Additional Financing Appraisal Environmental and Social Review Summary Appraisal Stage

(AF ESRS Appraisal Stage)

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Public Disclosure Authorized

I. BASIC INFORMATION

A. Basic Operation Data

Operation ID	Product	Operation Acronym	Approval Fiscal Year
P171422	Investment Project Financing (IPF)	KWSSIP-2	2025
Operation Name	Second Karachi Water and Sewerage Services Improvement Project (KWSSIP-2)		
Country/Region Code	Beneficiary country/countries (borrower, recipient)	Region	Practice Area (Lead)
Pakistan	Pakistan	SOUTH ASIA	Water
Borrower(s)	Implementing Agency(ies)	Estimated Appraisal Date	Estimated Board Date
Islamic Republic of Pakistan	Province of Sindh through the Karachi Water and Sewerage Corporation (KWSC)	26-Aug-2024	12-Dec-2024
Estimated Decision Review Date	Total Project Cost		
06-Aug-2024	1,000,200,000.00		

Proposed Development Objective

Provide safely managed water and sanitation services in Karachi and increase KWSC’s financial and operational performance

B. Is the operation being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project Activities

The proposed Second Karachi Water and Sewerage Services Improvement Project (KWSSIP 2) will invest US$600 million of which 40 percent to be financed by IBRD. These investments will scale-up infrastructure rehabilitation and expansion, complemented by capacity building to

increase operational and financial performance and improvements to the enabling environment. The project builds on the achievements of the ongoing Bank-funded Karachi Water and Sewerage Services Improvement Project (KWSSIP) that was approved in June 2019. The Project will benefit around 16 million people in Karachi. The project activities of KWSSIP 2 will be grouped into four components. Component 1: Capacity Building and Reform of KWSC, focuses on transforming KWSC into an efficient utility through technical assistance, HR reforms, NRW reduction, water safety plans, and establishment of a water quality testing tab, strengthen KWSC's corporate governance, and increase its operational and financial performance other initiatives. These activities will contribute to strengthen KWSC's corporate governance and increase its improving KWSC's operational and financial performance. Component 2: Safely Managed Water and Sanitation Services, focuses on providing safely managed water and sanitation services. This component will finance activities that will directly address Karachi's water supply and sanitation challenges by investing in infrastructures, including addressing water shortages, reduce network leaks, improve service quality, including in low-income areas. Component 3: Project Management and Studies, will finance the project's management costs, including coordination, supervision, risk management, and preparation for future water and wastewater infrastructure projects. Component 4: Contingent Emergency Response Component (CERC), has no funds allocated but it will allow us to reallocate uncommitted loan resources to support emergency response and reconstruction if needed.

D. Environmental and Social Overview

D.1 Overview of Environmental and Social Project Settings

Project investments are in urban and semi urban areas of Karachi and surrounding areas, and proposed interventions for the improvement of water supply schemes and wastewater treatment facilities are widespread over a large geographical area. All sub-project locations, such as the K-IV augmentation, the Malir Basin wastewater treatment plant, as well as the filtration plants, will be within or in the vicinity of Karachi.

Karachi is the largest, most diverse and pluralistic city of Pakistan, with a large variety of ethnic, religious and social groups. Karachi has been named among the 10 least livable cities in the world by the Economic Intelligence Unit based on security, access to and quality of services, and poor infrastructure. Air pollution, lack of proper waste management infrastructure, and degradation of water bodies are the major environmental issues. In recent years, the city has been severely affected by climate change including heat waves, sea level rise, droughts, and floods. Since the early nineties, Karachi has suffered due to serious law and order issues and experienced a high incidence of crime and political, ethnic, and sectarian violence. However, the level of violence and crime has continued to decrease in the last few years.

The terrain of Karachi is mostly flat or rolling plains. Several small natural or man-made drainage channels pass through various parts of the city, with general drainage running from western and northern areas to the south into the seasonal Lyari and Malir rivers – which carry the city's sewage. The southern limit of the city is the Arabian Sea.

