

**BRK MARANHÃO PROJECT – 14758-01**  
**Environmental and Social Action Plan – ESAP**

No.	Aspect	Action	Deliverable/result	Delivery date
<b>PS1: Assessment and Management of Environmental and Social Risks</b>				
1.1	Environmental and Social Management System (ESMS).	1. Prepare an Environmental and Social Management System (ESMS) that integrates all Project procedures on communication, management and monitoring of social and environmental risks and impacts	1. Environmental and Social Management System (ESMS).	1. 6 months after first disbursement
		2. Adopt the Environmental and Social Management System (ESMS).	2. Evidence of its adoption	2. 1 year after first disbursement
		3. Produce the annual audit report of the ESMS.	3. Annual audit report of the ESMS	3. 1 year after the first disbursement and thereafter as part of the Environmental and Social Compliance Report (ESCR)
1.2	Policy	1. Adopt a Project-specific social and environmental management policy.	1. Social and Environmental Management Policy	1. Prior to the first disbursement
1.3	Identification of risk and impacts	1. Update the environmental risks and impacts matrix.	1. Updated environmental risks and impacts matrix	1. Prior to the first disbursement and thereafter as part of the ESCR.
1.4	Management Programs	1. Prepare a checklist for the preliminary analysis of alternative locations for the new sanitation assets, including: (i) a preliminary assessment of social and environmental risks and impacts which includes impacts on the environmental, biological (including conservation units) and social (including potential expropriation areas) aspects; and (ii) a decision matrix to select the most suitable location from the E&S point of view.	1. Checklist for the preliminary analysis of alternative locations for the new assets.	1. 3 months after the first disbursement
		2. Implement the procedure for the preliminary analysis of alternative locations for the new assets.	2. Evidence of implementation	2. 1 year after the first disbursement and thereafter as part of the ESCR
		3. Prepare a CONAMA Resolution No. 430/2011 Compliance Plan on the quality of treated effluents at new Wastewater Treatment Plants (WWTPs).	3. Report on the Compliance Plan	3. 6 months after first disbursement
		4. Implement the CONAMA Resolution No. 430/2011 Compliance Plan.	4. Evidence of implementation	4. 1 year after first disbursement and thereafter as part of the ESCR
		5. Prepare a Supplementary Treatment Executive Plan with actions to guarantee the requirements of GM/MS Resolution No. 888/2021 for nitrate concentrations are met.	5. Supplementary Treatment Executive Plan	5. 6 months after first disbursement
		6. Implement the Supplementary Treatment Executive Plan.	6. Evidence of launch and follow up of Supplementary Treatment Plan implementation	6. 1 year after first disbursement and thereafter as part of the

No.	Aspect	Action	Deliverable/result	Delivery date
				ESCR
		7. Prepare a procedure to assess biodiversity risks and impacts for new assets located in conservation units.	7. Procedure to assess risks and impacts on biodiversity	7. 7 months after first disbursement
		8. Implement the procedure to assess biodiversity risks and impacts.	8. Evidence of implementation	8. 1 year after first disbursement and thereafter as part of the ESCR
		9. Prepare a procedure to produce biodiversity impacts management plans for new assets located in conservation units.	9. Procedure to produce biodiversity impacts management plans	9. 6 months after first disbursement
		10. Implement the procedure to produce biodiversity impacts management plans.	10. Evidence of implementation	10. 1 year after first disbursement and thereafter as part of the ESCR
1.5	Stakeholder Engagement	1. Update the stakeholder map.	1. Stakeholder map updated	1. Prior to the first disbursement and thereafter as part of the ESCR
		2. Report notifications, fines, grievances, suggestions, and requests received from the public and external entities, including details of how they were dealt with, response times and actions implemented in response to grievances, demands and requests.	2. Report on grievances from third parties	2. As part of the ESCR
1.6	Emergency Preparedness and Response	1. Review accident scenarios in the Emergency Response Plan (ERP) covering pipeline and reservoir ruptures, to include communication, support and damage restoration for the communities affected by those events.	1. Review of accident scenarios in the ERP covering pipeline and reservoirs ruptures,	1. Prior to first disbursement
		2. Perform at least one annual emergency drill of a highly serious scenario, engaging the communities in it.	2. Report with evidence of the emergency drill being completed	2. 1 year after first disbursement and thereafter as part of the ESCR
		3. Submit an annual report with the emergency records, response procedures and action plans to prevent recurrence.	3. Annual emergency report	3. 1 year after first disbursement and thereafter as part of the ESCR
<b>PS2: Labor and Working Conditions</b>				
2.1	Occupational health and safety	1. Report all accidents happening with or without lost time, fatalities, severity rate, health and safety compliance indicators, training schedule and evidence.	1. Annual report on occurrences and health and safety indicators	1. 1 year after first disbursement and thereafter as part of the ESCR
		2. Prepare a report that includes all documents related to the identification of the causes of lost-time accidents or fatalities, communications with the authorities, corrective action plans and evidence of implementation of the plans.	2. Annual report on relevant health and safety events	3. 1 year after first disbursement and thereafter as part of the ESCR
2.2	Grievance Mechanism	1. Report the grievances received from employees, workers engaged by third parties and suppliers, including details of how they were dealt with, response times and	1. Report on internal grievances	1. 1 year after first disbursement and

