T.C. ULAŞTIRMA VE ALTYAPI BAKANLIĞI

EPC Contractor

REC ULUSLARARASI

PROJECT

NORTHERN MARMARA MOTORWAY SECTION 8 PPP PROJECT

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Abbreviations and Acronyms

CESMP	Construction Environmental and Social Management Plan
CLO	Community Liaison Officer
EBRD	European Bank for Reconstruction and Development
EBRD PR	EBRD Performance Requirement
EHS	Environmental, Health, and Safety
EHSS	Environmental, Health, Safety, and Security
EPA	Environmental Protection Agency
EPRP	Emergency Preparedness and Response Plan
EPC	Engineering, procurement and construction
EPRP	Emergency Preparedness and Response Plan
ERT	Emergency Response Team
ESIA	Environmental and Social Impact Assessment
ESMMP	Environmental and Social Management and Monitoring Plan
ESMS	Environmental and Social Management System
GBVH	Gender-Based Violence and Harassment
GIIP	Good International Industry Practice
HSE	Health, Safety and Environment
IFC	International Finance Corporation
IFC PS	IFC Performance Standards
ISO	International Organization for Standardization
KPIs	Key Performance Indicators
MSDSs	Material Safety Data Sheets
NCR	Non-Compliance/Conformance Report
NMM	Northern Marmara Motorway
OHS	Occupational Health and Safety
PPE	Personal Protective Equipment
REC	REC International
SPV	Specific Purpose Vehicle (Nakkaş Otoyol A.Ş)
WHO	World Health Organization

1. PURPOSE

This Wastewater Management Plan was prepared by the REC International (REC)[1] which is applicable to the construction phase of the Project.

The ultimate responsibility for its implementation resides with REC, and REC's sub-contractors & suppliers will be required to demonstrate compliance of their activities against this plan. This plan is intended to be 'living document' that can be refined and modified as situations change.

The Special Purpose Vehicle (SPV) will have the main role in monitoring of E&S performance of all project participants during implementation of works and services.

The purpose of this Plan is to provide the relevant control measures, protocols and safeguards to manage impacts on ambient water quality arising from project construction activities including the appropriate control of discharges and residues, in order to minimize impacts to human health and the environment.

2. SCOPE

During the construction phase of the Project, the following types of wastewater are expected to be generated:

- Black water (sewage) from flushable toilets and portable/chemical toilets;
- Grey water from sinks, showers, canteens and laundry facilities (at the worker camp);
- Other wastewater from equipment/vehicle washing, concrete washout, wastewater from concrete batch plants, etc.; and
- 'Dirty' run-off water from impermeable surfaces (e.g. concrete paved areas).

This Plan covers the various aspects pertaining to the safe and environmentally acceptable handling, treatment and discharge of wastewater and management of ambient water quality during the Site construction activities.

The following key objectives apply:

- Identify potential sources of wastewater and any key risks to the environment;
- Identify and control key potential pollution risks;

1 The EPC contractor.

- Cover both accidental and intended impacts on the aquatic environment;
- Identify and ensure that the relevant requirements of national and international standards are complied with during the project (i.e. IFC Performance Standards, EBRD Performance Requirements);
- Outline actions and measures necessary for the effective management of wastewater;
- Define measures to address potential pollution or contamination of the aquatic environment should this arise from construction activities or accidental incidents;
- Define the duties and responsibilities of the key personnel involved; and
- Ensure that the necessary equipment, training, capacity needs are known and provided to ensure efficient implementation of the plan.

3. REFERENCES

3.1 Relevant National Legislation

Table 1. National legislation of relevance.

Title	Reg. , Gaz. Date
Environment Law	2872, 11/09/1983
Regulation on Water Pollution Control	25687, 31/12/2006
Regulation on Control of Pollution Caused by Dangerous Substances in Water and Its Environment	26047, 08/01/2005
Regulation on Urban Wastewater Treatment	26047, 08/01/2006
Regulation on Protection of Wetlands	25818, 17/05/2005
Regulation on Waste Management	29314, 02/04/2015
Regulation on Control of Soil Pollution and Point Source Polluted Fields	27605, 08/06/2010
Regulation on Water Conservation Against Pollution Caused by Nitrate from Agricultural Sources	25377, 18/02/2004

3.2 Relevant International Standards and Guidelines

Table 2. International standards/guidelines of relevance.