Bulk water treatment and supply: Karachi has an allocated quota of 650 MGD water from Keenjhar Lake and Hub Dam against a demand of 1,200 MGD, resulting in a huge unmet water

demand. Bulk water is collected and treated by the conventional water treatment plants and distributed by a system which is at least 40-45 years old. Approximately 210 MGD of water is supplied without treatment[1]. The Government's Greater Karachi Bulk Water Supply System (K-IV) project (not financed by the World Bank), in its first phase, aims to bring in additional 260 MGD water to Karachi from Keenjhar Lake via a new water conveyance system over 110 km, along with construction of transmission line providing the interconnection for the 132/11kV Grid Station with the K-IV Pumping Complex to meet the 50 MW energy load demand required for the operationalization of K-IV Main water pumps (K-IV – main or K-IV Phase 1). The K-IV Augmentation subproject under KWSSIP-2 will connect the K-IV reservoirs and the city's existing water network through the laying of large pipelines. Thus, K-IV Main (encompassing the Water Conveyance System and Power Transmission Line) is an Associated Facility and is a key component of this project. Keenjhar is the second largest freshwater lake of Pakistan and is also a Ramsar site. The water storage capacity of the lake has been artificially increased through embankments. The lake is already a major source of drinking water supply to most of the areas of Karachi even though its ecology is degraded due to effluent discharge from the Hyderabad-based industries and contamination caused by tourist activities.

Waste water collection and treatment: The city's existing wastewater treatment facilities are under-capacity, dilapidated and working sub-optimally, resulting in an estimated 475 MGD of sewage being discharged into the Arabian Sea via the storm water network. As stated above, the natural drainage network of Karachi consists of two major river systems - Malir River on the east and Lyari River which passes through the center draining most of the city's storm water. These rivers and their tributaries have been affected severely due to rapid and disorganized urbanization. In the rainy season, the river basins experiences localized flash floods and millions of gallons of untreated wastewater are discharged into the Arabian sea. Both river basins receive domestic and industrial wastewater resulting in highly contaminated surface waters that exceed the limit of Sindh Environmental Quality Standards. Of the three existing sewage treatment plants, TP-1 and TP-3 are on the Lyari river and TP-2 is on the Malir river (Mehmoodabad). The latter is almost entirely non-functional, while the two TPs on Lyari river are also sub-optimal. For the Lyari river though, KWSC is working on its own to improve the performance and capacity of TP-1 and TP-3. An environmental audit of TP-3 was conducted under KWSSIP-1. The audit provided technical recommendations and concluded that TP-3 does have the capacity of treating additional effluent resulting from provision of sewerage network to katchi abadis under the project. However, for Malir river, TP-2 is not only non-functional, most of its land has also been encroached. Therefore, the project entails a larger and more advanced treatment plant (TP-4) to treat the domestic effluent of the Malir River.

[1] Situational Analysis of Water Resources of Karachi, WWF 2019

D.2 Overview of Borrower's Institutional Capacity for Managing Environmental and Social Risks and Impacts

Currently, as part of the Project Implementation Unit (PIU) for KWSSIP 1, there is one Environmental Specialist, one Social Specialist and one Gender Specialist position and this team is also supporting the preparation of KWSSIP 2. In view of the anticipated increase in workload under KWSSIP-2 and given that KWSSIP-1 will continue to be implemented concurrently, one

additional Senior Environmental Specialist, one Senior Social Specialist and one Senior Gender Specialist will be hired. As part of the field staff, two Environmental Specialists and two Social Specialists will be hired along with an Occupational Health and Safety (OHS) Specialist. To ensure that the Environmental and Social capacity of KWSC is also strengthened, an Institutional assessment is being carried out with the purpose of establishing an E&S cell within the Corporation as part of the wider institutional reform agenda of KWSC. It is expected that the cell will be established during the first year of project effectiveness. The PIU E&S staff will initially provide direct supervision of the implementation of the ESF for the project and the roles and responsibilities will gradually transition to KWSC E&S cell as it becomes fully staffed. A firm will be recruited to provide specialized program management support to PIU. The PIU will report to IA management represented by the Managing Director. The PIU is expected to coordinate activities with related Bank financed Karachi projects, particularly the Competitive and Livable City of Karachi (CLICK) projects which target complementary measures to improve the quality of life in Karachi. A Project Steering Committee was established under KWSSIP-1 to provide oversight and high-level coordination which will continue for KWSSIP-2. The Steering Committee includes high level representatives of all agencies involved in the Project Steering Committee shall provide planning and strategic guidance and facilitate multi-stakeholder cooperation for the development and implementation of a vision, policy reforms and investment program towards the improvement of the Karachi's sanitation and sewerage services. The Bank team will continue to provide support to build IA's capacity for management of E&S issues and trainings related to ESF regularly.

