

Izmir Metro Project Phase 4

Fahrettin Altay – Narlıdere Kaymakamlık Line

Environmental and Social Review Report

Prepared for: The Asian Infrastructure Investment Bank

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Acronyms

Acronym	Acronym Description
AIB	Asian Infrastructure Investment Bank
CIMER	Presidential Communication Centre
CLO	Community Liason Officer
CSR	Corporate Social Responsibility
DEU	Dokuz Eylül University
EBRD	European Bank for Reconstruction and Development
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
ERP	Enterprise Resource Planning
ES	Environment and Social
ESAP	Environmental and Social Action Plan
ESDD	Environmental and Social Due Diligence
ESMP	Environmental and Social Management Plan
ESP	Environment and Social Policy
ESR	Environment and Social Review
EU	European Union
GMP	Grievance Mechanism Plan
GRM	Grievance Redress Mechanism
HIM	Hometown Society Communication Centre
IM	Izmir Metro A.Ş.
IMM	Izmir Metropolitan Municipality
ISO	International Standards Organization
IZSU	Izmir Water and Sewerage Administration
JHSU	Joint Health and Safety Unit
LOTO	Lockout/Tagout
MoEU	Ministry of Environment and Urbanization
MP	Management Plan
NATM	New Austrian Tunneling Method
NTS	Non-Technical Summary
OHS	Occupational Health Safety
PCB	Polychlorinated Biphenyls
PDoEU	Provincial Directorate of Environment and Urbanization
PIU	Project Implementation Unit
PRs	Performance Requirements
QC	Quality Control
RSPC	Regulation on Soil Pollution Control and Point-Source Contaminated Sites
SDS	Safety Data Sheet

SEP	Stakeholder Engagement Plan
SGK	Social Security Institution
SIA	Social Impact Assessment
TBM	Tunnel Boring Machine
TBT	Toolbox-Talks
TSS	Total Suspended Solids
TUIK	Turkish Statistical Institute
UKOME	Transport Coordination Centre
IZBAN	Izmir Suburban Rail System

1. Summary

The European Bank for Reconstruction and Development (EBRD) financed the extension of Izmir current metro line from Fahrettin Altay to Narlıdere Kaymakamlık Project (the Project). The extension project includes the construction of 7.2 km of new tunnel route and seven underground stations linking the western districts of the city to the public transportation network.

The extension goes through Balçova, Çağdaş, DEU University Hospital, Güzel Sanatlar, Narlıdere, Şehitlik, Kaymakamlık stations and reach Narlıdere İstihkam Alayı. Of the seven new stations, Balçova and Kaymakamlık stations will be developed with a car park structure with a 460-vehicle capacity.

EBRD approved this project in May 2018, and an Environment and Social Due Diligence (ESDD) Report with an Environmental and Social Action Plan (ESAP) was prepared in March 2018 prior to the financial closure. During the ESDD conducted on 2018, the impacts of the project were identified and mitigation measures were specified. The Project has been tendered on 13 April 2018 and construction has started since 25 June 2018.

Currently, Asian Infrastructure Investment Bank (AIIB) is also considering financing the Project. HS2 Engineering and GREEN Engineering (HS2 & GREEN) has been tasked by the AIIB for Environmental and Social Review (ESR) of the Project.

Within the environmental and social review of this assignment, the ESDD prepared on 2018 was reviewed and the current plans/procedures and the practices of both Izmir Metropolitan Municipality (IMM) and the Contractor were examined. The general content of the review is based on:

- Applicable National Laws, Procedures and Standards and Relevant EBRD Performance Requirements (PRs)
- Institutional Arrangement of Environment and Social (ES) Management
- Environmental and Social Impacts and Monitoring
- Land Requirements and Impacts
- Gender
- Stakeholder Engagement
- Grievance Redress Mechanism (GRM)
- Implementation of ESAP and Mitigation Measures
- Corrective Actions

Applicable National Laws, Procedures and Standards and Relevant EBRD Performance Requirements (PRs)

Currently, it is confirmed that international standards are being applied to the Project for environment and social issues. The implementation of ESAP has been monitored on an annual basis by the EBRD's Technical Consultant, AECOM.

Institutional Arrangement of Environment and Social (ES) Management

The institutional arrangement of this project consists of the Izmir Metropolitan Municipality (IMM), Izmir Metro (IM), Engineer and the Contractor. IMM is the owner of this project and Izmir Metro which is a company under IMM is the responsible party for the operation of the metro. During the construction, Environmental, Health and Safety (EHS) subjects are managed and controlled by IMM. The Contractor follows the rules required by IMM.

Izmir Metropolitan Municipality made a contract with an expert consultant company (Engineer) to manage the Project in terms of technical, financial and EHS aspects. In terms of EHS, the Engineer performs supervisions in accordance with the local EHS regulations and EBRD PRs. The control periods vary dependent on the nature of the activities and are daily, weekly, monthly, quarterly and yearly. The Engineer conducts one-on-one surveys in the field and notifies the Contractor verbally and through correspondences about the non-conformities encountered in inspections.

Environmental and Social Impacts and Monitoring

The efficiency of the environmental and social management system can only be evaluated by monitoring. The system should have measurable outcomes like targets and performance indicators. However, any evidence regarding the monitoring of performance of management system, like performance indicators or any targets were not observed. In order to effectively monitor the performance, both IMM and the Contractor should set targets and identify and monitor performance indicators.

The IMM has prepared an Environmental and Social Management Plan (ESMP), as an umbrella plan for the Project, in accordance with the ESAP. Under the ESMP, the Contractor has prepared an Occupational Health, Safety, and Environment Plan (OHSEP), which elaborates the responsibility of the Contractor with Occupational Health and Safety (OHS) and environmental management and includes comprehensive management plans. In addition, a series of management plans have also been prepared to address specific environmental impacts, including noise and vibration, air pollution, wastewater, and wastes during the construction. Air quality monitoring was carried out at three receptor locations in 2019 and dust (PM10) results are below the limits. Also, the mitigation measures described in the management plan are sufficient as well. However, it is observed that there are 87 public complaints related with dust between April 2019 - April 2020. This is likely due to insufficient

implementation of air quality management plan. Therefore, monitoring frequency is recommended to be increased, daily inspections for dust minimization should be performed and mitigation measures should be strictly implemented.

A traffic management plan is in place. Traffic circulation plans were prepared and approved. Traffic signs have been placed as shown in approved traffic circulation plans for traffic safety. No complaints were encountered from public between April 2019 - April 2020.

The Contractor has a noise and vibration management plan. In the plan, measures for minimizing noise and vibration are given. The limits are presented, and environmental noise and vibration monitoring is stated to be carried out. Also, forms are prepared to record and assess noise monitoring data. However, within the annual report and documents which are presented, no data related with environmental noise and vibration monitoring could be observed. Only monitoring data regarding with the human exposures for both noise and vibration were noticed, which are different from environmental monitoring. Also, between April 2019 - 2020, there are 20 complaints related with construction noise. Therefore, noise and vibration monitoring at the receptors should be performed as soon as possible and mitigation measures to prevent any grievances should be implemented.

A well-developed waste management plan is in use. SubContractor's waste storage area needs to be improved, where some waste drums are stacked, and it increases the risk of spillage. No secondary containment was observed within the hazardous waste storage area. As the storage areas are very small, wastes are stored tightly, and some wastes are placed out of the storage area. Therefore, the main Contractor should perform audit to the waste storage areas periodically to ensure that the waste management is in line with the criteria defined in the management plan. Also, waste oil generated from this Project was not documented and reported. Therefore, all wastes should be reported.

The hazardous chemicals used in this project are mentioned to be stored at hazardous waste storage area. Actually, since hazardous chemicals have some properties like; flammable, toxic, explosive etc., they should be separately stored in proper designated areas with appropriate measures (i.e. fire extinguishers, safety data sheet forms). Liquid hazardous materials used in this project are stored in tanks, and secondary containment were installed and containment capacities were constructed same with the tank capacity. In order to minimize any potential impacts of spills; spill kits are recommended to be placed near storage tanks.

The wastewater generated includes the drainage water from the tunnels, domestic wastewater and wash water used to clean construction vehicles and site surface. Wash water is contaminated with some chemicals and oil. Also, the surface water is potentially to be contaminated. Three concrete basins (sedimentation basin), each with a capacity of 5 m³ were constructed to collect all the wastewater at the construction sites except domestic wastewater. The basins are connected to municipality sewer system. In ESDD, an oil water separator was required to separate oil and grease from wastewater

before it is discharged to sewer system. However, according to the latest ESAP, the separator is not installed yet.

Since the discharge is connected to municipality sewer network, IM (Izmir Metro) has a wastewater connection permit obtained from İzmir Water and Sewerage Administration (IZSU) and holds Wastewater Connection Quality Control License for all construction sites.

In the license document, IMM is obliged to conduct tri-annual wastewater monitoring and share the results with IZSU. As of the writing of this report, two analyses (April and November 2019) were conducted for all construction sites. The first analyses results are in line with the standards. However, the second analyses results exceed the limits for pH and Total Suspended Solids (TSS). The analyses should be performed and necessary actions should be taken to meet limits.

A SubContractor's management plan was prepared and it is in operation. Additionally, the Contractor's OHSEP covers the SubContractors and some requirements are specifically identified for SubContractors. The OHSEP requires SubContractors to prepare their own EHS management plans. However, there is no EHS management plan prepared by the SubContractors.

The main Contractor performs some audits/inspections including EHS subjects to the SubContractor worksite and any non-conformities identified are recorded in reports.

The Engineer, who is the controller on behalf of IMM, has developed an OHS Policy. There is no OHS Policy for operation phase, which will be developed by IM.

A Risk Assessment study was prepared in November 2019, based on Fine Kinney method to identify work activity risks applicable to the operations. A prioritization was defined based on the final risk scores which should be taken into consideration during the implementation of the control measures (ie. first priority: unacceptable risk, second priority: high risk, etc.). Total 612 risks have been identified with different risk levels including unacceptable risks. Although high risks were identified, the existing situation of the risks were defined as "appropriate" or "adequate". Therefore, it is not clear if corrective actions are taken and their effectiveness is monitored. It is recommended that the risk assessment is reviewed and corrective actions are taken/monitored to minimize the risks associated with the activity.

OHS training is given to employees when starting work and refreshed later periodically in line with the regulatory requirements. Training is given by the OHS Specialists and workplace doctors, and training certificates are prepared. Work at height training has been provided to relevant workers. In ESDD, development of a professional safety site behaviour training program for the OHS team is considered necessary as it was noted that the IMM's Engineers were not able to enforce all appropriate safety behaviour in construction sites. However, such specific training program was not evident. It is recommended that IMM to develop a professional safety site behaviour training program for the members of the audit/inspection team.

According to the OHSEP, toolbox talks (TBT), covering work method, associated risks and precautions, should be conducted by the team leaders daily prior to start of work. The toolbox talks should be documented and should be handed over to the Contractor's OHS team during the day for recording. As indicated by the site representatives, toolbox talks are conducted and records are kept. However, no record was made available for review.

Health surveillance is conducted by the workplace doctors. Review of documentation indicates basic health screening of the employees is undertaken during the recruitment process and thereafter periodically. In ESDD, it is recommended that the health check records include work at height and confined space entry. Work at height and work at night/shifts is evaluated and confirmed by workplace doctor. However, evaluation with regards to confined space entry was not observed.

Workplace monitoring (noise, dust, vibration, illumination, thermal comfort) was conducted at several workplaces for SubContractors. Results indicate generally the measured levels are below the regulatory limits, except full-body vibration measured for a worker working on a loader. It was reported above the exposure action limit but below the exposure limit value. Reportedly, the loader is currently not being used. However, it is not clear if any mitigation measures were taken. It is recommended that all the workplace monitoring reports are evaluated, mitigation measures are implemented and monitoring is repeated to confirm that the improvements are adequate.

The Contractor has developed an Emergency Response Plan, including fire, chemical spillages, earthquake, flooding, lightning strike, sabotage, severe weather conditions, etc. Emergency teams for firefighting, first aid, protection-rescue-evacuation teams are defined. In ESDD, it is recommended that an emergency preparedness procedure and plan which includes a worst-case scenario is prepared. Worst-case scenario for fire was tested and a training on how to react in the event of a worst-case scenario was provided. It is recommended that a worst-case scenario for an earthquake and collapse of a construction retaining wall during metro line extension project are to be tested. Training should be provided to the workers for these worst-case scenarios.

Work Permit system implementation included in OHSEP covers permits for hot works, excavation, electrical, cold works and confined spaces. According to the work permit system, the companies will be in contact with each other and a "work permit system" will be implemented during the equipment tests before the commissioning and during all tests to be carried out under energy. However, work permit implementation practices could not be observed within the documentation provided within the course of the assessment. Reportedly, work permit system is not implemented at the construction sites.

The Contractor has developed a Lockout/Tagout (LOTO) program to ensure that that the dangerous machinery is properly shut off and not able to be started up again prior to the maintenance or servicing works. The procedure includes electrical, mechanical, chemical energy and pressurized systems and steps that should be taken during the application of the LOTO program. According to the latest quarterly

monitoring of the Engineer, the plan is up to date and being used. There is no information available if proper locks are provided for different energy sources, as well as implementation practices in place.

Considering the social impacts of the project, although it is classified under category B in terms of EBRD criteria, it is noted that the Project caused no significant impacts on the environment and on society with the implementation of mitigating measures and design modifications implemented.

The political stability and consistency of the city over the years resulted in an experienced, capable and coherent IMM management team. This translated into consistency in urban services provided by this team consisting of management, technical, human resources, administrative as well as financial strength.

Considering the organizational chart of IMM, it is seen that the institutional capacity has sufficient expertise and number of personnel for Project management.

The social management systems and plans designed for the project with the similar metro experiences, the Contractor as well as its experienced managerial staffs, financial and technical capacity demonstrate that there is sufficient corporate capacity for social impact management.

The construction activities are monitored by independent experts, consultants and IMM, and maximum effort is shown for elimination of the identified gaps. Numerous reports, minutes, corrective and preventive activity reports and correspondences prepared for this purpose were determined during the monitoring study and the relevant summary findings are included in this ESR report.

Worker accommodation camps are developed in line with IFC/EBRD Workers' accommodation standards. In addition, the Engineer has carried out regular monitoring as per the National Legislation and in compliance with EBRD PR2 and Worker accommodation guidance. As a result of monitoring carried out by the Engineer, non-conformities for some items were documented. However, no evidence was observed as to how these non-conformities have been closed. The evidences showing how the non-conformities have been closed/addressed need to be provided.

Land Requirements and Impacts

No land acquisition or expropriation have been done for the construction activities of the project because all of the lands are owned by IMM.

IMM confirmed that there were 11 design changes from the beginning of the project and none of them have required an additional land acquisition, expropriation or allocation. In addition, the design changes (transition from Cut & Cover to Tunnel Boring Machine) made before the construction phase have ensured the physical impact being minimised. Thus, the design changes do not cause difficulties in accessing public services and a need for physical/economic displacement.

Although all the mitigation measures taken by the Contractor, the Engineer and IMM, there are some people who affected from the project. Ilica Headman's office, organic products marketplace and municipal police team point were needed to be relocated. In addition, 9 flats and 1 warehouse (totally 24 people and 1 tradesman are affected) in the 3 buildings in the vicinity of the switch point construction at the end of Narlıdere Station have been temporarily displaced due to high vibration impacts felt by the people. The effected people are temporarily moved to the new flats. The moving process was managed by IMM and all related costs was covered by the Contractor. The new flats for the temporary housing have been searched in such a way that the vibration will not be felt by the people but the new flats will not be too far from the existing flats. The affected people have provided no grievances as of the writing of this report, and IMM keeps regular communication with them.

Gender

There is no gender discrimination in recruitment. The female employee rate of the project is 5%. The local employment rate of the project is 35%, which is quite high. These rates can be considered normal or even higher compared to the construction sector rate. According to the construction sector statistics published by Turkish Statistical Institute (TUIK), the female employment rate in construction sector is 4.7% on 2018. This comparison shows that the female employment rate in the project is at a good level, nevertheless the rate can be further increased through cooperation with women's organisations, women's cooperatives and local administrations. There were no reported incidents related to sexual harassment and violence in the project.

Stakeholder Engagement

Various stakeholder meetings were held during the construction phase. However, there is no sufficient document/meeting minutes/record related to the meetings. Information dissemination activities for the stakeholders affected by the project should continue and these engagement activities must be documented.

IMM should continue to inform the communities directly affected by the project in particular and other stakeholders of the ongoing impacts of the project, design changes and the measures taken, and develop appropriate methods for consultation and engagement. All these consultations should be documented.

Grievance Redress Mechanism (GRM)

This project has not received opposing views or reactions on social media and local and national media. It has gained the acceptance and approval of society (271 grievance records in total received over a time period of 2 years mainly focus on construction related impacts, which is relatively low).

Grievances from the society are gathered by Hometown Society Communication Centre (HIM) and are recorded, regardless of through which channel they were received. Following recording the grievances, they were communicated to the relevant unit in a fast way (the example on this matter is provided in the Chapter 9). After the relevant unit resolving the grievance or after different assessment, the matter was informed to the grievance owner by HIM. All grievances received are coordinated and monitored by the Control Supervisor of IMM, responsible for the Project.

There is no grievance record from the employees. The reason for this is that written complaints from employees are not widespread in the Turkish working culture but also due to the overall satisfaction of the employees in the project. The requests and demands on small aspects are verbally communicated to and resolved in this way by the managers, so there is no written grievance/request from the employees. Nevertheless, the employees should be encouraged to document their complaints.

The employees (including the security personnel) need to be provided with more training and TBT on matters such as social management systems, social management plans, stakeholder interaction and GRM. Especially, methods and instruments to encourage their use of the grievance mechanism need to be developed. This has been discussed in detailed in Chapter 9.

Implementation of ESAP and Mitigation Measures

Implementation of ESAP and mitigations measures are summarized and presented. As of the writing of this report, most of the actions required in ESAP have been implemented.

Corrective Actions

In order to fill in the gaps identified in this ESR, recommendations to update the ESAP have also been provided in this report, in line with requirements in EBRD PRs.

2. Introduction

HS2 Engineering and GREEN Engineering (HS2 & GREEN) was contracted by the Asian Infrastructure Investment Bank (AIIB) for Environmental and Social Review (ESR) of Izmir Metro Phase 4 Fahrettin Altay – Narlıdere Kaymakamlık Line (the Project). AIIB is considering to finance the Project. The Project is the fourth expansion of the Izmir Metro system with the westward extension of the metro line from Fahrettin Altay to Narlıdere Kaymakamlık and includes construction of a 7.2-km extension and 7 underground stations linking the western districts of the City to the public transportation network of Izmir. The extension will go through Balçova, Çağdaş, DEU University Hospital, Güzel Sanatlar, Narlıdere, Şehitlik, Kaymakamlık stations and reach Narlıdere İstihkam Alayı. Two stations will be developed with an integrated car park structure (460 vehicles) to promote inter-modal flexibility. Once the Project is complete, the Izmir Metro network will span 26.5 km and have 24 stations. İzmir Metropolitan Municipality (the “City” or “IMM”) is the proponent of this Project.

The operator of the municipal metro system is Izmir Metro A.S. (“Izmir Metro”, or “IM”), which was established in 2000. It is owned by the City and incorporated as a joint stock company. Assets of the rail system (e.g. vehicles, station equipment, etc.) are owned by the City, while these assets are operated by Izmir Metro. The main Contractor of the project is Gulermak Ağır Sanayi İnşaat ve Taahhüt A.Ş. (Contractor). IMM has contracted with UBM Birleşmiş Müşavirler Müşavirlik Hizmetleri A.Ş. (Engineer) for supervision of the project to ensure that it is implemented in line with the construction works agreement.

Once the Project is complete, the length of metro system in the City will span 26.5 km, of which 19.2 km is underground and 7.3 km is above ground. The metro system currently carries 271,000¹ passengers daily, with 182 carriages and 17 stations through a 19.3-km network. The existing metro system consists of one line which starts from Fahrettin Altay station in the southern part of the metropolitan area and runs towards northeast to end at Evka-3 in Bornova. The extension of the current metro system and further integration of the metro system with existing transport modes, notably İZBAN suburban rail system and connecting city bus services, is in line with the Izmir transport masterplan of 2009, enabling the provision of frequent and efficient services to Izmir residents in a way that is fast, reliable, comfortable, and environment-friendly, providing an alternative to the use of cars. The Railway Network Map is presented in Figure 1 below.

¹ <https://www.izmirmetro.com.tr/Sayfa/43/26/2015-faaliyet-raporu-ozet>

Figure 1 IMM's Railway Network Map



The list of changes to the project design since the beginning of construction are;

1. The Balçova station was shifted towards parking lot building and these two separate structures were designed as a single building.
2. Çağdaş Station has been moved for traffic reasons.
3. Shaft-7 has been moved for traffic reasons.
4. Shaft and exit structure of DEU Hospital Station have been moved as per Hospital's request.
5. Narlıdere Station shaft has been moved to eliminate the need for relocation of natural gas lines.
6. Şehitlik Station has been moved as per Highway Authority's request.
7. Kaymakamlık Station has been moved to eliminate the need for relocation of utility lines and resolve prolonged approvals from authorities.
8. Siding tracks were excluded from the scope as it will not be needed due to the planned depot area.
9. Connection tunnels were excluded from the scope as Izmir Bay Crossing projects was cancelled.
10. Construction method for the support system of NATM has changed
11. Designing tail tunnel with Tunnel Boring Machine (TBM). Tail tunnel design has been changed from NATM to TBM.

These changes have not entailed additional land requirements, acquisition and allocation.

The Project has been implemented in accordance with EBRD's Performance Requirements (PRs) dated May 2014 and EBRD's Environmental and Social Policy (ESP) dated May 2014. The Project has been categorised as "B" in accordance with the EBRD's 2014 Environmental and Social Policy (ESP). An Environmental and Social Due Diligence (ESDD) Report with an Environmental and Social Action Plan (ESAP) was prepared by ACE Sustainability Consulting Services (ACE) in March 2018 prior to the construction. The ESAP implementation is reviewed annually by AECOM (February 2020 and May 2019).

