REPUBLIC OF TURKEY
MINISTRY OF TRANSPORT
AND INFRASTRUCTURE

AYGM
Altyapı Yatırımları Genel Müdürlüğü

ÇINAR®
ENGINEERING
CONSULTANCY INC.

DİVRİĞİ-KARS-GEORGIA BORDER RAILWAY LINE REHABILITATION AND MODERNIZATION PROJECT

TRAFFIC MANAGEMENT PLAN

CNR-ETMIC-TMP-001

(Final)

Bağlıca Mah. Çambayırı Cad. Çınar Plaza No:66/5 06790 Etimesgut/ ANKARA

Tel: +90 312 472 38 39 Fax: +90 312 472 39 33

Web: cinarmuhendislik.com

E-mail: cinar@cinarmuhendislik.com

Project Owner	**T. C. Ministry of Transport and Infrastructure** **General Directorate of Infrastructure Investments**
Address	**Hakkı Turayliç Cad. No: 5 06338 Emek/Çankaya/ANKARA**
Telephone and Fax Numbers	**+90 (312) 203 10 00**
Project Title	**Divriği-Kars-Georgia Border Railway Line Rehabilitation and Modernization Project**
Project Location	**Divriği – Erzincan – Erzurum – Kars – Georgia Border**
Consultant	**Çınar Engineering Consultancy Inc.**
Address	**Bağlıca Mah. Çambayırı Cad.** **Çınar Plaza No: 66/5** **06790 Etimesgut / ANKARA**
Telephone and Fax Numbers	**Phone: +90 (312) 472 38 39** **Fax: +90 (312) 472 39 33**
Report Submission Date	**December 2024**

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS & ACRONYMS

AIIB	Asian Infrastructure Investment Bank
AYGM	Directorate General of Infrastructure Investments
BMP	Biodiversity Management Plan
BTK	Baku-Tbilisi-Kars
CHMP	Cultural Heritage Management Plan
CHSMP	Community Health and Safety Management Plan
ÇINAR	Çınar Engineering Consultancy Inc.
CTC	Centralized Traffic Control
DAS	Distributed Acoustic Detection
EHS	Environmental, Health, and Safety
EPRP	Emergency Preparedness and Response Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESIRT	Environment and Social Incidence Response Toolkit
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
ETMIC	Eastern Türkiye Middle Corridor Railway Development Project
GIIP	Good International Industry Practice
HS	Health and Safety
IsDB	Islamic Development Bank
KPI	Key Performance Indicator
LMP	Labor Management Procedure
OHS	Occupational Health and Safety
PPWMP	Pollution Prevention and Waste Management Plan
RAP	Resettlement Action Plan
RCA	Root Cause Analysis
RF	Resettlement Framework
SEP	Stakeholder Engagement Plan
TMP	Traffic Management Plan
WB	World Bank
WBG	World Bank Group

1 INTRODUCTION

1.1 Purpose

The Divriği-Kars-Georgia Border Railway Line Rehabilitation and Modernization Project (covered under Component 1 of Eastern Türkiye Middle Corridor Railway Development Project (ETMIC)) stands as a transformative initiative poised to rejuvenate and upgrade the existing railway infrastructure spanning several provinces in Türkiye. This ambitious project, overseen by the General Directorate of Infrastructure Investments (AYGM) under the Ministry of Transport and Infrastructure (MoTI), seeks not only to modernize rail transportation but also to catalyze regional economic growth and fortify cross-border connectivity.

The multifaceted project unfolds in several strategic components. The preliminary phase involves meticulous land preparation activities, setting the stage for an extensive construction phase encompassing the refurbishment of railway tracks, bridges, and stations. The operational phase is dedicated to ensuring the seamless and sustainable operation of the revitalized railway infrastructure.

The ETMIC project consists of two main components:

- Component-1. Rehabilitation and Modernization of the Divriği-Kars-Georgia Border Railway Line
  - Sub-component 1.1. Design, Infrastructure and Superstructure Works, Electrification, and Signalization of the Divriği-Kars-Georgia Border Railway Line
  - Sub-component 1.2. Design Supervision and Construction Supervision Services for the Rehabilitation and Modernization of the Divriği-Kars-Georgia Border Railway Line
- Component-2. Project Management
  - This component focuses on the effective management and oversight of the project implementation process. It involves the financing and mobilization of specialized firms to provide project management, engineering, social and environmental monitoring, and evaluation services.

The environmental and social risk rating of ETMIC identified as “Substantial” according to the Environmental and Social Framework (ESF) of the World Bank.

A contract was signed between AYGM and Çınar Engineering Consultancy Inc. (ÇINAR) in November 2023, for conducting the Environmental and Social Impact Assessment in accordance with the WB standards. The contract entails the preparation of an ESIA Package, which includes the following components:

- Environmental and Social Impact Assessment Report (ESIA)
- Environmental and Social Management Plan (ESMP),
- Community Health and Safety Management Plan (CHSMP),
- Emergency Preparedness and Response Plan (EPRP),
- Traffic Management Plan (TMP),
- Biodiversity Management Plan (BMP),
- Pollution Prevention and Waste Management Plan (PPWMP),
- Cultural Heritage Management Plan (CHMP),
- Labor Management Procedure (LMP),
- Resettlement Framework (RF),
- Occupational Health and Safety Management Plan (OHSMP)
- Stakeholder Engagement Plan (SEP).

During these studies; environmental, social, and culturally sensitive areas in the project impact area were specified in the ESIA reports, and mitigation measures were proposed.

This TMP has been prepared to cover all phases of the Project in accordance with the Project Standards including World Bank's (WB) Environmental and Social Standards (ESSs), Asian Infrastructure Investment Bank's (AIIB) ESSs, World Bank Group (WBG) General and Sector-specific Environmental, Health, and Safety (EHS) Guidelines as well as the regulatory frameworks of the Republic of Türkiye and applicable Good International Industry Practice (GIIP).