II. SUMMARY OF ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC) — High

A.1 Environmental Risk Rating — Substantial

The project's Environmental Risk Rating is "Substantial." Component 2 of the Project includes a series of large-scale investments, namely the expansion and construction of new water transmission mains K-IV- Augmentation, Malir basin river wastewater treatment TP-IV, rehabilitation of existing wastewater pumping stations along with the construction of transmission line for connecting the 132/11kV Grid Station with the K-IV Pumping Complex to meet the 50 MW energy load demand required for the K-IV Main water pumps and reconstruction and rehabilitation of existing water treatment plants. The investment in construction of either new or rehabilitation of existing bulk water supply schemes, would happen in a large geographical area around the existing infrastructure or in a new alignment. Risks and impacts during the construction phase are diverse and include (i) an increase in air and noise pollution, (ii) loss of trees and vegetation, (iii) generation of construction wastes and wastewater, (iv) quarrying activities and associated soil erosion, and (v) Occupational Health and Safety (OHS) and Community Health and Safety issues including traffic disruptions due to the activities in densely populated areas. During project operation, risks and impacts include the generation of sludge from wastewater and water treatment, OHS hazards related to chemicals management, potential soil and groundwater contamination due to any leakages of the sewerage pipes, the inclusion of water from sewerage pipes into the water distribution

system and over-abstraction from Keenjhar Lake without offsetting or regulating additional withdrawals for K-IV Phase 1. Additionally, components of the project may also be exposed to flash floods, which need to be considered while finalizing the project designs.

A.2 Social Risk Rating High

The social risk for KWSSIP-2 is rated as “High”. The most important social risk for the project is linked with significant legacy issues deriving from the land acquisition (for water conveyance system) carried out under the prevailing Land Acquisition Act for the government-financed K-IV Phase 1 which is considered an Associated Facility to this project. For the power transmission line component of K-IV Main, major issues related with land and land-based assets are not envisaged as the preliminary route estimate passes though Government owned land. However, this will be confirmed when the ESIA and Land Acquisition and Resettlement Plan (LARP) studies for the transmission line are finalized. Other significant social issues include potential livelihood, accessibility, and Community Health and Safety issues, as the project will involve works in densely populated areas. During its due diligence, it has been confirmed that no Anti-Encroachment Drives (AED) resulting in forced evictions have taken place on the project's direct footprint. The project does not anticipate private land acquisition as the required land and Right of Ways (RoW) are already owned by KWSC or the GoS. Civil works in the densely populated and congested urban environment of katchi abadis may result in temporary negative livelihood impacts due to civil works (e.g., due to restricted access) on businesses, transporters, vendors, hawkers, etc. The project investments also pose labor-related risks and impacts (e.g., working conditions, OHS, contract terms, etc.). Additional social risks include the exclusion of vulnerable communities from project benefits and the lack of meaningful engagement and consultation with communities, particularly vulnerable groups such as women, the elderly, minorities, and the poor. Other key social aspects include potential social exclusion of marginalized groups and religious minorities while selecting katchi abadis and areas for priority water and sewerage networks. Furthermore, in the case of rehabilitation of networks – in both katchi abadis and settled areas – the existing ‘informal’ connections may be affected.

B. Environment and Social Standards (ESS) that Apply to the Activities Being Considered

B.1 Relevance of Environmental and Social Standards

ESS1 - Assessment and Management of Environmental and Social Risks and Impacts Relevant

ESS1 is relevant to the Project. One key environmental challenge relates to the project’s potential contribution to the cumulative impacts associated with water depletion of Keenjhar Lake as well as overall degradation of Karachi’s coastal waters including the lower tip of the Indus Delta before entering the Arabian Sea. The K-IV Augmentation ESIA (disclosed locally on April 25, 2024, and on the World Bank website on May 21, 2024) is informed by a water-balance study for Keenjhar Lake, which determined that, after mitigation (see description for Kalri Baghar Feeder Upper, KBFU rehabilitation below), the impacts of the additional water withdrawals required for this project are negligible. To mitigate risks of this project