Source	Document Title
The Equator Principles Association	The Equator Principles, June 2013
IFC (2012)	IFC Performance Standards (PS) and Guidance Notes (GN) IFC PS3 and GN3: Resource Efficiency and Pollution Prevention
IFC (2007a)	IFC General EHS Guidelines: including Environmental, Occupational Health and Safety, Community Health and Safety, and Construction and Decommissioning

Source	Document Title
IFC (2007b)	IFC General EHS Guidelines for Cement and Lime Manufacturing: Occupational Health and Safety
IFC (2007c)	IFC General EHS Guidelines: for Construction Materials Extraction Construction and Decommissioning
IFC (2007d)	IFC General EHS Guidelines for: Toll Roads
IFC & EBRD	Common Note on Workers' Accommodation: Processes and Standards
EBRD (2019)	EBRD Environmental and Social Policy: Performance Requirement (PR) 3: Resource Efficiency and Pollution Prevention and Control
EBRD (2019)	EBRD Environmental and Social Policy: Performance Requirement (PR) 4: Health Safety and Security
EBRD (2010)	EBRD Sub-sectoral Environmental and Social Guidelines: Building and Construction Activities
EBRD (2010)	EBRD Sub-sectoral Environmental and Social Guidelines: Cement Production

3.3 Other Important References

Key documents used in developing this Plan are:

- CESMP (Construction Environmental and Social Management Plan) developed by ERM (2022).

4. LINKS TO OTHER PLANS/PROCEDURES

This Plan is to be read and implemented in conjunction with the CESMP.

The following plans are also relevant and need to be read and implemented together with this Plan:

- REC-ÇYS-KMO-PL-02 Waste Management Plan
- REC-ÇYS-KMO-PL-19 Pollution Prevention Plan
- REC-İSG-ÇYS-KMO-PL-09 Surface Water and Groundwater Management Plan
- REC-ÇYS-KMO-PL-10 Soil Management Plan
- REC-İSG-ÇYS-KMO-PL-16 Camp Management Plan
- REC-İSG-ÇYS-KMO-PL-01 H&S Plan
- REC-İSG-KMO-PR-04 Hazard and Risk Management Procedure
- REC-İSG-ÇYS-KMO-PR-05 HSE Training Procedure
- REC-İSG-ÇYS-KMO-PR-09 HSE Monitoring, Assurance and Verification Procedure

5. ROLES AND RESPONSIBILITIES

SPV Senior Management:

Has overall accountability for the Project on behalf of Nakkaş Otoyol A.Ş (SPV), including delivery in line with applicable national and Lenders standards.

Ensure allocation of sufficient resources for the Plan implementation including for ESHS organisation, permitting, training, equipment and qualified personnel.

Ultimate responsibility for ensuring implementation of required corrective actions including in response to identified ESHS non-compliances or incidents.

Periodical review of the ESHS management effectiveness.

REC Project Manager:

The REC Project Manager has the overall responsibility for the implementation of the Project activities stated in this plan. They will be suitably competent and have a strong understanding of construction best practice aligned with national law and applicable Lender requirements.

The REC Project Manager is accountable for overall ESHS performance and making the human and financial resources available to ensure compliance with Project ESHS requirements.

REC Construction Manager:

The Construction Manager is responsible for implementation of the ESHS mitigation measures of this plan through method statements and site working practices.

The Construction Manager will ensure that:

- Construction activities (undertaken by REC itself or by the subcontractors), are in compliance with this Plan and Project ESHS requirements;
- All construction staff receive appropriate safety and environmental training, prior to commencement of work;
- A thorough investigation is carried out for any accidents or incidents which may occur;
- A self-regulatory review and/or audit of implementation of this plan is carried out on a regular basis.

REC E&S and H&S Managers:

E&S and H&S Managers are responsible for the following:

- Monitoring and assurance of the EPC Contractor's subcontractors ESHS system performance and requirements of the plan.
- Review subcontractors and suppliers ESHS documentation and ensure that they are aligned with Project ESHS requirements.
- Monitor performance through Key Performance Indicators (KPIs), reports, audits, and meetings.
- Report ESHS performance to REC Project management, SPV ESHS Management, and other related parties.
- Establish Emergency Response Teams (ERT) and define roles and responsibilities of ERT members.
- Ensure that all ESHS training needs are identified, provided and recorded.
- Disclose relevant ESHS information to Project staff and public and coordinate activities for raising awareness.