2.1 Scope of Work

The scope of the assignment mainly included the review the environmental and social performance of the Project, to check its compliance with EBRD PRs and applicable national laws and regulations through document review and interview with the company representatives to be able to reflect the existing condition of the Project.

As part of the ESR, HS2 & GREEN has:

- Reviewed the relevant documentation provided by IMM and IM;
- Conducted interviews with relevant representatives of IMM, the Engineer and the Contractor;
- Conducted interview with a number of construction workers;
- Conducted interview with a number of households who moved temporarily;
- Conducted interview with the Headman of Ilıca;
- Assessed the environmental and social performance of the company;
- Assessed the status of the Project against EBRD PRs and relevant Turkish laws and regulations; and
- Prepared an ESR report.

A teleconference was performed with the representatives from the IMM, the Contractor and the Engineer on 15 May 2020. The principal contacts that provided information during the teleconference were:

- Geophysics Engineer, Izmir Metropolitan Municipality (IMM),
- OHS chief, Gulermak Ağır Sanayi İnşaat ve Taahhüt A.Ş. (Contractor), and
- QC Engineer, UBM Birleşmiş Müşavirler Müşavirlik Hizmetleri A.Ş. (Engineer).

A second teleconference was performed with the representatives from the IMM, the Contractor and the Engineer on 29 May 2020. The principal contacts that provided information during the teleconference were:

- Geophysics Engineer, Izmir Metropolitan Municipality (IMM),

- OHS chief, Gulermak Ağır Sanayi İnşaat ve Taahhüt A.Ş. (Contractor),
- Technical Office Manager, Gulermak Ağır Sanayi İnşaat ve Taahhüt A.Ş. (Contractor),
- QC Engineer, UBM Birleşmiş Müşavirler Müşavirlik Hizmetleri A.Ş. (Engineer).

2.2 Report Structure

The ESR report was prepared based on the review of documentation made available by the Client. The reviewed documents, as needed, are referred to in the relevant chapters. This ESR report is structured as follows:

Chapter 1. Summary

Chapter 2. Introduction

Chapter 3. Applicable National Laws, Procedures and Standards and Relevant EBRD Performance Requirements: provides an overview of the applicable national laws and regulations and relevant EBRD PRs.

Chapter 4. Institutional Arrangement of ES Management: provides an overview of the institutional arrangements.

Chapter 5. Environmental and Social Impacts and Monitoring: this chapter presents the assessment of ES impacts and OHS risks of the project.

Chapter 6. Land requirements and impacts

Chapter 7. Gender

Chapter 8. Stakeholder Engagement

Chapter 9. Grievance Redress Mechanism (GRM)

Chapter 10. Implementation of ESAP and Mitigation Measures: this chapter summarizes the findings of institutional arrangements, ES management, OHS, labour issues and working conditions.

Chapter 11. Corrective Actions: provides gaps identified in the ESR and recommendations of corrective actions.

Methodology of Environmental and Social Review

Environmental and Social Review has been made for the purpose of assessment of the compliance between the current practices in the Project throughout the ongoing construction phase and EBRD PRs, the relevant national and international legislation and good practices and ESAP undertakings, and examination of the organisational capacity; determination of the performance on the related matters;

and in the light of the information acquired as the result of the interviews with the relevant employees and reviewing the documents received. The reviewed documents are listed in Annex A.

- Scheduled site visit could not be performed due to the travel restrictions within the period of COVID-19, but conducted interviews with the IMM, the Engineer, the Contractor, workers and affected households, and headman of Ilıca by the phone.

The ESR presents the findings and evaluations obtained in summary under the titles given below:

- A summary evaluation related to the prominent environmental and social impacts of the project,
- Compliance with the relevant national and local laws, notified relevant international conventions, regulations, procedures and EBRD PR,
- The corporate structure, environmental and social management, monitoring and reporting mechanism established for the purpose of fulfilling the responsibilities related to environmental and social impact management,
- Impacts of the land requirements and land acquisition in the project, and management of grievance mechanism,
- Management of employee rights, accommodation conditions and grievance mechanism,
- Observing and practicing gender equality in the project,
- Providing the stakeholders with information, engagement and grievance mechanisms,
- The recommended corrective actions and measures.

Environmental and Social Assessment:

Environmental and Social impact management assessment of the Environmental Social Review (ESR) of construction phase of the Project was performed within the scope of EBRD Environmental and Social Sustainability Performance Conditions (May 7, 2014) listed below:

- PR 1- Evaluation and Management of Environmental and Social Impacts
- PR 2 - Labour and Working Conditions
- PR 3: Resource Efficiency and Pollution Prevention and Control
- PR 4: Health and Safety
- PR 5 - Land Acquisition, Forced Resettlement and Economic Replacement
- PR 8: Cultural Heritage
- PR 10 - Information Explanation and Stakeholder Engagement

The issues reviewed within the scope of construction phase of the Project in accordance with EBRD PRs and ESAP of the project are as follows:

- Evaluation of environmental and social risks and impacts and the management of risks and impacts,
- Labour and working conditions
- Land acquisition and any physical or economic displacement;
- Gender aspects;
- Stakeholder engagement, information disclosure, and grievance redress mechanism (GRM).

3. Applicable National Laws, Procedures and Standards and Relevant EBRD Performance Requirements

The ESR was undertaken in accordance with EBRD's 2014 Environmental and Social Policy and EBRD's Performance Requirements (PRs) as given below:

- PR 1: Assessment and Management of Environmental and Social Impacts and Issues
- PR 2: Labour and Working Conditions
- PR 3: Resource Efficiency and Pollution Prevention and Control
- PR 4: Health and Safety
- PR 5: Land Acquisition, Involuntary Resettlement and Economic Displacement
- PR 8: Cultural Heritage
- PR 10: Information Disclosure and Stakeholder Engagement

The Turkish environmental regulations that are most relevant to the project are listed below:

- Environmental Law No. 2872, Official Gazette Date/Number: 11.08.1983/18132, last amended on 22.02.2019;
- Regulation on Environmental Impact Assessment, Official Gazette Date/Number: 25.11.2014/29186, last amended on 28.11.2019;
- Regulation on Environmental Permits and Licenses, Official Gazette Date/Number: 10.09.2014/29115, last amended on 08.07.2019;
- Regulation Related to Opening of Workplaces and Work Permits, Official Gazette Date/Number: 10.08.2005/25902, last amended on 24.01.2020;
- Environmental Audit Regulation, Official Gazette Date/Number: 21.11.2008/27061, last amended on 16.08.2011;
- Regulation related to Environmental Management Services, Official Gazette Date/Number: 30.07.2019/30847;
- Regulation on Waste Management, Official Gazette Date/Number: 02.04.2015/29314, last amended on 23.03.2017 (This regulation repealed the following waste regulations: Solid Waste Control Regulation (14.03.1991/20814); Hazardous Waste Control Regulation (14.03.2005/25755); Regulation on the General Principles of Waste Management (05.07.2008/26927));
- Regulation on Control of Packaging Wastes, Official Gazette Date/Number: 27.12.2017/30283, last amended on 13.03.2020;
- Regulation on Management of Waste Oil, Official Gazette Date/Number: 21.12.2019/30985;
- Regulation on Control of Waste Vegetable Oil, Official Gazette Date/Number: 06.06.2015/29378;

- Regulation on the Control of Waste Battery and Accumulators, Official Gazette Date/Number: 31.08.2004/25569, last amended on 23.12.2014;
- Regulation on Control of Medical Waste, Official Gazette Date/Number: 25.01.2017/29959;
- Communique on Recovery of Certain Non-Hazardous Wastes, Official Gazette Date/Number: 17.06.2011/27967, last amended on 11.03.2015;
- Regulation on Control of Excavated Soil and Construction Debris, Official Gazette Date/Number: 18.03.2004/25406, last amended on 26.03.2010;
- Communique on Transportation of Wastes by Road, Official Gazette Date/Number: 20.03.2015/29301;
- Regulation on Transportation of Hazardous Wastes by Road, Official Gazette Date/Number: 24.04.2019/30754, last amended on 18.01.2020;
- Regulation on Zero Waste, Official Gazette Date/Number: 12.07.2019/30829;
- Regulation on Control of Industrial Air Pollution, Official Gazette Date/Number: 03.07.2009/27277, last amended on 20.12.2014;
- Regulation of Control of Air Pollution Originated from Heating Installations, Official Gazette Date/Number: 13.01.2005/25699, last amended on 27.01.2010;
- Regulation on Monitoring of Greenhouse Gas Emissions, Official Gazette Date/Number: 17.05.2014/29003, last amended on 31.05.2017;
- Regulation on Registration, Assessment, Permit and Restriction of Chemicals, Official Gazette Date/Number: 23.06.2017/30105 (This regulation repealed the following chemical regulations: Regulation on Safety Data Sheets Related to Dangerous Substances and Mixtures (13.12.2014/29204); Regulation on the Inventory and Control of Chemicals (26.12.2008/27092); Regulation on the Restrictions and Prohibitions of Dangerous Substances and Mixtures (26.12.2008/27092));
- Regulation on Classification, Packaging and Labelling of Substances and Mixtures, Official Gazette Date/Number: 11.12.2013/28848;
- Regulation on Carriage of Dangerous Goods by Road (ADR), Official Gazette Date/Number: 24.04.2019/30754 (This regulation replaced Regulation on Carriage of Dangerous Goods by Road (24.10.2013/28801));
- The Regulation on Prevention and Impact Mitigation of Major Industrial Accidents, Official Gazette Date/Number: 02.03.2019/30702 (This regulation replaced the Regulation on Prevention and Impact Mitigation of Major Industrial Accidents (30.12.2013/28867));
- Regulation on Assessment and Management of Environmental Noise, Official Gazette Date/Number: 04.06.2010/27601, last amended on 18.11.2015;
- Regulation Related to Noise Emissions by Equipment for Outdoor Use, Official Gazette Date/Number: 30.12.2006/26392, last amended on 06.06.2017;

- Regulation for the Reduction of Ozone Depleting Substances, Official Gazette Date/Number: 07.04.2017/30031, last amended on 28.07.2017;
- Regulation on the Control of Polychlorinated Biphenyls (PCBs) and Polychlorinated Terphenyls (PCTs), Official Gazette Date/Number: 27.12.2007/26739, last amended on 30.03.2010;
- Regulation on Soil Pollution Control and Point Source Contaminated Sites, Official Gazette Date/Number: 08.06.2010/27605, last amended on 11.07.2013;
- Water Pollution Control Regulation, Official Gazette Date/Number: 31.12.2004/25687, last amended on 30.11.2012;
- Regulation on Protection of Groundwater against Pollution and Deterioration, Official Gazette Date/Number: 07.04.2012/28257, last amended on 22.05.2015;
- Regulation on Monitoring of Surface Waters and Groundwaters, Official Gazette Date/Number: 11.02.2014/28910;
- Regulation on Surface Water Quality, Official Gazette Date/Number: 30.11.2012/28483, last amended on 10.8.2016;
- Regulation on Control of Pollution Caused by Hazardous Substances in the Aquatic Environment and its Surrounding, Official Gazette Date/Number: 26.11.2005/26005, last amended on 30.03.2010;
- Regulation on Water Intended for Human Consumption, Official Gazette Date/Number: 17.02.2005/25730, last amended on 20.10.2016;
- Groundwater Law No: 167, Official Gazette Date/Number: 23.12.1960/10688, last amended on 09.07.2018;
- Statute No. 5/1465 on the Law No.167 on Groundwater, Official Gazette Date/Number: 8.8.1961/10875;
- Regulation on State Hydraulic Works Groundwater Measuring Systems, Official Gazette Date/Number: 12.10.2013/28793.

Similarly, national health and safety regulations that are likely to be applicable for the project is presented below:

- Health and Safety Law, Official Gazette Date/Number: 30.06.2012/28339, last amended on 22.02.2019;
- Elevator Periodic Control Regulation, Official Gazette Date/Number: 04.05.2018/30411;
- Regulation on the Protection of Employees from the Hazards of Explosive Environments, Official Gazette Date/Number: 30.04.2013/28633;
- Dust Prevention and Control Regulation, Official Gazette Date/Number: 05.11.2013/28812;

- Regulation on Occupational Health and Safety in Construction Works, Official Gazette Date/Number: 05.10.2013/28786, last amended on 31.12.2018;
- Health and Safety Signs Regulation, Official Gazette Date/Number: 11.9.2013/28762;
- Regulation on Work with Chemicals, Official Gazette Date/Number: 12.8.2013/ 28733;
- Regulation on Protection of Employees from Noise, Official Gazette Date/Number: 28.7.2013/28721;
- Implementing Regulation on the Duties of Workplace Physicians and Workplace Nurses, Official Gazette Date/Number: 20.7.2013/28713;
- Regulation on Health and Safety Measures to be Taken in the Workplace Building and its Attachments, Official Gazette Date/Number: 17.7.2013/28710;
- Regulation on the Professional Competence Training of the Workers who will be Working in Hazardous and Very Hazardous Classes, Official Gazette Date/Number: 13.7.2013/28706, last amended on 05.11.2017;
- Regulation on Personal Protective Equipment Use in Workplaces, Official Gazette Date/Number: 02.7.2013/28695;
- Regulation on Emergency Cases in Workplaces, Official Gazette Date/Number: 18.6.2013/28681;
- Regulation on Health and Safety Training of Employees, Official Gazette Date/Number: 15.5.2013/28648, last amended on 24.05.2018;
- Regulation on the Protection of Employees from Explosive Environments, Official Gazette Date/Number: 30.04.2013/28633;
- Regulation on Health and Safety Conditions in the Use of Work Equipment, Official Gazette Date/Number: 25.04.2013/28628, last amended on 24.04.2017;
- Regulation on Occupational Health and Safety Committees, Official Gazette Date/Number: 18.01.2013/28532;
- Occupational Health and Safety Risk Assessment Regulation, Official Gazette Date/Number: 29.12.2012/28512;
- Regulation on the Duties and Training of Occupational Safety Specialists, Official Gazette Date/Number: 29.12.2012/28512, last amended on 28.02.2020;
- Occupational Health and Safety Services Regulation, Official Gazette Date/Number: 29.12.2012/28512, last amended on 28.02.2020;
- Regulation on the Protection of Buildings from Fire, Official Gazette Date/Number: 19.12.2007/26735, last amended on 15.03.2018;
- Regulation on Health and Safety Measures in working with Asbestos, Official Gazette Date/Number: 25.01.2013/28539, last amended on 16.01.2014;
- First-aid Regulation, Official Gazette Date/Number: 29.07.2015/29429;
- Regulation and Machinery Guarding, Official Gazette Date/Number: 17.05.1983/18050.

Labour Management

- Labour Law No. 4857; Official Gazette Date/Number: 10.06.2003/25134.
- Regulation on Vocational and Technical Training; Official Gazette Date/Number: 03.07.2002/24804.
- Regulation on Principles and Procedures for Employment of Children and Young Workers; Official Gazette Date/Number: 06.04.2004/25425.
- Regulation on Sub-Contractors; Official Gazette Date/Number: 27.09.2008/27010.
- Regulation on Work Durations related to the Labour Law; Official Gazette Date/Number: 06.04.2004/25425.
- Regulation on Overtime Work related to the Labour Law; Official Gazette Date/Number: 06.04.2004/25425.
- Regulation on Certain Procedures and Principles for Works that are Conducted in Shifts; Official Gazette Date/Number: 07.04.2004/25426.
- Regulation on Minimum Wage; Official Gazette Date/Number: 01.08.2004/25540.
- Regulation on Annual Paid Vacation; Official Gazette Date/Number: 03.03.2004/25391.
- EBRD/IFC Guidance Note: Workers Accommodation: Processes and Standards, 2009.

Stakeholder Engagement and Grievance Mechanism

- Information Right Law. 4982; Official Gazette Date/Number: 10.09.2003/25445.

Land Acquisition Requirements

- Expropriation Law No.2942, Official Gazette Date/Number: 08.11.1983/18215
- Settlement Law No.5543. Official Gazette Date/Number: 26.09.2006/26301
- Construction Zoning Law No.3194. Official Gazette Date/Number: 03.05.1985/18749

4. Institutional Arrangement of Environmental and Social Management

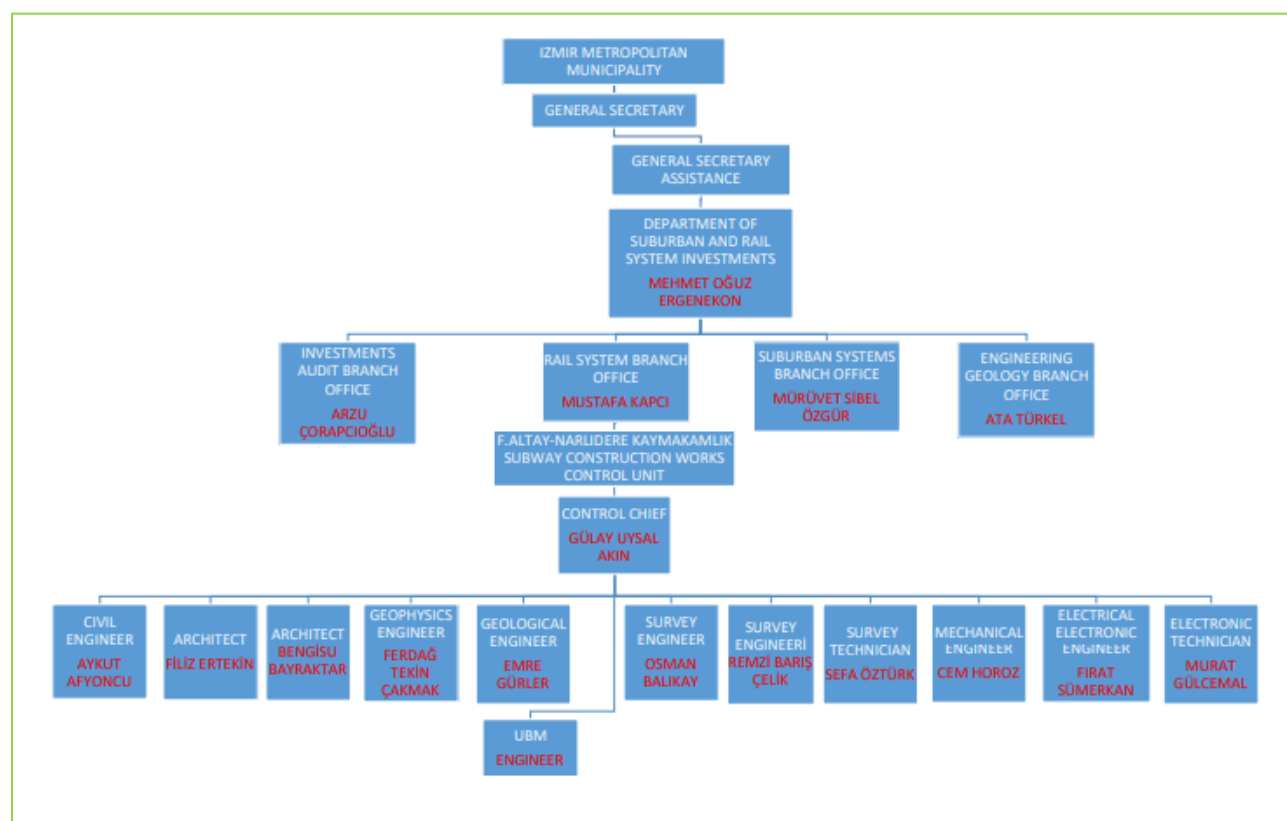
The institutional arrangement of this project consists of the Izmir Metropolitan Municipality (IMM), Izmir Metro (Company) and the Contractor. IMM is the owner of this project and Izmir Metro which is a company under IMM is the responsible party for the operation of the metro. During the construction, EHS subjects are managed and controlled by IMM.

Izmir Metropolitan Municipality made a contract with an expert consultant company (Engineer) to follow the Project both in terms of technical and EHS aspects. The contracted Engineer is one of the leading technical consulting company in Turkey. It has 50 project offices both in and out of Turkey. Briefly, on behalf of the Izmir Metropolitan Municipality, the Engineer is inspecting the construction and supervises the field work of the Contractor. In terms of EHS, the Engineer performs supervisions in accordance with:

- Occupational Health and Safety Law No. 6331,
- Labor Law No. 4857,
- Regulation on Emergency Situations in Workplaces,
- Occupational Health and Safety Regulations in Construction Work,
- Health and Safety Regulations for Use of Work Equipment,
- Regulation on Health and Safety Measures to be taken in Workplace Buildings and Additions,
- EBRD PR1, EBRD PR2, EBRD PR3, EBRD PR4, EBRD PR5, EBRD PR8, EBRD PR10 and EBRD / IFC requirements.

As part of its scope, the Engineer performs periodic controls to supervise the progress of the work and to inspect EHS practices of the Contractor. The control periods are daily, weekly, monthly, quarterly and yearly. The Engineer conducts one-on-one surveys in the field and notifies the Contractor verbally and through correspondences about the non-conformities encountered in his daily and weekly checks. Monthly supervisions are described in detail in monthly reports submitted by the Engineer. In addition, quarterly independent supervisions are performed and corrective actions are monitored in terms of EHS.

Project Implementation Unit (PIU) under IMM is commissioned within the scope of the Project and the organization chart of PIU is shown in Figure 2 below. According to the organization, the requirements for environmental and social management of the project is carried out by the Engineer within the knowledge and control of IMM. The Engineer works under a control chief, who is responsible for EHS issues, from Suburban and Rail Systems Investment Department of IMM. Also, a decision maker committee comprises from 5 offices under IMM (as suburban branch office, rail systems branch office, audit, control and engineering office) are informed and periodical meetings are held for the project progress.

