causes:	
□ Immediate Cause	
□ Root Cause	
Immediate Actions Taken:	
Corrective Actions Taken:	
Who is assigned:	
Verification:	
Closing Date of the Incident:	
Further Information:	
Information Provided by:	Project HSE Manager:

Appendix C: Incident Register

INCIDENT REGISTER								
Reporting Period								
Total of Incidents								
To date			This Reporting Period					
Total of Incidents to Date								
Open			Closed					
Date Raised	Contractor Registration Number	Location	Incident Summary	Actions		Close Out		Comments
				Corrective Actions	Actioner	To Close By	Actual Close Out Date	