REC Environmental Engineer and H&S Inspector:

- Will monitor performance regarding the implementation of the Wastewater Management Plan,
- Will monitor construction activities and their compliance with environmental plans, procedures, and instructions,
- Will ensure that H&S Manager and E&S Manager is fully informed on every environmental issue,
- Will implement the environmental management system on site and provide as necessary toolbox talks on impact mitigation method.
- Will be responsible for the supervision of the pre-construction and construction works in line with the water and wastewater management,
- Will be responsible for monitoring of management of wastewater and protection of surface and groundwater,
- Will be responsible for any spillage and actions regarding the accidents and incidents
- Conduct daily ESHS inspections.

- Ensure that all construction personnel (including subcontractors) working or visiting the site understand the ESHS requirements of the Project and comply fully with them.
- Make sure that the ESHS risk assessments are performed prior to the activities.
- Monitor subcontractors' ESHS performance, their compliance to the ESIA and ESHS plans.
- Report and record ESHS accidents and incidents to H&S Supervisor.
- Monitor that all personnel (including contractors) have undergone all necessary training.
- Assist subcontractors and suppliers to develop and implement their site specific plans and procedures.
- Monitor implementation of all relevant management plans and procedures, including on site.
- Track the impacts of the Project against the Project Objectives and Key Performance Indicators as defined in the Chapter 10 of this plan and H&S Monitoring, Assurance and Verification Procedure and work with the subcontractors where amendments to the mitigation measures are required.
- Identify breaches of management plans, recommend corrective actions.
- Stop work activities in the event of serious breaches of rules that may cause serious impacts on health and safety, environment and community or on the reputation of the Project. (All workers have the obligation to intervene in case of a dangerous situation and have to report to the supervisor).

6. GENERAL RULES AND IMPLEMENTATION

6.1 General rules

- No direct discharge of wastewater or water containing waste to the environment is permitted unless legally allowed and allowed by Project Standards (See section 10 Appendices) and in this case all wastewater discharges (all domestic) from all construction components must comply with all relevant legal requirements;
- During site planning and arrangement, the potential wastewater sources from camp/site and facilities, and quarries will be defined;
- All wastewater discharges must comply with relevant Turkish legal requirements (Water Pollution Control Regulation 2004, No. 25687) and Project Standards before disposal, and relevant permits and monitoring shall be in place;

- The REC will have responsibility for the full chain of custody and will retain original invoices for any and all wastewater collection and disposal by third-party service providers;
- All appropriate permits need to be sought by REC from the local authorities; notifications filed, and discharges need to be made within the conditions of the permit;
- Periodic monitoring may be a requirement of the permit conditions;
- Precautionary measures must be taken to minimize possible impacts to surface water infrastructure. Any damage caused to surface water infrastructure such as supply systems, irrigation systems, flood defenses and drainage ditches must be rectified by the REC;
- All construction equipment, vehicles and plant will be cleaned away from surface waters and wash water captured for reuse or treatment off site (only authorized discharge to permitted standards of treated wastewater to be allowed as per local permit/license conditions);
- All facilities and structures will be regularly inspected and maintained to ensure proper and efficient operation at all times.

6.2 Wastewater ('black' water / sewage)

- Depending on the availability of wastewater treatment facilities, these sources can be connected to the local sewerage system where possible;
- Wastewater from all construction compounds and the associated buildings will either be discharged into the local/municipal sewage network or treated on site before discharge to a suitable receiving environment (as allowed for under permit conditions) or collected on site and transported by tanker for disposal at the local sewage treatment works;
- Where wastewater is to be produced and treated at camp sites, this will be treated via a suitable wastewater treatment plant system, to comply with the limit values for wastewater quality given in IFC General Environmental, Health and Safety Guidelines and/or the "Average Discharge Standards to Receiving Environment for Domestic Waste Water" given in "Regulation on Water Pollution Control (RWPC)" numbered 25687 and dated 31.12.2004, whichever standard is strictest will be followed;
- For onsite wastewater treatment plants/units, an approval will be obtained as per Wastewater Treatment/Deep Sea Discharge Project Approval Circular dated 04.03.2014 and numbered 2014/07;

- Additionally, a wastewater discharge permit according to the provisions of the "Environmental Permit and License Regulation" (Official Gazette: 10.09.2014-29115) will be secured before operation of the plant;
- REC will retain a licensed and approved management service for the collection and transportation of wastewater generated and temporarily stored onsite in conservancy tanks, to be transported to a licensed treatment/disposal facility;
- All wastewater produced during construction activities will be temporarily stored on site in suitable, leakage-proof and spill-proof above-ground storage tanks or similar containers based on available technology (non-corrosive and suitable for storing wastewater) and periodically collected by licensed companies appointed by REC and trucked to appropriate and licensed wastewater treatment/disposal facility authorized according to national regulations;
- Portable chemical toilets will be provided during construction as necessary and will be maintained and serviced by an external contracted service provider on a regular basis;
- The REC will appoint local authorized transport companies to collect and transport all sewage and grey water to offsite facilities as well as any other wastewater under its responsibility.

