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NATION-RELIGION-KING

MINISTRY OF PUBLIC WORKS AND TRANSPORT

CAMBODIA - URBAN INFRASTRUCTURE DEVELOPMENT PROJECT

(C-UIDP)

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLANNING FRAMEWORK

(Final Draft)

CONSULTANCY SERVICES

FOR

THE PREPARATION OF A FEASIBILITY STUDY REPORT, ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REPORT WITH FRAMEWORK DOCUMENTS, AND DETAILED ENGINEERING DESIGN

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kunhwa Engineering & Consulting

YOOSHIN

ES CONSULTANTS

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ABBREVIATIONS

Abbreviation	Meaning
AIIB	Asian Infrastructure Investment Bank
AoI	Area of Influence
C-ESMP	Contractor Environmental and Social Management Plan
C-UIDP	Cambodia Urban Infrastructure Development Project
DED	Detailed Engineering Design
DMS	Detailed Measurement Survey
E&S	Environmental and Social
EHS	Environmental, Health and Safety
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMPF	Environmental and Social Management Planning Framework
ESS	Environmental and Social Standard
ESEL	Environmental and Social Exclusion List
FPIC	Free, Prior and Informed Consent
GAP	Gender Action Plan
GIIP	Good International Industry Practice
GDR	General Department of Resettlement
GRM	Grievance Redress Mechanism
IA	Implementing Agency
IEIA	Initial Environmental Impact Assessment
IRC	Inter-Ministerial Resettlement Committee
LMP	Labor Management Procedures
MEF	Ministry of Economy and Finance
MoE	Ministry of Environment
MPWT	Ministry of Public Works and Transport
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
OPIR	AIIB Operational Policy on International Relations
PIU	Project Implementation Unit
PMU	Project Management Unit
PPM	AIIB Project-affected People's Mechanism
RAP/RP	Resettlement Action Plan / Resettlement Plan
RCS	Replacement Cost Study
RPF	Resettlement Planning Framework
SEA/SH	Sexual Exploitation and Abuse / Sexual Harassment
SEP	Stakeholder Engagement Plan
SOP-LAR	Standard Operating Procedures on Land Acquisition and Involuntary Resettlement
WWTP	Wastewater Treatment Plant
BOQ	Bill of Quantities

Abbreviation	Meaning
CSC	Construction Supervision Consultant
FPICon	Free, Prior and Informed Consultation
IBAT	Integrated Biodiversity Assessment Tool
MBBR	Moving Bed Biofilm Reactor
MOWRAM	Ministry of Water Resources and Meteorology
PDoE	Provincial Department of Environment
POM	Project Operations Manual
RCA	Root Cause Analysis
WAMP	Workers' Accommodation Management Plan
WASH	Water, Sanitation and Hygiene
WSP	Waste Stabilization Pond
AHs	Affected Households
APs	Affected Persons
CAP	Corrective Action Plan
EIA	Environmental Impact Assessment
ESMS	Environmental and Social Management System
FS / F/S	Feasibility Study
IFC	International Finance Corporation
EBRD	European Bank for Reconstruction and Development
IR	Involuntary Resettlement
IoL / IOL	Inventory of Losses
M&E	Monitoring and Evaluation
MLVT	Ministry of Labour and Vocational Training
NSSF	National Social Security Fund
PPE	Personal Protective Equipment
RGC	Royal Government of Cambodia
SC	Supervision Consultant
SES	Socio-Economic Survey
TOR / ToR	Terms of Reference
WBG	World Bank Group

EXECUTIVE SUMMARY

1. This ESMPF has been consolidated using the latest C-UIDP feasibility-stage project information, the Project Operations Manual, socio-economic and consultation evidence, applicable Cambodian requirements, and the AIIB Environmental and Social Framework. The document is structured as a project-level management framework and requires site-specific screening, assessment and management instruments to be completed as designs are finalized.
2. The Royal Government of Cambodia, through the Ministry of Public Works and Transport (MPWT), is preparing the Cambodia Urban Infrastructure Development Project (C-UIDP) with support from the Asian Infrastructure Investment Bank (AIIB). At feasibility stage, the Project comprises investments in wastewater collection and treatment, urban drainage and flood-protection infrastructure in Kampong Chhnang, Kampong Cham, Doun Kaev (Takeo Province) and Prey Veng, together with institutional capacity building and project management support.
3. The Project shall apply applicable Cambodian law and the AIIB Environmental and Social Framework. ESS1 applies to environmental and social assessment and management. ESS2 shall apply wherever land acquisition, restrictions on land use, physical displacement or economic displacement are caused by a Project activity; detailed requirements are set out in the Project RPF. ESS3 is not appliable as the subprojects take place in urban areas without any presence of indigenous people. ESS3 applicability shall be fully confirmed through subproject screening.
4. This Environmental and Social Management Planning Framework (ESMPF) is prepared because final sites, alignments, footprints, construction methods and some associated facilities have not been defined and will only be confirmed through detailed engineering. The ESMPF therefore does not substitute for subproject-specific assessment. It establishes the mandatory process that MPWT and its consultants, contractors and operators must follow to for site-specific assessment and preparation of site-specific instruments (i.e. ESIA/ESMP).
5. The key anticipated risks and impacts for the project include siting of wastewater and flood-protection facilities; nuisance odour and community acceptance; receiving-water quality and downstream users; aquatic biodiversity and critical habitat; sludge and contaminated material management; land acquisition and economic displacement; disruption of access to houses and businesses; utility conflicts; traffic and community safety; worker health and safety including excavation, confined-space and drowning risks; worker accommodation; labor and SEA/SH risks; cultural heritage; flood-risk transfer; cumulative impacts; and the long-term integrity and maintenance of sewerage, pumping, drainage and flood-protection assets.
6. The ESMPF includes a screening procedure to assess the E&S risks and impacts at a site-specific level. The procedure takes into consideration AIIB Environmental and Social Exclusion List, national environmental assessment and permitting requirements, ESS1-ESS3, associated facilities, cumulative impacts, critical-habitat triggers, and the potential applicability of AIIB's Operational Policy on International Relations to international waterways. For potentially affected international waterways, sufficient information shall be developed to assess potential effects on water quality, quantity and timing at the relevant international boundary and to support AIIB's determination of any further OPIR requirements.
7. This ESMPF requires early consultation on alternative designs, considering site selection for WWTP and other risks and impacts on local communities, such as, odour, access, land

and livelihood impacts, downstream water use, flood-risk transfer and community safety. Stakeholder engagement and disclosure requirements shall be implemented in compliance with the Project SEP.

8. Subject to site-specific assessments, as well as applicable Cambodian legislations and good international practices, the detailed engineering design (DED) shall consider the following factors/issues: (i) treated-effluent agricultural reuse may be considered where a reuse need is demonstrated and fit-for-purpose health, water-quality, crop/soil, storage/distribution and institutional requirements are satisfied; (ii) pavement disturbed by sewer construction shall be reinstated to a safe, durable standard acceptable to the responsible road authority, with the extent of resurfacing (including full-width resurfacing where technically justified) defined during DED and procurement; (iii) WSP-based treatment shall remain an option where confirmed by the approved design and site-specific assessment, with appropriate odour, vector, flood and O&M controls; (iv) solar PV or other energy-efficiency/renewable-energy measures shall be assessed during DED based on available area, energy demand, lifecycle cost, grid/interface conditions, O&M capacity and climate resilience, without imposing an unsupported fixed percentage at ESMPF stage; and (v) borrow/material sources, haul routes, erosion, sediment and turbidity controls shall be assessed and approved before use where substantial fill or water-adjacent works are required.

9. The PMU is tasked with the implementation of ESMPF. The PMU will coordinate E&S screening and instrument preparation, while the DED/ESIA consultants will undertake detailed assessments and integrate mitigation into design. The construction supervision consultant will independently review contractor plans and supervise compliance; contractors will implement approved C-ESMPs and topic-specific plans; and designated facility operators will establish operational environmental and social management systems before commissioning. MEF/IRC/GDR will lead formal land acquisition and resettlement functions in accordance with the RPF and Cambodian procedures.

10. The ESMPF itself is intended to remain a stable framework. Material changes at subproject level shall be managed through a formal change-management procedure requiring re-screening and, where necessary, amendment of subproject assessments, ESMPs, resettlement instruments (where required), operational plans and permits. The ESMPF would only require revision if implementation reveals a material gap or inconsistency that prevents the framework from functioning effectively. The draft ESMPF and other Project E&S instruments will be disclosed through the official MPWT website.

11. Appraisal-mission alignment. This revised ESMPF incorporates the E&S agreements recorded during the AIIB appraisal mission of 21-25 September 2026. It shall be implemented together with the RPF, SEP, GAP, site-specific ESIAs/ESMPs and the Environmental and Social Action Plan (ESAP). Where the ESAP assigns a dated action, responsibility or deliverable, the PMU shall enter it in the consolidated E&S commitments register and track it to closure. Subject to AIIB review and clearance, the agreed disclosure package comprises the ESMPF, SEP, GAP, RPF, ESAP and the Doun Kaev WWTP ESIA/ESMP, with public disclosure targeted by 30 October 2026 to meet the Project appraisal schedule.

12. The Project Grievance Redress Mechanism (GRM) shall be established. The GRM shall be free, accessible, non-retaliatory and capable of receiving oral, written, telephone and electronic complaints, with clear procedures for receipt, acknowledgment, screening, referral, investigation, response, escalation, closure and complainant feedback. Applicable timelines, PMU/PIU focal-point contacts shall be established in the approved SEP and GRM procedures, disclosed publicly. A separate GRM for workers shall be established. To ensure cultural appropriateness and sensitivity to gender and vulnerable groups, grievance redress committees (GRCs) shall include female focal points, who shall

actively support grievance redress involving female complainants. SEA/SH and GBV complaints shall be handled through secure, confidential and survivor-centered channels, routed to qualified Gender Specialists under strict protection and anonymization protocols.

13. The Project-affected People's Mechanism (PPM) has been established by the AIIB to provide an opportunity for an independent and impartial review of submissions from Project-affected people who believe they have been or are likely to be adversely affected by AIIB's failure to implement its ESP in situations when their concerns cannot be addressed satisfactorily through Project-level GRMs or AIIB Management's processes. For information on how to make submissions to the PPM, please visit the PPM web page[1].

[1] https://www.aiib.org/en/about-aiib/who-we-are/project-affected-peoples-mechanism/how-we-assist-you/index.html

I.សេចក្តីសង្ខេបប្រតិបត្តិ

១. ក្របខណ្ឌដែនការគ្រប់គ្រងបរិស្ថាន និងសង្គម (ESMPF) នេះ ត្រូវបានចងក្រង និងធ្វើបច្ចុប្បន្នភាពដោយផ្អែកលើព័ត៌មានចុងក្រោយរបស់គម្រោង C-UIDP នៅដំណាក់កាលសិក្សាសមិទ្ធិលទ្ធភាព សៀវភៅណែនាំប្រតិបត្តិការគម្រោង ទិន្នន័យសេដ្ឋកិច្ចសង្គម លទ្ធផលនៃការពិគ្រោះយោបល់ បទប្បញ្ញត្តិជាធរមានរបស់ព្រះរាជាណាចក្រកម្ពុជា និងក្របខណ្ឌបរិស្ថាន និងសង្គមរបស់ធនាគារវិនិយោគហេដ្ឋារចនាសម្ព័ន្ធអាស៊ី (AIIB)។ ឯកសារនេះត្រូវបានរៀបចំជាក្របខណ្ឌគ្រប់គ្រងកម្រិតគម្រោង ហើយតម្រូវឱ្យមានការពិនិត្យចម្រោះ ការវាយតម្លៃ និងការរៀបចំឧបករណ៍គ្រប់គ្រងបរិស្ថាន និងសង្គមតាមទីតាំងជាក់លាក់ នៅពេលដែលការរចនាត្រូវបានបញ្ជាក់ច្បាស់លាស់។

២. រាជរដ្ឋាភិបាលកម្ពុជា តាមរយៈក្រសួងសាធារណការ និងដឹកជញ្ជូន (MPWT) កំពុងរៀបចំគម្រោងអភិវឌ្ឍន៍ហេដ្ឋារចនាសម្ព័ន្ធទីក្រុងនៅកម្ពុជា (C-UIDP) ដោយមានការគាំទ្រពី AIIB។ នៅដំណាក់កាលសិក្សាសមិទ្ធិលទ្ធភាព គម្រោងរួមមានការវិនិយោគលើប្រព័ន្ធប្រមូល និងប្រព្រឹត្តកម្មទឹកកខ្វក់ ប្រព័ន្ធរំដោះទឹកក្នុងទីក្រុង និងហេដ្ឋារចនាសម្ព័ន្ធការពារទឹកជំនន់ ក្នុងខេត្តកំពង់ឆ្នាំង កំពង់ចាម ក្រុងដូនកែវនៃខេត្តតាកែវ និងខេត្តព្រៃវែង ព្រមទាំងការពង្រឹងសមត្ថភាពស្ថាប័ន និងការគ្រប់គ្រងគម្រោង។

៣. គម្រោងត្រូវអនុវត្តតាមច្បាប់ និងបទប្បញ្ញត្តិជាធរមានរបស់កម្ពុជា និងក្របខណ្ឌបរិស្ថាន និងសង្គមរបស់ AIIB។ ស្តង់ដារបរិស្ថាន និងសង្គមទី១ (ESS1) អនុវត្តចំពោះការវាយតម្លៃ និងការគ្រប់គ្រងហានិភ័យ និងផលប៉ះពាល់បរិស្ថាន និងសង្គម។ ស្តង់ដារទី២ (ESS2) អនុវត្តនៅពេលសកម្មភាពគម្រោងបង្កឱ្យមានការទទួលយកដី ការរឹតត្បិតការប្រើប្រាស់ដី ការផ្លាស់ទីលំនៅរូបវន្ត ឬការផ្លាស់ទីលំនៅផ្នែកសេដ្ឋកិច្ច ដោយតម្រូវការលម្អិតត្រូវបានកំណត់ក្នុងក្របខណ្ឌគោលនយោបាយដោះស្រាយផលប៉ះពាល់ (RPF)។ តាមលទ្ធផលពិនិត្យបឋមនៅដំណាក់កាលសមិទ្ធិលទ្ធភាព ESS3 មិនត្រូវបានរំពឹងថានឹងអនុវត្តទេ ព្រោះអនុគម្រោងស្ថិតនៅតំបន់ទីក្រុង ហើយមិនទាន់រកឃើញវត្តមានជនជាតិដើមភាគតិច។ ទោះជាយ៉ាងណា ការអនុវត្ត ESS3 ត្រូវបញ្ជាក់ជាផ្លូវការតាមរយៈការពិនិត្យចម្រោះអនុគម្រោងនីមួយៗ។

៤. ESMPF នេះត្រូវបានរៀបចំឡើង ព្រោះទីតាំង ប្លង់ ផ្នែកនាំកាប់ វិធីសាស្ត្រសាងសង់ និងហេដ្ឋារចនាសម្ព័ន្ធពាក់ព័ន្ធមួយចំនួន មិនទាន់បានកំណត់ចុងក្រោយ ហើយនឹងត្រូវបញ្ជាក់ក្នុងដំណាក់កាលរចនាវិស្វកម្មលម្អិត។ ដូច្នេះ ESMPF មិនអាចជំនួសការវាយតម្លៃតាមអនុគម្រោង និងទីតាំងជាក់លាក់បានទេ។ ក្របខណ្ឌនេះកំណត់ដំណើរការចាំបាច់ដែល MPWT ទីប្រឹក្សា អ្នកម៉ៅការ និងប្រតិបត្តិករត្រូវអនុវត្ត សម្រាប់ការពិនិត្យចម្រោះ ការវាយតម្លៃតាមទីតាំង និងការរៀបចំ ESIA/ESMP សម្រាប់អនុគម្រោងនីមួយៗ។

៥. ហានិភ័យ និងផលប៉ះពាល់សំខាន់ៗដែលអាចកើតមាន រួមមានការជ្រើសរើសទីតាំងសម្រាប់ពោងចក្រប្រព្រឹត្តកម្មទឹកកខ្វក់ និងហេដ្ឋារចនាសម្ព័ន្ធការពារទឹកជំនន់ ភ្លិនរំខាន និងការទទួលយកពីសហគមន៍ គុណភាពទឹកនៅប្រភពទទួល និងអ្នកប្រើប្រាស់ទឹកផ្នែកខាងក្រោម ជីវចម្រុះក្នុងទឹក និងទីជម្រកសំខាន់ ការគ្រប់គ្រងកាកសំណល់ភក់ និងសម្ភារៈកខ្វក់ ការទទួលយកដី និងការផ្លាស់ទីលំនៅផ្នែកសេដ្ឋកិច្ច ការរំខានដល់ផ្លូវចូលផ្ទះ និងអាជីវកម្ម ការប៉ះទង្គិចបណ្តាញសេវាសាធារណៈ ចរាចរណ៍ និងសុវត្ថិភាពសហគមន៍ សុខភាព

និងសុវត្ថិភាពកម្មករ រួមទាំងហានិភ័យពីការជីករណ្តៅ កន្លែងបិទជិត និងការលង់ទឹក ជំរកកម្មករ លំហូរកម្លាំងពលកម្ម និងហានិភ័យ SEA/SH បេតិកភណ្ឌវប្បធម៌ ការផ្ទេរហានិភ័យទឹកជំនន់ ផលប៉ះពាល់សន្សំ និងភាពរឹងមាំរយៈពេលវែងនៃប្រព័ន្ធល្ង ស្តានីយបូមទឹក ប្រព័ន្ធរំដោះទឹក និងទ្រព្យសម្បត្តិការពារទឹកជំនន់។

៦. ESMPF កំណត់នីតិវិធីពិនិត្យចម្រោះសម្រាប់វាយតម្លៃហានិភ័យ និងផលប៉ះពាល់បរិស្ថាន និង សង្គម តាមទីតាំងជាក់លាក់។ នីតិវិធីនេះពិចារណាបញ្ហីសកម្មភាពហាមឃាត់ផ្នែកបរិស្ថាន និងសង្គមរបស់ AIIB តម្រូវការវាយតម្លៃ និងអាជ្ញាបណ្ណជាតិ ESS1 ដល់ ESS3 ហេដ្ឋារចនាសម្ព័ន្ធពាក់ព័ន្ធ ផលប៉ះពាល់សន្សំ លក្ខខណ្ឌកំណត់ទីជម្រកសំខាន់ និងលទ្ធភាពអនុវត្តគោលនយោបាយ AIIB ស្តីពីទំនាក់ទំនងអន្តរជាតិចំពោះផ្លូវទឹកអន្តរជាតិ។ ប្រសិនបើអាចប៉ះពាល់ដល់ផ្លូវទឹកអន្តរជាតិ ត្រូវរៀបចំព័ត៌មានគ្រប់គ្រាន់សម្រាប់វាយតម្លៃការប្រែប្រួលគុណភាព បរិមាណ និងពេលវេលាលំហូរទឹកនៅព្រំដែនពាក់ព័ន្ធ និងគាំទ្រការសម្រេចរបស់ AIIB អំពីតម្រូវការបន្ថែម។

៧. ESMPF តម្រូវឱ្យមានការពិគ្រោះយោបល់តាំងពីដំណាក់កាលដំបូងលើជម្រើសរចនា ជាពិសេសការជ្រើសរើសទីតាំងពោងចក្រប្រព្រឹត្តកម្មទឹកកខ្វក់ និងបញ្ហាដែលអាចប៉ះពាល់ដល់សហគមន៍ ដូចជា ភ្លិនរំខាន ផ្លូវចូល ការបាត់បង់ដី និងមុខរបរ ការប្រើប្រាស់ទឹកផ្នែកខាងក្រោម ការផ្ទេរហានិភ័យទឹកជំនន់ និង សុវត្ថិភាពសហគមន៍។ ការចូលរួមរបស់ភាគីពាក់ព័ន្ធ និងការផ្សព្វផ្សាយព័ត៌មាន ត្រូវអនុវត្តស្របតាមផែនការចូលរួមរបស់ភាគីពាក់ព័ន្ធ (SEP) របស់គម្រោង។

៨. ដោយផ្អែកលើការវាយតម្លៃតាមទីតាំង ច្បាប់កម្ពុជា និងការអនុវត្តល្អជាអន្តរជាតិ ការចនាវិស្វកម្មលម្អិតត្រូវពិចារណា៖ (១) ការប្រើប្រាស់ទឹកដែលបានប្រព្រឹត្តកម្មឡើងវិញសម្រាប់កសិកម្ម អាចអនុញ្ញាតបានតែក្នុងករណីមានតម្រូវការច្បាស់លាស់ និងបំពេញលក្ខខណ្ឌសុខភាព គុណភាពទឹក ប្រភេទដំណាំ និងដី ការស្តុក និងចែកចាយ និងសមត្ថភាពស្តាប័ន; (២) ផ្លូវដែលរងការខូចខាតដោយការសាងសង់ល្ង ត្រូវស្តារឡើងវិញឱ្យមានសុវត្ថិភាព ធន់ និងទទួលយកបានពីអាជ្ញាធរផ្លូវថ្នល់ ដោយកំណត់វិសាលភាពការក្រាលផ្លូវឡើងវិញក្នុង DED និងឯកសារលទ្ធកម្ម; (៣) បច្ចេកវិទ្យាស្រះស្តេរភាពទឹកកខ្វក់ អាចរក្សាជាជម្រើស ប្រសិនបើត្រូវបានបញ្ជាក់ដោយការរចនា និងការវាយតម្លៃតាមទីតាំង ដោយមានវិធានការគ្រប់គ្រងក្លិន សត្វចម្លងជំងឺ ទឹកជំនន់ និងប្រតិបត្តិការ និងថែទាំ; (៤) ថាមពលព្រះអាទិត្យ ឬវិធានការបង្កើនប្រសិទ្ធភាពថាមពលត្រូវវាយតម្លៃក្នុង DED ដោយផ្អែកលើផ្ទៃដី តម្រូវការថាមពល ថ្លៃដើមពេញវដ្តជីវិត ការគភ្ជាប់បណ្តាញ សមត្ថភាពប្រតិបត្តិការ និងភាពធន់នឹងអាកាសធាតុ ដោយមិនកំណត់ភាគរយថេរដែលគ្មានមូលដ្ឋានគាំទ្រ; និង (៥) ប្រភពដី និងសម្ភារៈ: ផ្លូវដឹកជញ្ជូន សំណើក ដីល្បាប់ និងភាពល្អក់នៃទឹក ត្រូវវាយតម្លៃ និងទទួលការអនុម័តមុនប្រើប្រាស់។

៩. អង្គភាពគ្រប់គ្រងគម្រោង (PMU) ទទួលខុសត្រូវចម្បងលើការអនុវត្ត ESMPF។ PMU ត្រូវសម្របសម្រួលការពិនិត្យចម្រោះ និងការរៀបចំឧបករណ៍ E&S ខណៈដែលទីប្រឹក្សា DED/ESIA ត្រូវអនុវត្តការវាយតម្លៃលម្អិត និងបញ្ចូលវិធានការកាត់បន្ថយផលប៉ះពាល់ទៅក្នុងការរចនា។ ទីប្រឹក្សាត្រួតពិនិត្យការសាងសង់ត្រូវពិនិត្យផែនការរបស់អ្នកម៉ៅការ និងត្រួតពិនិត្យការអនុលោម; អ្នកម៉ៅការត្រូវអនុវត្ត C-ESMP និងផែនការតាមប្រធានបទដែលបានអនុម័ត; និងប្រតិបត្តិករត្រូវបង្កើតប្រព័ន្ធគ្រប់គ្រងបរិស្ថាន និងសង្គមសម្រាប់

ដំណាក់កាលប្រតិបត្តិការ មុនការដាក់ឱ្យដំណើរការ។ MEF/IRC/GDR ត្រូវដឹកនាំមុខងារទទួលយកដី និងដោះស្រាយផលប៉ះពាល់ ស្របតាម RPF និងនីតិវិធីរបស់កម្ពុជា។

១០. ESMPF ត្រូវរក្សាជាក្របខណ្ឌដែលមានស្ថិរភាព។ ការផ្លាស់ប្តូរសំខាន់ៗនៅកម្រិតអនុគម្រោង ត្រូវគ្រប់គ្រងតាមនីតិវិធីផ្លាស់ប្តូរដោយផ្លូវការ ដែលតម្រូវឱ្យពិនិត្យចម្រោះឡើងវិញ និងកែសម្រួលការវាយតម្លៃអនុគម្រោង ESMP ឧបករណ៍ដោះស្រាយផលប៉ះពាល់ ផែនការប្រតិបត្តិការ និងអាជ្ញាបណ្ណ ប្រសិនបើចាំបាច់។ ESMPF គួរត្រូវបានកែប្រែតែក្នុងករណីការអនុវត្តបង្ហាញពីចន្លោះខ្វះខាត ឬភាពមិនស្របគ្នាសំខាន់ដែលរាំងដល់ប្រសិទ្ធភាពនៃក្របខណ្ឌ។ ESMPF និងឧបករណ៍ E&S ផ្សេងៗរបស់គម្រោង ត្រូវផ្សព្វផ្សាយតាមគេហទំព័រផ្លូវការរបស់ MPWT។

១១. ការធ្វើសមកាលកម្មតាមបេសកកម្មវាយតម្លៃគម្រោង៖ ESMPF ដែលបានកែសម្រួលនេះ បញ្ចូលកិច្ចព្រមព្រៀងផ្នែកបរិស្ថាន និងសង្គមដែលបានកត់ត្រាក្នុងបេសកកម្មវាយតម្លៃរបស់ AIIB ចាប់ពីថ្ងៃទី២១ ដល់ថ្ងៃទី២៥ ខែកញ្ញា ឆ្នាំ២០២៦។ ឯកសារនេះត្រូវអនុវត្តរួមជាមួយ RPF, SEP, GAP, ESIA/ESMP តាមទីតាំង និងផែនការសកម្មភាពបរិស្ថាន និងសង្គម (ESAP)។ សកម្មភាព ការទទួលខុសត្រូវ កាលកំណត់ និងឯកសារប្រគល់ដែលបានកំណត់ក្នុង ESAP ត្រូវបញ្ចូលក្នុងបញ្ជីតាមដានកិច្ចសន្យា E&S និងតាមដានរហូតដល់បិទបញ្ចប់។ ក្រោយការពិនិត្យ និងយល់ព្រមពី AIIB កញ្ចប់ឯកសារដែលបានព្រមព្រៀងសម្រាប់ការផ្សព្វផ្សាយ រួមមាន ESMPF, SEP, GAP, RPF, ESAP និង ESIA/ESMP សម្រាប់ពោងចក្រប្រព្រឹត្តកម្មទឹកកខ្វក់ក្រុងដូនកែវ ដោយមានគោលដៅផ្សព្វផ្សាយជាសាធារណៈត្រឹមថ្ងៃទី៣០ ខែតុលា ឆ្នាំ២០២៦។

១២. គម្រោងត្រូវបង្កើត និងរក្សាយន្តការដោះស្រាយបណ្តឹងតវ៉ា (GRM) ដែលឥតគិតថ្លៃ ងាយស្រួលប្រើប្រាស់ គ្មានការសងសឹក និងអាចទទួលបណ្តឹងតាមមាត់ លាយលក្ខណ៍អក្សរ ទូរស័ព្ទ និងប្រព័ន្ធអេឡិចត្រូនិក។ GRM ត្រូវមាននីតិវិធីច្បាស់លាស់សម្រាប់ការទទួល ការបញ្ជាក់ការទទួល ការពិនិត្យចម្រោះ ការបញ្ជូន ការស៊ើបអង្កេត ការឆ្លើយតប ការបញ្ជូនទៅថ្នាក់ខ្ពស់ ការបិទបញ្ចប់ និងការផ្តល់មតិត្រឡប់ទៅអ្នកប្តឹង។ កាលកំណត់ និងព័ត៌មានទំនាក់ទំនងរបស់មន្ត្រីបង្គោល PMU/PIU ត្រូវកំណត់ក្នុង SEP និងនីតិវិធី GRM ហើយផ្សព្វផ្សាយជាសាធារណៈ។ ត្រូវបង្កើត GRM ដាច់ដោយឡែកសម្រាប់កម្មករ។ គណៈកម្មការដោះស្រាយបណ្តឹងត្រូវមានមន្ត្រីបង្គោលជាស្ត្រី ដើម្បីគាំទ្រអ្នកប្តឹងជាស្ត្រី និងក្រុមងាយរងគ្រោះ។ បណ្តឹងពាក់ព័ន្ធ SEA/SH និងអំពើហិង្សាផ្អែកលើយេនឌ័រ ត្រូវគ្រប់គ្រងតាមបណ្តាញសម្ងាត់ មានសុវត្ថិភាព ផ្តោតលើជនរងគ្រោះ និងការពារអត្តសញ្ញាណ។

១៣. យន្តការសម្រាប់ប្រជាពលរដ្ឋដែលរងផលប៉ះពាល់ដោយគម្រោង (Project-affected People's Mechanism - PPM) ត្រូវបានបង្កើតឡើងដោយ AIIB ដើម្បីផ្តល់ឱកាសសម្រាប់ការពិនិត្យដោយឯករាជ្យ និងអព្យាក្រឹត ចំពោះសំណើរបស់ប្រជាពលរដ្ឋដែលជឿថាពួកគេបានរង ឬអាចរងផលប៉ះពាល់អវិជ្ជមានដោយសារ AIIB មិនបានអនុវត្តគោលនយោបាយបរិស្ថាន និងសង្គមរបស់ខ្លួន ក្នុងករណីដែលកង្វល់របស់ពួកគេមិនអាចដោះស្រាយបានតាម GRM របស់គម្រោង ឬដំណើរការគ្រប់គ្រងរបស់ AIIB។ ព័ត៌មានស្តីពីការដាក់សំណើទៅ PPM អាចរកបាននៅលើគេហទំព័រផ្លូវការរបស់ PPM។

I. INTRODUCTION, PURPOSE AND SCOPE OF THE ESMPF

1. Project Context, Purpose and Scope

A. Project Background

14. C-UIDP is being prepared by MPWT to improve urban environmental infrastructure, strengthen climate resilience and enhance urban services in selected secondary cities. The feasibility-stage project focuses on wastewater, drainage and flood-protection investments in four participating cities and on institutional strengthening required for implementation and sustainable operation.

B. Purpose of the ESMPF

15. The purpose of this ESMPF is to define the rules, procedures, responsibilities and decision gates that govern environmental and social risk management for all C-UIDP activities. It is a framework for carrying out assessment and management; it is not a compilation of final subproject assessments.

- screen and determine eligibility of each activity and associated facility;
- identify applicable Cambodian approvals, AIIB standards and specialized studies;
- determine the level and type of subproject E&S instrument;
- ensure avoidance and minimization are incorporated into site selection and design;
- establish consultation, disclosure, GRM, procurement, construction and O&M requirements;
- define institutional responsibilities, monitoring, reporting, incident management and change control.

C. Scope and Application

16. The ESMPF applies to all Project-financed activities, including permanent works, temporary works and associated facilities within the meaning of the AIIB ESF. It applies from feasibility and DED through procurement, construction, commissioning, operation, maintenance and closure/decommissioning where relevant.

17. The ESMPF applies to wastewater collection networks, pumping stations, WWTPs, drainage canals and pipelines, culverts, flood-protection embankments and roads, outfalls, utility connections, access roads, construction camps, laydown areas, borrow/quarry areas, spoil and sludge management locations, and other facilities or activities that are necessary for Project delivery or may be considered associated facilities.

D. Relationship with Other Project Instruments

Table 1: Relationship of the ESMPF with Other Project Instruments

Instrument	ESMPF interface
RPF	The ESMPF identifies ESS2 triggers and design-avoidance requirements. The RPF governs detailed land acquisition, compensation, livelihood restoration, consultation, implementation and monitoring.
SEP	The ESMPF defines when consultation/disclosure are required and cross-refers to the SEP for stakeholder mapping, methods, schedule and engagement records.
Gender Assessment / GAP	The ESMPF requires gender-responsive screening, assessment, design, consultation, employment, SEA/SH risk management and monitoring; detailed actions and targets are maintained in the GAP.

Instrument	ESMPF interface
Subproject ESIA/ESMP	Eight site-specific ESIA/ESMPs are pre-assigned at framework level: two per participating city in accordance with Table 22. Package 1 covers integrated wastewater/WWTP or existing-WWTP interface, sewerage, pumping, drainage and related facilities; Package 2 covers the flood-control road/dyke-road. DED refines scope, baseline, specialist studies and mitigation. Screening determines additional instruments only for ancillary facilities, material design changes or additional works.
C-ESMP	Prepared by each works contractor based on the approved ESMP and contract requirements; must be approved before relevant works commence.
Operational ESMS/ESMP	Prepared or updated before commissioning by the responsible operator; covers permits, monitoring, maintenance, OHS, emergency response, community liaison and GRM.

2. Key considerations for assessment and engineering design

18. The ESMPF is intended to provide a framework for E&S screening and determination of site specific instruments. Design and scope changes are managed at subproject level through re-screening and controlled updates to the relevant assessments and management plans. Revision of this ESMPF is only warranted if a material gap, contradiction or implementation failure demonstrates that the framework cannot achieve compliance with applicable requirements.

A. Framework Rationale

19. This chapter is intended to provide a practical and sufficiently detailed explanation of the purpose, scope and practical use of the framework throughout feasibility, detailed design, procurement, construction, commissioning and operation. The framework is necessary because the feasibility studies establish the main investment concept, but the environmental and social consequences of individual works depend on information that becomes more precise during detailed engineering and implementation. The Project shall therefore use this chapter together with the screening forms, decision gates and related project instruments rather than treating the ESMPF as a static description of anticipated impacts. Particular attention shall be given to final alignments and footprints, temporary works, associated facilities, land and livelihood effects, permitting, contractor arrangements and operational responsibilities. The level of analysis shall remain proportionate to risk, but the absence of final design information shall never be used as a reason to defer an issue that can reasonably influence site selection, engineering or procurement.

20. The practical application of this chapter covers wastewater networks, pumping stations, WWTPs, drainage works, flood-control roads, outfalls, access routes and contractor-selected temporary facilities. For each activity, the responsible team shall identify the relevant area of influence, affected people and environmental receptors, applicable legal and AIIB requirements, information gaps and management responsibilities. Findings shall be documented in a form that can be used by engineers and decision makers. Where an issue requires specialist input, the requirement shall be included in the relevant terms of reference and completed early enough to influence design. Where an issue can be avoided through a reasonable design adjustment, avoidance shall be preferred to reliance on later compensation or construction-stage mitigation.

B. E&S Integration with Engineering Design

21. Environmental and social management under C-UIDP shall be integrated into normal project decision making. The central question for consideration is whether sufficient environmental and social information is available for the activity to make a decision on a

proposed project. This consideration shall be supported by documented evidence rather than assumption. Environmental and social specialists shall receive current drawings, design criteria and implementation schedules, while engineering teams shall receive clear E&S constraints and mitigation requirements. This two-way exchange is essential because changes in alignment, treatment technology, hydraulic design, construction method, access or land footprint can alter the risk profile even when the overall project component remains unchanged.

22. The Project shall maintain a design and commitments register linking significant E&S findings to engineering or management actions. Each entry should identify the issue, required action, responsible party, target date, evidence of completion and status. Measures that depend on permanent engineering shall be incorporated into drawings and specifications before design approval. Measures that depend on contractor behavior shall be translated into bidding and contract requirements. Measures that apply during operation shall be incorporated into commissioning criteria, operating procedures, maintenance systems and the operator's environmental and social management arrangements.

C. Risk-Based Implementation and Quality Control

23. A risk-based approach does not mean reducing the quality of assessment; it means directing the greatest effort to the issues most capable of causing significant harm or undermining project sustainability. For C-UIDP, the risk profile can include final alignments and footprints, temporary works, associated facilities, land and livelihood effects, permitting, contractor arrangements and operational responsibilities. The PMU shall ensure that the scope of work, specialist expertise, consultation and monitoring are commensurate with these risks. Lower-risk and well-understood impacts may be managed through standard measures, while complex or uncertain risks shall receive additional investigation, alternatives analysis, specialist review or conservative design as appropriate.

24. Quality assurance shall test both completeness and usefulness. A document may contain all expected headings but still be inadequate if it does not support a decision, identify a responsible party or define an implementable measure. Reviewers shall therefore check whether the latest project information has been used, whether the area of influence is complete, whether affected people and sensitive receptors are properly considered, whether conclusions are supported by evidence, and whether mitigation can be verified in practice. Inconsistencies between the ESMPF, RPF, SEP, design documents, contractor requirements and operational arrangements shall be resolved before the relevant decision gate.

D. Documentation, Traceability and Adaptive Management

25. The PMU shall maintain an integrated, dependency-based E&S delivery schedule linking final engineering information, biodiversity and critical-habitat work, water-quality and effluent studies, stakeholder engagement, land/resettlement due diligence, instrument preparation and disclosure, procurement, site access and construction. No package shall advance through design freeze, tender, contract award, mobilization or commissioning until the E&S prerequisites applicable to that decision point are complete and documented.

26. Implementation shall be traceable through records. Depending on the stage and topic, these records may include screening forms, site-visit notes, consultation records, maps, baseline data, permits, design-review comments, land-access evidence, approved instruments, contractor plans, inspection reports, monitoring results, grievance logs, incident investigations, corrective-action records and handover documents. The PMU shall maintain a structured filing and tracking system so that the basis for important decisions can be reconstructed and verified by MPWT, competent authorities and AIIB.

27. The framework shall also be applied adaptively. If monitoring, consultation, an incident, a new receptor, a design revision or updated legal requirement indicates that the original assessment is no longer adequate, the Project shall review the relevant decision and strengthen the assessment or management measure. This adaptive approach does not imply routine rewriting of the ESMPF. Instead, it requires controlled updating of subproject screening, assessments, ESMPs, contractor plans, resettlement instruments or operational procedures where the change occurs. Material changes shall follow the formal change-management process in Chapter 10.

E. Expected Implementation Outcomes

28. The expected outcome is a clear and auditable process in which the purpose, scope and practical use of the framework throughout feasibility, detailed design, procurement, construction, commissioning and operation is consistently applied across all four cities and all implementation stages. At this stage, PMU, consultant, supervision or contractor team member need to understand what must be checked, when it must be checked, who is responsible and what evidence is needed before work advances. It also provides AIIB and Cambodian authorities with a transparent basis for reviewing how Project-level commitments are converted into site-specific action. Where the latest feasibility studies do not support a specific numerical value, contact detail or final design conclusion, the Project shall verify that information through the appropriate technical or institutional source rather than inserting an unsupported assumption.

3. Project Development and E&S Context

A. Project Development Context and Urban Infrastructure Rationale

29. C-UIDP is being prepared in a context where urban sanitation, drainage, flood management, road access and public-service reliability are interdependent. In the participating provincial cities, wastewater and stormwater problems are not confined to individual assets; they are influenced by the condition of existing drains, household connections, road levels, receiving waters, seasonal flooding, utility corridors and patterns of urban growth. The ESMPF therefore frames environmental and social management around the urban system rather than around isolated construction contracts. This system perspective is important because an apparently small design decision, such as the location of a pumping station, sewer alignment or outfall, can change access requirements, land needs, nuisance exposure, flood pathways, worker hazards and long-term operational responsibility.

30. The Project is also expected to generate substantial public benefits through improved wastewater collection and treatment, reduced uncontrolled discharge, improved drainage and flood resilience, safer and cleaner urban environments and more reliable infrastructure services. The framework does not assume that positive objectives automatically eliminate adverse impacts. Instead, it requires the Project to demonstrate that the location, design, construction method and operational arrangements are capable of delivering the intended benefits without transferring unacceptable environmental or social costs to nearby communities, downstream users, workers or vulnerable groups. This balanced treatment of benefits and risks is consistent with a robust feasibility-stage framework approach.

B. ESMPF Objectives, Users and Decision Functions

31. The ESMPF has four operational objectives. First, it establishes a uniform process for environmental and social screening and for deciding what further assessment or management instrument is required. Second, it defines the minimum substantive issues that must be considered in design and assessment for wastewater, drainage and flood-control investments. Third, it assigns responsibility for implementation across MPWT, the

PMU/PIUs, consultants, contractors, supervision teams and future operators. Fourth, it establishes monitoring, reporting, grievance, incident and change-management systems that continue through construction and operation. These objectives convert the ESMPF from a narrative safeguard report into a project-management framework.

32. The principal users are not limited to environmental and social specialists. Engineers use the framework to understand siting, land, water, safety and community constraints that must influence design. Procurement staff use it to identify contractual E&S requirements and priced mitigation obligations. Supervision consultants use it to develop inspection and reporting systems. Contractors use it to prepare site-specific C-ESMPs and subplans. Operators use it to establish O&M environmental and social procedures. MPWT and AIIB use it to review whether environmental and social requirements have been addressed before key decisions. Local authorities and communities use the disclosure and grievance provisions to understand commitments and raise concerns.

4. Methodology

33. **Area of influence.** For framework purposes, the area of influence includes the permanent footprint of Project-financed works, temporary construction areas, access routes, disposal and material-source areas where relevant, affected utility corridors, receiving waters, downstream receptors, contractor facilities, and other locations where Project activities may cause direct, indirect or induced effects. The area of influence is not limited to the formal road reserve or WWTP boundary. It shall be defined for each subproject during screening and refined during DED assessment. The definition shall account for physical works as well as functional relationships, such as the connection of a new sewer network to an existing treatment facility or the interaction of a flood-control road with adjacent drainage and river systems.

34. Associated facilities shall be identified using AIIB requirements and the actual functional relationship to the Project. Particular attention is required for electricity or utility connections, access roads, existing WWTPs receiving Project flows, sludge treatment/disposal arrangements, disposal sites and other facilities that may be necessary for a Project asset to operate but are not financed or controlled directly by C-UIDP. The assessment shall identify the degree of Project control or influence and the measures reasonably available to manage associated risks.

35. For Prey Veng, the screening and due-diligence process shall specifically cover the road sections providing access to the proposed WWTP and the flood-control road, including their land status, prior or ongoing acquisition, informal and productive use, livelihood effects, legacy issues, responsible implementing entity and the Project's ability to exercise control or influence. The resulting screening and due-diligence report shall determine whether further assessment, corrective action or an ESS2 instrument is required before the relevant facility is relied upon or works proceed.