contributing to further degradation of the Keenjhar Lake ecology, the Sindh Irrigation Department has recently awarded a contract to rehabilitate the KBFU canal to restore its hydraulic capacity. This rehabilitation would allow additional delivery of Indus water to Keenjhar Lake from Kotri Barrage, enabling the reliable supply of the extra 260 MGD needed for K-IV Phase 1 while maintaining existing agricultural water withdrawals and safeguarding the lake's ecology. Based on the water balance performed as part of the project feasibility and ESIA process, withdrawals from the Indus at Kotri Barrage by the rehabilitated KBFU to offset K-IV withdrawals represent only approximately 3 percent of the current withdrawals at Kotri Barrage and therefore additional contributions to E&S impacts at Kotri Barrage or further habitat and ecosystem services degradation downstream are foreseen as negligible. The KBFU rehabilitation works are expected to take at least three years, with a completion date of June 2027 at the earliest, which aligns with the expected completion date of both, the K-IV Phase 1 and K-IV Augmentation. The GoS has committed to convene a committee to further monitor and coordinate construction timelines of KBFU rehabilitation, K-IV Phase 1, and K-IV Augmentation and applying adaptive management mitigations measures should any unforeseen negative social and environmental impacts occur. The Project activities under Component 2 involve large scale water supply network and sewerage networks construction and rehabilitation that can potentially have large scale environmental and social impacts such as: loss of vegetation; generation of noise and dust; solid waste generation; temporary blockage of access and diversion of local traffic due to mobilization of heavy machinery and localized excavation works within areas subjected to public access; potential temporary drainage impacts related to excavation and temporary stockpiling of excavated material; works to resurface pavement following excavation and installation of valves; temporary localized cutting of domestic water supply services while works are taking place along water supply lines or at the plants; localized economic displacement and livelihood related impacts during project works in the congested localities, etc. Replacement of old sewer networks which entails interruptions in receiving effluent from subscribers may damage other communication infrastructure (telephone, electricity). Construction activities associated with Malir interceptors and wastewater treatment facility (TP-4) may pose, besides the above-mentioned risks, the additional risk of potential land-use change related to the current agriculture practices in Malir riverbed using untreated effluent. Once the interceptor is laid, the available quantity of effluent is expected to decrease which may force people to abandon agriculture. Construction activities have typical occupational health and safety risks, health and safety risks of nearby communities, traffic safety and emergency response & preparedness, especially in the areas where population density is high. Other potential social issues needed to be addressed relate to exclusion of vulnerable communities from project benefits and lack of meaningful engagement and consultation with communities, particularly vulnerable groups such as women, the elderly, minorities, the poor, people living in low-income settlements etc. In addition, there may be resistance by users to tariff reforms proposed as part of the sub-component 1.2 as well as to institutional reform measures and revision in HR policies proposed under Components 1 by IA personnel and labor unions. The client has prepared an ESIA for the Malir Basin Wastewater interceptor and the TP-4 Wastewater Treatment Plant to identify the potential risks and impacts associated with these works. The client has also prepared and disclosed sub-project specific ESMPs for priority water network expansion and rehabilitation, water and sewerage networks improvement in low-income areas, priority sewer network

rehabilitation and expansion, rehabilitation and construction of water filtration plants and energy improvements in pumping stations to mitigate the risks and impacts during the development of the various infrastructure. The ESIA and ESMPs cover required E&S measures, proportionate to the levels of potential risks and impacts, to be included in the design and construction as well as OHS/community health measures, and mandate coordination with the relevant agencies, local community, and other stakeholders. Additionally, a revised ESIA is underway for the Malir Basin Wastewater Interceptor and the TP-4 Wastewater Treatment Plant, which will include the full TP-4 wastewater reuse scheme, and it is expected to be finalized and disclosed prior to commencement of bidding for TP-4. The IA has prepared an Environment and Social Commitment Plan (ESCP) under ESS1 which is part of the legal agreement between the Bank and the Borrower. For managing social impacts, besides the mentioned ESIAs and ESMPs, the following documents have been prepared, finalized, and disclosed by the Client: - A Labor Management Plan was disclosed locally on May 30, 2024, and on the World Bank website on June 27, 2024. - A merged Resettlement Plan covering Malir Basin wastewater interceptor, priority sewer network, and K-IV Augmentation works was disclosed locally on May 27, 2024, and on the World Bank website on June 27, 2024. - An Abbreviated Resettlement Plan for Katchi Abadis was disclosed locally on July 24, 2024, and on the World Bank website on July 31, 2024. - A Stakeholder Engagement Plan was disclosed locally on May 27, 2024, and on the World Bank website on June 27, 2024. As K-IV Phase 1 is considered an Associated Facility of this project an Environmental and Social Audit was conducted. Details of the outcome of this Audit are further elaborated under the ESS5 section below, and corrective action is covered under the ESCP. For the construction of transmission line for provision of power for K-IV Main water pumps, the environmental impacts are primarily foreseen as: ecological disturbances, environmental contamination, and risks to worker[s] and community health and safety. The work for this part of the K-IV Main is yet to start. Sindh Transmission and Dispatch Company (STDC) has submitted a technical feasibility to draw power from Jhimpir-2 which is a National Transmission and Dispatch Company (NTDC) facility. NTDC NOC for the feasibility of the project was received on August 21, 2024. STDC has taken on board a technical consultant as well as the E&S consulting firm. Design work on route drawing and plan profile has been initiated. Simultaneously, work on ESIA for the transmission line will start. STDC has agreed to carry out the ESIA in complete alignment with the World Bank ESF requirements and this has been reflected in the ESCP accordingly.