Figure 2 Organisation Chart of PIU

The Contractor's organization is established based on the Environmental, Health and Safety Plan developed to manage risks. The key personnel responsible for the coordination and reporting is Health, Safety and Environment Manager.

According to the site representatives, the OHS team of the Contractor consists of two B-Class Occupational Health and Safety (OHS) Specialists and two C-Class OHS Specialists. In addition, the Contractor has contracted with a Joint Health and Safety Unit (JHSU), which supports the Contractor with two A-Class and seven C-Class OHS Specialists, one full-time workplace doctor and one full-time other health personnel. JHSU provides health and safety services to the SubContractors as well. The construction sites are periodically inspected by the OHS Specialists and necessary actions are taken. The Contractor has an OHS specialist whose qualification is accepted by IMM and the experience of the specialist is applicable with the local legislation requirements and the hazard classification of work. Except for the team given in the organizational chart, the main Contractor also has OHS certified staff for each worksite in accordance with the nature of work.

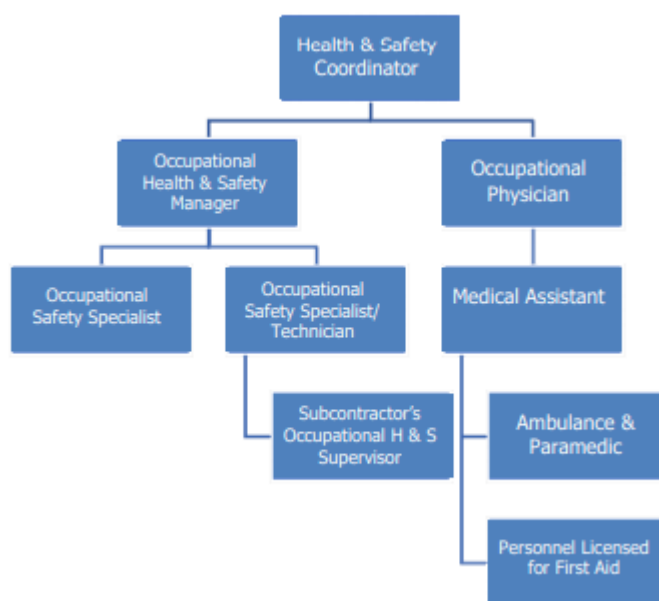
The OHS and environmental team are responsible for;

- The provisions of legislation are applied and plans/procedures, risk assessments, emergency drills etc. are developed and ensure that they are implemented.

- Performing daily inspections, determination and reporting of non-conformities and following the corrective actions.
- Controls and monitoring related to the OHS and Environment, recording them and carrying out all activities related to the OHS and Environment, particularly the reporting to Engineer/Employer.
- Preparation and provision of the Training Programs related to the OHS and Environmental topics.
- Controls for high-lift equipment, pressure vessels and scaffold are performed, records are kept for the high-lift equipment and pressure vessels and the machinery supply management are informed.
- Ensuring that the accident investigations are performed well.
- Guidance in OHS meetings.
- Monitoring and coordinating applications and processes for obtaining licenses and permits in connection with local environmental, health and safety laws and regulations. These applications and processes are carried out under the supervision of the Employer.
- Developing and updating management plans and submitting to the Engineer and IMM for approval

The health and safety team of the Contractor organization is as follows:

Figure 3 Organisation Chart of the Contractor's OHS Team



EBRD approved this project in May 2018, and an Environment and Social Due Diligence (ESDD) Report with an Environmental and Social Action Plan (ESAP) was prepared in March 2018 prior to the construction. The Project is now under construction and is 56% complete.

Implementation of ESAP has been monitored on an annual basis by AECOM. Also, an Environmental and Social Annual Report is shared with the lender annually. The report was developed based on template provided by EBRD.

Besides, the Contractor has periodic inspections on EHS and reports are shared with the project members (SubContractors, technical and construction departments of the Contractor) and the Engineer. The Engineer performs audits periodically and shares the findings with the Contractor and takes information on corrective actions.

A Stakeholder Engagement Plan (Annex-87 of ESAP) and a Grievance Management Plan (Annex-73 of ESAP) have been developed and implemented. The activities are monitored and reported with monthly, quarterly and annual audits.

Considering the environmental and social management plans and procedures prepared and implemented by IMM and the Contractor, and further in consideration that the project does not create significant social impacts, it is determined that adequate policies and institutional documentation have been prepared for mitigating the environmental and social impacts. The policies are communicated to each employee by means of the Employee Handbook (Annex-21 of ESAP) delivered during the orientation training. However, there is no respective information on the websites of IMM or the Contractor.

The applicable documents prepared for achieving an effective environmental and social impact management performance are as follows:

- Occupational Health, Safety and Environmental Plan
- Human Resources Procedure
- Contractor Management Plan
- Camp Management Plan
- Grievance Management Plan
- Social Management Plan
- Stakeholder Engagement Plan
- Employee Hand Book
- Traffic Management Plan
- Workers Grievance Mechanism

The mentioned plans are monitored by internal auditors as well as quarterly reporting by the Engineer and independent experts.

The organisation scheme and site executive personnel of IMM control team and the Contractor on EHS are adequate.

Although the Contractor has appointed a public relations representative such as Community Liaison Officer (CLO), on matters like external stakeholder grievances and informing the public, s/he has not been shown in the organisation chart of the Contractor.

In addition, the Social Management Plan (Annex-87 of ESAP) has been prepared including provisions for stakeholder communication, grievance management, environmental plans and management and monitoring of impacts on society, and it is audited by a consultant.

A "Contractor Management Plan (Annex-14 of ESAP)" that evaluates the EHS practices is available; however, it only inspects the training of the workers and occupational health and safety requirements. For example, the matters such as camping place and grievance mechanism are not inspected within the scope of this plan; however, if a non conformity about the camping place is observed, it is reported among the occupational health and safety issues within the routine monthly monitoring of the consultant.

Monitoring of the dormitories and recreational areas of workers are carried out by the Engineer and reported monthly in the Occupational Health and Safety Control Engineering monitoring report (Annex-05 of ESAP).

The Contractor applies a "Supplier Selection and Assessment Procedure" (Annex-19 of ESAP) for supplier management. Requirements such as legal compliance of the suppliers and international quality certificates are inspected; however, no specific action can be seen for development of local procurement.

The Engineer also regularly monitors the requirements of the Social Management Plan within the scope of the monitoring study, and reports the non-conformities and recommendations related to the corrective measures to IMM and the Contractor.

The public relations departments of IMM and the HIM provide sufficient support for effective management of the social performance.

5. Environmental and Social Impacts and Monitoring

An assessment of environmental and social impacts (Environmental and Social Due Diligence) was performed in 2018 by ACE Consulting in line with the local regulations, EBRD performance requirements, relevant EU directives (EU EIA Directive and Industrial Emissions Directive) and relevant international conventions / protocols relating to environmental, social issues as transposed into national legislation.

Within the scope of the project, existing and project-related environmental and social impacts and risks were identified, environmental and social baseline related risks were described and a report including a compliance summary table was prepared.

The following sections discuss environmental, health & safety and social impacts and the monitoring.

5.1 Environmental Impacts and Monitoring

Within the scope of the ESDD report, environmental impacts and mitigation measures are identified, some management and monitoring plans were mentioned to be developed and implemented for construction and/or operation activities.

Main EHS management issues that should be handled are determined as;

Table 1 EHS Framework

No	Issue
1	Environmental, Health and Safety (EHS) management systems / Environmental and social management plan
2	EHS monitoring
3	Traffic management
4	Labour and working conditions
5	Permitting
6	Air pollution, dust management generated from excavation works, transportation of excavated materials, trucks and other heavy vehicles generating air pollution
7	Wastewater generation and disposal
8	Noise and vibration management
9	Waste management
10	Health & Safety Practices
11	Community Health & Safety

Mitigation measures are described for the identified impacts and risks. The mitigation actions are described for both the Contractor and/or IMM. The Contractor and the IMM developed management plans to manage impacts.

Environmental management plans which are required in ESDD/ESAP with respect to impacts are;

- An Environmental and Social Management Plan (ESMP) for the construction activities,
- Waste Management Plan,
- Noise and Vibration Management Plan during both construction and operation,
- Traffic Management Plan,
- Hazardous Material Management Plan,
- Surface Water Management Plan,
- SubContractor Management Plan,
- Replacement Plan for changing the air conditioning and cooling units that operate with R-22 type refrigerants.

Other than the management plans for managing impacts, some monitoring needs are also additionally presented at the report:

- Air emissions monitoring at sites of large excavation activities and excavated material transport,
- Noise and vibration monitoring,
- IMM to develop Contractor monitoring program (including developing an Environmental and OHS audit team),
- IMM to conduct necessary maintenance-repair works on boilers and burners and adjust them properly to ensure all parameters for flue gas emissions are within the threshold as per the regulation,
- IMM to conduct tri-annual self-test measurement of wastewater,
- Soil and groundwater testing results from petroleum retail sites (IMM and Main Construction Contractor).

The assessment of all plans, monitoring and other actions are performed at the following subsections.

I. Environmental and Social Management (ESMP) for the construction and operation activities

An ESMP document is an "Umbrella Document" that integrates all impacts, the plans and other measures to comply with the requirements of the Standards to set the frame in terms of project's risk management strategy.

For the Project construction activities, the main Contractor developed an Occupational Health, Safety and Environmental Plan (OHSEP) which describe general risks/impacts and mitigation measures. Also,

standalone management plans for air, water, noise, soil, waste etc. were developed and monitoring requirements are described in each standalone management plan.

The Contractor requires each SubContractor to have an environmental and social management plan or a document which describes the methodology describing how they will manage EHS impacts.

For the operation phase, IM as a corporate company under IMM, implements the environmental procedures for the metro systems in operation. These procedures will be also used for this extended line. The environmental documents in place are presented below:

1. Legally required waste management plan (the wastes that will be generated, during operation and maintenance activities are described. The disposal methodology is defined. Also, this plan is shared with the Ministry of Environment and Urbanization).
2. Environmental aspects and impacts procedure (describes the methodology for identification of environmental aspects, impacts and mitigation activities).

The main Contractor's OHSEP includes the following content and its context is noted to be sufficient since the risks, management methods, sufficient resources are identified, and they are in place.

- Organization, roles, and responsibilities
- Management system requirements, policy
- Risk management & methodology
- Communication
- Emergency management & drills
- Management of change
- Incident reporting
- Performance review
- SubContractor Management

Although a detailed risk analysis based on health and safety was developed, environmental risks, aspect/impact documents were not available. The Contractor should develop and implement an environmental risk assessment in order to prevent or minimize the impacts of potential risks.

The efficiency of the environmental and social management system can only be evaluated by monitoring. The system should have measurable outcomes like targets and performance indicators. However, any evidence regarding the monitoring of performance of managements system, like performance indicators or any targets are not observed. In order to effectively monitor the performance, both IMM and the Contractor should set targets and identify and monitor performance indicators.

The Management plan describes the control mechanism for the project. Therefore, the control forms/lists given in the plan should be regularly filled during the controls/audits so that each control date and actions can be clearly understood.

II. Air Quality Management and Air Quality Monitoring

An air quality management plan is developed and it includes:

- mitigation measures for dust emissions generated during excavation and transport activities,
- mitigation measures for exhaust emissions from construction machinery and vehicles,
- methodology and assessment of monitoring activities for monitoring of dust and particulate matter (PM).
- forms for recording data.

According to the management plan, it is stated that particulate matter concentrations will be monitored annually by an external accredited party and also monthly sampling will be performed by a measuring device by the Contractor's OHS specialist.

Air quality monitoring was carried out at three receptor locations in April – May 2019. PM10 monitoring was performed by passive samplers during one- month period. The results of daily and monthly dust (PM10) concentration are below the limits of both short-term (daily average) and long-term (monthly average) values (50 $\mu\text{g}/\text{m}^3$ and 40 $\mu\text{g}/\text{m}^3$, respectively). In addition, the mitigation measures described in the plan are also sufficient. However, it is observed that there are 87 public complaints related with dust between April 2019 - April 2020. This is likely due to insufficient implementation of air quality management plan. Therefore, it is recommended that;

- PM10 monitoring is generally performed for 2 seasons in order to understand the situation in dry and windy weather conditions. Local meteorological conditions (wind speed and direction, rainfall, relative humidity at least) should be monitored and recorded on a daily basis to take information on when any exposed areas may be at a higher risk for dust. Therefore, the mitigation measures can be implemented to minimize the effects.
- Daily visual inspections of the construction activities to ensure that the mitigation measures are implemented, and no excessive amount of dust is generated. Also, this inspection results should be recorded and in case of any non-compliance, corrective actions should be determined and implemented timely.
- In the air quality management, there are some forms for monitoring activities, but any records of these documents are not presented. The forms in the management plan should be used as written in the plan.

Exhaust emission control of vehicles which are used at the project is presented for 2019. For 2020, vehicle emission control documents have not been received.

Also, ESDD mentions boilers to be used for heating purposes; however, according to the Contractor's documents, electrical heating devices are used (air conditioning etc.) in the Project instead of boilers / burners.

III. Traffic Management

A traffic management plan is in place. It identifies the responsibilities, measures to be taken at and outside the work site also in work sites beside a school or a hospital. Training requirements and information for drivers and operators, for signalers and for pedestrians are explained. Inspection and traffic marking methods are presented.

Non-conformities found as a result of the inspections performed were reported and an immediate corrective action was requested for SubContractors and was followed up.

Traffic circulation plans were prepared and approved. Traffic signs were placed as shown in approved traffic circulation plans for traffic safety.

No complaints were encountered from public between April 2019 - April 2020.

IV. Noise and Vibration Management During both construction and operation

The Contractor has a noise and vibration management plan. In the plan, measures which are planned to be implemented for minimizing noise and vibration are given. The limits are presented and environmental noise and vibration monitoring is stated to be carried out. Also, forms are prepared to record and assess noise monitoring data. The maximum allowable limits for vibration given in the plan is as follows:

Table 2 Maximum allowable limits for vibration

Area	Maximum allowable vibration acceleration (mm/s peak value)	
	Continuous vibration	Intermittent vibration
Residential areas	5	10
Industrial and commercial areas	15	30

According to the plan, vibration levels will be monitored in case of any complaint received from nearby residents and vibration mitigation measures will be taken if the standards are exceeded.

However, within the annual report and documents which are presented, any data related with environmental noise and vibration monitoring could not be observed. Only monitoring data regarding

with the human exposures for both noise and vibration are noticed. There is no monitoring of vibration at the receptors.

Also, between April 2019 – April 2020, there are totally 20 complaints related with noise. No complaints related with vibration are noted but there has been temporary displacement due to high vibration impacts (see discussion in Chapter 6). Therefore, the Contractor should:

- Identify sensitive receptors,
- Conduct monitoring of noise and vibration,
- In case of any exceedance of the limits or baseline data; review and implement mitigation measures,
- Record the data in the forms given in the management plan.

V. Waste Management

A well-developed waste management plan is in use. The plan describes waste types, waste segregation, temporary disposal and final disposal methods. A waste inventory is given and criteria for storage areas are explained. Also, requirements for waste management of SubContractors are given. All the information in the plan provides a tool for effective management of wastes on site.

The implementation of the plan is assessed:

- The excavation materials are sent to the Municipality's facilities. The environmental requirements during loading and transportation of excavation materials are shared with SubContractors.
- The main Contractor hazardous and non-hazardous waste transportation and disposal forms are reported periodically. Also, the waste notifications to the Ministry is performed regularly.
- Licensed waste transportation and disposal facilities are used.
- SubContractors prepare and implement a waste management procedure. They periodically report the waste disposal forms and inventory with the main Contractor. The disposal and transportation are performed via licensed facilities.
- The photos of temporary waste storage areas of SubContractors are examined and some improvements are considered as necessary. Some waste hydraulic oil drums are stacked, and it increases the risk of spillage. No secondary containment is observed within the hazardous waste storage area. As the storage areas are very small, wastes are stored tightly and some wastes are located out of the storage area. Therefore, the main Contractor should perform audit/controls to the waste storage areas periodically to ensure that the storage areas are in line with the criteria defined in the management plan.
- In the Annual Environmental and Social Report shared with EBRD, the waste types and amounts include only main Contractor's wastes. However, the project wastes include those generated from

both the main Contractor and SubContractors. Also, waste oils are not reported. Therefore, all wastes should be reported.

VI. Hazardous Material Management

Some hazardous materials like, diesel, oil& grease, anti-freeze, concrete chemicals, oxygen tubes etc. are used in the project. Therefore, in order to handle these chemicals in a proper way, a hazardous material management plan was prepared and generally it is implemented. The plan includes storage conditions, training, measures for safe handling, and also conditions for fuel delivery, transfer and storage. In practice, chemicals are stored in designated areas, Safety Data Sheet (SDS) forms are available, drip trays are used during chemical handling so that leaks and spills are prevented, secondary containments are installed for storage at tanks. General findings based on the documentation and photos are as follows:

- The hazardous chemicals are mentioned to be stored at hazardous waste storage area. Actually, since hazardous chemicals have some properties like; flammable, toxic, explosive etc., they should be separately stored in proper designated areas with appropriate measures (i.e. fire extinguishers, SDS forms).
- For liquid hazardous materials stored in tanks, secondary containments are installed and containment capacities were constructed same with the tank capacity. International standards (as stated in the plan) generally require 110% containment capacity although the IMM had accepted 100 % containment capacity. In order to minimize any potential impacts of any spills; spill kits are recommended to be located near storage tanks. So that, during loading from trucks etc., barriers and absorbents are ready for a spill response.
- Some instructions are developed for fuel delivery and they are given in the plan. Since these are instructions, we recommend them to be separate documents and before each transfer, the operator and/or the driver of the fuel truck should read and sign it. So that, they will follow the instructions during loading.

VII. Water Supply /Wastewater Management

Water consumption for domestic and construction activities are taken from the Municipality water supply network.

The wastewater that is generated during the project includes the drainage water from the tunnels, domestic wastewater and wash water used to clean construction vehicles and site surface. Wash water is contaminated with some chemicals and oil. Also, the surface water has the potential to be contaminated.

Three concrete basins (sedimentation basin), each with a capacity of 5 m³ were constructed to collect all the water except domestic wastewater and they are connected to Municipality sewer system. In ESDD, an oil water separator was considered as necessary in order to separate oil and grease from water before discharge to sewer system. The responsible party for installation is stated as the Company (IM). However, from the statements in the last version of ESAP, it is understood that the separator is not installed yet. The domestic wastewater is sent to sewer system via a different line. Since the discharge is connected to Municipality network, IM has a wastewater connection permit obtained from İzmir Water and Sewerage Administration (IZSU) and holds Wastewater Connection Quality Control License for all construction sites.

In the license document, IMM is obliged to conduct tri-annual wastewater monitoring and share the results with IZSU. As of the writing of this report, two analyses (April and November 2019) were conducted for all construction sites. The first analyses results are in line with the limits. However, the second analyses results show that;

- pH parameter is above the limits in two construction sites (Viyadük and Narlıdere),
- pH and Total Suspended Solids (TSS) parameters are above the limits in four construction sites (Çağdaş, Dokuz Eylül, Güzel Sanatlar, Şehitlik),
- The results were assessed by the third-party environmental consultant and it was stated that the flow of groundwater is too high compared with the capacity of sedimentation basins. Therefore, total retention time for TSS to settle is not sufficient. In order to decrease TSS at the outlet, the tank capacities should be increased or a coagulant (chemical) should be added to the system. Also, in order to adjust pH level, a pH adjuster should be injected to the system to decrease pH at the required interval. As of the writing of this report, no action has been taken to reduce pH and TSS.

Final and approved metro alignment is approximately 20 m below creek levels. Hence, there is no creek crossing and no approval from authorities is required.

ESDD required a surface water management plan and the main Contractor developed a plan. Some actions are identified for both rainwater and groundwater management, daily and weekly inspections are planned and the requirements of inspections are defined. However, any documentation related with these inspections are not received.

Consequently, for an effective wastewater management, the following actions should be taken as soon as possible;

- Oil-water separators should be installed to the underground wastewater settlement basins.
- Corrective actions should be taken to meet limits of pH and TSS.

- Perform wastewater monitoring as required by IZSU (tri-annual). For the parameter results above the limits, perform another monitoring and assess the results. If they are also above the limits, take the actions described by the environmental consultant.
- Prepare a form for daily/weekly visual inspections and record the observations and corrective actions.

VIII. SubContractor Management

A SubContractor management plan was prepared and it is in operation. The aim of the plan is, to implement selection criteria defined for SubContractor selection and monitoring and improving SubContractor performance. The Contractor's OHSEP covers the SubContractors and some additional rules are specified for SubContractors. The main Contractor's management plan requires SubContractors to prepare their own EHS management plans, however, there is no EHS management plan prepared by the SubContractors.

Main Contractor performs some audits/controls including EHS subjects to the SubContractor worksite and any non-conformities determined as a result of checks are recorded through reports. Then, they are shared with SubContractor EHS team and related groups for the corrective actions to be taken. The corrective actions are also followed up for completion verification. Each month Contractor performs the audits and shares it also with IMM.

IX. Replacement plan for changing the air conditioning and cooling units that operate with R-22 type refrigerants

IMM has confirmed that R-22 type refrigerants are not being used in the Project. The Contractor has prepared a procedure in ensuring R-22 is not used.

X. Soil Management

In the ESDD, it was mentioned that there are two operating petroleum retail sites near the axis of the metro expansion and it is important to identify if there is any leakage to soil and groundwater. Therefore, sampling was carried out and according to the analyses results, there is no contamination up to date.

5.2 Occupational Health and Safety

Occupational Health, Safety and Environmental Management Plan has been developed by the Contractor in compliance with national laws and regulations and EBRD PRs. The management plan covers requirements, organization, communication, training, operational controls, emergency response plans, etc. The Engineer, who is the controller on behalf of IMM, has developed an Occupational Health and Safety (OHS) Policy. There is no OHS Policy for operation phase, which should be developed by IM. In addition, an OHSEP was first prepared by the Contractor in February 2019 and revised in

December 2019. The institutional arrangement of health and safety unit and project management/construction including environmental and occupational health and safety responsibilities of department managers were defined as shown in Chapter 4. The EHS related policy and plan are sufficient and they have been well implemented.