36. **Methodology.** The ESMPF draws on the latest city-specific feasibility studies, engineering concepts, environmental and social review, stakeholder information and the separate Project safeguard instruments. Its preparation follows a structured methodology: review of project scope and alternatives; review of applicable Cambodian and AIIB requirements; identification of contextual environmental and social conditions; development of screening and instrument-selection procedures; definition of minimum assessment topics; assignment of implementation responsibilities; and preparation of monitoring, grievance, incident and change-management requirements. The framework is intentionally written to remain applicable as the detailed design matures.

37. Where feasibility information is incomplete, the ESMPF identifies the verification action required at DED rather than inventing a final value. Examples include final parcel

boundaries, exact outfalls, contractor-selected facilities, technology-specific odour criteria, permit conditions, final implementation staffing and the detailed ESMPF budget. This distinction between confirmed feasibility information and DED verification is a quality-control feature. It allows the document to be detailed without creating false precision.

38. The ESMPF shall be read with the RPF, SEP, Gender Assessment/Gender Action Plan, E&S Scoping Report, feasibility studies, procurement documents and subsequent site-specific E&S instruments.

II. PROJECT DESCRIPTION AND FRAMEWORK CONTEXT

1. Project Overview and Components

A. Project Objective

39. Improve Wastewater Collection, Conveyance, and Treatment Services: The Project will develop and upgrade wastewater collection networks, pumping stations, and wastewater treatment plants (WWTPs) to improve the collection, conveyance, treatment, and safe disposal of domestic wastewater. These investments aim to reduce the discharge of untreated wastewater into rivers, lakes, canals, and other natural water bodies, thereby improving surface water quality, reducing environmental pollution, protecting aquatic ecosystems, and minimizing public health risks associated with inadequate sanitation.

40. Reduce Urban Flooding through Improved Drainage and Flood Protection Infrastructure: The Project will improve urban drainage systems and construct flood protection infrastructure to increase stormwater drainage capacity and reduce the frequency and severity of urban flooding. These improvements will minimize flood-related damage to public infrastructure, residential areas, commercial establishments, and public services while enhancing the resilience of urban areas to increasingly intense rainfall events associated with climate change.

41. **Strengthen Institutional Capacity for Infrastructure Planning, Operation, and Maintenance:** The Project will strengthen the institutional and technical capacities of the Ministry of Public Works and Transport (MPWT), provincial authorities, municipal administrations, and relevant service providers responsible for managing urban infrastructure. Capacity-building activities will include technical training, operational support, development of management systems, environmental and social safeguards implementation, monitoring and evaluation, and asset management to ensure the long-term sustainability and efficient operation of project investments.

42. **Increase the Climate Resilience of Urban Infrastructure:** The Project incorporates climate-resilient planning and engineering principles into the design and implementation of urban infrastructure to improve its ability to withstand current and future climate risks, including increased rainfall intensity, flooding, and other climate-related hazards. By integrating climate adaptation measures into infrastructure investments, the Project aims to reduce vulnerability, improve service reliability, and enhance the long-term sustainability of urban development.

43. **Promote Environmentally and Socially Sustainable Project Implementation:** The Project is committed to ensuring that environmental and social considerations are integrated throughout the project lifecycle. Environmental and social risks and impacts will be identified, assessed, mitigated, monitored, and managed in accordance with Cambodian laws and regulations and the AIIB Environmental and Social Framework (ESF). Particular attention will be given to stakeholder engagement, land acquisition and resettlement, occupational and community health and safety, biodiversity conservation, labor and working conditions, gender equality, inclusion of vulnerable groups, grievance redress, and continuous environmental and social monitoring to ensure that project benefits are delivered in an equitable, transparent, and sustainable manner.

B. Project Component

44. Component 1 covers drainage and wastewater management in Kampong Chhnang, Doun Kaev and Prey Veng, including sewerage networks, household and business connections, wastewater treatment facilities where applicable, priority stormwater drainage and flood-control roads. Component 2 covers drainage and wastewater management in Kampong Cham, including the proposed second wastewater treatment plant and associated

sewerage, drainage and flood-protection measures, and is proposed for co-financing with ADFD. Component 3 covers capacity building and project management, including implementation support, construction supervision, institutional strengthening, sustainable wastewater-service management, climate-resilient planning, asset and tariff management, WASH and social-inclusion activities, monitoring and evaluation, and operator training. These project-level arrangements shall be kept consistent with the final financing plan, detailed designs and city-specific E&S instruments.

45. The Project Operations Manual confirms an implementation period from February 2026 to December 2033. The implementation sequence is structured into three phases: preparation and procurement during 2026-2027; construction and capacity building during 2028-2031; and commissioning, a two-year O&M period, asset registration, handover and project closure during 2031-2033. This sequencing is adopted in the ESMPF as the implementation framework for timing screening, preparation of site-specific instruments, procurement integration, construction monitoring and operational readiness. Site-specific ESIA/ESMP and resettlement instruments are to be finalized during DED before relevant works proceed.

46. The implementation schedule and phasing shall be taken from the approved financing, procurement and Project implementation schedule. For ESMPF planning, the sequence comprises preparation and procurement; construction and capacity building; commissioning and O&M support; and asset registration, handover and closure. Dates contained in working drafts are indicative only and shall be updated when the approved master schedule is issued. Site-specific ESIA/ESMP and resettlement instruments shall be finalized during DED before the relevant works proceed.

Table 2: Project Components

Component	Description
Components 1 and 2 - Drainage and Wastewater Management	Development and rehabilitation of wastewater collection systems, WWTPs or integration with existing treatment facilities where confirmed, pumping stations, urban drainage networks, flood-protection structures and associated infrastructure in the four participating cities.
Component 3 - Capacity Building and Project Management	Institutional strengthening, capacity development, project management, construction supervision, E&S implementation, monitoring and evaluation, and operational support.

Feasibility Study scope confirmation: the latest Doun Kaev F/S identifies a proposed wastewater treatment plant at Boeng O Tom Lake on approximately 23 ha, with 4,000 m³/day for the current phase and 2,000 m³/day for the future phase, together with separated sewerage, stormwater drainage and a 5.68 km flood-control road. These feasibility parameters provide the basis for DED screening and site-specific assessment and remain subject to final design verification.

2. Participating Cities and Infrastructure

A. Participating Cities and Feasibility-Stage Infrastructure

Figure 1 Project location map

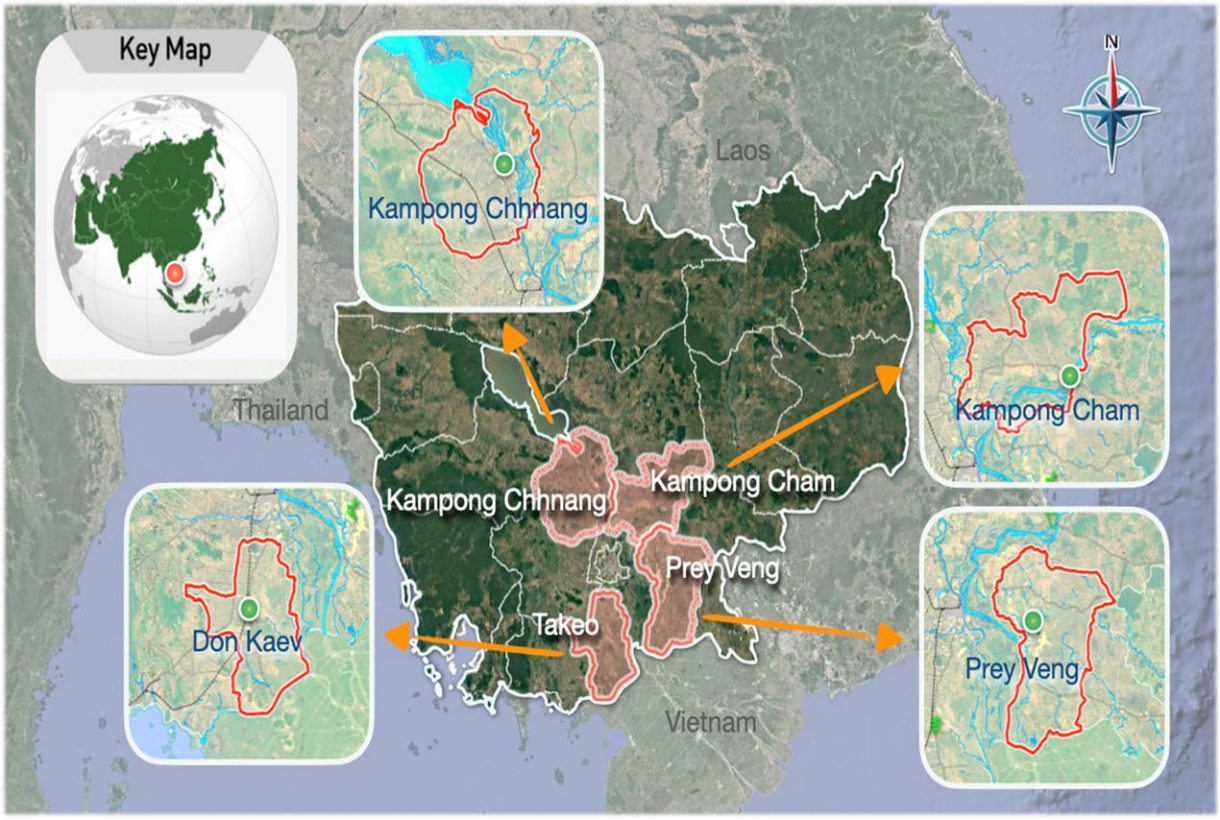


Table 3: City-Specific Feasibility-Stage Infrastructure Scope

Items		units	Description	Kampong Chhnang	Kampong Cham	Doun Kaev	Prey Veng	Total	Remarks
Components 1 and 2 - Drainage and wastewater management									
Population in the Service Area (2058)		persons		26,950	29,468	18,440	16,163	91,021	Year 2058
Number of Household for Sewer System (2058)		nos		6,417	7,016.0	4,288	4,253.0	21,974	Year 2058
Sewerage Systems	WWTP	nos	Q=3,000~5,000 m3/d	-	1 (Q=5,000 m3/d)	1 (Q=4,000 m3/d)	1 (Q=3,000 m3/d)	3	WSP Process
	Manhole Pumping Station	nos		2 (0.84m³/min ,0.21m³/min)	1 (0.74m³/min)			3	
	Primary Pipe	m	D300~D600	2,694	9,385	7,299.9	10,051	29,430	
	Secondary Pipe	m	D200-D300	30,806	17,928	4,324	16,057	69,115	
	Tertiary Pipe	m	D200	37,179	16,177	33,436	19,160	105,952	
	Force Main Pipe	m	D200	810	880			1,690	
	Lateral Pipe	m	D150	91,290	83,310.0	64,680	71,070	310,350	

Items		units	Description	Kampong Chhnang	Kampong Cham	Doun Kaev	Prey Veng	Total	Remarks
	Manhole	nos	D900-D1200	2,486	1,513.0	1,339	1,459	6,797	
	Connection Box	nos	W500xL500	3,043	2,777.0	2,156	2,369	10,345	
	Wastewater Inlet	nos	W300xL300	6,417	7,016.0	4,288	4,253	21,974	
Stormwater Pipelines	Rectangular	m	3000x3000	880	1,160	11,991.6		14,032	
	Circular Pipe	m	D1200		3,477		310	3,787	
		m	D1000	3,097	6,403	9,198	2,570	21,268	
		m	D800		750			750	
		m	D600		947		10,490	11,437	
Flood Control Road	Dyke	m		18,630	1,970	5,680	8,755	35,035	With Pavement

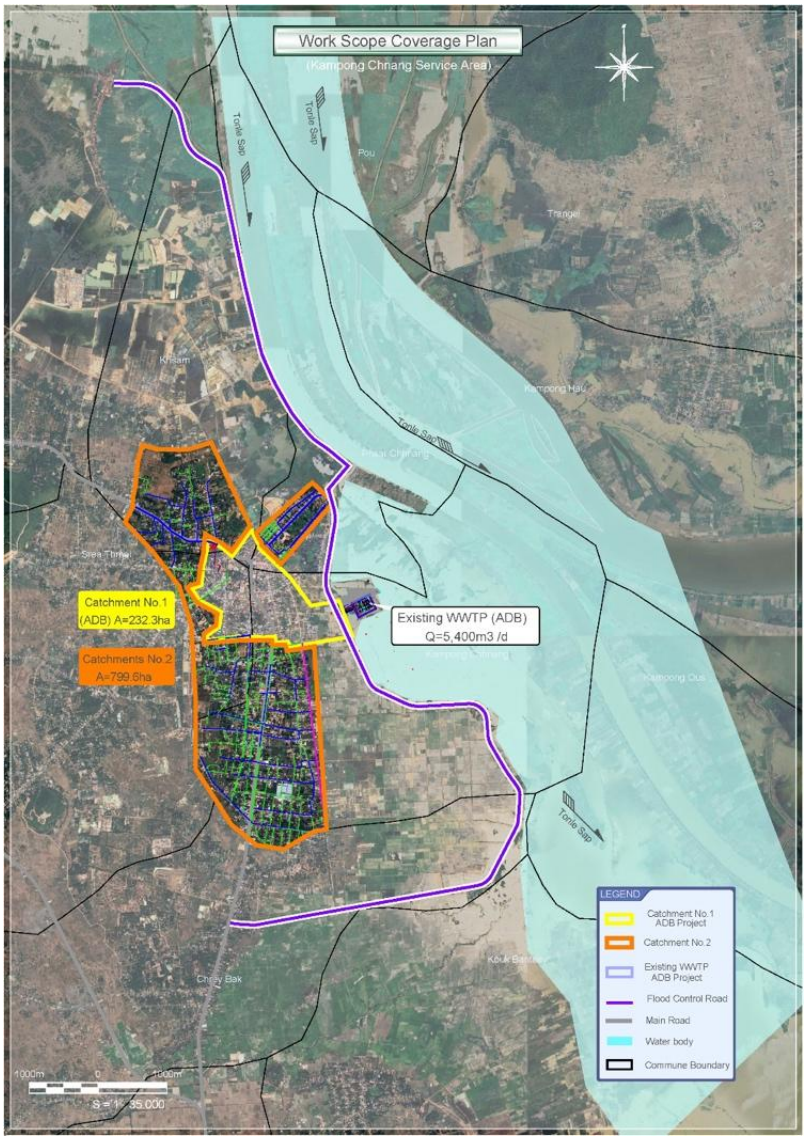
47. **Subproject ESIA commitment.** For safeguard planning purposes, the infrastructure in each participating city shall be organized into two site-specific ESIA packages. Package 1 covers the integrated wastewater, sewerage, pumping, urban drainage and related facilities, including the WWTP or existing-WWTP interface, household connections, force mains, outfalls and other functionally related components. Package 2 covers the flood-control road/dyke-road works. The minimum ESIA schedule is provided in Chapter V, Table 22. DED may refine boundaries and interfaces within each package but may not alter the two-package structure without documented re-screening and prior agreement with MPWT/AIIB.

Kampong Chhnang City

48. The Kampong Chhnang subproject forms part of Component 1 Wastewater Treatment and Drainage Infrastructure of the Cambodia Urban Infrastructure Development Project (C-UIDP). The subproject aims to improve urban sanitation, stormwater management, and flood resilience through the development of integrated wastewater collection, treatment, drainage, and flood protection infrastructure. The proposed investments have been identified to address inadequate wastewater management, limited drainage capacity, and recurring flooding associated with rapid urbanization and climate variability.

49. The Kampong Chhnang investment will connect a proposed separated sewer network to the existing 6.36 ha Boeng Alum WWTP (6,500 m³/day) using MBBR. The FS identifies 2.69 km of primary, 30.80 km of secondary, 37.18 km of tertiary and 0.80 km of force main sewer, 91.29 km of lateral pipe, 2,486 manholes and two pumping stations. These quantities require confirmation at DED.

Figure 2: Project location map of Kampong Chhnang City



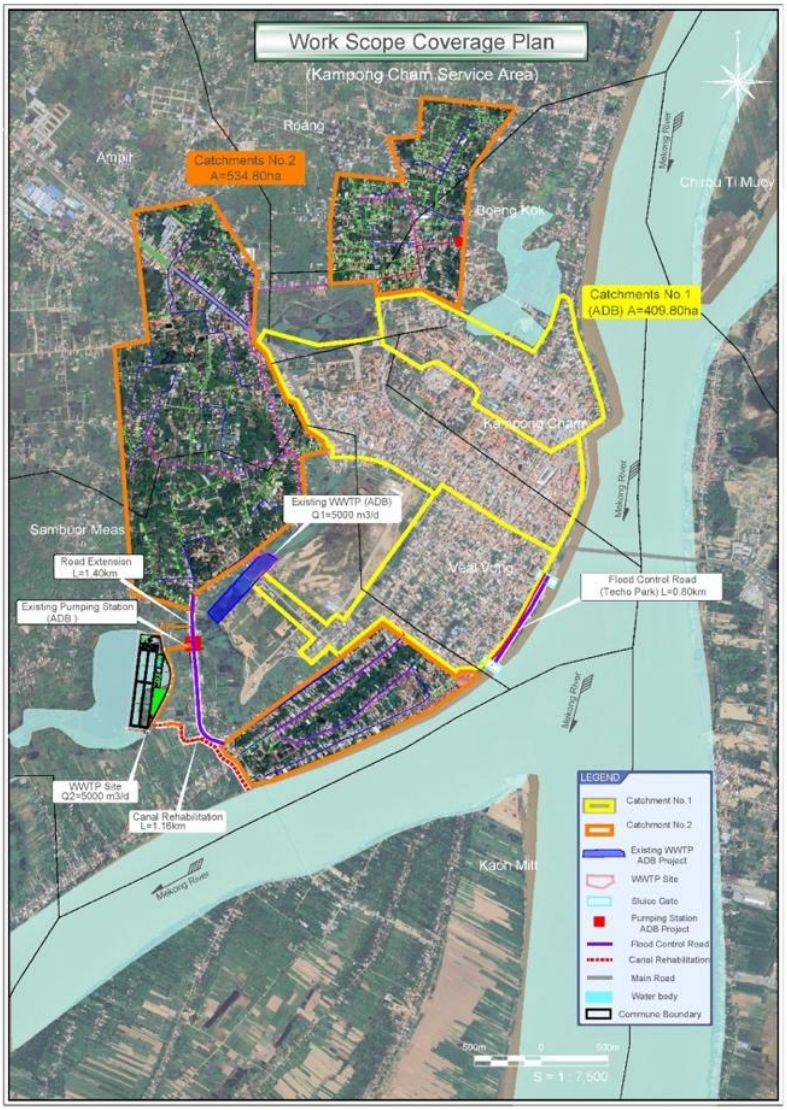
50. To improve stormwater management, the Project will rehabilitate and expand the existing urban drainage system through the construction of primary and secondary drainage canals, drainage pipelines, reinforced concrete box culverts, roadside drains, and associated hydraulic structures. In addition, flood protection infrastructure will be developed, including flood protection embankments, road level raising (flood control roads), drainage outlet structures, and other hydraulic facilities identified during the feasibility study. These integrated investments will reduce flood risks, improve drainage performance, protect public infrastructure, enhance urban accessibility during flood events, and strengthen the long-term climate resilience of Kampong Chhnang City.

Kampong Cham City

51. The Kampong Cham subproject forms part of Component 2 - Drainage and Wastewater Management in Kampong Cham. The proposed investments are intended to improve wastewater collection and treatment services, enhance urban drainage capacity, and strengthen flood resilience to support sustainable urban development. The infrastructure has been planned to address increasing wastewater generation, inadequate sewerage coverage, localized flooding, and deteriorating environmental conditions associated with urban growth.

52. The Project will establish a separated wastewater collection system consisting of sewer pipelines, inspection manholes, service connections, and associated ancillary infrastructure designed to collect domestic wastewater throughout the designated service area. Wastewater collected through the sewerage network will be conveyed to a centralized wastewater treatment plant equipped with wastewater treatment facilities, sludge management systems, laboratory and administration buildings, mechanical and electrical equipment, internal roads, utility systems, and other operational facilities required for efficient plant management. Where required by the engineering design, wastewater pumping facilities will also be provided to ensure reliable conveyance of wastewater throughout the collection network.

Figure 3: Project location map of Kampong Cham City



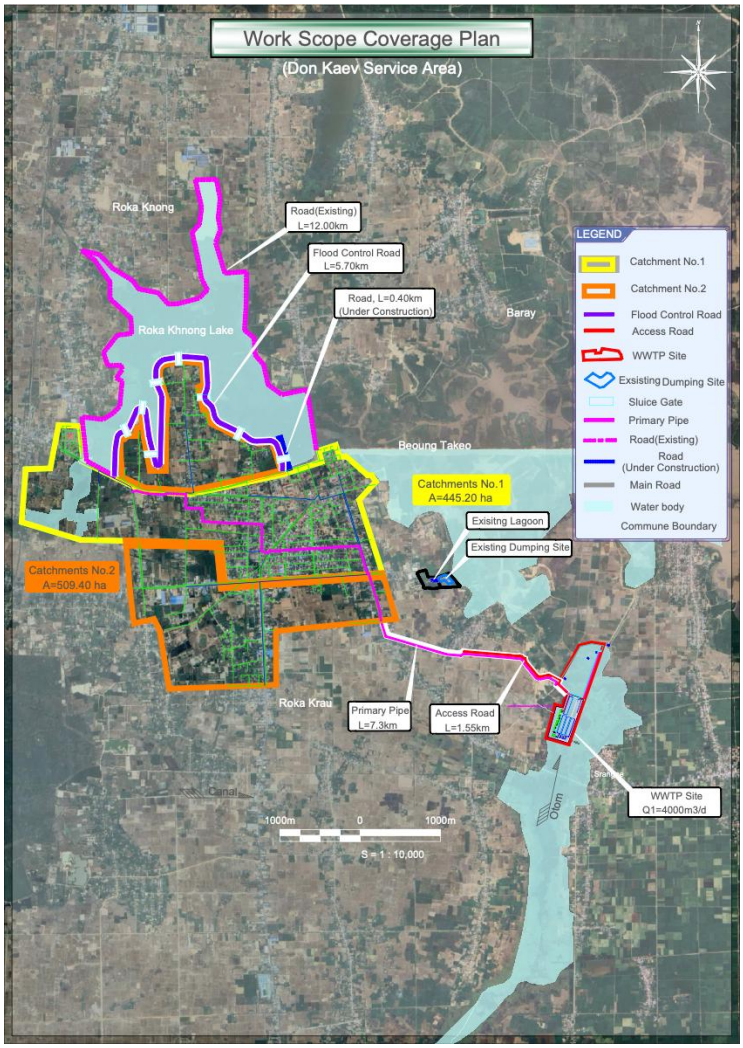
53. The Project will also improve the city's drainage network through the construction and rehabilitation of drainage canals, drainage pipelines, culverts, roadside drains, and associated hydraulic structures to improve stormwater conveyance and reduce localized flooding. Flood protection infrastructure comprising embankments, drainage outlet structures, and other hydraulic facilities will complement the drainage improvements to

strengthen climate resilience and reduce flood-related impacts on residential communities, commercial areas, and public infrastructure.

Doun Kaev City (Takeo Province)

54. Under Component 1, the Project will develop a separated wastewater collection system comprising sewer pipelines, inspection manholes, service connections, and associated ancillary infrastructure to collect domestic wastewater generated within the project area. The wastewater will be conveyed to a centralized wastewater treatment plant incorporating wastewater treatment units, sludge management facilities, operation and administration buildings, laboratory facilities, mechanical and electrical systems, internal roads, utility services, and supporting operational infrastructure. The Project will also improve the city's drainage network through the construction and rehabilitation of drainage canals, culverts, drainage pipelines, roadside drains, and associated hydraulic structures. Flood protection works, including flood protection structures and related hydraulic facilities, will be implemented to improve stormwater management and reduce flood risk.

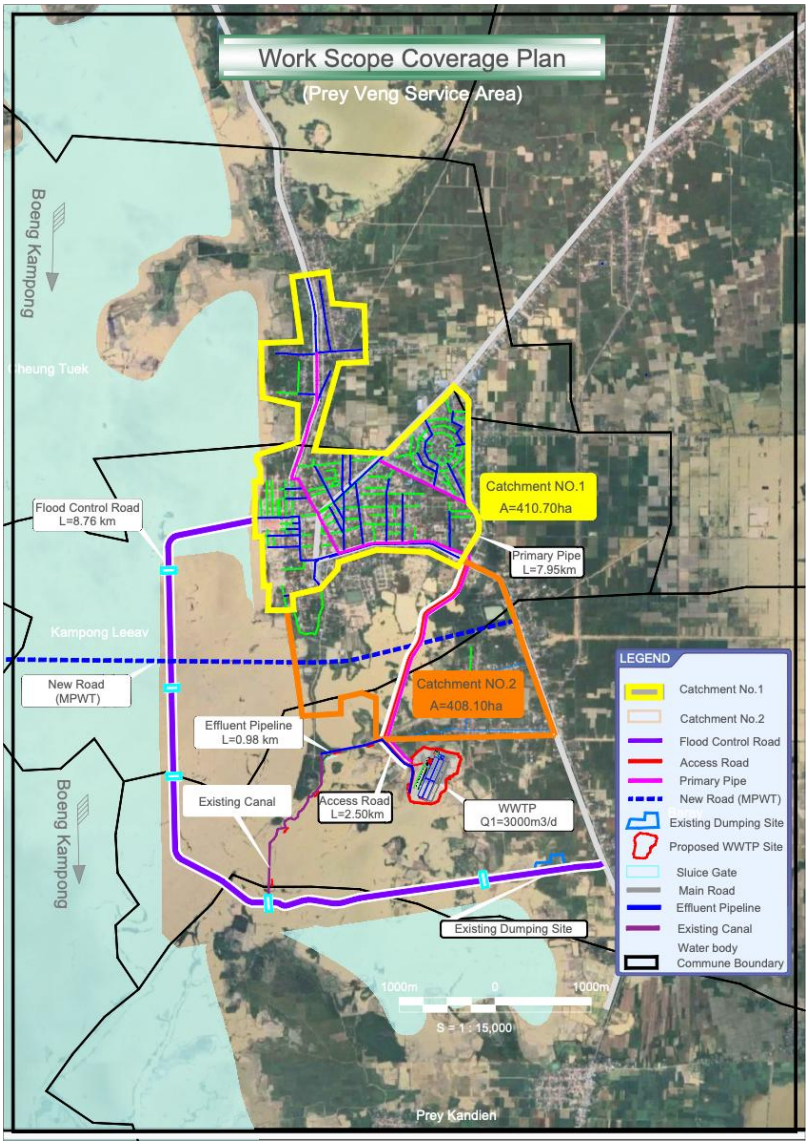
Figure 4: Project location map of Doun Kaev City



Prey Veng City

55. Under Component 1, the Project will establish a separated wastewater collection system comprising sewer pipelines, inspection manholes, service connections, and associated ancillary infrastructure to collect domestic wastewater generated throughout the service area. Wastewater will be conveyed to a centralized wastewater treatment plant equipped with wastewater treatment units, sludge management facilities, administration and operation buildings, laboratory facilities, mechanical and electrical equipment, internal roads, utility systems, and other supporting infrastructure required for sustainable operation. The Project will also improve stormwater management through the rehabilitation and construction of drainage canals, drainage pipelines, culverts, roadside drains, and associated hydraulic structures. Flood protection infrastructure will be implemented to complement the drainage improvements and reduce flood risks within the project area.

Figure 5: Project location map of Prey Veng City



3. Feasibility Design and E&S Context

A. Feasibility-Stage Design Status

56. The latest city-specific feasibility study reports now confirm the principal Components 1 and 2 investment concept, including the WWTP arrangements, indicative treatment capacities, major sewer/drainage works and flood-control road lengths summarized above. These feasibility-stage parameters provide the current basis for ESMPF screening. DED shall nevertheless verify final coordinates, boundaries, outfalls, pipeline alignments, temporary works, construction methods, associated facilities, land requirements and any material design changes. Any change that could alter E&S risk shall be re-screened under Chapter 5 and the change-management procedure in Chapter 10.

B. E&S Considerations and Project stages

Table 4: Environmental and Social Considerations and Minimum Requirements

Stage	Minimum E&S requirement
FS / site and option selection	Initial E&S screening and scoping; alternatives; identification of sensitive receptors, land/livelihood risks, OPIR and biodiversity triggers; consultation on material alternatives.
DED approval	Updated screening using final design; completed baseline; required ESIA/ESMP and specialized studies; land/resettlement instrument where applicable; design mitigation incorporated.
Tender	Required instruments reviewed/accepted; key permits/approval pathway confirmed; E&S specifications and priced mitigation in bidding documents.
Notice to Proceed	Approved C-ESMP and subplans; E&S staff mobilized; land access cleared; permits in place; community notification and GRM operational.
Commissioning	Operational ESMS/ESMP, staffing, permits, emergency response, monitoring equipment, maintenance systems and operator training verified.
O&M	Routine compliance monitoring, asset integrity, maintenance, community engagement, grievance handling, incident management and adaptive action.

4. Feasibility Parameters, Cost and O&M Context

A. Project-Specific Feasibility Parameters Used by the ESMPF

57. The latest feasibility studies provide a sufficiently defined engineering reference case for environmental and social screening. In Kampong Cham, the sanitation concept combines the existing ADB-funded Boeng Snay WWTP (5.90 ha; 5,000 m³/day) with a proposed AIIB-funded WWTP at Boeng Basac Lake (17.30 ha; 5,000 m³/day). The proposed sewer system includes approximately 9.38 km of primary, 17.92 km of secondary and 16.17 km of tertiary sewer, a 0.88 km force main, 7,016 household connections, 1,513 manholes and one manhole pumping station. Proposed stormwater works include approximately 11.57 km of circular pipe and a 1.16 km RC sheet-pile canal, while the flood-control road is approximately 1.97 km. These quantities define the feasibility-stage area and type of intervention but remain subject to DED verification.

58. In Doun Kaev, the feasibility study confirms a proposed AIIB-funded WWTP at Boeng O Tom Lake on approximately 23 ha, with 4,000 m³/day for the current phase and 2,000 m³/day identified for the future phase. The proposed separated sewerage system includes approximately 7.29 km of primary sewer, 9.01 km of secondary sewer across the two

catchments and 54.26 km of tertiary sewer, together with 7,061 household connections and 2,167 manholes. The stormwater concept includes approximately 9.19 km of circular pipe and 11.99 km of rectangular canal, while the flood-control road is approximately 5.68 km. These features make WWTP siting, land, receiving water, odour, sludge, construction access, urban disruption and flood resilience central DED assessment topics.

59. In Prey Veng, the feasibility study confirms a proposed AIIB-funded WWTP at Tomnob Ta Sen on approximately 17 ha with a capacity of 5,000 m³/day. The separated sewerage concept includes approximately 10.05 km of primary pipe, 19.74 km of secondary pipe across two catchments and 21.78 km of tertiary pipe, with 7,401 household connections and 1,681 manholes. The F/S also identifies stormwater drainage and an approximately 8.75 km flood-control road. The size of the household connection program and the extent of urban sewer works indicate that temporary access, traffic, utility interfaces, road reinstatement and business continuity will require systematic construction-stage management in addition to the WWTP-specific assessment.

60. Kampong Chhnang differs because C-UIDP is planned to connect to the existing ADB-funded Boeng Alum WWTP rather than finance a new treatment plant. The existing plant occupies approximately 6.36 ha, uses the MBBR process and has a stated capacity of 5,400 m³/day with a maximum of 8,100 m³/day. Proposed C-UIDP sewerage includes approximately 2.69 km of primary, 30.80 km of secondary and 37.18 km of tertiary sewer, a 0.8 km force main, 6,417 household connections, 2,486 manholes and two pumping stations. The F/S also identifies proposed stormwater works and an 18.63 km flood-control road. Consequently, the E&S assessment must address the interface between new collection infrastructure and the existing treatment asset, including capacity, operational responsibility, pumping reliability, network integrity and cumulative operational performance.

B. Feasibility Cost and O&M Context Relevant to E&S Planning

61. The feasibility studies estimate civil construction costs of approximately USD 42.58 million for Kampong Cham, USD 46.64 million for Doun Kaev, USD 54.03 million for Prey Veng and USD 49.52 million for Kampong Chhnang. These figures are engineering cost estimates and shall not be presented as the ESMPF implementation budget. They are nevertheless relevant to environmental and social planning because they demonstrate the scale of construction, the importance of supervision and the need to ensure that mitigation measures are incorporated into quantities, specifications and priced contract obligations. The F/S cost structure also recognizes commissioning and operation, consulting services, contingencies, land acquisition/resettlement or compensation, capacity building and project management as distinct cost categories.

62. The F/S explicitly identifies O&M cost categories including labor, electricity, maintenance and repair, sludge disposal and general administration. This reinforces the ESMPF requirement that environmental performance after construction must be financially and institutionally sustainable. For example, Doun Kaev's F/S includes a two-year commissioning/operation allowance and identifies asset-specific O&M costs, while Prey Veng similarly includes labor, electricity, maintenance and administrative costs. DED and implementation shall therefore verify that operator staffing, energy, preventive maintenance, sludge handling, monitoring, emergency preparedness and spare-parts requirements are reflected in the operational plan and budget rather than being treated as unfunded post-construction obligations.

5. Infrastructure Functions, Construction and Alternatives

A. Functional Description of Components 1 and 2

63. Components 1 and 2 comprise an integrated set of wastewater, drainage and flood-management investments whose environmental and social performance depends on the functioning of the whole system. Wastewater collection includes primary, secondary and tertiary sewers, household connections, manholes, pumping or force-main elements where required, and interfaces with treatment facilities. Stormwater investments include pipes, canals and related drainage structures. Flood-management investments include raised or strengthened roads, embankment-type structures, drainage controls and associated protection measures. Each element has different construction and O&M risks, and the ESMPF requires them to be screened individually and cumulatively.

64. Treatment arrangements differ by city. Kampong Chhnang relies on an existing treatment asset, which makes capacity, institutional interface and network integrity central issues. Kampong Cham combines existing and proposed treatment infrastructure, creating cumulative and interface considerations. Doun Kaev and Prey Veng include new WWTP facilities, so site selection, land, odour, receiving-water, sludge, flood resilience, operator capacity and community relations are especially important. The framework therefore avoids a one-size-fits-all WWTP approach.

B. Construction Typologies and Temporary Works

65. Urban sewer and drainage construction is expected to involve excavation in roads and public spaces, pipe laying, manhole construction, road reinstatement, dewatering, material storage, equipment movement, traffic diversion and temporary access arrangements. WWTP and flood-control works may involve earthworks, embankment formation, concrete works, access development, electrical/mechanical installation and commissioning. These activities create short-duration but potentially intensive community and worker risks in congested areas. DED and tender documents shall therefore define practical construction constraints and sequencing requirements rather than relying only on generic mitigation text.

66. Sewer and drainage work-front sequence. Before pavement is disturbed, the contractor shall complete a joint road-condition survey, utility-record review, detector survey and targeted trial pits; agree traffic staging and property-access arrangements; and mark the approved trench and spoil/pipe storage limits. The normal sequence shall be saw-cutting and removal of the existing pavement, controlled excavation with shoring or battering and safe egress, groundwater/dewatering control, bedding and pipe/manhole installation, joint/leakage and level testing, selected backfill in tested lifts, temporary safe surfacing, settlement monitoring where required, and final pavement/carriageway reinstatement to the DED and road-authority standard. Each site-specific method statement shall set the maximum simultaneously open trench length and closure time according to road width, groundwater, weather, emergency access, available materials and daily production capacity. A new work front shall not be opened unless pipe, bedding, shoring, barriers, pumps, backfill and reinstatement resources are available to make the preceding front safe. Wet-season and night-time work shall be restricted or provided with enhanced drainage, lighting, rigid barriers and emergency pumping.

67. WWTP platform or pond formation in a lake, wetland, pond or seasonally inundated area. Where any permanent or temporary filling is proposed, DED shall treat it as a permanent alteration of a water body rather than routine earthworks. Before design freeze, the ESIA and engineering studies shall confirm the legal boundary and land classification, seasonal high-water extent, bathymetry, hydraulic connections, flood-storage and conveyance functions, sediment quality, aquatic habitats, fisheries and other community uses, fill

footprint/volume and material source, and the required MoE, MOWRAM, land and subnational approvals. Design shall avoid and minimize the filled area; maintain or compensate drainage and flood-storage functions; verify soft-ground consolidation, settlement, slope stability, seepage/piping and groundwater effects; and specify staged placement, clean fill acceptance, cofferdam or containment where needed, silt curtains or equivalent controls, and water-quality/turbidity monitoring. No lake/wetland filling shall start before the applicable national approval, approved ESIA/ESMP and activity-specific hold-point release are in place.

68. Flood-protection embankment road sequence. The final method shall cover setting-out and land/asset clearance, vegetation stripping, unsuitable or soft-ground treatment, approved borrow-fill delivery and moisture-controlled compaction, staged embankment construction, culverts/gates and cross-drainage, toe and slope erosion/scour protection, pavement and road-safety features, and restoration of temporary sites and haul routes. DED shall demonstrate through hydraulic and geotechnical assessment that the embankment will not cause unacceptable transfer of flood depth, duration or velocity to adjacent or downstream communities, will preserve required irrigation/fish/waterway connectivity and emergency drainage, and can be safely operated, inspected and repaired during the Cambodian wet season.

69. Temporary works and contractor-selected facilities may include site offices, worker accommodation, storage yards, batching or fabrication areas, fuel/chemical storage, spoil areas, temporary access, dewatering discharge points and waste-storage locations. Their exact locations may be unknown at feasibility stage. They shall be subject to screening and approval before use, and where they involve private land or significant environmental receptors they may trigger additional instruments or design changes.

C. Operational Functions and Asset Interfaces

70. Operation of the wastewater system requires continuous or scheduled collection, pumping, treatment, effluent discharge, sludge management, maintenance, monitoring, complaint response and emergency action. Operation of drainage and flood-management assets requires inspection, cleaning, vegetation and erosion control, repair of damaged structures, maintenance of gates/outfalls where applicable, and seasonal preparedness. Because the long-term environmental benefit depends on reliable O&M, the Project shall identify the operator, asset ownership, staffing, budget and management-system requirements before commissioning.

71. Interfaces with existing infrastructure require particular attention. New sewer flows must not overwhelm an existing facility or create unmanaged overflow. New drainage must not transfer flood risk downstream. Flood-control roads and embankments must preserve appropriate drainage and access. Utility relocation or connection must be coordinated with service providers. These interfaces shall be documented in the design and operational-readiness registers.

D. Alternatives and Design Development

72. Alternatives analysis shall continue beyond the feasibility selection of a preferred concept. DED shall compare reasonable alternatives for site boundaries, alignments, pumping, outfalls, treatment configuration, access, construction methods and temporary facilities where those choices materially affect environmental or social outcomes. The comparison shall consider environmental, social, technical, climate-resilience, lifecycle O&M and cost criteria. A cheaper option that creates materially greater land acquisition, odour exposure, flood risk or operational vulnerability shall not be selected without documented justification and mitigation.

73. Design optimization shall be traceable. Significant E&S issues and the alternatives considered shall be entered into a design decision register. The register shall identify the decision, rationale, responsible person, resulting drawing/specification change and any residual action. This approach strengthens the link between environmental and social assessment, engineering design and auditable decision-making.

E. Engineering Selection Criteria and Feasibility-to-DED Decision Controls

74. **Purpose.** These tables consolidate the technical decision controls for feasibility-to-DED design development. They are intended to support site-specific ESIA/ESMP preparation and engineering decision-making without prescribing a single material, treatment technology or construction method at framework stage.

Table 5: Framework Decision Criteria for Sewer and Drainage Pipe/Conveyance Materials

Decision criterion	DED application under C-UIDP	Required evidence
Lifecycle cost and durability	Compare capital cost together with expected service life, maintenance, repair frequency and replacement implications rather than selecting on initial price alone.	Material option assessment / lifecycle-cost note
Leakage and joint integrity	Assess jointing method, watertightness and leakage risk, particularly where groundwater, settlement or receiving-water sensitivity is relevant.	Technical specification and QA/QC requirements
Corrosion and wastewater compatibility	Confirm resistance to wastewater, soil and groundwater conditions and compatibility with the intended service environment.	Material-data and design verification
Ground settlement and structural performance	Assess flexibility, stiffness, bedding and settlement performance against local geotechnical conditions and road loading.	Geotechnical/design calculation
Hydraulic performance	Confirm internal roughness, diameter, gradient and long-term hydraulic performance for the selected material.	Hydraulic design calculation
Repairability and local capacity	Consider availability of fittings, repair methods, trained personnel, equipment and emergency-repair practicality in Cambodia.	O&M and emergency-repair assessment
Construction and community interface	Consider excavation width, handling, jointing, installation speed, traffic/access disruption and reinstatement implications.	Construction-method and traffic/access plan

Table 6: WWTP Technology and Siting Decision Criteria

Decision factor	Framework requirement for DED / site-specific ESIA	Decision evidence
Treatment performance	Demonstrate that the selected process can reliably meet applicable effluent-performance requirements under expected and upset operating conditions.	Process design basis and performance criteria
Land and sensitive receptors	Compare land requirement, adjacent land uses, public/sensitive receptors, access and potential physical/economic displacement.	Site alternatives and receptor map
Odour and community acceptance	Assess odour sources, prevailing wind, process type, buffer/setback justification, normal/upset conditions and consultation outcomes.	Odour assessment and consultation record
Energy and operational complexity	Compare power demand, mechanical dependence, automation, operator skill requirements and resilience to outages.	Energy/O&M assessment
Sludge and residuals	Define sludge production, handling, temporary storage, transport and acceptable final reuse/disposal pathway.	Sludge management strategy

Decision factor	Framework requirement for DED / site-specific ESIA	Decision evidence
Flood and climate resilience	Confirm platform/critical-equipment levels, drainage, access continuity and resilience to relevant future climate and flood conditions.	Hydraulic/climate design verification
Lifecycle affordability	Consider staffing, chemicals, electricity, monitoring, maintenance, spares and long-term budget implications.	Lifecycle O&M cost and staffing plan
Interface with existing assets	Where flows rely on an existing WWTP or other utility, confirm capacity, ownership, operational responsibility and cumulative/interface risk.	Capacity/interface agreement and assessment

Table 7: Cambodian O&M Practicality and Maintainability Criteria

O&M criterion	Minimum practical check before design freeze / commissioning
Local technical capacity	Selected equipment and process shall be operable and maintainable by the designated operator with realistic training and staffing arrangements.
Spare parts and consumables	Critical spares, fittings, chemicals and consumables shall be reasonably obtainable and a supply-chain strategy shall be defined.
Energy reliability	Power dependence, backup arrangements and energy cost shall be assessed for pumping, treatment, monitoring and emergency operation.
Routine inspection and preventive maintenance	Design shall provide safe access, maintainable equipment layouts, inspection points and realistic preventive-maintenance intervals.
Monitoring and laboratory needs	Monitoring requirements shall match available laboratory capacity or include contracted/strengthened laboratory arrangements.
Emergency repair and bypass control	The design shall provide practicable response arrangements for pipe failure, pump failure, overflow, blockage, flood damage and other foreseeable operational incidents.
Operator budget and institutional ownership	Asset ownership, responsible operator, recurrent budget source, complaint interface and accountability shall be confirmed before commissioning.