No.	Aspect	Action	Deliverable/result	Delivery date
		actions implemented in response to grievances, demands and requests.		thereafter as part of the ESCR
2.3	Non-discrimination and equal opportunity	1. Produce a Policy against Discrimination, and Moral and Sexual Harassment.	1. Policy against Moral and Sexual Harassment	1. Prior to first disbursement
		2. Adopt the Policy against Discrimination, and Moral and Sexual Harassment.	2. Evidence of its adoption	2. Prior to the first disbursement
		3. Disseminate the Policy against Discrimination, and Moral and Sexual Harassment among employees, workers engaged by third parties and suppliers.	3. Evidence of dissemination	3. 1 year after first disbursement
<b>PS3: Resource Efficiency and Pollution Prevention</b>				
3.1	Greenhouse gases	1. Map greenhouse gas emissions.	1. Greenhouse Gas Emission Monitoring Plan	1. 6 months after first disbursement
		2. Track the greenhouse gases mapping and monitoring results.	2. Evidence of implementation	2. 1 year after first disbursement and thereafter as part of the ESCR
3.2	Resource Efficiency	1. Submit the results of the implementation of the Water Losses Management Plan.	1. Report on the implementation of the Water Losses Management Plan	1. 1 year after first disbursement and thereafter as part of the ESCR
		2. Implement the recommendations in the Water Resources Management and Water Safety Plan for the Municipalities of Paço do Lumiar and São José de Ribamar, state of Maranhão.	2. Evidence of implementation	2. 1 year after first disbursement and thereafter as part of the ESCR
		3. Add salinity as a parameter in the water quality assessment.	3. Results of salinity measurements	3. 1 year after first disbursement and thereafter as part of the ESCR
		4. Submit a procedure for the preliminary assessment of contaminated areas, considering: the historic information available and a visual inspection of the place, including a database (Power BI) and a scatter graph of the well quality data.	4. Procedure for the preliminary assessment of contaminated areas	4. 18 months after first disbursement
		5. Based on the procedure for the preliminary assessment of contaminated areas prepare a list of criteria to: (i) set perimeters for well protection; and (ii) optimize the location of new wells.	5. Evidence of procedure implementation	5. 15 months after first disbursement
		6. Produce evidence of the safety perimeters set around the wells.	6. Evidence of the safety perimeters set around the wells.	6. 16 months after the first disbursement
		7. Submit analyses of groundwater resources, considering: (i) water availability, integrating water quantity and quality assessment; (ii) water demands in the period reported; (iii) the analysis of availability/demand and the assessment of water supply sustainability; (iv) action plans implemented to improve water availability, (v) future projections over the increasing demand and impact on water availability; and (vi) action plans to guarantee continuous water supply to the population.	7. Assessment of groundwater resources	7. 2 years after first disbursement and thereafter as part of the ESCR
3.3	Pollution prevention	1. Produce the results of the Solid Waste Management Program (SWMP) with: (i)	1. Results of the SWMP	1. 1 year after first