XI. Risk Assessment

A Risk Assessment study was prepared in November 2019, based on Fine Kinney method (Probability/Severity/Frequency) to identify work activity risks applicable to the operations. A prioritization was defined based on the final risk scores which should be taken into consideration during the implementation of the control measures (ie. first priority: unacceptable risk, second priority: high risk, etc.). Total 612 risks have been identified with different risk levels including unacceptable risks. Although high risks were identified, the existing situation of the risks were defined as “appropriate” or adequate”. Therefore, it is not clear if corrective actions are taken and monitored. It is recommended that the risk assessment is reviewed and corrective actions are taken/monitored to minimize the risks associated with the activity. The risk assessment should also be reviewed/updated when there is a change in process, i.e. when new equipment is purchased, when there is a change of the system, when there is an accident, and when there is a non-routine work (i.e. construction or maintenance). In ESDD, it is recommended that risks related to the third-party access to the construction sites and road safety are included in the risk assessment. It was noted that these risks are included in the risk assessment. As indicated by the company representatives, a new risk assessment has prepared based on 5x5 matrix including the risks related to the Covid-19. It was prepared by the OHS supervisor and will be validated once it is signed by the team members.

XII. Training

OHS training is given to employees when starting work and later periodically in line with the regulatory requirements. Training is given by the OHS Specialists and workplace doctors, and training certificates are prepared. Work at height training has been provided to relevant workers. OHS training records for a newly hired employee (OHS expert) was provided. The training records indicate two hours induction and 16 hours OHS training followed by a test. Furthermore, health and safety manual, health and safety rules written contract, relevant instructions (driving, health and safety rules during office activities, manual handling, working outdoor areas of TBM, etc.) were provided to the employees. In ESDD, development of a professional safety site behaviour training program for the OHS team is considered necessary as it was noted that the IMM’s control Engineers were not able to enforce all appropriate safety behaviour in construction sites. However, such training program could not be observed. It is recommended that IMM to develop a professional safety site behaviour training program for the members of the audit team.

According to the OHSEP, toolbox talks, covering work method, associated risks and precautions, should be conducted by the team leaders daily prior to start of work. The toolbox talks should be documented and should be handed over to the Contractor OHS team during the day for recording purposes. As indicated by the site representatives, toolbox talks have been conducted and records are kept. However, no record was made available for review.

XIII. Health Surveillance

Health surveillance is conducted by the workplace doctors. Review of documentation indicates basic health screening of the employees is undertaken during the recruitment process and thereafter periodically. In ESDD, it is recommended that the health check records include work at height and confined space entry. Work at height and work at night/shifts is evaluated and confirmed by workplace doctor. However, evaluation with regards to confined space entry was not observed. The review of documents indicates health monitoring records of employees are kept in a software.

XIV. Workplace Monitoring Program

Workplace monitoring (noise, dust, vibration, illumination, thermal comfort) was conducted at several workplaces for SubContractors. Results indicates generally the measured levels are below the regulatory limits, except full-body vibration measured at a worker working with loader. It was reported above the exposure action limit (the value that requires controlling the risks (0.5 m/s^2)) but below the exposure limit value (employees should never be exposed to vibration above this value (1.15 m/s^2)). Reportedly, the loader is currently not being used, however, it is not clear if any mitigation measures are taken. It is recommended that all the workplace monitoring reports are evaluated, mitigation measures are implemented and monitoring is repeated to confirm that the improvements are adequate.

XV. Emergency Preparedness and Response Plan

The Contractor has developed an Emergency Response Plan, including fire, chemical spillages, earthquake, flooding, lightning strike, sabotage, excess weather conditions, etc. Emergency teams for firefighting, first aid, protection-rescue-evacuation teams are defined. In ESDD, it is recommended that an emergency preparedness procedure and plan which includes a worst-case scenario (e.g. serious damage of the construction during an earthquake; one of the critical processes is out of use or interrupted due to landslide; collapse of a construction retaining wall; and groundwater ingress during metro line extension project), is prepared. Worst-case scenario for fire was tested and a training on how to react in the event of a worst-case scenario was provided. It is recommended that a worst-case scenario for an earthquake and collapse of a construction retaining wall during metro line extension project are to be tested. Training should be provided to the workers for these worst-case scenarios.

XVI. Work Permit System and Lockout/Tagout (LOTO) Program

Work Permit system implementation included in Occupational Health, Safety and Environmental Management Plan covers permits for hot works (welding, grinding, sandblasting, etc.), excavation, electrical, cold works (activities related to work at height, lifting equipment, assembly and dismantling of scaffolding and valves, pressurized vessels, etc.) and confined spaces. According to the work permit system, the companies will be in contact with each other and a "work permit system" will be implemented during the equipment tests before the commissioning and during all tests to be carried out under energy. However, work permit implementation practices could not be observed within the documentation provided within the course of the assessment. Reportedly, work permit system is not implemented at the construction sites.

The Contractor has developed a Lockout/Tagout (LOTO) program to ensure that that the dangerous machinery is properly shut off and not able to be started up again prior to the maintenance or servicing works. The procedure includes electrical, mechanical, chemical energy and pressurized systems and steps that should be taken during the application of the LOTO program. According to the latest quarterly monitoring of the Engineer, the plan is up to date and being used. There is no information available if proper locks are provided for different energy sources, as well as implementation practices in place. In addition, review of documents indicates that a LOTO training plan was prepared in February 2020, stating that LOTO specific training will be given to the authorized personnel in 20 April 2020 by the OHS Specialist and workplace doctor.

XVII. Accidents / Incidents

The Contractor keeps the records of the accidents and near misses that occur at the construction sites, including the SubContractors and related accident rates which are calculated by accident frequency rate and severity rate on a monthly basis. The accident reports are monthly reported to IMM. The accidents reported in 2018 (June-December), 2019 and 2020 (until end March) are 14, 182 and 40, respectively. The accidents were generally related to squeeze, hit, fall, cut and chemical exposure. In ESDD, it is noted to monitor and analyze the public road accidents related to the construction activities. As indicated by the site representatives, public road accidents are included in the accident statistics. However, no road accident occurred/reported to date.

Two accidents resulting with fatality have occurred at the construction sites, dated 30 December 2018 and 29 August 2019. The accident in December 2018 was due to an unauthorized third-party entering to the construction area, where the person was crushed at a place near the site entrance by an excavation truck during reverse manoeuvring. The area where the accident occurred was completely isolated from the neighbourhood by corrugated iron sheets and entry and exit to the work site was

controlled. According to the video records, the person was warned and requested to leave the site. A root cause analysis was conducted by the Contractor, which resulted carelessness, unconscious behaviour and failure to pay attention to the cautionary and restrictive information and verbal warnings of the unauthorized third-party. Corrective actions (measures taken to prevent recurrence of accident/incident) were:

- Information about the Hometown Society Communication Centre (HIM) of the IMM is posted in locations where citizens will easily see.
- Upon the decision of the Transport Coordination Centre (UKOME) of the IMM dated 01.03.2019, road arrangements have been done at work sites and trucks have been enabled to enter the work site without manoeuvring in reverse.
- Security guards are provided with training on how to guide the people who want to enter the work site without authority.

Furthermore, a contract has been made with a private security company to control the site entrance as a remedial action.

The second fatality occurred in August 2019, was rigger operator sitting on the motion rails of the portal crane, where he should not be, stuck between the reducer connected to the travel motor of the slow-moving crane and the rail concrete. The root cause analysis of the accident resulted; ignoring warning and prohibitive information, inattention, unconscious behaviour and violation of rules of the victim. Refresher training related to accident provided to all employees, risk assessment revised, all possible risks and hazards were evaluated, and precautions were determined to avoid any similar accidents.

5.3 Labour Issues

The Contractor has developed and implements a Human Resources (HR) Procedure (Annex-20 of ESAP) in accordance with EBRD PR2 and Turkish Labor Law. As well as legal rights, these procedures involve conditions on fairly implementing the principles such as engagement in participation and equal opportunities, non-discrimination, prevention of forced labour, overtime working and wage rights, gender equality, prevention of harassment and abuse, etc. from EBRD PR2 conditions. It is ensured that all Employees receive a copy of HR Procedure at recruitment and are informed.

In addition, an Employee Handbook (Annex-21 of ESAP) including the issues, such as employee rights and grievance mechanism, is given to each employee during orientation training. The Employee Handbook is also given to the employees of the SubContractors at the recruitment.

The Employee Handbook includes all information regarding the grievance mechanism for the employees. Complaint boxes and forms have been placed in all buildings in the construction site (Annex-32 of ESAP).

The number of the workers in the project is as follows:

Table 3 The number of workers in the project

Personnel Information	Contractor	SubContractors					Total
	Gülermak	Soner	Derin	SYL Catering	Saçak JHSU	Deltaş Security	
# of employees residing in Izmir	101	35	23	12	12	80	267
# of employees residing out of Izmir	184	198	94	20	0	0	496
# of male employees	267	232	114	23	9	80	729
# of female employees	18	1	3	9	3	0	34
# of white-collar employees	85	25	21	4	12	0	147
# of blue-collar employees	200	208	96	28	0	80	616
# of employees with disabilities	4	0	0	0	0	2	6
Total # of employees	285	233	117	32	12	80	763

The local employment rate of the project is 35%, which is quite high. The maximum number of workers until the completion of construction is estimated to be around 850.

No written complaint has been received from the employees throughout the construction phase. During the interviews conducted with the employee representatives on 21 May 2020 and 08 June 2020, it has been confirmed that there were some verbal grievances regarding the food, just like any other construction site.

Some requests received from the employees (for example, about food) were verbally notified to the employee representative and administrative affairs department for a few times, and the food menus were checked by the project manager. This statement has been received from an employee representative in a telephone conversation. The requests about food have been communicated to the supervisors verbally, and the necessary improvements (quantity of meat, diversity of foods, etc.) have been made. Except of this, there is no dissatisfaction or grievance.

The wages are paid in a timely manner, and the conditions of accommodation camp are good. Especially these two topics are the most significant issues determining the employee satisfaction.

Due to Turkish working culture, blue-collar workers avoid expressing their grievances in writing. The employees need to be encouraged on this matter. Employee Handbook declares that the complaints shall be handled in accordance with information confidentiality and employee safety; however, the workers are not active on this matter.

The employee representatives have confirmed that there is no union organisation. In addition, upon examination of the HR Procedure and the Employee Hand Book, it was stated that unionisation and

worker organisation is a legal right for the workers, and actions would be taken in accordance with the relevant laws.

If collective dismissal process occurs, the HR has stated that the proceeding will be carried out in accordance with the relevant articles in the procedure and IMM shall be notified 30 days beforehand at the latest pursuant to EBRD PR2 and according to the Turkish Labour Law (Annex-80 of ESAP).

No employment collective termination of employment was made as of the writing of this report (Annex-108 of ESAP). In addition, there is no complaint or legal proceeding regarding termination of employment.

An employment contract with indefinite term is issued for each employee (Annex-22 of ESAP), and a copy of the contract is given to the employee. The employees undergo a detailed medical check-up at the recruitment process, and these records (Annex-23 of ESAP) are kept in the personnel files.

The Project is managed by human resources procedure sufficient and appropriate to the requirements of the project (Annex-20 of ESAP). The HR team comprises an HR officer appointed for the project with the support of the HR team at the head office of the Contractor (Annex-25 of ESAP).

There is one non-national construction worker in the project. The non-national worker's work permit, employment contract with indefinite term and social security records have been (Annex-26 of ESAP) completed as required by law.

The legal obligations regarding employee rights, social security premiums, payments and working conditions and EBRD PR2 requirements are audited monthly by both the Contractor and an independent certified public accountant (Annex-101 of ESAP). As of the writing of this report, these legal obligations are confirmed with by the Contractor. In addition, the independent experts prepare monitoring reports quarterly. All reports are additionally reviewed by the IMM control team (Annex-100 of ESAP).

There are 5 SubContractors under Gülermak, which is the main Contractor of the project. As well as the main Contractor, the SubContractors are audited by the consultant in monthly basis and by the independent consultant in each quarter. The scope of these audits also covers financial and legal liabilities such as the wage and insurance payments of the employees.

The wages, working conditions and rights are in accordance with the laws, and they are comparable with the levels provided by the country/region and sectoral employers.

The worker representatives are elected from the volunteer candidates, and by voting in the case that there is more than one candidate. In the telephone conversation with the workers, it has been understood that the worker representatives duly represented the general views and rights of the workers.

Telephone conversations have been made with employee representatives and selected workers. In these conversations, questions were asked about the issues such as wages, overtime, camp site conditions, foods, leaves, benefits, pressure, harassment and violence, and received responses were noted. The employee representatives are known by all workers and they are in direct communication with the managers. In the conversations, they stated that they experienced no grievances, problems or concerns.

The social security premium payments of the employees are checked with an official letter obtained from the Social Security Institution (SSK).

The salaries and overtime wages of the employees are paid on time. No delay has happened up to now, and the employees have no disturbance on this aspect. It is checked and confirmed whether the wages are paid by means of telephone conversations with the workers in accordance with the Personal Data Protection Law No. 6698.

The Human Resources Procedure does not involve provisions preventing the workers from stating their grievances regarding the working conditions and durations and establishing alternative mechanisms for defending their rights but refers to the freedom of association.

There are no employees within the scope of the union or collective labour agreement in the project. The project workers have no union. However, there is no legal or procedural obstacle or pressure against that.

The Human Resources Procedure and HSE Management Plan set out the measures required to be taken regarding the hazards related to the working environment, and these measures are sufficiently disclosed in the occupational health and safety trainings to the employees, including the employees of the Contractor.

All occupational health and safety incidents are taken under record, regularly monitored, reported to the top management, and emergency action plans are reviewed.

Child labour is not employed within the scope of the project, and there are no complaints or findings on forced labour, including the Contractors. In examination of the documents such as the HR Procedure, Employee Hand Book, consultant audit reports and engineer correspondences and in the telephone conversations made with the employees, it has been confirmed that they had no disturbance or verbal/written grievance notification on these matters.

Pursuant to the Human Resources Procedure, the laws shall be complied with on the matter of child employment, and workers under age of 18 shall not be assigned to hazardous works. There is no worker under 18 of age in the project.

The security service of the project is provided by a private security company. The security personnel employed in the project have "Private Security Identity Card". The training provided in order for the mentioned identity card includes the matters such as communication, crowd management, conflict management, etc.

The security personnel undergo a detailed history registration and criminal record inquiry.

The consultant and advisor audits carried out address to and report the issues such as the wages, insurances, overtime working rights, subsistence allowances of the employees, as well as the issues of working environment, cafeteria hygiene, camp site conditions, etc.

Camp Management

A Camp Management Plan (Annex-30 of ESAP) has been prepared in accordance with EBRD PR2 requirements and Worker Lodges Guidelines. The workers' accommodation conditions have been prepared accordingly by the Contractor.

There are 3 worker accommodation camps in the project. One of the camps belongs to the Contractor, and other two belong to the SubContractors. The companies manage the camps themselves, and all camps are inspected by the Engineer. There are 44 white-collar and 454 blue-collar workers accommodating at these camps. There is no female employee accommodating at the camps.

The number of workers staying at the accommodation camps sites is as follows:

Table 4 The number of workers staying at the accommodation camps

Personnel Information	Contractor	SubContractors				Total
	Gülermak	Soner	Derin	SYL Catering	INC const.	
# of white-collar employees	16	8	20	-	-	44
# of blue-collar employees	115	177	130	16	16	454

In the telephone conversations with the workers, it has been understood that everyone was satisfied with the conditions of the facilities such as dormitory, bath/toilet, cafeteria, etc., and there was no written or verbal grievance received by the employee representatives or managers.

For example, it was stated by the employee representatives that even when verbal demands were received about the tastes of foods, the construction site managers evaluated these demands and made revisions on the food lists. Indeed, there are no written records on this matter.

At the accommodation camps, there are recreational facilities such as televisions in the worker rooms, Wi-Fi and internet connection in every dormitory, and a television hall with subscription of an encrypted channel on which sports broadcasts can be watched. Therefore, the employees are satisfied.

The camps are required to be inspected in accordance with the checklist of PR2 Worker Lodges Guidelines. The inspections performed by the Engineer meet the National legal requirement (Annex-31 of ESAP); and EBRD PR2 requirements. As a result of monitoring carried out by the Engineer, non-conformities for some items were documented. However, no evidence was observed as to how these non-conformities have been closed.

In the telephone conversation with the workers, they have stated that they had no problem related to laundry service because there is a laundry room at the camp site. They are also pleased with the cafeteria sanity and the foods. However, they thought that it would be better to be served meat and more diverse foods.

In the interview made with the employee representatives, it has been understood that there could be some grievances regarding the foods, just like any other construction site. The requests about foods have been communicated to the supervisors verbally, and the necessary improvements (quantity of meat, diversity of foods, etc.) have been made. Except of this, there is no dissatisfaction or grievance.

The wages are paid in a timely manner, and the conditions of accommodation are good. Especially these two topics are the most significant issues determining the employee satisfaction.

6. Land Requirements and Impacts

The land acquisition requirements and impact management requirements of the project has been assessed according to the conditions of EBRD PR-5: Land Acquisition, Involuntary Resettlement and Economic Displacement.

No land acquisition or expropriation have been done for the construction activities of the project because the ownership of all lands belongs to IMM. When the construction works are completed, the lands used will be restored by the Contractor.

The district municipalities have been notified with official letters before the construction works.

The headmen have been informed about the "building inspection²" studies for the existing buildings near to metro axis, building inspection works have been carried out with the permission certificates (Annex-69 of ESAP) distributed by the headmen to the building administrators. Building inspection studies (Annex-70 of ESAP) have been carried out by an independent consultant. These buildings are regularly monitored for vibration impact by independent consultant in order to take the required measures when necessary.

Pursuant to the Construction Works Administrative Specifications and the technical specifications, the Contractor has to cover the loss in case a building is damaged.

6.1 Design Changes

IMM confirmed that there were 11 design changes from the beginning of the project and none of them have required an additional land acquisition, expropriation or allocation. The statement of IMM and AECOM monitoring reports verify this fact (Annexes 121, 122, 123 of ESAP).

There were project design changes which did not entail additional land but instead has minimized social impacts and considered feedbacks from affected entities: Shaft and exit structure of DEU Hospital Station have been moved as per Hospital's request, Narlıdere Station shaft has been moved to eliminate the need for relocation of natural gas lines, Kaymakamlık Station has been moved to eliminate the need for relocation of utility lines, and the cut and cover construction method was also revised to TBM to minimize the impacts.

² Building inspections have been done to inspect building conditions prior to and during the construction and "building inspection forms" have been prepared. These forms include building photos, the number of floors, structural conditions of the building, building irregularities and geometries. Any element of the buildings near the construction may crack and / or residents can make a complaints about impacts on the building. With these studies, it can be understood whether these are due to construction works. Another reason is to identify the nonresilient buildings, monitor them daily and take the necessary measures if needed.

The design changes are as follows:

1. Balçova station has been moved to the car park building, and these two separate buildings have been designed as one single building.
2. Çağdaş Station has been moved due to traffic.
3. The Shaft-7 has been moved due to traffic.
4. Shaft and exit gate of the Dokuz Eylül University Hospital Station has been moved upon the request of the hospital.
5. Narlıdere Station has been moved in order to eliminate the need for displacement of national natural gas lines.
6. Şehitlik Station has been moved in accordance with the request of the Highways Authority.
7. Kaymakamlık Station has been moved to eliminate the need for relocation of utility lines and resolve prolonged approvals from authorities.
8. Siding tracks were excluded from the scope as it will not be needed due to the planned depot area
9. Connection tunnels were excluded from the scope as Izmir Bay Crossing projects was cancelled
10. Construction method for the support system of NATM has changed
11. Designing tail tunnel with TBM. Tail tunnel design has been changed from NATM to TBM.

The design changes have not created an impact such as physical or economic displacement, etc. Since no road closure, traffic route, etc. was made in the construction zones, no problem has been experienced in access to the current settlements and workplaces. No grievance record in this line has been observed. It is also confirmed by IMM that there is no proceeding record filed.

6.2 Stations

The station designs, construction design and methods are selected in a way that they will minimise the land acquisition and social impacts.

All of the stations have been under the execution of IMM for many years, and they are the lands allocated as green areas and parks in the zoning plan. From the orthophotos enclosed to Annex F, it is seen that the areas allocated to stations are green areas and not have been used since 2005. IMM has confirmed that there are no legal issues, complaints, or court cases associated with the lands used by the project.

The social impact assessment of the construction site areas in terms of land acquisition, displacement and access to services is as follows:

Balçova Station: It is located on a crossroads which has urban traffic. It is far from settlement areas and there is no commercial workplace affected.

Çağdaş Station: It is a park area. There are commercial workplaces and a shopping centre in the vicinity of the construction site. It has urban traffic; however, pedestrian or vehicle access is not affected.

Dokuz Eylül University Hospital Station: There are commercial workplaces and a small entertainment park in the vicinity of the construction site. It has urban traffic; however, pedestrian or vehicle access is not affected.

Güzel Sanatlar Station: Ilica Headman's Office was moved by the Narlıdere District Municipality, and it continues providing service at its new location. An arrangement was made on the pedestrian route, and no access problem is experienced to the settlements and commercial workplaces in the vicinity.

Narlıdere Station: It is a park area. There is a high school and community health centre and settlements in the vicinity; however, there is no problem in terms of traffic, pedestrian routes and access.

Şehitlik Station: There are settlements and a mosque in the vicinity; however, there is no problem in terms of traffic, pedestrian routes and access.

Kaymakamlık Station: The pedestrian routes are arranged and necessary warning signs are placed. There is no problem in traffic flow and pedestrian pass ways.

The metro station and access facilities are being designed in accordance with the ease of use by the vulnerable groups such as children, pregnant women and women with children, elderly people and the disabled, etc.

Considering the existing metro stations, IMM's user-friendly design functions can be seen in Annex E.

In station structures, the measures taken for the disabled, visually impaired, pregnant and the elderly are listed as follows:

1. Approaching of passengers to the station is designed with station designations for guiding the passengers from the nearest public transport point to the station locations, considering TSE 23599 / TSE 12186 and International standards, with;
 - guiding tracks (tracks in universal colour (yellow) and in tissue change, creating perceivable difference on the flooring),
 - warning tracks (tracks in universal colour (yellow) and in tissue change, creating perceivable difference on the flooring), and
 - guiding signs.
2. Where there are elevation differences on the floor throughout such guiding, ramps are designed with slopes in accordance with TSE 12186.
3. Passengers are brought in front of stairs and elevators in order to provide vertical circulation.

4. Passengers taken into the uncontrolled area with ELEVATORS and STAIRS from the ground level are guided to the elevators and stairs in the controlled area through turnstiles for disabled and through gates.
5. Passengers who are able to use the stairs are provided with ease for vertical circulation likewise with the special detail guiderails specified in TSE 23599.
6. A BRAILLE-MAP is available for visual impaired passengers in the station structure, and access is enabled for such passengers to all access points.
7. Guiding tracks and warning tracks are made available on the flooring for passengers.
8. For elderly and pregnant passengers without disabilities, guiding plates in accordance with the international standards are available.
9. Passengers taken into the controlled area are likewise guided to go down to the platform floors.
10. Passengers are guided to the trains by means of the guiding tracks and warning tracks on flooring and with guiding plates.
11. The important issue is that during this planning, the locations for the passengers to stand and how they should be guided are enabled with surface changes.

6.3 Project Affected Persons (PAPs)

There are no health/education buildings such as hospitals, health institutions, schools, private teaching institutions, etc. or sanctuaries such as mosques, etc. in the vicinity of the station construction zones. There is only a high school and community health centre in the vicinity of the construction site of Narlıdere Station, and a mosque in the vicinity of Şehitlik Station. However, there is no problem in terms of traffic, pedestrian routes and access. The shaft and exit gate of the Dokuz Eylül University Hospital Station has been moved upon the request of the hospital, and the level of impact to disadvantaged/vulnerable people (elderly people, ill people, solitary living women, disabled individuals, etc.) has been minimised.

Although all the mitigation measure taken by the Contractor, the Engineer and IMM, there are some people who have been affected from the project;

Ilica Headman's Office

Due to the construction of Güzel Sanatlar Station, Ilica Headman's Office was moved and a new office was allocated. IMM Inspection Chief communicated with the Headman of Ilica Quarter in September 2018 for the replacement of Ilica Headman's Office located at the construction site area of Güzel Sanatlar Station. IMM Inspection Chief informed the Headman about the process. Headman's new office is 10 m² larger than the old one, and is 100 metres away from the old office.

The new office building was constructed by the Narlıdere District Municipality and delivered to the Headman. In the telephone conversation with the Headman on 29 May 2020, he stated that he was

satisfied with the new office, and no problem was experienced. However, there is no minutes of the conversation between IMM and the Headman.

Organic Products Marketplace

The Organic Products Marketplace near to Çağdaş Station was relocated approximately 300 metres away. It continues to be opened on Saturdays.

The marketplace is an outdoor shopping area that consists of portable and manually assembled counters that can be easily transferred without business disruptions. It had no reinforced concrete etc. structure except the roof and the stands. The number of counters and tradespeople have not changed. The new marketplace is placed in the same park area, and only location of the entrance gate has changed. The old and new locations of the marketplace can be seen in Annex D. Considering that the organic products marketplace is opened on Saturdays only, the relevant construction and transfer was completed during the weekdays. Therefore, no business disruption and no impact on the craftsmen and customers have taken place.

The Municipal Police Team Point

The municipal police team point near to Çağdaş Station has been moved away about 200 metres. This moving has caused no disruption in the services. There was a small cabin of the Municipal Police Department, and it was easily moved to a location 200 metres away. It keeps operating within the same area.

The 9 flats and 1 warehouse

The 9 flats and 1 warehouse (24 people and 1 tradesman are affected) in the 3 buildings in the vicinity of the switch point construction at the end of Narlıdere Station have been temporarily displaced due to high vibration impacts felt by the people.

The first assessments on the buildings falling within the impact area of the project were commenced in January 2019 before the initiation of the studies within the scope of the project, and the assessments of 918 buildings in total were completed in March 2019. Regarding the mentioned buildings, the first written grievance record was received from the evacuated building located at the address of Zafer Street, No. 17 on 10.10.2019.

However, upon the verbal complaint of the people before this date, the assessment of the damages subject matter of the grievance record was made on 20.09.2019, and it was photographed in details. Photographing is currently continuing in particular periods. The grievance records of the people are taken into assessment by IMM. The photographs of assessments are regularly archived and compared with the former statuses.

Before the mentioned building was evacuated for preventive purposes, building inspection form about the status of the building had been prepared by DEU Faculty of Civil Engineering. Even though there was no critical situation in the building, precautionary evacuations were initiated.

Suitable flats that will meet the requests of the people have been found by considering their current situations as well. For example, considering the difficulty of a house owner for carrying her paralysed husband one floor up and down in their former house without an elevator, the new rented house was considered to have an elevator and a ramp at the building entrance. In addition, considering the possibility that the tenants residing in the same apartment having cats in the house, the situation that the new landlord allowing keeping pets was taken into consideration, and a flat with the entrance floor with a garden was rented. The people were moved from the flats having one living room and two bedrooms to the flats having one living room and three bedrooms.

These houses were shown to the citizens, and the house was rented upon their confirmation. All expenses were covered by the Contractor, and the moving operation was realised on 18.11.2019. In the 9 flats evacuated in the same region, the special conditions of the people, if any, were taken into consideration, and new places were preferred out of the project's impact area in the vicinity of the same region that they have been accustomed to. Agreements were concluded with the families moving and the owner of the flats. According to the information received from IMM, the list of affected people and the date for the families to turn back to their flats can be seen in Annex C.

There are no disadvantaged or vulnerable people/families in the flats that have been moved. Only, a man of age over 70 was living in a flat with his children. However, he has not been exposed to any negative impact due to temporary moving.

All moving costs and the cleaning expenses of the new houses of the people were covered by the Contractor. Upon the requests of the financially challenged people, their compulsory electricity, water, natural gas and geothermal subscription fees were also covered, and people aggrievements were prevented.

The evacuated buildings are around 30-40 years old, and the moved buildings are around 10-15 years old. The tunnelling works on this region is still progressing. According to monitoring studies, no deformations have been encountered on the buildings as of the writing of this report.

In addition, a store was replaced. The store was used as a warehouse and no commercial activity was carried out. A new warehouse with similar properties was found and has been provided to the owner upon his confirmation. No commercial income loss has been incurred.

An Evacuation and Moving Agreement was signed between the Contractor and flat owners and renters. A rent agreement was also signed between the Contractor and warehouse owner.

A total amount of 43,000 Turkish lira of rents was paid by the Contractor on April 2020. The details of the expenses can be seen in Annex B. The Contractor is directly paying the rent of the new apartments to where affected people have been moved. The affected people are not paying for the new apartments but they are continuing to pay their rents to their flat owners for the evacuated flats. The Contractor is not a party in the current contracts between the owners and renters of the evacuated flats.

When the tunnelling works in the region are substantially completed, reassessments will be made on the buildings. As per the agreement between the Contractor, flat owners and renter, IMM will do a reassessment through the University which has prepared all Building Inspection Forms. Based on this reassessment, it will be concluded by IMM whether the apartment is safe to live or a restoration needed or to be demolished and reconstructed. In case restoration and rebuilt needed, the required action to be taken after getting the owner's consent. Restoration and rebuilt will be carried out by the Contractor and all fees will be covered by the Contractor.

Following the completion of the restorations, the flats will be delivered to the owners, and it will be ensured that they move back to their flats within 15 days at the latest. All moving costs will be compensated by the Contractor.

IMM teams established close communication with the apartment residents throughout the entire process. The affected families, flat owners and warehouse owner have not reported a dissatisfaction or grievance as of the writing of this report.

7. Gender

The gender analysis assessment has not been done for the workers and primary supply chain workers of the project.

Human Resources Procedure involves policies and provisions about gender. The knowledge and awareness levels of the employees are increased by means of the training and Employee Handbook provided at the recruitment period.

The Human Resources Procedure includes provisions regarding the matters of;

- No gender discrimination,
- Equality in opportunity and equal wages with no gender discrimination,
- No decision of employment based on personal properties such as gender, etc.,
- Sexual harassment shall be considered as crime and the necessary action shall be taken,
- Unfair practices and discrimination shall be avoided depending on gender in employment relationship.

In addition, the Employee Handbook undertakes;

- In case of maternity, applying the employment and maternity leave in accordance with the laws,
- With no gender discrimination, behaving fair and equally to all employees and preserving the balance,

for all employees.

The Corporate Social Responsibility (CSR) policy in the Employee Handbook involves provisions of application for protection of maternity and non-discrimination in gender and pregnancy.

As per the documents and procedures received, the project does not have discrimination, disproportionate and negative potential impacts, and the necessary measures for mitigating the potential impacts have been taken.

The female employee rate of the project is 5%. This rate can be considered normal or even higher compared to the construction sector rate. According to the construction sector statistics published by Turkish Statistical Institute (TUIK), the female employment rate in the construction industry is 4.7% on 2018. The comparison shows that the female employment rate in the project is at a good level.

The number of the workers in the project is as follows (Male/Female):

Table 5 The number of the workers and their gender in the project

Personnel Information	Contractor	SubContractors					Total
	Gülermak	Soner	Derin	SYL Catering	Sançak JHSU	Deltaş Security	
# of male employees	267	232	114	23	9	80	729
# of female employees	18	1	3	9	3	0	34
Total # of employees	285	233	117	32	12	80	763

As of today, 34 female workers are employed in the construction. The main reasons of low number of female workers are the heavy working conditions not being preferred by women, and the lack of sufficient number of experienced women employees in metro constructions and TBM works.

The 34 female workers are mainly working in Technical Office and in held the positions of QA/QC manager, Architect, Civil engineer, Food engineer, procurement, accounting, documentation control and cleaner. No sexual harassment, grievance and sexual violence etc. incidents have been experienced in the project.

The Contractor publishes the job advertisements through a recruitment website (www.kariyer.net) and Turkish Labour Agency (İŞKUR). Any conditions that may cause any discrimination and gender inequality are being avoided. During the interview made with employee representatives on 21 May 2020, it has been understood that female employees had been aware of the job advertisements and thus they applied and were hired. There is no gender discrimination in recruitment.

In order to increase the number of female employments, cooperation with the associations for women in the region, professional chambers, cooperatives, local administrations, and non-governmental organisations such as political party representation offices and women's branch, etc. can be developed. In addition, vocational courses and on-the-job training programs can be organised.

8. Stakeholder Engagement

In this chapter, the approach of the project to stakeholder engagement and the studies performed within the framework of the EBRD PR-1 and PR-10 requirements have been evaluated.

A Stakeholder Engagement Plan and non-Technical Summary were prepared within the scope of ESDD prior to the construction phase and they were published by IMM on the project website (Annex-72 of ESAP). The Stakeholder Engagement Plan has identified the communities and other relevant stakeholders who may be affected by the project.

The Stakeholder Engagement Plan has also been prepared by the Contractor in accordance with the requirements of EBRD PR-10, and contains sufficient information on the matters given below:

- Project description and fundamental environmental and social matters,
- Public consultation and information conditions,
- Identification of the stakeholders and other affected parties,
- Overview to the previous stakeholder engagement activities (no activity available regarding this project),
- Stakeholder engagement program and engagement methods,
- Grievance mechanism,
- Resources and responsibilities, and
- Reporting.

According to this plan, the responsibility related to information disclosure, stakeholder information and consultation activities, stakeholder engagement process and grievance management is anticipated to be executed jointly by IM and IMM.

IMM has published the project route, location of stations, technical properties of metro, photos of the construction and the ES documentation through the Project website: <http://www.izmirmetroinsaati.com/TR>.

IM also published a detailed information about the project through its website (<https://www.izmirmetro.com.tr>).

IM and IMM have performed information dissemination regarding the developments and news about the project on the local media through websites, social media accounts, monthly corporate magazines, urban billboards, digital screens and press releases (Annex-71 of ESAP).

The information provided about the project on the websites of IM and IMM are comprehensible and easily accessible; however, it lacks contents of information disclosure, consultation and engagement instruments related to the impacts of the project.

As a result of a media scanning, some of the local and national press channels published the following news related to the project:

- <https://www.birgun.net/haber/izmir-narlidere-metrosunda-hedef-2022-272595>
- <https://www.egetelgraf.com/narlidere-metrosunda-flas-gelisme-ucuncu-istasyona-ulasildi/>
- <https://rayhaber.com/2020/01/narlidere-metrosunda-ucuncu-istasyona-ulasildi/>
- <https://www.sabah.com.tr/egeli/2019/07/22/narlidere-metrosunda-cok-tartisilacak-revize>
- <https://www.birgun.net/haber/izmir-narlidere-metrosunda-hedef-2022-272595>

IMM Public Relations Department conducts continuous communication with the city citizens by means of various mechanisms, and has competent personnel actively working and with defined responsibilities on this subject. In addition, IMM is successful on feedbacks to the grievance applications and management of social media accounts. Every incoming comment and complaint is responded on time (the evaluation process of grievance is presented in Chapter 9).

The district municipalities have been notified with official letters prior to construction works. Communication and stakeholder engagement activities have been executed by IMM for the communities, NGOs and business' in the vicinity of the construction. However, these activities have not been documented.

A public information meeting was held on 15.10.2019 at Balçova Station. Approximately 100 participants were informed about the construction works and the project, and their questions were replied. The district mayors, headmen, provincial general assembly members, women's branch members of political parties and citizens have participated to the meeting. Most of the questions were generally about the construction completion date and about the metro opening date.

Another meeting with participation of the Mayor and all Headmen was held on 06.01.2020. All headmen across Izmir were informed about the project and their questions were replied. The headmen generally requested that the dust and noise measures to be improved, and asked when the construction is to be completed.

There are no minutes or reports about the meetings except the news appeared in the press. Apart from the stakeholder meetings, informative notes about the project were distributed to the headmen, and they have distributed such information to the citizens in the vicinity of the stations.

IMM should continue to inform the communities directly affected by the project in particular and other stakeholders of the ongoing impacts of the project, design changes and the measures taken, and develop appropriate methods for consultation and engagement and all these consultations should be documented.

9. GRM

A project-specific Grievance Mechanism has been set up within the SEP prepared for IMM through independent experts before the construction phase.

As per the SEP, IMM is responsible for public communication and grievance management. All public grievance records are received, answered and archived by HIM. It also requires that the Contractor should have dedicated staff to record and manage complaints from external stakeholders and report grievances to the IMM as needed.

The Contractor is also responsible for the workers grievance mechanism. No grievance record has been received during the construction phase of the project to date.

The grievance mechanism within the SEP addresses to evaluation criteria involving communication of complaints and opinions easily, fairly and elaborately, and without violating the privacy of the complainant (including receiving anonymous grievance records).

The affected communities and stakeholders are provided with information about the grievance process by means of the social media accounts of IMM and IM, and the posters placed at the station construction areas (Annex-95 of ESAP).

According to the SEP, IMM and IM have provided continuous reports regarding the project by means of their websites and the city/station billboards; however, there are deficiencies in application.

The grievance mechanism proceeds by IMM and IM through the channels stated below:

- Forms on the communication/complaint/recommendation pages on the websites, email and telephone,
 - <https://www.izmirmetro.com.tr/IstekOneriSikayet/34>
 - <http://www.izmirmetroinsaati.com/TR/iletisim-9>
 - <https://him.izmir.bel.tr/tr/sikayet-yonetimi-politikasi/8/55>
 - <https://www.izmir.bel.tr/tr/Iletisim/312>
- Telephone lines,
 - Hometown Society Communication Centre (HIM), 444 40 35 and 185 (24/7) hotlines,
 - IMM, IM and Contractor (Gülermak) telephones (available in the links above),
- Face-to-face,
 - Visiting the construction site (no such grievance record has been received),
 - Visiting IMM and applying to the HIM personnel,
 - Visiting IMM and applying to the headmans' desk,

- Other,
 - Electronic survey machines at IM stations,
 - CIMER (Presidential Communication Centre)
 - Petition (Information Law No. 4982)

The grievance records communicated to IMM and IM are answered, closed and archived by HIM in their corporate format (Annex-98 of ESAP).

Messages can also be sent to the telephone lines of HIM. This especially facilitates the grievance records of people with disabilities. In addition, the electronic survey machines at all metro stations of IM can also be used for communicating the grievance records, and the people with disabilities can get help from the security personnel if they request.

SEP has defined a duration of 1.5 days for responding to a grievance which we think a very ambitious target. In the cases that the respond time extends, it ensures informing the complainant and reinforcing them when the grievance is resolved.

The Contractor has also prepared a Grievance Management Plan (Annex-73 of ESAP) for the project.

The plan elaborates the applications and methods regarding the management of the grievances to be communicated by the employees, communities and all other stakeholders.

The Contractor's plan specifies the incoming grievance communication channels according to the project are as follows:

- HIM email and telephone and 185 hotline
- Gülermak İzmir Office
- Complaint boxes (for employees)
- Construction sites

In the plan, responsibilities are identified for IMM and the EHS supervisor of the Contractor, the flow related to the evaluation of grievances and remedy and feedback processes are explained, and documents such as Grievance Form, Grievance/Request Closure Form and Grievance List Table are attached in annexes of ESAP.

However, apart from the grievance records obtained from HIM, no document such as forms, monitoring tables, reporting etc. within the Contractor grievance mechanism was encountered.

According to the examination of the records, it has been observed that the response periods for 271 grievance records were 9 days in average between 2018 and 2019 (Annex-98 of ESAP). It shows that HIM is being used effectively by the citizens as they are familiar with the HIM system and aware of the information on the billboards placed at the construction site areas.

The summary of results regarding the complaints received and responded by IMM and IM channels throughout the construction phase are as follows:

About 271 queries and complaints from the public have been received through the HIM regarding the Project in year of 2018 and 2019.

- Dust-pollution = 117
- Noise = 46
- Building Damage = 24
- Asphaltting = 15
- Metro finish date = 21
- Other = 51

All of these queries and complaints were answered and all of them are resolved and closed.

The numbers of complaints by the channel of communication are as follows:

- 106 via telephone
- 34 via Twitter
- 51 via the communication form on the website
- 43 via email
- 8 via Facebook, station survey machine, etc.
- 29 other

An example of how the grievances were resolved and reported is shown below:

In a message sent to HIM by an e-mail by a citizen living in Yenikale Quarter in the vicinity of the construction of Narlıdere Metro Station on 14.03.2019, there is a grievance about noise (Annex-98 of ESAP). The complaint continued until 21.11.2019 totalling 13 complaints. IMM has resolved the issue by responding to each complaint with an explanation that due to the special nature of the project, night time work has been approved by the Governorship of Izmir. Additionally, IMM has warned the Contractor of the issue and asked the Contractor to refrain from high noise activities and night time work. There has been no complaint received since 21.11.2019 regarding noise levels at this station.

6 July 2020 version of ESAP has been revised with the recommendation that the contractor should;

- *identify sensitive receptors,*
- *conduct environmental noise and vibration monitoring in accordance with the Contractor's management plan.*
- *in case of any exceedance of the limits or baseline data; review and implement mitigation measures,*
- *record the data in the forms given in the management plan.*

The shortest time of resolving / closing a complaint is 2 days, the longest 38 days, and the average time is 9 days. The average time of resolving / closing a complaint is quite good in accordance with the "15-day response time to the complainant" stated in the Information Law No. 4982.

All of the grievance records are closed. Even though positive responds could not be given to some requests, the record is deemed to have been closed since the complainants are responded. There are no grievance records from non-governmental organisations, professional chambers or other institutions. The owners of all grievance records are individuals.

The "grievance assessment system", which is described in the Employee Handbook and elaborately explained to all employees in the project is a second mechanism prepared for the management of the grievances of the employees. However, there is no grievance record communicated by the employees through grievance management mechanism of the Contractor during the construction phase to date. This was attributed to the habits and working culture in Turkish.

As also exemplified in Chapter 5, there have been some grievances from employees which have been communicated verbally. According to the statement of the employee representative in the telephone interview, it was learned that there were only 5-6 grievance records in the last 2 years, and they were mostly about the food menu.

In assessment of the grievance records received in terms of subject, number and frequency, it is considered that they are not at levels to create significant effects such as reaction against the project, and legal process, etc.

10. Implementation of ESAP and Mitigation Measures

In Chapter 5, the actual impacts and risks are identified and presented. According to the main impacts, the mitigation measures identified in ESDD are summarized and presented in the table below.

Table 6 Impacts and Mitigation Measures

No	Issue	Risk Category	Mitigation Measure Described in ESDD
1	Environmental, Health and Safety (EHS) management systems / Environmental and social management plan	Impacts to Environment, social, health & safety, impacts to efficiency of project, Compliance to EBRD PR1	<ul style="list-style-type: none"> Construction Contractor company to develop and implement a formal environmental and social management system (ESMS) in line with the requirements of ISO 14001 and OHSAS 18001 standard including a detailed organizational structure Construction Contractor to establish a strong EHS team including an experienced Environmental Manager and a Health and Safety Manager with clearly defined roles and responsibilities and authority Resource IMM to monitor the implementation of Environmental, OHS and social requirements by the main construction Contractor Prepare and implement an environmental and social management plan (ESMP) and supporting plans to be implemented during the construction activities
2	EHS monitoring	EHS impacts Compliance to EBRD PR1	<ul style="list-style-type: none"> Construction Contractor to undertake air emissions monitoring at sites of large excavation activities and excavated material transport and to identify and implement mitigation measures as appropriate Construction Contractor to undertake noise and vibration monitoring at the construction sites and to identify and implement mitigation measures as appropriate IMM to develop a Contractor monitoring programme (including developing an Environmental and OHS audit team) Construction Contractor to develop and implement a SubContractor Management Plan
3	Traffic management	Reputation, health & safety, environmental impacts, stakeholder contentment	<ul style="list-style-type: none"> IMM to prepare Traffic Circulation Projects related to traffic diversions and have them approved by relevant authorities Construction Contractor to develop and implement a robust traffic management plan for the construction sites
4	Labour and working conditions	Employee satisfaction, Regulatory Compliance	<ul style="list-style-type: none"> Construction Contractor company to develop and maintain employee records/documentation of its own workers and its SubContractors in line with the legislation

No	Issue	Risk Category	Mitigation Measure Described in ESDD
		Compliance to EBRD PR2	<ul style="list-style-type: none"> ● Construction Contractor company to conduct an internal labour audit every quarter at each site during construction ● Construction Contractor to develop dormitory conditions in line with IFC/EBRD Workers' accommodation; process and Standards ● Construction Contractor to establish and implement a "formal employee grievance mechanism" for all direct and sub-contracted employees and provide them information on channels for internal communication and raising grievances
5	Permitting	Regulatory Compliance	<ul style="list-style-type: none"> ● Construction Contractor to obtain necessary permits (e.g. disposal of excavated materials, wastewater connection permits for construction sites, approvals related to creek crossing) from relevant authorities IM and construction Contractor company to clarify whether any project sites fall within the Regulation on Soil Pollution Control and Point-Source Contaminated Sites (RSPC) and to fill out the Activity Preliminary Information Sheet as per the RSPC, if required
6	Air pollution, dust management generated from excavation works, transportation of excavated materials, trucks and other heavy vehicles generating air pollution	Regulatory compliance, environmental health&safety and stakeholder impacts (public health) Compliance to EBRD PR3	<ul style="list-style-type: none"> ● Construction Contractor to develop and implement an environmental monitoring programme covering: <ul style="list-style-type: none"> ● Air emissions monitoring at sites of large excavation activities and excavated material transport ● Noise and vibration monitoring at construction sites ● Identify and implement mitigation measures as appropriate
7	Noise and vibration management	Regulatory compliance, environmental health&safety and stakeholder impacts (public health) Compliance to EBRD PR3	
8	Water/wastewater management	Regulatory compliance, impacts to environment Compliance to EBRD PR3	<ul style="list-style-type: none"> ● Construction Contractor to develop and implement a Surface water management plan ● IM to install oil-water separators in underground wastewater settlement basins, if possible, to ensure oil and grease are collected prior to discharge ● IM to conduct tri-annual self-test measurement of wastewater.
9	Waste management	Regulatory compliance, impacts to environment	<ul style="list-style-type: none"> ● Construction Contractor to develop and implement Waste Management Plan and to ensure that the wastes are stored at the construction sites in accordance with the regulations, waste records and disposal records are kept

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No	Issue	Risk Category	Mitigation Measure Described in ESDD
		Compliance to EBRD PR3	<ul style="list-style-type: none"> ● IM to renew waste storage area at the maintenance workshop in line with the regulatory requirements and obtain an approval letter from Izmir PDEU on the temporary waste storage area
10	Health&Safety Practices	Regulatory compliance, health&safety impacts Compliance to EBRD PR4	<ul style="list-style-type: none"> ● Construction company to implement an occupational health and safety (OHS) management system and practices to guide all activities during construction. ● Construction Contractor to prepare relevant risk assessment documentation to cover all risks related to construction activities (including but not limited to third- party access to construction sites, vibration, road safety risks associated with truck drivers) and implement mitigation measures based on the risk assessment study ● Construction Contractor to take necessary actions for protection of employee health IMM to undertake regular inspections at construction sites and to monitor the Contractor incidents and review OHS performance on a monthly basis ● Construction Contractor to develop road safety policy, practices and procedures to include a defensive, anti- rollover and antiskid driving training program for own drivers and concrete mixer supplier drivers
11	Community Health & Safety	Community health&safety impacts, stakeholder satisfaction	<ul style="list-style-type: none"> ● Construction Contractor to monitor and analyse public accidents and incidents related to construction activities ● IMM/construction Contractor to place road signs clearly where rerouting will be made for better traffic flow ● Prepare an emergency preparedness procedure and plan which includes a worst-case scenario and provide training on how to react in the event of a worst-case scenario ● Conduct a complete life and fire safety review of the Project components (metro line, tunnels, stations) by competent fire experts
12	Chance finds procedure	Compliance to EBRD PR8	<ul style="list-style-type: none"> ● Develop an Archaeological Chance Finds Procedure to be implemented in the event of an archaeological discovery during construction activities.
13	Stakeholder Enggement Plan	Compliance to EBRD PR10	<ul style="list-style-type: none"> ● Implement the Stakeholder Engagement Plan (SEP) specific to the Project in order to ensure effective communication of the investment plans, potential impacts and mitigation measures for construction and operation to communities through public meetings, publications and corporate websites.
14	Operational Grievance Mechanism	Compliance to EBRD PR10	<ul style="list-style-type: none"> ● Main Construction Contractor to develop and implement a Formal Grievance Mechanism specific to the construction activities.

No	Issue	Risk Category	Mitigation Measure Described in ESDD
			<ul style="list-style-type: none">● Main Construction Contractor to provide relevant trainings on grievance mechanism to site managers and security staff at each construction site.● IMM/Main Construction Contractor to place Project contact information signs and information stickers including HIM Call Centre (185) at the entrance of the construction sites.● IMM to review regularly the grievances submitted to the Main Construction Contractor in order to ensure that all grievances are resolved.

As of the writing of this report, most of the actions required in ESAP have been implemented. A summary of the main items, which are completed or open are summarized as the following:

Assessment and Management of Environmental and Social Impacts and Issues:

In order to comply with the PR1, the Contractor developed and implemented an OHSEP and established its organization structure accordingly. The plan meets the criteria defined in a formal management system. Roles and responsibilities are identified in the Management Plan. This plan was approved by the Engineer. In ESDD, an OHS Policy was recommended to be developed for IMM. The Engineer, who is the controller on behalf of IMM, has developed an Occupational Health and Safety (OHS) Policy. However, there is no OHS Policy for operation phase, which should be developed by IM.

Environmental and workplace monitoring was required by ESDD during construction and in line with the ESAP, the main Contractor provided workplace monitoring test results for dust, noise, vibration, illumination and thermal comfort and environmental monitoring for air emissions. No monitoring has been conducted for environmental noise and vibration to date and no background noise measurement is available. The results of the workplace monitoring indicate generally measured levels are below the regulatory limits, except full-body vibration measured at a worker working with a loader. It was reported that the results were above the exposure action limit but below the exposure limit value. It is recommended that all the workplace monitoring reports are evaluated, mitigation measures are implemented and monitoring is repeated to confirm that the improvements are adequate. Also, the Contractor presented Air Quality Management Plan and Noise and Vibration Management Plan and they were found sufficient. Also, a Traffic Management Plan was developed as required by ESDD and IMM approved traffic circulation projects. In addition, the following management plans also prepared and approved by IMM.

- ✓ Waste
- ✓ Hazardous Material
- ✓ Surface Water
- ✓ Chance Find Procedure
- ✓ Social

Both IMM and the Contractor developed Contractor/SubContractor Management Program/Plan and they are approved by the supervisor. For supply chain management, a procedure was developed and it is being implemented for creating a supplier card and supplier selection & assessment in ERP (Enterprise Resource Planning) system including ISO (International Standards Organization) certificate check (e.g. 14001 standard for environment) for setup and regular control of suppliers with adequate and current certifications.

To be in line with the local regulation, for the excavation works, ESDD stated a permit for the disposal of excavated material. Disposal areas for excavated materials had been proposed by the Contractor and those areas were approved by IMM. The Contractor has been utilizing the approved sites as per the Contract. The receipts of disposal of excavated material are recorded.

As required by legislation, if wastewater is drained to the sewer system of Municipality, then connection permit for construction sites should be obtained. This permit was obtained from the authority by the Contractor. Environmental screening for the project has been conducted resulting in no further requirement of Environmental Impact Assessment.

ESDD required the Contractor to clarify whether Regulation on Soil Pollution Control and Point-Source Contaminated Sites (RSPC) is applicable to IM facilities performing repair and maintenance or not. The Contractor performed sampling to determine the presence of point source for soil pollution. The results showed that there is no soil pollution due to point source and confirmed by the Supervisor.

For the wastewater generated during construction activities, ESDD required from Izmir Metro, the installation of oil-water separators in underground wastewater settlement basins. However, an oil-water separator is not installed yet. A status update was requested from IMM at the last audit in April 2020.

For the wastewater connection to the sewer, tri-annual self-test monitoring was required according to the local regulations. The responsible party was Izmir Metro. Two wastewater tests were conducted on 22.04.2019 and 06.11.2019 for various water parameters at multiple locations. Wastewater test results on 22.04.2019 are compliant with IZSU discharge standards. However, wastewater tests conducted on 06.11.2019 are compliant with IZSU discharge standards except for 6 locations for pH and 4 locations for Total Suspended Solids (TSS). For these exceedances, mitigation measures have been suggested by the environmental consultant. The consultant suggested to add pH adjuster and a bigger detention tank or add a chemical coagulant for TSS. A status update regarding mitigation has been requested from IMM. The wastewater monitoring tests should be performed three times a year and in case of any exceedance, necessary measures should be taken as soon as possible.

The temporary waste storage area of the Contractor was requested to be renewed within the ESDD.

The Contractor provided photos of renewed temporary waste storage area. The Contractor and IMM have confirmed that temporary storage areas are in compliance with the MoEU technical specifications and approved by Izmir Provincial Directorate of Environment and Urbanisation. For the waste management, the Contractor has developed a waste management plan as per the National Legislation and provided hazardous waste declaration records. The Contractor has updated hazardous material/waste compulsory liability insurance in accordance with legislation. However, review of photos of temporary waste storage areas of SubContractors indicate that there is no secondary containment

present within the hazardous waste storage area. The storage areas are very small, wastes are stored tightly and some wastes are located outside the storage area.

For hazardous materials management, the Contractor prepared and implemented a plan. The Contractor is storing hazardous materials in temporary storage areas. The Contractor designed and installed secondary containment to the hazardous material storage tanks and performed capacity calculation for secondary containment and confirmed by IMM.

ESDD required the Contractor to make sampling for the PCB levels in the oil-based transformers. The Contractor performed the tests and according to the results, PCB levels are below limits.

Two petroleum stations are observed at the axis line of metro construction. In ESDD it was stated that the metro design should take into account potential future leakage which may occur from these stations.

The Contractor performed soil monitoring at these locations and results of soil testing from petroleum retail sites are under the limits. Also, the Designer has done a design assessment depicting plan layouts and cross sections near the stations and confirmed the metro design taking into account potential future leakage which may occur from these two stations.

To be in line with the local regulations, a risk assessment should be prepared which includes identification of the risks at the workplaces and mitigation measures to be taken to protect workers health. The risk assessment should cover all risks related to work activity and ESDD required, including but not limited to, third party access to construction sites, vibration, road safety risks associated with truck drivers. Review of the risk assessment indicates that third party access to the site and road safety risks included in the risk assessment, however, although some of the risks were identified as unacceptable, the existing situation of the risks are defined as appropriate and no residual risk calculated.

Considering the truck movement activity due to the nature of the site, ESDD required from the Contractor the development of road safety policy, practices, and procedures to include a defensive anti-rollover and antiskid training program for own drivers and concrete mixer supplier drivers. The Contractor keeps the records of the drivers (driving license, professional competency certificates (SRC, psychotechnics) which are legally required. Training is provided to the drivers by the OHS Specialists. However, it was noted that defensive anti-rollover and antiskid training is not included in the training program.

The ESDD recommended that an emergency preparedness procedure and plan which includes a worst-case scenario (e.g. serious damage of the construction during an earthquake; one of the critical processes is out of use or interrupted due to landslide; collapse of a construction retaining wall; and groundwater ingress during metro line extension project) is prepared. The Contractor has developed an Emergency Response Plan, including fire, chemical spillages, earthquake, flooding, lightning strike,

sabotage, severe weather conditions, etc. Emergency teams for firefighting, first aid, protection-rescue-evacuation teams are defined. Worst-case scenario for fire was tested and a training on how to react in the event of a worst-case scenario was provided.

Two accidents resulting with fatality have occurred at the construction sites, dated 30 December 2018 and 29 August 2019. The accident in December 2018 was crush on an unauthorized third-party entering to the construction area by an excavation truck during back manoeuvring, while the other one was rigger operator stuck between the reducer connected to the travel motor of the slow-moving crane and the rail concrete. A root cause analysis was conducted by the Contractor for both accidents and corrective actions and remedial actions were taken to prevent recurrence of the incidents.

According to the work permit system, the companies will be in contact with each other and a "work permit system" will be implemented during the equipment tests before the commissioning and during all tests to be carried out under energy. However, work permit implementation practices could not be observed within the documentation provided within the course of the assessment. Reportedly, work permit system is not implemented at the construction sites. ESDD required the Contractor to develop implement a Lockout/Tagout (LOTO) program and provide technical training to relevant personnel. There is no information available if proper locks are provided for different energy sources, as well as implementation practices in place. In addition, review of documents indicates that a LOTO training plan was prepared in February 2020, stating that LOTO specific training will be given to the authorized personnel in 20 April 2020 by the OHS Specialist and workplace doctor.

The ESDD required a complete life and fire safety review of the Project components (metro line, tunnels, stations) by competent fire experts. Implementation due date has not been determined by EBRD yet.

In ESDD, development of a professional safety site behaviour training program for the OHS team is considered necessary as it was noted that the IMM control engineers were not fully aware of appropriate safety behaviours in construction sites. However, such training program could not be observed. It is recommended that IMM to develop a professional safety site behaviour training program for the members of the audit team. Work at height training is provided to relevant workers.

According to the Occupational Health, Safety and Environmental Management Plan, toolbox talks, covering work method, associated risks and precautions, will be conducted by the team leaders daily prior to start of work. The toolbox talks should be documented and should be handed over to Contractor OHS team during the day for recording purposes. As indicated by the site representatives, toolbox talks are conducted and records are kept. However, no record was made available for review.

The IMM and the Contractor endeavours to implement an environment and social management system proportionate with the social risks and impacts of the project, in appropriate coordination with responsible government agencies and third parties for the purpose of ensuring conformity to the

performance condition of "PR-1: Evaluation and Management of Environmental and Social Risks and Impacts".

IMM and the Contractor established and implements internal audit and external monitoring procedures for monitoring and measurement of the compliance of the project activities with the liabilities and regulations in the laws and/or agreements.

Due to the fact that the Project is a Category B project according to the EBRD classification criteria, it performs a social management proportionate and compatible with the size, impacts and risks of the project.

The prominent social impacts are mainly related to the risks about occupational health and safety, traffic, dust and workers' accommodation.

Considering the field of impact of the project, it is not expected that the physical facility and construction elements create significant social impacts. This also applies for the impact to be created by third parties. All activities of the Contractor of the construction phase, which is defined as the primary supply chain, are being managed and monitored in control by the project management.

The Contractor has developed and implements a Human Resources Procedure (Annex-20 of ESAP) in accordance with EBRD PR2. As well as legal rights, these procedures involve conditions on fairly implementing the principles such as engagement in participation and equal opportunities, non-discrimination, prevention of forced labour, overtime working and wage rights, gender equality, prevention of harassment and abuse, etc. from EBRD PR2 conditions, and each employee is ensured to receive this document at recruitment and be informed.

In addition to these matters, an Employee Handbook (Annex-21 of ESAP) involving the matters such as employee rights, grievance mechanism, etc. is given to each employee during orientation training (Annex-73 of ESAP).

The legal obligations regarding employee rights, social security premiums, payments and working conditions and EBRD PR2 requirements are audited monthly by both the Contractor and an independent certified public accountant (Annex-101 of ESAP). In addition, the independent experts prepare monitoring reports quarterly. All reports are additionally reviewed by the IMM control team (Annex-100 of ESAP).

The Human Resources Procedure and HSE Management Plan set out the measures required to be taken regarding the hazards related to the working environment, and these measures are sufficiently disclosed in the occupational health and safety trainings to the employees, including the employees of the Contractor.

All occupational health and safety incidents are taken under record, regularly monitored, reported to the top management, and emergency action plans are reviewed.

The camps are required to be inspected in accordance with the checklist of PR2 Worker Lodges Guidelines. The inspections performed by the Engineer meet the National legal requirement and EBRD PR2 requirements. As a result of monitoring carried out by the Engineer, non-conformities for some items were documented. However, no evidence was observed as to how these non-conformities have been closed.

There is no need for a different and additional study such as risk assessment, social impact assessment, etc. for the design modifications in the project. The design modifications have not required a land acquisition and allocation as of the writing of this report. There is not an expected land acquisition and impacts due to a possible design change.

Although all the mitigation measures taken by the Contractor, the Engineer and IMM, there are some people who affected from the project. Ilica Headman's office, organic products marketplace and municipal police team point were needed to be displaced. In addition, 9 flats and 1 warehouse (totally 24 people and 1 tradesman are affected) in the 3 buildings in the vicinity of the switch point construction at the end of Narlıdere Station have been temporarily displaced due to high vibration impacts felt by the people. The effected people are temporarily moved to the new flats. The moving process was managed by IMM and all related costs was covered by the Contractor. he affected people have provided no grievances as of the writing of this report, and IMM keeps regular communication with the them.

There is no gender discrimination in recruitment. The local employment rate of the project is 35%, which is quite high. These rates can be considered normal or even higher compared to the construction sector rate. There were no reported incidents related to sexual harassment and violence in the project.

The current SEP has identified the project stakeholders and defined the communication methods and the public relations departments of IMM and the HIM provide sufficient support for effective communication with communities and stakeholder engagement. In this context, various stakeholder meetings were held during the construction phase. However, there is no sufficient document/meeting minutes/record related to the meetings.

The Employee Handbook includes all information regarding the grievance mechanism for the employees. There are complaint boxes and forms at the construction site offices and camp site (Annex-32 of ESAP).

No employee complaint has been received throughout the construction phase. Due to Turkish working culture, blue-collar workers avoid expressing their grievances in written. Employee Handbook declares that the complaints shall be handled in accordance with information confidentiality and employee safety; however, the workers generally prefer to provide their complaints and suggestions verbally.