Table 8: Engineering and E&S Hold Points for Final Design Decisions

Hold point	Minimum decision-control requirement	Release authority / evidence
Before site/layout freeze	Alternatives, land status, sensitive receptors, odour/flood/access constraints and associated-facility interfaces documented and resolved to an acceptable level.	PMU/DED design review + ESIA evidence
Before detailed design approval	Material/process selection demonstrates technical performance, lifecycle O&M practicality and E&S risk integration.	Approved design decision register
Before tender issue	Permanent mitigation is embedded in drawings/specifications/BOQ and contractor E&S obligations are included in bidding documents.	Tender E&S readiness check
Before mobilization	Required permits, land access, approved ESIA/ESMP/RP as applicable, C-ESMP and activity-specific plans are in place.	Pre-mobilization hold-point record
Before commissioning	Operator, staffing, O&M procedures, monitoring, emergency response, GRM/community contact, spares and recurrent budget are ready.	Operational-readiness / handover checklist

Table 9: Required Traceability for Technical Selection Decisions

Decision record	Minimum content
Alternatives/selection note	Options considered; technical, E&S, climate, cost and O&M criteria; reason for selection; residual risks.
Design commitments register	E&S issue, engineering response, responsible party, target date, drawing/specification reference and completion status.
DED verification record	Data or assumption carried from FS; verification method; result; resulting design/ESIA update.
Procurement transfer record	Mitigation/control translated into technical specification, BOQ item, contract clause or contractor plan requirement.
O&M handover record	Operational E&S commitments, monitoring, maintenance, emergency arrangements and unresolved actions transferred to operator.

75. **Integration rule.** Final technical selections shall be verified during DED and reflected in the relevant site-specific ESIA/ESMP, design decision register, procurement documents and O&M handover arrangements. Any project-specific numerical criterion or commitment should be supported by the applicable feasibility study, DED analysis, regulatory requirement or approved project instrument.

F. Project Schedule, Decision Gates and Environmental Readiness

76. The ESMPF recognizes that environmental and social actions must occur before the corresponding engineering or contractual decision. Screening and site constraints must inform DED; required baseline studies and consultations must be completed before design is finalized; land and resettlement requirements must be resolved before possession of affected land; permits and C-ESMPs must be in place before mobilization; and operational procedures and staffing must be ready before commissioning. These are environmental and social decision gates, not administrative tasks that can be completed after the physical work has advanced.

77. The PMU shall maintain an E&S readiness schedule for each package. The schedule shall identify required instruments, approvals, consultations, land milestones, contractor plans, staffing, monitoring arrangements and operational handover conditions. Slippage in a critical E&S prerequisite shall be reflected in the package schedule rather than bypassed to protect a civil-works milestone.

Table 10: Project Description and Design-Control Summary

Management issue	Framework requirement	Key output/evidence	Lead responsibility	Project stage
City-specific design	Maintain current FS reference case and verify DED changes.	Facility register and design change log	DED consultant/PMU	DED
Temporary works	Screen camps, yards, access, dewatering and disposal areas before use.	Approved temporary-facility screening	Contractor/SC/PMU	Pre-construction
O&M interface	Identify operator, ownership, asset interface and long-term responsibilities.	Operational responsibility matrix	PMU/operator	DED/commissioning

III. APPLICABLE LEGAL, POLICY AND GOOD INTERNATIONAL PRACTICE FRAMEWORK

1. Approach and Legal Hierarchy

78. This chapter establishes the legal, regulatory, policy and good international practice framework applicable to C-UIDP. It presents: (i) applicable Cambodian legal and regulatory requirements; (ii) relevant international conventions and commitments; (iii) the applicable AIIB Environmental and Social Framework (ESF) and related operational requirements; and (iv) relevant Good International Industry Practice (GIIP). Detailed requirements for environmental and social screening, assessment, management, monitoring and implementation are presented in the subsequent chapters of this ESMPF to avoid duplication.

79. C-UIDP shall comply with applicable Cambodian laws and regulations and the environmental and social requirements applicable to AIIB financing. Where national requirements and the applicable AIIB requirements or GIIP address the same environmental or social risk at different levels of detail or performance, the Project shall apply Cambodian legal requirements together with any additional measures necessary to meet the applicable AIIB requirements and relevant GIIP. Compliance obligations shall be reflected in Project screening, assessment, design, procurement, construction, operation and monitoring, and maintained through an up-to-date legal and regulatory compliance register.

80. WBG EHS / more-stringent performance rule. The World Bank Group General EHS Guidelines and the sector-specific EHS Guidelines for Water and Sanitation shall be used as mandatory GIIP reference points for C-UIDP design, ESIA/ESMP preparation, technical specifications, contractor C-ESMPs, commissioning and O&M. They are not used only when Cambodian standards are absent. Where Cambodian and WBG EHS requirements contain directly comparable numerical performance values, the Project shall apply the more stringent value unless a different project-specific requirement is formally agreed with AIIB and the competent Cambodian authority. Where requirements are not directly comparable, both sets of requirements shall be addressed. Applicable criteria shall be converted into measurable design, monitoring, tender/contract and operational obligations.

81. **Legal verification rule.** The national legal/environmental specialist shall verify the current status, official title, issuing authority, date, amendments, implementing instruments, permits and numerical standards before each site-specific ESIA/ESMP is finalized. This is especially important because Cambodia's environmental regulatory framework is evolving, including the Environmental and Natural Resources Code, updated MoE project-classification instruments and wastewater-sector legislation. Where a legal source is not yet sufficiently verified from the official gazette or competent authority, the ESMPF records the requirement for confirmation rather than presenting an uncertain provision as settled law.

2. Cambodian Legal and Regulatory Framework

82. The Cambodian framework relevant to C-UIDP covers environmental assessment and permitting, wastewater and drainage management, water pollution control, water resources, biodiversity and protected areas, land acquisition and involuntary resettlement, labor and occupational health and safety, cultural heritage, construction and urban infrastructure, disaster/climate risk, and subnational administration. Only instruments with

a direct relationship to C-UIDP are summarized below; detailed procedural material belonging to the RPF, SEP or site-specific instruments is not duplicated.

Table 11: Cambodian Legal and Regulatory Framework Relevant to C-UIDP

Topic	Principal Cambodian instruments	Application to C-UIDP	Primary competent authority / interface
Cross-cutting environmental management	Constitution of the Kingdom of Cambodia; Environmental and Natural Resources Code (2023); Law on Environmental Protection and Natural Resource Management (1996), to the extent remaining applicable together with subsequent implementing instruments.	Establishes the national basis for environmental protection, natural-resource management, environmental assessment, compliance and enforcement. DED legal review shall identify operative Code provisions and transitional/implementing instruments applicable to each city and work package.	MoE; other competent sector agencies
Environmental assessment, classification and permitting	Prakas No. 3591 dated 6 May 2025 on classification of development projects for environmental impact assessment, together with applicable MoE EIA procedures, accreditation requirements and Environmental Code implementing instruments.	The final design shall be screened against the current MoE classification thresholds and procedures to determine the required national assessment/approval instrument. This national classification is separate from AIIB environmental and social categorization.	MoE
Drainage and wastewater systems	Sub-Decree No. 235 dated 25 December 2017 on Management of Drainage System and Wastewater Treatment System; Law on Wastewater Systems promulgated by Royal Kram No. NS/RKM/1124/005 dated 22 November 2024; and applicable implementing regulations and authority procedures to be verified at DED.	Directly relevant to planning, development, construction, operation, maintenance and institutional responsibility for drainage and wastewater systems. DED shall verify permits, operator responsibilities, connection/service requirements and O&M obligations.	MPWT; MoE; Ministry of Interior/subnational administrations; other competent authorities
Water pollution, effluent and receiving-water quality	Sub-Decree No. 27 ANRK/BK (1999) on Water Pollution Control and any subsequent amendments/implementing instruments; applicable MoE ambient-water and effluent/discharge standards.	Site-specific assessment shall identify the legally applicable effluent parameters, receiving-water classifications, monitoring and discharge-authorization requirements. Numerical limits shall only be inserted after verification of the current legal source and amendment status.	MoE and competent water/environmental authorities
Water resources and waterways	Law on Water Resources Management of the Kingdom of Cambodia (2007) and applicable implementing instruments.	Relevant to works affecting rivers, lakes, canals, drainage outlets, water abstraction/use, flood behavior and receiving waters. DED shall identify any water-resource approval and coordinate with MOWRAM/competent authorities where required.	MOWRAM and relevant authorities

Topic	Principal Cambodian instruments	Application to C-UIDP	Primary competent authority / interface
		For any lake/wetland/pond occupation or filling, DED shall obtain written confirmation of the water-body boundary, land classification and the legally required approval, occupation or reclassification process from the competent authorities; public ownership shall not be treated as proof that the area has no users or livelihood functions.	
Biodiversity, natural habitat and fisheries	Protected Areas Law (2008); Forestry Law (2002); Fisheries Law (2006); Environmental and Natural Resources Code and relevant implementing regulations.	Provides national protection for protected areas, forests, fisheries and biodiversity resources. Screening shall identify protected/sensitive habitats, aquatic receptors and permitting/coordination needs; AIIB critical-habitat requirements are addressed separately under ESS1.	MoE; MAFF/Fisheries Administration; other competent authorities
Land acquisition and involuntary resettlement	Land Law (2001); Expropriation Law (2010); RGC Standard Operating Procedures for Land Acquisition and Involuntary Resettlement (SOP-LAR, 2018) and applicable MEF/IRC/GDR procedures.	Detailed entitlement, valuation, compensation, livelihood restoration and implementation procedures are governed through the Project RPF and site-specific resettlement instruments rather than repeated in the ESMPF.	MEF/IRC/GDR; MPWT and local authorities
Labor, employment and occupational health and safety	Labor Law (1997, as amended); social-security legislation; applicable MLVT regulations/prakas on occupational safety, worker welfare, employment conditions and related requirements.	Applies to Project and contractor workers. Contracts and C-ESMPs shall incorporate legal employment, OHS, worker-welfare and grievance obligations, supplemented by AIIB ESS1 and GIIP.	MLVT; NSSF and other competent labor authorities
Cultural heritage	Law on the Protection of Cultural Heritage (1996) and applicable regulations/requirements of the Ministry of Culture and Fine Arts.	Relevant to excavation, earthworks and sites near pagodas or cultural resources. Contractors shall implement the Chance Finds Procedure and stop-work/notification requirements if previously unknown heritage is encountered.	Ministry of Culture and Fine Arts; provincial authorities
Construction, roads, utilities and urban infrastructure	Construction Law (2019); Road Law (2014); applicable land-use, building, utility, traffic, drainage and subnational approval requirements.	DED and construction planning shall identify approvals for civil works, road occupation/traffic management, utility relocation, structures and local construction interfaces.	MPWT; Ministry of Land Management/competent construction authorities; municipalities/provinces

Topic	Principal Cambodian instruments	Application to C-UIDP	Primary competent authority / interface
Disaster and climate-risk management	Law on Disaster Management (2015) together with applicable national/subnational disaster-risk and climate-resilience plans and technical requirements.	Supports flood-risk management, emergency preparedness and resilient design. Project-specific climate design requirements are addressed in Chapters 4, 6, 7 and 10.	National Committee for Disaster Management; MPWT; provincial/municipal authorities

83. Project-specific legal verification priority. The final legal review confirms the Environmental and Natural Resources Code (2023) as a core national environmental framework; the Law on Wastewater Systems was promulgated by Royal Kram No. NS/RKM/1124/005 dated 22 November 2024; and Sub-Decree No. 27 ANRK.BK dated 6 April 1999 on Water Pollution Control remains a key reference for wastewater discharge control. Published Cambodia WWTP environmental assessments also record MoE's application in Sub-Decree No. 27 to centralized WWTP treated effluent. During DED and prior to the relevant permitting or procurement decision, the national legal/environmental specialist shall still confirm: (i) the exact application of Prakas No. 3591/2025 to the final WWTP, sewerage, drainage and flood-control components; (ii) any subsequent implementing instruments or amendments under the 2024 Wastewater Systems Law; (iii) the current numerical effluent annex/permit conditions applicable to each discharge; and (iv) whether any Cambodian instrument prescribes a mandatory numerical WWTP separation/setback for the selected technology and receptors. Where an official current source cannot be verified, the site-specific ESIA shall obtain confirmation from MoE rather than assume a legal value.

3. International Conventions

84. Cambodia is party to international conventions relevant to environmental and social management. For labor and nondiscrimination, ILO NORMLEX confirms Cambodia has ratified eight fundamental conventions: Forced Labour Convention No. 29; Freedom of Association and Protection of the Right to Organise Convention No. 87; Right to Organise and Collective Bargaining Convention No. 98; Equal Remuneration Convention No. 100; Abolition of Forced Labour Convention No. 105; Discrimination (Employment and Occupation) Convention No. 111; Minimum Age Convention No. 138; and Worst Forms of Child Labour Convention No. 182. Cambodia has not ratified ILO Conventions No. 155 and No. 187 on occupational safety and health; therefore, these shall not be described as ratified Cambodian treaty obligations, although relevant OHS good practice remains applicable through Cambodian law, AIIB requirements and GIIP. Site-specific assessments shall also identify other materially relevant ratified conventions on biodiversity/wetlands, climate, hazardous chemicals/wastes and cultural heritage, and record the Cambodian implementing framework, Project relevance and responsible specialist.

4. AIIB Environmental and Social Framework and Operational Policies

85. The AIIB's Environmental and Social Framework (2024) is applicable to C-UIDP. Table 12 below provides detailed descriptions of AIIB's policy requirements.

Table 12: AIIB Requirements and Good International Industry Practice Relevant to C-UIDP

Requirement / GIIP	Core relevance	Application under C-UIDP
AIIB Environmental and Social Policy / ESS1	Applies to integrated E&S screening, categorization, assessment, alternatives, area of influence, associated facilities, cumulative impacts, mitigation hierarchy, labor/OHS, community health and safety, pollution prevention, biodiversity/critical habitat, cultural heritage, stakeholder engagement, monitoring and institutional capacity.	Primary framework for C-UIDP ESMPF. Chapters 5-10 specify how these requirements are implemented at DED, procurement, construction, commissioning and O&M.
ESS2 – Land Acquisition and Involuntary Resettlement	Triggered by involuntary land acquisition, restrictions on land use, physical displacement or economic displacement.	The ESMPF contains screening and interface requirements. Detailed land acquisition and involuntary resettlement procedures are provided in the Project RPF and, where required, site-specific resettlement instruments.
ESS3 – Indigenous Peoples	Applicability is determined through evidence-based screening against the ESS3 criteria for each final subproject/associated facility.	If triggered, culturally appropriate assessment, engagement and planning shall be undertaken. The ESMPF does not substitute preliminary ethnic-minority information for the formal ESS3 applicability test.
Environmental and Social Exclusion List (ESEL)	AIIB financing shall not support activities falling within the applicable ESEL.	Eligibility/ESEL screening is mandatory before instrument selection and financing/procurement decisions; see Chapter 5 and screening annexes.
Operational Policy on International Relations (OPIR)	AIIB's OPIR addresses, among other issues, international waterways. The policy was approved in 2017 and is supported by an updated Directive.	C-UIDP screening shall assess whether WWTP discharges, drainage/outfalls or other water-related works may trigger international-waterway requirements and shall refer potential triggers to AIIB before irreversible decisions.
Project-affected People's Mechanism (PPM)	AIIB's revised PPM Policy was approved in December 2025 and became effective on 1 January 2026 for submissions made on or after that date.	The PPM complements but does not replace the Project GRM. Current PPM information shall be disclosed in accessible Project materials in accordance with the applicable AIIB requirements.
WBG General EHS Guidelines	GIIP reference for cross-cutting occupational health and safety, community health and safety, air emissions, noise, wastewater, hazardous materials, waste, emergency preparedness and construction management.	Apply where relevant through design criteria, ESIA/ESMP, technical specifications, C-ESMPs, supervision and O&M systems.
WBG EHS Guidelines for Water and Sanitation	Sector GIIP for water and sanitation facilities, including wastewater treatment, occupational/community risks and operational environmental management.	Core sector reference for WWTP, pumping, sewerage, sludge, odor/vector management, effluent and operational controls.
IFC/EBRD Workers' Accommodation guidance and other recognized GIIP	Provides practical worker-accommodation and welfare benchmarks where camps/accommodation are provided and national rules do not specify equivalent detail.	Apply proportionately to contractor and supervision requirements; Project contracts remain subject to Cambodian law and AIIB requirements.

G. AIIB Operational Policy on International Relations and International Waterways

86. AIIB's Operational Policy on International Relations expressly covers issues including international waterways. Because the Project involves wastewater treatment, drainage, flood-management infrastructure and receiving waters that may be hydrologically connected to larger transboundary systems, every final subproject shall be screened for potential OPIR relevance. The screening shall describe the receiving-water pathway and determine whether Project activities could cause a material change in water quality, quantity or timing of flows relevant to another riparian country or territory. Potential triggers shall be referred to AIIB in a timely manner; the Project team shall not make a unilateral legal determination on behalf of the Bank.

H. Disclosure, Consultation and the AIIB PPM

87. National consultation and disclosure obligations applicable to the environmental assessment process shall be identified for each site-specific instrument. AIIB requirements for meaningful consultation and information disclosure apply in addition to national procedures. The Project shall therefore disclose information early enough and in forms/languages accessible to affected people, document how stakeholder views are considered, and repeat engagement when material design changes create new impacts. Specific disclosure timing shall follow the ESF version and Project requirements confirmed by AIIB rather than relying on a generic number of days that may not apply to this Project.

88. The revised AIIB PPM Policy became effective on 1 January 2026. The PPM is AIIB's independent accountability mechanism and is separate from the Project-level GRM. Chapter 8 sets out the Project GRM and disclosure interface. Project disclosure materials shall provide current PPM access information and the confirmed Project GRM contact channels.

5. Good International Industry Practice (GIIP)

89. GIIP is used to translate general legal and AIIB obligations into practical design and management performance. For C-UIDP, the principal references are the World Bank Group General EHS Guidelines and the Water and Sanitation EHS Guidelines, supplemented by recognized guidance for worker accommodation, occupational safety, odor, sludge, wastewater process safety, emergency preparedness and other risks where needed. GIIP does not override Cambodian law; it supplements national requirements and provides the technical performance benchmark needed to satisfy the applicable AIIB requirements where national law is less detailed.

6. Gap analysis between national legislation and AIIB’s ESF

90. The main gap analysis focuses on ESS1 because it governs the integrated assessment and management framework for the Project. ESS2 is addressed at interface level because the detailed national/AIIB comparison for land acquisition and involuntary resettlement is provided in the Project RPF. ESS3 is addressed through the formal screening procedure and, where triggered, through the applicable site-specific assessment and planning requirements.

Figure 6: C-UIDP Safeguards GAP bridging approach

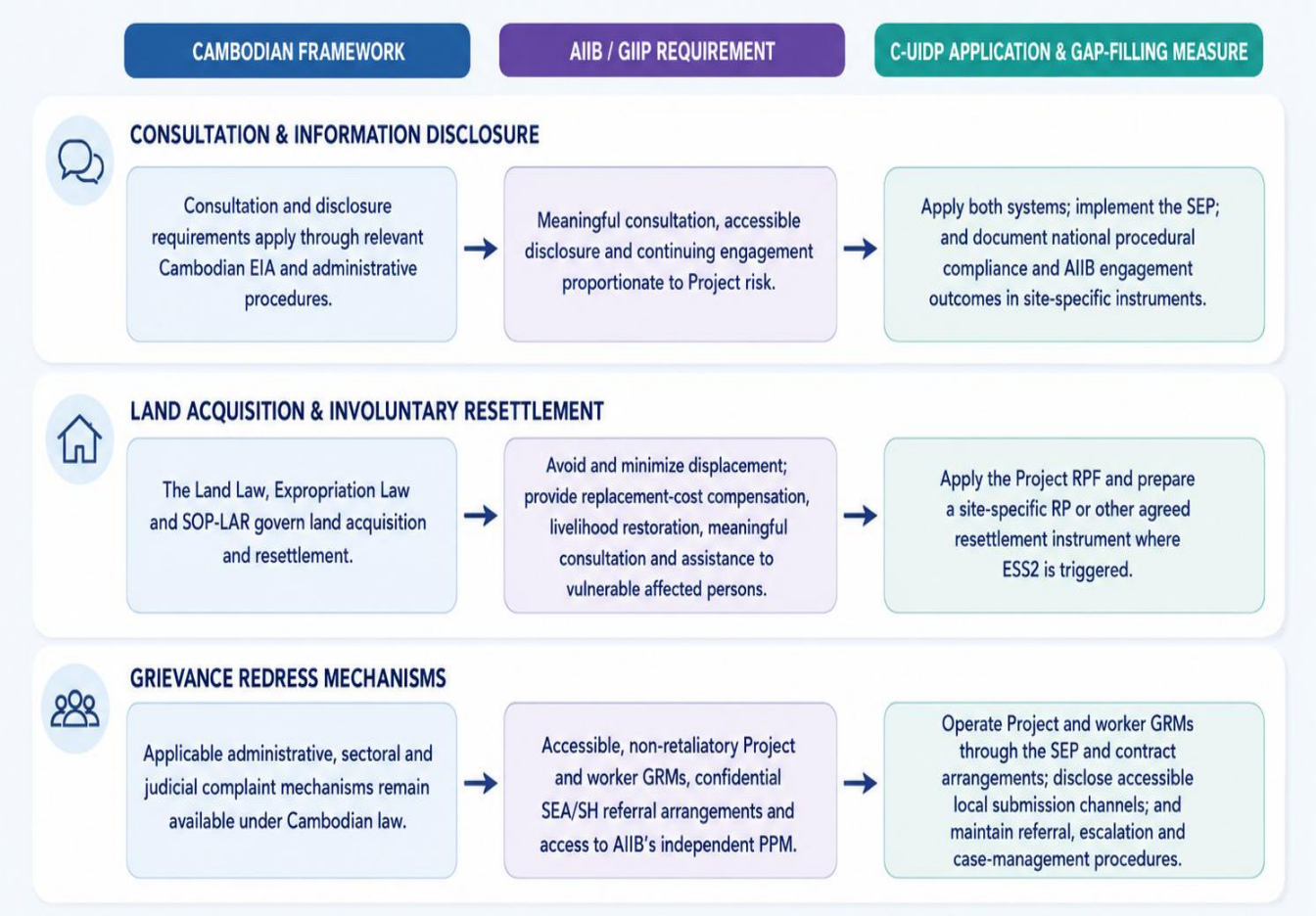


Table 13: Gap Analysis of Cambodian Requirements, AIIB and gap filling measures

Topic	Cambodian framework	AIIB/GIIP requirement or gap	C-UIDP gap-filling measure
Integrated E&S assessment and lifecycle management	Cambodian requirements establish environmental assessment, permitting and sector regulation, but implementation may be organized through separate legal instruments and approval processes.	ESS1 requires integrated E&S risk management across the Project lifecycle, including direct, indirect and cumulative impacts, associated facilities, alternatives, monitoring and adaptive management.	Use the ESMPF screening/decision-gate system; prepare proportionate site-specific instruments at DED; maintain an E&S commitments/legal-compliance register through O&M.
Area of influence and associated facilities	National EIA instruments define project/impact study requirements but may not use the same AIIB concepts for associated facilities or wider E&S area of influence.	ESS1 requires assessment of the relevant area of influence and associated facilities in accordance with the applicable ESF.	Chapter 5 screening and Chapter 6 assessment shall map permanent/temporary facilities, contractor facilities, connected existing assets and downstream/receiving-water receptors.
Consultation and disclosure	Cambodian EIA/administrative	AIIB requires meaningful consultation, accessible	Apply both systems; the SEP governs Project

Topic	Cambodian framework	AIIB/GIIP requirement or gap	C-UIDP gap-filling measure
	processes include consultation/disclosure requirements depending on the applicable instrument.	disclosure and continuing engagement proportionate to risk.	engagement; site-specific instruments shall document national procedural compliance and AIIB engagement outcomes.
Pollution prevention, resource efficiency and wastewater performance	Cambodian law regulates pollution, wastewater/drainage management and environmental quality through sector laws, sub-decrees and standards.	ESS1 and GIIP require pollution prevention/resource efficiency and technically appropriate performance measures.	Verify current Cambodian effluent/ambient-water limits and permits; apply WBG General and Water & Sanitation EHS Guidelines where additional technical controls are needed.
Biodiversity and critical habitat	Cambodian protected-area, forestry, fisheries and environmental legislation protects biodiversity and sensitive resources.	ESS1 contains additional requirements for natural habitat, critical habitat, ecosystem services and the mitigation hierarchy.	Screen using available biodiversity information and field verification; undertake specialist critical-habitat assessment if triggered; avoid/minimize impacts before considering restoration/offset measures.
Labor, OHS and worker accommodation	Labor and OHS obligations arise under Cambodian labor/social-security law and MLVT instruments.	ESS1 and GIIP require systematic worker-risk management, safe working conditions, worker grievance arrangements and protection from SEA/SH and other misconduct.	Integrate legal requirements, WBG General EHS and relevant worker-accommodation GIIP into contracts, C-ESMPs, supervision and incident management.
Community health, safety and security	National construction, road, public-safety, pollution and local-authority requirements apply to civil works.	ESS1 requires assessment and management of community exposure to traffic, excavation, flooding, wastewater, odor, vector, infrastructure failure and emergency risks.	Prepare location-specific traffic/access, community-safety and emergency controls; monitor complaints/incidents and adjust measures.
Climate and disaster resilience	Cambodian disaster-management, water-management and sector planning requirements provide a national basis for resilience.	AIIB requires climate/disaster risks to be assessed and managed as part of E&S due diligence where relevant.	Carry F/S climate recommendations into DED, hydrological/hydraulic design, emergency planning, commissioning and O&M monitoring.
Monitoring, reporting and adaptive management	National permits and EIA approvals may specify monitoring/compliance obligations.	ESS1 requires ongoing monitoring, reporting, corrective action and adaptive management.	Chapter 10 establishes construction/O&M monitoring, incident/RCA/CAP systems, change management and quarterly/semi-annual Project reporting.

Topic	Cambodian framework	AIIB/GIIP requirement or gap	C-UIDP gap-filling measure
ESS2 interface	Land Law, Expropriation Law and SOP-LAR regulate national land acquisition/resettlement procedures.	ESS2 includes additional requirements including avoidance/minimization, replacement cost, livelihood restoration, meaningful consultation and vulnerable-person assistance.	Do not duplicate the full gap analysis here. Apply the RPF and site-specific resettlement instruments where ESS2 is triggered.

A. Legal Compliance Management and Verification During Implementation

91. The PMU shall maintain a legal and permit register for each city/work package. The register shall state the legal instrument, specific obligation, responsible authority, permit/approval, responsible Project party, due date, evidence of compliance, renewal/monitoring requirement and status. The register shall be reviewed at DED approval, tender readiness, notice to proceed, commissioning and operational handover. No works shall commence where a legally required approval, land authorization or environmental condition necessary for the activity remains outstanding.

92. Material legal or policy change. If a new Cambodian implementing instrument, amended standard, AIIB Directive or other requirement becomes applicable before completion of the Project, the PMU shall review the affected screening, design, ESIA/ESMP, contract and O&M requirements and document the change under Chapter 10. This approach is especially relevant to the evolving Cambodian environmental/wastewater regulatory framework and AIIB's Directive on the Environmental and Social Framework dated 14 January 2026.

B. Implementation Summary

93. Chapter 3 provides the legal and policy basis for the implementation requirements set out in the remainder of the ESMPF. Cambodian legislation is summarized only to the extent relevant to C-UIDP; detailed ESS2 procedures remain in the RPF; screening procedures are set out in Chapter 5; assessment requirements in Chapter 6; contractor and operational requirements in Chapter 7; consultation and GRM requirements in Chapter 8; institutional responsibilities and budget in Chapter 9; and monitoring and change management in Chapter 10.

94. Legal source-control requirement: before each site-specific instrument is finalized, the national legal/environmental specialist shall verify the current Cambodian legal citations, amendments, numerical standards, permits and competent-authority requirements against official gazette or competent-authority sources and update the legal and permit register accordingly.

IV. CONTEXTUAL ENVIRONMENTAL AND SOCIAL SETTING

1. Socio-Economic and Urban Context

A. Common Urban Context

Feasibility-Stage Socio-Economic Survey Evidence

95. The household surveys provide project-specific socio-economic evidence for all four participating cities and are therefore used as the principal feasibility-stage social baseline source for this framework. The completed survey datasets comprise 284 sampled households in Kampong Cham; 329 households and 9 non-residential respondents in Kampong Chhnang; 278 households and 6 non-residential respondents in Doun Kaev; and 355 households and 5 non-residential respondents in Prey Veng. The survey instruments cover household characteristics, income and expenditure, IDPoor status, access to electricity and water, flooding, sanitation, septic tanks, sewer/drainage access, willingness to connect and affordability. The data are appropriate for identifying social risk themes and DED information needs, but they do not replace a census, DMS, IOL or site-specific socio-economic assessment required for people directly affected by final footprints.

96. To provide a concrete quantitative social baseline, the FS-stage assessment highlights that female-headed households (FHH) represent an exceptionally vulnerable group across all target areas, with rates reaching 39.9% in Kampong Chhnang, 34.3% in Prey Veng, 28.8% in Doun Kaev, and 22.9% in Kampong Cham. These households are disproportionately vulnerable to economic shocks due to their high concentration in low-income, informal vending sectors. Furthermore, the surveys reveal a severe gender-disproportionate division of labor, with women and girls bearing the primary responsibility for domestic water management (85.99%) and household solid waste disposal (86.92%), which directly induces acute time-poverty. Deficits in public WASH utilities further compound these vulnerabilities, as 99.35% of female respondents expressed extreme dissatisfaction with current communal toilets due to the absolute lack of safe, private, and gender-segregated Menstrual Hygiene Management (MHM) facilities, coupled with elevated concerns over security and gender-based violence (GBV) during nighttime usage.

Affordability, Willingness to Connect and Vulnerability Implications

97. Willingness to connect to a new sewer system varies substantially and is not equivalent to general support for the Project. Reported willingness is approximately 26% in Kampong Cham, 57% in Kampong Chhnang, 41% in Doun Kaev and 42% in Prey Veng; a significant proportion of respondents in several cities remained undecided. The survey data also show that connection affordability influences decisions. Among willing respondents, the most frequently stated affordable connection-fee amounts were around KHR 100,000 in Kampong Cham and Kampong Chhnang, KHR 200,000 in Doun Kaev and KHR 40,000 in Prey Veng. These figures are survey responses rather than approved tariff policy. The Project shall therefore avoid converting them into fixed fees and instead use them as affordability evidence for connection-policy, subsidy and vulnerable-household analysis under Component 3 and subsequent operational planning.

Community Demand, Flooding and Service Priorities

98. The surveys consistently identify flooding and inadequate drainage as material household concerns. Support for improving storm drainage is reported at approximately 77% in Kampong Cham, 74% in Kampong Chhnang, 72% in Doun Kaev and 83% in Prey Veng. Support for improving sewer/drainage infrastructure is also high, at about 70% in Kampong Cham, about 69–70% in Kampong Chhnang, 69% in Doun Kaev and 82% in

Prey Veng. These findings reinforce the environmental and public-health rationale for the Project, while indicating that detailed design should prioritize locations where existing drainage causes repeated household access, mobility, health or livelihood disruption.

Existing Sanitation, Utilities and Service Conditions

99. Across the four cities, access to basic utilities is generally high, while wastewater and drainage arrangements remain less complete. The surveys report electricity connections of about 99.6% in Kampong Cham, 99.4% in Kampong Chhnang, 100% in Doun Kaev and 98.29% in Prey Veng. Piped-water access is about 96.8%, 88.2%, 100% and 98.56%, respectively. At the same time, septic tanks and on-site sanitation remain dominant: approximately 99% of Kampong Cham households, around 80% of surveyed Kampong Chhnang households/non-residential premises, and around 95% of Prey Veng households use septic tanks; Doun Kaev data show septic effluent being managed mainly through soak pits, with smaller proportions discharging to public sewer/open drains. This pattern supports the Project rationale for improved sewerage while also requiring careful household-connection, transition and affordability planning.

100. This chapter provides only the feasibility-stage setting needed to make screening meaningful. It does not present final subproject baseline data. Site-specific baseline surveys required for impact assessment are defined in Chapter 6.

Urban Form, Services and Sensitive Receptors

101. The four participating cities are provincial urban centers with dense or expanding residential areas, roadside businesses, markets, schools, health facilities, pagodas, public utilities and mixed formal/informal economic activity. Sewerage coverage is limited in many areas and households commonly rely on on-site sanitation. Localized flooding, drainage constraints, wastewater discharge and service-access problems are important contextual issues.

2. Feasibility-Stage Baseline Evidence and DED Verification Sources

102. To make the evidence base more transparent, C-UIDP consolidates the principal feasibility-stage sources used by this ESMPF and distinguishes them from the site-specific data that must still be verified during DED. This source register does not replace the detailed references in the relevant chapters; it provides a single quality-control point for baseline traceability.

Table 14: Feasibility-Stage Baseline Evidence and DED Verification Source Register

Evidence source	Principal C-UIDP material	Use in the ESMPF	Mandatory DED / ESIA verification
Engineering / feasibility studies	City-specific FS reports, preliminary layouts, capacities, drainage/flood-control concepts, cost and O&M assumptions	Project description, infrastructure scope, preliminary AoI/risk context, design interfaces	Confirm final footprints, alignments, capacities, outfalls, pumping arrangements, flood-control geometry, temporary works and associated facilities.
Socio-economic surveys (SES)	Feasibility-stage household/social surveys for the four participating cities	Population/social context, affordability, willingness to connect, livelihoods, vulnerability and service priorities	Update affected-person/land/livelihood information for final footprints; verify vulnerable groups and connection-uptake implications.
Public consultation / stakeholder records	Feasibility-stage consultation minutes and stakeholder engagement records	Community priorities, flooding/drainage concerns, sanitation demand, access/livelihood issues and disclosure commitments	Continue city/subproject consultation during ESIA preparation; reconcile material design changes and track commitments to closure.

Evidence source	Principal C-UIDP material	Use in the ESMPF	Mandatory DED / ESIA verification
Approved institutional project documents	Approved implementation arrangements and responsible-agency records	PMU/PIU/CSC roles, reporting cycle, procurement/implementation interfaces and project-level controls	Confirm final staffing, reporting responsibilities, operator arrangements and institutional handover.
Cambodian legal / regulatory sources	Applicable laws, sub-decrees, prakas, standards and permitting requirements	Legal-compliance framework and national assessment/permit pathway	Legal specialist to confirm requirements current at DED, including numerical standards and permit/approval pathway for the confirmed design.
AIIB / GIIP requirements	Applicable AIIB ESF/ESS requirements and relevant GIIP/EHS guidance	Framework requirements, gap-filling measures, mitigation hierarchy, consultation, monitoring and implementation controls	Confirm the applicable AIIB framework/version and project-specific review/clearance requirements; apply current GIIP to the final technology/design.
Site reconnaissance / existing environmental information	FS observations, maps, available water/flood/ecology/service information	Preliminary sensitive-receptor and environmental-context screening	Complete site-specific seasonal baseline, receiving-water/aquatic ecology, odour, noise/air, hydrology/hydraulics and other specialist surveys required by each ESIA.

3. Physical, Hydrological and Climate Context

A. Physical and Hydrological Setting

103. The Project cities are located in Cambodia's lowland setting and experience strongly seasonal rainfall. Low gradients, high seasonal water levels, blocked or undersized drainage and intense monsoon rainfall contribute to urban flooding. Water bodies, canals and wetlands provide drainage, flood retention, ecological and livelihood functions.

104. The project towns occupy the low-lying alluvial terminal floodplain of the Mekong–Bassac–Tonle Sap river system, creating a highly complex and non-stationary hazard environment. Sediment delivery from the Upper Mekong Basin has declined by 60–75% from the 1990s baseline due to upstream reservoir regulation, reducing the natural flood-pulse attenuation capacity of the floodplain and producing sharper, faster flood peaks. While median annual maximum water levels show declining trends across the main basin, tail-risk flood hazard is actively amplified under compound La Niña × MJO Phase 5–6 forcing, further exacerbated by progressive floodplain compartmentalization from national road embankments (NR1, NR5, NR6). Historical daily station records (1996–2025) confirm a spatially divergent rainfall intensification: Prey Veng exhibits a robust increasing trend of +28.0 mm/year with the highest interannual variability (CV=0.31); Doun Kaev shows a significant increase of +9.3 mm/year; and Kampong Cham remains stationary annually but conceals a +26% surge in late-monsoon (SON) precipitation. Terrain risk analysis confirms extreme structural vulnerability, with Prey Veng possessing a mean Height Above Nearest Drainage (HAND) of 0.92 m and 98% High-to-Very High Flood Susceptibility Index (FSI), and Doun Kaev possessing a mean HAND of 1.20 m and 95.1% FSI, indicating that these urban footprints cannot rely on terrain elevation alone for flood protection

B. City-Specific Screening Context

105. FS-aligned screening context. Kampong Chhnang will primarily extend separated sewerage to the existing Boeng Alum WWTP and therefore requires particular attention to existing-plant capacity/interface, network integrity, flood-control road impacts and O&M integration. Kampong Cham combines an existing ADB-funded WWTP with a new AIIB-

funded 5,000 m³/day WWTP at Boeng Basac Lake, requiring assessment of cumulative/operational interfaces, odour, aquatic receptors and receiving-water conditions. Doun Kaev now includes a proposed WWTP at Boeng O Tom Lake (4,000 m³/day current phase plus 2,000 m³/day future phase), making WWTP siting, land, odour, flood exposure, sludge and receiving-water assessment mandatory. Prey Veng includes a proposed 5,000 m³/day WWTP at Tomnob Ta Sen and requires equivalent site-specific assessment, together with drainage and flood-control impacts.

Table 15: City-Specific Environmental and Social Screening Context

City	Context relevant to screening
Kampong Chhnang	Hydrologically connected to the Tonle Sap system; riverside/floodplain communities; aquatic ecology and fishing/access livelihoods; drainage and flood-risk transfer; homes/businesses near flood-protection corridors.
Kampong Cham	Mekong-influenced drainage and aquatic receptors; dense urban neighborhoods and roadside businesses; schools/health facilities; utility conflicts; access disruption; receiving-water and OPIR considerations.
Doun Kaev	Lakes, canals and low-lying urban areas with drainage/flood-retention functions; urban access, utility and wastewater-service issues; treatment arrangement to be confirmed.
Prey Veng	Low-lying flood-prone setting and agricultural interface; drainage, access and flood-risk transfer; receiving-water quality and community service impacts.

4. Biological Environment and Sensitive Receptors

A. Biological and Aquatic Environment

106. The feasibility-stage review identifies particular sensitivity of aquatic systems connected to the Tonle Sap and Mekong basins. Screening and DED assessment shall therefore address fish movement, spawning/nursery areas, wetlands, downstream users, ecosystem services, sediment, pollution and habitat connectivity. Critical-habitat screening shall be undertaken using appropriate biodiversity data sources, including iBAT or equivalent authoritative datasets, followed by specialist field verification where triggers are identified.

B. Public, Community and Other Sensitive Receptors

107. The four participating cities contain hospitals and health facilities, schools and educational institutions, pagodas and other places of worship, government and administrative offices, markets, cultural facilities and other locations used intensively by the public. These receptors are relevant to C-UIDP because wastewater, sewerage, drainage and flood-control road works will be implemented in established urban areas where construction may temporarily affect access, traffic circulation, noise, dust, vibration, utility continuity, pedestrian safety, emergency access and business activity. Sensitive-receptor identification shall therefore form an explicit part of the Area of Influence definition and the baseline for each site-specific ESIA.

108. At feasibility stage, a preliminary desk-based review of publicly available online mapping and facility information identified representative receptors in each participating city, as summarized in Table 16. The inventory is intended to strengthen the framework-level baseline and guide subsequent verification; it does not establish that every listed receptor lies within the final Project footprint or confirmed Area of Influence. Final DED alignments, work sites, temporary facilities and associated facilities shall be overlaid with verified receptor coordinates and boundaries before impact conclusions are made.