ESS10 - Stakeholder Engagement and Information Disclosure Relevant

The project involves diverse stakeholders. Since the geographic scope of the project is the entire urban area of the city and water conveyance routes from water sources, all citizen groups living across the city and along water conveyance alignments will be directly or indirectly impacted and are considered key stakeholders of the project. Furthermore, there are NGOs, civil society organizations and media groups (print, electronic, social) in Karachi which will be interested in the project. Stakeholders also include IA personnel and labor unions, local governments, elected representatives, academia, and various government agencies such as GoS departments, cantonment boards, SSWMB etc. As required under ESS10, IA has prepared a detailed Stakeholder Engagement Plan (SEP), disclosed locally on May 27, 2024, and on the World Bank website on June 27, 2024. The plan identifies key stakeholders and provides

modes and mechanism to ensure that all stakeholders are and remain engaged throughout the life of the project. The project GRM established for KWSSIP-1 will continue to be used for KWSSIP-2 also, as reflected in the ESCP. The SEP includes details of the GRM. Additional stakeholders, particularly vulnerable and/or disadvantaged groups such as women, people living in low-income settlements, minorities, the poor etc. have been identified and their engagement during project implementation are described under the SEP. The SEP is a 'living' document and hence, may be updated periodically during project implementation. The SEP also outlines the mechanisms for information sharing and disclosure and for ongoing consultation, including with women and vulnerable/marginalized groups such as the poor, residents of katchi abadis (low-income settlements), minorities, elderly etc. The ESCP includes the condition for updating the SEP, as required, during project implementation.

ESS2 - Labor and Working Conditions Relevant

The project will involve direct workers (IA employees transferred to the PIU, specialists engaged from the market); contracted workers engaged in construction work and consultancy services for the project (e.g. 3rd party monitoring of E&S compliance); and primary supply workers (e.g. for equipment required for the project). An assessment of the number of workers has been made as part of the LMP process, estimating the required workforce at around 3,500 during the construction phase and around 1,200 during the operations phase. The construction phase would also entail establishment of workers camps, which has been accounted for in the relevant ESIAs / ESMPs. The operations phase workforce is mostly comprised of existing KWSC employees. Pakistan has comprehensive labor laws covering the terms and conditions of employment, termination of contracts, working time and rest time (working hours, paid leave, maternity leave and maternity protection, other leave entitlements), prevent child and forced labor, minimum age and protection of young workers, equality, pay issues, workers' representation in the enterprise, trade union and employers' association regulation and other aspects. In addition, Pakistan has also ratified several ILO labor conventions. However, management of labor issues with regards to GBV/SEA, GRM and OHS will need to be improved along with enhancement of implementation and supervision capacity, mainly through supervision consultants. These gaps have been incorporated in the LMP for KWSSIP-2, which has been prepared and disclosed (locally on May 30, 2024, and on the World Bank website on June 27, 2024). The LMP includes an assessment of potential labor related risks; an overview of labor regulations, policies, and procedures; an assessment of and a plan to prevent GBV/SEA and harassment; contract terms and conditions; working age regulations; mechanism for redressal of labor related grievances; and other requirements of ESS2. The GBV risk mitigation action plan will be prepared prior to implementation of project activities. Most importantly, consistent with the requirements of ESS2, a GRM for project related labor issues is also outlined in the LMP. The LMP reviewed the measures already in place in KWSC for OHS and put in place systems to enhance existing mechanisms and maintain a safe working environment. The system will include (i) identification of potential hazards (ii) provisions and enforcement of preventive and protective measures (iii) training of workers and maintenance of training records (iv) documentation and reporting of accidents and incidents (v) remedial and corrective actions (vi) emergency prevention and preparedness and response arrangements to emergency situations; and (vii) remedies for adverse impacts such as occupational injuries,

deaths, disability, and disease. Periodic review of OHS policies and procedures will be made mandatory. In addition to the project workers identified above, several employees working with other government departments (including KWSC) who might be asked by the government to perform certain tasks (full-time or part-time) for the project, but their services are not formally transferred to the project. ESS2 will not apply to such workers, and they will remain subject to the terms and conditions of their employment with IA. However, the provisions of ESS2 related to protection in the work force (i.e. regarding child labor, minimum age and forced labor) and OHS will apply to such IA employees. The OHS measures in KWSSIP 2 LMP essentially build upon and further strengthen the OHS practices adopted under KWSSIP-1. It is to be noted that no major accidents, fatalities and/or loss-time injuries have happened during the implementation of KWSSIP-1.

ESS3 - Resource Efficiency and Pollution Prevention and Management Relevant

ESS3 is relevant as the efficient use of water and energy, and the reduction and otherwise management of pollution, as required by ESS3, are central to achieving the objectives of the proposed project, and according to ESS3 this project will be deemed as “significant user of water”. The construction activities under Component 2 will involve extraction of water from various water sources, use of construction material, disposal of construction waste, emission of dust and noise and run off from construction sites. The project via its Associated Facility will extract water from Keenjhar Lake and from various other pumping locations within the existing water supply network. The Project is planning to source 260 MGD from Keenjhar Lake. As noted above, the ESIA prepared for the K-IV Augmentation included a water balance study to assess water demand of other water users and requirements for sustaining ecosystem services in the area and to propose measures to minimize the loss of water in the water supply network and sewerage system, and other water conservation measures. As a key mitigation measure, the GoS has committed to rehabilitate the KBFU to offset the water withdrawn as a result of this project and avoid contributing to further degradation of Keenjhar lake. The client will produce regular updates of the water balance study of Keenjhar Lake. Potential pollution could come from disposal of construction wastes, spoils, domestic waste (refuse, wastewater), and hazardous wastes (paints, solvents, used fuel, used chemicals), as well as use of hazardous materials such as chlorine and discharge of sludge and effluents from the water and sewerage treatment facility during operations. The ESIA for the Malir Basin Interceptor has assessed the potential impacts of wastes handling and disposal and informed the ESMP of the requirements for appropriate waste disposal practices for mitigating and preventing pollution from the mentioned sources. Waste management and pollution mitigation measures will be further addressed in the waste management procedures under the Contractor ESMPs (CESMP). Furthermore, pollution prevention will be sought through the project intervention of building the wastewater treatment plant, which will be designed according to WB EHS Guidelines.

ESS4 - Community Health and Safety Relevant

ESS4 is relevant as the construction and operation of the project activities under component 2 as well as Associated Facility could involve community health and safety hazards. These may include road and traffic safety during construction works, potential exposure to dust,

noise/vibration, hazardous and non-hazardous waste and other health and safety risks for the nearby communities. In particular, the management of construction sites requires protocols for barricades and signaling of construction areas to ensure pedestrian safety. In addition, to avoid and minimize potential impacts from construction activities there is the need for adequate site management practices and effective consultation with communities. Since the project involves the provision of water supply and sewerage treatment services, it is critical to ensure safe drinking water supply and proper sewerage treatment to the users and reducing potential leakage in the water supply network as well as avoidance of any seepage of wastewater from sewerage pipes into water distribution pipes. Therefore, the Client has prepared ESIAs and ESMPs for activities under component 2 to address all these potential health and safety risks associated with the Project. As part of the C-ESMPs, the contractors will prepare traffic management plans, community health and safety measures and emergency response preparedness plans to mitigate all the health and safety risks during construction of the Project. In view of the assessed potential risk of GBV/SEA, a GBV risk mitigation action plan will also be prepared prior to implementation of project activities. Due to the sensitivities around water supply in Karachi, there is a potential for security risks during project implementation and hence a security risk management plan will be prepared during project implementation. The World bank Guidelines on the use of security personnel will be adopted should there be a need for the use of security personnel during implementation.