6.3 Grey water

- Sewage and grey water will be collected in appropriate holding or conservancy tanks located at toilets/shower facilities, before their transportation for treatment offsite;
- Grey water from kitchen sinks (fitted with grease traps), ablution facilities sinks and showers for example is generally deemed not reusable if not treated due to its characteristics (e.g. presence of detergents, vegetal oils, etc.);
- REC will investigate any opportunities for separation of grey water at the Construction Camp for its reuse (e.g. for toilet flushing/washing, soil wetting, etc.);
- Rain water harvesting/recovery off of rooftops for example, for domestic use (e.g. for toilet flushing/washing, soil wetting, etc.) is permitted;
- REC will implement technically and financially feasible and cost-effective measures for improving efficiency in its consumption of water, with a focus on areas that are considered core business activities (where benchmarking data are available, a comparison to establish the relative level of efficiency will be made).

6.4 Concrete batch plant

- Temporary bunds placed downslope of the batch plant are recommended to prevent the migration of any spillages;
- The REC will install suitable concrete or bitumen lined evaporation ponds to collect concrete washout resulting from any onsite mobile concrete batching plants/activities and these ponds will allow for water evaporation while remaining debris will be collected and recycled/disposed of;
- No washing out of any plant used in concrete transport or concreting operations will be allowed on-site unless this wash-water is directed to a dirty water collection and treatment system or stored for approved reuse on site;
- No discharge of cement contaminated waters to the construction phase drainage system or directly to any natural watercourse will be allowed;
- Any water containing cement-based products that cannot be reused or recycled on site must be collected within a suitable wastewater collection system and then transported by tanker offsite for treatment and disposal at a reputable and licensed facility;
- Following completion of the concrete works, water contained within the washout sump of the concrete batch plant will need to be pumped to a tanker and removed from site to a licensed waste facility and the washout area will then be cleared and fully reinstated.

6.5 Other sources of ‘dirty’ runoff water

- Drainage from excavations will be collected and settled to remove suspended materials before discharge by required permits and if physically possible, local perimeter drains will be constructed around working areas to collect potentially suspended run-off and direct it to a system of settlement basins before discharge by required permits [further details are contained in the Surface Water and Groundwater Management Plan (REC-HSE-EYS-KMO-PL-09];
- Drainage canals, bunds and sandbag barriers will be provided on-site to direct run-off to the collection system;
- If technically feasible small drains within the construction area will be covered with metal plates which can be passed over by construction machines, to protect them against disturbance, or conveyed to have free flow through the pipes placed for this purpose;
- The REC will be responsible for arranging a vehicle washing area which will be provided with wastewater containment and collection system including a containment berm and a drainage system leading wastewater to a collection basin/tank and/or oil water separator;

- Any paved areas for the storage of hazardous substances and waste will be provided with runoff collection system and dedicated collection tanks, with secondary containment installed around tanks or storage areas to limit spills with a minimum containment of 110% of the stored volume (for non-bulk tanks or oil/fuel drums, these will employ temporary bunds and drip trays);
- Storm water runoff and non-contaminated construction water, collected in a drainage system and treated in settlement / sediment clarification ponds;
- The size and duration of exposure of areas of the open ground will be kept to a minimum so as to minimize potential sediment generation in surface runoff;
- Any other wastewater generated during construction activities different from the ones indicated at in this Management Plan, will be managed in order to reduce potential impact to the environment.

6.6 Waste Management

- Refer specifically to the Waste Management Plan [REC-ÇYS-KMO-PL-02] for details on waste management.
- See also Section 7.18 'Waste Management' in the CESMP.

6.7 In the event of pollution (spill response)

- *Refer specifically to the 'Pollution Prevention Plan' [*REC-ÇYS-KMO-PL-19*] for details on spill response*.

7. TRAINING

- All employees are to undergo H&S induction training.
- Generic training will be provided on a number of topics that will be discussed through formal training sessions and regular Toolbox Talks and refresher trainings and this will be provided at the following times and under the following circumstances:
  - For new employees who have completed the standard induction training and have been identified according to the training needs assessment and training matrix as requiring further training in particular aspects of their work role;
  - Whenever an existing employee is given a new job assignment (extremely important that supervisors emphasize safety during initial task assignment);
  - Whenever new work procedures are begun;
  - Whenever new equipment is installed or to be used or new hazards are introduced;

- Whenever new materials or substances are used; and
- Whenever a new hazard is introduced is introduced to the employee.