Table 16: Preliminary Public and Sensitive Receptor Inventory for C-UIDP Participating Cities

City	Representative receptor identified at FS desk-review stage	Receptor type	Potential Project sensitivity / interaction
Kampong Cham	Kampong Cham Hospital	Hospital / health facility	Emergency and patient access; traffic; noise, dust and utility continuity
Kampong Cham	Kampong Cham International School	Educational facility	Student safety; traffic; noise, dust and safe access
Kampong Cham	Chotanaram (Boeng Kok) Pagoda	Religious / community facility	Community gatherings; access; noise and cultural sensitivity
Kampong Cham	Kampong Cham Municipality	Government / administration	Public access and continuity of administrative services
Kampong Cham	Kampong Cham Market	Market / livelihood receptor	Pedestrian activity; vendor access; traffic and temporary business disruption
Kampong Chhnang	Kampong Chhnang Hospital	Hospital / health facility	Emergency and patient access; traffic; noise, dust and utility continuity
Kampong Chhnang	Krong Kampong Chhnang High School	Educational facility	Student safety; traffic; noise, dust and safe access
Kampong Chhnang	Yeay Tep Pagoda	Religious / community facility	Religious/community use; access and cultural sensitivity
Kampong Chhnang	Kampong Chhnang Provincial Hall	Government / administration	Public/official access and continuity of services
Kampong Chhnang	Kampong Chhnang Market	Market / livelihood receptor	Pedestrian/vendor activity; access and temporary business disruption
Doun Kaev (Takeo)	Takeo Provincial Referral Hospital	Hospital / health facility	Critical emergency/patient access; traffic; noise, dust and utility continuity
Doun Kaev (Takeo)	Primary School of Takeo	Educational facility	Child/student safety; traffic; noise, dust and safe access
Doun Kaev (Takeo)	Wat Seyhakratanram	Religious / community facility	Religious/community use; access, noise and cultural sensitivity
Doun Kaev (Takeo)	Takeo City Hall	Government / administration	Public access and continuity of administrative services
Doun Kaev (Takeo)	Phsar Nat Takeo	Market / livelihood receptor	Pedestrian/vendor activity; traffic, access and business disruption
Prey Veng	Prey Veng Provincial Hospital	Hospital / health facility	Critical emergency/patient access; traffic; noise, dust and utility continuity
Prey Veng	Prey Veng Krong Primary School	Educational facility	Child/student safety; road safety; access, noise and dust
Prey Veng	Wat Sang Samey	Religious / community facility	Religious/community use; access, noise and cultural sensitivity

City	Representative receptor identified at FS desk-review stage	Receptor type	Potential Project sensitivity / interaction
Prey Veng	Prey Veng Provincial Hall	Government / administration	Public/official access and continuity of services
Prey Veng	Prey Veng Old Market	Market / livelihood receptor	Pedestrian/vendor activity; access, traffic and business disruption
Prey Veng	Prey Veng Museum	Cultural / public facility	Cultural receptor; access, noise/vibration and heritage interface

109. The receptors in Table 16 are representative feasibility-stage desk-review entries and shall not be treated as an exhaustive or impact-confirmed inventory. During DED, each of the eight pre-assigned site-specific ESIA packages shall prepare a georeferenced sensitive-receptor register and map using the confirmed Project footprint and Area of Influence, field verification and consultation with relevant facility managers and local authorities. The register shall identify, at minimum, the verified receptor name and type, coordinates/boundary, relationship and distance to the works, access points, sensitive operating/use periods, vulnerable or high-risk users, and the construction or operational pathways through which the receptor could be affected.

110. For assessment and management purposes, particular attention shall be given to hospitals and emergency facilities, schools, pagodas and cultural sites, government/public-service facilities, markets and concentrated livelihood areas, police/fire or other emergency services, water and electricity infrastructure, and any other receptor with sensitive or vulnerable users. Where a credible interaction is identified, the site-specific ESIA/ESMP shall define receptor-specific avoidance and mitigation measures, including uninterrupted emergency and pedestrian access, traffic and road-safety controls, construction staging and working hours, noise/dust/vibration controls, utility continuity, communication and consultation, grievance response and monitoring. The receptor register shall be updated when design changes, work fronts or contractor-selected facilities alter the Area of Influence.

5. Land Use, Livelihood and Community Context

A. Social Setting

111. Livelihoods include commerce, services, wage employment, small businesses, street vending, agriculture and fishing. Potentially vulnerable groups include ID-Poor households, women-headed households, older-person-headed households, persons with disabilities, tenants, informal occupants, landless households and households dependent on daily income. Women have important roles in sanitation, hygiene, caregiving, vending and household management and may experience differentiated affordability, safety, access, employment and SEA/SH risks.

B. Land Use, Access and Utilities

112. Project works will occur in urban and peri-urban environments where public land, road reserves, waterways, private holdings and informal occupation may coexist. Public ownership does not demonstrate absence of users or livelihood interests. Linear sewer/drainage works may temporarily restrict access to houses, shops, markets and institutions and may conflict with water, electricity and telecommunications utilities.

C. Community Safety and Social Tension

113. Relevant contextual risks include road traffic accidents, congested streets, open excavations, utility damage, temporary loss of access, flooding, poor drainage, wastewater exposure and potential community tension where rehabilitation works disrupt business or daily mobility. DED baseline work shall document these conditions and establish appropriate design and construction controls.

Table 17: Contextual Baseline and DED Verification Summary

Management issue	Framework requirement	Key output/evidence	Lead responsibility	Project stage
Physical baseline	Characterize water, flood, soil, drainage, air/noise and climate conditions.	Site-specific baseline dataset	E&S/engineering consultants	DED
Biological baseline	Screen habitats, aquatic ecology, IBAT/critical habitat and receptors.	Biodiversity screening/assessment	Biodiversity specialist	FS/DED
Social baseline	Map land use, livelihoods, vulnerable groups, businesses, access and services.	Social/receptor map and baseline	Social specialist	DED

6. Anticipated Environmental and Social Risks and Impacts

114. **Purpose and use of this section.** This section converts the feasibility-stage project description and contextual baseline into a concise project-specific risk framework. It does not assign final impact significance before the relevant site, design and Area of Influence are fully defined. Instead, it identifies the foreseeable risk themes that each site-specific ESIA must assess, verify and refine. The risks below are organized around the two ESIA packages established for each city: (i) integrated wastewater, sewerage, pumping, drainage and related facilities; and (ii) the flood-control road/dyke-road subproject.

Figure 7: Indicative E&S assessment priorities for ESIA package 1 and 2

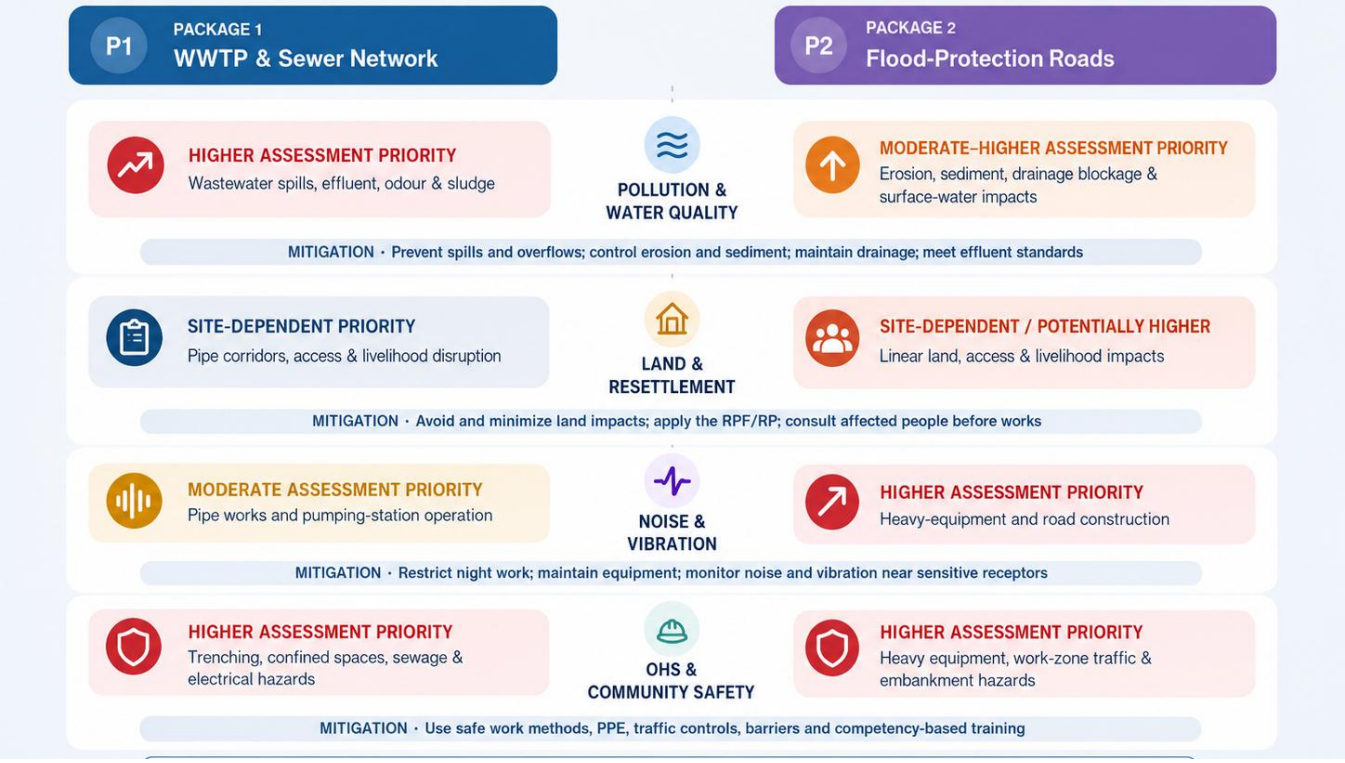


Table 18: Anticipated E&S Risk Framework by the Two C-UIDP ESIA Packages

ESIA package	Pollution / resource risks	Biodiversity / ecosystem risks	Social / land / community risks	Labor / OHS / community safety	Climate / flood risks
Integrated wastewater / WWTP / sewerage / pumping / drainage	Wastewater and receiving-water quality; odour and vectors; sludge and hazardous materials; accidental overflow; excavation/dewatering; dust/noise; energy and resource use. Lake/wetland filling, clean-fill quality and source, haulage, turbidity/sediment release,	Aquatic habitat and wetland/lake/river receptors; fish movement and ecosystem services; critical-habitat screening where triggered. The assessment shall quantify permanent	Temporary access and business disruption; utility interruption; land/livelihood impacts; affordability/connection issues; vulnerable groups; community acceptance; SEA/SH and worker/community interaction. The social inventory shall include owners, tenants, rent-free occupants, informal or unauthorized	Trenching, confined spaces, electrical/mechanical hazards, traffic, drowning/open excavations, worker accommodation, emergency response.	Flood exposure of WWTP/pumping assets; drainage performance; flood-risk transfer; future rainfall and climate-resilience requirements.

ESIA package	Pollution / resource risks	Biodiversity / ecosystem risks	Social / land / community risks	Labor / OHS / community safety	Climate / flood risks
	consolidation and differential settlement shall be assessed where a WWTP platform or pond footprint occupies a water body or seasonally inundated land.	and temporary loss or fragmentation of aquatic/littoral habitat and ecosystem services and identify seasonal fishing, lotus/aquatic-plant collection, livestock watering and other resource use.	structure occupants, mobile vendors, employees and users of state/public land or water resources, irrespective of title status.		
Flood-control road / dyke-road	Earthworks, erosion/sediment, dust/noise, spoil/material sources, drainage blockage, surface-water impacts and construction waste.	Aquatic/riparian habitat fragmentation; wetlands and drainage connectivity; vegetation clearance; sensitive receptors along the linear corridor.	Land acquisition/access restriction; temporary and permanent livelihood impacts; traffic and road safety; severance; access to homes/businesses/farms; vulnerable users and community facilities. The corridor assessment shall identify partial/full house demolition, unsafe residual structures, physical displacement, roadside vending, agricultural and fisheries access, and induced severance or roadside-development effects.	Heavy equipment, work-zone traffic, embankment stability, excavation, public access, emergency access and construction-interface risks.	Flood hydraulics and transfer of flood risk; overtopping/erosion; drainage-crossing capacity; long-term inspection and maintenance under future climate conditions. Model residual flood depth, velocity, duration, culvert blockage, breach and overtopping scenarios, including emergency access and maintenance under future rainfall and high-water conditions.

115. **Risk-to-instrument link.** The risk themes in Table 18 shall be carried into the scoping matrix, baseline program, alternatives analysis, impact assessment, ESMP and monitoring plan for each of the eight site-specific ESIAs identified in Table 22. Where screening identifies an ESS2, ESS3, critical-habitat, international-waterway, cultural-heritage or other specialist trigger, the relevant assessment or planning instrument shall be prepared in parallel and cross-referenced rather than duplicated within the ESIA.

V. ENVIRONMENTAL AND SOCIAL SCREENING, CATEGORIZATION AND INSTRUMENT SELECTION

1. Screening

116. The Project team confirms that feasibility-stage environmental and social screening was undertaken in June 2026. The controlled screening register shall record this timing and the completed screening forms/records for the eight ESIA packages shall identify the actual preparer, reviewer, PMU/MPWT endorsement, screening outcome and applicable hold points. DED shall update/re-screen where design changes, new associated facilities or new information materially affect the screening outcome.

A. Responsibility and Timing

117. The feasibility consultant shall complete and document initial E&S screening and scoping for all investments sufficiently defined at feasibility stage. MPWT/PMU shall own the screening record. During DED, the ESIA consultant shall prepare a complete project description for each ESIA package. This shall cover the confirmed location and footprint, permanent works, temporary construction facilities, associated facilities, design, construction methods and operational arrangements. If information on a contractor-selected temporary facility is not yet available, the ESIA shall identify the information gap, assess the generic risks and set clear site-selection criteria. Any proposed site shall be submitted to the Supervision Consultant and MPWT/PMU for review and acceptance. No entry onto affected land shall take place before the required approval and completion of applicable compensation and assistance procedures. If a material design or scope change could affect the Project risk classification, the ESIA consultant shall report it to MPWT/PMU and AIIB for re-evaluation before the change is approved.

Figure 8: High level E&S screening & approach process



B. Mandatory Screening Sequence

1. Confirm the activity, coordinates, design status, permanent/temporary footprint, area of influence and associated facilities.
2. Apply the AIIB Environmental and Social Exclusion List and Cambodian prohibitions/restrictions.
3. Determine national environmental assessment, permitting and sectoral approval requirements.
4. Screen ESS1 risk topics, including pollution, OHS, community safety, labor, biodiversity/critical habitat, cultural heritage, climate/flood, cumulative impacts and associated facilities.
5. Screen ESS2 land acquisition, restrictions on land use, access and livelihood impacts and refer triggered issues to the RPF/GDR process.
6. Screen ESS3 using the AIIB criteria and field consultation/verification; record evidence and conclusions.
7. Screen OPIR/international-waterway applicability and identify required hydrological/water-quality assessment.
8. Identify alternatives and avoidance/minimization changes that must be incorporated into design.
9. Assign proposed risk category and determine required instruments, specialized studies, consultation and disclosure.
10. Obtain PMU quality assurance and submit the screening conclusion/risk classification to AIIB for confirmation where required.

C. Screening Tools

118. Annex 6 provides the consolidated C-UIDP E&S Screening Form. The form is mandatory and must be completed for every subproject, design package and associated facility. Annex 10 provides the instrument decision and hold-point matrix. Annex 11 provides the subproject change-management and re-screening form.

119. Feasibility-stage screening closure requirement. The screening record for each of the eight pre-assigned ESIA packages shall be prepared or validated by the FS safeguard consultant, reviewed by the PMU environmental and social specialists and endorsed by MPWT/PMU. Each dated record shall document, as applicable, the ESEL check, ESS1-ESS3 applicability, associated facilities, OPIR/international-waterways screening, iBAT/critical-habitat screening, category/instrument decision, key data gaps, preparer/reviewer and decision hold points. During DED, the DED/ESIA consultant shall update these records using final design information; no relevant package may pass design freeze, tender or construction while a required screening record, specialist study, permit pathway or safeguard instrument remains unresolved.

2. Facility and Topic-Specific Screening

A. Facility-Specific Screening

Table 19: Facility-Specific Environmental and Social Screening Focus

Facility/activity	Minimum screening focus
WWTP / pumping station	Land and receptors; odour and buffer/setback; flood exposure; influent/effluent; receiving water; sludge; pathogens; chemicals; energy/power failure; OHS/confined space; emergency overflow; community acceptance. Where lake/wetland/pond filling may occur: boundary and land classification; approval pathway; bathymetry and seasonal inundation; flood storage/conveyance; sediment quality; aquatic ecology and community resource use; fill source/volume; soft-ground settlement; containment, turbidity and compensatory drainage/storage.
Sewer network	Excavation; access; utilities; traffic; dewatering; contaminated soil; worker/community safety; leakage/integrity; maintenance access. Pavement and building-condition survey; utility mapping/trial pits; open-trench length/closure time; shoring and confined-space control; dewatering discharge; daily

Facility/activity	Minimum screening focus
	access; temporary surfacing; layer-by-layer compaction; testing and full-width final resurfacing.
Drainage/flood protection	Hydraulics; flood-risk transfer; erosion; drowning; aquatic habitat; land/access; embankment safety; maintenance. Final alignment and affected-asset census; house/structure demolition; borrow and haul routes; soft-ground and embankment stability; cross-drainage/culvert and fish/water access; flood-risk transfer; breach/overtopping response; road crossings, guardrails, speed management and maintenance access.
Outfalls	Receiving-water flow/quality; aquatic ecology; downstream users; erosion; flood levels; international-waterway implications.
Temporary/associated facilities	Camps, borrow/quarry, batching, laydown, spoil, haul routes, utility connections; land agreements; permits; pollution; community impacts; restoration. Screen unexploded ordnance/explosive-remnant risk for all excavation, borrow, fill and new-access areas using competent-authority records, local history and consultation; require accredited survey/clearance where the screening identifies a credible risk.

3. Risk Categorization and Instrument Selection

A. Risk Classification and Instrument Selection

120. For the eight C-UIDP packages identified in Table 22 remain subproject site-specific ESIA with embedded ESMP. At DED, the ESIA consultant shall define the complete project description, Area of Influence, baseline program, alternatives and assessment scope for each package. This is not a repeat of FS screening. Screening is used only for a new activity, contractor-selected facility or material change that was not covered by the FS decision. Any change that could affect the risk classification or agreed instrument shall be referred by MPWT/PMU to AIIB for re-evaluation.

Table 20: Screening Outcomes and Indicative Environmental and Social Instruments

Screening outcome	Indicative instrument response
Limited, readily managed impacts	Focused assessment and site-specific ESMP or other proportionate instrument, subject to national/AIIB requirements.
Moderate/substantial or complex impacts	ESIA with ESMP and specialized studies/plans as triggered.
ESS2 triggered	RPF procedures and site-specific RP/DRP or other instrument agreed with GDR/AIIB.
ESS3 triggered	Social assessment and Indigenous Peoples Plan/equivalent acceptable to AIIB; FPICon and broad community support where required under the applicable AIIB ESF; FPIC where mandated by Cambodian law.
Critical habitat trigger	Qualified biodiversity specialist; critical habitat assessment and biodiversity management/offset requirements as applicable.
International waterway trigger	Technical assessment and OPIR process as confirmed by AIIB.

B. Pre-Assigned Minimum Site-Specific ESIA Requirements by City and Subproject

121. There will be two minimum site-specific ESIA packages for each participating city. This approach provides a clear instrument commitment while avoiding unnecessary fragmentation of functionally integrated urban wastewater and drainage systems. ESIA Package 1 covers the WWTP or existing-WWTP interface together with sewerage, pumping, household connections, urban drainage, outfalls and related components. ESIA Package 2 covers the flood-control road/dyke-road subproject. Each package shall have its own ESIA and embedded ESMP before tender/works for that package. The Cambodian

MoE IEIA/EIA or permit pathway is a parallel national regulatory requirement and shall not be used as a substitute for the AIIB site-specific ESIA.

Table 21: Minimum Site-Specific ESIA Requirements by Province, City and Subproject

Province	City	Major subproject / infrastructure	Minimum AIIB E&S instrument	Minimum assessment focus
Kampong Chhnang	Kampong Chhnang City	ESIA Package 1 - Integrated wastewater, sewerage, pumping, drainage and related components, including connection to/interface with the existing Boeng Alum WWTP, household connections, force main, pumping stations, outfalls and associated facilities	Separate site-specific ESIA + ESMP	Assess new sewerage/drainage works and their interface with the existing WWTP, including treatment capacity and cumulative performance, pumping reliability, receiving-water conditions, access/business disruption, utilities, dewatering, land/livelihood, OHS/community safety, flood risk, operational responsibilities and O&M. Climate and disaster risk; noise and vibration; pollution prevention and control (including fuel/chemical storage and use where applicable); erosion and sediment control; aquatic receptors/connectivity where relevant; OHS and emergency preparedness and response shall also be assessed.
Kampong Chhnang	Kampong Chhnang City	ESIA Package 2 - Flood-control / road-raising works (FS identifies approximately 18.63 km flood-control road)	Separate site-specific ESIA + ESMP	Assess flood hydraulics and flood-risk transfer, land/access, road and community safety, embankment stability, drainage crossings, aquatic/community receptors, erosion, construction impacts and long-term maintenance. Climate and disaster risk; noise and vibration; pollution prevention and control (including fuel/chemical storage and use where applicable); erosion and sediment control; aquatic receptors/connectivity where relevant; OHS and emergency preparedness and response shall also be assessed.
Kampong Cham	Kampong Cham City	ESIA Package 1 - Integrated wastewater, sewerage, pumping, drainage and related components, including the proposed Boeng Basac WWTP (about 5,000 m³/day), household connections, pumping/force-main elements, outfall/access and urban stormwater drainage	Separate site-specific ESIA + ESMP	Assess WWTP siting/land, odour/buffer, flood exposure, sludge, effluent/receiving water, aquatic ecology, cumulative interface with existing Boeng Snay facility, sewer/drainage hydraulics, urban access/business continuity, utilities, dewatering, traffic, worker/community safety and O&M. Climate and disaster risk; noise and vibration; pollution prevention and control (including fuel/chemical storage and use where applicable); erosion and sediment control; aquatic receptors/connectivity where relevant; OHS and emergency preparedness and response shall also be assessed.
Kampong Cham	Kampong Cham City	ESIA Package 2 - Flood-control road / dyke-road works (FS identifies approximately 1.97 km)	Separate site-specific ESIA + ESMP	Assess flood hydraulics and transfer, embankment/road safety, land/access, drainage structures, aquatic receptors, cultural/community receptors, construction impacts and O&M. Climate and disaster risk; noise and vibration; pollution prevention and control (including fuel/chemical storage and use where applicable); erosion and sediment control; aquatic receptors/connectivity where relevant; OHS and emergency preparedness and response shall also be assessed.
Takeo	Doun Kaev City	ESIA Package 1 - Integrated wastewater, sewerage and drainage components, including the proposed Boeng O Tom WWTP (about 23 ha; 4,000 m³/day), household	Separate site-specific ESIA + ESMP	Assess phased WWTP capacity, siting/land, odour/buffer, flood exposure, sludge, receiving water, aquatic ecology, emergency operation, sewer/drainage hydraulics, lakes/canals, access/business continuity, utilities, dewatering, traffic, worker/community safety,

Province	City	Major subproject / infrastructure	Minimum AIIB E&S instrument	Minimum assessment focus
		connections, outfalls/access and stormwater pipes/canals		future expansion compatibility and O&M. Climate and disaster risk; noise and vibration; pollution prevention and control (including fuel/chemical storage and use where applicable); erosion and sediment control; aquatic receptors/connectivity where relevant; OHS and emergency preparedness and response shall also be assessed.
Takeo	Doun Kaev City	ESIA Package 2 - Flood-control road (FS identifies approximately 5.68 km)	Separate site-specific ESIA + ESMP	Assess flood hydraulics/transfer, embankment stability, land/access, road/community safety, drainage crossings, aquatic receptors, construction impacts and maintenance. Climate and disaster risk; noise and vibration; pollution prevention and control (including fuel/chemical storage and use where applicable); erosion and sediment control; aquatic receptors/connectivity where relevant; OHS and emergency preparedness and response shall also be assessed.
Prey Veng	Prey Veng City	ESIA Package 1 - Integrated wastewater, sewerage and drainage components, including the proposed Tomnob Ta Sen WWTP (about 17 ha; 3,000 m³/day), household connections, outfalls/access and stormwater drainage	Separate site-specific ESIA + ESMP	Assess WWTP siting/land, odour/buffer, flood exposure, sludge, effluent/receiving water, aquatic ecology, emergency operation, sewer/drainage hydraulics, agricultural/community receptors, access/business continuity, utilities, traffic, worker/community safety, community acceptance and O&M. Climate and disaster risk; noise and vibration; pollution prevention and control (including fuel/chemical storage and use where applicable); erosion and sediment control; aquatic receptors/connectivity where relevant; OHS and emergency preparedness and response shall also be assessed.
Prey Veng	Prey Veng City	ESIA Package 2 - Flood-control road (FS identifies approximately 8.75 km)	Separate site-specific ESIA + ESMP	Assess flood hydraulics/transfer, road/embankment safety, land/access, drainage crossings, agricultural/community receptors, construction impacts and maintenance. Climate and disaster risk; noise and vibration; pollution prevention and control (including fuel/chemical storage and use where applicable); erosion and sediment control; aquatic receptors/connectivity where relevant; OHS and emergency preparedness and response shall also be assessed.

122. **Instrument boundary rule.** ESIA Package 1 shall be treated as an integrated urban water and sanitation assessment covering the WWTP or existing-WWTP interface together with sewerage, pumping, household connections, urban drainage, outfalls and related facilities within the same city. The ESIA shall distinguish impacts by component within the integrated package and assess cumulative and operational interfaces. ESIA Package 2 shall remain a separate assessment for the flood-control road/dyke-road because its linear footprint, land/access interface, road/community safety, embankment stability and flood-risk-transfer issues are materially different. Associated or temporary facilities shall be assigned to the package they principally serve and screened accordingly.

Table 22: C-UIDP Master Subproject ESIA, Risk, Study and Decision-Control Matrix

City / ESIA package	Confirmed FS scope	Priority risks to assess	Minimum specialist studies / verification	Required E&S / regulatory instrument	Decision timing / hold point	Lead / coordination
Kampong Chhnang / Package 1	Integrated sewerage, pumping, drainage and interface with existing Boeng Alum WWTP	Treatment/interface capacity; receiving water; pumping reliability; drainage/flood interaction; access/business disruption; OHS/community safety; land/livelihood: climate/disaster risk; noise/vibration; pollution prevention; erosion/sediment; aquatic receptors where relevant; OHS/community safety; emergency preparedness/response	Receiving-water/water-quality baseline; hydraulic/drainage verification; existing-WWTP interface/capacity audit; land/access screening: borrow/quarry/haul-route assessment where relevant; blasting management and justified setbacks if blasting is proposed; hydrology and aquatic-habitat assessment for any proposed water abstraction	AIIB: site-specific ESIA + ESMP. Cambodia: confirm MoE instrument/permit under final design and applicable thresholds.	DED before tender; ESIA recommendations incorporated before design freeze	MPWT/PMU + DED/ESIA consultant; MoE/PDoE and existing operator coordination
Kampong Chhnang / Package 2	Flood-control / road-raising works (~18.63 km at FS)	Flood-risk transfer; embankment/drainage crossings; land/access; road/community safety; aquatic/community receptors: climate/disaster risk; noise/vibration; pollution prevention; erosion/sediment; aquatic receptors where relevant; OHS/community safety; emergency preparedness/response	Flood-hydraulic assessment; road-safety/access assessment; land/ESS2 screening; aquatic/receptor verification: borrow/quarry/haul-route assessment where relevant; blasting management and justified setbacks if blasting is proposed; hydrology and aquatic-habitat assessment for any proposed water abstraction	AIIB: separate site-specific ESIA + ESMP. Cambodia: confirm MoE instrument/permit for final alignment/scale.	DED before tender and before land possession/works	MPWT/PMU + DED/ESIA consultant; MEF/GDR if ESS2 triggered
Kampong Cham / Package 1	Boeng Basac WWTP (~5,000 m3/day) + sewerage/pumping/drainage and related facilities	WWTP siting/land; odour/buffer; flood exposure; sludge; effluent/receiving water; aquatic ecology; interface with Boeng Snay;	Water-quality and aquatic baseline; odour/buffer assessment; flood/hydraulic study;	AIIB: site-specific ESIA + ESMP. Cambodia: confirm MoE instrument/permit	DED before design freeze/tender	MPWT/PMU + DED/ESIA consultant; MoE/PDoE; operator/municipality

City / ESIA package	Confirmed FS scope	Priority risks to assess	Minimum specialist studies / verification	Required E&S / regulatory instrument	Decision timing / hold point	Lead / coordination
		urban access/OHS: climate/disaster risk; noise/vibration; pollution prevention; erosion/sediment; aquatic receptors where relevant; OHS/community safety; emergency preparedness/response	sludge/O&M assessment; land/access screening: borrow/quarry/haul-route assessment where relevant; blasting management and justified setbacks if blasting is proposed; hydrology and aquatic-habitat assessment for any proposed water abstraction	for WWTP and integrated works.		
Kampong Cham / Package 2	Flood-control road / dyke-road (~1.97 km at FS)	Flood hydraulics/transfer; embankment and road safety; land/access; drainage structures; aquatic/cultural/community receptors: climate/disaster risk; noise/vibration; pollution prevention; erosion/sediment; aquatic receptors where relevant; OHS/community safety; emergency preparedness/response	Flood-hydraulic study; road-safety/access assessment; land/ESS2 screening; cultural/aquatic receptor verification: borrow/quarry/haul-route assessment where relevant; blasting management and justified setbacks if blasting is proposed; hydrology and aquatic-habitat assessment for any proposed water abstraction	AIIB: separate site-specific ESIA + ESMP. Cambodia: confirm MoE instrument/permit for final alignment/scale.	DED before tender and works	MPWT/PMU + DED/ESIA consultant; relevant authorities
Takeo / Doun Kaev / Package 1	Boeng O Tom WWTP (~23 ha; 4,000 m3/day) + sewerage/drainage	Phased capacity; siting/land; odour/buffer; flood exposure; sludge; receiving water/aquatic ecology; lakes/canals; access/OHS: climate/disaster risk; noise/vibration; pollution prevention; erosion/sediment; aquatic receptors where relevant; OHS/community safety; emergency preparedness/response	Water-quality/aquatic baseline; odour/buffer assessment; flood/hydraulic study; phased-capacity/O&M assessment; land/access screening: borrow/quarry/haul-route assessment where relevant; blasting management and justified setbacks if blasting is proposed; hydrology and aquatic-	AIIB: site-specific ESIA + ESMP. Cambodia: confirm MoE instrument/permit for final integrated package.	DED before design freeze/tender	MPWT/PMU + DED/ESIA consultant; MoE/PDoE; municipality/operator

City / ESIA package	Confirmed FS scope	Priority risks to assess	Minimum specialist studies / verification	Required E&S / regulatory instrument	Decision timing / hold point	Lead / coordination
			habitat assessment for any proposed water abstraction			
Takeo / Doun Kaev / Package 2	Flood-control road (~5.68 km at FS)	Flood-risk transfer; embankment stability; land/access; road/community safety; drainage crossings; aquatic receptors: climate/disaster risk; noise/vibration; pollution prevention; erosion/sediment; aquatic receptors where relevant; OHS/community safety; emergency preparedness/response	Flood-hydraulic study; road-safety/access assessment; land/ESS2 screening; aquatic/receptor verification: borrow/quarry/haul-route assessment where relevant; blasting management and justified setbacks if blasting is proposed; hydrology and aquatic-habitat assessment for any proposed water abstraction	AIIB: separate site-specific ESIA + ESMP. Cambodia: confirm MoE instrument/permit for final alignment/scale.	DED before tender/works	MPWT/PMU + DED/ESIA consultant; MEF/GDR if ESS2 triggered
Prey Veng / Package 1	Tomnob Ta Sen WWTP (~17 ha; 3,000 m3/day) + sewerage/drainage	Siting/land; odour/buffer; flood exposure; sludge; effluent/receiving water; aquatic/agricultural receptors; community acceptance/OHS: climate/disaster risk; noise/vibration; pollution prevention; erosion/sediment; aquatic receptors where relevant; OHS/community safety; emergency preparedness/response	Water-quality/aquatic baseline; odour/buffer assessment; flood/hydraulic study; sludge/O&M assessment; land/access screening: borrow/quarry/haul-route assessment where relevant; blasting management and justified setbacks if blasting is proposed; hydrology and aquatic-habitat assessment for any proposed water abstraction	AIIB: site-specific ESIA + ESMP. Cambodia: confirm MoE instrument/permit for final integrated package.	DED before design freeze/tender	MPWT/PMU + DED/ESIA consultant; MoE/PDoE; municipality/operator
Prey Veng / Package 2	Flood-control road (~8.75 km at FS)	Flood hydraulics/transfer; embankment/road safety; land/access; drainage crossings; agricultural/community receptors: climate/disaster risk; noise/vibration; pollution prevention; erosion/sediment;	Flood-hydraulic study; road-safety/access assessment; land/ESS2 screening; receptor verification: borrow/quarry/haul-route assessment where relevant;	AIIB: separate site-specific ESIA + ESMP. Cambodia: confirm MoE instrument/permit for final alignment/scale.	DED before tender/works	MPWT/PMU + DED/ESIA consultant; relevant authorities

City / ESIA package	Confirmed FS scope	Priority risks to assess	Minimum specialist studies / verification	Required E&S / regulatory instrument	Decision timing / hold point	Lead / coordination
		aquatic receptors where relevant; OHS/community safety; emergency preparedness/response	blasting management and justified setbacks if blasting is proposed; hydrology and aquatic-habitat			

123. Use of Table 23. This matrix sets the minimum assessment scope for the eight agreed ESIAs. The ESIA TOR for each package shall use the relevant row as a starting point and expand it to reflect the confirmed DED project description and site conditions. A material change in footprint, capacity, technology or associated facilities shall be recorded and referred to MPWT/PMU and AIIB where it may affect the risk classification or agreed assessment approach.

4. Screening Outputs, Quality Control and Portfolio Oversight

A. Screening Workflow and Required Outputs

124. The screening process shall be implemented as a sequence of documented actions. Step 1 confirms the subproject description, coordinates, footprint, alternatives, temporary works and associated facilities. Step 2 applies the AIIB ESEL and identifies Cambodian permit requirements. Step 3 undertakes site reconnaissance and targeted consultation. Step 4 screens environmental, biodiversity, climate, labor, OHS, community safety, land, livelihood, gender, ESS3 and cultural-heritage risks. Step 5 assigns the risk classification and determines the required instruments and specialist studies. Step 6 integrates avoidance and minimization into design. Step 7 prepares, consults, discloses and clears the required instruments. Step 8 incorporates commitments into procurement and supervision. Step 9 monitors construction. Step 10 confirms operational readiness and O&M arrangements.

125. Each step shall produce an auditable output, such as a screening map, permit register, receptor map, completed checklist, classification memorandum, alternatives record, approved instrument, contract E&S schedule, monitoring record or operational-readiness certificate. The screening process is therefore not complete merely because a form has been signed.

B. Topic-Specific Screening Requirements

126. Environmental screening shall cover water and wastewater, air/noise, waste and hazardous materials, erosion/sediment, climate and disaster risk, natural habitat, aquatic ecology and critical habitat. Social screening shall cover land acquisition, physical and economic displacement, access disruption, vulnerable groups, labor and working conditions, SEA/SH, community safety, cultural heritage, stakeholder concerns and ESS3 applicability. Infrastructure-specific screening shall address WWTP odour and buffer, receiving-water sensitivity, sludge route, pumping reliability, sewer integrity, embankment/flood risk and contractor temporary facilities.

127. International-waterway screening shall identify whether the proposed activity affects a river, tributary or connected water body that falls within AIIB OPIR requirements. Biodiversity screening shall include IBAT or equivalent current data for threatened species and critical-habitat triggers. These screens shall be performed early enough to influence site selection rather than being added after the preferred site is fixed.

C. Risk Classification and Proportionality

128. Risk classification shall be based on the nature, scale, sensitivity, duration, reversibility and manageability of the potential impacts and on the vulnerability of affected people and environmental receptors. The overall Project category shall not be used to reduce the level of assessment for an individual facility with more complex or significant risks. A subproject with potentially significant, diverse, irreversible or difficult-to-manage impacts shall be assessed at the level appropriate to that risk and referred to AIIB for confirmation as required.

129. Proportionality remains relevant to ancillary facilities, contractor-selected sites, additional works and the depth of specialist studies within each ESIA. It does not remove the eight ESIA commitments fixed in Table 22. For an ancillary or additional activity whose impacts are predictable, site-specific, temporary and readily managed through established controls, a focused ESMP or other proportionate instrument may be appropriate. The screening memorandum shall explain the rationale and its relationship to the applicable city ESIA package.

D. Instrument Selection and Content Expectations

130. Depending on screening, required instruments may include an ESIA, ESMP, focused technical assessment, biodiversity management plan, traffic or community safety plan, cultural-heritage plan, labor/OHS plan, resettlement instrument, ESS3 instrument, updated SEP provisions or other specialist studies. The instrument-selection matrix shall identify who prepares the instrument, the review/approval pathway, consultation/disclosure requirement, implementation responsibility and timing.

131. Each of the eight pre-assigned ESIAs, and any additional ESIA subsequently required through screening, shall include project description and alternatives; policy/legal framework; area of influence; baseline; direct, indirect, induced and cumulative impact assessment; climate/disaster considerations; stakeholder engagement; mitigation hierarchy; ESMP; monitoring; institutional arrangements; implementation schedule and cost; residual risks; and a non-technical summary. Annex 20 and Annex 21 provide the minimum common and package-specific TOR requirements.

E. Re-screening and Change Triggers

132. Re-screening is required when a material design or implementation change may alter the risk profile. Triggers include a new WWTP boundary, technology or capacity; changed outfall; pipeline realignment into private land; new pumping station; new contractor camp or disposal site; change in flood-control geometry; discovery of a sensitive habitat or cultural site; major construction-method change; or significant new stakeholder concern. The change shall be screened before implementation except where emergency action is necessary to protect life or the environment.

133. Re-screening shall determine whether existing approvals and instruments remain adequate, require amendment, or must be supplemented by further assessment and consultation. The decision shall be documented using the change-management form in the annexes and linked to Chapter 10.

F. Screening and Instrument Selection Requirements

Table 23: Screening and Instrument-Selection Control Summary

Management issue	Framework requirement	Key output/evidence	Lead responsibility	Project stage
Eligibility	Apply AIIB ESEL and legal constraints.	Eligibility/permit checklist	PMU/FS or DED E&S team	FS/DED
Risk screening	Complete environmental, social, climate, biodiversity, land, ESS3 and OPIR screens.	Completed screening form	Qualified E&S specialists	FS/DED
Instrument decision	Apply the pre-assigned Table 22 ESIA requirements and determine any additional instruments for ancillary/additional activities with documented rationale.	Updated instrument schedule / classification memorandum	PMU; AIIB confirmation for categorization and any material change to the agreed instrument approach	FS/DED

G. Screening Quality-Control Questions

134. Before approving a screening result, the PMU shall ask a set of quality-control questions: Is the design information current and sufficiently precise? Has the full area of influence, including temporary works and associated facilities, been considered? Have site reconnaissance and stakeholder input been used rather than desktop information alone? Are land, livelihood, gender, vulnerable-group, biodiversity, international-waterway, climate, OHS and community-safety issues explicitly addressed? Are data gaps identified? Does the proposed instrument logically follow from the identified risks? Are avoidance measures already reflected in design? Are review, consultation and disclosure responsibilities clear? A negative answer to a material question shall result in additional work before the screening is accepted. This control is intended to prevent screening from becoming a form-filling exercise disconnected from engineering decisions.

H. Screening Register and Portfolio-Level Oversight

135. The PMU shall maintain a consolidated screening and instrument register for all subprojects and contract packages. The register should show screening date and version, current design reference, risk classification, applicable ESS/OPIR triggers, national permit pathway, required instruments and specialist studies, disclosure status, land/resettlement status, approval status, key hold points and next action. Portfolio-level review allows MPWT to identify inconsistent classifications, overdue studies, recurring data gaps and packages advancing without prerequisites. It also provides a concise basis for AIIB supervision and enables lessons from one city to be applied to similar risks in another without changing the ESMPF itself.

VI. E&S CONSIDERATION AT SUBPROJECTS

1. Assessment Scope, Baseline and Alternatives

A. Social Baseline and Connection-Uptake Priorities

SES-Informed Social Risk Priorities

136. The social baseline demonstrates that the principal social risks are not limited to permanent land acquisition. Extensive linear sewer and drainage works will interact with existing household sanitation arrangements, property access, roadside businesses, public utilities and local mobility. The site-specific assessment shall therefore address temporary access restrictions, disruption of business and household activities, service interruptions, excavation safety, restoration of pavements and driveways, communication with households before service connections, and the affordability/acceptability of connection arrangements. Where the final footprint causes economic displacement or other ESS2 impacts, the applicable resettlement instrument shall govern compensation and assistance.

Connection Uptake and Social Design Requirements

137. The survey findings also indicate that high stated support for improved drainage should not be interpreted as unconditional acceptance of all design or operational arrangements. In cities where a large share of households remain unsure about sewer connection, DED consultation should explain how household connections will work, whether private-property works are required, the timing and duration of disruption, who bears costs during Project implementation, future tariff/service-charge principles and arrangements for poor or vulnerable households. The Project shall track these issues as social design requirements rather than relying solely on general community-support statements.

138. The connection strategy shall include continued behavior-change communication addressing household concerns about modifying or bypassing existing septic tanks, connection procedures, sanitation and public-health benefits, construction disturbance, service reliability, tariffs and assistance for poor or vulnerable households. Messages shall be tested through targeted consultation and updated where monitoring shows reluctance, misunderstanding or unequal uptake.

B. General Assessment Requirements

139. The eight ESIAs pre-assigned in Table 22 shall be prepared early enough to influence final design. For ancillary facilities, material design changes and additional works, any assessment selected through screening shall likewise be prepared before the relevant design or procurement decision. Each instrument shall define the current design, alternatives, Area of Influence, baseline, risks and impacts, mitigation hierarchy, residual impacts, monitoring, responsibilities, schedule and cost. The assessment shall distinguish construction, commissioning, operation and maintenance risks and shall address direct, indirect, induced and cumulative effects as relevant.

140. For the major C-UIDP subprojects identified at feasibility stage, Table 22 confirms two site-specific ESIAs with embedded ESMPs for each participating city. Package 1 covers the integrated wastewater/WWTP or existing-WWTP interface, sewerage, pumping, household connections, drainage, outfalls and related components. Package 2 covers the flood-control road/dyke-road. During DED, the ESIA consultant shall complete the project description and define the Area of Influence, baseline studies, alternatives and detailed assessment scope. The agreed two-package arrangement shall only be changed with documented justification and prior MPWT/AIIB agreement.

C. Alternatives and Site Selection

141. Alternatives analysis shall compare reasonable options for WWTP sites and layouts, treatment technologies, sewer and drainage routes, pumping-station and outfall locations, access arrangements, construction methods and operational arrangements, including the no-project option where relevant. The comparison shall consider land and livelihood effects, sensitive receptors, odour, receiving water, flood and climate risk, O&M requirements, community feedback, technical feasibility and cost. The preferred option and reasons for selection shall be documented in the ESIA and design record.