11. Corrective Actions

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
PR 1: Assessment and Management of Environmental and Social Impacts and Issues				
1	<p>Environment and Social Management</p> <p>The project's impacts and issues addressing risks, impacts and measures specific to the project should be identified.</p> <p>The ESMP should define desired outcomes as measurable events to the extent possible with elements such as targets and performance indicators that can be tracked over defined periods.</p> <p>ESMPs will be responsive to changes in project circumstances, unforeseen events, regulatory changes and the results of monitoring and review.</p>	1.1, 1.5	<p>Although a detailed risk analysis based on health and safety was developed, environmental risks, aspect/impact documents were not available.</p> <p>The system should have measurable outcomes like targets and performance indicators. However, any evidence regarding the monitoring of performance of managements system, like performance indicators or any targets are not observed.</p> <p>The Occupational Health, Safety and Environmental Management plan describes the control mechanism for the project and control forms/lists were developed. However, any record of control forms were not observed.</p>	<p>The Contractor should develop and implement an environmental risk assessment (aspect impact assessment) in order to prevent or minimize the impacts of potential risks.</p> <p>In order to effectively monitor the performance of the system, both IMM and the Contractor should set targets and determine and monitor performance indicators.</p> <p>The control forms/lists given in the Occupational Health, Safety and Environmental Management Plan should be regularly filled during the controls/audits so that each control date/ actions can be clearly understood.</p>
2	<p>Organisational capacity and commitment:</p> <p>The client will establish, maintain and strengthen, as necessary, an organisational</p>	1.1	<p>IMM and Contractor's EHS Organization Structure have been developed in compliance with EBRD PR1. Although the personnel responsible for social management/public</p>	<p>The contractor needs to revise organisation chart accordingly.</p>

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	<p>structure that defines roles, responsibilities and authority to implement the ESMS for ensuring ongoing compliance with relevant national regulatory requirements, and the PRs. The client will designate specific personnel, including management representative(s), with clear lines of responsibility and authority to maintain and implement the ESMS. Key environmental and social responsibilities will be defined and communicated to the relevant personnel. The client will provide adequate support and human and financial resources on an ongoing basis to achieve effective and continuous environmental and social performance.</p>		<p>relations/grievance mechanism has been appointed by the contractor, s/he has not been shown in the organisation chart of the contractor.</p>	
3	<p>Environmental and social assessment: The environmental and social assessment process will be based on recent information, including an accurate description and delineation of the project and the client's associated activities, and social and environmental baseline data at an</p>	1.4		<p>Information-training studies on traffic risks and management to be planned and conducted for the communities in the vicinity of the construction site and affected by the project. The contractor should take additional actions such as providing the district municipalities, headmen, NGOs and the public with</p>

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	<p>appropriate level of detail. The assessment process should also identify: (i) applicable environmental and social laws and regulatory requirements of the jurisdictions in which the project operates, including those laws implementing host country obligations under international law; and (ii) applicable requirements under the PRs. Central to this approach is the application of the mitigation hierarchy and GIP. For projects that could have adverse environmental and social impacts, the client will, as an integral part of the assessment process, identify the project's stakeholders and design a plan for engaging with the stakeholders in a meaningful manner to take their views and concerns into consideration in planning, implementing and operating the project in accordance with PR 10.</p>			<p>information on traffic risks and measures with brochures and presentations in schools.</p>
4	<p>Project Monitoring should address:</p> <ul style="list-style-type: none"> any significant environmental and social impacts and issues identified during the 	1.3, 1.5	<p>The results of the air quality monitoring carried out at three locations in April - May 2019 showed PM10 results are below the limits. In addition, the mitigation measures described in the plan are also sufficient. However, it is</p>	<p>Environmental dust (PM10) monitoring to be performed for two seasons in order to understand the situation in dry and windy weather conditions.</p>

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	environmental and social assessment process <ul style="list-style-type: none"> • actions specified in the ESMP or ESAP, where relevant • grievances received from workers and external stakeholders, and how they were resolved • any regulatory monitoring and reporting requirements • any monitoring/reporting required by other parties (for example, off-takers, financiers or certification bodies). 		observed that there are 87 public complaints related with dust between April 2019 - April 2020. This is likely due to insufficient implementation of air quality management plan.	Local meteorological conditions (wind speed and direction, rainfall, relative humidity at least) are recommended to be monitored and recorded on a daily basis to take information on when any exposed areas may be at a higher risk for dust. Daily visual inspections of the construction activities to ensure that the mitigation measures are implemented and no excessive amount of dust is generated. Also, this inspection results should be recorded and in case of any non-compliance, corrective actions should be determined and implemented urgently.
5		1.5	Environmental noise and vibration monitoring were not performed.	The Contractor should: <ul style="list-style-type: none"> • Identify sensitive receptors, • Conduct monitoring of noise and vibration periodically in accordance with the management plan (noise monitoring should be conducted daily by site EHS team and yearly by accredited laboratory, vibration monitoring should be conducted if any complaint received by the neighborhood), • In case of any exceedance of the limits; review and implement mitigation measures,

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
				<ul style="list-style-type: none"> Record the data in the forms given in the management plan.
PR 2: Labour and Working Conditions				
6	<p>Non-discrimination and equal opportunity: Projects will comply with relevant requirements on non-discrimination related to employment. In particular, with reference to the project, the client will: not make employment decisions on the basis of personal characteristics, such as gender, race, nationality, political opinion, affiliation to a union, ethnic, social or indigenous origin, religion or belief, marital or family status, disability, age, sexual orientation or gender identity, unrelated to inherent job requirements base the employment relationship on the principle of equal</p>	2.1	<p>There is no gender discrimination in recruitment. There were no reported incidents related to sexual harassment and violence in the project. The Project had incorporated design features for its metro stations geared toward improving access of persons with limited mobility, including Braille-map for visually impaired passengers, ramps with slopes, and guiding plates for elderly and pregnant women in accordance with the international standards. There is no specific effort to encourage female employment.</p>	<p>As an added benefit developing practices to increase female employment, the Project encourages to promote employment of women and track employment information.</p>

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	<p>opportunities and fair treatment, and will not discriminate with respect to all aspects of the employment relationship, including recruitment and hiring, job assignment, compensation (including wages and benefits), Working conditions and terms of employment, including reasonable adaptation of the workplace related to disabilities, access to training, promotion, termination of employment or retirement, and discipline. take measures to prevent and address harassment, including sexual harassment, bullying, intimidation and/or exploitation.</p>			
7	<p>Worker accommodation: Where a client provides accommodation for workers, the accommodation shall be appropriate for its location and be clean, safe and, at a minimum, meet the basic needs of workers. In particular, the provision of accommodation shall meet good international industry practice. Workers' freedom of movement to and from the employer-provided</p>	2.6	<p>Worker accommodation camps are developed in line with IFC/EBRD Workers' accommodation standards. In addition, the Engineer has carried out regular monitoring as per the National Legislation and in compliance with EBRD PR2 and Worker accommodation guidance. As a result of monitoring carried out by the Engineer, non conformities for some items were documented. However, no evidence was observed as to how these non conformities have been closed.</p>	<p>The Engineer should provide evidences showing how the non-conformities have been closed/addressed</p>

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	accommodation shall not be unreasonably restricted.			
8	<p>Grievance mechanism: The client will provide an effective grievance mechanism for workers (and their organisations, where they exist) to raise workplace concerns. The client will inform the workers of the grievance mechanism at the time of hiring, and make it easily accessible to them. The mechanism should involve an appropriate level of management and address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned, without any retribution. The mechanism should also allow for confidential complaints to be raised and addressed. The mechanism should not impede access to other judicial or administrative remedies that might be available under law or through existing arbitration or mediation procedures, nor should it substitute for grievance mechanisms</p>	2.7	Complaint boxes have been placed in all buildings in the construction site. No grievance record has been received throughout the construction phase.	<p>The Contractor could prepare a tool box talk regarding the grievance mechanism of employees, and develop methods for encouraging the employees to use the system. However, this is a cultural behaviour driven issue and not likely to change drastically.</p>

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	provided through workers unions or collective agreements.			
9	<p>Security personnel requirements: When the client retains employees or Contractors to provide security to safeguard its personnel and property, it will agree a standard of practice and behaviour for the security personnel, guided by the principle of proportionality and GIP in terms of hiring, rules of conduct, training, equipping and monitoring of such personnel. The client will make reasonable inquiries to satisfy itself that those providing security services are not implicated in past abuses, will ensure they are trained adequately in the use of force (and where applicable, firearms) and appropriate conduct towards workers and the local community, and require them to act within the applicable law. The client will not sanction any use of force except when used for preventive and defensive purposes in proportion to the nature and extent of the threat. The client will establish and maintain</p>	2.9	<p>The security service of the project is provided by a private security company. The security personnel employed in the project have "Private Security Identity Card". The training provided in order for the mentioned identity card includes the matters such as communication, crowd management, conflict management, etc. The security personnel undergo a detailed history registration and criminal record inquiry.</p>	<p>The Contractor could prepare a Toolbox-Talks on community grievance management and communication for the security personnel.</p>

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	an effective grievance mechanism to allow the affected community and workers to express concerns about the security arrangements and actions of security personnel, and will inform communities and workers of the availability and use of the grievance mechanisms, in accordance with this PR and PR 10.			
PR 3: Resource Efficiency and Pollution Prevention and Control				
10	Waste is treated and disposed in an environmentally sound manner.	3.3	Some waste hydraulic oil drums are stacked, and it increases the risk of spillage. No secondary containment is observed within the hazardous waste storage area. As the storage areas are very small, wastes are stored tightly and some wastes are located out of the storage area. In the annual environmental and social report shared with EBRD, the waste types and amounts include only the main Contractor's wastes. However, the project wastes include both the main Contractor and SubContractors. Also, waste oils are not reported, too.	The main Contractor should perform audit/controls to the waste storage areas periodically and ensures that the storage areas are in line with the criteria defined in the management plan. The Contractor should ensure that hazardous waste storage areas are provided with proper secondary containment. All wastes should be reported.
11	Appropriate risk management measures should be taken to minimize or control the release of hazardous substances/materials	3.5	Hazardous materials are stored with hazardous wastes. Also, there is no categorization for storage of hazardous materials due to their properties like flammable, toxic etc.	Hazardous chemicals that are flammable, toxic, explosive etc. should be separately stored in proper designated

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	into air, water and/or land resulting from their production, transportation, handling, storage, use and disposal relating to project activities.		No spill response kits were observed on site.	areas with appropriate measures (i.e. fire extinguishers, SDS forms). In order to minimize any potential impacts of spills from hazardous material storage drums/tanks; spill kits are recommended to be placed near storage tanks. So that, during loading from trucks etc., barriers and absorbents are ready for a spill response.
12	<p>Clients will structure the projects to meet relevant EU substantive environmental standards, where these can be applied at the project level.</p> <p>Where no EU substantive environmental standards at project level exist, the client will identify, in agreement with the EBRD, other appropriate environmental standards in accordance with GIP. In addition, projects will be designed to comply with applicable national law and will be maintained and operated in accordance with national laws and regulatory requirements.</p>	3.2	<p>As of the writing of this report, two analyses of wastewater were conducted in April and November 2019 for all construction sites. The first analyses results are in line with the limits. However, the second analyses results showed pH and TSS were above the limits. No action has been taken to reduce the pH and TSS.</p> <p>Oil water separators have not been installed as reported in the latest ESAP.</p> <p>Also, daily, weekly inspections are planned. But any documentary related with these inspections are not observed.</p>	<p>Oil-water separators should be installed to the underground wastewater settlement basins since the connection to sewer requires such pretreatment. Actions should be taken to reduce pH and TSS in wastewater before it is discharged into sewer system.</p> <p>Perform wastewater monitoring as required by the authority (tri-annual). For the parameter results above the limits, perform another monitoring and assess the results.</p> <p>If they are also above the limits, take the necessary actions described by the environmental consultant.</p> <p>Prepare a form for daily/weekly inspections and record the observations and corrective actions.</p>
➤ PR 4: Health and Safety				

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
13	The client will identify and assess major-accident hazards, and will take all measures necessary to prevent major accidents or limit their adverse impacts on workers, affected communities and the environment, with a view to ensuring high levels of protection to people and the environment in a consistent and effective manner.	4.1, 4.3	In ESDD, it is noted to monitor and analyse the public road accidents related to the construction activities. However, no road accidents have been occurred/reported to date in the accident statistics.	Include road accidents in the accident statistics of the project.
14	The client will provide workers and affected communities with relevant information, guidance and training relating to health and safety hazards, risks, protective and preventive measures and emergency arrangements that are necessary for their safety throughout the project.	4.5	A Lockout/Tagout program has been developed by the Contractor. There is no information available if proper locks are provided for different energy sources or if implementation practices are in place. In addition, review of documents indicates that a LOTO training plan was prepared in February 2020, stating that proper training will be provided to the given to the authorized personnel in 20 April 2020. It is not clear if the training is provided.	Proper locks should be provided for different energy sources and implementation should be in place and documented. Also, if the training is provided, records should be kept and if not, provide the training.
15	Where there are specific risks associated with certain work activities that could result in adverse effects on the health and safety of workers with sensitivities such as age, gender, disability or short- or long-term health conditions, the client will carry out a risk	4.6	A Risk Assessment study was prepared to identify work activity risks applicable to the operations. Although some of the risks were defined as unacceptable, the existing situation of the risks are defined as appropriate and there is no residual risk calculated. However, it is not clear how the actions are monitored and completed.	It is recommended that the risk assessment is reviewed and corrective actions are taken/monitored to minimize the risks associated with the activity. The risk assessment should also be reviewed/updated when there is a change in process, i.e. when new equipment is purchased, when there is a change of the system, when there is an accident,

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	assessment and make adjustments to prevent injury and ill health		Considering the truck movement activity due to the nature of the site, ESDD required from the Contractor the development of road safety policy, practices, and procedures to include a defensive anti-rollover and antiskid training program for own drivers and concrete mixer supplier drivers. It was noted that defensive anti-rollover and antiskid training is not included in the training program.	and when there is a non-routine work (i.e. construction or maintenance). Implement a road safety policy, practices and procedures to include a defensive, anti-rollover and antiskid driving training program for own drivers and concrete mixer supplier drivers.
16	The client will establish, as appropriate, an overarching policy defining the environmental and social objectives and principles that enable the project to achieve sound environmental and social performance. The policy will provide a framework for the environmental and social assessment and management process consistent with the principles of the PRs.	4.2	The Engineer, who is the controller on behalf of IMM, has developed an Occupational Health and Safety (OHS) Policy. However, there is no OHS Policy for operation phase, which should be developed by IM.	IM to develop an Occupational Health and Safety (OHS) Policy for the operation phase.
17	The client will provide workers and affected communities with relevant information, guidance and training relating to health and safety hazards, risks, protective and preventive measures and emergency arrangements that are necessary for their safety throughout for the project.	4.1	According to the Occupational Health, Safety and Environmental Management Plan, toolbox talks, covering work method, associated risks and precautions, should be conducted by the team leaders daily prior to start of work. The toolbox talks should be documented and should be handed over to Contractor OHS team during the day. However, no such documentation observed.	Ensure that toolbox talks are conducted and the records are kept.

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
18	The client will monitor the health of its workers and consult and encourage the workers to participate in matters related to health and safety in the workplace.	4.4	Workplace monitoring (noise, dust, vibration, illumination, thermal comfort) was conducted at several workplaces for SubContractors. Results indicates generally the measured levels are below the regulatory limits, except full-body vibration measured at a worker working with loader. It was reported above the exposure action limit (the value that requires controlling the risks) but below the exposure limit value (employees should never be exposed to vibration above this value). Reportedly, the loader is currently not being used, however, it is not clear if any mitigation measures are taken.	Ensure that all the workplace monitoring reports are evaluated, mitigation measures are implemented and monitoring is repeated to confirm that the improvements are adequate.
19	The client will be prepared to respond to incidents, accidents and emergency situations in a manner appropriate to the operational risks related to the project and the need to prevent or minimise their potential adverse impacts and in accordance with regulatory applicable requirements.	4.7	In ESAP, it is recommended that an emergency preparedness procedure and plan which includes a worst-case scenario (e.g. serious damage of the construction during an earthquake; one of the critical processes is out of use or interrupted due to landslide; collapse of a construction retaining wall; and groundwater ingress during metro line extension project), is prepared. An emergency response plan is prepared and implemented. Generic risks ie. fire, earthquake, flooding, etc. are included in the plan. Worst-case scenario for fire	It is recommended that worst case scenario for an earthquake and collapse of a construction retaining wall during metro line extension project are to be tested. Training should be provided to the workers for these worst-case scenarios.

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
			was tested and a training on how to react in the event of a worst-case scenario was provided.	
20	The client will provide workers and affected communities with relevant information, guidance and training relating to health and safety hazards, risks, protective and preventive measures and emergency arrangements that are necessary for their safety throughout the project.	4.2	In ESDD, development of a professional safety site behaviour training program for the OHS team is considered necessary as it was noted that the IMM control engineers were not fully aware of appropriate safety behaviour in construction sites. However, such training program could not be observed.	It is recommended that IMM develops a professional safety site behaviour training program for the members of the audit team of the Engineer.
21	Third-party life and fire safety audits should be undertaken both for existing buildings, which are used for communal purposes, and for new buildings prior to their commissioning or use.	4.10	The ESDD required a complete life and fire safety review of the Project components (metro line, tunnels, stations) by competent fire experts.	Implementation due date to be determined by EBRD.
PR 5: Land Acquisition, Involuntary Resettlement and Economic Displacement				
22	Consultation: From the earliest stages and through all resettlement activities the client will involve affected men and women, including host communities. This will facilitate their early and informed participation in decision-making	5.1	Temporary physical replacement is done. 9 flats and 1 warehouse (totally 24 people and 1 tradesman are affected) in three buildings near Narlıdere Station construction site has been temporarily moved to the new flats. The moving process was managed by IMM and all related costs was covered by the contractor. PAPs have	The conditions of the PAPs should be closely monitored, and consultations be conducted, and should be documented by IMM

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	<p>processes related to resettlement, and in PR 10: affected persons shall be given the opportunity to participate in the eligibility requirements, negotiation of the compensation packages, resettlement assistance, suitability of proposed resettlement sites and proposed timing additional requirements apply to consultations which involve Indigenous Peoples (as provided in PR 7) as well as individuals belonging to vulnerable groups consultation will continue during the implementation, monitoring and evaluation of compensation payment and resettlement so as to achieve outcomes that are consistent with the objectives of this PR.</p>		<p>provided no grievances so far, and IMM keeps regular communication with the families.</p>	
23	<p>Information disclosure: Disclosure of relevant project information helps stakeholders understand the risks, impacts and opportunities of the project. If communities may be affected by adverse environmental or social impacts from the</p>	10.1	<p>Sufficient information and NTS regarding the impacts of the project has been uploaded to the project website (http://www.izmirmetroinsaati.com).</p>	<p>IMM and the Contractor to continue to inform the communities directly affected by the project in particular and other stakeholders of the ongoing impacts of the project, design changes and the measures taken, and develop appropriate methods for consultation and engagement. All these consultations to be documented.</p>

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	<p>project, the client will provide them with access to the following information (the Information):</p> <ul style="list-style-type: none"> • the purpose, nature, scale and duration of the project activities • risks to, and potential impacts on, stakeholders and proposed mitigation plans • the envisaged stakeholder engagement process, if any, and opportunities and ways in which the public can participate • the time and venue of any envisaged public consultation meetings, and the process by which meetings are notified, summarised and reported • the process by which any grievances will be managed. 			
24	<p>Grievance mechanism: The client will establish an effective grievance mechanism as early as possible in the process. It will be consistent with this PR and with the objectives and principles of PR 10 in order to receive and address in a timely fashion specific concerns about</p>	10.2	<p>The grievance management of the project is conducted by the HIM (Hometown Society Communication Centre) that is owned by IMM. HIM contact information is provided on the websites of IMM/HIM and on the posters at the construction sites.</p>	<p>IMM to continue to inform regularly the communities directly affected from the project in particular and all other stakeholders of the grievance management of the project with appropriate methods.</p>

No	EBRD Requirement	ESAP Ref.	Gaps Identified	Recommendations
	<p>compensation and relocation that are raised by displaced persons and/or members of host communities. It will include a recourse mechanism designed to resolve disputes in an impartial manner.</p>		<p>A sufficient information and consultation study about grievance mechanism has been executed with external stakeholders prior to and during construction activities; however, no regular reporting/documentation has been prepared.</p> <p>HIM is a well-functioning system that is known and used by the city dwellers.</p>	

Annex A List of Documents Reviewed

#	Document Title	Date	Issued By	Reference
1	Non-Technical Summary	3/2018		
2	Stakeholder Engagement Plan	3/2018	Izmir Metropolitan Municipality (IMM) and Izmir Metro A.Ş. (IM) (prepared by ACE Consulting and Engineering)	
3	Environmental and Social Due Diligence Report	7/3/2018	ACE Consulting and Engineering	
4	Monthly Progress Reports by the Engineer	7/2018-3/2020	UBM	
5	Annual Environmental and Social Report	30/4/2020	Contractor	
6	Annual Environmental and Social Report	22/2/2019	Contractor	
7	Occupational Health, Safety and Environment Plan	7/2018	Contractor	Attach-1
8	Environment and Occupational Health and Safety Organization Plan	12/2/2019	Contractor	Attach-2
9	Environment and Occupational Health and Safety Organization Chart	21/4/2020	Contractor	Attach-111
10	EHS Organization Structure	-	IMM	Attach-3
11	Air Quality Management Plan	13/2/2019	Contractor	Attach-6
12	Noise and Vibration Management Plan	15/2/2019	Contractor	Attach-7
13	Air Quality Report	3/7/2019	Envon Çevre Danışmanlık	Attach-102
14	Personal Exposure Measurement for Dust (Shaft 6)	6/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
15	Personal Exposure Measurement for Dust (Shaft 5)	6/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
16	Occupational Hygiene Measurement and Analysis Report covering Indoor Noise, Illumination, Thermal Comfort	11/4/2019	Kare Ölçüm ve Analiz Laboratuvarı	Attach-4

#	Document Title	Date	Issued By	Reference
	and Personnel Exposure for Dust (Shaft 4)			
17	Illumination Measurement Report (Shaft 6)	5/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
18	Illumination Measurement Report (Shaft 6)	6/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
19	Indoor Noise Measurement Report (Shaft 6)	5/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
20	Indoor Noise Measurement Report (Shaft 5)	6/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
21	Personal Exposure Measurement for Moise (Shaft 6)	5/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
22	Personal Exposure Measurement for Noise (Shaft 5)	6/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
23	Thermal Comfort Measurement report (Shaft 6)	6/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
24	Thermal Comfort Measurement report (Shaft 5)	6/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
25	Thermal Comfort Measurement report (Shaft 4)	30/10/2019	Mavi Beyaz	Attach-4
26	Personal Exposure Measurement for Vibration (Shaft 6)	6/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
27	Personal Exposure Measurement for Vibration (Shaft 5)	6/12/2019	Denet Test ve Analiz Laboratuvarı	Attach-4
28	Approved Traffic Circulation Projects	2019		Attach-8
29	Traffic Management Plan	15/2/2019	Contractor	Attach-9
30	Waste Management Plan	15/2/2019	Contractor	Attach-10
31	Hazardous Material Management Plan	15/2/2019	Contractor	Attach-11
32	Surface Water Management Plan	15/2/2019	Contractor	Attach-12
33	Chance Find Procedure	15/2/2019	Contractor	Attach-13
34	Social Management Plan	1/4/2019	Contractor	Attach-20

#	Document Title	Date	Issued By	Reference
35	Contractor Management Plan	-	Engineer	Attach-14
36	SubContractor Management Plan	15/2/2019	Consultant	Attach-16
37	First Fatal Accident Report	-	Consultant	Attach-109
38	Second Fatal Accident Report	-	Consultant	Attach-110
39	Monthly EHS and Social Monitoring Records	7/2018-1/2020	IMM	Attach-15
40	EHS and Social Audit Records	7/2018-12/2019	Engineer	Attach-77
41	Procedure for Creating a Purchase Request in ERP System	15/2/2019	Contractor	Attach-17 Attach-18
42	Procedure for Creating a Supplier Card and Supplier Selection & Assessment in ERP System	15/2/2019	Contractor	Attach-19
43	Environmental and Social Action Plan Audits and Correspondences	5/4/2019, 1/4/2019	Engineer/Contractor	Attach-99
44	Human Resources Procedure	1/4/2019	Contractor	Attach-09
45	Employee Handbook	-	Contractor	Attach-10
46	An Example of Receipt of Employee Handbook	30/12/2019	Contractor	Attach-88
47	Employee Contract Template for Indefinite Period	-	-	Attach-22
48	HSE Records and Health Survey of Workers	-	Contractor Employee	Attach-23
49	Time Recording System	1/2020	-	Attach-24
50	An example of Signed Employee Contract	17/3/2020	Contractor	Attach-21
51	Organization Chart of Human Resources Team	1/4/2018	Contractor	Attach-25
52	Work Permit for Foreign Workers	-	Contractor Employee	Attach-26
53	Quarterly Independent Labour Audit	4/2020	Engineer	Attach-27