- Generic training with regards to the pollution prevention is addressed under the following topics/themes:
  - Ecological sensitivities on site
  - Fuel and hazardous materials storage and transportation
  - Good practice controls
  - Incident reporting
  - Pollution prevention and control
  - Vehicle and equipment operating rules
  - Waste management

- Training will be provided to construction staff on how to prevent contamination, recognize and appropriately handle contaminated land when encountered during construction activities.
- Spill response teams will be provided with specialized training on how to respond to and clean-up minor spills. Note that for major spills or contamination, an external service provider may be required.
- *Refer to the Training Matrix in Section 9.5 of the CESMP which identifies training needs for various levels of staff.*

8. MONITORING, ASSURANCE AND VERIFICATION

8.1 Monitoring

Implementation of this Management Plan is to be verified according to the reporting requirements included in Chapter 10 of the CESMP.

REC will be responsible for the implementation of an appropriate routine inspection and monitoring programme to the satisfaction of SPV during the construction phase, enabling both parties to ensure works are being carried out in accordance with this Plan and to identify and implement any corrective actions or possible improvements as necessary.

During construction, the following monitoring, inspections and checks will be done:

- Inspection of construction zone (daily);

- Daily inspection checks will be completed on all plant and equipment;
- Monthly site inspections by the ECoW during the construction phase;

A written record of inspections will be maintained or available on-site.

Wastewater effluent samples will be analyzed in an accredited laboratory regarding Wastewater Discharge Permit and Project Standards. The list of parameters for treated domestic wastewater discharges would include as a minimum (IFC ESHS General Guideline & Turkish Regulations on Surface Water Quality (Official Gazette No/Date: 29327/15.04.2017):

- Dissolved oxygen
- pH
- TSS/Turbidity
- Oil and grease (TPH and PAH)
- Coliforms
- COD
- BOD
- Total nitrogen
- Total phosphorus

Oil water separator in line with vehicle maintenance could include as a minimum:

- Oil and grease
- CN^-
- Total Chromium
- pH and Temperature

Batch Plant and related washing activities could include as a minimum:

- pH and Temperature
- Dissolved Oxygen
- Turbidity

Monitoring timing and frequency will be based on discharge permit requirements.

8.2 Audits

The schedule, the frequency, the scope, and objectives of the audit as well as the responsible internal auditors will be defined and updated as necessary.

Internal auditing will address the following:

- The correct implementation of this Wastewater Management Plan;
- Wastewater chemical analysis for discharge and compliance with permitted standards (see Annexure 10.1);
- The correct development and implementation of REC Procedure(s);
- The correct and timely implementation of an auditing and review system by the REC.

The results of environmental audits will be communicated regularly to Project management personnel. A Corrective Action Plan will be prepared following the audits with corrective actions as per the Corrective Action Procedure.

9. REPORTING REQUIREMENTS

The following reporting requirements apply for the REC:

- Incident reporting (as necessary, addressed in terms of the Accident and Incident Management Procedure);
- Emergency response reporting;
- Records of annual emergency response training exercises;
- Biannual reports on KPIs and performance trends;
- Monthly reports of relevant training activities completed and attendance registers to be maintained;
- Daily/Weekly/Monthly reports of site inspection activities;
- Audit reports;
- Inspection logs and status of non-compliances; and

In addition, the following external reporting will be done:

- Monthly and biannual ESHS reports on KPIs and performance trends will be submitted to SPV;
- All environmental and social incidents will be appropriately documented, notified and reported in accordance with established procedures to

- Incident notification and reporting to relevant Turkish regulatory bodies will be performed in line with applicable legislation in force and as stipulated in permits and licenses.
- The Lenders will be notified of incidents pursuant to the terms and conditions agreed upon in the Finance Agreements through SPV.

10. KEY PERFORMANCE INDICATORS

Table 3 summarizes the Key Performance Indicators (KPIs) and associated targets that will be used to assess the progress and effectiveness of proposed soil management measures and controls during construction.

Table 3. KPIs for wastewater management.