ESS5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement Relevant

ESS5 is relevant for KWSSIP-2. Following are the major streams where physical and / or economic resettlement impacts have taken place or are potentially envisaged: K-IV Main (Associated Facility); Priority Sewer Network; Malir Interceptor; K-IV Augmentation; and Katchi Abadis. First, it should be noted that during its due diligence the World Bank confirmed that no Anti-Encroachment Drives (AED) resulting in forced evictions have taken place on the direct footprint of the project. These AED are commonly practiced forced evictions ordered by the Sindh Supreme Court that are not consistent with ESS5 and targeted at informal settlers and encroachers on public lands and RoW. It has been established that K-IV Main, currently under construction, is an Associated Facility (as per ESS1 criteria). K-IV Main has two major components: an almost 110 km water conveyance system being implemented by WAPDA, and an approximately 30 km power transmission line to be implemented by STDC. Work on the laying of the water conveyance system has already been started. Therefore, an audit has been conducted to identify gaps between the government’s standards and procedures and the requirements of ESS5, including among other factors, for land acquisition, resettlement, and livelihood impacts; entitlements for vulnerable groups/categories; and stakeholder consultation and grievance redress. Based on the audit, a Corrective Action Plan–Resettlement (CAP-R) was developed. The CAP-R determined that around 12,469 acres land were required under the original alignment out of which about 11,396 acres were government land in the districts Malir and Thatta, whereas about 1,073 acres belong to private owners (341 affected households) in Malir district. As per land acquisition data received from the office of Project Director (PD) for K-IV Main, only 54% of affected households received compensation for their affected land. The CAP-R also notes that 14 of the affected persons have taken legal recourse

for settling the compensation rates. The original alignment for K-IV main has been updated. For the most part, the land taken for the original alignment overlaps with the land required for this new alignment. However, approximately 22 additional acres will need to be acquired affecting around 80 residential / commercial / other structures. The CAP-R takes all these aspects into account and provided an estimated budget of approx. PKR 2,200 M (around USD 8 M). This budget has been earmarked in the project planning documents and CAP-R is currently being implemented. For construction of transmission line for K-IV Main water pumps, STDC has also agreed to develop a detailed LARP by issuing a variance order to the ESIA consultants, though according to the current estimates, private land acquisition is not envisaged for the power transmission line. It has also been agreed that all E&S instruments pertinent to power transmission line will be reviewed and endorsed by the World Bank; the ESIA will become part of the bidding documents for the EPC (engineering, procurement and construction) contracts; and no physical work will start prior to payment of compensation under the above mentioned LARP. Priority sewer network, Malir interceptor and TP-4 Wastewater Reuse scheme, and K-IV augmentation do not require private land acquisition. All proposed infrastructure will be constructed on land/RoW already owned by IA. However, some resettlement and/or livelihood impacts on squatters and/or encroachers who have either settled in or extended on the RoW have been identified. To minimize resettlement impacts, the project design engineers optimized the proposed alignments of various pipelines and sewers whenever possible. To manage any unavoidable impact on encroachers' dwellings and livelihoods, the IA has developed a single Resettlement Action Plan (RAP) that contains details of all the three sub-projects (including the 14 schemes of the priority sewer network sub-project). The RAP identifies, primarily in congested locations, impacts involving resettlement of enterprises (e.g. small shops, kiosks etc.) and in some instances dwellings that are situated in the RoW. The RAP has also identified the need to partially remove structures that have extended onto the RoW (e.g. stairs). For the Malir Interceptor and Priority Sewer Projects, a total of 80 PAPs were identified who would be temporarily affected by the project activities during the construction phase only. K-IV Augmentation project will have a temporary impact on livelihood of 279 PAPs for which they will be compensated. Overall, the Resettlement Budget for the three projects is estimated as around PKR. 82 M (~ USD 300,000/-). An Abbreviated RAP (ARAP) for the selected low-income communities or Katchi Abadies where project interventions are to be implemented has also been prepared and disclosed on July 31, 2024. Based on the socio-economic field surveys performed for this ARAP, only 34 Project Affected Persons (PAPs) were identified in six of these communities: Zia Colony, Muhammadi Colony, Ali Muhammad Goth, Sharif Colony, Mujahid Colony, and Muslimabad Colony. Impacts on this Katchi Abadies will be limited to partial removal of structures such as stairs and other perimeter constructions, which will not result in physical resettlement. No PAPs were identified in the remaining four low-income communities. The total estimated cost for implementing the ARAP is around PKR 1.1 million (~USD 4,000/-).

ESS6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources — Relevant

ESS6 is relevant as the Project activities could have potential impacts on natural habitats due to loss of vegetation along the route of the bulk supply water schemes, potential change in

flows in surface waterways and lakes. As noted above, the main source of raw water that the project is going to affect is Keenjhar Lake, which is declared as Ramsar sites. Keenjhar Lake has been serving as a reservoir to supply water to Karachi for many years. However, to determine any potential incremental or cumulative impacts of this project on this lake, a water balance and ecological assessment has been conducted as part of the ESIA process, and a Keenjhar Lake Conservation Action Plan was prepared following the mitigation hierarchy. It was determined that the incremental impacts to the lake can be essentially avoided if the rehabilitation of KBFU canal, which is now underway, is successfully completed. As mentioned earlier, E&S impacts of increased bulk water withdrawals from the Indus via the rehabilitated KBFU to mitigate additional withdrawals from Keenjhar Lake for K-IV would be extremely limited (i.e., only 3% percent of the total annual withdrawals from Kotri Barrage). The footprint of the civil works and direct impacts on the lake are limited to the water intake facility. Therefore, the potential accumulated or incremental ecological impacts on Keenjhar lake and the mangrove forests located in Indus Delta due to further water withdrawal from Indus River resulting from the interventions associated to the project are considered negligible. The KBFU will be rehabilitated by the Government of Sindh to maintain the water level of the Keenjhar lake before an equal or lesser amount is withdrawn for K-IV Main and Augmentation.

ESS7 - Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities — Not Currently Relevant

There are no IPs in the project area and therefore ESS7 is not relevant.

ESS8 - Cultural Heritage — Not Currently Relevant

ESS8 is not relevant as there is no known/documented cultural heritage present in the project locations that have already been identified. However, the impacts on cultural heritage shall be identified once the location and route of the proposed interventions are finalized. The ESIAs prepared so far did not identify any cultural heritage sites in the proposed project locations. However a cultural heritage management plan will be prepared if a site is identified during project implementation, if required.

ESS9 - Financial Intermediaries — Not Currently Relevant

ESS9 is not relevant as the Project does not include inclusion of any financial intermediaries.

B.2 Legal Operational Policies that Apply

OP 7.50 Operations on International Waterways	Yes
OP 7.60 Operations in Disputed Areas	No

B.3 Other Salient Features

Use of Borrower Framework No

None. The borrower has not proposed adoption of the borrower/government's E&S Framework to address and manage environmental risks and impacts of the project. The project will apply the Bank's ESF and its Environmental and Social Standards (ESSs) along with the Government's E&S requirements.

Use of Common Approach No

Asian Infrastructure Investment Bank (AIIB), Government of Sindh, The AIIB project preparation fund supported the preparation of E&S instruments in accordance with the ESF.

C. Overview of Required Environmental and Social Risk Management Activities

C.1 What Borrower environmental and social analyses, instruments, plans and/or frameworks are planned or required by implementation?

The following E&S instruments have been prepared:

· A draft Environmental and Social Impact Assessment (ESIA) for the Malir Basin Interceptor and TP-IV Wastewater Treatment Plant was disclosed locally on April 25, 2024, and on the World Bank Website on May 13, 2024.

· A draft ESIA for K-IV Augmentation was disclosed locally on April 25, 2024, and on the World Bank website on May 21, 2024. This ESIA is informed by the Keenjhar Lake Conservation Action Plan.

· A Corrective Action Plan to align the resettlement planning and implementation of the government-financed K-IV Phase 1 with the World Bank's ESF was disclosed locally on May 27, 2024, and on the World Bank website on June 27, 2024. Corrective Action Plan payments to private landowners will be completed before works on K-IV Augmentation construction begins.

· A Labor Management Plan was disclosed locally on May 30, 2024, and on the World Bank website on June 27, 2024.

· A merged Resettlement Action Plan covering Malir Basin wastewater interceptor, priority sewer network, and K-IV Augmentation works was disclosed locally on May 27, 2024, and on the World Bank website on June 27, 2024.

· An Abbreviated Resettlement Action Plan (ARAP) for Katchi Abadis was disclosed locally on July 24, 2024, and on the World Bank website on July 31, 2024.

· A Stakeholder Engagement Plan was disclosed locally on May 27, 2024, and on the World Bank website on June 27, 2024.

· Five Environmental and Social Management Plans (ESMPs) were disclosed locally as of July 20, 2024. These five ESMPS were for the following subcomponents: Provision of Safely Managed Drinking Water and Sanitation Services in Selected Katchi Abadis; Priority Water Distribution Network Rehabilitation and Expansion; Priority Sewer Network Rehabilitation and Expansion; Improving Energy Efficiency; and Rehabilitation and Reconstruction of Water Treatment Plants.

· K-IV (Phase-1) Water Balance Study

· Ecological Assessment for Downstream Indus Impacts (including Keenjhar Lake Conservation Action Plan)

· E&S Review Report for K-IV

· Gender Action Plan

ESIA for construction of transmission line for 50 MW power demand for K-IV Main is currently underway.

III. CONTACT POINT

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