D. Baseline Surveys

Table 24: Minimum Detailed Engineering Design Baseline Requirements

Topic	Minimum DED baseline requirement
Water / effluent / sediment	Seasonally representative surface/groundwater and ground quality and quantity; existing effluent where facilities are integrated; receiving-water flow and assimilative capacity; downstream uses; sediment where disturbance may mobilize contamination; and proposed abstraction demand where relevant.
Hydrology / flood	Topography, rainfall, catchments, river/lake levels, flood history, climate projections, hydraulic modelling, flood-risk transfer and erosion.
Air / noise / vibration / odour	Sensitive receptors, day/night noise, vibration/condition surveys near vulnerable structures, existing odour conditions and odour-dispersion inputs for WWTP siting/design.
Biodiversity / aquatic ecology	iBAT/desktop screening; habitats, critical-habitat triggers, fish movement/spawning/nursery areas, wetlands, ecosystem services; seasonal field surveys as needed.
Social / land / livelihoods	Land use and tenure, owners/users/tenants/vendors/businesses/employees, access, vulnerable groups, gender, SEA/SH risk context, public services, community safety, traffic and utilities.
Cultural heritage	Pagodas, shrines, cemeteries, historic structures, archaeological potential and community-valued sites.
Road, trench, utilities and structures	**Georeferenced pavement/ROW and utility survey; targeted trial pits; road and drain levels; traffic and emergency routes; household/business/institution access; pre-construction photographic condition survey for nearby buildings, walls, wells and utilities; groundwater and soil/contamination conditions affecting excavation and dewatering.**
Lake/wetland/pond filling and WWTP earthworks	**Dry- and wet-season boundary, bathymetry and water levels; hydraulic connectivity and flood-storage volume; sediment quality; aquatic/littoral habitat and seasonal community use; legal land/water status; geotechnical profile and consolidation/settlement; fill balance, source, haul route, clean-fill acceptance and potential compensatory storage/drainage.**
Embankment, borrow and UXO/ERW risk	**Alignment-specific geotechnical and erosion/scour baseline; borrow-source licenses, land/livelihood and closure conditions; haul-road receptors; and documented UXO/ERW desk screening with competent-authority/accredited follow-up where triggered.**

2. Requirements for Subsequent E&S Assessment and Instruments

142. The ESMPF establishes the minimum downstream instruments in advance while leaving site-specific impact significance to the relevant assessment. For C-UIDP, each participating city shall prepare two site-specific ESIAs with embedded ESMPs as fixed in Table 22. These ESIAs shall be prepared during DED early enough to influence the final design, contract packaging and permitting. Additional specialist studies or safeguard instruments shall be prepared where triggered by screening and shall be integrated with, or clearly cross-referenced to, the relevant ESIA.

Table 25: Subsequent E&S Instruments, Minimum Content and Decision Timing

Instrument	Applicability	Minimum content / function	Timing / hold point	Lead / review
Site-specific ESIA + embedded ESMP	Eight minimum ESIAs: two per participating city, in accordance with Table 22.	Scoping/AoI; legal framework; baseline; alternatives; direct/indirect/induced/cumulative impacts; climate; biodiversity; labor/OHS; community safety; land/livelihood interface; consultation; mitigation hierarchy; ESMP; monitoring; responsibilities; schedule; budget; residual risks; non-technical summary.	DED, before tender/works for the relevant package.	MPWT/PMU with qualified E&S consultant; submit the eight ESIAs/ESMPs to AIIB through the agreed project review/clearance process; complete Cambodian regulatory review/approval in parallel where the national pathway applies.
ESS2 resettlement instrument	Where land acquisition, restriction on land use/access or economic/physical displacement is triggered.	Apply the Project RPF and MEF/IRC/GDR process; census/DMS/IOL, eligibility/entitlements, compensation and livelihood restoration, consultation, GRM, implementation schedule, budget and completion evidence.	Before possession of affected land or commencement of related works.	MPWT/PMU and MEF/IRC/GDR; AIIB review as applicable.
ESS3 instrument	Only if screening confirms Indigenous Peoples meeting applicable AIIB criteria are present/affected.	Social assessment, culturally appropriate engagement and the instrument required under the applicable AIIB ESF.	Before approval/implementation of the affected subproject.	MPWT/PMU with qualified social/IP specialist; AIIB confirmation.
Specialist technical assessment / plan	Where triggered by the ESIA or screening, including critical habitat, international waterways, odour, receiving-water quality, flood hydraulics, traffic/road safety, cultural heritage or other material issue.	Issue-specific methodology, data, alternatives, mitigation, monitoring and implementation requirements integrated into the ESIA/ESMP.	During DED and before the relevant design decision or tender.	Qualified specialist under PMU/design-ESIA consultant; regulator/AIIB review as applicable.
Contractor C-ESMP and topic plans	All civil-works contracts.	Method statements and management plans translating the approved ESIA/ESMP and contract E&S clauses into site-specific construction controls.	Approved before mobilization and before high-risk activities.	Contractor; reviewed by CSC and accepted by PMU.

3. Wastewater, Pollution and Biodiversity Assessment

A. Wastewater Treatment, Odour and Receiving Waters

143. Wastewater assessments shall cover influent quantity/quality, treatment capacity, process reliability, sludge generation, pathogens, chemicals, methane/hydrogen sulfide, energy/power failure, bypass/overflow scenarios, effluent quality and receiving-water assimilative capacity. The selected design shall meet applicable Cambodian requirements and relevant WBG EHS Guidelines/GIIP.

144. Odour shall be treated as a primary community-impact issue. The assessment shall identify odour sources, sensitive receptors, prevailing meteorology, normal and upset

operating conditions, buffer/setback needs, enclosure/ventilation and treatment controls, complaint-response arrangements and operational monitoring. Communities potentially affected by nuisance odour shall receive understandable information during consultation before site selection is finalized.

B. Biodiversity and Critical Habitat

145. All final footprints and associated facilities shall be screened for protected areas, Key Biodiversity Areas, natural habitat and critical-habitat triggers. iBAT or equivalent screening shall be used for critically endangered/endangered species and other critical-habitat triggers, followed by qualified specialist assessment. Aquatic biodiversity shall be treated as a core issue for water-related subprojects, not as a generic terrestrial biodiversity topic.

146. For the Doun Kaev WWTP, the biodiversity and Critical Habitat work shall engage appropriately qualified species-level specialists to assess the likelihood that Endangered and Critically Endangered species occur within the Project Area of Influence and whether they may be present in concentrations capable of triggering Critical Habitat. The assessment shall combine species-specific desktop research, consultation with competent agencies and local knowledge holders, seasonally appropriate field verification, habitat mapping and a documented evaluation of all applicable Critical Habitat criteria. Identified information limitations shall be addressed through additional survey or a precautionary assessment; absence of records alone shall not be treated as evidence of absence.

4. Climate, Labor and Community Health & Safety

A. Climate, Flood and Disaster Risk

147. Assessment shall consider current and future rainfall, flood levels, heat and other climate hazards. Drainage and flood-protection works shall demonstrate that they do not unacceptably transfer flood risk to neighboring or downstream communities. Embankments, culverts, gates and flood-control roads shall be assessed for structural/community safety and long-term maintenance.

148. Climate and disaster risk assessment shall use the Project Climate Risk Assessment (CRA), feasibility-study climate analysis and the most appropriate available future-climate datasets/scenarios for the adopted design horizon. Where the approved CRA/FS provides CMIP6 pathway results or numerical projections for temperature, rainfall or extreme-precipitation indices, those values shall be carried forward as design inputs and sensitivity/stress-test parameters, subject to verification of their source, applicability to each city and confirmation through DED hydrological/hydraulic analysis. Numerical climate projections shall not be treated as final binding design values unless they are explicitly supported by the approved Project climate/hydrological assessment and confirmed in the DED design basis.

B. Labor, OHS and Worker Accommodation

149. The ESIA and ESMP shall address labor and working conditions as well as OHS. Contractor requirements shall include Labor Management Procedures, written terms and conditions of employment, a Worker Code of Conduct, worker grievance arrangements, relevant HR procedures, and measures to prevent child labor, forced labor, discrimination, harassment and SEA/SH. Task-specific OHS controls and emergency preparedness and response shall cover excavation, confined spaces, electrical/mechanical work, traffic, work in or near water, drowning and flash-flood risks. Where worker accommodation is provided or controlled by the contractor, a Worker Accommodation Management Plan shall be prepared in line with applicable Cambodian requirements and relevant GIIP.

C. Community Health, Safety and Security

150. Assessment shall address excavation and trench safety, drowning, construction traffic, falling objects, utility disruption, wastewater/pathogen exposure, emergency access, flood/embankment safety, security personnel where used, and risks to children, older persons and persons with disabilities. Safe crossings and continuity of access shall be designed into linear works.

151. Contractors shall implement the gender, worker-welfare and SEA/SH requirements contained in the approved Project E&S instruments and bidding/contract documents. As applicable, this shall include gender-responsive and secure sanitation/changing facilities, a Worker Code of Conduct in a language understood by workers, SEA/SH awareness and referral information, non-discrimination and equal-pay requirements, and periodic training proportionate to the assessed risk. Specific quotas, training frequencies, disciplinary consequences and any contractor-specific gender action plan shall follow the approved Project instruments and contract conditions rather than being created independently by the ESMPF.

5. Land, Indigenous Peoples and Cultural Heritage

A. Land Acquisition and Livelihood

152. The following is a summary of requirements only; refer to the RPF for full details.

153. Screening shall identify and avoid/minimize ESS2 impacts. Where triggered, MPWT shall coordinate with MEF/IRC/GDR and apply the RPF. No contractor may enter affected land until the competent resettlement mechanism confirms completion of applicable compensation, assistance and site-clearance requirements.

154. Eligibility screening shall separate legal title from impact eligibility. The census and inventory shall record owners, tenants, sub-tenants, rent-free occupants, informal or unauthorized occupants and structures, vendors, employees, agricultural users and natural-resource users. Occupation of state/public land or an existing ROW shall not be used by itself to conclude that there is no physical or economic displacement. Persons without recognizable rights to land shall be assessed for affected non-land assets, relocation and livelihood assistance in accordance with the Project RPF, Cambodian SOP-LAR and AIIB ESS2.

155. Fisherfolk and other users of lakes, wetlands and receiving waters shall be treated as potentially affected livelihood and ecosystem-service users regardless of whether they hold formal rights to the waterbody. For the Doun Kaev and Prey Veng WWTP areas, the DED-stage social assessment shall identify and consult these users and complete a census and livelihood baseline before civil works begin. The relevant ESIA/ESMP and, where ESS2 is triggered, the applicable resettlement instrument shall define measures to maintain safe access where feasible, avoid or minimize livelihood disruption, provide livelihood restoration or other assistance where required, and link water-quality monitoring results to timely corrective action and consultation with affected users.

156. After DED staking and before site possession, the competent resettlement mechanism shall complete a 100-percent census, detailed measurement survey/inventory of losses and socio-economic verification within the final corridor of impact, including photographs and a disaggregated vulnerable-person assessment. The cut-off date and its implications shall be publicly disclosed in Khmer through accessible channels. Commune/sangkat and provincial authorities may support verification and consultation but shall not conduct ad hoc clearance, negotiate unapproved compensation or direct people to self-demolish outside the approved RPF/resettlement process.

157. No demolition, eviction, relocation, material access restriction or contractor entry shall occur until the applicable RP/DRP or resettlement due-diligence instrument is

approved; required compensation for eligible land and non-land assets, moving/transitional assistance, livelihood-restoration measures and vulnerable-person assistance have been provided in accordance with that instrument; and a package/work-front Land and ROW Readiness Certificate has been issued. Contractors shall not make direct cash settlements or substitute construction favors for approved entitlements.

158. Where a house or other structure may be partly or fully demolished, the plan shall verify whether the remainder is structurally safe, weatherproof, accessible and usable; provide meaningful notice and household consultation; identify a safe relocation site or option where physical displacement occurs; disconnect electricity, water and other services under authorized procedures; allow safe salvage; provide moving and transitional assistance; and arrange additional help for older people, persons with disabilities, women-headed or poor households and other vulnerable persons. A pre-demolition hazardous-material survey, controlled demolition method, dust/noise/traffic/exclusion-zone controls and segregated disposal/recycling record are mandatory. Tenants, vendors and employees shall be assessed for rental, relocation, wage or business-loss impacts.

B. Indigenous Peoples

159. Each final subproject and associated facility shall be screened against the AIIB ESS3 criteria. If no Indigenous Peoples are present or affected, the evidence and consultation basis shall be documented. If ESS3 is triggered, MPWT shall engage qualified specialists, undertake culturally appropriate assessment and consultation, prepare the required Indigenous Peoples Plan or equivalent instrument, and apply free, prior and informed consultation (FPICon) and broad community support where required under the applicable AIIB ESF. If Cambodian law mandates free, prior and informed consent (FPIC), it shall be applied as required by the applicable AIIB ESF and national law. Detailed screening questions are provided in Annex 9.

C. Cultural Heritage

160. Cultural heritage screening and consultation shall inform design. A chance-find procedure shall be included in all earthwork's contracts. Workers and supervisors involved in excavation shall receive training from a competent person on recognizing potential chance finds and, on the stop,-work, protection, notification and authority-clearance process.

D. Cumulative Impacts

161. Cumulative impact assessment shall be undertaken at the appropriate subproject/area scale rather than assumed to be one Project-wide study. Each assessment shall identify existing, approved, planned and reasonably foreseeable developments that could combine with the subproject to affect receiving-water quality, flood dynamics, wetlands, traffic, material sources, municipal services, land use, livelihoods or vulnerable groups.

6. Technology, City and Construction-Stage Assessment

A. Treatment-Technology Alternatives and Assessment Implications

162. The feasibility studies compare A2O, waste stabilization ponds and extended-aeration/oxidation-ditch treatment alternatives for proposed WWTPs. The F/S identifies WSP Process as the preferred approach for the proposed provincial-city facilities because of comparatively low operating cost, simplified maintenance and resilience to shock loads where sufficient land is available. The same comparison notes potential WSP Process disadvantages, including land demand and the possibility that algae-related organic matter may remain in effluent. The site-specific ESIA shall retain this alternatives logic and assess whether the preferred technology

remains appropriate once final land, receptors, effluent destination, operational capacity and climate conditions are verified.

163. Technology selection has direct E&S consequences. A land-intensive WSP Process may reduce mechanical and energy complexity but increases the importance of land availability, buffer/setback, vector management, pond safety, flood protection and long-term prevention of incompatible development around the site. Mechanical alternatives may reduce land demand but increase dependence on power, skilled operators and equipment maintenance. DED shall therefore demonstrate that the selected process represents an acceptable balance of environmental performance, social footprint, operational reliability, lifecycle cost and institutional capacity, rather than relying solely on capital cost.

164. Wastewater Treatment Plant (WWTP) Siting and Process E&S Integration: For subprojects involving the construction of Waste Stabilization Ponds (WSP) or other decentralized treatment systems, the Detailed Engineering Design (DED) must explicitly integrate advanced odor and sludge management measures. (i) Odor and Setback Verification: Given the planned bypass of household septic tanks and the direct discharge of night soil into the sewerage network, the default setback distances (e.g., 500 meters for anaerobic systems and 300 meters for residential buffers) must be verified through site-specific meteorological and dispersion modeling. The modeling outcomes and community consultation records must be approved by the PMU and AIIB prior to design freeze. (ii) Sludge Disposal and E&S Due Diligence: Due to the administrative separation of landfill/solid waste components from the current Project scope, the E&S Team must conduct independent E&S due diligence and audit on the designated receiving landfill or composting facility to ensure adequate capacity and E&S compliance before WWTP commissioning. (iii) Existing Asset Interfaces: For networks interfacing with existing treatment assets (e.g., in Kampong Chhnang and Kampong Cham), a comprehensive E&S compliance audit of the existing facility's effluent quality, cumulative sludge load, and historic community grievances is mandatory.

165. Sewerage and Stormwater Pipeline Network Linear Controls: Pipeline trenching and urban utility coordination shall use site-specific spatial and temporal controls to minimize community and business disruption. (i) Household sanitation and temporary wastewater controls: where household connections bypass or modify existing septic arrangements, contractors shall use approved methods that prevent uncontrolled wastewater release and protect public health. (ii) Rolling reinstatement and open-trench control: the maximum simultaneously open trench length and duration for each work front shall be defined in the approved contractor method statement/C-ESMP based on road width, traffic, emergency access, groundwater, weather, shoring method, available materials and production capacity; a new work front shall not be opened where the preceding section cannot be kept safe, accessible and adequately reinstated. (iii) Utility interference: pre-construction utility mapping, trial pits where needed, coordination with utility owners and emergency repair procedures shall be completed before excavation.

166. Flood-Control Road Embankment Hydrological and Ecological Safeguards: The construction of linear flood-protection embankments and associated dyke-roads must prevent unintended hydrological impacts and riparian habitat fragmentation. (i) Hydraulic Modeling and Flood-Risk Transfer: To ensure that the embankment does not transfer flood risks to downstream or opposite communities, DED must undergo hydrodynamic modeling incorporating the +15% compound-forcing rainfall uplift recommended by the Climate Risk Assessment (CRA). (ii) Spoil and Borrow Pit Screening: All earth-fill sources, quarries, and temporary spoil disposal sites must undergo mandatory E&S screening using the Annex 6 template, subject to CSC and PMU clearance. (iii) Riparian Connectivity: Embankment and drainage crossing structures (e.g., box culverts and sluice gates) must incorporate ecologically friendly

design specifications to maintain riparian connectivity and prevent aquatic habitat fragmentation.

B. FS-Grounded Assessment Priorities by City

167. For Kampong Cham, assessment shall address the proposed Boeng Basac WWTP and its relationship with the existing Boeng Snay facility. Key topics include land and receptors at the proposed 17.30 ha site, receiving-water conditions, odour and vector risk, sludge, access, flood exposure, sewer/pumping interfaces and cumulative operational responsibility. For Doun Kaev, the approximately 23 ha Boeng O Tom site and phased 4,000 + 2,000 m³/day capacity require assessment of current and future land compatibility, flood and drainage conditions, odour, receiving water, sludge, emergency operation and the large urban sewer program. For Prey Veng, equivalent assessment is required for the approximately 17 ha Tomnob Ta Sen WWTP and its 5,000 m³/day design.

168. For Kampong Chhnang, the principal assessment issue is different because the Project does not propose a new WWTP. DED shall verify the hydraulic and operational compatibility of the proposed collection system with the existing Boeng Alum MBBR facility, including the stated 5,400 m³/day capacity and 8,100 m³/day maximum, the condition and capacity of existing assets, pumping requirements, emergency overflow risk and institutional responsibility. If DED identifies a need for material modification of the existing WWTP or associated facilities, that modification shall be screened as part of the Project area of influence and assessed before implementation.

C. Construction-Stage Urban Impact Assessment

169. The F/S quantities show that the Project involves extensive buried networks and thousands of household connections. Accordingly, site-specific assessment and ESMPs shall map sensitive road segments, markets, schools, health facilities, businesses, residences, utility crossings and traffic routes before construction. The assessment shall identify where open-cut excavation, dewatering, temporary stockpiles, equipment movement or road reinstatement could cause disproportionate disruption. Mitigation shall include work-front control, sequencing, advance notice, temporary access, pedestrian protection, traffic management, utility coordination, dust and noise control, safe excavation and timely reinstatement.

170. For each sewer work front, the ESIA/ESMP and C-ESMP shall show the agreed work-zone width, maximum open-trench length and duration, excavation support category, spoil and pipe-storage area, pump/discharge route, vehicle and pedestrian bypass, emergency-service passage, temporary bridge/ramp locations, solid barriers and night lighting. At least one safe access route shall be maintained to every occupied property unless a short closure has been agreed in advance with the affected user and emergency alternatives are documented. Unplanned utility strikes, unsafe settlement, persistent access loss, uncontrolled discharge or inability to close the previous work front shall trigger immediate stop-work, making-safe and corrective action.

171. Pavement reinstatement shall not be accepted on appearance alone. The contractor shall submit source and mix records, layer thickness, moisture and density/compaction tests, pipe/manhole testing, surface level and crossfall checks, drainage and utility-cover levels, before/after photographs, and the road authority/CSC acceptance record. Settlement, cracking, ponding, unsafe cover levels or failed tie-ins during the defects period shall be repaired at contractor cost.

172. Household connections require particular implementation planning because they extend Project activity from the public network toward individual properties. The contractor shall coordinate connection timing with occupants, protect property access and existing services, manage excavated material and restore affected surfaces.

Where a connection or pipeline requires temporary or permanent use of private land or causes livelihood impact, the issue shall be referred to the ESS2/RPF process before the affected work proceeds. The engineering schedule shall allow sufficient time for this process rather than treating land resolution as a construction-stage contingency.

D. Phase-Based Risk and Mitigation Framework

173. Assessment shall distinguish pre-construction, construction, commissioning and operation because the risk profile changes substantially between phases. Pre-construction risks include poor site selection, avoidable land acquisition, inadequate baseline data, incompatible design, insufficient capacity, unplanned associated facilities and failure to incorporate mitigation into procurement. Construction risks include excavation, traffic, access disruption, dust/noise, erosion, water pollution, waste, worker safety, labor influx, community safety, utility damage, cultural-heritage chance finds and temporary livelihood disruption. Operation risks include odour, effluent quality, sludge, pipeline leakage, pump failure, vector nuisance, occupational exposure, drowning or unauthorized access, embankment integrity and inadequate maintenance.

174. For each phase the assessment shall identify avoidance, minimization, restoration and compensation/offset measures as applicable; responsible party; timing; monitoring indicator; trigger for corrective action; and residual risk. This phase-based treatment is one of the strongest features in the approved benchmark framework and is particularly suitable for C-UIDP because operational wastewater risks differ markedly from construction impacts.

7. Detailed Pollution, Worker and Community Risk Management

A. Wastewater, Odour, Pathogens and Receiving-Water Assessment

175. WWTP assessment shall address influent assumptions, hydraulic and organic loading, process reliability, effluent performance, sludge, energy, chemicals, overflow/bypass, emergency conditions, vector and pathogen exposure, odour sources, meteorology, receptor locations, buffer/setback, access and future urban encroachment. Odour shall be treated as a primary community impact because it can affect acceptance and perceived quality of life even when regulatory effluent limits are met. Site-specific TORs shall specify the assessment method and GIIP appropriate to the selected technology.

176. Receiving-water assessment shall include high- and low-flow conditions, existing water quality, ecological sensitivity, downstream users, dilution, pathogens, sediment and cumulative pollution sources. Where OPIR applies, the assessment shall provide information relevant to potential changes in water quality, quantity or timing at the international boundary. Monitoring locations and parameters shall be derived from this assessment and carried into O&M.

177. For each proposed WWTP outfall, the ESIA shall delineate and model the treated-effluent plume under representative dry-season, wet-season, normal-operation and credible upset scenarios. The assessment shall identify the mixing zone, downstream and transboundary pathways where relevant, aquatic-biodiversity receptors, fisheries and other ecosystem services, irrigation abstractions and other water users. Where discharge enters or can influence an irrigation network, the ESIA shall demonstrate compliance with applicable discharge requirements and assess whether the resulting water quality is fit for the intended agricultural use; meeting a discharge standard alone shall not be assumed to establish suitability for irrigation.

B. Treated-Effluent Reuse and Odour-Buffer Assessment

178. Where treated-effluent agricultural reuse is proposed, it shall not be authorized solely because WWTP effluent meets a discharge standard. The site-specific ESIA and

DED shall assess intended crops and irrigation methods, exposure of farmers and nearby communities, pathogen/helminth risk, salinity/sodicity and nutrient loading, soil and groundwater sensitivity, storage and seasonal demand, cross-connection risk, downstream water rights, institutional responsibility and monitoring. Any reuse criterion shall combine applicable Cambodian approvals with fit-for-purpose parameters established through the ESIA and permit process. Only where these requirements are satisfied and reuse is formally approved shall the Project provide the necessary controlled reuse point, safe conveyance/storage arrangements, operating rules and user information.

179. The odour assessment shall define the WWTP and pumping-station buffer using source strength, prevailing wind, terrain, receptor locations and future urban encroachment. Within the available site boundary, DED shall provide strengthened multi-layer landscaping using suitable native or locally adapted non-invasive trees, shrubs and groundcover. Planting shall be arranged to improve visual screening and intercept low-level air movement without obstructing pond aeration, inspection, security, hydraulic structures, solar access or underground utilities. Landscaping is supplementary and shall not replace adequate separation distance, process control, inlet and sludge management, housekeeping or other engineered odour controls.

C. Sludge, Waste and Hazardous Materials

180. Sludge is an operational waste stream requiring a complete management route. The assessment shall estimate generation, characterize expected properties, identify dewatering/drying, storage, transport, treatment/reuse/disposal options, worker exposure, odour/vector risks, leachate and traffic effects. If another facility is proposed to receive sludge, DED shall verify its legal status, capacity, acceptance criteria and practical availability. A conceptual route without a viable receiving facility is not sufficient for operational readiness.

181. Construction and operation shall also manage spoil, domestic waste, hazardous materials, oils, chemicals, contaminated sediment where encountered, laboratory waste and maintenance wastes. Contractor and operator plans shall define storage, labeling, secondary containment, authorized transport, disposal records and spill response.

D. Borrow Pits, Earth-Fill Sources and River Turbidity

182. Borrow areas, quarries, crushing/processing areas, stockpiles and haul routes shall be assessed in the relevant ESIA where they are known or reasonably foreseeable. The assessment shall address legal status, land and livelihood use, community health and safety, traffic and road damage, dust, noise, erosion and drainage, biodiversity, cultural heritage and rehabilitation. The ESIA shall identify whether existing licensed sources or Project-specific sources are proposed. Where blasting is proposed, the contractor shall prepare a blasting management plan and the ESIA/DED shall justify safe setback and exclusion arrangements. Any proposed abstraction from a river or other water body shall be supported by hydrological and aquatic-habitat assessment before approval.

183. For dyke construction beside the Mekong/Tonle Sap system, lakes, canals or other receiving waters, the ESIA and construction method shall assess the risk that exposed fill, shoreline disturbance, rain wash and dewatering will increase turbidity and spread soil-laden or reddish-brown water. The assessment shall identify aquatic habitats, fisheries, water users and intake points and shall establish upstream/control and downstream monitoring locations. Staged earthworks, temporary separation from flowing water, silt curtains/fences, sediment basins, stabilized access, covered stockpiles, rapid revegetation and rainfall-triggered work restrictions shall be incorporated as applicable.

E. Lake, Wetland and Seasonally Inundated-Area Filling

184. For the Boeng O Tom, Boeng Basac and Tomnob Ta Sen settings, and any other final design that proposes filling within a lake, wetland, pond or seasonal inundation area, the ESIA shall delineate the permanent and temporary fill footprint against dry- and wet-season water boundaries and calculate the lost flood-storage and conveyance volume. It shall compare avoidance and reduced-footprint alternatives; identify aquatic habitat and community water/resource uses; evaluate sediment disturbance and water quality; confirm legal land/water status and permits; and assess cumulative effects with other filling, roads, dykes and urban development.

185. The DED and method statement shall define clean-fill specifications and rejection criteria, approved source and delivery records, geotextile or basal treatment, staged placement and surcharge/preloading where required, settlement plates/piezometers or other geotechnical instrumentation, maximum placement rate, slope and toe protection, cofferdam/containment and dewatering controls, and an emergency response for instability, overtopping, fish distress or a visible sediment plume. Any compensatory drainage, culvert, channel or storage measure shall be completed and functional before the original hydraulic pathway is blocked.

F. Labor, OHS, Worker Accommodation and Emergency Risk

186. OHS assessment shall be task- and hazard-based. High-risk activities include deep excavation, trench collapse, confined spaces, lifting, electrical work, traffic interface, work near water, dewatering, night work and handling of sewage/sludge. The contractor shall prepare risk assessments, safe work methods and emergency arrangements before the activity. Supervisors and workers shall receive competency-based training. Serious or imminent danger shall justify immediate suspension until controls are verified.

187. Before intrusive work, borrow extraction or opening a new access route, the contractor and PMU shall document an UXO/ERW risk screening based on available Cambodian Mine Action and Victim Assistance Authority information, previous land use, local-authority/community knowledge and evidence observed during survey. Where a credible risk is identified, only an appropriately accredited organization shall survey and clear the area before work-front release. Any suspected item discovered during construction requires immediate stop-work, evacuation and cordoning of the area, prohibition of handling, notification to the competent authority and documented clearance before restart.

188. Worker accommodation, if needed, shall be separately planned and managed in line with applicable law and IFC/EBRD guidance. Emergency preparedness shall cover fire, flood, severe weather, pump/power failure, sewage overflow, chemical spill, confined-space rescue, traffic accident and community emergency access. Drills shall be documented and lessons incorporated into procedures.

G. Community, Land, Livelihood and Cultural Heritage Management

189. Urban construction can disrupt households and businesses even when no permanent land is acquired. The assessment shall identify temporary access loss, reduced customer access, road closure, utility interruption, vibration, noise and safety effects. Work sequencing, temporary crossings, signage, business access, advance notice and rapid reinstatement shall be designed around the affected location. If economic displacement or land acquisition is triggered, the matter shall be managed under the RPF and applicable site-specific instrument before works affect the land or livelihood.

190. Cultural-heritage assessment shall identify known sites and community-valued places and shall establish a chance-find process for unexpected archaeological material. Earthworks personnel and supervisors shall be trained to recognize potential finds, stop work, secure the area and notify the responsible

authority/specialist. The chance-find procedure shall be included in contractor induction and method statements.

191. Road and access assessment shall map every paved road section opened for sewer, force-main, manhole, connection or drainage installation and shall document existing pavement condition, width, pavement structure, road-authority requirements and adjacent access. Final reinstatement shall restore structural capacity, drainage, ride quality, safety and access to a standard accepted by the responsible road authority and CSC. DED and bidding documents shall define the required reinstatement extent for each road type and work section, including full-width resurfacing where justified by pavement condition, trench extent, road-authority requirements or constructability, together with pavement layers, compaction, tolerances, markings, testing and defects-liability obligations.

H. Assessment Requirements and Required Outputs

Table 26: Assessment Requirements and Required Outputs

Management issue	Framework requirement	Key output/evidence	Lead responsibility	Project stage
Alternatives	Compare reasonable site/design/technology options using E&S, climate, technical and O&M criteria.	Alternatives assessment/design register	DED/ESIA team	DED
Assessment	Assess direct, indirect, cumulative and operational risks proportionate to screening.	Approved site-specific instrument	Qualified specialists	DED
Mitigation	Convert findings into measurable design/contract/O&M commitments.	ESMP/mitigation and monitoring tables	Consultant/PMU	DED-procurement

VII. STAKEHOLDER ENGAGEMENT, DISCLOSURE AND GRIEVANCE MECHANISMS

1. Stakeholder Engagement/Consultation

192. Feasibility-stage consultation was conducted at least nine community public-consultation meetings held in Prey Veng, Kampong Cham, Kampong Chhnang and Takeo/Doun Kaev during June–July 2026. Based on the meeting records reviewed, these nine meetings involved approximately 699 participants, including 261 women (about 37.3%). The meetings disclosed the preliminary Project, explained the FS/DED sequence and social-impact management principles, distributed or explained Khmer Project information materials, and recorded stakeholder questions and recommendations. Detailed consultation records, stakeholder issues and commitments shall be maintained through the Project SEP and consultation documentation so that this chapter remains concise and does not duplicate the stakeholder engagement instrument.

193. Issues raised in the consultation records are directly relevant to ESMPF implementation. They include recurrent local flooding and requests for improved stormwater drainage; access for houses located behind other properties; reinstatement of pavements and driveways after sewer works; possible effects on villages and household assets; household wastewater connection costs; land acquisition and compensation; protection of pagodas and cultural resources; and the need for a Chance Finds Procedure during excavation. Consultation records also confirm that comments were to be considered during the FS, DED and preparation of safeguard instruments, supporting the requirement for re-engagement when detailed design changes the footprint, access conditions, land impacts or mitigation measures.

194. Meaningful consultation–shall continue beyond feasibility and specifically identifies additional consultation during updating and implementation of safeguard documents, including where site changes or contract variations require new due diligence. The ESMPF therefore requires consultation to be repeated where design changes, land impacts, access arrangements, construction methods, WWTP siting, outfalls or other material changes could create new or different environmental and social effects.

195. Targeted engagement shall include fisherfolk and other natural-resource users around the Doun Kaev and Prey Veng WWTP sites, informal users of government-owned land, residents and businesses affected by sewer works, street and mobile vendors, women, vulnerable groups, workers and downstream water users. Consultation records shall document concerns, Project responses, agreed design or mitigation actions, responsible parties and follow-up status, and shall be cross-referenced in the relevant ESIA/ESMP, RPF or resettlement instrument, SEP and commitments register.

2. Grievance Redress Mechanism (GRM)

196. The Project-level GRM shall accept grievances through village authorities, commune councils, municipal administrations, the PMU, contractors and supervision consultants. It also confirms confidential procedures for GBV/SEA/SH-related complaints and a separate land acquisition and resettlement grievance pathway administered through the GDR system. The ESMPF adopts these channels as the minimum institutional routing framework. Final names, telephone numbers, email addresses and local focal-point details shall be inserted in the disclosed Project GRM materials once formally designated by the PMU.

197. The Project GRM shall be free, accessible, non-retaliatory and capable of receiving oral, written, telephone and electronic complaints. It shall record receipt, screening, referral, investigation, response, closure and complainant feedback. Confirmed PMU/PIU GRM focal-point names, telephone numbers, email/address and local

submission points shall be disclosed through the SEP, Project information materials and local notices and kept current during implementation.

198. The Project GRM shall be free, accessible, non-retaliatory and capable of receiving oral, written, telephone and electronic complaints. It shall record receipt, acknowledgment, screening, classification, referral, investigation, response, escalation, closure and complainant feedback. The applicable acknowledgment, response, escalation and resolution periods shall be established in the approved SEP and Project GRM procedures and disclosed through Project information materials and local notices. Confirmed PMU/PIU GRM focal-point names, telephone numbers, email/address and local submission points shall be disclosed through the SEP, Project information materials and local notices and kept current during implementation.

199. To ensure the Project GRM is culturally appropriate, accessible, and highly sensitive to gender and vulnerable groups, all municipal-level GRCs shall mandate the participation of female elected representatives or municipal gender focal points. These female representatives must be actively present and lead grievance redress sessions whenever a female complainant submits a grievance. Furthermore, the GRC must establish a secure, separate, and confidential channel specifically designated for reporting sexual exploitation, abuse, and harassment (SEA/SH) and other forms of gender-based violence (GBV). These grievances shall be routed directly to qualified Gender Specialists under strict anonymization and protection protocols to guarantee safety and prevent retaliatory actions.

200. **Worker GRM and SEA/SH.** Workers shall have a separate grievance mechanism appropriate to labor issues. SEA/SH allegations shall use confidential, survivor-centered referral arrangements and shall not be processed as ordinary grievances. Personally identifiable or sensitive information shall not be included in general monitoring reports.

201. **AIIB's Independent Accountability Mechanism.** The Project-affected People's Mechanism (PPM) has been established by the AIIB to provide an opportunity for an independent and impartial review of submissions from Project-affected people who believe they have been or are likely to be adversely affected by AIIB's failure to implement its ESP in situations when their concerns cannot be addressed satisfactorily through Project-level GRMs or AIIB Management's processes. For information on how to make submissions to the PPM, please visit the PPM web page.

3. Engagement and Information Disclosure

A. Engagement Requirements

202. Meaningful consultation shall begin early enough to influence site selection and design and continue through construction and operation. Targeted engagement shall be used for women, vulnerable groups, informal workers/vendors, affected businesses, downstream water users and other groups that may not participate effectively in general meetings.

203. For WWTPs and other potentially sensitive facilities, consultation shall explain alternatives, land requirements, expected benefits, odour and other nuisance risks, traffic/access, downstream water issues, emergency arrangements, monitoring commitments and grievance channels in understandable language.

A. Stakeholder Identification and Engagement Planning

204. Stakeholder identification shall be updated as design becomes more precise. Directly affected groups may include households along sewer/drainage corridors, businesses and vendors, landowners, residents near WWTPs or pumping stations, users of receiving waters, communities near flood-control works, vulnerable groups and workers. Other stakeholders include municipal/provincial authorities, utilities, MoE, MEF/GDR interfaces, service operators, civil society and development partners. The

SEP remains the main engagement plan, while the ESMPF establishes the minimum engagement points linked to E&S decisions.

205. Engagement shall be risk-based and inclusive. A large public meeting may be suitable for general disclosure but insufficient for a vendor facing access loss, a person with disability, a woman concerned about SEA/SH, or a community near a proposed WWTP. The Project shall use targeted methods and document how stakeholder input affected design or mitigation.

B. Consultation by Project Phase

206. At feasibility/site selection, consultation shall focus on existing service problems, local constraints, land and access, sensitive receptors, site alternatives and community concerns. During DED, it shall explain the emerging design, predicted impacts, land/livelihood implications, odour and receiving-water issues, construction access and proposed mitigation. Before construction, affected people shall receive practical information on schedule, work fronts, access, traffic, utility interruption, grievance channels and emergency contacts. During operation, engagement shall address service performance, odour/nuisance, maintenance, safety and complaints.

207. Consultation records shall identify who participated, including sex and vulnerability where appropriate; what information was disclosed; issues raised; Project response; actions or design changes; and unresolved matters. Repeated concerns shall be tracked through the commitments register.

C. Disclosure Requirements and Accessible Information

208. Disclosure shall be timely enough to permit meaningful consideration before approval or implementation. Documents shall be available in appropriate locations and formats, including Khmer non-technical information for affected communities. Maps, drawings, summaries and notices should be used where long technical documents are not practical. The final Project disclosure arrangements shall include confirmed MPWT/AIIB links and local access points.

209. Where AIIB requires a specific disclosure period for the applicable category/instrument, the PMU shall schedule consultation and approval accordingly. Disclosure is not complete merely because a document is uploaded; affected communities must have a reasonable opportunity to understand relevant impacts, including nuisance such as odour, and to provide feedback.

Table 27: Stakeholder Engagement, Disclosure and Grievance Requirements

Management issue	Framework requirement	Key output/evidence	Lead responsibility	Project stage
Engagement	Engage affected groups at decisions they can influence.	Consultation record/commitment log	PMU/SEP team	All stages
Disclosure	Provide accessible Khmer/technical information and applicable AIIB disclosure period.	Disclosure register	PMU	FS/DED
GRM	Operate project and worker channels; protect SEA/SH confidentiality.	GRM database/trend report	PMU/contractor	All stages
DED site/alignment confirmation	Consult separately with households, land users, businesses/vendors, women and vulnerable groups, sensitive-receptor managers, downstream users and utility/traffic authorities before design freeze.	Updated stakeholder map; alternatives record; issue/commitment register showing design response.	PMU/PIU with DED-ESIA consultant	Before 30%, 60% and final DED reviews, and whenever footprint/technology changes materially.

Management issue	Framework requirement	Key output/evidence	Lead responsibility	Project stage
Draft ESIA/ESMP and land instrument	Disclose Khmer non-technical information, maps, impacts, entitlements where applicable, mitigation, monitoring and GRM; record how comments are resolved.	Disclosure register; participant-disaggregated minutes; response matrix; revised instrument.	PMU/PIU; GDR/IRC for formal land process	Before instrument approval and within applicable AIIB disclosure period.
Pre-construction readiness	Notify work-front sequence, road/access restrictions, utility interruption, working hours, emergency contacts and grievance channels; verify individual access arrangements for critical receptors and affected businesses.	Dated notices; photographs; access agreements/plan; GRM contact display; readiness certificate.	Contractor with CSC and PIU	At least 7 days before ordinary disruption; longer where permit/SEP requires; immediate update when schedule changes.
Active construction	Hold location-specific check-ins and targeted follow-up; review complaints, near misses, business/access disruption, worker conduct and repeated dust/noise issues; disclose corrective action.	Monthly consultation log; weekly high-risk work-front record; GRM trend report; action closure evidence.	Contractor community liaison; CSC verification; PIU oversight	Monthly minimum and before high-risk/night work; complaint/incident-triggered engagement as required.
Commissioning and handover	Explain commissioning tests, effluent/odour controls, safety zones, residual construction issues, service-connection arrangements, tariffs/affordability support and operational GRM.	Commissioning notice; operator contact; handover consultation record; outstanding-commitment register.	PMU/PIU, contractor/CSC and operator	Before wet testing/commissioning and before public operation.
Operation	Engage users and nearby/downstream communities on service reliability, overflow, odour, sludge, flooding, asset safety, maintenance and affordability; publish relevant compliance summaries.	Operator engagement and complaint log; monitoring summary; maintenance/corrective-action record.	Designated operator with MPWT/local authority oversight	Quarterly in the first operating year; thereafter risk/permit based, plus event- and complaint-triggered engagement.

VIII. INSTITUTIONAL ARRANGEMENTS, CAPACITY BUILDING AND BUDGET

1. Institutional Arrangements

1. National safeguard specialist functions shall be confirmed in approved staffing arrangements and terms of reference. At minimum, the Social Safeguard & Resettlement Specialist shall support RPF/RP compliance, guide the CSC on site demarcation, RoW and IOL work, support consultation and the Project GRM, and prepare social safeguard monitoring reports. The Environmental Safeguards Specialist shall verify environmental screening, ensure C-ESMP preparation and implementation, conduct regular site visits to WWTPs, pipelines and dyke roads, monitor OHS and community health and safety, and prepare environmental safeguard monitoring reports. These minimum functions are reflected in the ESMPF responsibility matrix and shall be reconciled with the final approved organizational arrangements.

2. The PMU retains overall accountability, approves Project documents, ensures safeguard provisions are incorporated into bidding and contracts, oversees monitoring and submits safeguard reports. PIUs provide site-level coordination, support due diligence, participate in progress meetings, facilitate communication and monitor implementation within each province. The CSC is responsible for detailed design review/validation, daily construction supervision, review and implementation monitoring of C-ESMPs and OHS plans, site audits, support to the Project-level GRM, monitoring of resettlement and gender commitments, and supervision of commissioning and O&M-support activities. Final responsibilities shall follow the approved organizational structure and contracts.

210. MPWT, through the PMU and provincial implementation arrangements, will oversee E&S implementation. The PMU shall maintain adequate environmental and social safeguard capacity and coordinate with the DED/ESIA consultant, Supervision Consultant, contractors, relevant provincial/municipal authorities and future operators. Final staffing titles and reporting lines shall follow the approved Project implementation arrangements and consultant/contractor TORs.

211. MPWT retains overall accountability for E&S compliance. Delegation to consultants, contractors, local authorities or operators does not transfer this responsibility. Roles shall be written into TORs/contracts with clear deliverables, review authority, reporting lines and escalation arrangements.