KPI	Target	Measurement / Indicator	Period of Monitoring
Wastewater to be managed in accordance with the appropriate plan	Implement the Wastewater Management Plan and track performance against relevant KPIs	Site inspection / audit	Monthly
Relevant permits have been obtained for all treated discharges	All permits obtained and valid	Site inspection / audit	Annually
Discharge standards have been met	Zero breaches of wastewater quality discharge standards	Water sampling and analysis	Monthly
No illegal discharges of wastewater	Zero illegal discharges to the environment	Site inspection / audit	Monthly
Unplanned spill incidents / water contamination incidents	Zero unplanned spill / contamination incidents	Site inspection / audit	Monthly
Any water contamination is addressed appropriately	No residual water contamination identified through sampling and testing	Water sampling and analysis	Monthly
Batching plant and activities managed to prevent pollution	Zero non-compliances with the requirements of the Batching plant procedure	Site inspection / audit	Monthly
Records of safe and appropriate disposal of wastewater to licensed facilities	All records are maintained and up to date	Audit	Monthly
Non-Compliance with Project standards	Zero NCRs reported per year	Audit	Annually
All employees have received relevant training	All employees accessing the site have received the necessary induction and generic training (and any specialised training) as required.	Audit	Monthly

11. APPENDIX

Wastewater Discharge Standards

Table 4. Domestic Wastewater Discharge standards in Turkish Regulations

PARAMETER	UNIT	Turkish Regulation on Water Pollution Control (31.12.2004 dated and 25687 numbered)							
		Table 21.1		Table 21.2		Table 21.3		Table 21.4	
		Domestic Wastewater Discharge Standards							
		for equivalent population of 84-2,000		for equivalent population of 2,000-10,000		for equivalent population of 10,000-100,000		for equivalent population greater than 100,000	
		Composite Sample	Composite Sample	Composite Sample	Composite Sample	Composite Sample	Composite Sample	Composite Sample	Composite Sample
		2 Hour	24 Hour	2 Hour	24 Hour	2 Hour	24 Hour	2 Hour	24 Hour
Biochemical Oxygen Demand (BOD5)	mg/L	50	45	50	45	50	45	40	35
Chemical Oxygen Demand (COD)	mg/L	180	120	160	110	140	100	120	90
Suspended Solids (SS)	mg/L	70	45	60	30	45	30	40	25
pH	-	6-9	6-9	6-9	6-9	6-9	6-9	6-9	6-9

PARAMETER	UNIT	Turkish Regulation on Water Pollution Control (31.12.2004 dated and 25687 numbered)				IFC General EHS Guidelines	Project Standard
		Domestic Wastewater Discharge Standards				Indicative Values for Treated Sanitary Sewage Discharges*	
		for equivalent population of 84-2,000		for equivalent population of 2,000-10,000			
		Composite Sample	Composite Sample	Composite Sample	Composite Sample		
		2 Hour	24 Hour	2 Hour	24 Hour		
Biochemical Oxygen Demand (BOD5)	mg/L	50	45	50	45	30	**45**
Chemical Oxygen Demand (COD)	mg/L	180	120	160	110	125	If population is 84-20,000; **120** If population is 2,000-10,000

							110
Suspended Solids (SS)	mg/L	70	45	60	30	50	If population is 84-20,000; **45** If population is 2,000-10,000 **30**
pH	-	6-9	6-9	6-9	6-9	6-9	6-9
Total nitrogen	mg/L					10	10
Total phosphorus	mg/L					2	2
Oil and grease	mg/L					10	10
Total coliform bacteria	MPN** / 100 mL					400*	400*

* Not applicable to centralized, municipal wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation.
** MPN = Most Probable Number

The provisions set in Turkish Urban Wastewater Treatment Regulation, of which the discharge quality standards will be valid by 31.12.2014, are exactly the same with the provisions set in EU Directive 91/271/EEC on Urban Wastewater Treatment. The EU Directive 91/271/EEC sets the general rule of; secondary treatment in all areas and tertiary treatment with enhanced removal of nutrient is required for sesitive areas.

Table 5. Indicative Values for Treated Sanitary Sewage Discharges in IFC Guidelines

PARAMETER	UNIT	IFC General EHS Guidelines Table 1.3.1 Indicative Values for Treated Sanitary Sewage Discharges*
Biochemical Oxygen Demand (BOD5)	mg/L	30
Chemical Oxygen Demand (COD)	mg/L	125
Suspended Solids (SS)	mg/L	50
pH	-	6-9
Total nitrogen	mg/L	10
Total phosphorus	mg/L	2
Oil and grease	mg/L	10
Total coliform bacteria	MPN** / 100 mL	400*

* Not applicable to centralized, municipal wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation.