MOTT MACDONALD

Antalya Airport Expansion Project

Non-technical Summary

November 2022

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1 Introduction

1.1 Background

This document is a non-technical summary (NTS) of the Environmental and Social Impact Assessment (ESIA) for the Terminal Expansion Works at the Antalya Airport ("the Project") located in Antalya province in the south of Türkiye.

The Project has been prepared based on the General Directorate of State Airports Authority's (DHMI) Master Plan for Antalya Airport ("AYT"). The Sponsors (Fraport AG Frankfurt Airport Services Worldwide ("Fraport") and TAV Havalimanlari Holding A.S. "TAV") were awarded in 2021 a 25-year concession for the operation of Antalya Airport between 2027 and 2051 by the Turkish State Airports Authority ("DHMI") to enable an increase in the capacity of Antalya Airport. .

Within the scope of the Project, which will be realized using the financing provided under a "bridge loan" until Q1 2024 from the European Bank for Reconstruction and Development (the "EBRD"), International Financial Corporation ("IFC") and Asian Infrastructure Investment Bank (AIIB), jointly "the Lenders" the following infrastructure will be built:

- cargo,
- general aviation terminals,
- multi-storey car park with roof heliport
- hangar areas
- and extension of T2 and T4 passenger terminals
- VIP/CIP buildings will be moved.
- The largest part of Project consists of apron and taxiway areas due construction activities which will be executed over approximately 1.38 million m^2 total area.
- Furthermore, airport expansion will require some additional works such as establishment of energy transmission line and natural gas pipeline construction for new DHMI Buildings.
- Existing Fuel Farm will be demolished and a new one will be built at the new location within airport boundaries.

Mott MacDonald has been appointed by the Sponsors to undertake an Environmental and Social Impact Assessment (ESIA) to determine the potential impacts, and subsequent effects of the proposed Project.

1.2 ESIA Objective and Requirements

The Project has been exempted from the requirements for a national Environmental Impact Assessment ("EIA"). The ESIA for the project to Lenders (EBRD and IFC) and national legal requirements was developed.

The objective of the ESIA is to identify and assess the severity of potential impacts on receptors and identified resources; develop and describe mitigation measures that will be taken to prevent or minimize any potential negative effects and maximize the potential benefits; and communicate the severity of residual impacts that will remain once the applied mitigation. The ESIA study has been conducted to meet the requirements of the following international standards:

- Applicable International Civil Aviation Organization (ICAO) requirements and guidelines
- EBRD Environmental and Social Policy and Performance Requirements (PR) (2019)
- European Commission Environmental Impact Assessment (EIA) Guidelines
- IFC Performance Standards (PSs) on Environmental and Social Sustainability (2012)
- IFC Sustainability Framework (updated in 2012)

- The Equator Principles: Environmental and Social Risk Management for Projects (2020)
- World Bank Group Environmental, Health, and Safety General Guidelines (EHS General Guidelines) (2007)
- World Bank Group Environmental, Health, and Safety Guidelines for Airports (2007)
- IFC Good Practice Handbook on the Use of Security Forces: Assessing and Managing Risks and Impacts (2017)
- Worker's accommodation: process and standards – Guidance Note by IFC and the EBRD (2009)
- IFC Good Practice Note: Managing Contractor's Environmental and Social Performance (2017)
- Addressing Gender-Based Violence and Harassment: Emerging Good Practice for the Private Sector (July,2020)
- UN Model Regulations on the Transport of Dangerous Goods, 2021

In addition to these standards, the Project must comply with Turkish environmental and social legislation. The relevant European Union (EU) Directives are also applicable to the Project as per the EBRD requirements.

1.3 Assessment Topics

The assessment has been broken down by topic to reflect the scope of the ESIA agreed with the project lenders. These topics are as follows:

- Water Quality, Hydrology and Hydrogeology
- Soils and Geology
- Climate Change
- Biodiversity
- Air Quality
- Greenhouse Gases
- Noise and Vibration
- Social and Occupational Health & Safety
- Cultural Heritage
- Waste and resources
- Traffic and transport
- Cumulative Effects

1.4 Timeline

The tasks undertaken to support this ESIA including baseline data collection, public consultation, detailed assessment as noted below:

- The detailed design phase commenced in January 2022.
- The national EIA exemption was secured in February 2022.
- ESIA Scoping of the Project prepared in July 2022 and August 2022.
- Primary ESIA baseline data collection July 2022 - September 2022.
- The public consultation phase August 2022 to December 2022.
- The disclosure of the final draft ESIA November 2022 to January 2023.

1.5 NTS Structure

The NTS is structured as follows:

Table 1-1: Report Structure

Section	Title
Section 1	Project Description
Section 2	Environmental and Social Impacts and Mitigations
Section 3	Project Environmental and Social Management System

2 Project Description

2.1 Project Overview

Need for the Project

Antalya is an important holiday city for domestic and international tourists with its 200 km coastline stretching from Kemer to Alanya. Antalya Airport (AYT) is serving the city, which is frequently preferred for summer tourism. Its total annual passenger volume, which was 17.7 million in 2007, increased to over 35 million in 2019. The Covid-19 Pandemic period, that affected the whole world in 2019, caused the airline traffic to stop and the annual passenger volume for 2020 to fall below 10 million. However, as a result of the re-normalization of air traffic in the global sense, the annual passenger volume is expected to rise again; in this context, the necessity of efforts to expand the airport's capacity emerges. In addition, according to the estimations of the Sponsors, it is expected to reach a total passenger capacity of 70 million consisting of 12 million domestic and 58 million international passengers by 2040. Within the scope of Phase 1 works to be carried out between 2022 and 2025, it is predicted that the current capacity of the airport will increase by 50%.

Project location and layout

AYT is located 3 km northeast to the Muratpaşa District Centre of Antalya Province with 13 km^2 area and surrounded by agricultural lands and settlements. The location detail of the airport is given in Figure 2-1.

Figure 2-1: Project Location

Source: Mott Macdonald

The proposed Project will be realized in the Antalya Airport which is currently operating and suitable for expansion works. Fields of activity within the scope of the Project such as expansion works on both sides of Terminal 2, new apron, construction of new cargo terminal, parking areas, supporting services facilities are given in Figure 2-2.

To facilitate the airport expansion and secure the land needed for new hangar area, including the new civil aviation and cargo terminals, 116.1 hectares (ha) of land south to the airport were

expropriated by DHMI and General Directorate for Infrastructure Investments between 2010 and 2017.

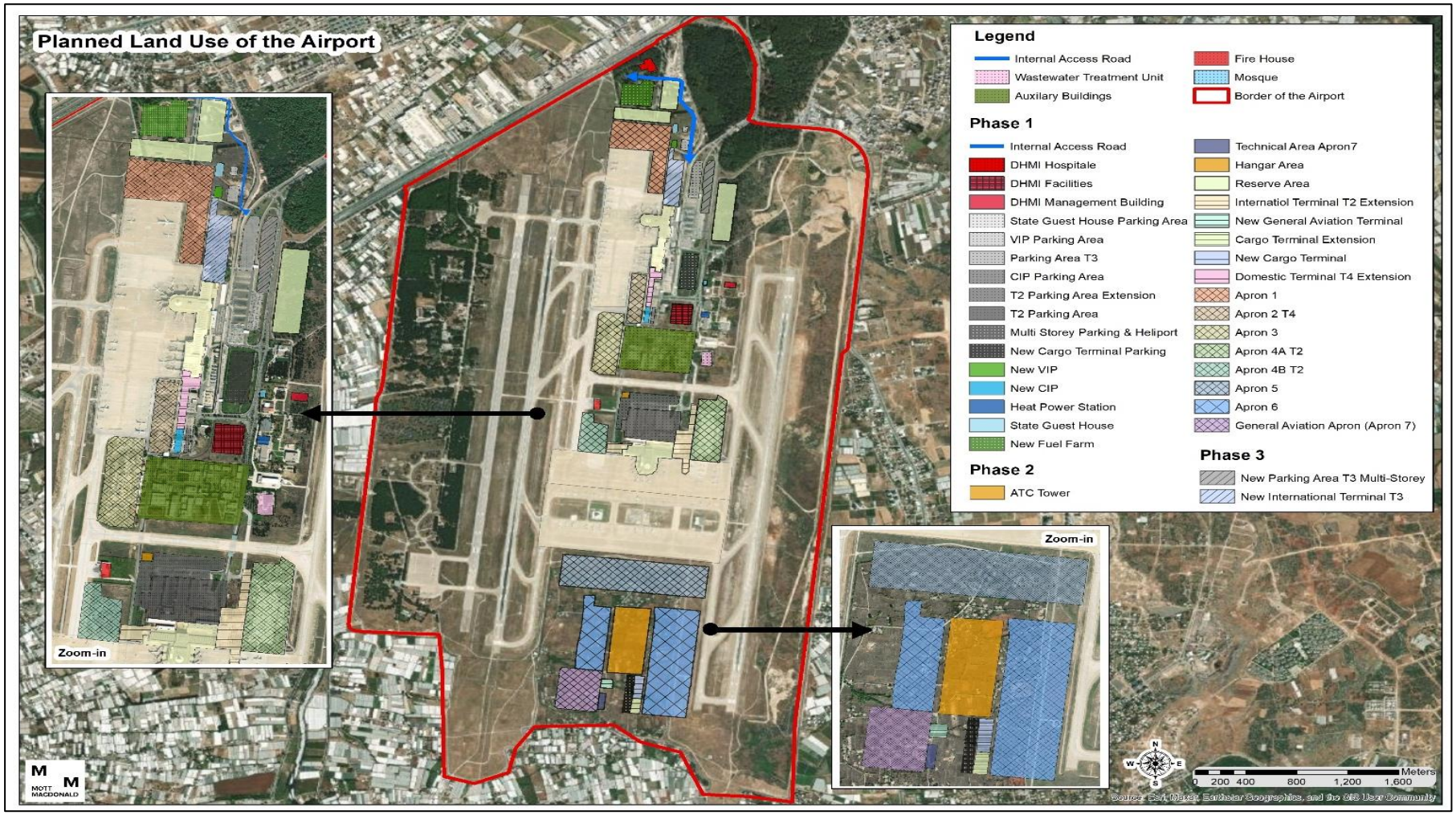

Figure 2-2: Aerial plan and land use of the Project

Source: Mott Macdonald

Some key points regarding the Project site and its vicinity are as follows:

- There are agricultural areas, urban development areas, housing areas, commercial areas, tourism areas in the area of 2 km around the airport.
  - To the north of the airport is the industrial zone where commercial activities are carried out.
  - To the east the airport is surrounded by semi-commercial areas, including buildings with 10-15 floors in some places, but mostly greenhouses and garden beds.
  - To the south and west of the airport the land is used for agricultural activities.
- A part of the Project site is located in the Antalya Plain, which is defined as Key Biodiversity Area (KBA). The Project footprint is entirely within the existing airport boundaries and the proportion of the KBA in which the Project footprint will overlap is 0.55%.
- The closest protected area to AYT is Kurşunlu Waterfall Natural Park, which is approximately 6.9 km away.