2. Roles, Responsibilities and Staffing

A. Responsibility Matrix

Table 28: Institutional Responsibility Matrix

Entity	Core responsibility
MPWT / PMU	Overall accountability; ownership of screening; commissioning/review of instruments; design and procurement integration; coordination; budget; reporting to AIIB; approval of readiness and change control.
DED / ESIA Consultant	Update screening using final design; baseline surveys; alternatives; ESIA/ESMP and specialized studies; consultation support; integration of E&S into design/specifications/BOQ.
MEF / IRC / GDR	Formal land acquisition and resettlement planning/implementation under SOP-LAR and RPF, including DMS/RCS, entitlements, compensation, livelihood restoration and resettlement monitoring.
MoE / PDoE	National environmental assessment review, approval, permitting and compliance monitoring under Cambodian law.

Entity	Core responsibility
Supervision Consultant	Day-to-day independent construction E&S supervision; review of C-ESMPs; inspections; nonconformities; data validation; incident follow-up; corrective-action verification; consolidated monthly reporting.
Contractors	Implementation of contract E&S requirements/C-ESMP; staffing; labor/OHS; community safety; pollution/waste; traffic/access; emergency response; monitoring; incident notification; grievances; subcontractor control; reinstatement.
PIU / local implementation unit	Local coordination and oversight; receive and review supervision reports at management level; participate in joint inspections and OHS meetings; track actions and escalate unresolved issues; avoid duplicating the supervision consultant's daily technical review role.
Facility Operator	Operational ESMS/ESMP; permits; process and environmental monitoring; maintenance; pipeline/asset integrity; OHS; emergency response; community liaison/GRM; operational reporting and budget.
AIIB / independent third party where appointed	Review/supervision under financing documents; review of instruments, material changes, monitoring, corrective actions and serious incidents; independent review/audit where required.

B. Minimum Staffing

212. PMU staffing shall be proportionate to the number and geographic spread of active subprojects. Core functions shall include senior environmental and social safeguards capacity, OHS and stakeholder/GRM functions, with access to biodiversity, gender/SEA/SH, labor, climate, cultural heritage and technical specialists when triggered. Contractors and supervision teams shall provide full-time site-based E&S/OHS staff where risk and workload require it.

3. Capacity Building and Competency Development

A. Capacity Building

213. Training shall be based on a documented needs assessment and limited to practical, role-specific modules that can be delivered and verified. Priority modules are: ESMPF screening and instrument selection; E&S design integration; construction supervision and C-ESMP review; OHS/emergency response; worker accommodation; wastewater/odour/receiving-water management; biodiversity/critical habitat; stakeholder/GRM/SEA-SH; incident reporting/root-cause analysis; and operational ESMS/maintenance.

4. Role-Based E&S Capacity-Building Program

214. The capacity-building requirement is converted into a practical, role-based program with defined audiences, timing and evidence of competency. Training shall be adjusted following a documented needs assessment and shall focus on the tasks each party must perform rather than on generic awareness alone.

Table 29: Role-Based E&S Capacity-Building and Competency Program

Target group	Priority competency modules	Timing	Lead trainer / coordinator	Effectiveness evidence
MPWT/PMU/PIU safeguard staff	AIIB/Cambodian requirements; ESMPF use; Table 22/23 ESIA package control; screening/re-screening; ESS2/ESS3 interfaces; consultation/GRM; incident/corrective-action management; reporting and document control	Before DED mobilization; refresh before procurement and construction	Qualified PMU E&S specialists / ESIA consultant	Completed screening exercise, instrument decision, quality review and reporting simulation

Target group	Priority competency modules	Timing	Lead trainer / coordinator	Effectiveness evidence
DED / ESIA consultants	Package-specific TOR; AoI/scoping; baseline design; alternatives/mitigation hierarchy; cumulative impacts; specialist-study integration; consultation; ESMP/monitoring/budget preparation	At consultant mobilization and scoping	PMU E&S lead / specialist advisers	Accepted scoping note and baseline/assessment work plan
Procurement / contract staff	Translation of ESIA/ESMP commitments into specifications, BOQ/pay items, bidding documents, staffing and contractual remedies	Before tender preparation and bid evaluation	PMU E&S + procurement team	Completed E&S procurement checklist and bid-document review record
CSC / supervision E&S staff	C-ESMP review; method statements; inspections; monitoring validation; nonconformance/corrective action; incident investigation; grievance/access/reinstatement verification	Before contractor mobilization and periodically during works	PMU E&S / supervision lead	Inspection exercise, NCR/corrective-action case and reporting quality check
Contractor managers / E&S-OHS staff	Contract E&S obligations; C-ESMP/topic plans; OHS; traffic/access; trench/confined-space safety; waste/pollution; SEA/SH code of conduct; emergency response; incident notification	Before mobilization; induction and task-specific refreshers	CSC / contractor E&S-OHS leads	Approved plans, induction records, drills and field compliance checks
Operators / O&M teams	Operational ESMS; WWTP/pumping/drainage/flood-asset monitoring; sludge/chemical safety; emergency overflow/flood response; grievance handling; preventive maintenance and reporting	Before commissioning and during initial operation	PMU/operator + specialist support	Operational-readiness checklist, drills, monitoring demonstration and handover records

215. Capacity building shall be practical, phased and linked to implementation tasks. Core modules should include AIIB/Cambodian requirements and ESMPF use; screening and instrument selection; design integration; contractor-plan review; OHS and high-risk work; community health and safety; stakeholder engagement/GRM; SEA/SH response; incident notification and RCA; change management; monitoring/data quality. Training shall be scheduled before the relevant activity, with refresher sessions based on performance trends.

216. Effectiveness should be evaluated through exercises, document quality, inspection performance, incident/grievance trends and ability to complete required tools, not only attendance sheets. Lessons from early packages shall be incorporated into later training and templates.

5. ESMPF Budget and E&S Resourcing

A. Budget

217. The final ESMPF implementation budget shall be quantified before appraisal/procurement and shall not remain only a statement of principles. It shall cover PMU staffing, specialist studies, baseline monitoring, consultations/disclosure, GRM, capacity building, independent monitoring/audits where required, contractor E&S BOQ items, supervision consultant inputs, and operational readiness. Land acquisition/resettlement budgets shall be presented in the RPF/site-specific resettlement instruments.

218. The budget and consultant staffing plan shall include adequate provision for species-level biodiversity expertise, Critical Habitat assessment, seasonal field verification, effluent-plume and receiving-water assessment, fisherfolk and livelihood baseline work, associated-facility

due diligence and the monitoring needed to implement resulting mitigation. Procurement and contract variations shall be initiated early where the existing consulting team or level of effort is insufficient.

Table 30: Indicative ESMPF Implementation Budget

No.	Budget Item	Cost Basis / Scope	Indicative Cost (USD)	Implementation Stage	Financing / Remarks
1	Eight site-specific ESIAs/ESMPs (two per city) and package-specific specialist studies	Provisional framework allowance for the eight ESIAs fixed in Table 22/23; TORs and cost estimates shall be prepared package-by-package during DED. Avoid double counting studies already included in the DED/ESIA consultant contract.	200,000	DED / Pre-construction	Project consulting/E&S budget; refine against the eight package TORs before procurement
2	Environmental baseline, biodiversity/aquatic ecology and other technical surveys	Framework-level provisional allowance for surveys not already included in the DED/ESIA consultant scope	100,000	DED	Design/ESIA consultant scope; scope determined by screening
3	Stakeholder consultation, disclosure and community engagement	Consultations, disclosure, vulnerable-group engagement and communication	60,000	DED-Implementation	PMU/SEP implementation budget
4	E&S monitoring, laboratory testing and field verification	Environmental/social monitoring and laboratory analysis	120,000	Construction / Early operation	Project/CSC/O&M budget as applicable; parameters confirmed in site-specific ESMPs
5	E&S capacity building and specialized training	PMU/PIU, CSC and relevant implementing/operating entities	50,000	Project lifecycle	Project management/capacity-building budget
6	Specialist technical support and independent E&S reviews/audits	Provisional specialist/review allowance where triggered and not already included in consultant contracts	80,000	DED-Operation	Project consulting/independent review allowance
7	GRM implementation, communication materials and community awareness	GRM operation, disclosure and awareness activities	30,000	Project lifecycle	PMU/SEP implementation budget
8	SEA/SH prevention, awareness and referral arrangements	Awareness, codes of conduct, referral arrangements and training	25,000	Pre-construction / Construction	Project/contractor obligations, proportionate to assessed risk
9	E&S monitoring equipment, field tools and documentation systems	Field equipment, monitoring tools and E&S record systems	35,000	Implementation	PMU/PIU monitoring support
10	Operational E&S/ESMS preparation, O&M readiness assessment and capacity support	Operational procedures, ESMS, training and readiness verification	75,000	Commissioning / Operation	O&M/readiness budget; confirm operator cost allocation
	Subtotal		**775,000**		
11	Contingency for additional E&S studies and unforeseen requirements	10% of Items 1-10	77,500	DED-Implementation, only upon documented need	Use only for additional E&S scope supported by screening/assessment or implementation evidence and approved through Project budget controls
12	Indicative Total		852,500		Excludes land acquisition/resettlement compensation and civil-works BOQ mitigation costs

219. The indicative ESMPF budget is estimated at USD 852,500, including a 10% contingency. This is a feasibility-stage planning allowance for framework-level budgeting and is not presented as

a POM-confirmed or AIIB-approved Project cost. It shall be reviewed and refined during DED and before procurement based on confirmed subproject screening, required E&S instruments, implementation schedules and contract packaging. The amount excludes land acquisition, compensation, livelihood restoration and other resettlement costs, which shall be budgeted separately under the RPF and applicable site-specific resettlement instruments. It also excludes E&S mitigation measures that form an integral part of civil works and are priced through the relevant BOQs, contractor contracts and construction-supervision arrangements. The PMU shall reconcile each budget line with the final Project cost plan and identify the responsible budget holder and financing source before implementation.

220. Before appraisal/procurement, as applicable, MPWT/PMU shall document for each indicative budget line the quantity and unit rate or other cost basis, financing source, budget holder, implementing entity, implementation period, and whether the cost is already provided under the DED/ESIA consultant contract, CSC contract, SEP budget, civil-works BOQ or commissioning/O&M budget. Duplicate provisions shall be removed and any unfunded safeguard activity shall be assigned to an approved Project budget line before the relevant procurement or implementation decision.

221. The line items are intended for feasibility-stage planning and cost control. Before appraisal/procurement finalization, MPWT/PMU shall cross-check them against the DED/ESIA and CSC terms of reference, works BOQs, SEP implementation costs and O&M budgets, and shall remove any duplicated provisions before adopting the final E&S budget.

6. ESMPF Implementation Schedule and Responsibilities

222. The implementation schedule links E&S instruments and management actions to engineering and procurement milestones. The indicative budget in Table 30 shall be reconciled with the final Project cost plan so that assessment, monitoring, consultation, training and independent review are funded without double counting measures already priced through civil works, CSC or O&M contracts.

Table 31: ESMPF Implementation Schedule and Financing Responsibilities

Stage	Key E&S action / deliverable	Timing / hold point	Lead responsibility	Financing responsibility / source
FS / framework finalization	Confirm two-ESIA package structure; maintain screening/instrument register; close pre-disclosure actions.	2026 / before appraisal-disclosure	PMU / FS consultant	Project preparation / consulting budget
DED / site-specific assessment	Prepare eight site-specific ESIAs/ESMPs; specialist studies; ESS2/ESS3 instruments where triggered; consultations and disclosure.	Before design freeze and tender for each package	PMU / DED-ESIA consultant	Site-specific assessment budget / consulting services
Procurement	Integrate E&S requirements into BOQ, specifications, bidding documents and contract clauses.	Before bidding / contract award	PMU / procurement / E&S team	Project procurement/civil works; no double counting
Pre-construction / mobilization	Approve C-ESMP and topic plans; verify staffing, permits, land clearance, GRM, emergency readiness.	Before notice to proceed / relevant activity	Contractor / CSC / PMU	Contractor BOQ and supervision budget
Construction	Compliance and impact monitoring; laboratory testing; consultation/GRM; training; corrective actions and incident response.	Throughout construction	Contractor / CSC / PMU	Civil works + CSC + ESMPF monitoring/engagement lines
Commissioning / operation readiness	Operational ESMS, operator staffing/training, monitoring, emergency arrangements, handover checklist.	Before commissioning/handover	Operator / contractor / CSC / PMU	Commissioning/O&M and capacity-building budget
Operation / close-out	Operational monitoring, audit/close-out, unresolved action closure, lessons learned.	Initial operation and project close-out	Operator / MPWT / PMU	O&M / project management / independent review as applicable

223. MPWT retains overall accountability for compliance with the financing and national requirements even where tasks are delegated. The PMU shall manage the environmental and social system, maintain registers, coordinate screening/instrument preparation, ensure design and procurement integration, oversee consultants and contractors, manage reporting to AIIB and competent authorities, and escalate significant issues. PIUs shall provide local coordination,

support field verification, stakeholder communication and monitoring, and aggregate local information through the PMU structure.

224. The supervision consultant shall be responsible for detailed contractor document review, field inspection, monitoring validation, nonconformance management and consolidated construction reporting. PIUs shall support local coordination and oversight without duplicating the supervision consultant's routine contractor document-review functions. Contractors remain responsible for implementing contract obligations and managing subcontractors.

B. Specialist Roles and Competency Requirements

225. The Project should maintain adequate environmental, social/resettlement, stakeholder/gender and OHS capacity, supplemented by specialist expertise as triggered by screening. Specialist support may include biodiversity/critical habitat, hydrology/water quality, odour, cultural heritage, SEA/SH, labor, traffic/community safety and other technical disciplines. TORs shall define qualifications, experience, level of effort, reporting lines and authority.

226. Key staff shall have sufficient time and resources to perform assigned functions. Nominal designation of a focal person without defined duties or level of effort is not adequate. Replacement of key consultant/contractor specialists shall be controlled so that capacity does not decline after award.

C. Management Review and Performance Governance

227. Periodic E&S management review shall consider unresolved high-risk actions, serious incidents, permit status, land/resettlement readiness, contractor performance, grievance trends, staffing gaps, budget utilization, upcoming high-risk works and operational-readiness issues. The review shall produce decisions and assigned actions, not only status presentations. Significant unresolved matters shall be escalated to MPWT management and AIIB as required.

228. Qualified environmental and social specialists shall monitor implementation of the ESMPF, site-specific ESMPs, RPF/resettlement commitments, SEP and GAP. The PMU, supported by the supervision consultant, shall submit consolidated semi-annual E&S monitoring reports to AIIB, drawing on contractor monthly reports, supervision records, grievance data, incident and corrective-action records, water-quality and biodiversity monitoring, land/livelihood status and stakeholder-engagement outcomes. Serious incidents and material non-compliance shall be reported through the accelerated notification arrangements specified in the financing and Project documents and shall not wait for the semi-annual reporting cycle.

229. The institutional system shall also support independent review. AIIB and/or an independent third party appointed or agreed as appropriate may undertake site visits, audits or monitoring. MPWT and project parties shall provide access to relevant sites, records and personnel and shall respond to resulting corrective actions.

Annex 1: Environmental and Social Exclusion List

Any sub-project that meets one of the following screening criteria will not be approved for financing under the AIIB project:

- Forced labor or harmful or exploitative forms of child labor;
- The production of, or trade in, any product or activity deemed illegal under national laws or regulations of the country in which the Project is located, or international conventions and agreements, or subject to international phase out or bans, such as:
  - Production of, or trade in, products containing polychlorinated biphenyl (PCBs).
  - Production of, or trade in, pharmaceuticals, pesticides/herbicides and other hazardous substances subject to international phase-outs or bans (Rotterdam Convention, Stockholm Convention).
  - Production of, or trade in, ozone depleting substances subject to international phase out (Montreal Protocol).
- Trade in wildlife or production of, or trade in, wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- Trans-boundary movements of waste prohibited under international law (Basel Convention).
- Production of, or trade in, weapons and munitions, including paramilitary materials.
- Production of, or trade in, alcoholic beverages, excluding beer and wine.
- Production of, or trade in, tobacco.
- Gambling, casinos and equivalent enterprises.
- Production of, trade in, or use of unbonded asbestos fibers.
- Activities prohibited by legislation of the country in which the Project is located or by international conventions relating to the protection of biodiversity resources or cultural resources, such as, Bonn Convention, Ramsar Convention, World Heritage Convention and Convention on Biological Diversity.
- Commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests.
- Production or trade in wood or other forestry products other than from sustainably managed forests.
- Marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

Annex 2: Guidelines for Workers' Camps

1. Purpose and Applicable Standards

Where a Contractor or subcontractor provides accommodation for Project workers, the accommodation shall be planned, located, designed, constructed, operated, maintained and closed in accordance with applicable Cambodian laws and regulations, the Project ESMPF and site-specific ESMP/CESMP requirements, and the IFC/EBRD Guidance Note, Workers' Accommodation: Processes and Standards. The IFC/EBRD Guidance shall constitute the Project's minimum benchmark for Good International Industry Practice (GIIP) for worker accommodation. Where applicable Cambodian requirements and the Project/GIIP requirements differ, the more stringent requirement necessary to achieve the Project environmental and social standards shall be applied.

Each Contractor proposing worker accommodation shall prepare a Workers' Accommodation Management Plan (WAMP) as a component of its CESMP and submit it to the Supervision Consultant and PMU for review and approval before establishment or occupation of the accommodation. The requirements of this Annex are minimum framework requirements and shall be supplemented by site-specific measures reflecting workforce size and composition, location, duration of occupancy, surrounding communities, environmental and social sensitivities, gender considerations and identified health and safety risks.

2. Assessment of Need and Site Selection

Before establishing worker accommodation, the Contractor shall assess: (i) the expected workforce and skills requirements; (ii) opportunities for local recruitment; (iii) availability and adequacy of existing accommodation; and (iv) potential environmental and social impacts associated with accommodating an incoming workforce.

Preference shall be given to local recruitment where workers with the required competencies are available, subject to transparent, fair and non-discriminatory recruitment practices. Recruitment shall comply with Project labour requirements, and child labour and forced labour shall be prohibited.

The location of any new accommodation shall be subject to environmental and social screening and approval. Site selection shall consider proximity to communities and sensitive receptors; safe access to the workplace; flood, drainage, erosion, fire and other natural or technological hazards; availability of potable water and sanitation; wastewater and solid-waste management; traffic and community safety; land requirements; security; community infrastructure and services; and potential impacts on community cohesion.

No universal separation distance shall be assumed solely on the basis of this Annex. Appropriate separation from residences, schools, health facilities and other sensitive receptors shall be determined through site-specific environmental and social assessment, applicable Cambodian requirements and GIIP, taking account of the nature and scale of the camp and potential community impacts.

3. Accommodation and Living Conditions

Worker accommodation shall provide safe, clean, hygienic and adequately maintained living conditions appropriate to the local climate and duration of occupancy. Accommodation buildings shall provide sufficient living space, adequate ceiling height, ventilation, lighting, protection from weather, control of excessive heat and humidity, fire safety, pest and vector control, and reasonable privacy.

Each worker shall be provided with an individual bed and appropriate storage for personal belongings. Sleeping arrangements shall avoid overcrowding and shall provide appropriate separation and privacy, including separate accommodation arrangements for men and women where relevant.

Accommodation and common facilities shall be cleaned regularly and maintained in good condition throughout occupancy. Preventive maintenance arrangements shall be established for buildings, electrical installations, water systems, sanitation, drainage, fire-safety equipment and other essential facilities.

4. Water Supply, Sanitation and Hygiene

An adequate and continuous supply of safe potable water shall be provided for drinking, cooking, bathing, washing and other domestic purposes. Drinking-water quality shall comply with applicable Cambodian requirements and relevant Project/GIIP standards and shall be periodically tested.

Adequate toilets, showers, handwashing facilities and laundry facilities shall be provided based on workforce size, gender composition and applicable standards. Facilities shall be conveniently located, hygienic, adequately ventilated and illuminated and maintained in working condition.

Separate, safe, lockable and appropriately located sanitary and bathing facilities shall be provided for women. Appropriate menstrual-hygiene facilities and safe disposal arrangements shall be available.

5. Wastewater and Solid-Waste Management

Worker accommodation shall have appropriately designed wastewater collection, treatment and/or disposal arrangements for sewage and greywater. Untreated wastewater shall not be discharged to land, drainage systems, groundwater or surface-water bodies.

Septic tanks, wastewater-treatment facilities and containment systems shall be appropriately designed, inspected and maintained, with sludge removed and disposed of through authorized service providers.

Solid waste shall be segregated, safely stored, regularly collected and transferred to approved recycling, treatment or disposal facilities. Open dumping and open burning shall be prohibited.

6. Food, Canteens and Nutrition

Where food is prepared or supplied, kitchens, food-storage areas and dining facilities shall be designed and operated to maintain appropriate standards of food hygiene and safety. Food shall be stored, prepared and served under sanitary conditions, with appropriate temperature control, pest management, clean utensils and potable water.

Workers shall have access to adequate and nutritionally appropriate food. Food-service personnel shall receive appropriate hygiene training and undergo health checks where required by applicable regulations.

7. Health, Medical Care and Occupational Safety

Worker accommodation shall include appropriate first-aid arrangements and access to medical services proportionate to the workforce size, location and identified risks. Emergency contact information and arrangements for transferring seriously ill or injured workers to appropriate medical facilities shall be established.

The Contractor shall undertake accommodation-specific hazard identification and risk assessment covering, among other matters, fire, electrical hazards, cooking facilities, communicable diseases, heat, water and sanitation, traffic, security, extreme weather and other credible emergencies.

Adequate firefighting equipment, alarms, evacuation routes, emergency lighting and assembly points shall be provided. Emergency preparedness and response procedures shall be communicated to workers and tested periodically through drills.

8. Recreation, Communication and Worker Welfare

Workers shall have reasonable access to rest, social and recreational facilities appropriate to the size and duration of the accommodation. Appropriate seating, common areas and recreational space shall be provided.

Workers shall have reasonable means of communicating with their families and accessing information. Accommodation arrangements shall respect workers' dignity, privacy and cultural and religious practices.

9. Workers' Rights and Code of Conduct

All accommodated workers shall receive and acknowledge the Project/Contractor Worker Code of Conduct. The Code shall address appropriate workplace and community behaviour, prohibition of violence and harassment, SEA/SH, exploitation and abuse, discrimination, child exploitation and other prohibited conduct.

Accommodation rules shall be reasonable, transparent and communicated in languages understood by workers. Workers' freedom of movement shall not be unduly restricted. Workers shall retain possession of their personal identification and travel documents except where temporary retention is legally required for documented administrative purposes with the worker's informed agreement.

Any accommodation charges shall be transparent, reasonable and consistent with applicable labour requirements and shall not create or contribute to forced labour or debt bondage.

10. Security Management

Security arrangements shall protect workers without unnecessarily restricting their freedom of movement or other rights. Security personnel shall be appropriately trained, supervised and subject to the Worker Code of Conduct and Project requirements concerning use of force and respectful treatment.

Procedures for visitors shall balance legitimate security requirements with workers' privacy and freedom. Visitor arrangements, access restrictions and accommodation rules shall be documented in the Workers' Accommodation Management Plan.

11. Worker Grievance Mechanism

All workers shall have access to the Project worker grievance mechanism. The mechanism shall permit confidential complaints and, where appropriate, anonymous submissions without retaliation.

Workers shall be informed during induction of available grievance channels, responsible contact persons, expected response times and escalation procedures. SEA/SH-related complaints shall be managed through confidential and survivor-centred referral arrangements.

12. Community Relations

Potential impacts of worker accommodation on surrounding communities shall be assessed before establishment and monitored during operation. Particular attention shall be given to pressure on water supply, sanitation, health services, local housing, traffic, community safety, communicable diseases, social conflict, SEA/SH risks and other effects associated with labour influx.

The Contractor shall establish procedures for communication with surrounding communities and shall provide accessible Project GRM contact information. Relevant communities shall be informed of significant camp-related risks and mitigation measures where they may be affected.

Workers recruited from outside the local area shall receive appropriate induction on Cambodian laws, local customs, community sensitivities and expected standards of behaviour.

13. Workers' Accommodation Management Plan

The WAMP shall, at minimum, address:

- workforce and accommodation needs assessment;
- location and site-selection justification;
- camp layout, occupancy and accommodation standards;
- management structure and responsible personnel;
- recruitment and labour-management arrangements;
- potable-water supply and monitoring;
- sanitation, toilets, showers and laundry facilities;
- wastewater and solid-waste management;
- drainage and stormwater management;
- kitchen, canteen, food hygiene and nutrition;
- medical and first-aid arrangements;
- OHS, fire safety and emergency preparedness and response;
- communicable-disease and vector-control measures;
- gender-responsive facilities and privacy;
- security arrangements;
- Worker Code of Conduct;
- worker grievance mechanism;
- recreation and communication facilities;
- visitor management;
- community relations and community GRM interface;
- inspection, monitoring and corrective-action arrangements; and

- closure, dismantling and site reinstatement.

14. Inspection, Monitoring and Corrective Action

The Contractor shall undertake routine documented inspections of worker accommodation. The Supervision Consultant and authorized representatives of MPWT/PMU shall have reasonable access to inspect accommodation, facilities and relevant management records.

Monitoring shall consider occupancy, cleanliness, potable-water quality, sanitation, wastewater and waste management, food hygiene, health and safety, fire protection, maintenance, grievances, security incidents and community complaints.

Non-compliance shall be recorded and corrected within specified timeframes proportionate to the risk. Conditions presenting an imminent and serious risk to workers or surrounding communities shall require immediate corrective action and, where necessary, suspension of use of the affected facility until safe conditions are restored.

15. Closure and Reinstatement

Before demobilization, the Contractor shall prepare and implement arrangements for closure of temporary worker accommodation. Temporary buildings, waste, wastewater facilities, contaminated materials and other Project-related installations shall be appropriately removed or otherwise managed in accordance with approved arrangements.

The site shall be cleaned, stabilized and reinstated to an agreed condition. Closure planning shall also consider potential effects on workers and surrounding communities arising from workforce demobilization and termination of local procurement and services.

Compliance with the Workers' Accommodation Management Plan and completion of required reinstatement shall be verified by the Supervision Consultant and PMU before final acceptance of camp closure.

Annex 3: Workers' Code of Conduct, including SEA/SH

Purpose and application: This Code of Conduct applies to all Project workers, including Contractor and subcontractor personnel, managers, supervisors, drivers, security personnel, consultants and other persons engaged in Project activities, whether working on site, in worker accommodation, while travelling for Project purposes, or interacting with Project-affected communities. It shall form part of relevant contracts and the Contractor ESMP (CESMP).

Implementation requirement: Each worker shall receive the Code in a language and form they understand, receive induction and periodic refresher training, and sign an acknowledgement before commencing work. Contractors shall explain prohibited conduct, available worker and community grievance channels, confidential SEA/SH reporting and referral arrangements, and disciplinary consequences. Compliance with this Code does not replace applicable Cambodian law or Project labor, OHS, SEA/SH, community health and safety, security or grievance requirements.

A. Required Standards of Conduct: All Project workers shall:

- Perform their duties competently, safely and respectfully, and comply with applicable laws, Project E&S requirements, the CESMP, OHS procedures and lawful instructions.
- Treat workers, community members and Project stakeholders with dignity and respect, without discrimination, intimidation, harassment, bullying, exploitation or abuse.
- Respect local customs, cultural heritage, religious practices, private property and community facilities.
- Use required personal protective equipment and follow safe-work procedures, permits, barriers, traffic controls and emergency instructions.
- Immediately report unsafe conditions, serious incidents, suspected child or forced labor, violence, SEA/SH concerns, environmental harm or other material breaches through the appropriate Project channel.
- Protect Project, worker and community property and use vehicles, equipment, materials and information only for authorized purposes.
- Maintain appropriate behavior in worker accommodation and surrounding communities and comply with approved camp rules, security arrangements and community-interaction requirements.
- Respect confidentiality and personal information, particularly for grievances, medical matters, SEA/SH allegations and other sensitive cases.

B. Prohibited Conduct

Project workers shall not:

- Engage in sexual exploitation, sexual abuse or sexual harassment (SEA/SH), including unwanted sexual advances, requests for sexual favors, sexual comments, gestures, touching, coercion, intimidation or other unwelcome conduct of a sexual nature.
- Exchange money, employment, goods, services, assistance, favors or Project benefits for sexual activity or sexual favors.
- Engage in sexual activity with any person under 18 years of age. Mistaken belief regarding age is not a defense.
- Exploit a position of authority, trust, vulnerability or unequal power for sexual purposes.
- Engage in violence, threats, harassment, bullying, discriminatory conduct, retaliation or abuse toward workers or community members.
- Use child labor or forced labor, facilitate trafficking in persons, retain workers' identity documents unlawfully, or impose recruitment fees or coercive employment practices.
- Possess, use or distribute illegal drugs at Project workplaces or worker accommodation, or report for duty impaired by alcohol or drugs.
- Carry unauthorized weapons, engage in fighting, gambling or other unlawful activities at Project sites or accommodation.
- Damage, remove or disturb archaeological objects, graves, cultural heritage or chance finds; the Project Chance Finds Procedure shall be followed.

- Hunt, capture, collect, purchase or harm wildlife, or remove vegetation or natural resources except where specifically authorized for Project works.
- Photograph, record or disclose sensitive incidents, injured persons, complainants or SEA/SH survivors without authorization and appropriate consent.
- Retaliate against any person who raises a concern, makes a grievance, reports misconduct or participates in an investigation.

C. SEA/SH Prevention and Response

SEA/SH is prohibited under this Code. Contractors shall provide induction and refresher training appropriate to workforce risk and shall communicate expected behavior during work, travel, accommodation and interactions with communities.

Workers shall be informed of confidential reporting channels and available referral services. A worker who receives or becomes aware of a SEA/SH allegation shall not investigate the allegation personally, confront the alleged survivor or alleged perpetrator, or seek unnecessary details. The matter shall be referred immediately through the designated confidential Project procedure.

SEA/SH response shall be survivor-centered and shall prioritize safety, confidentiality, dignity, informed choice and non-discrimination. Personally identifiable information shall not be included in routine incident, grievance or monitoring reports.

D. Community Interaction

Workers shall minimize nuisance and conflict with surrounding communities; maintain safe access; follow traffic, noise, dust and waste controls; and respect community members, businesses and property. Workers shall not make unauthorized commitments concerning compensation, employment, Project benefits or grievance outcomes. Community concerns shall be referred to the designated community liaison/GRM channel.

E. Reporting, Grievances and Non-Retaliation

Workers may raise workplace concerns through the worker grievance mechanism. Community complaints shall be handled through the Project GRM. Serious environmental, social, OHS or community incidents shall be escalated through the Project Incident Notification and Reporting Procedure. No person shall be penalized or retaliated against for making a good-faith report or grievance.

F. Enforcement and Disciplinary Measures

The Contractor shall investigate alleged breaches fairly and promptly, while protecting confidentiality and due process. Confirmed violations may result in measures proportionate to the seriousness of the breach and consistent with applicable law and employment terms, including warning, mandatory retraining, removal from particular duties or Project locations, suspension, termination of employment or contract, and referral to competent authorities where required. SEA/SH allegations shall follow the Project's confidential survivor-centered procedure.

G. Worker Acknowledgement

I confirm that I have received and understood this Workers' Code of Conduct, including the requirements relating to SEA/SH, community interaction, health and safety, grievances and incident reporting. I understand that compliance with this Code is a condition of my work on the Project and that breaches may result in disciplinary action in accordance with applicable law and contractual requirements.

Worker name	
Employer / Contractor / Subcontractor	
Position / Worker ID	
Signature / thumbprint	
Date	
Code explained by / language used	

Contractor administration note: Signed acknowledgements and training records shall be retained by the Contractor and made available to the Supervision Consultant and PMU for compliance verification, subject to applicable confidentiality and data-protection requirements. The Code shall be displayed or otherwise made accessible at workplaces and worker accommodation in appropriate languages.

Annex 4: Chance Finds Procedure

This Chance Finds Procedure shall apply to all Project activities involving excavation, trenching, grading, dredging, demolition, vegetation clearance or other ground disturbance and shall be incorporated into relevant bidding documents, construction contracts, CESMPs and subcontractor requirements.

1. Recognition and Training

Chance finds may be identified by equipment operators, labourers, engineers, environmental and social personnel, archaeological/cultural heritage specialists, supervision personnel or any other person involved in or observing ground-disturbing works.

Before ground-disturbing activities commence, relevant workers and supervisors shall receive induction and toolbox training on the Chance Finds Procedure. Training shall be delivered or supported by a suitably qualified cultural heritage/archaeological specialist and, where available and appropriate, the competent Cambodian cultural heritage authority or government archaeologist. The Contractor shall maintain records of personnel trained.

Training shall enable workers to recognize potential cultural heritage, including archaeological materials, pottery or ceramic fragments, worked stone, bricks or structural remains, metal objects, bones or human remains, fossils where culturally or scientifically significant, graves or burial features, religious objects and other unusual objects or features that may have archaeological, historical, cultural or spiritual significance. Workers shall be instructed not to determine the significance of a suspected find themselves; where there is uncertainty, the item or feature shall be treated as a potential chance find and reported.

2. Procedure Following a Chance Find

If a potential chance find is encountered, the Contractor shall immediately:

1. Stop work in the immediate area and prevent further disturbance.
2. Delineate and secure the area and establish an appropriate exclusion zone.
3. Leave the find in place and prohibit removal, cleaning, collection or disturbance of objects or remains.
4. Protect the site from damage, theft or unauthorized access, including provision of security where necessary.
5. Immediately notify the site supervisor and Supervision Consultant/Project E&S personnel, who shall notify the PMU and the competent Cambodian cultural heritage authorities as required.
6. Record the location and circumstances of the find without unnecessarily disturbing it.
7. Allow the competent authority and/or qualified cultural heritage specialist to inspect the find, determine its significance and specify the measures required for protection, conservation, recovery, relocation or modification of the works.
8. Implement the instructions of the competent authority and document the actions taken.
9. Do not recommence work in the affected area until written or otherwise formally documented clearance has been provided by the competent authority and confirmed through the Project supervision arrangements.

Where suspected human remains or graves are discovered, the area shall be immediately secured and the relevant authorities notified. Remains shall not be touched, removed or photographed unnecessarily, and applicable Cambodian legal and cultural requirements shall be followed.

Where local communities identify a site, object or feature of cultural or spiritual significance, work in the potentially affected area shall be suspended and the matter referred through the same procedure, including consultation with relevant community representatives and competent authorities.

3. Responsibilities and Records

The Contractor is responsible for worker training, immediate stop-work, site protection and initial notification. The Supervision Consultant shall verify training, supervise compliance and ensure that work does not resume prematurely. The PMU shall coordinate with the competent Cambodian authorities and ensure that their requirements are incorporated into Project implementation.

All chance finds shall be documented in a register recording the date, location, description of the suspected find, notifications made, authority/specialist assessment, required actions, clearance to resume work and any

resulting design or management changes. Records shall be retained as part of Project environmental and social monitoring documentation.

Annex 5: Grievance Monitoring and Incidents Report

I. Grievance Monitoring

The Project shall maintain a systematic process for monitoring grievances received from Project-affected people, communities and other stakeholders throughout project preparation, construction, commissioning, and operation and maintenance. This Annex shall be read together with the Project Stakeholder Engagement Plan (SEP), which establishes the detailed Grievance Redress Mechanism (GRM), including grievance intake, acknowledgement, assessment, resolution, escalation, communication and responsible parties.

A. Grievance Register

The PMU shall maintain a consolidated Grievance Register. Contractors, the Supervision Consultant and relevant Project implementing entities shall maintain grievance records for matters under their responsibility and submit updated information to the PMU.

The register shall record, as applicable:

- unique grievance reference number;
- date received and location;
- method/channel through which the grievance was received;
- general category and description of the grievance;
- responsible entity/person assigned for follow-up;
- acknowledgement date;
- investigation and actions undertaken;
- agreed corrective or resolution measures;
- target and actual resolution dates;
- status: open, under review, resolved, closed or escalated;
- feedback provided to the complainant;
- complainant satisfaction, where known; and
- outstanding follow-up or corrective actions.

Personal information shall be protected. Anonymous grievances shall be accepted and monitored to the extent practicable.

B. Monitoring and Analysis

The PMU shall periodically review grievance information to assess the effectiveness of the GRM and identify recurring or systemic environmental and social issues. Monitoring shall consider, at minimum:

- number of grievances received, resolved, closed and outstanding;
- grievance categories and locations;
- average and maximum response/resolution times;
- grievances exceeding established resolution timeframes;
- cases escalated to higher levels of the GRM;
- recurring grievances or trends;
- grievances associated with particular subprojects, contractors or activities;
- corrective and preventive actions resulting from grievances; and
- effectiveness of communication and follow-up with complainants.

Recurring grievances or significant trends shall be analyzed to identify underlying causes and determine whether changes to design, construction practices, mitigation measures, stakeholder engagement or operational procedures are required.

C. Reporting and Follow-Up

Contractors and the Supervision Consultant shall report grievance status and significant trends to the PMU through regular environmental and social reporting. The PMU shall consolidate relevant grievance information in periodic E&S monitoring reports submitted to MPWT and AIIB, as applicable.

Monitoring reports shall present grievance information in aggregated form and shall not disclose personally identifiable or sensitive information. Outstanding corrective actions shall be tracked until completion and verified by the responsible Project entity.

D. Sensitive Grievances

Grievances involving SEA/SH, violence, discrimination or other sensitive matters shall be handled through confidential and appropriate procedures consistent with the SEP and applicable Project requirements. SEA/SH cases shall follow survivor-centred referral arrangements, and personally identifiable information shall not be included in general grievance registers or monitoring reports.

E. Interface with Incident Reporting

Grievance monitoring and incident reporting are separate Project processes. Where information received through the GRM indicates a potentially serious environmental, social, OHS or community health and safety incident, the matter shall be immediately referred to the Project's Incident Notification, Investigation and Corrective Action Procedure, while maintaining appropriate confidentiality.

The grievance shall remain recorded in the GRM, but investigation and reporting of the associated incident shall follow the dedicated incident-management procedure established in the ESMPF.

II. Incident Reporting and Processing Procedure

This procedure establishes the minimum requirements for notification, investigation, corrective action, follow-up and closure of Project-related environmental, social, occupational health and safety (OHS), and community health and safety incidents. It applies to MPWT/PMU, Supervision Consultants, contractors, subcontractors and Project operators, as relevant.

A. Identification and Immediate Response

Any Project worker, supervisor, contractor, consultant or operator who becomes aware of an incident shall immediately report it through the established Project reporting chain. The first priority shall be to protect life, prevent further harm, provide emergency assistance, secure the affected area and control ongoing environmental or community risks.

Reportable incidents include, as applicable, fatalities; serious or life-threatening injuries; significant occupational accidents; major pollution or uncontrolled releases; significant biodiversity or cultural heritage damage; serious community health and safety events; violence or significant community conflict; child or forced labour; SEA/SH allegations involving Project personnel; and any other event having, or potentially having, significant adverse environmental or social consequences.

B. Notification and Escalation

The Contractor or operator shall immediately notify the Supervision Consultant and PMU of serious incidents. The PMU shall promptly assess the severity of the event and escalate it to MPWT.

For a serious Project-related incident or accident, MPWT shall notify AIIB as soon as practicable and no later than 48 hours after becoming aware of the incident, or within any different timeframe expressly established in the Project financing agreements or other applicable AIIB requirements. Relevant Cambodian authorities shall also be notified in accordance with applicable legal and permit requirements.

Initial notification shall not be delayed while awaiting completion of an investigation. It shall provide the information reasonably available at the time, including the nature of the incident, date and location, persons or environmental receptors affected, immediate actions taken and current status.

C. Incident Investigation

Following immediate notification and stabilization of the situation, the responsible party shall undertake a documented investigation proportionate to the seriousness and potential consequences of the incident.

The investigation shall determine:

- what happened, where and when;
- actual and potential consequences;
- immediate and underlying causes;
- failures in design, procedures, equipment, training, supervision or management systems;
- whether applicable ESMP/CESMP, OHS, contractual or legal requirements were followed;
- whether similar risks exist elsewhere in the Project; and
- measures necessary to prevent recurrence.

For serious incidents, a formal Root Cause Analysis (RCA) shall be undertaken by competent personnel using a recognized methodology appropriate to the incident, such as the Five Whys, Fishbone/Ishikawa analysis, fault-tree analysis or equivalent systematic RCA method. Independent specialist support shall be obtained where warranted by the severity or complexity of the incident.

D. Corrective and Preventive Action

The investigation shall result in a Corrective and Preventive Action Plan (CAPA) identifying each action, responsible party, completion deadline and verification requirement.

Where an activity presents an imminent or serious risk, the affected work shall remain suspended until immediate risks have been controlled and authorization to resume has been provided through the established Project supervision arrangements.

Corrective actions may include changes to work methods, engineering controls, equipment, training, supervision, staffing, procedures, CESMP provisions, operational controls or emergency arrangements. Lessons relevant to other Project sites or contractors shall be communicated and applied as appropriate.

E. Follow-Up, Verification and Closure

The Contractor or operator shall maintain an incident register and track corrective actions to completion. The Supervision Consultant shall verify implementation during construction, while the responsible operating entity shall undertake verification during operation and maintenance. The PMU shall oversee closure of significant incidents and include relevant information in Project environmental and social monitoring reports.

An incident shall be considered closed only when the required investigation has been completed, corrective and preventive actions have been implemented and verified, and any required reporting to MPWT, relevant Cambodian authorities and AIIB has been completed.

F. Confidential and Sensitive Incidents

Incidents involving SEA/SH or other sensitive matters shall be managed through confidential, survivor-centred procedures and appropriate referral mechanisms. General incident reports shall not contain personally identifiable information concerning survivors.

Child labour, forced labour, violence or other sensitive labour and community incidents shall likewise be handled with appropriate confidentiality while meeting applicable notification and corrective-action requirements.

G. Relationship with the GRM

Incident reporting and grievance management are separate but interconnected processes. Grievances shall be recorded and managed through the Project GRM and SEP. Where a grievance reveals a potentially serious Project-related incident, it shall be immediately referred to this Incident Reporting and Processing Procedure without removing the grievance from the GRM.

Similarly, an incident that generates community complaints may also require processing through the GRM. Information shall be shared between the two systems only to the extent necessary and subject to applicable confidentiality requirements. handling of SEA/SH and other sensitive incidents.

III. For environmental and social incidents

Form to be completed by PMU within 48 hours

Q1: Incident Details	
1. Date of Incident:	
2. Time:	
3. Date Reported to PMU:	
4. Date Reported to AIIB:	
5. Reported to PMU by:	
6. Reported to AIIB by:	
7. Notification Type (Email/phone call/media notice/other):	
8. Full Name of Main Contractor:	
9. Full Name of Subcontractor:	
Q2: Type of incident (please check all that apply)	
1. ☐ Fatality 2. ☐ Lost Time Injury 3. ☐ Displacement Without Due Process 4. ☐ Child Labor 5. ☐ Acts of Violence/Protest 6. ☐ Disease Outbreaks 7. ☐ Forced Labor 8. ☐ Unexpected impacts on heritage resources 9. ☐ Unexpected impacts on biodiversity resources 10. ☐ Environmental pollution incident 11. ☐ Dam failure 12. ☐ Other	
Q3: Description/Narrative of Incident	
For example: 1. What is the incident? 2. What were the conditions or circumstances under which the incident occurred (if known)? 3. Are the basic facts of the incident clear and uncontested, or are there conflicting versions? What are those versions? 4. Is the incident still ongoing or is it contained? 5. Have any relevant authorities been informed?	

Q4: Actions taken to contain the incident			
Short Description of Action	**Responsible Party**	**Expected Date**	**Status**

For incidents involving a contractor: 1. Have the works been suspended under the Contract? a) ☐ Yes b) ☐ No
2. Name of Contractor: ……
Q5: What support has been provided to affected people?

A. Form to be completed by PMU (following investigation)

Q6. Fatality/Lost time Injury information	
Cause of fatality/injury for worker or member of the public (please check all that apply): 1. ☐ Caught in or between objects 2. ☐ Struck by falling objects 3. ☐ Stepping on, striking against, or struck by objects 4. ☐ Drowning 5. ☐ Chemical, biochemical, material exposure 6. ☐ Falls, trips, slips 7. ☐ Fire & explosion 8. ☐ Electrocution	Vehicle Traffic: 13. ☐ Project Vehicle Work Travel 14. ☐ Non-project Vehicle Work Travel 15. ☐ Project Vehicle Commuting 16. ☐ Non-project Vehicle Commuting 17. ☐Vehicle Traffic Accident (Members of Public Only)

9. ☐ Homicide 10. ☐ Medical Issue 11. ☐ Suicide 12. ☐ Others	

Name	Age/ DOB	Date of Death/injury	Gender	Nationality	Cause of Fatality/Injury	Worker (Employer)/Public

Q7: Financial Support/Compensation Types (To be fully described in Corrective Action Plan template)

1. ☐ Contractor Direct
2. ☐ Contractor Insurance
3. ☐ Workman's Compensation/National Insurance
4. ☐ Court Determined Judicial Process
5. ☐ Others
6. ☐ No Compensation Required

Name	Compensation Type	Amount (US$)	Responsible Party

Q8: Supplementary Narrative:

C. For SEA/SH Incident

B. Incident Form for SEA/SH (to be completed by PMU within 48 hours)

Q9. Incident Details		
Date of incident intake by project/GM:	Date Reported to PMU:	Date Reported to AIIB:
Reported to project/GM by: 1. Survivor 2. Third party 3. Others:	Reported to PMU by: 1. GM operator 2. Directly, by Survivor 3. Directly, by third party 4. Others:	Reported to AIIB by: 1. PMU 2. Directly, by Survivor 3. Directly, by third party 4. Other:

Q10. Is a record of this incident in GM?

a) ☐ Yes
b) ☐ No

Q11: Incident type (please check all that apply) See Appendix 1 for definitions

c) Sexual exploitation
d) Sexual abuse
e) Sexual harassment

Q12: Provide the following details from the GM record.

1. Age of survivor (if recorded in GM):

2. Have the national legislation or mandatory reporting requirements been followed?

f) ☐ Yes
g) ☐ No

3. Sex of survivor (if recorded in GM):

a) ☐ Male
b) ☐ Female
c) ☐ Others

4. Was the survivor referred to service provision?

a) ☐ Yes
b) ☐ No

5. Is the survivor employed by the project (as indicated by the survivor or complainant and reported in the GM)?

a) ☐ Yes

b) ☐ No
6. Is the alleged perpetrator employed by the project (as indicated by the survivor or complainant and reported in the GM)? a) ☐ Yes b) ☐ No
Q13: Basis for further action
1. Has the complainant provided informed consent to lodge a formal complaint? a) ☐Yes b) ☐ No
2. Does the employer have a suitable administrative process and capacity in place to investigate misconduct relating to SEA/SH in a survivor-centered way? a) ☐ Yes b) ☐ No
3. Has the survivor provided informed consent to be part of an investigation into misconduct? a) ☐ Yes b) ☐ No
4. Has the complaint been filed anonymously or through a third party? a) ☐ Yes b) ☐ No
5. If the answer to any of these questions is no, has the GM assessed the risks and benefits of carrying out an investigation into the alleged misconduct, taking into account the survivor's safety and wellbeing? a) ☐ Yes b) ☐ No
6. Will an investigation into misconduct be undertaken in addition to an investigation into adequacy of project systems, processes or procedures? a) ☐ Yes b) ☐ No

D. Incident Form for SEA/SH (to be completed by PMU following SEA/SH investigation)

Q14: Findings of the investigation		
1. Have sanctions against a perpetrator been recommended as part of an investigation into misconduct? a) ☐ Yes b) ☐ No		
2. Has an investigation into adequacy of project systems, processes or procedures been undertaken? a) ☐ Yes b) ☐ No		
Q15: Corrective actions to be implemented (To be fully described in Corrective Action Plan)		
Short Description of Action (SEA/SH examples)	Responsible Party	Timeline for completion/Status
1. Referral of Survivor to holistic care services		
2. Undertake disciplinary investigation in accordance with GM timelines and confirmed process		
3. Disciplinary actions, including sanctions, to be applied following misconduct investigation by employer		
4. Increased training on Codes of Conduct (CoC)		
5. Audit of implementation of SEA/SH safety mitigation		
6. Strengthened awareness training on project-related risks, CoC and how to report incidents for project- affected community		
7. Training for project supervisors on the need to follow guidelines of behavior in CoC and their supervisory responsibilities		

8. Plan to improve coverage/quality of service provision		
9. Any other system strengthening measures or corrections for system failures that are necessary		

IV. Project's Grievance Logbook

Sample for local levels

No	Name of complainant (or anonymous)	Addresses	Sex	Age	Contact information	Date Received	Details of nature of grievance (Environmental impacts, social impacts, labor, health, etc.)	Which of the three GRM that was used?	Actions taken to resolve grievance, by whom	How many steps that have been used in the relevant GRM	Date grievance was finally resolved/closed?	Notes

C. Sample for PMU Level to be elaborated on Excel spreadsheet with filter function

No	Questions	Response
1	**Date Received:**	
2	**Name of Complaint** (or anonymous):	
3	**Sex:**	
4	**Age:**	
5	**Contact information** (phone number/Email, other channel(s):	
6	**Location of Complainants** (province, District, Commune, village):	
7	**Form of grievance received (writing or Verbal (face to face, telephone, online) SMS, MPWT comment box in designated Website/Face book/What's App, etc.**	
8	**Channel of Receipt** (Direct to PMU GRM Focal Point, or Relayed from other channels (Provide details)	
9	**Key topics of Grievances**	
	a) Labor and Working Condition Resettlement	
	b) SEA/SH	
	c) Environmental impacts	
	d) Community Health and Safety Accidents	
10	**Nature of complaints?**	
	a) Resolution required	
	b) Clarification required	
	c) Suggestion n only (for project improvement)	
	d) General Concerns	
11	**Step 1 of GRM Procedure:**	
	a) Date receipted:	
	b) Date solved/transferred:	
	c) Duration spent (in days):	
12	**Step 2,3,4** (Replicated in Excel spreadsheet):	
13	**Closing of Case** (At which Steps, date of case closing):	
14	**Notes:**	

Annex 6: Environmental and Social Screening Form

Purpose and link to the ESMPF. This form shall be completed for each proposed subproject at the screening stage and shall be read together with the ESMPF section on Environmental and Social Screening and Risk Classification. It is used to identify potential environmental and social risks, confirm applicability of the Project exclusion criteria and AIIB Environmental and Social Standards, and determine the type and level of site-specific assessment and management instrument required. A "Yes" response does not automatically require a full ESIA; instrument selection shall be proportionate to the nature, scale, location and significance of identified risks and impacts and shall follow the screening and risk-classification process established in the main ESMPF.

Screening instructions. The PMU E&S team, supported by qualified specialists where required, shall complete the form using site inspection, available design information, maps and databases, consultation and other relevant evidence. The Remarks column shall describe the basis for each response, receptors/locations affected, data gaps, further studies required and proposed follow-up action.

No.	Screening topic / question	Yes	No	Remarks / evidence / follow-up
1	Is the subproject located within, adjacent to, or likely to affect a legally protected area, internationally recognized area, Key Biodiversity Area, Ramsar site, Important Bird and Biodiversity Area, wetland, lake, river, canal, floodplain, natural habitat or other biodiversity-sensitive area?	☐	☐	
2	Could the subproject affect Critically Endangered (CR) or Endangered (EN) species, endemic or restricted-range species, migratory or congregator species, highly threatened or unique ecosystems, key evolutionary processes, or other potential Critical Habitat values?	☐	☐	See mandatory biodiversity screening note below.
3	Could the subproject cause loss, fragmentation, degradation or disturbance of terrestrial or aquatic habitat, riparian vegetation, fish spawning/migration habitat, ecosystem services, or ecological connectivity?	☐	☐	
4	Could the subproject affect known or potential archaeological, historical, religious, spiritual, burial or other tangible or intangible cultural heritage?	☐	☐	
5	Could the subproject alter drainage, river/floodplain hydrology, groundwater, bank or bed erosion, flood levels, flood-risk distribution, wetland connectivity, or receiving-water conditions?	☐	☐	
6	Could construction or operation adversely affect surface water or groundwater through sediment, wastewater, sludge, chemicals, fuels, contaminated runoff, dewatering, emergency overflow or other discharges?	☐	☐	
7	Could the subproject generate significant air emissions, dust, nuisance odor, aerosols, noise, vibration, light or visual impacts affecting communities or sensitive receptors?	☐	☐	
8	Will the subproject generate spoil, sludge, solid waste, hazardous waste or contaminated materials requiring special handling, transport, treatment, reuse or disposal?	☐	☐	
9	Will hazardous chemicals, fuels, treatment chemicals or other hazardous materials be stored, transported, used or disposed of during construction or operation?	☐	☐	
10	Are there significant occupational health and safety hazards, including excavation/trenching, confined spaces, work at height, electrical hazards, lifting, traffic, work near water, drowning, hazardous atmospheres, pathogens, heat stress, fire or explosion?	☐	☐	
11	Could the subproject create community health and safety risks, including traffic accidents, unsafe excavations, drowning, exposure to hazardous materials, communicable disease, emergency-service disruption, structural failure or security risks?	☐	☐	

12	Will construction require worker accommodation or create material labor influx, worker-community interaction, pressure on local services, SEA/SH risk, or other labor and working-condition concerns?	☐	☐	
13	Is there a known or reasonably foreseeable risk from UXO, landmines or other explosive remnants of war?	☐	☐	
14	Is the site exposed to flooding, extreme rainfall, drought, heat, climate-related hazards or other natural hazards that could affect design, construction, operation, emergency response or resilience?	☐	☐	
15	Could the subproject require acquisition of private or publicly used land, restrictions on land use/access, physical displacement, economic displacement, loss of assets/income, impacts on informal occupants/users, or temporary access restrictions?	☐	☐	
16	Could the subproject affect poor or vulnerable people, women, persons with disabilities, informal settlers/workers, livelihood-dependent groups or other disadvantaged stakeholders disproportionately?	☐	☐	
17	Are Indigenous Peoples, or communities potentially meeting AIIB ESS3 criteria, present in or collectively attached to the subproject area of influence or resources that may be affected?	☐	☐	
18	Could associated facilities, access roads, utility connections, borrow/spoil areas, camps, suppliers or other ancillary activities create material E&S risks or impacts not captured in the direct works footprint?	☐	☐	
19	Is there potential for cumulative impacts with existing, approved or reasonably foreseeable infrastructure or development affecting the same receptors, communities, water bodies, habitats, traffic network or municipal services?	☐	☐	
20	Could the subproject induce settlement, unplanned development, land-use change, resource extraction, increased wastewater/waste generation or additional pressure on wetlands, agricultural land or public services?	☐	☐	
21	Are there material design or operational risks such as inadequate treatment capacity, unreliable power, emergency bypass/overflow, insufficient sludge management, inadequate buffers/setbacks, insufficient O&M capacity or recurrent budget constraints?	☐	☐	
22	Are there other environmental or social risks, uncertainties, data gaps, stakeholder concerns, permit requirements or legacy issues that may materially affect subproject risk classification or instrument selection?	☐	☐	

Mandatory biodiversity and Critical Habitat screening

For every subproject, biodiversity screening shall include a desk-based search using the Integrated Biodiversity Assessment Tool (IBAT), or equivalent current authoritative biodiversity datasets, to identify protected and internationally recognized areas and potential biodiversity values, including IUCN-listed Critically Endangered (CR) and Endangered (EN) species. Screening shall consider all IFC Performance Standard 6 Critical Habitat triggers: (i) CR/EN species; (ii) endemic or restricted-range species; (iii) migratory or congregator species; (iv) highly threatened or unique ecosystems; and (v) key evolutionary processes.

Where screening identifies a potential Critical Habitat trigger, uncertainty, or a material biodiversity risk, a biodiversity specialist with demonstrated experience in Critical Habitat assessment for MDB-financed projects shall be engaged. The specialist shall apply the IFC Performance Standard 6 and Guidance Note 6 approach, including definition of the appropriate area of analysis, desk review (including IBAT), field surveys where necessary, stakeholder/expert consultation, validation of candidate biodiversity features, and assessment against applicable Critical Habitat criteria and thresholds. The results shall inform avoidance, alternatives, mitigation, further assessment and any Biodiversity Management/Action Plan required.

Screening conclusion and instrument selection

Proposed AIIB E&S risk classification	Category A ☐ Category B ☐ Category C ☐

Applicable standards	ESS1 ☐ ESS2 ☐ ESS3 ☐ Other/permit requirements: _____
Further assessment / instrument required	ESIA ☐ ESMP ☐ RAP/DRP ☐ Biodiversity/CHA/BMP/BAP ☐ Other: _____
Key specialist studies / data gaps	_____
Screened by / date	_____
PMU review / decision / date	_____

Long-term environment and social impacts

Problem	Severity		Comments & Locations on Map
Increased threats to endangered wild animals known to live in the area	Large impact		
	Medium impact		
	No/small impact		
Damage to the fisheries resources or fisheries stocks	Large impact		
	Medium impact		
	No/small impact		
Damage to the forest (especially in bio-diversity areas)	Large impact		
	Medium impact		
	No/small impact		
Long term damage to agricultural land	Large impact		
	Medium impact		
	No/small impact		
Erosion caused by changes to alignment or size of streams	Large impact		
	Medium impact		
	No/small impact		
Flooding caused by subproject implementation	Large impact		
	Medium impact		
	No/small impact		
Long term impact causing by dust, noise or safety problems	Large impact		
	Medium impact		
	No/small impact		
Damage to the livelihood, living environment or customs of indigenous people.	Large impact		
	Medium impact		
	No/small impact		
Other longterm -problem (describe)	Large impact		
	Medium impact		
	No/small impact		

Short-term Environmental and Social Impacts

Problem	Severity		Comment and Location on Map
Damage will be caused by vehicles transporting materials to the site	Medium impact		
	No/small impact		
Dust problem during construction	Medium impact		
	No/small impact		
Noise problem during construction	Medium impact		
	No/small impact		
Contamination of water resources during construction	Medium impact		
	No/small impact		
Damage to home gardens and fruit trees	Medium impact		
	No/small impact		
Short-term damage to agricultural land	Medium impact		
	No/small impact		
Damage to domestic water supplies	Medium impact		
	No/small impact		
Other short-term problem (describe)	Medium impact		
	No/small impact		

Annex 7: Preliminary Climate Risk Screening Checklist

Screening Questions		Score	Remarks
Location and Design of Project	Is siting and/or routing of the subproject (or its components) likely to be affected by climate conditions including extreme weather-related events such as floods, droughts, storms, landslides?		
	Would the subproject design need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc.)?		
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of subproject inputs over the life of subproject outputs (e.g. construction material)?		
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of subproject output(s)?		
Performance of subproject outputs	Would weather/climate conditions and related extreme events likely affect the performance of the subproject outputs?		

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

Responses when added that provide a score of zero (0) will be considered low risk subproject. If adding all responses will result to a score of 1-4 and that no score of 2 and 1 were given to any single response, the subproject will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response will be categorized as high-risk subproject.

Result of Initial Screening:

Other Comments:

Prepared by:	Seen and agreed by:
Position:	Position:
Signature:	Signature:
Date:	Date:

Annex 8: Land Acquisition and Resettlement Screening Checklist

Involuntary Resettlement Impact Categorization Checklist

Project Name :

Subproject Name : _____

Project Status : _____

Location (Province) : _____

Date of IR Screening : _____

Project/Subproject Description:

Involuntary Resettlement Impact Screening Checklist

Probable Involuntary Resettlement Effects	Yes	No	Not Known	Remarks
I. Project Information				
1. Did the proponent consider alternatives before this request?				
2. Did the proponent implement meetings with the related stakeholders **3.** before this request?				
4. Is the project a new one or an ongoing one? In the case of an ongoing project, **5.** have you received strong complaints or other comments from local residents?				
II. Involuntary Acquisition of Land				
6. Will there be land acquisition?				
7. Is the site for land acquisition known?				
8. Are the ownership status and current usage of land to be acquired known?				
9. Will easement be utilized within an existing Right of Way (ROW)?				

Probable Involuntary Resettlement Effects	Yes	No	Not Known	Remarks
10. Will there be loss of shelter and residential land due to land acquisition?				
11. Will there be loss of agricultural and other productive assets due to land acquisition?				
12. Will there be losses of crops, trees, and fixed assets due to land acquisition?				
13. Will there be loss of businesses or enterprises due to land acquisition?				
14. Will there be loss of income sources and means of livelihoods due to land acquisition?				
III. Involuntary restrictions on land use or on access to legally designated parks and protected areas				
15. Will people lose access to natural resources, communal facilities and services?				
16. If land use is changed, will it have an adverse impact on social and economic activities?				
17. Will access to land and resources owned communally or by the state be restricted?				
IV. Information on Displaced Persons:				
18. Any estimate of the likely number of persons that will be displaced by the Project? ⇨ [ ] No [ ] Yes ⇨ If yes, approximately how many? _____ AHs ⇨ Category for IR impacts: _____				

Probable Involuntary Resettlement Effects	Yes	No	Not Known	Remarks
19. Are any of them poor, female-heads of households, or vulnerable to poverty risks? ⇨ [ ] No [ ] Yes (probably)				
20. Are any displaced persons from indigenous or ethnic minority groups? ⇨ [ ] No [ ] Yes				
Are any owners, tenants, sub-tenants, rent-free occupants, informal/unauthorized structure occupants, vendors, employees or users of state/public land or ROW affected, irrespective of legal title?				
Will any dwelling or other structure be partly or fully demolished, rendered unsafe/uninhabitable, or lose essential utility or access service?				
Will temporary occupation, trenching, traffic diversion or construction staging restrict household/business access or cause temporary business, wage, rental or livelihood loss?				
Will lake/wetland/pond filling or dyke-road works restrict fishing, lotus/aquatic-plant collection, livestock watering, navigation, irrigation, cultivation or other communal/natural-resource use?				
Have vulnerable persons and households been identified, including poor, women-headed, older-person, disability-affected and landless/informal households requiring additional assistance?				
Has the final DED corridor/footprint been overlaid with the census/DMS/IOL so that public/state ownership is not mistaken for absence of users or assets?				

Subproject Category	Subproject Eligibility	Next Steps
A: 200 or more persons will experience major impacts defined as (i) being physically displaced from housing, or (ii) losing 10% or more of their productive or income generating assets	Not Eligible	Identify alternative subproject
B: Less than 200 persons will experience major impacts defined as (i) being physically displaced from housing, or (ii) losing 10% or more of their productive or income generating assets	Eligible	*Prepare Resettlement Plan in accordance with the RF*
C: No involuntary resettlement impacts.	Eligible	*None*

V. Screening Preparation					
Prepared By	:		Verified By	:	
Signature	:		Signature	:	

Position	:		Position	:	
Date	:		Date	:	

D. Project Map

Location :	
Mission Date :	
Summary Activties :	
Participants :	

E. Detail Subproject Description

Location :	
Mission Date :	
Summary Activties :	
Participants :	

F. Other Document References

Annex 9: Indigenous Peoples Screening Form

Indigenous People Impact Categorization Checklist

Project Name :

Subproject Name :

Project Status :

Location (Province) :

Date of IR Screening :

Project/Subproject Description:

Indigenous People Impact Screening Checklist

KEY CONCERNS	YES	NO	NOT KNOWN	Remarks
A. Indigenous Peoples Identification				
1. Are there socio-cultural groups present in or use the project area who may be considered as "tribes" (hill tribes, schedules tribes, tribal peoples), "minorities" (ethnic or national minorities), or "indigenous communities" in the project area?				
2. Are there national or local laws or policies as well as anthropological research/studies that consider these groups present in or using the project area as belonging to "ethnic minorities", scheduled tribes, tribal peoples, national minorities, or cultural communities?				
3. Do such groups self-identify as being part of a distinct social and cultural group?				
4. Do such groups maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories?				

KEY CONCERNS	YES	NO	NOT KNOWN	Remarks
5. Do such groups maintain cultural, economic, social, and political institutions distinct from the dominant society and culture?				
6. Do such groups speak a distinct language or dialect?				
7. Has such groups been historically, socially and economically marginalized, disempowered, excluded, and/or discriminated against?				
8. Are such groups represented as "Indigenous Peoples" or as "ethnic minorities" or "scheduled tribes" or "tribal populations" in any formal decision-making bodies at the national or local levels?				
B. Identification of Potential Impacts				
9. Will the project directly or indirectly benefit or target Indigenous Peoples?				
10. Will the project directly or indirectly affect Indigenous Peoples' traditional socio-cultural and belief practices? (e.g. child-rearing, health, education, arts, and governance)				
11. Will the project affect the livelihood systems of Indigenous Peoples? (e.g., food production system, natural resource management, crafts and trade, employment status)				
12. Will the project be in an area (land or territory) occupied, owned, or used by Indigenous Peoples, and/or claimed as ancestral domain?				
C. Identification of Special Requirements *Will the project activities include:*				

KEY CONCERNS	YES	NO	NOT KNOWN	Remarks
13. Commercial development of the cultural resources and knowledge of Indigenous Peoples?				
14. Physical displacement from traditional or customary lands?				
15. Commercial development of natural resources (such as minerals, hydrocarbons, forests, water, hunting or fishing grounds) within customary lands under use that would impact the livelihoods or the cultural, ceremonial, spiritual uses that define the identity and community of Indigenous Peoples?				
16. Establishing legal recognition of rights to lands and territories that are traditionally owned or customarily used, occupied or claimed by indigenous peoples?				
17. Acquisition of lands that are traditionally owned or customarily used, occupied or claimed by indigenous peoples?				

D. Anticipated project impacts on Indigenous Peoples: _____		
Project component/ activity/ output	**Anticipated positive effect**	**Anticipated negative effect**

E. Screening Preparation					
Prepared By	:		Verified By	:	
Signature	:		Signature	:	
Position	:		Position	:	
Date	:		Date	:	

Annex:

G. Project Map

Location :	
Mission Date :	
Summary Activties :	
Participants :	

H. Detail Subproject Description

Location :	
Mission Date :	
Summary Activties :	
Participants :	

I. Other Document References

Annex 10: Instrument Decision and Hold-Point Matrix

Subproject Environmental and Social Assessment & Action Form

> 📌 **C-UIDP-Specific Minimum Decision Requirement:**
>
> Notwithstanding the generic decision logic below, each participating city is pre-assigned two site-specific ESIAs with embedded ESMPs in accordance with the AIIB review meeting clarification of 17 August 2026:
> (i) One integrated ESIA for the WWTP or existing-WWTP interface, sewerage, pumping, household connections, urban drainage, outfalls, and related components; and
> (ii) One separate ESIA for the flood-control road/dyke-road.
> The decision matrix remains applicable for ancillary facilities, design changes, additional works, and specialized studies.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): This matrix is an implementation control under the ESMPF. It does not replace the two pre-defined site-specific ESIA packages for each participating city: (i) an integrated ESIA for WWTP/existing-WWTP interface, sewerage, pumping, household connections, drainage, outfalls and related facilities; and (ii) a separate ESIA for the flood-control road/dyke-road. Screening/re-screening remains mandatory for ancillary/associated facilities, design changes and additional works. AIIB review/no-objection and disclosure steps shall follow the applicable Project arrangements.

1. Subproject General Information

Subproject Name:		**Code:**	
Location / Province:		**Date:**	
Prepared By:		**Position:**	
Reviewed By:		**Status:**	[ ] Initial Screening [ ] Revision

2. Decision and Hold-Point Assessment Matrix

No.	Trigger Condition	Assessment / Screening Status	Required Response	Hold Point
1	**ESEL activity**	[ ] Triggered (Yes) [ ] Not Applicable Notes:	Reject / redesign activity	No financing/procurement
2	**National EIA/IEIA/EIA threshold**	[ ] Triggered (Yes) [ ] Not Applicable Notes:	Prepare required national instrument and obtain approval	Before works / as legally required
3	**ESS1 moderate/substantial risks**	[ ] Triggered (Yes) [ ] Not Applicable Notes:	ESIA/ESMP or proportionate assessment + specialized studies	Before tender/works as agreed with AIIB
4	**ESS2 trigger**	[ ] Triggered (Yes) [ ] Not Applicable Notes:	RPF + RP/DRP and completion of compensation/assistance	Before land entry/displacement
5	**ESS3 trigger**	[ ] Triggered (Yes) [ ] Not Applicable Notes:	Apply ESS3 only where screening confirms Indigenous Peoples as defined by the applicable AIIB ESF. Prepare the required social assessment and	Before affected activity

No.	Trigger Condition	Assessment / Screening Status	Required Response	Hold Point
			Indigenous Peoples instrument; undertake Free, Prior and Informed Consultation (FPICon) and establish broad community support where required by ESS3. Do not assume an FPIC requirement unless specifically required by the applicable legal/policy framework.	
6	**Critical habitat trigger**	[ ] Triggered (Yes) [ ] Not Applicable Notes:	Specialist critical-habitat assessment/BMP and AIIB review	Before design approval/works
7	**OPIR trigger**	[ ] Triggered (Yes) [ ] Not Applicable Notes:	International-waterway technical assessment and AIIB determination	Before approval of affected activity
8	**Contractor-proposed new facility**	[ ] Triggered (Yes) [ ] Not Applicable Notes:	Re-screening + permits/land agreement + C-ESMP update	Before use
9	**Material design change**	[ ] Triggered (Yes) [ ] Not Applicable Notes:	Change form, re-screening, document updates and consultation/disclosure as needed	Before change approval

3. Review, Sign-off & Final Decision

Prepared by Environmental & Social Specialist: Signature: ..... Name: ..... Date: ..... / ..... /	Reviewed & Approved by Project Manager: Signature: .... Name: .... Date: ..... / ..... / .....
Additional Comments / Recommendations:	Final Decision: [ ] Approved to Proceed [ ] Hold for Revision / Rescreening [ ] Rejected / Redesign Required

Annex 11: Subproject Change Management Form

Subproject Environmental and Social Change Management & Re-Screening Form

Document-Control Clarification:

Final document-control clarification: Annex 11 is the Subproject Change Management and Re-Screening Form and Annex 12 is the Minimum Contractor E&S Plan Requirements. This numbering is controlling for the final ESMPF and supersedes earlier working-draft references.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): Any material change in location, footprint, capacity, technology, associated facilities, land requirements, construction method or O&M arrangement shall be screened before approval/implementation. PMU shall determine, in consultation with AIIB where required, whether the change needs an ESIA/ESMP update, additional study, ESS2/ESS3 instrument, consultation/disclosure, permit amendment, contract change or revised risk classification. No change may bypass an applicable E&S hold point.

1. Form Control Information

Change Reference No.:		**Date of Request:**	
Prepared / Proposed By:		**Position / Entity:**	
PMU Reviewer:		**Submission Status:**	[ ] Initial Proposal [ ] Re-screening

2. Required Information & Re-Screening Assessment

No.	Field Item	Required Information & Assessment Details
1	**Subproject / package**	*Guidance: Specify the subproject name, contract package number, location, and specific site components involved.* [Enter details / response here] .....
2	**Change description and reason**	*Guidance: Provide a detailed description of the proposed change and the technical, financial, or site-specific reasons for the modification.* [Enter details / response here] .....
3	**Change in location/footprint/capacity/technology/ method/O&M**	*Guidance: Detail any modifications to geographical boundaries, land footprint, design capacity, construction technology/methods, or operational & maintenance procedures.* [Enter details / response here] .....

No.	Field Item	Required Information & Assessment Details
4	**New associated facility or land requirement**	*Guidance: Identify any new associated facilities, ancillary works, temporary/permanent land acquisition, right-of-way expansion, or restriction on land use.* [Enter details / response here] .....
5	**Screening topics changed**	*Guidance: List specific environmental and social topics affected by the change (e.g., air, noise, water, biodiversity, cultural heritage, health & safety, occupational hazard).* [Enter details / response here] .....
6	**New/changed ESS1, ESS2, ESS3 or OPIR trigger**	*Guidance: Indicate whether new policy triggers are activated or existing risk categories modified under AIIB ESS1 (Env/Social), ESS2 (Involuntary Resettlement), ESS3 (Indigenous Peoples), or OPIR (International Waterways).* [Enter details / response here] .....
7	**Permit/approval implications**	*Guidance: Detail required updates to national/local environmental permits, clearance certificates, sector licenses, or statutory approvals.* [Enter details / response here] .....
8	**Consultation/disclosure implications**	*Guidance: Outline required stakeholder consultation sessions, public disclosures, or community notifications resulting from the proposed change.* [Enter details / response here] .....
9	**Documents to update**	*Guidance: List all project safeguard instruments requiring revision (e.g., ESIA, ESMP, C-ESMP, RAP/DRP, IPP, SEP, Environmental Screening Checklist).* [Enter details / response here] .....
10	**Risk classification impact**	*Guidance: Assess whether the proposed change impacts the overall E&S risk categorization of the subproject (e.g., Low to Moderate, Moderate to*

No.	Field Item	Required Information & Assessment Details
		Substantial). [Enter details / response here] .....
11	**PMU decision / AIIB referral**	requires referral to AIIB for review/no-objection where required under the applicable Project arrangements
12	**Approval and conditions**	*Guidance: State the formal decision outcome, key compliance conditions, required hold-points, and implementation timeline for the change.* [Enter details / response here] .....

3. Review, Sign-off & Approval Decision

Environmental & Social Specialist Review: Signature: ..... Name: ..... Position: ..... Date: ..... / ..... /	PMU Director / Project Manager Approval: Signature: ..... Name: ..... Position: ..... Date: ..... / ..... / .....
AIIB Referral / Clearance (if applicable): [ ] Internal PMU Approval Sufficient [ ] Submitted to AIIB for Review / No-Objection AIIB Approval Date: ..... / ..... / ..... AIIB Reference No.:	Final Approval Status & Decision: [ ] Approved without conditions [ ] Approved subject to conditions [ ] Hold for additional information [ ] Rejected / Redesign required

Annex 12: Minimum Contractor E&S Plan Requirements

Contractor Environmental & Social Management Plan (C-ESMP) Sub-Plan Compliance & Review Form

> 📌 **General Requirement & Minimum Contents Rule:**
>
> The contractor shall prepare only those plans applicable to its scope, but the C-ESMP must demonstrate how all relevant ESMP/contract requirements are controlled.
> Mandatory Internal Elements for Each Plan: Every submitted plan shall contain (1) Clear Responsibilities, (2) Standard Procedures, (3) Site Controls, (4) Inspection/Monitoring, (5) Records Management, (6) Incident/Escalation Arrangements, and (7) Corrective-Action Requirements.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): The C-ESMP shall translate the approved site-specific ESMP, tender/contract ESHS requirements and applicable permits into contractor procedures. Topic plans are required according to risk and scope. High-risk activities shall not start until the relevant method statement, risk assessment/permit-to-work and required sub-plan have been reviewed and accepted by the Engineer/CSC and PMU as defined in the contract.

1. Contract & Contractor Details

Contract / Package No.:		**Date of Submission:**	
Contractor Name:		**C-ESMP Version:**	
Subproject Location:		**Review Status:**	[ ] Initial Submission [ ] Revision / Resubmission

2. Required C-ESMP Sub-Plans Compliance Checklist

No.	Required Sub-Plan Title	Applicability & Scope	7 Essential Elements Verified*	Review Outcome / Comments
1	**C-ESMP and implementation schedule**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
2	**Air Quality and Dust Management Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
3	**Noise and Vibration Management Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
4	**Pollution Prevention Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls	[ ] Approved [ ] Revision Required

No.	Required Sub-Plan Title	Applicability & Scope	7 Essential Elements Verified*	Review Outcome / Comments
			[ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	Notes: .....
5	**Water and Wastewater Management Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
6	**Waste and Sludge Management Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
7	**Erosion and Sediment Control Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
8	**Traffic and Community Access Management Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
9	**Occupational Health and Safety Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
10	**Emergency Preparedness and Response Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
11	**Community Health and Safety Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
12	**Worker Accommodation Management Plan (where applicable)**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....

No.	Required Sub-Plan Title	Applicability & Scope	7 Essential Elements Verified*	Review Outcome / Comments
13	**Labor Management / worker GRM procedures**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
14	**SEA/SH Prevention and Response Plan / Code of Conduct**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
15	**Biodiversity Management Plan (where triggered)**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
16	**Cultural Heritage / Chance Find Procedure**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
17	**Reinstatement and Demobilization Plan**	[ ] Mandatory [ ] Triggered [ ] Not Applicable	[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action	[ ] Approved [ ] Revision Required Notes: .....
18	**Utility Mapping, Protection and Service-Continuity Plan**	**[ ] Mandatory [ ] Triggered [ ] Not Applicable**	**[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action**	**[ ] Approved [ ] Revision Required Notes: .....**
19	**Excavation, Trench Support, Confined-Space and Dewatering Plan**	**[ ] Mandatory [ ] Triggered [ ] Not Applicable**	**[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action**	**[ ] Approved [ ] Revision Required Notes: .....**
20	**Lake/Wetland Fill, Soft-Ground and Aquatic-Protection Plan (where triggered)**	**[ ] Mandatory [ ] Triggered [ ] Not Applicable**	**[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action**	**[ ] Approved [ ] Revision Required Notes: .....**
21	**Flood-Embankment, Borrow/Fill, Haul-Route and Erosion/Scour Control Plan**	**[ ] Mandatory [ ] Triggered [ ] Not Applicable**	**[ ] Responsibilities [ ] Procedures [ ] Site Controls [ ] Inspection/Monitoring [ ] Records [ ] Incident/Escalation [ ] Corrective Action**	**[ ] Approved [ ] Revision Required Notes: .....**

No.	Required Sub-Plan Title	Applicability & Scope	7 Essential Elements Verified*	Review Outcome / Comments
22	**Land Access, Resettlement-Interface and Structure-Demolition Protocol**	**[ ] Mandatory** **[ ] Triggered** **[ ] Not Applicable**	**[ ] Responsibilities** **[ ] Procedures** **[ ] Site Controls** **[ ] Inspection/Monitoring** **[ ] Records** **[ ] Incident/Escalation** **[ ] Corrective Action**	**[ ] Approved** **[ ] Revision Required** **Notes: .....**
23	**UXO/ERW Screening and Chance-Discovery Procedure (with accredited clearance where triggered)**	**[ ] Mandatory** **[ ] Triggered** **[ ] Not Applicable**	**[ ] Responsibilities** **[ ] Procedures** **[ ] Site Controls** **[ ] Inspection/Monitoring** **[ ] Records** **[ ] Incident/Escalation** **[ ] Corrective Action**	**[ ] Approved** **[ ] Revision Required** **Notes: .....**

**Note: Every sub-plan must include all 7 mandatory internal elements before final approval is granted.*

3. Review, Verification & Approval Sign-off

Submitted by Contractor E&S Manager: Signature: ..... Name: ..... Company: ..... Date: ..... / ..... /	Reviewed & Verified by CSC / PMU E&S Specialist: Signature: .... Name: .... Entity: .... Date: ..... / ..... / .....
Overall Review Remarks & Requirements:	C-ESMP Approval Status: [ ] Approved to Proceed [ ] Conditional Approval (Minor Revisions) [ ] Resubmission Required

Annex 13: Chance Find Procedure - Minimum Requirements

Cultural Heritage & Archaeological Discovery Incident Reporting Form

> 🏛 **Mandatory Cultural Heritage Protocol:**
>
> All civil works contractors must comply with Cambodian Law on the Protection of Cultural Heritage and AIIB E&S Standards. Upon discovery of any potential archaeological, paleontological, burial, religious, or historical material, works in the immediate area must cease instantly and the site secured until official clearance is granted.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): This procedure applies to excavation, trenching, borrow/spoil and earthmoving. Work shall stop in the affected area, the find shall be protected, and the competent Cambodian cultural heritage authority, including the Ministry of Culture and Fine Arts as applicable, shall be notified through the agreed project chain. Work may resume only after the required written clearance/authorization and Project supervision/PMU confirmation.

1. General Project & Incident Metadata

Subproject / Package:		**Incident Report No.:**	
Contractor Name:		**Discovery Date & Time:**	
Exact GPS / Location:		**Reported By (Person):**	

2. Mandatory Chance Find Protocol Checklist & Field Record

Step	Minimum Requirement Protocol	Compliance Status & Action Taken	Details / Field Record Notes
1	**1. Pre-Earthworks Training** Supervisors and workers trained by a competent person before earthworks to recognize potential archaeological, paleontological, burial, religious or cultural material.	[ ] Completed Prior to Works [ ] Refresher Provided Trainer: ..... Date Trained: ...../...../.....	Field Observations / Remarks: ....
2	**2. Immediate Work Stoppage & Notification** Person identifying potential chance find immediately stops work in the area and informs Site Supervisor and Contractor E&S Focal Person.	[ ] Work Stopped Instantly [ ] Supervisor Notified [ ] E&S Focal Person Informed Time Stopped: ..... AM/PM	Field Observations / Remarks: ....
3	**3. Site Protection &**	[ ] Demarcated / Fenced [ ] Security Posted	Field Observations / Remarks: ....

Step	Minimum Requirement Protocol	Compliance Status & Action Taken	Details / Field Record Notes
	Physical Security Area protected from disturbance, removal, theft, photography or unauthorized access (e.g., demarcation, fencing, security guard).	[ ] Photo Restrictions Enforced Protected Radius: ..... meters	
4	**4. Statutory & PMU Notification** Contractor/Supervision Consultant notifies PMU and competent cultural heritage authority (Ministry of Culture and Fine Arts) per Cambodian law.	[ ] PMU Notified [ ] Ministry/Authority Notified [ ] CSC Verified Notification Ref: ..... Date/Time: ...../...../.....	Field Observations / Remarks: ....
5	**5. Hold Point & Resumption Control** Work remains suspended until competent authority and PMU complete assessment, documentation, or recovery, and issue formal written clearance.	[ ] Site Held / Suspended [ ] Site Inspected by Authority [ ] Recovery Conducted [ ] Clearance Issued Clearance Date: ...../...../.....	Field Observations / Remarks: ....
6	**6. Event Recording & Documentation** The event, findings, photo log, expert decisions, official letters, and clearance certificate are documented and archived in PMU E&S records.	[ ] Incident Log Updated [ ] Photos Archived [ ] Official Clearance Attached Archived File Ref:	Field Observations / Remarks: ....

3. Verification, Cultural Heritage Authority Clearance & Work Resumption Sign-off

Reported by Contractor E&S Focal Person:	Verified by Construction Supervision Consultant (CSC):
Signature: ..... Name: ..... Position: ..... Date: ..... / ..... /	Signature: ..... Name: ..... Position: ..... Date: ..... / ..... / .....

Competent Cultural Heritage Authority / Ministry Action: [ ] Physical Recovery Completed [ ] Protection Boundary Established [ ] Written Clearance Certificate Issued Authority Name: ..... Clearance Ref No.:	PMU Work Resumption Authorization: [ ] Work Suspended (Hold Point Active) [ ] Formal Clearance Obtained - Work Authorized to Resume PMU Director Signature: ..... Date Authorized: ..... / ..... / .....

Annex 14: Detailed Engineering Design Climate-Resilience Verification Checklist

DED Stage Climate Adaptation & Engineering Verification Review Form

> **Climate Resilience Verification Objective:**
>
> This checklist converts the climate-risk recommendations identified in the latest feasibility studies (F/S) into Detailed Engineering Design (DED) verification points. Final values and design criteria remain subject to the detailed hydrological/hydraulic design and applicable technical standards.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): Climate-resilience checks shall verify, not pre-judge, final DED parameters. Design rainfall, flood levels, freeboard, return periods, climate allowances, backup-power duration and other numerical criteria shall be confirmed from approved F/S/DED analyses, applicable Cambodian technical requirements and the Project's agreed climate-risk approach. Recommendations in the F/S shall be verified and documented in the final design basis.