The main purpose of this TMP is to define the requirements for traffic management during the construction, rehabilitation and operation phases of the Project, identify management practices and ensure that all practices are in line with the Project Standards.

The main objectives of the TMP are set out below:

- To provide effective process management, safe flow and secure working environment by controlling machinery and equipment operations,
- To prevent traffic-related injuries and fatalities during all phases of the Project and to control the risks that cause them,
- To manage interactions with vehicle traffic and third-party pedestrians,
- To minimize traffic jams and obstacles to the routine works of local community,
- To provide safe, fast and easy access for emergency vehicles,
- To minimize fuel consumption throughout the life cycle of the project.

It should be noted at this point that site-specific TMP will be developed by contractors to identify measures on-site to minimize the impacts of traffic generated by the Project and it should be approved by AYGM before commencing construction and rehabilitation works.

1.2 Scope and Objectives

TMP covers the planned land preparation, construction and rehabilitation activities of the Project. It is prepared for implementation by AYGM's employees, contractors and sub-contractors. Contractors are also required to adopt TMP requirements within their site-specific management plans. The contractors' site-specific TMP needs to be submitted to AYGM for approval before commencing construction and rehabilitation works. In addition, this plan includes the mitigation measures and administrative actions required for the increase in traffic caused by the project. All contractors and subcontractors will comply with the requirements of this plan.

Extensive transportation activities will take place during the land preparation, construction and rehabilitation phases of the Project. The movement of the Project vehicles for land preparation, construction and rehabilitation works will lead to an increase in traffic load. Other factors contributing to increased road traffic include:

- The entry and exit of personnel working at various points in the project area,
- Transportation and shipment of machinery, equipment, construction materials, and waste.

The TMP includes the mitigation measures and administrative practices required to prevent or minimize the risks and adverse impacts on the environment and society that will occur as a result of the activities to be carried out during the construction and operation phases of the Project by evaluating the traffic load together with the existing traffic load.

TMP is part of the Project's Environmental and Social Management Plan (ESMP) and covers all activities during the construction, rehabilitation and operation phases of the Project. It should therefore be considered together with other relevant plans/procedures prepared in this scope.

The primary objective of this TMP is to establish a secure working environment for all Project staff and safeguard the affected communities and biodiversity values from potential traffic hazards arising due to increased traffic load resulting from the Project's land preparation, rehabilitation and construction activities. This plan will particularly focus critical points along the construction and rehabilitation route, especially near project elements like camp sites, level crossings and auxiliary facilities (temporary construction material storage areas, etc.). The TMP will be enacted to ensure the implementation of all traffic-related management controls and to provide necessary trainings to both Project staff and affected communities.

2 ROLES AND RESPONSIBILITIES

AYGM will monitor the implementation of the TMP through auditing and inspections. The Contractors will ensure that subcontractors work in compliance with the requirements of the TMP. The Contractors will avoid the sensitive residential areas and historical and cultural road infrastructure during defining the traffic routes. The Contractors will also ensure minimal damage to road infrastructure, communicate with the local authorities in case of road damages, and repair such damages. The Contractors will develop, implement and maintain a site-specific TMP and related procedures. The Contractors' TMPs will include, but not be limited to;

- The identification of the transportation routes for the goods and material to and from working area,
- The interface with the Logistics Study that will be prepared by Contractors,
- The deficiencies in the existing local infrastructure in coordination with AYGM and develop upgrading plans,
- Identification of access roads,
- Defining speed limits,
- Details of the training program for drivers,
- Managing workforce transportation,
- Creating an access road register,
- Assessing existing and new access roads before use,
- Providing road signage and warning signs,
- The interactions with third party pedestrian and vehicle traffic,
- Enabling safe and secure use of railway level crossings,
- Conducting training programs for the community.

The Contractors will prepare a site-specific TMP to ensure road traffic safety and mitigate potential risks arising from the anticipated increase in traffic load during the land preparation, construction and rehabilitation phases of the Project. This plan will also underlie for both the operation and decommissioning phases. The additional vehicle load, vehicle types and counts that may be observed on the highway during the land preparation, construction, rehabilitation and operation phases of the Project will be determined, calculated as percentages, and disclosed. The aforementioned TMP, once developed, will be submitted to AYGM for approval prior to commencement of construction works, and activities will be executed in coordination with them.

3 LEGAL FRAMEWORK

3.1 National Legislation

Environmental Law No. 2872, Labor Law No. 4857, OHS Law No. 6331, Highway Traffic Law No. 2918 and Law on the Liberalization of Railway Transport No. 6461 are the main laws that are at the forefront of this process management. Particularly, the current Turkish national regulations regarding traffic and road safety/security are summarized below.

- Regulation on Highway Traffic (Official Gazette dated 18.07.1997 and numbered 23053)
- Regulation on the Transportation of Hazardous Substances via Highways (Official Gazette dated 18.06.2022 and numbered 31870)
- Regulation on Facilities to be Built and Opened on the Roadside (Official Gazette dated 13.08.2022 and numbered 31922)
- Regulation on Road Infrastructure Safety Management (Official Gazette dated 21.10.2018 and numbered 30572)
- Railway Safety Regulation (Official Gazette dated 19.11.2015 and numbered 29537)
- Regulation on Railways Safety Critical Work (Official Gazette dated 31.12.2016 and numbered 29935)
- Regulation on Measures and Implementation Principles to be Taken at Railway Level Crossings (Official Gazette dated 11.02.2023 and numbered 32101)

3.2 International Standards

As the WB, AIIB and IsDB are the lending institutions/banks for the project, the project activities should be performed in line with international standards and GIIP in addition to national legislation.