No.	Aspect	Action	Deliverable/result	Delivery date
		evidence of the state of the waste temporary storage facilities; (ii) a waste inventory; (iii) a description of the quantities and types of waste to be recycled; (iv) a list of the types and quantities of hazardous waste, including their destination; and (v) a summary of the waste transportation manifests and final disposal certificates.		disbursement and thereafter as part of the ESCR
		2. Comply with the water potability standard (GM/MS Resolution No. 888/2021) across the operation, identifying potential deviations and adopting, when applicable, corrective action plans to reach compliance.	2. Evidence of compliance with water potability standard	2. 1 year after first disbursement and thereafter as part of the ESCR
		3. For the new Wastewater Treatment Plants (WWTPs) comply with treated effluent quality standards (CONAMA Resolution No. 430/2011), identifying potential deviations and adopting, when applicable, corrective action plans to reach compliance.	3. Evidence of launch and follow up of implementation plan	3. 1 year after first disbursement and thereafter as part of the ESCR
		4. Classify solid waste (sludge and sand) generated at the WWTPs according to Brazilian standard ABNT NBR 10.004/2004, checking for compatibility with the disposal type chosen, identifying potential deviations, and adopting, when applicable, corrective action plans to make sure the waste is correctly disposed of.	4. Evidence of classification of filter sand and sludge according to Brazilian standard ABNT NBR No. 10.004/2004.	4. 1 year after first disbursement and thereafter as part of the ESCR
		5. Produce an assessment of options to reuse sludge from new WWTPs generating a significant sludge volume.	5. Analysis of options to reuse sludge from the WWTPs.	5. 1 year after the beginning of the operations.
		6. Perform tests to reuse sludge from the WWTPs.	6. Results of the tests to reuse sludge from the WWTPs.	6. 2 years after beginning of the operations
		7. Where the reuse tests show the technical applicability of sludge and when partners show interest in using the sludge implement a program to reuse sludge from WWTPs with a previously selected and tested alternative.	7. Evidence of implementation of the sludge reuse program	7. 3 years after the beginning of the operation and thereafter as part of the ESCR
<b>PS4: Community Health and Safety</b>				
4.1	Community Health and Safety	1. Prepare a Works Communications and Environmental Management Plan including the following items: (i) prior communication with affected communities and authorities; (ii) preliminary inspections of property; (iii) emission control (noise, dust, smoke, odors, effluents); (iv) prevention of accidents involving workers and third parties; (v) signage and road traffic management; (vi) solid waste and effluents management; and (vii) works closure procedures.	1. Works Communications and Environmental Management Plan.	1. 3 months after first disbursement
		2. Disseminate the Works Communications and Environmental Management Plan among the employees, workers engaged with third parties and EPC contractors.	2. Evidence of dissemination	2. 6 months after first disbursement
		3. Implement the Works Communications and Environmental Management Plan.	3. Evidence of implementation of the Works Communications and Environmental Management Plan	3. 1 year after first disbursement and thereafter as part of the ESCR
4.2	Security personnel	1. Prepare a Security Plan with: (i) a risk assessment posed by security activities to community members; (ii) identification of measures to control and reduce the risk of violent confrontation; (iii) minimum requirements to hire security personnel; (iv) standards of conduct for security personnel; and (v) a training plan for security	1. Security Plan	1. 6 months after first disbursement

No.	Aspect	Action	Deliverable/result	Delivery date
		professionals in human rights, non-violent communication and responsible use of force.		
		2. Disseminate the Security Plan among the companies providing security services.	2. Evidence of dissemination of the Security Plan and personnel training	2. 1 year after first disbursement and thereafter as part of the ESCR
		3. Train the security personnel.	3. Evidence of personnel training	3. 1 year after first disbursement and thereafter as part of the ESCR
<b>PS5: Land Acquisition and Involuntary Resettlement</b>				
5.1	Physical and Economic Displacement	1. Prepare an Involuntary Resettlement and Livelihood Restoration Framework to be used when it is necessary to expropriate areas occupied by third parties.	1. Involuntary Resettlement and Livelihood Restoration Framework	1. 6 months after first disbursement
		2. Implement the Involuntary Resettlement and Livelihood Restoration Framework when applicable.	2. Evidence of implementation	2. When there are expropriations
<b>PS8: Cultural Heritage</b>				
8.1	Chance finds	1. Prepare an Archeological Chance Finds Procedure to be implemented when an archeological find unexpectedly occurs during the expansion of the sanitation networks.	1. Archeological chance finds procedure	1. Prior to first disbursement
		2. Prepare a report on the implementation of the Archeological Chance Finds Procedure when it is used.	2. Annual report on the implementation of the Archeological Chance Finds Procedure	2. As part of the ESCR