2.2 Project Components

Construction Phase

Extension of terminals: The Project generally aims to improve the capacity of the entire airport, as well as to provide superior service quality by constructing supporting services and additional buildings. In this context, one of the most important works to be carried out in the first phase is the development of Terminal 2 with the addition of new aprons. The buildings footprint will expand from 191,000 m^2 to 330,000 m^2. as a result of the works to be carried out until 2025. The T4 terminal, which serves for domestic passengers, is planned to expand to the south. In order to expand areas of the security, check-in and baggage reclaim sections will be located on the ground floor as part of the T4 expansion. The arrivals and departures sections on the upper floor will serve over five air bridges.

VIP & CIP Buildings: VIP and CIP terminals, that are both located south of the T4 terminal, are built on area of 700 m^2 and 1,400 m^2, respectively. It is aimed to increase the service quality as well as the capacity by replacing the VIP and CIP terminals together with state guesthouse on a total area of 6,000 m^2. Within the scope of the Project, new CIP terminal, will be built and be operational by 2025.

Solar Farm: Approximately %40 of ATY's energy demand is met by tri-generation (Combined Cooling Heat and Power (“CCHP”) facility) and cogeneration Combined Heat and Power (CHP) units. In order to meet a part of the energy demand up to 30 MW at peak hours, the use of solar energy is planned within the scope of the Project. Solar panels with capacity of 4MW are planned to be installed on the roof of T2 terminal at the end of the expansion activities.

Airside Aprons and Taxiways: As a result of the terminal expansions and the construction of new buildings to be realized within the scope of the Project, new apron areas are needed. Within the scope of Phase 1, apron development works will be carried out in a total area of 1,214,016 m^2, as well as taxiway development works will be carried out in a total area of 167,000 m^2. This will also include new hangars, civil aviation and cargo terminals.

Table 2-1: Project Components

Phase	Component	Minimum Area (m^2)
1	T4 Domestic Terminal Extension	38,000
	T4 Multi-storey Car Park with Roof Heliport	106,000
	T2 International Terminal Extension	130,000
	T2 Car Park Extension	45,000
	T2 Car Park Modification	60, 000

Phase	Component	Minimum Area (m^2)
	Cargo Terminal Development	13,000
	General Aviation Terminal Development	2,800
	Hangar Area Development	829,798
	T3 Car Park	18,000
	Ground Service Equipment Parking Area	19,700
	VIP/CIP Area Development	60,000
	Landscaping Works	39,200
	Fuel Farm Replacement (80,000 m^3)	
	Total Apron Area Development Works	1,214,016
	Total Taxiway Development Works	167,000
2	ATC Tower Replacement	10,000
3	T3 Terminal Development	70,000
	T3 Car Park Extension	46,000
	Fuel Farm Capacity Building (150,000 m^3)	

Auxiliary Facilities (Support Services): In addition to the elements previously mentioned above, the airport includes additional infrastructures and buildings which are currently used for the ongoing day to day operations at the airport. Capacity building or reconstruction works will be carried out in all supporting services facilities (components) listed below within the scope of the Project.

- DHMI Lodging – will be demolished and rebuilt in the north of the existing area.
- Office and Administrative Buildings of DHMI
- Mosque
- Hangars for Aircraft Maintenance and Cargo-handling Facilities
- Multi-Storey Car Park and Heliport
- Wastewater treatment plant
- Airside Temporary Waste Storage Area
- Natural gas pipeline - for the supply of natural gas to the new construction areas
- Energy Transmission Line and New Power Distribution Centre

Temporary Facilities: Two Concrete Batching Plants (CBP) will be constructed and operated for only construction period of the Project. Each CBP will have 130 m^3/h production capacity and total capacity will be 260 m^3/h. Project Introduction File was prepared and shared with Antalya Provincial Directorate of Environmental, Urbanisation and Climate Change. On 04.10.2022, EIA Not Required Decision for the CBPs was obtained from Antalya Provincial Directorate of Environmental, Urbanisation and Climate Change.

Associated Facilities: Associated facilities are defined by EBRD as facilities or activities that are not financed by Project Lenders as part of the project but which are significant in determining the success of the project or in producing agreed project outcomes. These are new facilities or activities: (i) without which the project would not be viable, and (ii) would not be constructed, expanded, carried out or planned to be constructed or carried out if the project did not exist. IFC defines Associated facilities as the facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable In line with these definitions, apart from the facilities described above, one additional facility is defined as associated facility for the Project, namely the new fuel farm.

- New fuel farm - The currently operating fuel farm will be demolished and a new one will be built by EPC Contractor within airport boundaries away from the apron areas and terminals for

service security. As a result of the construction and displacement activities to be carried out in the Phase I of the Project, Fuel Farm will reach a capacity of 80,000 m^3. The Fuel Farm will be located next to the DHMI's housing close to approximately 130 meters. In addition, the closest settlement to the new Fuel Farm is the industrial zone 300 m away from the north of the D400 highway. Since the storage capacity of new fuel farm will be 80,000m^3, which is above 50,000 m^3 that is the threshold value for national EIA requirement, a national EIA process has to be followed by FTA and DHMI.

Operation Phase

After the completion of the construction activities within the scope of the Project, all of the following facilities will be transferred to DHMI. In other words, nearly all main components and all supporting services facilities, excluding the cargo terminal, hangars and aprons, DHMI buildings and offices will continue to be operated by FTA until 2050.

- DHMI's Public Housing
- State Guest House
- DHMI Headquarters Building
- Hangars
- All Apron Areas
- Cargo Terminal
- Taxiways
- New Gates

2.3 Construction Activities

Construction Timeline and hours

Construction activities within the scope of the Project started as of January 2022 in three different parts of the Project site. In the north, excavation, waterproofing and lean concrete works for DHMI Public Housing were completed in June 2022.

In addition, approximately 54% of the excavation and waterproofing works for the T2 expansion have been completed by July 2022. Lean concrete works started as of June 2022. Infrastructure works continue simultaneously.

Wastewater transmission line and drainage displacement works for T4 Domestic Terminal Multi Storey Car Park continued as of July 2022.

Moreover, excavation and waterproofing works continue in the apron areas. More than 50% of the excavation and waterproofing works have been completed for Apron 1 in the north, while filling compaction works have been completed at the rate of 99% in Apron 4A. Site cleaning works were completed in Apron 5 in the hangar area, filling and compaction works started in May 2022 and ended in July 2022. In addition, subbase work on Apron 5 started in June 2022 and 8% progress was achieved. Filling and compaction works continue on Apron 6 and 7.

The Project close out and handover is expected to be between September 2024 and January 2025. Therefore, the construction activities will end in the beginning of 2025.

It is proposed that working hours will be from 08:00 to 17:00 Monday to Friday, with special consideration made to emergency or special activities whereby works would take place outside of those hours. In addition, workers also work on Saturday for concrete casting works. These would be agreed with the relevant authorities in advance on a case-by-case basis. Night-time working may be utilised for transportation of the main structural items. This will be undertaken after 20:00 in order to minimise potential disruption to the local highways.

Construction Materials, Compounds, Vehicles and Routes

Construction materials will be primarily procured nationally, with specialist items from other countries such as escalators and lifts. There is no requirement for crushed aggregate or asphalt batching facilities within the site, as these materials will be provided from existing plants outside the airport. However, the Project activities will be comprised mainly construction of apron sites so there will be needed huge amount of mixed-ready concrete. Therefore, concrete batching plants will be established on Project site. In addition, aggregate material will be supplied from 2 local existing quarries during construction activities.

Containers currently used as site offices and deployed to the north of the airport will be used as construction compounds. The perimeter of the new camp site, which is planned to be established in the later stages of the construction activities, will also be separated from the airside activities with appropriate fences, just like the existing camp site. In addition, all the construction works to be carried out within the scope of the Project will also be separated from the airside activities with fences in accordance with the International Civil Aviation Organization (ICAO) Regulations. Security will be provided around the clock during construction to ensure the construction fence is protected and access is prohibited from the general public. Construction vehicles are anticipated to utilise the internal access road situated in the boundaries of airport parallel to Kardeş Kentler Street or D400 Highway as the primary access to the airport, avoiding residential streets where possible to minimise impacts on local communities. In addition, there will be more intense production of mixed ready concrete in the batching plants, especially during construction of apron areas. Therefore, transportation of aggregate and other rock materials will be delivered from the quarries by trucks.

2.4 Project Area of Influence

As defined in IFC PS1, Area of Influence (AoI) encompasses the following, as appropriate:

- The area likely to be affected by: (i) the project and the client's activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project; (ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location; or (iii) indirect project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent.
- Associated facilities, which are facilities that are not funded as part of the project but which are significant in determining the success of Project or in producing agreed project outcomes. These would not have been constructed or expanded if the project did not exist and without which the project would not be viable.
- Cumulative impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted.

The AoI covers all land or water, directly or indirectly impacted by the Project, and therefore extends beyond the Airport boundary. This includes communities and areas adjacent to the project affected area (PAA), which is defined as the area of land used by the Project permanently or temporarily, that may experience impacts during the construction or operation of the Project, despite being located outside of the area in which the Project will be located e.g. air or noise impacts. The AoI is defined on a topic by topic basis, as each topic will define its AoI based upon the potential effects.

3 Environmental and Social Impacts and Mitigation

3.1 Overview

The ESIA Report provides a description of the environment and social baseline and explains the Project's potential impacts and identifies the mitigation measures to avoid or minimize the significant adverse environmental and social impacts. The mitigation measures are also included in the Environmental and Social Management Plan (ESMP) that has been developed as part of the ESIA study, and includes description of the mitigation measures, responsible parties for the implementation of the mitigation measures, the timing, monitoring and audit requirements.

The topics that are included in the ESIA study include (1) Water Quality, Hydrology and Hydrogeology, (2) Soils and Geology, (3) Climate Change, (4) Biodiversity, (5) Air Quality, (6) Greenhouse Gases, (7) Noise and Vibration, (8) Social and Occupational Health & Safety, (9) Cultural Heritage, (10) Waste and Resources, (11) Traffic and Transport and (12) Cumulative Effects. These topics and related impacts and proposed mitigation measures are summarized in the following sections.

3.2 Summary of Impacts and Mitigation Measures

3.2.1 Water Quality, Hydrology and Hydrogeology

Construction Impacts

The following impacts on water quality, hydrology and hydrogeology have the potential to take place during the construction phase of the Project:

- Increased runoff from construction of temporary and permanent impermeable hard surfaces.
- Pollution of surface water and groundwater from run-off, accidental spills, wastewaters, sewage and cleaning of equipment.
- Depletion of available groundwater resources due to increased water consumption during the construction and operation.

Run off: Since the airport expansion will add substantial paved areas, which will overload the existing drainage system; a new system will be incorporated. Considering the flat/low gradient terrain, existing functional site drainage system in and around the airport and the distance of nearby surface water body (Düden Stream) of around 1 km to the closest construction site in the airport activities (south of the airport), the construction activities that have been carried out within the construction phase have low risk in terms of surface runoffs and pollution during construction activities.

During the construction phase of the Project, there will be an increase in traffic at the site due to transport of materials and movement of construction plant. This will increase the risk of contamination of surface water by accidental spills, hydrocarbon-based oils and lubricants, heavy metals, suspended solids, and organic compounds. As described above, Düden stream is 1 km away from the construction site and the airport has a functioning surface water drainage network that has oil separators and sedimentation tanks. In addition, the EPC Contractor has developed a Spill Response Plan in order to take necessary actions in case of a spill. Therefore, the likelihood of contamination of surface water bodies around the airport due to accidental spills, suspended solids/sediment loads or organic compounds is considered as low.

Wastewater discharges: there will be no extraction of surface water during construction activities. All water need will be supplied by the groundwater wells in the airport. There is an existing wastewater infrastructure in the airport, therefore domestic wastewater generated at site during the construction phase will be treated here. Therefore, there will be no disposal of wastewater from construction site into the receiving environment. The water demand of the batching plant will be supplied from the groundwater wells in the airport. It is not expected that wastewater will be generated due to process water and washing waters, as it will be recirculated. If any process wastewater occurs it will be directed to the existing waste water treatment plan.

Groundwater abstraction: It is estimated that total amount of 650,000 m^3 of water will be consumed during the construction phase for 3 years. In order to supply the additional demand until 2025 due to construction activities additional groundwater wells will need to be utilized. Therefore, additional water supply from the groundwater wells will have potential impact on the quantity of the groundwater sources in the region. The data provided by DSI on the groundwater wells around the airport reveals that although several wells (around 400) were opened to abstract groundwater around the airport after 2004, no continuous and permanent decrease was observed in the groundwater level around the airport. This shows that it is likely that the groundwater resource has sufficient capacity to be recharged with precipitation and supply water even more water is abstracted year by year.

The FTA will monitor groundwater levels and quality within the airport and in chosen locations within 1 km radius around the airport.

Groundwater contamination: Potential impacts on groundwater include contamination of groundwater basins used for daily uses, drinking and irrigation due to spills or leakage during construction from the use of hazardous materials as well as construction materials, decommissioning of the existing fuel farm and construction of a new one, the refueling and maintenance of the equipment and vehicles used or discharge of work camp wastewater. Groundwater contamination would be expected to be adverse, temporary and cover a relatively small spatial area. Undergoing geotechnical investigations will provide more clarity in regard to groundwater sensitivity, which will be taken into account in the detail design of the new fuel farm.

The FTA will monitor groundwater levels and quality within the airport and in chosen locations within 1 km radius around the airport.

Operation Impacts

Increased run off: During the operation of the Project, an increased surface runoff due to an increase in impermeable areas including building roofs, paved/concreted areas, additional apron and terminal areas is expected. It is indicated by FTA that site drainage will be implemented at the Project Site; thus, no direct storm water discharges to the surface waters are expected to occur. Currently, storm water and rainwater are collected separate from the sewage flow within the airport via existing functional site drainage system maintained by DHMI and have several channels that collect stormwater and end up in existing sedimentation tanks as well as stormwater channels. After pre–treatment the run off water is discharged back to the soil. It is reported by FTA that, same processes will be applied for the expansion of the airport.

Fuelling activities and other spills: Due to projected increases in aircraft movements following completion of the Project, it is likely that the risk of accidental fuel spillages will proportionately increase during the period of operation. Additionally, there will be increases in associated movement of aircraft maintenance and support vehicles which will increase the risk of pollution of surface waters. Relevant spill response procedures are in place and will be applied. Most of the activities will be undertaken on the paved surfaces, which will limit the risks of groundwater contamination.

Fire water (fire suppressants and foams): The use of fire-fighting foams during the operational activities may result in the contamination of soil and surface water with glycols or per- and polyfluoroalkyl substances (PFAS) as a result of surface run off. However, considering the permeability of the underlying soils, low gradient terrain in the airport and well-established operational drainage network in and around the airport, the contamination of surface water around the airport by contaminants from activities (such as waste or fire water) in adjacent areas is not likely.

Wastewater discharges: The wastewater treated in the wastewater treatment plant is discharged into the deep soil through a well that is located in the south of wastewater treatment plant at depth of 80m. Within the scope of the Project, the capacity of the treatment plant will be increased. In addition, two new wastewater treatment plants will be constructed. The water discharge methodology will be deep soil for the new treatment plants as well. The wastewater quality after treatment and prior to deep soil discharge will be tested against EU requirements through scada systems and analysis of the effluent.

Groundwater abstraction: The expansion of the airport will have an impact on the quantity of the groundwater sources in the region. Although the groundwater resource has recharge ability as a result of structural properties of ground formation, and it has been confirmed that opening of new wells has not led to lowering of the groundwater levels in the past, it is possible that further increased groundwater abstraction for long term during operation after expansion of the airport will have adverse impacts on the groundwater level that may affect the groundwater availability at wider extent. The FTA will monitor groundwater levels and quality within the airport and in chosen locations within 1 km radius around the airport

Groundwater contamination: It is likely that the risk of accidental fuel spillages will increase during the period of operation. Additionally, there will be increases in associated movement of aircraft maintenance and support vehicles which will increase the risk of pollution of groundwater. Similarly, accidental discharges and spills from solid waste disposal, sewage waste disposal, hazardous material disposal and storage and handling of hazardous materials, during operation have the potential to contaminate groundwater. Relevant spill response procedures are in place and will be applied. Most of the activities will be undertaken on the paved surfaces, which will limit the risks of groundwater contamination.

The currently operating fuel farm will be moved further away from the apron areas and terminals as part of the Project. The new fuel farm together with refuelling activities can be considered as a major risk for groundwater contamination during operation of the airport. The new fuel farm location can be classified as low to medium sensitivity based on previous land use, however result of underground geotechnical investigations is vital to provide more clarity in regard to soil and groundwater sensitivity, which will be taken into account in the detail design of the fuel farm. The flue farm is being designed and will be built and operated in line with EU Seveso Directive, Energy Institute for Fuel Installations standard 1540 which provides guidance on the siting, layout, design and construction of aviation fuel installations and will undergo a Quantitative Risk Assessment in lien with good international practices after the design is finalised and prior to construction.

3.2.2 Soils and Geology

Construction Impacts

The construction of the Project will involve extensive groundworks for site clearance and topsoil removal, foundations, drainage and infrastructure, which increases the probability of soil compaction and erosion. At its current state there is no historical soil contamination recorded within the airport, visual observation have not shown any such signs.

The introduction of construction materials and processes can increase the risk of pollution and contamination due to the potential release of contaminants and hazardous materials from

accidental leaks and spills. These spills may include spills of petroleum products during fuel loading and maintenance of the machinery operating at the site and spills due to storage of hazardous materials on site. There is also the risk of contamination to surrounding soils through accidental spills and leaks from vehicles used to transport the hazardous materials to and from the construction site. Mitigation measures will include the correct storage and handling of any materials that may represent a risk to the environment or people that are required to be introduced as part of construction, e.g. paints, thinners, fuels. Measures will be put into place to promptly remove and dispose of spills of flammable or combustible liquids and segregate materials. Hazardous waste is to be stored in a specific secured area which is located away from natural drainage and water bodies and appropriately signed and bunded.

As part of the Project, the currently operating fuel farm will be moved further away from the apron areas and terminals. Therefore, the decommissioning of the existing fuel farm can be considered as a major risk for soil contamination due to dismantling of the existing above ground tanks and other structures that contain hazardous materials such as jet fuel.

A decommissioning plan will be prepared prior to decommissioning of the fuel farm. A full environmental risk assessment will be conducted as specified by Environment Agency (UK). Additionally, as part of the pre-construction works, a ground investigation (i.e. Phase I Assessment) is proposed to be undertaken to provide advance information on the quality of soils that may be exposed, excavated and handled as part of the construction works. The works should be undertaken prior to construction although some monitoring can continue through the construction phase.

Operation Impacts

As part of the Project, the currently operating fuel farm will be moved further away from the apron areas and terminals. The fuel farm together with refuelling activities can be considered as a major risk for soil contamination during operation of the airport.

The new fuel farm will be located in an area previously used as DHMI staff accommodation, which is considered a low risk activity in terms of past soil contamination. Therefore, the new fuel farm location can be classified as low to medium sensitivity depending on the changing thickness of the silty clay layer. The flue farm is being designed and will be built and operated in line with EU Seveso Directive, Energy Institute for Fuel Installations standard 1540 which provides guidance on the siting, layout, design and construction of aviation fuel installations and will undergo a Quantitative Risk Assessment in lien with good international practices after the design is finalised and prior to construction.

In the airport, the wastewater is treated at an on-site wastewater treatment plant prior to be discharged into underground water table. It is known that, in Antalya, domestic wastewater has been discharged to underground for a long time through cracks or karstic cavities in the travertines. Although the groundwater quality analysis does not show existing contamination on site, the quality of the water discharge will be closely monitored during operation in order to avoid potential impacts on soil quality.

3.2.3 Climate Change

Construction Impacts

Since construction will take place over the short-term (due to complete during the 2020s) and the impacts of climate change occur over a longer timescale, typically over 20-30 year timeframes, climate change is not expected to have impacts upon the construction phase of the project. As such, the construction phase of the project is scoped out of the climate change risk assessment.

Operation Impacts

Increased average maximum temperatures and extreme temperatures: Higher average maximum temperatures and associated increases in daily temperature variation affect runway surface, metallic structures, apron areas, building structures and surrounding areas and can ultimately lead to safety issues and service delays. Lower air pressure on hot days can reduce lift and affect the ability of aircrafts to take-off within the available runway length.

Higher maximum temperatures and extreme temperatures may also increase the failure rate of mechanical and electric equipment, including safety critical equipment such as aircraft navigation lights and signalling equipment in exposed locations on the airfield, due to overheating and electrical fire risk.

Within buildings, high temperatures can cause staff and passenger ill health, including heat exhaustion and heat stroke.

Extreme heat also increases the risk of wildfires in the area, which can lead to fire, smoke and thermal damage to critical infrastructure, temporary loss of access, including for emergency services, and service disruptions. During a wildfire there may be risk to life for staff, passengers and local communities.

Decrease in the number of ice and frost days (when temperatures are <0°C): There may be a small beneficial impact of climate change, which is a decrease in freeze-thaw related damage to structures, pipes, utilities infrastructure and buried assets due to a reduction in the number of cold days and the resultant freeze-thaw events. This may also result in reduced maintenance costs. It should be noted that deicing is not implemented in Antalya airport.

Increase in intensity of extreme weather events: Extreme weather events, including high winds, heavy rainfall and lightning, can lead to physical damage to receptors due to debris collisions and fallen infrastructure, erosion due to rainfall, water ingress and direct damage from lightning strikes. Extreme events can also cause temporary loss of local off-site utilities infrastructure and supply to the airport of power and communications from third parties. Extreme weather can also cause service delays and the inability to perform day-to-day or emergency operations or maintenance. Airport staff and visitors may be at increased risk of accidents travelling to / from the airport or whilst working or moving within the airport site.

Flood risk due to changes in rainfall patterns: Although there will be an overall drying trend in the Antalya region, occasional rainfall may occur in the form of sudden and very heavy rain which, in combination with higher temperature and dry periods, may increase the risk of pluvial flash flooding on the site and access routes and of local communities.

Reduced average rainfall and increased drought risk: Increased future drought events increase the risk of reduced groundwater availability and water scarcity for airport user as well as local communities including farmers. Water demand due to the airport and local development is expected to exceed current well capacity and additional groundwater abstraction will be required. Furthermore, soil drying due to drier summers, in combination with increased future groundwater abstraction, increases the risk of soil desiccation, wind erosion and topsoil soil loss as well as the risk of ground movements such as subsidence, earthworks failure and landslips.

Humidity: Antalya has high relative humidity which, in combination with hot summer temperatures create a severe risk to human health during heatwaves. Furthermore, high humidity increases corrosion rates and can lead to increased maintenance requirements for certain project components.

In-combination Climate Impacts

These impacts include the difference climate change will make to the impacts of the Project on local communities and livelihoods, biodiversity, traffic and local water and soil resources, in line with international guidelines. Many of these in-combination effects include levels of uncertainty,

both due to the exact nature of climate change being dependent on carbon emissions, and uncertainties in the response to environmental aspects such as air quality and biodiversity species and networks.

Mitigation Measures

During the construction phase the contractor will take precautions and plan for extreme weather events (such as storms) that are already observed in the current climate.

During operation, in addition to the embedded mitigation measures that are already in place, further mitigation should be implemented post-construction. Such mitigations may not be the developers of the Project, but will be the ultimate responsibility of the DHMI, owner of Antalya Airport, as well as the of Fraport AG Frankfurt Airport Services Worldwide and TAV Havalimanlari Holding A.S. Joint Venture who are the project sponsors.

DHMI will incorporate extreme weather conditions within its operations and future projections, including for flight scheduling and payload restrictions.

Emergency planning and disaster management processes for staff, passengers and equipment will be revised to take account of increased failure rate of mechanical and electric equipment under increased maximum temperatures.

Emergency response plans, including fire protection and fire suppression systems, and evacuation measures will be revised to account for fire, smoke and thermal damage to critical infrastructure and individuals under increased risk of wildfires.

Develop heat management plans will be developed, including passive ventilation and identification or creation of cool refuges to be used for staff or passengers as part of first aid response to heat stress events from combined increased heat and humidity.

Inspection regimes following extreme weather events will be developed.

Contingency planning for loss of external power and communications resulting from increased storm severity will be revised

Water resource management plan will account for increase drought risk and maximising water efficiency of the airport.

Sponsors will consult with other stakeholders (DHMI and airlines) on additional adaptation measures in the ESIA and pursue adoption/implementation.

Further mitigations should be implemented through both a periodic review of climate projections ahead of major upgrades and renewals of equipment, buildings and surfaces, with consideration of future operation of the airport, and also in response to observed impacts, such as observed human behaviours and requirements during extreme events.

3.2.4 Biodiversity

Construction Impacts

Considering that the construction is taking place entirely within the existing airport footprint, all species within the project area are likely to be highly tolerant to the impacts already. All habitats within the construction footprint are considered to be modified and are of low conservation importance as they support limited biodiversity. The construction area and the area of influence do not include habitat types that may contain trigger species for KBA and Important Bird Area (IBA) or critical habitat. Construction activities are considered to be too distant from other KBAs/IBAs and national protected areas to result in any significant impacts, therefore the magnitude of construction impacts here is considered to be negligible.

The following impacts for biodiversity have the potential to occur during the construction phase of the Project:

- Vegetation removal in areas used previously for agricultural crops, scrub, herbaceous vegetation (including grassland), leading to the permanent and temporary loss of areas of modified terrestrial habitat as well as loss of flora species present
- Emissions from construction equipment, machinery and vehicle movement
- Dust emissions and deposition resulting from construction activities (such as habitat clearing, road works, excavation, material storage, loading / unloading / transportation of materials, wind blowing of stockpiles, etc.), resulting in habitat degradation and affecting species present on the construction site
- Trapping of animals as a result of exposed excavations
- Soil and water pollution from run-offs, accidental spills, wastewater, sewage and equipment cleaning, causing habitat degradation
- Habitat degradation from construction waste
- Introduction of alien invasive species (AIS) impacting native biodiversity

Operation Impacts

Six National protected areas are located within 25km of the boundary of the existing airport. Operational activities are likely to be too distant from these sites to result in significant impacts, therefore based on the distance of these sites from the Project, the magnitude of this impact is considered to be negligible. All habitats within the construction footprint are considered to be modified and are of low conservation importance as they support limited biodiversity. Therefore, no additional loss or impacts are expected on these habitats during operation.

The following impacts on biodiversity have the potential to take place during the operational phase of the Project:

- Wildlife disturbance due to an eventual increase in noise levels, artificial light and vibrations as a result of increased air and road traffic and light from the new airport buildings
- Increased pollution and habitat degradation due to nitrogen deposition caused by increased air and road traffic movement
- Injury or killing of animals due to traffic collisions (road and air vehicles)

Mitigation Measures

The mitigation measures during construction will include minimisation of direct loss of habitats and control of accidents leading to release of pollutants and potentially contaminated sediments, covering excavated areas to prevent the access of wildlife, implementing noise reduction measures and avoiding artificial lighting, checking nesting birds before vegetation clearance, implementing vehicle movement plan to avoid bird or mammal injury and deaths and preventing the spread of non-native alien invasive species.

The mitigation measures during operation will include enhancing the habitat for biodiversity and managing the bird strike risk.

3.2.5 Air Quality

Construction Impacts

The construction activities are expected to result in temporary dust and gas emissions. Construction activities include two main parts. The first one is earthworks and site preparation of the project area. In this part, dust emissions generated from excavation, load and unloading process and engine emissions from construction equipment and vehicles. The second one

involves building construction. In this part, construction equipment's movement such as cement mixers, trucks, backhoes, asphalt pavers etc. will cause particulate matter (dust) emissions from land and engine emissions.

In order to determine construction phase emission impacts, air quality modelling study was carried out.

According to modelling results, the maximum PM_{10} (particulate matter – dust) concentrations from the construction activities are predicted to exceed daily project standard mostly within the airport boundaries. Exceedances of permitted daily concentrations may occur outside the airport boundary may occur, due to the direction of prevailing winds, southeast of the airport side. Based on the modelling performed for the ESIA , such daily values exceedances are still within the permitted limit of 35 times a year. The construction impacts are considered to be significant.

To minimise these impacts the Contractor will implement Air Quality and Dust Management Plan. Implementation of it will be audited and controlled by FTA. The contractor will also implement monthly monitoring of dust values within and outside the airport. Grievance mechanism and dedicated Community Liaison Officer hired by FTA will ensure that neighbouring communities concerns are heard and activities revised to minimise impacts.

Operation Impacts

During the operation phase, air emissions include NOx, PM_{10}, $PM_{2.5}$, Carbon monoxide (CO) and volatile organic compounds (VOCs) which are emitted from aircrafts during their landing and take-off cycle (LTO) moving in the north and south direction, aircraft auxiliary power units (APUs) when they are in use whilst on the stand, ground support equipment (GSE), ground transportation activities and fuel storage tanks.

Air emission modelling suggest that during operation activities the maximum NO_2 concentrations may exceed hourly project standard. The legislation allows NO_2 emissions to exceed the hourly limit values 18 times a year. Only a small area located in the southwest of the project site does not comply with the standards; this area is made up of greenhouse and there are no residential receptors.

Contributions from the project for PM_{10}, $PM_{2.5}$, SO_2 and CO are below the national standards for all averaging periods.

Air modelling has predicted that predicted VOC emissions may exceed both hourly (280 $\mu g/m^3$) and daily (70 $\mu g/m^3$) standards. Apart from VOC emission from airplanes, the fugitive emissions from fuel tanks are the main reason for these predicted results.

DHMI will mitigate emissions form aircraft in line with ICAO protocols and procedures.

Emissions from fuel farm will be minimised through implementation of best practices under the Join Inspection Group Standards which will be applied to operation for the fuel farm.

3.2.6 Greenhouse Gases

Construction Impacts

The construction will lead to emissions of GHGs through the manufacture of materials, transport of materials, and use of construction plant. Emissions from these sources are likely 'Scope 3 (indirect)' where the emissions are resulting from activities of other organisations i.e., manufacture of raw materials, or possibly 'Scope 1' (direct) where emissions arise at the point of combustion from airport owned transport/plant.

Operation Impacts

GHG emissions from the existing operation activities in Scope 1, Scope 2 and Scope 3 were calculated as 591,760 tCO_2e for the year 2027 and as 19,692,950 tCO_2e cumulatively for the years 2027-2051. The dynamic baseline was also calculated. The dynamic baseline emissions for 2027 were estimated to be 609,300 tCO2e for Scope 1 Scope 2 and 3 emissions. The project net emissions are -17,550 tCO_2e, a 3% reduction from the dynamic baseline.

In comparison to the base year (2021), project emissions are significantly higher in 2027 due to the expansion of the airport which has led to a larger surface area requiring additional energy usage with energy related emission increasing by 24% (8,120 tCO_2e). Emission associated with passenger increase (passenger & staff access journeys, LTOs etc.) are expected to increase emissions by 105% (281,060 tCO_2e).

In comparison to the dynamic baseline, the project's energy related emissions were 29% (17,520 tCO_2e) lower. These included energy efficiency measures, the use of LED lighting and the planned installation of a 4MW solar PV system on site. The Project's passenger related emissions were 0.01% (40 tCO_2e) lower than the dynamic baseline scenario. The energy use estimations in both scenarios were conservative values as they do not consider the decarbonisation of the electricity purchased which would reduce the impact of the increased energy usage.

The Scope 1 and 2 emissions of the Project have been estimated at around 30,560 tCO2e in 2027, which is under the threshold according to Equator Principles IV. However, due to the uncertainty associated with data availability, and the scale of indirect emissions (especially when considering flights), a high-level transition risk assessment was conducted. In the transition risk assessment, policy and legal risk, technology risk, market risk, reputational risks and the minimisation opportunities of these risks are introduced.

Mitigation Measures

To manage and reduce the GHG emissions, the airport has in place a Carbon Management Plan (CMP), which is revised every three years. The CMP highlights the importance of emissions from electricity consumption and suggests an implementation plan including the implementation of a 4 MW solar power plant in 2025, the use of LED lighting, continuous monitor of heating and cooling, increasing passengers' awareness of climate change, the consideration of electric ground vehicles (the exact number and date of implementation to be confirmed) and construction of the new terminal buildings has been planned in line with LEED Gold certification requirements. LEED provide credits on a number of categories which address topics such as reductions in energy use, the use of renewables, connection with public transport, and the embodied energy associated with material use. The airport's gold score from LEED indicates that the airport is going beyond the minimum requirements during the project's construction and operation. The Airport has committed to achieving and maintaining certification to Airport Carbon Accreditation Level 4 (Transformation). The implementation will require reduction of scope 3 emissions through the cooperation with third parties and suggests switching off plane engines on the ground, decreasing fuel consumption on ground manoeuvres, the use of electrical ground service vehicles where possible, emission analysis for stationary combustion systems, installation of electric charging stations within parking lots, and cooperation for low carbon awareness/training sessions and well as development and agreeing with stakeholders (airlines and local authorities responsible for public land transport to the airport) a Stakeholder Partnership Plan to drive GHG emissions down.

3.2.7 Noise and Vibration

Construction Impacts

The potential noise impacts caused by construction activity are evaluated with the model and noise maps were prepared. The noise impact assessment undertaken for this ESIA identified that

construction phase noise impact is limited in duration and manageable by applying adequate prevention and mitigation measures.

Operation Impacts

Air side noise impacts

The Project's main environmental risks relates to legacy issues associated with the location of residential premises in close proximity to the airport and cumulative noise impacts from air traffic. The impacts associated with increase of the air traffic are considered in the ESIA in the context of cumulative impacts in combination with risks and impacts from activities enabled by the project. Air traffic and related noise emissions from landing and take-off ("LTO") operations are the result of operations of airlines and their fleet. DHMI as the regulator of the airside is responsible for management of the noise impacts from airside operations, preparation of noise maps and cooperation with local authorities in regards to land use around the airport. Project Sponsors under the concession agreement will only develop airside infrastructure, which enables traffic growth and related increase in noise emissions, but they are not directly responsible for the management of emissions sources.

Air side noise impacts are managed as per the national noise regulation Turkish Regulation on the Assessment and Management of Environmental Noise (RAMEN) setting the noise exposure standards at 68 dBA during the day and 58 dBA at night-time. There are numerous buildings within the vicinity of the airport, which are affected by the noise emissions. Out of estimated total population of approximately 90,963 that are located around the larger airport areas, some 5,665 buildings within the vicinity of the airport are affected by the noise emissions. Most of the affected dwellings are located to the north and south of the airport in the neighborhoods of Cihadiye, Aksu, Hacıaliler and Güzelbağ, Yeşilköy, Ermenek under the flight routes at close position to the runways. Other neighborhoods (e.g. Altıntaş) are located to the east of the airport and positioned parallel to the runway, some at distance of 400 meters from the airport boundary.

Local development plans show that the majority of the land is designated as residential and mixed use; some parts of Güzelbağ, Yenigöl, Ermenek, Altınova are designated as land for agricultural use. Analysis of the satellite images between years the of 2009 and 2022 show increasing density of built up to east from the airport, however, this area is less impacted by airport noise.

Based on the baseline measurement and modelling for year 2022, during the night, some 2,659 households are currently exposed to high noise levels, which exceed limits defined by Turkish RAMEN regulation on noise

In line with results of the noise modelling based on future airport capacity and traffic values, by 2051, the number of households exposed to elevated night time noise levels is expected to increase by 113% to as high as 5,665 buildings as a result of airport capacity increase.

Based on the ambient noise data, noise contour maps were prepared to illustrate the noise levels around the airport taking into account flight take-off and landing procedures and routes and prevailing weather conditions. According to the noise model, the area affected by environmental noise and critical noise contours (68 dBA and 58 dBA) extends approximately 14 to 19 km from each end of the runway and 3 to 5 km from each side.

The noise study concluded that 60% of the departure and 59% of the arrivals take place during the day and there is no notable difference in relation to noise levels between different types of aircrafts.

Land side noise impacts

The operation phase land side noise impacts are expected to persist as long as the airport is operational, but are demonstrably minor/negligible, i.e. will result in an increase of < 3 dB over the background noise baseline levels.

Mitigation Measures

The airside noise impacts (as risks and impacts from activities enabled by the project), together with the land side noise impacts (project impacts) will have a cumulative impact on the receiving environment during construction and operation phases of the project. The FTA is to address the airport noise risks and impacts caused by third parties in a manner commensurate with their control and influence over the third parties.

Compliance with national environmental noise standards cannot be met due to proximity of residential areas to the airport and lack of technical ability to mitigate LTO (landing and take-off) aircraft noise. However a set of mitigation measures following the ICAO / EU Balanced Approach have been agreed with the Sponsors.

The key mitigation measures will address both landside and air side aircraft LTO and ground operations. The measures include (i) a noise management program will be developed to include defined noise monitoring, mitigation measures both planned, and alternatives, noise targets, complaint monitoring and assessment of possible noise abatement routes, (ii) continuous noise monitoring will be conducted, (iii) ICAO-A procedures will be applied, (iv) noise insulation scheme to be implemented for local residents impacted by exceedances of national night time outdoors noise standards with a target noise level of at least 40dBA indoors. Mitigation measures will minimize the potential impacts on nearby residents' health and represents improvement on the current situation

3.2.8 Social and Occupational Health & Safety

3.2.8.1 Social

Construction Impacts

Population: Considering the population structure of the settlements in the area of influence, it is seen that the population growth rates are low and there has been no significant change in the total population in the last 10 years. Some of the contractors working during the construction phase of the Project are local companies operating in the province of Antalya, and some of them come from other provinces of Türkiye (i.e., Sivas, Ordu, Hatay). Workers accommodate in the construction site camp of the EPC Contractor. Since these workers work temporarily, they do not settle with their families and therefore they do not have any impact on the local population. There will be an influx of 3,000 workers but given the size and nature of the city the impact will not be severe. .

Mitigation Measures

No major adverse impacts are identified however, following measures will be taken to avoid impacts on local communities:

- Inductions and trainings as identified in Environmental and Social Management system for the project will include human rights, communications with the local communities, ethical code/code of conduct, gender based violence and harassment
- Code of conduct will be displayed in appropriate communal places/accommodation sites for workers
- A grievance mechanism will be in place to manage and resolve complaints.

Land Use, Physical and Economic Displacement: The land acquisition works of the Project had been completed between 2010 and 2017. The Project's land acquisition started in 2010 with

valuation of affected assets according to National Law on Expropriation 2942. 105 parcels were expropriated. Based on the ownership assessment of these parcels, 66 parcels were private, three parcels belonged to the third parties and 36 parcels were owned by the Treasury. The valuation and census studies identified owners of the parcels and users of the Treasury land. All expropriation was executed according to the national law. DHMI held negotiations and consultations with the settlements in 2011.

A land acquisition audit was conducted during the ESIA process of the Project in order to understand the Project's past expropriation and its impacts. The land acquired for expansion had been used for greenhouse agriculture and residence in the past. In Yeşilköy and Güzelbağ neighbourhoods, which were affected by the expropriation, all of the Yeşilköy neighbourhood was affected by the Project and 27.33% of the lands belonging to Güzelbağ neighbourhood was lost to the Project expansion area.

Key impacts of the Project's expansion and land acquisition are physical displacement and economic displacement. The Project led to physical displacement of 278 PAPs and economic displacement of 173 PAPs.

Mitigation Measures

A corrective action plan was developed as the result of land acquisition audit undertaken. A supplemental livelihood improvement plan (SLIP) will be developed and delivered which will include details of implementation for corrective action plan.

A stakeholder engagement plan has been developed including information disclosure and consultations for SLIP. Grievance mechanism will be in place to manage and resolve complaints related to SLIP implementation.

Livelihood/Agricultural Activities, Businesses and Wellbeing: Most of the affected areas which are engaged with greenhouse production, are bordering and neighbouring the AYT. According to consultations with local people, settlements up to 400 m away from the airport border of the settlement are affected by dust. Accordingly, it is possible to say that many greenhouses are exposed to dust. The dust generated due to the soil stripping together with the excavation works carried out starting from April 2022 has adversely affected greenhouse activities. During ESIA consultations, businesses in close proximity reported impacts of dust on their businesses such as increasing cleaning efforts and costs as well as communities reporting adverse impacts on health and wellbeing.

Mitigation Measures

Detailed mitigation measures such control of dust generating activities through coverage and regulation, regulation of traffic and watering roads were planned within ESMS and construction dust control plan.

Implementation of measures will be monitored monthly, and a grievance mechanism will be in place to assure implementation of mitigation measures. Remedy will be in place in case of non-compliance with management plans and ESMS.

Employment and Economic Development: The most important expected positive impact during the construction phase of the Project is the employment generation. Currently, there are a small number of employees in the Project's construction sites from the PAPs of surrounding settlements.

The employment impact can be considered at the provincial, regional and national levels. Since Antalya is the leading province in the region, it can be thought that the regional workforce currently working at the AYT will also take part in the construction works of the Project. It is possible to

employ unskilled, skilled and semi-skilled labour in various business lines (service on site, drivers, blacksmith, welder, mason, etc.).

Currently, the percentage of local companies is lower, but it was stated that the ATS aims at increasing the local workforce and providing 75% of total employees from the local companies. The firms operating at the AYT purchase 75% of the items they require (dining hall supplies, office fixtures, office consumables, fuel, etc.) from local providers. This is a significant contribution to the local economy.

No adverse impact is expected regarding the employment and economic development during the construction phase of the Project. On the contrary, there is a beneficial impact of the Project as a whole.

Education: There are a total of 24 schools in the neighbourhoods within the AoI. No problems on educational facilities or students such as blockage or difficulties of transportation of students to school, having to wait in traffic for shuttle vehicles and similar problems related to construction or current operational activities were reported.

Mitigation/Management Measures

Although no major impacts identified, a construction traffic management plan will be in place. Specific disclosure and awareness raising activities will be undertaken for sensitive receptors as identified in ESIA and SEP.

Vulnerable groups: The construction works of the Project that have been carried out since April 2022 have adverse impacts on the people who are defined as the vulnerable groups living in the residences right next to the AYT and the Project construction site, especially the PAPs with chronic health problems such as asthma, and the elderly due to dust. Additionally, it was identified within audit report that vulnerable people were impacted more by past land acquisition activities.

Mitigation Measures

Detailed mitigation measures such control of dust generating activities through coverage and regulation, regulation of traffic and watering roads were planned within ESMS and construction dust control plan.

Implementation of measures will be monitored monthly, and a grievance mechanism will be in place to assure implementation of mitigation measures. Remedy will be in place in case of non-compliance with management plans and ESMS.

Corrective action plan was developed with a tiered approach of prioritizing vulnerabilities and SLIP will be based on the same approach. SEP also includes tailored reach out vulnerable people. Grievance mechanism will be in place to manage and resolve complaints.

Gender considerations: The Project is not expected to cause any negative impact on gender considerations during the construction phase. No gender-based violence and harassment (GBVH) cases were experienced and reported during early phases of construction . However, as long as the construction activities continue, it is necessary to keep taking necessary measures to minimize the risks.

Mitigation Measures

Security measures taken within the construction sites through the security staff as well as the surveillance system will be maintained. Inductions and specific trainings as identified in ESMS will include GBVH. Also, the improved grievance mechanism that ensures safety, confidentiality and comfort of the victims or survivors of GBVH will be in place. Both the security measures and the grievance log will be monitored regularly and improvements will be adapted when necessary.

Operation Impacts

Population: With the operation phase of the Project, a personnel increase is expected in parallel with the capacity increase. However, this increase will not create a dramatic change in the local population. Considering that the one quarter of the employees are local workforce, it is expected that this employment character will continue during the operation phase or more likely will increase. The workforce, which is expected to increase during the operation phase, is not anticipated to change the structure of the regional population or to create a pressure on the population. Therefore, there are no adverse impacts foreseen.

In the current situation, the AYT employees are residing in the settlements within Aksu and Muratpaşa districts due to their proximity. It is most likely that this number will increase in the operational phase of the Project. This can cause a moderate or low level of population growth in the above-mentioned settlements.

Neighbouring communities: During the operational phase of the Project, the most significant impact on the local population in settlements with close proximity to the Project will be noise. Another impact of the Project on the neighbouring communities is assessed as the increased traffic. Due to the increase in the number of vehicles arriving to and leaving from the AYT, traffic can create difficulties that would affect the whole province.

Mitigation/Management Measures

Noise and traffic management plans for operations phase will be implemented for operations phase as well.

Grievance mechanism will continue to be in place for operations phase,

Livelihood and Tourism: During the operation phase of the Project, many business lines related to the tourism sector will benefit from the increased capacity-related turn-over, not only on the district and provincial level but also on the regional level. Additionally, depending on the increase in the number of passengers, the occupancy rate and business volume of the accommodation establishments (Hotels, holiday villages, pension, apart etc) will also increase.

Education: There are two vocational schools of civil aviation and various academies providing courses related to civil aviation in Antalya. Currently, within the framework of a special protocol with Akdeniz University Civil Aviation Vocational School, trainee students work on a seasonal basis at the AYT. In addition, there is an aircraft high school in Aksu that trains technical personnel for civil aviation services. The graduates of these schools will have more opportunities to be employed during the operation phase of the Project. Besides aviation schools, other technical school graduates will also have an opportunity to employ related to airport operational technics.

Vulnerable groups: From the point of view of the AYT operation managers, the services provided to the disabled passengers are disrupted especially on busy days that passenger movements are highly intense. Complaint forms are available in the Braille alphabet for visually impaired passengers. For the elderly passengers, there is no specific staff for help. Yet, the security or other ground services staff are available whenever the elderly passengers need help. However, this area is not under responsibility of the FTA but of the DHMI.

For the hearing and visually impaired passengers in the AYT, there is a “Smart Steps App” which provides independent and uninterrupted access at the airport for their mobilization. This application is digitally available and will be installed on personal electronic devices. The availability of this application will be advertised and well communicated by FTA in airport and among passengers.

In this context, the sensitivity of the social receptors regarding this impact is high and the impacts are considered to be moderate beneficial significance. The magnitude of the impact is minor.

Gender considerations: It is anticipated that the Project will not create any negative impact on gender considerations during the operation phase of the Project. No gender-based violence and harassment (GBVH) cases were experienced and reported throughout the operations of the existing Airport. Still, FTA will continue taking the necessary measures to minimize the risks such as continuation of inductions and refresher trainings in operations phase, surveillance and security measures in the airport, help lines disclosure for GBVH and human trafficking in the airport, continuation of grievance mechanism sensitive to GBVH complaints and continuous monitoring of risks and complaints as per ESMS.

3.2.8.2 Occupational Health and Safety (OHS)

Construction Impacts

OHS Risks: Demolition/decommissioning works and construction work may pose several health and safety risks for the construction contractor, EPC Contractor, employees and sub-contractor employees. Due to the nature of the construction works and demolition works there are certain hazards which are likely to be in place or are inevitable at a construction site which poses risk of accidents with equipment and tools resulting in adverse health effects to the workers on construction site.

Mitigation Measures

OHS risks will be reviewed and re-evaluated prior to each step of the construction and demolition works based on the method statements of the planned works and the tools and equipment planned to be used for this purpose.

Community health and safety risks: Despite the fact that demolition and construction works will be performed within the boundaries of the existing site, there is a medium moderate risk to the health and safety of people who live or walk in the immediate vicinity of the Project site. Such risks include:

- Moderate risk of collision accidents due to a significant increase in movement of heavy vehicles for the transport of construction materials and equipment increasing the risk of traffic related accidents and injuries to workers and local communities.
- Moderate risk of accidents during excavation works (collision with moving machinery and falling and entrapment in excavated areas and holes) conducted during the renovation of the associated infrastructure outside the Project site.
- Moderate health risks associated with inhaling of dust during construction or demolition works and transportation of soil, wastes and dry cement mixtures as the container part of the trucks will be covered at all time during transportation.
- Moderate to high risk of various accidents in case of inadvertent or intentional unauthorised access to demolition/construction sites due to gaps in the construction site security.
- Low nervous disease risk associated with noisy equipment moving by roads along residential buildings.

Mitigation Measures

EPC Contractor has a well-developed construction OHS management system which will be applied for the construction phase of the Project and is an ISO 45001:2018 certified health and safety management system. This system includes a number of management and safety procedures covering all HS issues of the construction phase including Construction Health and Safety Plan, Community Health and Safety Plan, Traffic Management Plan, Permit to Work Procedure, OHS Inspection and Audit Procedure.

Pandemic risks: There are elevated risks of transmission of COVID-19 when people are working together on a construction site where they share common facilities like camp sites, lunch rooms,

lavatories, camp site facilities. Use of common facilities and working indoor means there is a high risk of COVID-19 influx between EPC Contractor construction workers and sub-contractors' workers

Mitigation Measures

Mitigation measures will include trainings, provision of protective equipment, monitoring of spread of infection and taking extra control measures for safety if needed.

Operation Impacts

Health and safety hazards and risks during the operational phase will be specific for different professions and groups of visitors including the following groups:

- Accidents with staff, passengers, and visitors
- Accidents in result of earthquake and structural failure
- Aircraft accidents
- Fire and explosion accidents
- Terroristic attacks
- COVID-19 or another pandemic.

Mitigation Measures

EPC Contractor has a well-developed construction OHS management system which will be applied for the construction phase of the Project and is an ISO 45001:2018 certified health and safety management system. This system includes a number of management and safety procedures covering all OHS issues of the construction phase including Construction Health and Safety Plan, OHS and Environmental Risk Management Procedure, Traffic Management Plan, Permit to Work Procedure, OHS Inspection and Audit Procedure. During operation, FTA and its contractors will comply with the international standard ISO 45001 requirements and complete OHS division with OHSMS manager.

Life and fire safety: Existing International Terminal 1 (T1) which was opened in 1998 and International Terminal 2 (T2) which was commissioned in 2005 and a domestic terminal which has been operating since 2010 are designed and equipped with life and fire safety infrastructure, tools and equipment in line with the national fire safety standards set by Regulation on Protection Buildings from Fire to ensure fire safety.

Mitigation Measures

Both the proposed buildings and the proposed operational areas will be established in line with the national requirements regarding fire protection.

Community health and safety risks: The refuel truck carries a high safety risk because of possibility of accidents with other vehicles and ground support equipment that could result in fuel spillage during loading/unloading activities. The risk of fire that may arise from the nature of the stored fuel in the fuel farm. Air emissions from storage tanks and during loading and unloading operations. Water pollution risk due to uncontrolled contaminated wastewater discharges.,

Mitigation Measures

EPC Contractor has a well-developed construction OHS management system which will be applied for the construction phase of the Project and is an ISO 45001:2018 certified health and safety management system. This system includes a number of management and safety procedures covering all OHS issues of the construction phase including Construction Health and Safety Plan, OHS and Environmental Risk Management Procedure, Traffic Management Plan, Permit to Work Procedure, OHS Inspection and Audit Procedure.

During operation, FTA and its contractors will comply with the international standard ISO 45001 requirements and complete OHS division with OHSMS manager.

3.2.9 Cultural Heritage

Construction Impacts

During the construction works, one registered cultural heritage sites were identified as falling in the construction area. The Ancient Water Canal 1, Ancient Water Canal 2 and Ancient Water Canal 3 are located outside the expansion borders. Hence, any construction activities-related effect is not expected on the cultural heritage assets. The entire Ancient Quarry is located within the expansion borders (Hangars Area / Southway Afforestation Area).

Mitigation Measures

Tailored consultations with Antalya Regional Council for Conservation of Cultural Heritage Property will be held during disclosure and additional measures requested by authorities will be complied.

A Cultural Heritage Management Plan and its sub-procedure (The Chance Find Procedure), will be developed and implemented.

An archaeologist (as a cultural heritage monitoring specialist) will be employed under the project organisation chart or a cultural heritage monitoring consultancy service will be procured to perform daily archaeological monitoring during the construction phase.

Operation Impacts

Provided that the impact-mitigation measures are taken during the construction phase there will be no element (human movements etc.) that may have an impact on cultural heritage during the operating phase and there will be no related impact.

3.2.10 Waste and Resources

Construction Impacts

Material resources: The construction materials required for the Project will be transported to the site with road transportation from suppliers. No borrow areas or quarries will be operated by the contractor. Potential aggregate quarry sites throughout the Project are identified to supply the construction with locally available materials. Best practices measures will be employed by all contractors in quarry sites to minimize their impact on communities and the landscape. Therefore, no adverse impacts from the extraction of raw materials or production of finished materials will be generated directly to the Project.

Waste and wastewater: The incremental increase in waste materials produced during construction would be minimal with respect to the waste production of the Airport. It is expected that both non-hazardous and hazardous waste are likely to be produced during construction. Inappropriate disposal of construction waste could have medium or long-term environmental and public health impacts. Extent of this impact will be local to areas where waste is dumped or their immediate neighbourhoods. The intensity of the impact is expected to be low given that the area where the Project is located has an existing waste collection system. This waste will be managed in collaboration with the Municipality and through licenced waste services with private companies, if required. Non-reusable and recyclable wastes will be disposed of to land fill and other wastes such as bricks, pieces of metals and wood will be recycled and reused. The sensitivity of the receptors is rated low. Hence significance of the impact is determined as minor.

Operation Impacts

Waste and wastewater: During the operational phase of the Project, it is anticipated that various hazardous and non-hazardous materials/chemicals will be used in the airport and solid and liquid wastes will be generated as non-hazards and hazardous waste. Therefore, improper and inadequate waste handling, treatment and disposal can cause public health and environment risks.

Provided that a proper waste management plan is in a position and maintained over the course of time, the Project would not create negative impacts to both the workers and the public in general. As the Project is expected to generate different types of waste including organic and inorganic solid waste, hazardous waste and wastewater, it is important to handle, treat and dispose those wastes according to both national and international legislation and guidelines. Therefore, the existing waste management plan shall be updated to meet both national and international standards. As a result, the impact magnitude will be minor and considering that the sensitivity of the receptors is medium, the resulting impact would be minor.

Mitigation Measures

When purchasing construction materials that are known to originate from areas where there is a risk of significant conversion or significant degradation of natural or critical habitats, environmental and social assessment will include an evaluation of the systems and verification practices used by the primary suppliers of the materials used in the construction phase of the Project. When products are selected during the procurement stage, environmental and social aspects should be taken into account. In particular, the contractor will be required to source materials from locations as close as possible to the Project site so as to minimize the impact of transport; use recycled materials and materials certified as being from “green” or lower carbon sources where practicable; source aggregates and materials from quarries, borrow pits and asphalt plants operating with valid environmental and other permits and licenses and where the sites are managed in full compliance with all applicable environmental standards and specifications. The project has set up 50% target for re-use and recycling of construction waste. Both waste management activities on site and recycled waste ratio will be audited by FTA.

Techniques for prevention, minimization, and control of waste related impacts will be implemented at operational phase. The airport will be audited against ICAO Waste Management at Airports Eco Airport Toolkit for operation phase.

3.2.11 Traffic and Transport

Construction Impacts

Increased traffic from excavation and construction materials: The road traffic movements during construction phase will increase the traffic volume on the surrounding road network. The Mersin-Antalya Highway which is the primary access road to the Project site is a 3x2 road and based on observations made during the site visits, it is considered that capacity of the road can bear additional temporary traffic loads. However, as confirmed by the stakeholders, nearby streets (i.e., Kardeş Kentler Street and Airport Lara Highway) are currently experiencing traffic congestion.

As reported by FTA, the construction traffic outside the Airport area will be mainly due to bulk supply trucks, which will create traffic movements within the first 9 months of construction, within which the movement will progressively decrease. At the end of 9 months, the construction related traffic will diminish significantly. Although the exact numbers are not available at this stage, considering the temporary and limited nature of planned construction traffic outside the airport boundary, the magnitude of additional movements is considered as moderate. Construction vehicles will operate between 06.00 and 19.00 temporarily for the construction phase and, trucks are reported to travel within the speed limits and adhere to the traffic rules.

Applying the significance criteria concludes the effect of construction movements associated with the Project on the capacity of the local road network around the Project site is of moderate adverse significance.

Quality of the roads: With respect to the physical effects of construction traffic, it is considered that trucks will have an effect of moderate magnitude on the local road infrastructure. The sensitivity of the local road network to truck movements is considered to be medium due to the poor quality of the road (internal roads of the neighbourhoods around the Airport have been observed to have poor quality; however, this could not be linked to neither the operation of the Airport nor the construction activities.) The use of heavy good vehicles (HGV) on the road network has a potential to contribute to deterioration of the roads. However, the overall the effect of construction traffic on quality of the roads is therefore assessed to be moderate adverse.

Road safety: The exact number of additional vehicles during the construction phase is not known. However, as significant amount of these vehicles will be HGVs, the magnitude of the increase in numbers related to road safety is assessed as being major. The sensitivity of receptors (i.e. mainly the other road users) along the proposed construction transport routes, which will be mainly the isolated highway and major roads, is considered to be medium as it is not expected to have users such as pedestrians. The impact of construction traffic on road safety is therefore assessed to be major adverse significance.

Nuisance: The additional HGV road movements as a result of construction activities and operation of plant and heavy machinery have the potential to have an adverse effect on sensitive receptors. In particular, nuisance will be caused by vehicles regularly crossing the nearby streets and the vehicles transporting material from the quarries. However, as discussed above, the main traffic movement outside the Project site will be mainly through highway and major roads, the sensitivity is identified as medium. On this basis the effect is considered to be moderate adverse.

Operation Impacts

HGV road movements: Additional traffic load on the existing road network during the operation phase is anticipated to be lower than those associated with construction of the Project in terms of construction vehicles, such as trucks, as well as vehicles for supply of materials and goods. Following the completion of the Project, regular truck movements to and from the site will be limited to the weekly collection of various solid wastes and delivery of materials. In addition, occasional deliveries of materials will be made for maintenance purposes.

Passenger movements: Operational traffic will be mostly due to passenger movements including use of private cars, shuttle buses and taxis. As the airport is an operational airport, the types of vehicles are not expected to vary with the completion of the expansion works. On the other hand, considering the forecasts for the increase in the passenger numbers in the following years, the traffic volumes are expected to increase.

Mitigation Measures

A construction Traffic Management Plan (TMP) has been developed by EPC Contractor. The plan is comprehensive and covers detailed set of control and mitigation measures. The TMP provides a guide for the type of measures needed to mitigate the impact of construction traffic movements on the local road and highway network and on the local communities as well as to enhance the efficient transport of supplies and materials to the Project site, while minimising congestion and disruption.

For the operation phase a comprehensive TMP will be developed. In addition the airport under its plans to achieve level 4 airports carbon accreditation, will develop and agree a plan for increase in public transportation services as a measure to limit emissions and traffic impacts.

3.2.12 Cumulative Effects

Valued Environmental and Social Components (VECs) that may be potentially affected by the Project are considered. The VECs have been identified based on the available information obtained for the activities/developments in the vicinity of the Project site and considering the environmental and social conditions of the study area.

The VECs that have been identified for this Project are identified as follows:

- Groundwater systems;
- Local communities and livelihoods;
- Local and regional businesses/organisations;
- Users of the Airport;
- Workers of the projects;
- Cultural heritage assets.

The assessment for the VECs only considers the residual impacts (i.e. impacts following the application of mitigation measures) arising from the Project. As such, the negligible residual impacts are scoped out of the assessment; whereas residual impacts having minor, moderate and major significance have been evaluated as part of the cumulative impact assessment.

The following projects were evaluated as part of the cumulative impact assessment:

- Underground Energy Transmission Line (Intra-project)
- Kayseri - Nevşehir - Aksaray - Konya - Antalya High Speed Railway (Inter-project)
- Eskişehir – Afyonkarahisar (incl. Zafer Airport Connection) Burdur – Antalya Railway (Inter-project)

Table 3-1 Cumulative Effects during construction

VEC	Impact during construction	Cumulative Effects
Local communities and livelihoods[1] – residents of Muratpasa District	Deterioration of local air quality due to construction related emissions, activities, and construction traffic.	Construction activities for all three developments have the potential to deteriorate local air quality, through dust or emissions. Construction related impacts are predicted to occur as a result of construction traffic for all three projects. Whilst details on the construction routes proposed for the other two schemes are not known, given the proximity, it is considered to be likely that they will use some of the same or similar routes, affecting the same receptors. Mitigation measures to be taken during construction activities, including implementation of provisions of Dust Control Plan and Environmental Management Plan (and equivalent plans for other developments) and best construction site practices will minimise disruption by reducing dust for local receptors.
Local communities and livelihoods – residents of Muratpasa District	Construction nuisance on residential receptors due to construction activities and construction traffic.	Construction activities for all three projects have the potential to generate nuisance and disturbance due to noise. Whilst details on the construction routes proposed for all developments are not known, given the proximity, it is considered to be likely that they will use some of the same or similar routes, affecting the same receptors. Mitigation measures to be taken during construction activities, including implementation of provisions of Noise Management Plan and Environmental Management Plan (and equivalent plans for

[1] Livelihoods in Muratpaşa district mainly cover agricultural and greenhouse activities. Site visit findings show that agriculture is the main income source in both Güzelbağ and Yenigöl neighbourhoods, which are the Project affected communities in Muratpaşa district.

VEC	Impact during construction	Cumulative Effects
		other developments) and best construction site practices will minimise disruption by reducing nuisance for local receptors. .
Users of the local road network	Increased congestion due to construction vehicles	Whilst details on the construction routes proposed for all developments are not known, given the proximity, it is considered to be likely that they will use some of the same or similar routes, affecting the same receptors. This may increase the risk of accidents between vehicles, or between vehicles and other road users. Mitigation measures to be taken including Traffic Management Plan. .
Groundwater systems i.e. aquifers	Pollution from spillages or leaks	Construction activities associated with all three projects have potential to interact with underlying aquifers on site. Whilst implementation of good site practice should minimise the potential for substances to enter the groundwater, there remains a residual risk for construction activities to pollute the groundwater following wastewater discharge and run-off. It is considered through the implementation of best practice, that there is potential for a minor adverse cumulative effect which is considered not significant.
Local communities and livelihoods	Local people residing in the AoI – employment opportunity Local businesses, contractors and suppliers – procurement opportunities Influx of workers and population changes	Any concurrent or simultaneous construction activities could result in an influx of workers with potential to adversely affect the local population. However, beneficial effects resulting from employment opportunities and procurement opportunities have potential to counter any adverse effects felt to the local community.
Cultural heritage	Loss of local cultural heritage assets	There is limited potential for cumulative effects in relation to loss of or damage to cultural heritage assets during construction as a result of all three developments. Effects from the other projects are unknown, however assumed measures would be in place to minimise the potential impacts associated with cultural heritage assets. .

Table 3-2 Cumulative Effects during operation

VEC	Impact during operation	Cumulative Effects
Local communities and livelihoods – residents of Muratpasa District	Deterioration of local air quality due to fugitive emissions from fuel tanks	The operation of the Project has potential to result in direct impacts to sensitive receptors (DHMI lodgings) due to fugitive emissions from fuel tanks within the airport boundaries (i.e. VOC emission). The railway developments, once operational, are not anticipated to contribute to air pollution at sensitive receptors, as the high-speed train operation does not result in significant air emissions.
Local communities and livelihoods – residents of Muratpasa District	Operational nuisance on residential receptors due to noise and vibration generation during operation of the airport Operational nuisance on residential receptors due to increased numbers of vehicles driving to and from the airport	The operation of the Project has potential to result in direct impacts to sensitive receptors associated with operational noise. On the other hand, vibration impacts are not expected as a result of airport operation. The railway developments, once operational, are anticipated to contribute to environmental noise generation in limited spatial extent of the railway route. The impact areas are not anticipated to overlap, thus no significant cumulative impact is expected. The end station of Kayseri-Antalya Railway line is located at 2.25 km distance to the Airport in the northeast; therefore, vehicles driving to and from the airport and the railway station will likely use Antalya-Mersin Highway. On the other hand, the exact location of the Station as part of Eskisehir-Antalya Railway line is not known at this stage. Overall, this is considered to be a minor adverse cumulative effect which is not significant.

VEC	Impact during operation	Cumulative Effects
Users of the local road network	Increased congestion due to operational increases in traffic visiting the airport	The end station of Kayseri-Antalya Railway line is located at 2.25 km distance to the Airport in the northeast; therefore, vehicles driving to and from the airport and the railway station will likely use Antalya-Mersin Highway. On the other hand, the exact location of the Station as part of Eskisehir-Antalya Railway line is not known at this stage. Overall, this is considered to be a minor adverse cumulative effect which is not significant.
Local communities and livelihoods	Direct employment generation Local businesses/service providers associated with tourism	It is considered that there is limited potential for significant job creation or business associated with tourism in addition to the proposed Project as a result of the operational phase of the railway developments. Overall, this is considered to be a negligible cumulative effect which is not significant.
Most of the affected dwellings are located to the north and south of the airport in the neighborhoods of Cihadiye, Aksu, Hacıaliler and Güzelbağ, Yeşilköy, Ermenek under the flight routes at close position to the runways. Other neighborhoods (e.g. Altıntaş) are located to the east of the airport and positioned parallel to the runway, some at distance of 400 meters from the airport boundary.	The airside noise impacts (as risks and impacts from activities enabled by the project), together with the land side noise impacts (project impacts) will have a cumulative impact on the receiving environment during construction and operation phases of the project.	The Client is to address the airport noise risks and impacts caused by third parties in a manner commensurate with the client's control and influence over the third parties. Compliance with national environmental noise standards cannot be met due to proximity of residential areas to the airport and lack of technical ability to mitigate LTO (landing and take-off) aircraft noise. However a set of mitigation measures following the ICAO / EU Balanced Approach have been agreed with the Sponsors. The measures include development of noise management plan, including: ambient noise level monitoring, updated noise modelling, list of noise mitigation measures, extensive stakeholder engagement, including grievance mechanism, entitlement matrix and deploying an extensive and accelerated residential buildings insulation programme. Mitigation measures will minimize the potential impacts on nearby residents' health and represents improvement on the current situation.

4 Project Environmental and Social Management System

This section describes the arrangements by how environmental, occupational and community health and safety, social and labor related (altogether described as “environmental and social”) risks and impacts will be managed during the construction and operation phases of the Project. A management system is proposed to be used in order to manage these risks and also to meet applicable Turkish laws and regulations and EU directives as well as the Lenders’ Requirements.

The Sponsors will establish an integrated management system (referred to here as the Environmental and Social Management System - ESMS) for the construction and operation phases of the Project. ESMS will be established in line with ISO 9001:2008, ISO 14001:2004, ISO 45001:2018, IFC PS1 and EBRD PR1. The ESMS will integrate planning, implementation, control and review of the processes in terms of environmental and social impacts.

The ESMS plans and procedures identified are framework documents only and will need to be developed further by the Project Sponsor and agreed with Lenders.

Table 4-1: Summary of Project plan requirements

Plan Name	Phase	Responsibility
Spill Response Plan	Construction	EPC Contractor
Emergency Response Plan	Construction	EPC Contractor
Water Management Plan	Construction	EPC Contractor
Hazardous Material Management Plan	Construction	EPC Contractor
Air Quality Management Plan	Construction	EPC Contractor
Noise Management Plan	Construction	EPC Contractor
Traffic Management Plan	Construction	EPC Contractor
Cultural Heritage Management Plan	Construction	EPC Contractor
Chance Finds Procedure	Construction	EPC Contractor
Community Health and Safety Plan	Construction	EPC Contractor
Waste Management Plan	Construction	EPC Contractor
Contractor Management Plan	Construction	EPC Contractor
Stakeholder Engagement Plan	Construction	EPC Contractor
Land Acquisition Corrective Action Plan and Supplemental Livelihood Improvement Plan	Construction	EPC Contractor
Community Health and Safety Plan	Operation	The Sponsor
Emergency Response Plan	Operation	The Sponsor
Operation Water Management Plan	Operation	The Sponsor
Air Quality Management Plan	Operation	The Sponsor
Noise Management Plan	Operation	The Sponsor
Waste Management Plan	Operation	The Sponsor
Hazardous Material Management Plan	Operation	The Sponsor
Traffic Management Plan	Operation	The Sponsor
Cultural Heritage Management Plan	Operation	The Sponsor
Contractor Management Plan	Operation	The Sponsor
Land Acquisition Corrective Action Plan and Supplemental Livelihood Improvement Plan	Operation	The Sponsor
Stakeholder Engagement Plan	Operation	The Sponsor