The environmental and social policies called the Environmental and Social Framework (ESF) has been adopted by the World Bank in August 2016. The ESF enhances the World Bank's commitment to sustainable development through ten (10) Environmental and Social Standards (ESSs) that are designed to support Borrowers' E&S risk management. The ESF enables Borrowers to better manage project risks as well as improve environmental and social performance, consistent with good international practices. The ESSs are listed below:

- ESS1: Assessment and Management of Environmental and Social Risks and Impacts
- ESS2: Labor and Working Conditions
- ESS3: Resource Efficiency and Pollution Prevention and Management
- ESS4: Community Health and Safety
- ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- ESS7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities
- ESS8: Cultural Heritage
- ESS9: Financial Intermediaries
- ESS10: Stakeholder Engagement and Information Disclosure

Moreover, WBG General Environmental, Health and Safety (EHS) Guidelines (2007) is another document that should be taken into consideration when carrying out project activities. In addition, WBG Environmental, Health and Safety (EHS) Guidelines for Railways (2007) will be applicable within the scope of this plan.

The Environmental and Social Safeguards Policy of the Islamic Development Bank (IsDB), as of February 2020, outlines the institution's commitment to promoting sustainable development while minimizing adverse environmental and social impacts associated with its projects.

On the other hand, AIIB incorporates its own policy addressing environmental and social impacts into ESF which was approved in February 2016 and amended through February 2019, May 2021 and November 2022. The ESF consists of three (3) ESSs which are indicated below:

- ESS1: Environmental and Social Assessment and Management
- ESS2: Land Acquisition and Involuntary Resettlement
- ESS3: Indigenous Peoples

It should be noted at this point that evaluations will be made based on WB ESSs among international standards.

4 TRAFFIC MANAGEMENT

4.1 General Information about the Existing Line and the Project

Currently, on the approximately 667 km long Divriği- Kars-Georgia Border railway line (see Figure 1), there is a single track between Divriği and Kars, while the existing infrastructure between Kars and Georgia Border has been built as a double track, but the superstructure has not been completed yet.

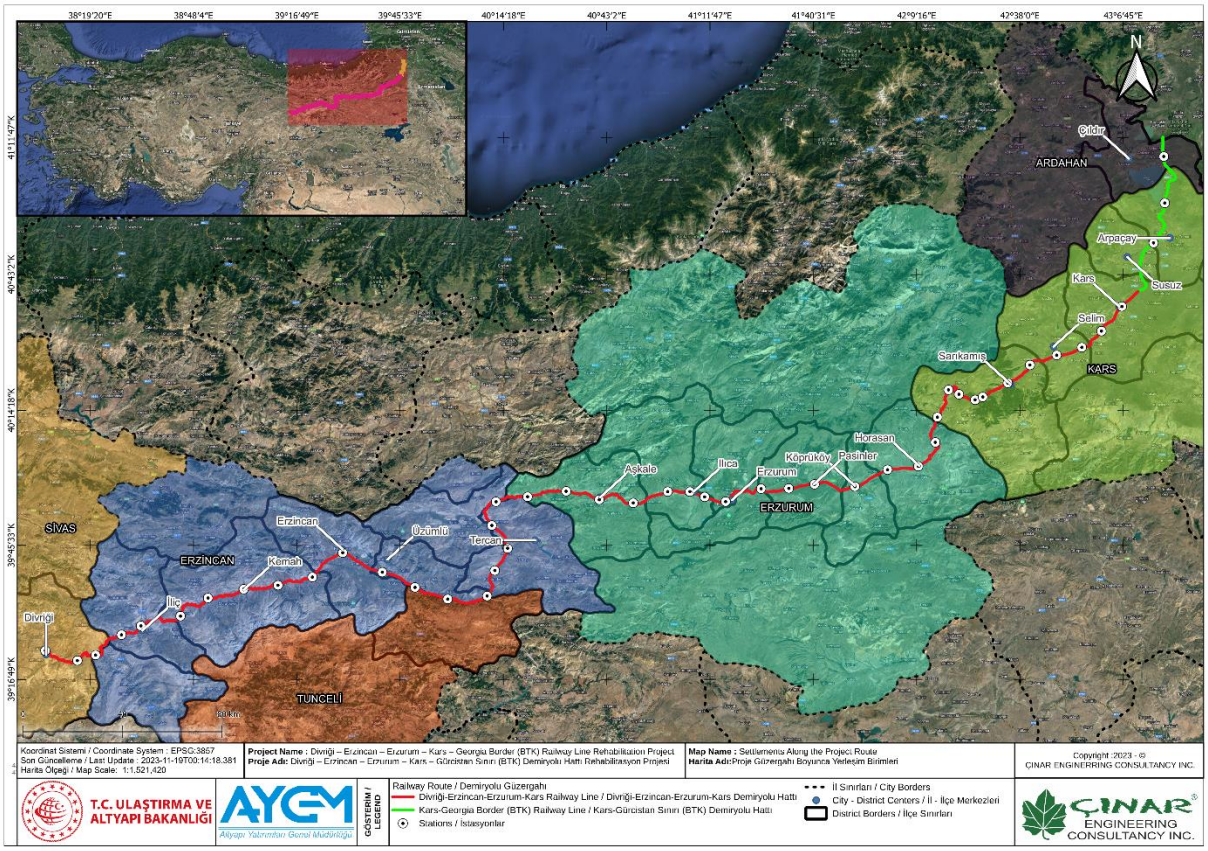

Figure 1. The Project Route

The Divriği – Kars – Georgia Border railway line has a total of 47 railway stations, 13 of which are abandoned and currently not in operation (see Figure 2).

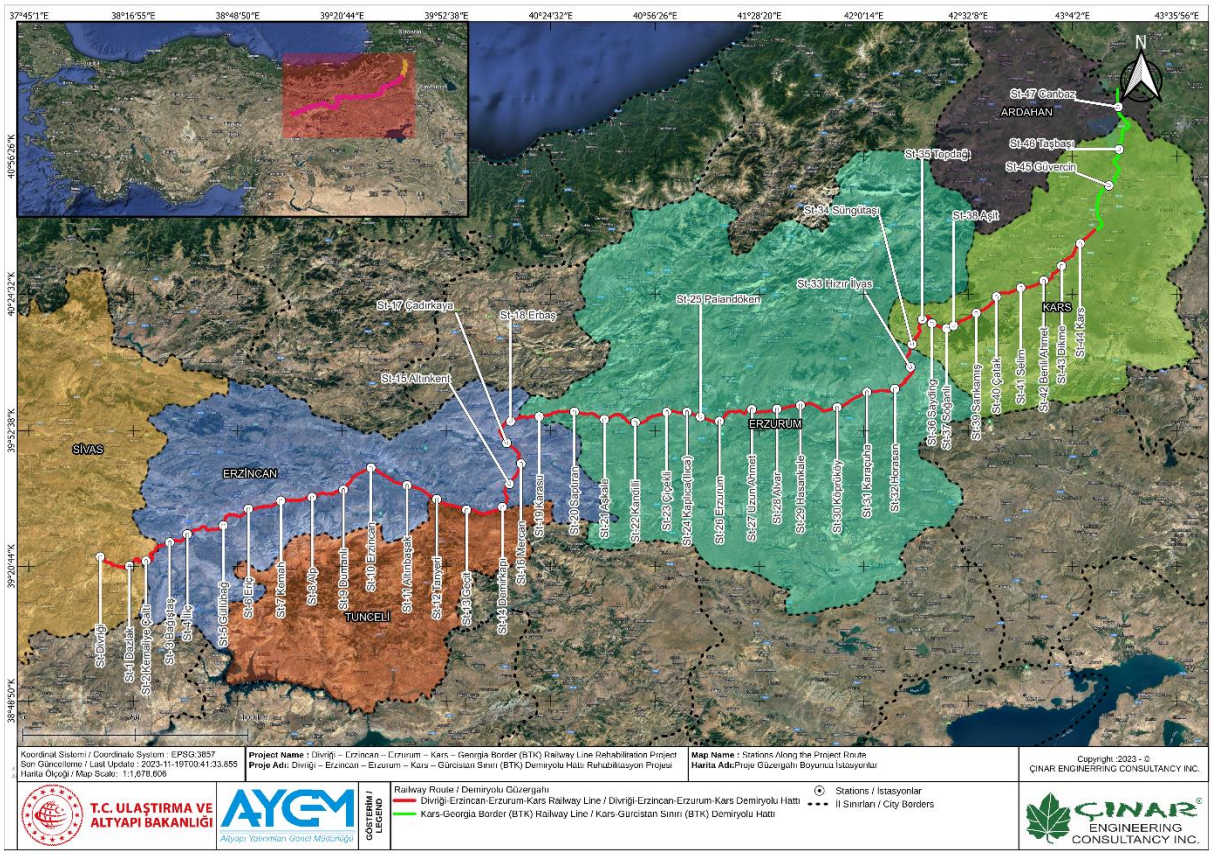

Figure 2. Stations And Stops on the Railway Line

Existing line details is summarized in Table 1.

Table 1. Existing Line Details

Existing Line Details	
Between Divriği – Kars	**Kars – Georgia Border (BTK Section)**
587 km Mainline (Single Track)	80 km Mainline (Single Track)
75 km Siding Track	6.8 km Siding Track
Project speed: max. 70-120 km/h	Project Speed: max. 160 km/h
31 stations, 13 stops	3 stations
40,476 m tunnel (162 pcs)	17,766 m tunnel (17 pcs)
7,441 m bridge & overpass (231 pcs)	745 m bridge & overpass (8 no)
161 level crossings	

The rehabilitation of the railway between Divriği-Erzincan-Erzurum-Kars-Georgia Border will include a variety of activities to be carried out by the construction contractors and sub-contractors. The technical works of the project scope are delivery of 143 km of new standard gauge railway line to replace the existing line, installation of signalling, telecommunication, and electrification systems along the entire 667 km length of the corridor and construction/rehabilitation of sidings, bridges, terminals, stations, and other facilities.

4.2 Transportation to the Railway Location

The project route spans approximately 667 km, connecting Sivas Province (specifically, Divriği) with the border of Georgia, passing through multiple provinces in eastern Türkiye.

The proposed railway corridor cuts across diverse regions in Türkiye, passing through multiple provinces and districts. In Sivas Province, the route commences in the historically significant Divriği District. Moving into Erzincan Province, the corridor spans Kemah, İliç, and Üzümlü Districts. Erzurum Province hosts several districts along the route, including Tercan, Aşkale, Çayırlı, Yakutiye, Aziziye, Palandöken, Köprüköy, and Pasinler. Continuing into Kars Province, the railway corridor passes through Horasan, Sarıkamış, Selim, Susuz, Arpaçay, and Çıldır Districts.

The railway route and access to the Project is shown in Figure 3.