#	Document Title	Date	Issued By	Reference
54	Proof of Social Security Premium Payments	13/4/2020	Turkish Revenue Administration	Attach-79
57	Camp Management Plan	15/2/2019	Contractor	Attach-30
58	Regular Control Forms	6/11/2019	Contractor	Attach-31
59	Photos of Suggestion Boxes Posted at Construction Sites			Attach-32
60	IMM's Instruction to the Engineer Regarding Retrenchment	13/2/2019	IMM	Attach-80
61	Example Training Record for Security Personnel	9/2019	Tetkik OSGB	Attach-33
62	Waste Consignment Notes	30/1/2020	Izbeton	Attach-34
63	Water and Wastewater Subscription Agreement	-	Izmir Water and Sewage Administration	Attach-36
64	Cross Sections showing the Creeks and Metro Line	-	-	Attach-37
65	Environmental Impact Assessment (EIA) not Required Certificate	29/6/2016	Izmir Provincial Directorate of Environment and Urbanization	Attach-38
66	Project Description File	6/2016	IMM	Attach-39
67	Soil Investigation Report	30/5/2019	Envon Çevre Danışmanlık	Attach-103
68	Engineer's Confirmation to Soil Investigation Report and Wastewater Analysis Report	16/6/2019	Engineer	Attach-104
69	Wastewater Analysis Results	22/4/2019	Envon Çevre Danışmanlık	Attach-105
70	Wastewater Analysis Results	6/11/2019	Envon Çevre Danışmanlık	Attach-106
71	Photos of Waste Storage Areas	-	-	Attach-41
72	Hazardous Material and Hazardous Waste Compulsory Liability Insurance	09/4/2020	Allianz	Attach-42
73	Waste Declaration records	9/4/2020	Contractor	Attach-90
74	Waste Disposal Records	13/12/2019	Envon Çevre Danışmanlık	Attach-43
75	Photos of Secondary Containment	-	-	Attach-44
76	Material Safety Data Sheets	-	-	Attach-45

#	Document Title	Date	Issued By	Reference
77	SubContractor's Declaration for Disposal of Hazardous Wastes	5/3/2019	Soner Temel Mühendislik	Attach-81
78	Photos of Hazardous Waste Temporary Storage Areas	-	-	Attach-83
79	Site Layout Showing the Hazardous Waste Storage Areas	-	-	Attach-84
80	Capacity Calculation of Secondary Containment	6/3/2019	Contractor	Attach-85
81	Insulation Oil Test Report	26/9/2019	Eltaş Transformatör	Attach-112
82	Insulation Oil Test Report	6/11/2018	Eltaş Transformatör	Attach-113
83	Insulation Oil Test Report	24/9//2019	Eltaş Transformatör	Attach-114
84	Transformer Oil Gradual Shutdown Plan	15/2/2019	Contractor	Attach-46
85	Restriction Plan for the Use of R-22 Type Refrigerants	15/2/2019	Contractor	Attach-47
86	Confirmation Letter from the Designer Regarding the Retail Gas Stations	14/2/2019	Prota Mühendislik	Attach-48
87	Layouts and Cross Sections Showing Retail Gas Stations	-	Contractor	Attach-49
88	Soil Investigation Report	30/5/2019	Envon Çevre Danışmanlık	Attach-116
89	Soil Investigation Report	25/9/2019	Envon Çevre Danışmanlık	Attach-117
90	Risk Assessment Report	29/11/2019	Contractor	Attach-50
91	OHS Training Records (example)	12/2019	Contractor	Attach-51
92	Emergency Response Plan	15/2/2019	Contractor	Attach-63
93	IMM's Monthly Inspection Report	7/2018-2/2020	IMM	Attach-54
94	OHS Performance Monthly Monitoring Reports	7/2018-2/2020	Contractor	Attach-55
95	OHS Policy	-	Engineer	Attach-52
96	Training Records for Work at Height	27/12/2019	Soner Temel Mühendislik	Attach-56
97	Photos of First Aid Kits	1/2020		Attach-92

#	Document Title	Date	Issued By	Reference
98	Lockout/Tagout (LOTO) Program Plan	15/2/2019	Contractor	Attach-57
99	LOTO Training Plans	3/2/2020	Contractor	Attach-93
100	Identified non-conformities at the construction sites	various	Engineer	Attach-58
101	Example Training Record for Safe Driving	20/3/2020	Sancak iş Güvenliği	Attach-59
102	Photos of Safety Measures taken at the Construction Sites	22/4/2020	-	Attach-60
103	Personnel ID Card (Example)	-	-	Attach-61
104	Accident Report	29/1/2019		Attach-62
105	Driver Certificates	-	-	Attach-94
106	Fire Drill	12/12/2019	Tekiz OSGB	Attach-64
107	Photos Showing Road Signs in Place	4/2/2020	-	Attach-66
108	Metro Tunnels Design Evaluation Report	13/11/2018	Engineer	Attach-67
109	Correspondences to Municipalities and Headman	13/8/2018, 8/6/2018	IMM	Attach-68, Attach-69
110	AECOM's Confirmations to AIIB	-	-	Attach-121
111	IMM's Confirmation on Design Changes	-	-	Attach-122
112	Building Inspection Report	1/2019	COA ARGE	Attach-70
113	Information Published at IMM website	various	-	Attach-71
114	Website links	-	-	Attach-72
115	Complaints and Suggestions	various	IMM	Attach-98
116	Grievance Management Plan	15/2/2019	Contractor	Attach-18
117	Official website of IMM's Call Centre for Grievance	-	IMM	Attach-74
118	Contact Information for IMM's Call Centre for Grievance	-	-	Attach-75

#	Document Title	Date	Issued By	Reference
119	Photos Showing Project Contact Information	-	-	Attach-95
120	Stakeholder Registry	-	-	
121	Quarterly Progress Reports	5/2018-3/2020	AECOM	
122	Inception Report	16/3/2018	AECOM	
123	Industrial Waste Management Plan		IM	
124	Industrial Waste Management Plant Conformity Letter	27/4/2019	Izmir Provincial Directorate of Environment and Urbanization	
125	Environmental Aspects and Impacts Procedure	31/5/2018	IM	
126	Construction sites and camp photos*		Contractor	Attach 27 to 34
127	Sample GRM Form		IMM HIM	Attach 35

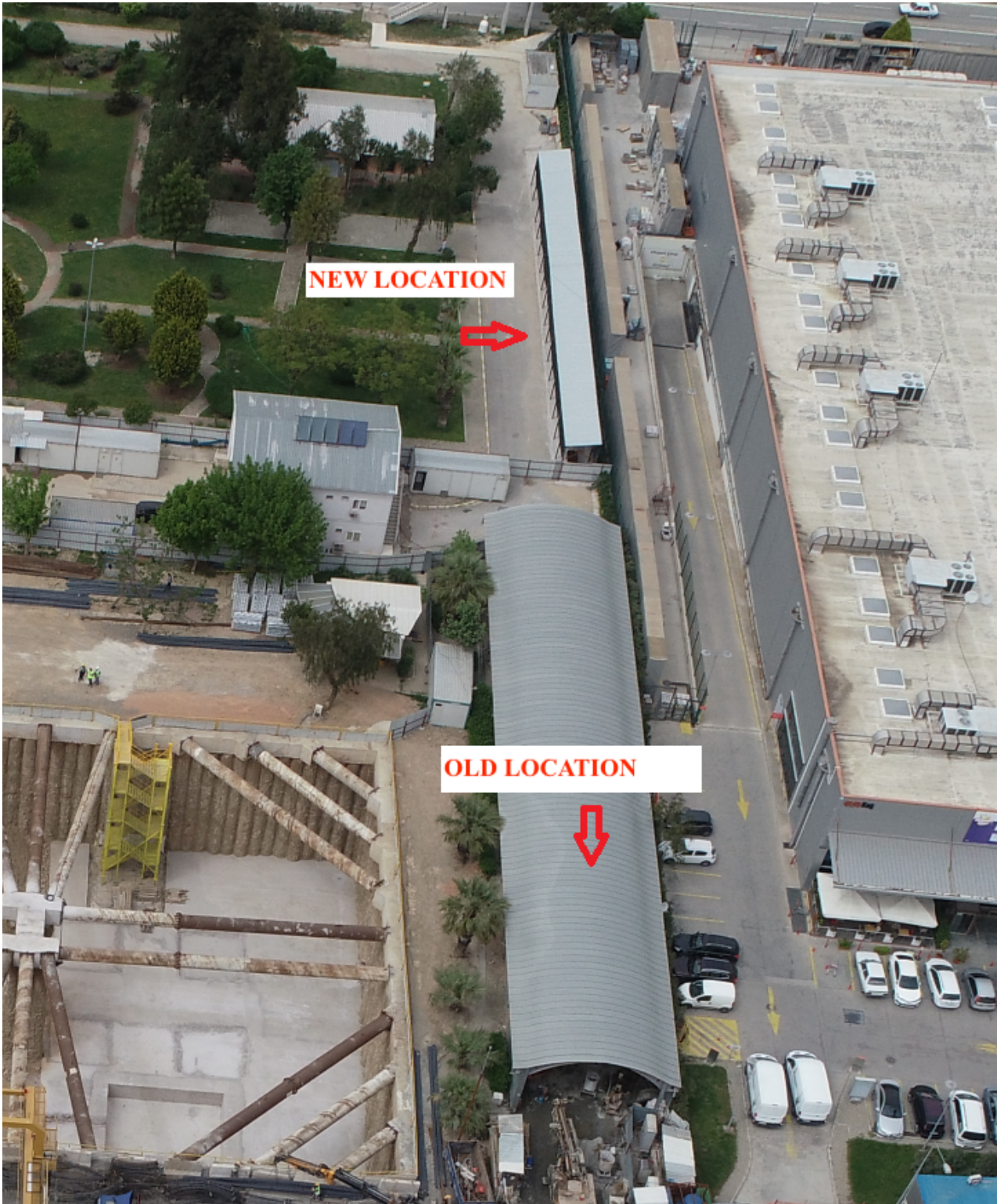
Annex B Expenses for the Flats

KOD	TEDARİKÇİ	SÖZLEŞME TARİHİ	SÖZLEŞME BEDELİ	Depozito	Emlak Ücreti	Aralık 2019	Ocak 2020	Şubat 2020	Mart 2020	Nisan 2020
STR107533	GÖKHAN TEKÜN	16/11/2019	4.000,00	4.000,00	4.000,00	5.000,00	5.000,00	5.000,00	5.000,00	5.000,00
STR107534	YILDIZ TONAK	16/11/2019	2.200,00	2.200,00	2.200,00	2.750,00	2.750,00	2.750,00	2.750,00	2.750,00
STR107637	ALİ RIZA ŞENGÜL	16/12/2019	3.750,00	3.750,00	3.750,00	4.687,50	4.687,50	4.687,50	4.687,50	4.687,50
STR107639	FIYAP MİM.MÜHN.YAPI TAAH.A.Ş	17/12/2019	3.500,00	3.500,00	3.500,00	4.375,00	4.375,00	4.375,00	4.375,00	4.375,00
STR107647	TAMER ÖZDEMİR	17/12/2019	4.600,00	4.600,00	4.600,00	5.750,00	5.750,00	5.750,00	5.750,00	5.750,00
STR107651	SİNAN ARACI - NİLÜFER ÇEVİK	18/12/2019	3.250,00	3.250,00	3.250,00	4.062,50	4.062,50	4.062,50	4.062,50	4.062,50
STR108242	ZUHAL BENZER	21/12/2019	4.750,00	4.750,00	4.750,00	5.937,50	5.937,50	5.937,50	5.937,50	5.937,50
STR108250	GÜLSEN BAKAR	23/12/2019	1.500,00	1.500,00	1.500,00	1.875,00	1.875,00	1.875,00	1.875,00	1.875,00
STR108249	ALP ACAR	01/01/2020	2.800,00	2.800,00	2.800,00	0,00	4.200,00	4.200,00	4.200,00	4.200,00
STR108647	AYŞE UĞUR KIZILHİSAR	27/03/2020	3.500,00	3.500,00	3.000,00	0,00	0,00	0,00	0,00	4.375,00
TOPLAM						34.437,50	38.637,50	38.637,50	38.637,50	43.012,50
ALTOPLAM						193.362,50				

Annex C List of Affected People

NAME SURNAME	ADDRESS	NEIGHBORHOOD	DISTRCT / CITY	AGREEMENT
REMZİ YÜKSEL	DENİZ APT.	YENİKALE MAHALLESİ	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION
SERKAN GÜNAY	GÜVEN APT.	ILICA MAHALLESİ	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION
SERDAL DURUKAN	SEMA SOK NO:30, KAT:3, DAİRE:5	YENİKALE MAHALLESİ	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION
EMİNE KARAGÖZOĞLU	YENİKALE SİTESİ, NO:14/A D:2	YENİKALE MAHALLESİ	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION
BİRKAN BALKAN	YENİKALE SİTESİ A BLOK, NO:14/33	YENİKALE MAHALLESİ	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION
OSMAN BAYDAR	NARBEL SİTESİ B BLOK, NO:33, D:20	YENİKALE MAHALLESİ	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION
SİNEM ATA	ŞAHİN APT., B BLOK, KAT:4, D:4	YENİKALE MAHALLESİ	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION
GÜLSEN BAKAR	DEPO	ÇATALKAYA MAH.	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION
HÜSEYİN DURAN	SÜTÇÜLER CADDESİ NO:82, KAT:2, DAİRE:6	YENİKALE MAHALLESİ	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION
MÜRŞİDE LAYIK	BURAK SOK. NO:3 /8	YENİKALE MAHALLESİ	NARLIDERE/İZMİR	THE 1-YEAR RENTAL AGREEMENT HAS BEEN MADE AND THE CONTRACT MIGHT BE EXTENDED OR SHORTENED ACCORDING TO THE WORKING CONDITION

Annex D The Organic Products Marketplace Old/New Locations



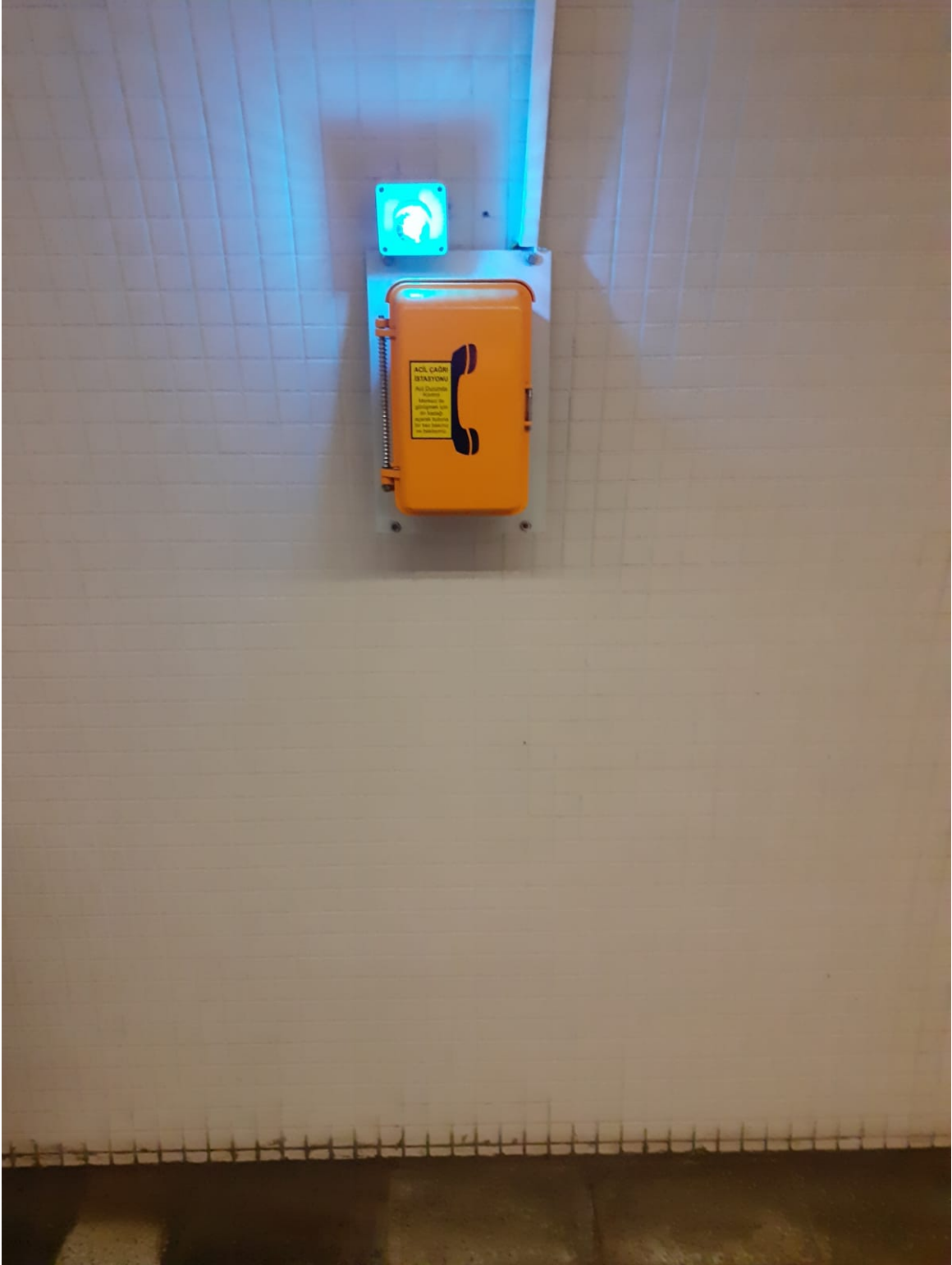
NEW LOCATION



OLD LOCATION

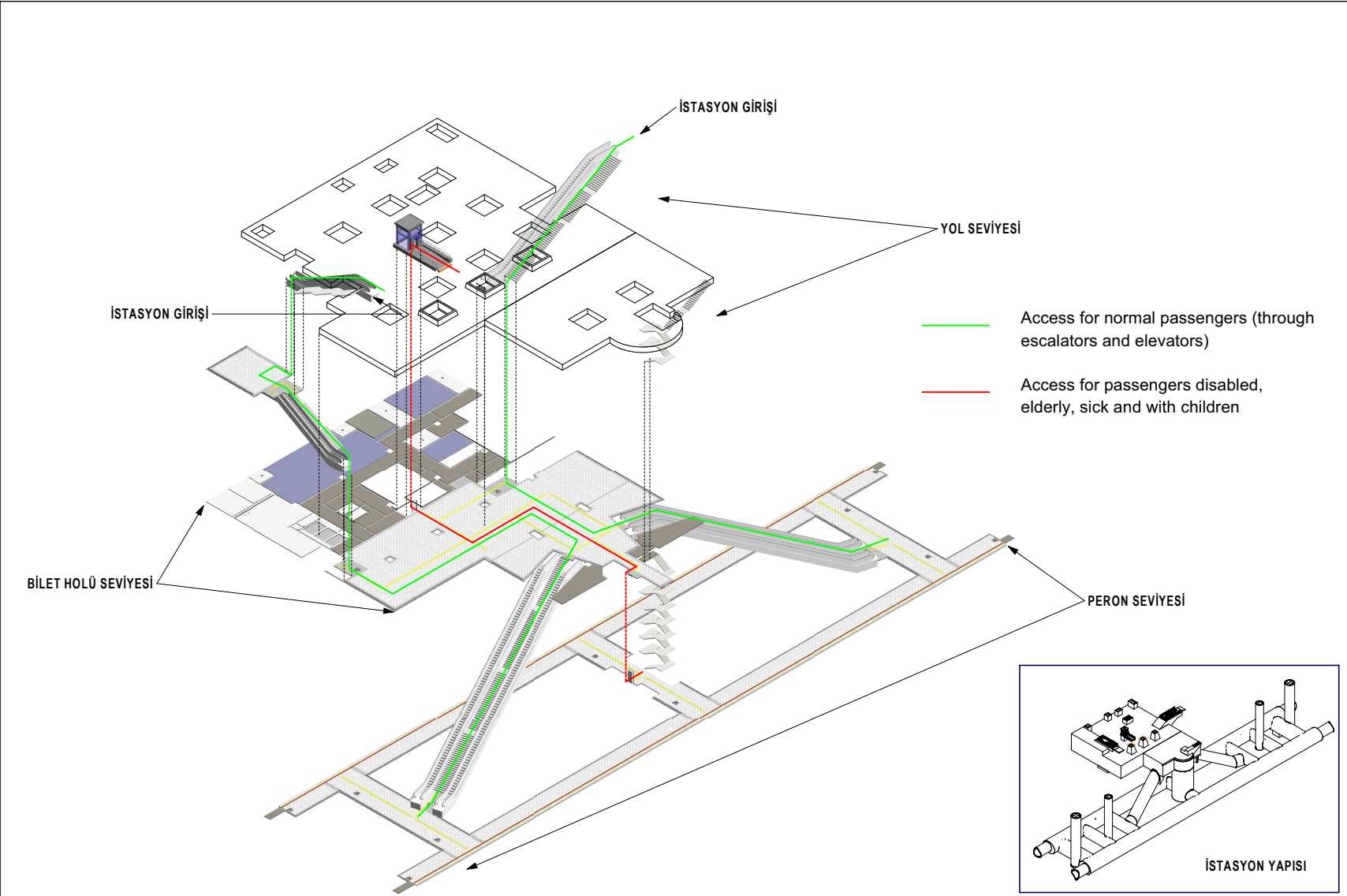


Annex E Station Design for Disabled People









Annex F Orthophotos of Stations

1. BALÇOVA STATION



2. ÇAĞDAŞ STATION



3. DEU HOSPITAL STATION



4. GÜZEL SANATLAR STATION



5. NARLIDERE STATION



6. ŞEHİTLİK STATION



7. KAYMAKAMLIK STATION