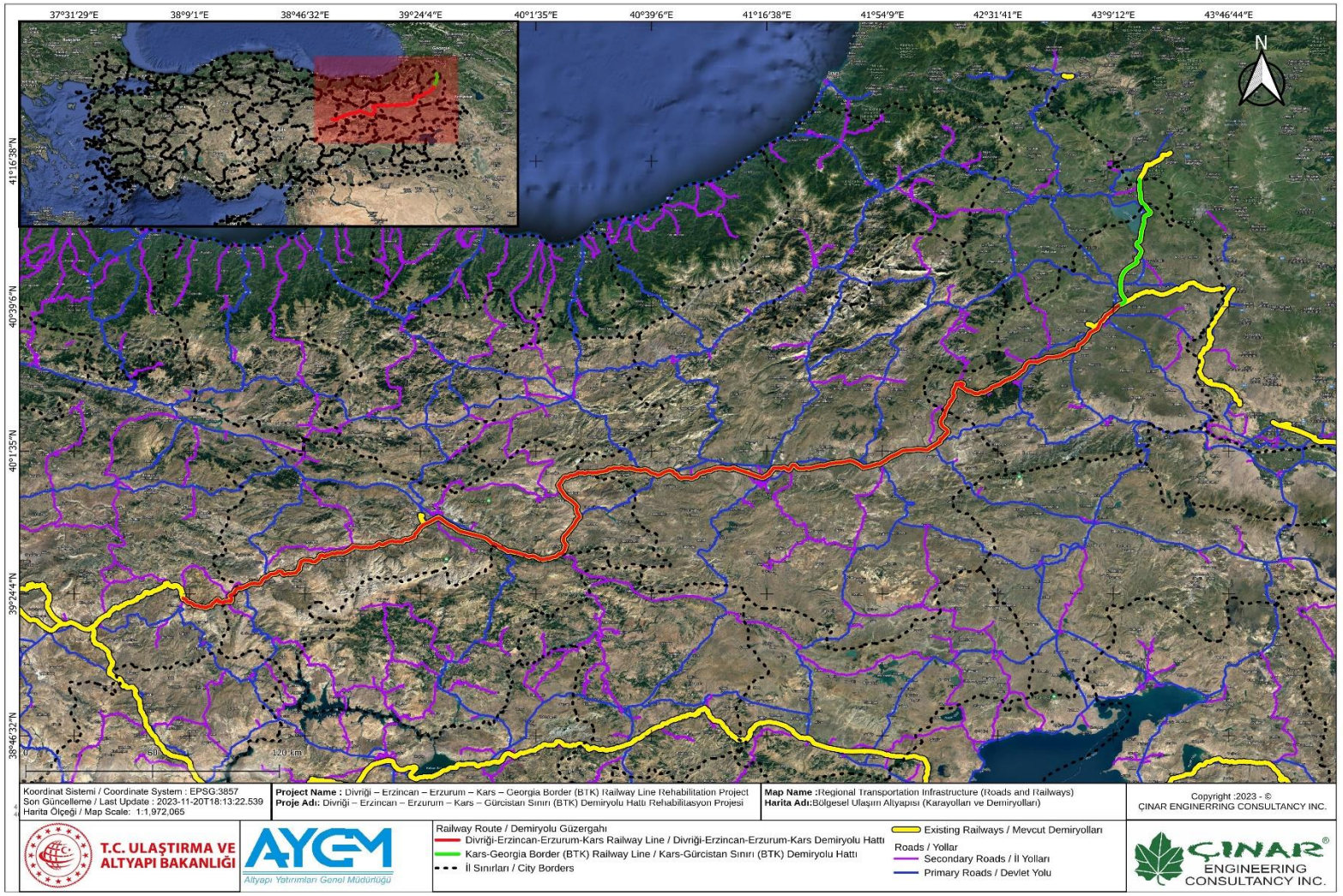

Figure 3. Transportation to the Project Area

In this context, no routes other than the aforementioned transportation routes should be utilized by transportation parties, except in cases of necessity. Since the highways are not exclusively reserved for the project components, traffic accidents related to the use of these roads that could affect public health and safety do not fall solely under the responsibility of the project components. However, the presence and positioning of traffic signs, mandated by national legislation at the entrances, exits of the facility, and other necessary points, will be regularly inspected. In case of any nonconformities, the relevant project unit will be contacted, and every possible effort will be exerted to rectify the identified deficiency.

4.3 Construction Phase

On-site Traffic Management

The following rules will be followed for traffic management during the construction and rehabilitation phases of the project:

- The number of entrance and exit gates of the construction site should be increased in order to reduce the amount of traffic needed.
- Areas where pedestrian staff entry is restricted should be identified, communicated to the personnel, and physically secured.
- Machinery like dozers, cranes, and diggers have blind spots that can endanger workers during movement. To mitigate these risks, operators will be accompanied by signalers or spotters during these operations.
- Construction vehicles capable of movement and rotation should be enclosed with cones, warning equipment, and barriers. Personnel working in these areas will be informed about ongoing work.
- Construction machinery and auxiliary vehicles should be parked in suitable designated areas after their tasks are completed or temporarily halted.
- Workers should use marked and barricaded walkways to avoid areas where heavy machinery is in operation and other hazardous zones.
- Unauthorized personnel will be strictly prohibited from entering the construction site.
- Interactions of pedestrians and vehicles will be eliminated by means of physical barriers, signage and warning devices. In addition, vehicle entry will be restricted in areas where pedestrians are concentrated.
- Emergency assembly areas should be designated in non-hazardous zones. Workers should be informed about the location and boundaries of these areas.
- Equipment and vehicle drivers/operators will utilize standardized labels and signs. They will also receive necessary training to effectively communicate with workers, promptly recognize hazardous situations, intervene swiftly, and comprehend the maneuvering limitations of vehicles and equipment.
- The excavated material and vegetative soil resulting from excavation and soil stripping activities will be transported to designated storage areas in a covered manner.
- Trucks carrying materials will be loaded and unloaded gradually and under controlled conditions to prevent excessive dusting during these operations. Moreover, regular and frequent watering/moisturizing will be applied to prevent dust formation.
- Throughout the construction and rehabilitation phases of the Project, strict compliance will be maintained with the Traffic Law No. 2918 and all other laws and regulations pertinent to highways especially on safe driving and road safety.
- Throughout the construction phase of the project, the location planning of all facility units and structures to be established within the project's scope will adhere to the provisions of the "Regulation on the Facilities to be Built and Opened on the Roadside" and the Highway Expropriation Limit Setbacks.
- While transporting materials and plant machinery-equipment during the construction phase, care will be taken to avoid causing any damage to the highways and related

facilities. In the event of any damage, the AYGM will assume responsibility for covering the damages, in accordance with the protocol to be established with the 16th (Sivas), 12th (Erzincan, Erzurum), 18th (Kars) Regional Directorate of Highways.

- The use of Personnel Protective Equipment (PPE) such as high-visibility workwear will be ensured.
- A Grievance Redress Mechanism will be established for internal and external stakeholders to formally communicate their concerns and grievances and to facilitate resolutions that are mutually acceptable by the parties.

Off-site Traffic Management

Off-site traffic management will include the following measures:

- Trucks and other vehicles will be equipped with silencers where necessary to mitigate noise.
- Drivers will undergo training to minimize unnecessary noise generation.
- Vehicles transporting materials will be covered with tarpaulins to prevent dust dispersion.
- Trucks will adhere to their maximum load-carrying capacity and will not be overloaded.
- Drivers will comply with Turkish laws regarding speed limits for various vehicle types and road categories.
- Throughout the construction phase, the relevant company will implement a range of traffic safety measures at road entrances and exits, aligned with the guidance of the 16th (Sivas), 12th (Erzincan, Erzurum), 18th (Kars) Regional Directorate of Highways.
- Appropriate warning signs will be strategically placed on roads and intersections to alert non-project drivers and pedestrians to project-related traffic.
- Work will be scheduled to avoid peak daily activity hours.
- During the construction phase of the Project, entrances and exits to and from the facility will be provided from existing intersections.
- The construction phase of the project will adhere to relevant national legislation and international standards.
- The hours when the traffic is not very busy will be preferred when planning high risk activities. In other words, project related traffic will be regulated during certain dates and times when local community will require to commute (to/from schools, commercial areas etc.) or take on any agricultural activity (animal grazing or other farming activities etc.)
- At railway level crossings, necessary precautions will be taken to prevent damage to the crossing caused by heavy vehicle crossings.
- Supervision and escort for heavy machinery will be provided.
- Local authorities and community will be provided with detailed information on closure of roads.
- In situations involving village crossings, traffic, or transportation activities that could impact the local community, adequate flaggers and warning signs will be used to ensure the safety of the local residents and prevent any harm to them.
- Effective markings, signaling, and barriers will be implemented to lower vehicle speeds and manage pedestrian traffic.
- A Grievance Redress Mechanism will be established for internal and external stakeholders to formally communicate their concerns and grievances and to facilitate resolutions that are mutually acceptable by the parties.

According to the Highway Traffic Regulation, Table 2 presents the minimum and maximum speed limits for different vehicle types. Drivers involved in project operations will operate in accordance with this regulation.

Table 2. Highway Traffic Regulation, Minimum and Maximum Speed Limits for Vehicle Types

Vehicle Type	Max Speed Limit (km/h)			
	Inside Settlement	Outside Settlement		On Highways
		Intercity Bidirectional	Divided Roads on Highways	
Automobile (M1), (M1G)	50	90	110	120
Minibus (M2)	50	80	90	100
Bus (M2-M3),	50	80	90	100
Pickup truck (N1), N1G)	50	80	85	95
Panel van (N1)	50	85	100	110
Truck (N2-N3), Tow Truck (N2-N3)	50	80	85	90
Motorcycle (L3)	50	80	90	100
Motorcycle (L4, L5, L7)	50	70	80	80
Motorized bicycle (L1, L2, L6) Non-motorized bicycle	30	45	45	Not allowed
Vehicles carrying dangerous goods (if there is no contrary provision in their documents)	30	50	60	70
Vehicles traveling on the highway with a special cargo transportation permit or special permit (If there is no contrary provision in the documents)	30	50	50	60
Rubber wheel tractors	20	30	40	Not allowed
Vehicles towing a faulty vehicle	20	20	30	40
Work machines*	20	20	20	No entry without permission from the organization responsible for the construction, maintenance or operation of the road

** Speed limits for forklifts are 5 km/h in closed areas (during operation) and 10 km/h in open areas.*

4.4 Operation Phase

The increase in traffic volume is regarded as an impact because it involves the use of cars, buses and service vehicles during the operation phase. Furthermore, promoting train travel for passengers and emphasizing the use of trains for freight transportation, while decreasing their dependence on highways, will ease the traffic congestion on the existing highway network during this period. This reduction in traffic load also leads to a positive outcome.

In order to avoid intrusion humans and/or animals to the railways and preclude risk of hit by train, safe zone should be identified and railway lines should be surrounded by wire fences/barriers (see Figure 4).

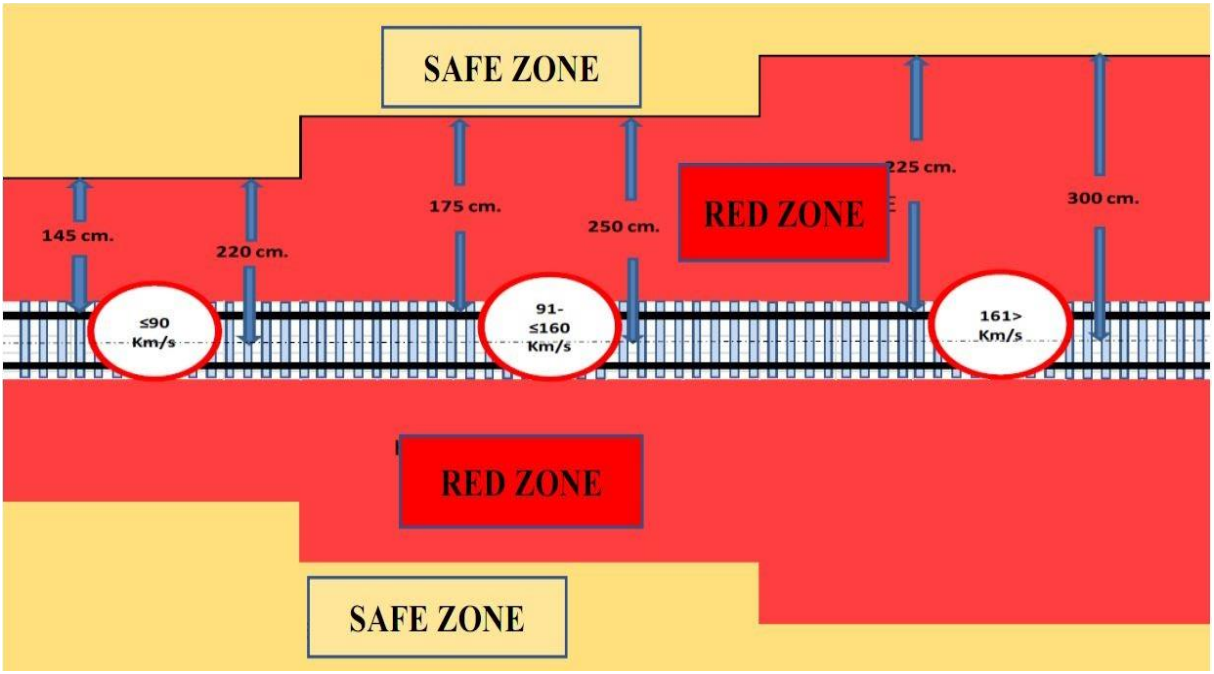

Figure 4. Safe and Red Zone Around the Railway Line

5 MITIGATION MEASURES AND MANAGEMENT CONTROLS DURING THE CONSTRUCTION PHASE

- The contractors will establish communication channels with local authorities under the coordination of AYGM for road crossing works. This collaboration will ensure that all requirements set forth by the authorities are effectively met.
- Contractors will engage with the local community to discuss the sections of Project traffic routes that intersect their areas. The objective is to minimize safety hazard and security risks and mitigate impacts on local livelihoods and transportation patterns. This may include considerations for activities such as animal grazing and shuttle services.
- A comprehensive survey will be conducted by the Contractors to assess the condition of roads affected by the construction and rehabilitation phases. This assessment aims to identify whether any upgrading activities are needed. Additionally, it guarantees that once construction operations conclude, the roads are restored to their previous or improved conditions.
- Access to the construction corridor will largely rely on existing roads. These access roads will be used temporarily for transporting personnel, equipment, vehicles, heavy trucks, and materials to the worksite. Roads unsuitable for accommodating heavy construction machinery will be limited to light truck traffic, such as pickup trucks.
- Construction activities will primarily utilize existing asphalt or stabilized roads. These roads typically will not necessitate improvements unless the roadbed's quality has deteriorated, resulting in challenging or unsafe driving conditions for both public and construction-related traffic.
- Access to settlements will always be ensured, either by providing detours or allowing vehicle and livestock passage during specific hours. This will be facilitated through the utilization of suitable materials like steel plates placed over trenches. If restrictions on access become necessary, viable alternative solutions will be collaboratively determined with local authorities.
- Access to the properties will be guaranteed or an appropriate alternative access solution to be agreed with owners or users will be implemented.
- Local communities will receive information from the Contractors about planned road closures or disruptions. This communication will occur through official channels and signage, with a minimum of 72 hours' notice.
- Easy-to-read signs will be used to indicate any type of diversion or of traffic changes related to the Project activities.
- Enhanced safety will be prioritized through temporary traffic control measures and appropriate signage to emphasize warnings.
- Strict speed limits will be enforced within the construction zone, and vehicle speeds will be monitored regularly.
- Temporary traffic control measures will be implemented at intersections and junctions identified as having a higher risk of road accidents.
- Intersections where temporary roads intersect with access roads will be designed to ensure traffic safety, especially for heavy-loaded vehicles.
- Authorities will be promptly notified when oversize heavy vehicles are required, and these vehicles will be accompanied by escorts.
- Regular inspections will be conducted on frequently used roads to ensure they remain undamaged, and repairs will be carried out as needed.
- Permission from the relevant authorities will be obtained for night work.
- Staff transportation will be organized with the goal of reducing the required number of vehicles whenever possible. This may involve the use of buses and other collective means of transport.
- Local authorities and local communities will be informed and consulted on impacts on traffic due to the Project activities and planned mitigation measures during the pre-

construction and construction meetings and related Stakeholder Engagement Activities.

- A Grievance Mechanism will be set up for communities and individuals to formally communicate their concerns, complaints and grievances to the Contractor and facilitate resolutions that are mutually acceptable by the parties.
- Compensations paid by the Contractors under the supervision of DGII to accidental damages caused by the Project activities will be determined in accordance with national legislation and international standards.
- Existing corridors will be used for main access roads and the construction area. The personnel will be transported to the work areas by public transportation services by minimizing the development of new access roads.
- During construction, to prevent animals being attracted to vegetation along the route, to limit the time animals spend near the railway, and increase their visibility and also vision, appropriate vegetation schemes will be implemented within the scope of the integrated vegetation management.
- Existing roads, designated access roads and previously disturbed/cleared sites will primarily be used for the Project facilities.
- For new access roads, the design will incorporate appropriate slope and cross-fall drainage systems. This design aims to ensure the safe redirection of storm water to off-road soak ways, effectively preventing erosion and silt buildup. When new access roads are required, the contractors will seek approval from AYGM and perform necessary permitting procedures, including Environmental and Social Impact Assessment studies.
- Regular maintenance of roads will be conducted to prevent potential accidents and minimize dust generation. Roads frequently used will undergo routine inspections to promptly identify any damage and carry out repairs as needed.
- The Contractors will be responsible for planning and managing vehicle operations on the construction site. The Contractors' HS (Health and Safety) Expert will conduct daily checks to ensure the vehicles are operating properly, and effective vehicle maintenance programs will be established. The Contractors will also ensure the provision of safe work environments at the construction site, including providing defensive driving training for all project personnel.
- Regular weekly checks of the construction site will be carried out by the Contractors' HS expert. These checks will aim to inform staff about any potential traffic-related risks.
- The project specific Emergency Preparedness and Response Plan will be implemented. Local communities will be notified using appropriate tools (e.g., telephone call lists, vehicle-mounted speakers) in case of emergencies arising from the project work or construction sites that may pose a risk to them. Where necessary, the details of the nature of the emergency, protection options, etc. will be communicated through trained personnel of the Contractors.

6 TRAINING, REPORTING AND MONITORING

6.1 Training

All employees of the contractors and subcontractors will receive fundamental training on environmental, social, health and safety, labor, and security matters.

Prior to the commencement of the project's construction and rehabilitation phases, an assessment of all access roads will be conducted, and all project personnel will undergo essential training to address potential risks. Additionally, the project area will be subject to daily monitoring by HS teams. This monitoring will identify any additional training needs, and prompt organization of relevant training sessions.

6.2 Reporting and Monitoring

The main monitoring activities will focus on ensuring compliance with the mitigation measures and management controls described and key performance indicators (KPI) identified within the scope of this TMP.

On-site TMP monitoring requirements will be detailed in management/implementation plans and procedures to be prepared by the Contractors prior to the onset of the land preparation, construction and rehabilitation phases of the Project. Monitoring activities will be designed to target specific topics to meet site-specific requirements in line with the Monitoring Plan framework provided in the ESMP and considering the key performance indicators.

An internal reporting system will be designed to ensure a timely feedback procedure incorporating results of monitoring into management practices. Monitoring Reports including status of Key Performance Indicators will be shared to AYGM, WB and AIIB.

The planned and realized trainings will be followed regularly and all records will be kept. The status of the project area will be checked daily by HS Teams and in case a possible training need is determined, a new training program will be created, and training will be provided to the staff and these trainings will be reported monthly.

Incident Reports: Require immediate reporting of any traffic incidents related to landslide events or other hazards. Incident reports should detail the location, nature, and impact of the incident, as well as any injuries, damage, or disruptions to traffic flow. Submit incident reports to the project management team and relevant authorities for review and response coordination.

Road Closure and Detour Reports: If Road closures or detours are implemented due to landslide hazards or other safety concerns, submit reports detailing the locations, duration, and reasons for closure or detour. Provide information on alternative routes, traffic diversion measures, and expected delays to help motorists plan their journeys accordingly. Monitor the impact of road closures and detours on traffic flow and safety and adjust traffic management measures as needed.

Lessons Learned Reports: Following any significant traffic incidents or emergency response activations, submit lessons learned reports to capture key insights, challenges, and best practices identified during the incident. Include recommendations for refining traffic management strategies, improving emergency response procedures, and enhancing project resilience. Share lessons learned reports with project stakeholders and incorporate findings into future planning and risk management activities.

Within the scope of TMP, the key performance indicators and monitoring activities for the TMP are indicated in Table 3.

Table 3. Key Performance Indicators and Monitoring Activities for TMP

Key Performance Indicator	Target	Timeframe	Record	Responsibility
Number of reported on-site traffic accidents/incidents/near misses	Zero accident/incident	During construction (quarterly), and operation (annual) periods	HS Records	Contractor(s)
Periodic maintenance of the vehicles and equipment	Carrying out regular maintenance annually and having all the vehicles inspected according to the national legislation	Quarterly	HS Records	Contractor(s)
Speed limits in place and enforced	Zero traffic penalty	Yearly	HS Records	Contractor(s)
Project staff and community trainings related to the plan especially on traffic safety, signs and rules to follow	%100 of relevant employees trained	Twice a year	Training records	Contractor(s)
Traffic signs and warnings are placed at appropriate locations	Placing traffic warning signs at every road crossing (access road and roads used by local people)	Weekly	HS Records	Contractor(s)
Complaints on project vehicles and drivers	Gradual decrease by achieving zero grievances	Periodically	Grievance records	Contractor(s)
Number of road maintenance works	Access Roads will be improved and maintained annually No grievance will be received from the Public regarding the road condition	Once a year (after rainy seasons that may impact the roads adversely)	Internal Monitoring Records	Contractor(s)
Communication records with authorities and communities in terms of early warnings, incidents, potential hazards and emergencies	Gradual decrease by achieving zero accidents/incidents/near misses	Whenever required	HS Records	Contractor(s)
Number of non-compliances against requirement of the TMP and Project Standards	Ensuring full compliance (zero non-compliance)	Throughout the lifecycle of the project	HS Records	Contractor(s)
Permits and licenses related to the transport of dangerous goods and other traffic issues	Ensuring full compliance (all permits and licenses taken on time)	Throughout the lifecycle of the project	HS Records	Contractor(s)

The WB, AIIB and AYGM will be promptly notified of any incident or accident related to the Project activities which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers.

Sufficient detail will be provided regarding the incident or accident, findings of the Root Cause Analysis (RCA), indicating immediate measures or corrective actions taken or that are planned to be taken to address it, compensation paid, and any information provided by any contractor and supervision consultant, as appropriate. It will be ensured that the incident report is in line with the World Bank's Environment and Social Incidence Response Toolkit (ESIRT). Subsequently, as per the Banks' request, a report on the incident or accident and proposal regarding any measures to prevent its recurrence will be prepared.

7 REFERENCES

- Environmental and Social Impact Assessment Report (CNR-ETMIC-ESIA-001)
- Environmental and Social Management Plan (CNR-ETMIC-ESMP-001)
- Community Health and Safety Management Plan (CNR-ETMIC-CHSMP-001)
- Emergency Preparedness and Response Plan (CNR-ETMIC-EPRP-001)
- Biodiversity Management Plan (CNR-ETMIC-BMP-001)
- Occupational Health and Safety Management Plan (CNR-ETMIC-OHSMP-001)