1. DED Package & Review Information

Subproject / Package:		**DED Submission No.:**	
Design Firm / Consultant:		**Date of Verification:**	
Hydrology / E&S Lead:		**Verification Status:**	[ ] Draft DED Review [ ] Final DED Clearance

2. DED Climate-Resilience Verification Checklist

No.	Climate Resilience Topic	DED Verification Requirement	Required Evidence	Compliance Status & Engineering Findings
1	**Climate-adjusted rainfall/IDF**	Verify the F/S/CRA climate-uplift approach and the applicable higher-emissions sensitivity/stress test in final drainage and WWTP hydraulic design; confirm the source, scenario, design horizon and city-specific applicability before adoption. Record the climate uplift and sensitivity values actually confirmed by the approved CRA/F/S and final DED hydrological analysis. Where the F/S identifies values such as +10 to +13% and a higher-emissions sensitivity case, verify their applicability and document any justified adjustment.	**Hydrology calculation / design note**	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable Design Ref / Remarks: .....
MJO Compound Forcing	Where the approved CRA identifies an MJO/compound-forcing sensitivity for Kampong Chhnang or Kampong Cham, verify the applicable uplift in the	DED IDF Curves & modeling report		

No.	Climate Resilience Topic	DED Verification Requirement	Required Evidence	Compliance Status & Engineering Findings
	DED IDF/hydraulic model and document the technical basis; do not apply an unsupported generic percentage.			
2	**High-water level / platform level**	Verify climate-adjusted HWL, crest/platform/finished-floor levels and freeboard for WWTPs, pumping stations and flood-control assets. Verify the CRA/F/S platform and floor levels for each city against final survey and hydrodynamic/hydraulic modelling. Record the confirmed design level/freeboard and explain any technically justified change from the feasibility-stage value.	**Hydraulic model and drawings**	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable Design Ref / Remarks: .....
3	**Hydrodynamic modelling**	Complete site-specific modelling where required by F/S recommendations and final site conditions.	**Model report**	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable Design Ref / Remarks: .....
4	**Backflow prevention & Outfalls**	Confirm need and design at relevant drainage outfalls, including F/S-identified locations. Confirm, through final hydraulic analysis, where backflow prevention is required and select the appropriate device/type for each relevant outfall, including the F/S-identified Kampong Chhnang and Doun Kaev locations.	**Outfall design sheet** Generator sizing, M&E schematics, and fuel supply plan	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable Design Ref / Remarks: .....
5	**Mechanical/electrical flood protection**	Raise, protect or waterproof vulnerable ground-level M&E and pumping equipment.	**Equipment layout / specification**	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable Design Ref / Remarks: .....
6	**Standby power**	including any F/S recommendation for backup duration where applicable; DED shall verify required autonomy against site risk, outage conditions, operational needs and the approved design basis.	**Generator sizing and emergency procedure**	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable Design Ref / Remarks: .....
7	**Flood-season readiness**	Incorporate seasonal inspection, preparedness and the F/S extended alert window into O&M planning.	**O&M procedure**	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable

No.	Climate Resilience Topic	DED Verification Requirement	Required Evidence	Compliance Status & Engineering Findings
				Design Ref / Remarks: .....
8	**Heat/material resilience Thermal & Heat Resilience**	Check temperature sensitivity and durability of exposed WWTP and pumping equipment/materials. Verify the design temperature range against the approved CRA/F/S and applicable equipment/material standards, and document the higher-emissions thermal stress test where supported by the climate assessment.	**Material / equipment review** Equipment datasheets & material procurement specs	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable Design Ref / Remarks: .....
9	**Nature-based solutions**	Assess feasible vegetation, retention, infiltration or other nature-based measures where technically appropriate.	**Alternatives / design note**	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable Design Ref / Remarks: .....
10	**Monitoring and adaptive management**	Define rainfall/water-level data sources, operational triggers and review responsibility.	**Monitoring plan**	[ ] Verified / Compliant [ ] Pending DED Revision [ ] Not Applicable Design Ref / Remarks: .....

3. Verification Review & Final DED Climate Clearance

Verified by Design Reviewer / Climate Specialist: Signature: ..... Name: ..... Entity / Firm: ..... Date: ..... / ..... /	Cleared by PMU Lead Engineer / Project Manager: Signature: ..... Name: ..... Position: ..... Date: ..... / ..... / .....
Outstanding Design Actions / Required Adjustments:	Final DED Climate Resilience Status: [ ] Fully Compliant with F/S Climate Recommendations [ ] Conditional Clearance (Minor Design Refinements) [ ] Non-Compliant - Resubmission Required

Annex 15: Worker, OHS and Accommodation Compliance Checklist

Occupational Health, Safety, Labor Welfare & Accommodation Inspection Audit Form

> **Mandatory Worker, OHS and Accommodation Compliance Controls:**
> This checklist enforces minimum mandatory occupational health, safety, labor welfare, and worker accommodation controls for civil works contractors. Inspections shall be conducted regularly by the Contractor OHS Officer, CSC Supervision Engineers, and PMU Safeguard Specialists. Any non-compliance must be backed by prompt corrective actions and follow-up verification.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): Apply this checklist together with Cambodian labor/OHS requirements, the approved ESMP/C-ESMP, contract conditions and applicable GIIP. Worker accommodation provisions apply where accommodation is provided/arranged by the contractor. The worker grievance mechanism shall be accessible and confidential where needed, with protection against retaliation.

1. Inspection & Site Identification Metadata

Subproject / Package:		**Inspection Date:**	
Contractor Name:		**Site / Camp Location:**	
Inspector Name / Entity:		**Audit Type:**	[ ] Routine Monthly [ ] Unannounced Audit

2. OHS & Accommodation Compliance Audit Checklist

No.	Control Area	Minimum Requirement Standard	Compliance Status	Inspection Findings & Corrective Action Required
1	**E&S/OHS staffing**	Named qualified contractor E&S and OHS personnel mobilized before relevant works.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
2	**Risk assessment**	Task-specific risk assessments/ JSA and permit-to-work system for high-risk activities.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
3	**Excavation/trenching**	Shoring/sloping, access/egress, inspection, underground utility checks and barricading.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant	Audit Notes & Observations: ....

No.	Control Area	Minimum Requirement Standard	Compliance Status	Inspection Findings & Corrective Action Required
			[ ] Not Applicable	
4	**Confined spaces**	Entry permit, atmospheric testing, ventilation, rescue plan and trained attendants.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
5	**Electrical safety**	Isolation/lockout, competent personnel, temporary power controls and inspection.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
6	**Traffic/plant interface**	Segregation, spotters, reversing controls and equipment inspection.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
7	**PPE and welfare**	Appropriate PPE, drinking water, sanitation, washing, rest and first-aid facilities.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
8	**Worker accommodation**	Where provided: safe location, adequate space, ventilation, toilets, bathing, drinking water, waste management, fire safety and grievance access.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
9	**Code of Conduct**	Signed worker Code of Conduct including respectful behavior and SEA/SH provisions.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....

No.	Control Area	Minimum Requirement Standard	Compliance Status	Inspection Findings & Corrective Action Required
10	**Worker GRM**	Confidential, accessible worker grievance channel independent of line supervision where appropriate.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
11	**Emergency preparedness**	Site-specific emergency contacts, first aid, fire, rescue, evacuation and drills.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
12	**Incident reporting**	Immediate notification, classification, investigation, corrective action and lessons learned.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....

3. Inspection Sign-off & Action Tracking

Inspected by CSC / PMU OHS Specialist: Signature: ..... Name: ..... Entity: ..... Date: ..... / ..... /	Acknowledged by Contractor Safety Manager: Signature: .... Name: .... Company: .... Date: ..... / ..... / .....
Summary of High-Risk Non-Compliances:	Overall OHS Audit Status: [ ] Satisfactory / Fully Compliant [ ] Corrective Action Notice Issued (Target Date: ...../...../.....) [ ] Stop Work Notice Issued for High-Risk Non-Compliance

Annex 16: Community Health, Safety, Traffic and Access Checklist

Community Protection, Traffic Management & Public Access Inspection Form

> 🚦 **Community Health, Safety & Access Compliance Objective:**
>
> This checklist ensures that civil works minimize disruptions to local communities, maintain safe pedestrian and vehicular traffic, protect public health and property access, and enforce prompt corrective actions for community grievances. It shall be used during routine inspections by the Contractor E&S Officer, Supervision Consultant (CSC), and PMU Inspectors.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): Give particular attention to schools, health facilities, pagodas, markets, government offices, residences, businesses and other sensitive/public receptors within the Area of Influence. Temporary access restrictions shall be planned, notified and minimized. Land acquisition, land-use restriction or economic displacement shall be managed under the applicable ESS2 instruments, not solely as a construction-access issue.

1. General Project & Site Inspection Metadata

Subproject / Package:		**Inspection Date:**	
Contractor Name:		**Specific Site Location:**	
Inspector Name / Entity:		**Inspection Type:**	[ ] Weekly Inspection [ ] Complaint Investigation

2. Community Safety & Access Compliance Checklist

No.	Topic	Minimum Control Requirement	Compliance Status	Inspection Findings & Action Required
1	**Advance notification**	Affected households/businesses informed of work timing, duration, access changes and GRM.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
2	**Pedestrian safety**	Continuous protected pedestrian routes and safe crossings around work zones.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
3	**Business/household access**	Temporary bridges/ramps or phased works maintain reasonable access.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....

No.	Topic	Minimum Control Requirement	Compliance Status	Inspection Findings & Action Required
4	**Schools/health facilities/markets**	Special traffic and access measures during peak periods.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
5	**Excavation protection**	Rigid barriers, lighting, warning signs and secure covers where appropriate.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
6	**Traffic management**	Approved traffic plan, flaggers, speed control, diversion signage and emergency access.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
7	**Dust/noise/vibration**	Controls selected for receptor sensitivity and work method; complaints tracked.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
8	**Utility disruption**	Utility owners coordinated; planned interruptions notified; emergency repair process available.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
9	**Dewatering/discharge**	No uncontrolled sediment-laden or polluted discharge to streets, drains or water bodies.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
10	**Reinstatement**	Roads, drains, property access and public areas restored promptly and safely.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant	Audit Notes & Observations: ....

No.	Topic	Minimum Control Requirement	Compliance Status	Inspection Findings & Action Required
			[ ] Not Applicable	
11	**Security**	Security personnel, if used, trained on conduct, proportionality and community interaction.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
12	**GRM feedback**	Community complaints reviewed for recurring risk and corrective action.	[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable	Audit Notes & Observations: ....
13	**Work-front closure capacity**	**No new trench is opened unless the previous front is safe and pipe, shoring, barriers, pumps, backfill and reinstatement resources are available.**	**[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable**	**Audit Notes & Observations: ....**
14	**Building and utility condition**	**Pre-condition survey completed at risk receptors; movement/damage complaints trigger inspection, making-safe and documented corrective action.**	**[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable**	**Audit Notes & Observations: ....**
15	**Structure demolition interface**	**Approved resettlement/readiness and utility-disconnection clearance confirmed; exclusion zone, dust/noise, salvage, hazardous-material and waste controls implemented.**	**[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable**	**Audit Notes & Observations: ....**
16	**Vulnerable and informal users**	**Safe access, notice, assistance and GRM arrangements are effective for older people, persons with disabilities, children, informal occupants/vendors and other vulnerable users.**	**[ ] Compliant [ ] Partial / Action Required [ ] Non-Compliant [ ] Not Applicable**	**Audit Notes & Observations: ....**

3. Inspection Sign-off & Action Tracking

Inspected by CSC / PMU Safeguard Inspector: Signature: ..... Name: ..... Entity: ..... Date: ..... / ..... /	Acknowledged by Contractor Site Representative: Signature: .... Name: .... Company: .... Date: ..... / ..... / .....
Summary of High-Priority Community Actions:	Overall Inspection Status: [ ] Satisfactory / Fully Compliant [ ] Corrective Action Required (Target Date: ...../...../.....) [ ] Non-Compliance Notice Issued

Annex 17: Emergency Preparedness and Response Plan - Minimum Content

Emergency Preparedness, Incident Command & Response Review Checklist Form

> 🚨 **Emergency Preparedness and Response Plan (EPRP) Objective:**
>
> Civil works contractors must prepare a site-specific Emergency Preparedness and Response Plan (EPRP) containing all mandatory elements below. The plan must establish clear command structures, emergency scenarios, external agency linkages, resource allocations, escalation pathways, community protection measures, and regular drill schedules in compliance with AIIB ESF and Cambodian regulatory requirements.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): The EPRP shall cover construction emergencies and, where relevant, commissioning/operational scenarios for WWTPs, pumping stations, drainage systems and flood-control assets. Emergency communication shall include workers, nearby communities, CSC/Engineer, PMU, local authorities and emergency services. AIIB incident notification shall follow the Project's agreed reporting protocol.

1. Contract & Plan Review Metadata

Subproject / Package:		**Date of Submission:**	
Contractor Name:		**EPRP Version / Ref:**	
Reviewer Name / Entity:		**Review Status:**	[ ] Initial Submission [ ] Revision / Resubmission

2. EPRP Minimum Content Verification Checklist

No.	Plan Element	Minimum Required Content	Verification Status	Reviewer Findings & Plan References
1	**Emergency scenarios**	Flooding, extreme rainfall, WWTP overflow/bypass, pump/power failure, confined-space incident, trench collapse, fire, chemical/fuel spill, traffic accident, serious injury/fatality and community emergency.	[ ] Compliant [ ] Partial [ ] Non-Compliant [ ] N/A	EPRP Section / Notes: ....
2	**Roles and command**	Incident controller, site response team, PMU/SC/contractor contacts and escalation chain.	[ ] Compliant [ ] Partial [ ] Non-Compliant [ ] N/A	EPRP Section / Notes: ....

No.	Plan Element	Minimum Required Content	Verification Status	Reviewer Findings & Plan References
3	**External coordination**	Police, fire, health facility, local authority, utility and environmental authority contacts as applicable.	[ ] Compliant [ ] Partial [ ] Non-Compliant [ ] N/A	EPRP Section / Notes: ....
4	**Resources**	First aid, rescue equipment, spill kits, fire equipment, pumps, barriers, lighting, communication and backup power.	[ ] Compliant [ ] Partial [ ] Non-Compliant [ ] N/A	EPRP Section / Notes: ....
5	**Notification**	Internal and AIIB/authority notification requirements according to incident severity and applicable procedure.	[ ] Compliant [ ] Partial [ ] Non-Compliant [ ] N/A	EPRP Section / Notes: ....
6	**Community protection**	Warning, access restriction, evacuation/shelter arrangements and public communication where relevant.	[ ] Compliant [ ] Partial [ ] Non-Compliant [ ] N/A	EPRP Section / Notes: ....
7	**Training and drills**	Induction, role-specific training and periodic drills with documented lessons.	[ ] Compliant [ ] Partial [ ] Non-Compliant [ ] N/A	EPRP Section / Notes: ....

3. Review, Sign-off & Plan Approval Decision

Prepared by Contractor Safety / EPRP Officer: Signature: ..... Name: ..... Company: ..... Date: ..... / ..... /	Reviewed & Verified by CSC / PMU E&S Specialist: Signature: .... Name: .... Entity: .....

	..... Date: ..... / ..... / .....
Summary of Outstanding EPRP Requirements:	EPRP Approval Status: [ ] Approved to Proceed [ ] Approved Subject to Minor Conditions [ ] Revision & Resubmission Required

Annex 18: Operation and Maintenance Environmental and Social Readiness and Handover Checklist

Facility Handover, Operational E&S Readiness & Asset Transfer Verification Form

> ⚙ **O&M E&S Readiness & Facility Handover Protocol:**
>
> Prior to the formal handover of completed infrastructure assets (e.g., WWTPs, pumping stations, drainage networks) from civil contractors to the designated operating entity, all environmental, social, occupational health, safety, and technical readiness items must be verified and cleared. This checklist ensures seamless operational compliance and long-term sustainability.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): Handover is an E&S hold point. Operational readiness requires confirmation of the designated operator, permits/conditions, staffing, training, O&M procedures, monitoring, emergency response, sludge/waste pathways, GRM/community contacts, spare parts, recurrent-budget responsibility and formal transfer of outstanding E&S actions.

1. Facility & Handover Metadata

Subproject / Asset Name:		**Handover Date:**	
Handing-over Contractor:		**Designated Operator:**	
PMU / CSC Inspector:		**Handover Status:**	[ ] Pre-Handover Audit [ ] Final Asset Transfer

2. O&M E&S Readiness & Handover Verification Checklist

No.	Readiness Item	Verification Requirement Standard	Readiness Status	Verification Findings & Document References
1	**Operator and staffing**	Operator formally identified; competent staffing and duty arrangements confirmed.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....
2	**Permits and standards**	Operational permits/conditions and monitoring obligations confirmed.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....

No.	Readiness Item	Verification Requirement Standard	Readiness Status	Verification Findings & Document References
3	**As-built information**	As-built drawings, asset register, outfalls, monitoring points and access arrangements handed over.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....
4	**Operating procedures**	Normal, maintenance, upset, emergency, bypass/overflow and shutdown procedures available.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....
5	**WWTP performance**	Commissioning tests demonstrate required hydraulic/process performance before full handover.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....
6	**Sludge/waste**	Authorized and feasible sludge/waste handling, transport and destination confirmed.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....
7	**Power and backup**	Normal and emergency power tested; fuel/storage/maintenance arrangements established.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document	Findings & References: ....

No.	Readiness Item	Verification Requirement Standard	Readiness Status	Verification Findings & Document References
			[ ] Not Applicable	
8	**OHS/community safety**	Permanent guarding, signage, confined-space controls, access restriction and emergency equipment installed.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....
9	**Monitoring**	Sampling locations, parameters, frequency, laboratory arrangements, records and reporting assigned.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....
10	**GRM/community contact**	Operational complaint channel and responsible contact established.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....
11	**Maintenance budget**	Labor, electricity, maintenance, sludge, monitoring and emergency resources budgeted.	[ ] Verified / Ready [ ] Action Required [ ] Pending Document [ ] Not Applicable	Findings & References: ....
12	**Outstanding actions**	Defects, grievances, incidents and corrective actions tracked to	[ ] Verified / Ready [ ] Action Required	Findings & References: ....

No.	Readiness Item	Verification Requirement Standard	Readiness Status	Verification Findings & Document References
		responsible owner and deadline.	[ ] Pending Document [ ] Not Applicable	

3. Joint Handover Certification & Formal Sign-off

Handed Over by Civil Works Contractor: Signature: ..... Name: ..... Company: ..... Date: ..... / ..... /	Accepted by Designated Operating Entity (Operator): Signature: ..... Name: ..... Entity / Dept: ..... Date: ..... / ..... / .....
Verified by Construction Supervision Consultant (CSC): Signature: ..... Name: ..... Date: ..... / ..... /	PMU Handover Clearance & Asset Transfer Decision: [ ] Approved for Full Handover [ ] Conditional Handover (Minor Punch List Attached) [ ] Handover Deferred (Pending Corrective Actions) PMU Director Signature: ..... Date Cleared: ..... / ..... / .....

Annex 19: Environmental and Social Compliance Audit and Close-Out Checklist

Subproject Environmental and Social Closure & Contractual Close-Out Verification Form

> 📋 **E&S Contractual Close-Out Protocol:**
>
> This audit checklist serves as the final Environmental and Social (E&S) verification prior to subproject contract completion and final handover. All required safeguards instruments, statutory permits, land compensation actions, site restorations, waste removal, grievance close-outs, and operational handover commitments must be fully verified and backed by documentary evidence before issuing the E&S Close-Out Certificate.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): E&S close-out shall distinguish contractor completion, completion of corrective/restoration actions, and formal transfer of legitimate residual operational obligations. Unresolved grievances or E&S actions shall not be recorded as closed; they shall retain a responsible party, deadline, monitoring arrangement and documented transfer/acceptance.

1. Contract & Subproject Close-Out Metadata

Subproject / Package:		**Close-Out Audit Date:**	
Contractor Name:		**Contract Completion Date:**	
Lead E&S Auditor / Entity:		**Audit Status:**	[ ] Draft Audit [ ] Final Clearance

2. Environmental and Social Close-Out Audit Checklist

No.	Audit Topic	Close-Out Evidence Standard	Compliance Status	Audit Findings & Evidence References
1	**Approved instruments**	Latest approved ESIA/ESMP/RP/SEP/C-ESMP and subplans available at site and implemented.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....
2	**Legal compliance**	Required permits/approvals valid; conditions tracked.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....
3	**Land readiness**	Required land access, compensation/resettlement actions	[ ] Verified / Closed [ ] Action Pending [ ] Outstandi	Findings & Evidence Ref: ....

No.	Audit Topic	Close-Out Evidence Standard	Compliance Status	Audit Findings & Evidence References
		completed before affected works.	ng Issue [ ] Not Applicable	
4	**Contractor compliance**	Staffing, training, monitoring and corrective-action records complete.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....
5	**Incidents**	All significant incidents investigated; corrective actions verified.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....
6	**Grievances**	Open cases reviewed; unresolved cases transferred with clear responsibility.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....
7	**Temporary sites**	Camps, laydown, spoil and temporary access restored or transferred under approved arrangement.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....
8	**Waste/hazardous materials**	Removed to authorized destination; no residual contamination or unmanaged storage.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....
9	**Reinstatement**	Roads, drains, vegetation, property access and public areas restored.	[ ] Verified / Closed [ ] Action Pending [ ] Outstandi	Findings & Evidence Ref: ....

No.	Audit Topic	Close-Out Evidence Standard	Compliance Status	Audit Findings & Evidence References
			ng Issue [ ] Not Applicable	
10	**Monitoring**	Final construction monitoring complete; operational baseline/monitoring transferred.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....
11	**Handover**	Operator receives E&S commitments, permits, records, procedures and outstanding actions.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....
12	**Lessons learned**	Recurring issues and successful controls documented for remaining packages.	[ ] Verified / Closed [ ] Action Pending [ ] Outstanding Issue [ ] Not Applicable	Findings & Evidence Ref: ....

3. Audit Verification & Final E&S Close-Out Sign-off

Audited by CSC E&S Specialist: Signature: ..... Name: ..... Entity / Firm: ..... Date: ..... / ..... /	Acknowledged by Civil Works Contractor: Signature: .... Name: .... Company: .... Date: ..... / ..... / .....
Transferred / Pending Responsibilities (if any):	PMU Final E&S Close-Out Decision: [ ] E&S Compliance Certificate Issued [ ] Conditional Close-Out (Minor Actions Pending) [ ] Close-Out Withheld (Major Non-Compliance)

	PMU Director Signature: ..... Date Cleared: ..... / ..... / .....

Annex 20: Minimum Terms of Reference for Site-Specific ESIA

C-UIDP Site-Specific ESIA Terms of Reference (TOR) Verification & Review Form

> 🎯 **Purpose & Adaptability Scope:**
>
> This minimum Terms of Reference (TOR) shall be adapted to the relevant C-UIDP ESIA Package 1 (WWTP/sewerage/drainage) or Package 2 (flood-control road/dyke-road). It establishes the minimum baseline scope and does not prevent additional specialized studies where environmental and social screening or scoping identifies further risks.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): This common TOR shall be customized for the relevant city and one of the two C-UIDP ESIA packages. The ESIA shall define the Area of Influence, associated facilities, alternatives, cumulative impacts where relevant, baseline/sensitive receptors, construction and operational risks, climate/disaster risks, labor/OHS, community health and safety, ESS2 interface, vulnerable groups, stakeholder engagement/GRM, and a costed site-specific ESMP. Apply the AIIB ESF/ESP version confirmed for the Project, Cambodian law and relevant GIIP.

1. ESIA Package & TOR Identification Metadata

Subproject / Location:		**TOR Reference No.:**	
ESIA Package Type:	[ ] Package 1 (WWTP/Drainage) [ ] Package 2 (Dyke-Road)	**Date of Draft TOR:**	
Prepared / Lead Firm:		**Review Status:**	[ ] Initial Draft Review [ ] PMU/AIIB Clearance

2. Minimum ESIA TOR Scope Verification Checklist

No.	Mandatory TOR Section / Scope	Minimum Content & Methodological Standard	TOR Verification Status	Reviewer Comments & Package Specifics
1	**Executive and Non-Technical Summary**	Executive summary and non-technical summary, including the specific subproject/ESIA package and key decisions required.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....
2	**Project Description and Area of Influence**	Project description, alternatives, associated facilities, temporary works, implementation/contract arrangements and Area of Influence.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....

No.	Mandatory TOR Section / Scope	Minimum Content & Methodological Standard	TOR Verification Status	Reviewer Comments & Package Specifics
3	**Legal, Regulatory and Policy Framework**	Applicable Cambodian legal/permit requirements, AIIB ESF/ESS requirements and relevant GIIP (Good International Industry Practice).	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....
4	**Scoping and Methodology**	Scoping and methodology, including data gaps, significance criteria and specialist methods.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....
5	**Baseline Environmental and Social Conditions**	Site-specific physical, biological and socioeconomic baseline, including sensitive receptors and seasonal conditions.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....
6	**Impact Assessment and Analysis**	Assessment of direct, indirect, induced and cumulative impacts across construction, commissioning, operation and, where relevant, decommissioning.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....
7	**Alternatives Analysis**	Alternatives analysis applying the mitigation hierarchy and documenting design changes made to avoid/minimize impacts.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....
8	**Climate and Disaster Risk Assessment**	Climate/disaster risk and resilience assessment appropriate to WWTP/drainage/flo	[ ] Included / Compliant [ ] Requires Expansion	Review Comments / Notes: ....

No.	Mandatory TOR Section / Scope	Minimum Content & Methodological Standard	TOR Verification Status	Reviewer Comments & Package Specifics
		od-control infrastructure.	[ ] Missing / Pending [ ] Not Applicable	
9	**Specialized Social and Safeguard Studies**	Labor/OHS, community health and safety, traffic/access, SEA/SH, vulnerable groups, land/livelihood, cultural heritage and ESS3 screening/assessment as applicable.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....
10	**Stakeholder Engagement and Disclosure**	Stakeholder engagement and disclosure record, including how consultation influenced design and mitigation.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....
11	**Environmental and Social Management Plan (ESMP)**	ESMP with mitigation measures, monitoring indicators/criteria, responsibilities, schedule, budget, reporting, incident management and corrective-action arrangements.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....
12	**Residual Impacts and Commitments Register**	Residual impacts, commitments register and conditions/hold points for design, procurement, construction and operation.	[ ] Included / Compliant [ ] Requires Expansion [ ] Missing / Pending [ ] Not Applicable	Review Comments / Notes: ....

3. TOR Verification Review & Sign-off

Drafted by Consultant / E&S Specialist: Signature:	Reviewed & Cleared by PMU Safeguard Director: Signature: .....

Name: ..... Entity / Firm: ..... Date: ..... / ..... /	Name: ..... Position: ..... Date: ..... / ..... / .....
AIIB Review / Clearance (if required): [ ] Internal PMU Clearance Sufficient [ ] Submitted to AIIB for No-Objection AIIB Clearance Date: ..... / ..... /	Final TOR Clearance Decision: [ ] TOR Approved for ESIA Procurement / Execution [ ] TOR Conditional Approval (Minor Revisions) [ ] TOR Resubmission Required

Annex 21: Package-Specific ESIA TOR Modules

C-UIDP Mandatory Package-Specific ESIA TOR Modules Verification Form

> 📌 **TOR Module Customization Requirement:**
>
> The common ESIA TOR requirements in Annex 19 shall be supplemented by the following mandatory package-specific modules. These modules make the ESIA scope specific to C-UIDP while allowing each participating city TOR to refine the site, Area of Influence, baseline locations, and specialist methods in accordance with city-specific environmental/social contexts.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): Annex 20 supplements Annex 19 and does not create additional ESIA packages. Each city shall prepare two site-specific ESIAs: Module A for the integrated WWTP/existing-WWTP interface, sewerage, pumping, household connections, drainage/outfalls and related components; and Module B for the flood-control road/dyke-road. Final lengths, sites, capacities, interfaces and Areas of Influence remain subject to DED verification.

1. Subproject & Target City Identification Metadata

Target City / Municipality:	[ ] Kampong Chhnang [ ] Kampong Cham [ ] Doun Kaev [ ] Prey Veng	**Date of Review:**	
ESIA Package Ref:	[ ] Module A (WWTP/Drainage) [ ] Module B (Dyke-Road)	**TOR Version No.:**	
Lead Safeguard Specialist:		**Review Status:**	[ ] Draft TOR Review [ ] Final Clearance

2. Table A20-1: Mandatory Package-Specific ESIA TOR Modules Verification

TOR Module	Mandatory Assessment Scope	City-Specific Emphasis	Verification Status & Notes
Module A - Integrated WWTP / sewerage / pumping / drainage and related facilities	Project-specific engineering description and interfaces; WWTP/existing-WWTP capacity and process; sewer/pumping reliability; drainage hydraulics; effluent/outfall and receiving water; odour/buffer; sludge; flood exposure; aquatic ecology; land/access/business disruption; utilities; OHS/community safety; SEA/SH; climate resilience; alternatives; cumulative impacts; O&M/operational ESMS; emergency overflow/failure; monitoring and commissioning criteria. Project-specific DED/ESIA verification detail (where applicable): describe the full pavement-removal, trench, pipe/manhole, testing, backfill, temporary surfacing and full-width resurfacing sequence; map utilities and property access by work	• Kampong Chhnang: existing Boeng Alum interface/capacity and network/pumping performance. • Kampong Cham: Boeng Basac WWTP and Boeng Snay cumulative/interface context. • Doun Kaev: Boeng O Tom phased capacity and lake/canal setting. • Prey Veng: Tomnob Ta Sen WWTP, receiving-water/agricultural receptors and community interface. For Boeng O Tom, Boeng Basac and Tomnob Ta Sen, confirm at DED whether any permanent or temporary	[ ] Module Incorporated [ ] City Specifics Refined [ ] Pending Revision Notes / Ref: .....

TOR Module	Mandatory Assessment Scope	City-Specific Emphasis	Verification Status & Notes
	front; and define closure/stop-work criteria. Where a WWTP platform or pond requires filling, quantify the lake/wetland/seasonal-water footprint and volume, bathymetry, flood-storage/conveyance change, sediment and aquatic effects, water/resource users, land classification/approval, clean-fill source, soft-ground settlement/stability and compensatory hydraulic measures.	water-body filling is actually required and apply the above module where triggered. Kampong Chhnang shall retain the existing Boeng Alum interface assumption unless DED changes the scope, in which case re-screening is mandatory.	
Module B - Flood-control road / dyke-road	Final alignment/cross-sections and drainage structures; flood-hydraulic modelling and risk transfer; climate design assumptions; embankment/geotechnical stability; erosion/sediment; material/spoil sources; aquatic/riparian connectivity; land/access and ESS2 interface; traffic/road safety; severance and access to homes/businesses/farms; cultural/community receptors; construction staging; emergency/flood-season arrangements; O&M inspection and maintenance. Project-specific DED/ESIA verification detail (where applicable): inventory all affected structures and informal/unauthorized occupants, tenants, vendors, employees and resource users; test partial-demolition safety and relocation needs; model flood depth/velocity/duration, blockage, breach and overtopping; verify culvert and fish/irrigation/water-access continuity; assess borrow/haul and induced road-development/road-safety impacts; and define wet-season emergency, inspection and maintenance arrangements.	Apply separately to the FS flood-control road/dyke-road in each city: • Kampong Chhnang: ~18.63 km • Kampong Cham: ~1.97 km • Doun Kaev: ~5.68 km • Prey Veng: ~8.75 km (Subject to DED confirmation).	[ ] Module Incorporated [ ] City Specifics Refined [ ] Pending Revision Notes / Ref: .....

3. Module Customization Verification Sign-off

Module Customized by E&S Specialist: Signature: ..... Name:	Reviewed & Cleared by PMU Safeguard Director: Signature: ..... Name: .....

Entity / Firm: ..... Date: ..... / ..... /	Position: ..... Date: ..... / ..... / .....
AIIB Module Alignment Review: [ ] Compliant with AIIB 17 August 2026 Clarification [ ] Requires Further Baseline Refinement AIIB Clearance Date: ..... / ..... /	Final TOR Module Clearance Decision: [ ] Approved for City-Specific ESIA Bidding/Execution [ ] Conditional Clearance (Minor Baseline Additions) [ ] Revision Required

Annex 22: Minimum Site-Specific ESMP Template

Site-Specific Environmental and Social Management Plan Structure & Compliance Review Form

> **Site-Specific ESMP Mandatory Content Standard:**
>
> The site-specific ESMP must be prepared for each subproject/ESIA package. It establishes operational environmental and social controls, mitigation measures, monitoring protocols, organizational responsibilities, grievance mechanisms, incident management procedures, budget allocations, and close-out requirements in full compliance with AIIB ESF standards and Cambodian environmental laws.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): A site-specific ESMP shall be embedded in or directly linked to each site-specific ESIA package and be sufficiently detailed for procurement and implementation. Mitigation/monitoring measures shall identify location, timing, responsibility, criterion/trigger, verification method, reporting route and corrective action. Costs shall be allocated to design, BOQ/contract, PMU/CSC or O&M budgets as appropriate.

1. Subproject & ESMP Document Control Metadata

Subproject / Package:		**ESMP Version / Ref:**	
Target City / Location:		**Date of Submission:**	
Prepared By (Consultant):		**Review Status:**	[ ] Initial Draft [ ] Final Cleared ESMP

2. Mandatory ESMP Sections & Structure Verification Checklist

No.	Mandatory ESMP Section	Minimum Content & Structural Requirement Standard	Verification Status	Reviewer Comments & Section Ref
1	**Subproject Description & Area of Influence**	Subproject/ESIA package description, applicable legal/policy commitments, site boundaries, layout drawings, and a detailed map of the Area of Influence (AoI).	[ ] Included / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Comments & Section Ref: ....
2	**Mitigation & Management Matrix**	Structured management matrix covering: Activity | Risk/Impact | Mitigation/Control | Location | Responsibility | Timing | Verification Method.	[ ] Included / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Comments & Section Ref: ....

No.	Mandatory ESMP Section	Minimum Content & Structural Requirement Standard	Verification Status	Reviewer Comments & Section Ref
3	**Environmental & Social Monitoring Plan**	Structured monitoring table covering: Parameter/Issue | Location | Method | Criterion/Trigger | Frequency | Responsibility | Reporting | Corrective Action.	[ ] Included / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Comments & Section Ref: ....
4	**Organization, Staffing & Training**	Construction/O&M organizational chart, named E&S staffing roles, institutional responsibilities, training programs, and competency requirements.	[ ] Included / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Comments & Section Ref: ....
5	**Stakeholder Communication & GRM**	Stakeholder communication plan, Grievance Redress Mechanism (GRM) procedures, and SEA/SH-sensitive confidential referral arrangements.	[ ] Included / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Comments & Section Ref: ....
6	**Incident & Emergency Management**	Incident and emergency management arrangements, including notification/escalation protocols, root-cause investigation, and corrective-action tracking.	[ ] Included / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Comments & Section Ref: ....
7	**Change Management & Commitments Register**	Change-management and re-screening procedure; document-control protocol, and subproject E&S commitments register.	[ ] Included / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Comments & Section Ref: ....

No.	Mandatory ESMP Section	Minimum Content & Structural Requirement Standard	Verification Status	Reviewer Comments & Section Ref
8	**Implementation Schedule & Budget**	Detailed implementation schedule, cost estimates, budget source identification, and regular reporting requirements.	[ ] Included / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Comments & Section Ref: ....
9	**Completion & Operational Readiness**	Contractual completion/close-out requirements, site restoration standards, and operational-readiness handover criteria.	[ ] Included / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Comments & Section Ref: ....

3. ESMP Review, Sign-off & Formal Approval Decision

Prepared / Reviewed by E&S Specialist: Signature: ..... Name: ..... Entity / Consultant: ..... Date: ..... / ..... /	Cleared by PMU Safeguard Lead / Director: Signature: ..... Name: ..... Position: ..... Date: ..... / ..... / .....
AIIB Review / Clearance Status (if applicable): [ ] Internal PMU Approval Sufficient [ ] Submitted to AIIB for Review / No-Objection AIIB Clearance Date: ..... / ..... /	Final Site-Specific ESMP Approval Status: [ ] Approved for Bidding / Contractor Integration [ ] Approved Subject to Minor Revisions [ ] Resubmission Required

Annex 23: Minimum E&S Requirements for Tender and Contract Documents

Procurement & Contractual Environmental and Social Safeguards Integration Checklist

Procurement & Contractual Safeguards Protocol:

contractual remedies/payment controls for E&S non-compliance, where included in approved contract conditions

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): Tender and contract documents shall incorporate applicable approved E&S instruments and binding ESHS obligations. Requirements shall be proportionate and enforceable, with measurable BOQ/payment items where appropriate. Withholding, remedies, suspension or payment consequences for E&S non-compliance shall rely on approved procurement/contract conditions; this annex does not create an independent financial-penalty mechanism.

1. Tender Package & Contract Metadata

Package Title / No.:		**Date of Verification:**	
Procurement Type:	[ ] NCB / International Tender [ ] Civil Works Contract	**Target Advert Date:**	
E&S Procurement Reviewer:		**Verification Status:**	[ ] Draft Tender Review [ ] Cleared for Advert

2. Tender & Contract E&S Verification Checklist

No.	E&S Contractual Component	Minimum Required Tender & Contract Provision	Verification Status	Bidding Document Reference & Notes
1	**ESIA / ESMP Attachment**	Latest approved site-specific ESIA, ESMP, and associated safeguard frameworks attached in full to bidding and contract documents.	[ ] Verified / Included [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Bidding Doc Ref / Section: .....
2	**C-ESMP Requirement Clauses**	Explicit contractual requirement for the winning contractor to submit a detailed C-ESMP and sub-plans prior to commencement of works.	[ ] Verified / Included [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Bidding Doc Ref / Section: .....

No.	E&S Contractual Component	Minimum Required Tender & Contract Provision	Verification Status	Bidding Document Reference & Notes
3	**E&S / OHS Key Personnel**	Clear qualification, experience, and mobilization criteria for key contractor personnel (E&S Manager, OHS Officer, Community Liaison).	[ ] Verified / Included [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Bidding Doc Ref / Section: ....
4	**Bill of Quantities (BOQ) Items**	Dedicated, priced BOQ line items for ESHS implementation, PPE, monitoring, testing, waste disposal, and emergency equipment.	[ ] Verified / Included [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Bidding Doc Ref / Section: ....
5	**Worker Code of Conduct**	Mandatory Code of Conduct covering labor standards, community interaction, zero tolerance for SEA/SH, and disciplinary procedures.	[ ] Verified / Included [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Bidding Doc Ref / Section: ....
6	**E&S Non-Compliance Penalties**	Contractual financial withholding, payment deduction, or stop-work clauses for uncorrected E&S/OHS non-compliances.	[ ] Verified / Included [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Bidding Doc Ref / Section: ....
7	**Hold Points & Permits**	Contractual hold points requiring PMU/CSC clearance and statutory permits before land entry, clearing, or	[ ] Verified / Included [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Bidding Doc Ref / Section: ....

No.	E&S Contractual Component	Minimum Required Tender & Contract Provision	Verification Status	Bidding Document Reference & Notes
		major excavation.		
8	**Grievance & Incident Protocols**	Contractual obligation to operate worker/community GRMs, maintain incident logs, and notify PMU/AIIB within mandatory timelines.	[ ] Verified / Included [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Bidding Doc Ref / Section: ....

3. Procurement Verification Sign-off & Clearance

Verified by E&S Safeguards Specialist: Signature: ..... Name: ..... Entity / Consultant: ..... Date: ..... / ..... /	Cleared by Procurement Officer / PMU Director: Signature: ..... Name: ..... Position: ..... Date: ..... / ..... / .....
AIIB Procurement / Safeguards No-Objection Status: [ ] Internal PMU Clearance Sufficient [ ] Prior Review Package - Submitted to AIIB AIIB No-Objection Date: ..... / ..... /	Final Tender Document E&S Decision: [ ] Cleared for Tender Advertisement / Issuance [ ] Conditional Clearance (Minor Additions Required) [ ] Tender Cleared Withheld (Major E&S Gaps)

Annex 24: Tender and Contract E&S Control Checklist

Procurement & Contractual Safeguards Control & Compliance Verification Form

> 📋 **Contractual Safeguards Control Objective:**
>
> This checklist enforces the mandatory inclusion and verification of Environmental, Social, Health, and Safety (ESHS) controls within procurement packages, bidding documents, and civil works contracts prior to tender advertisement and award. It ensures that safeguard obligations are legally binding, clearly priced, and backed by contractual remedies.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): This checklist verifies transfer of ESMP commitments into procurement/contract documents. AIIB clearance shall not be assumed for every item; Bank prior review/no-objection applies only where required by financing/procurement arrangements. Contract remedies, hold points and payment consequences shall be those expressly included in approved bidding/contract documents.

1. Contract Package Identification Metadata

Package Title / No.:		**Verification Date:**	
Target City / Location:		**Procurement Stage:**	[ ] Draft Bidding Doc [ ] Pre-Contract Award
E&S Procurement Auditor:		**Audit Status:**	[ ] Initial Review [ ] Cleared for Tender

2. Contractual E&S Control Checklist

No.	Contract Element	Minimum Requirement Standard	Verification Status	Bidding Doc Ref & Findings
1	**Applicable E&S instruments**	Identify the approved ESIA/ESMP, RPF/RP/DRP or other instruments forming part of the contract obligations.	[ ] Verified / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Doc Clause / Notes: ....
2	**E&S staffing**	Specify minimum contractor E&S/OHS/community liaison personnel, qualifications, authority and mobilization timing.	[ ] Verified / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Doc Clause / Notes: ....
3	**C-ESMP and topic plans**	Require preparation, review and approval before	[ ] Verified / Compliant [ ] Requires	Doc Clause / Notes: ....

No.	Contract Element	Minimum Requirement Standard	Verification Status	Bidding Doc Ref & Findings
		mobilization/high-risk activities.	Revision [ ] Missing / Pending [ ] Not Applicable	
4	**BOQ / cost items**	Price measurable E&S controls and avoid treating all mitigation as an unpriced general obligation.	[ ] Verified / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Doc Clause / Notes: ....
5	**Codes of conduct / labor**	Include labor, SEA/SH, worker GRM, child/forced labor prohibition, accommodation and worker-management requirements.	[ ] Verified / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Doc Clause / Notes: ....
6	**OHS and community safety**	Set minimum OHS, traffic/access, excavation, confined-space, emergency and public-protection requirements.	[ ] Verified / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Doc Clause / Notes: ....
7	**Monitoring / reporting**	Define contractor monitoring, laboratory testing, monthly reporting, incident notification and corrective-action tracking.	[ ] Verified / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Doc Clause / Notes: ....
8	**Non-compliance remedies**	Provide instruction, corrective-action, payment withholding, suspension/stop-work and other contractual remedies	[ ] Verified / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Doc Clause / Notes: ....

No.	Contract Element	Minimum Requirement Standard	Verification Status	Bidding Doc Ref & Findings
		proportionate to severity.		
9	**Handover / close-out**	Require reinstatement, waste/site clearance, grievance/action closure, as-built records and E&S completion evidence.	[ ] Verified / Compliant [ ] Requires Revision [ ] Missing / Pending [ ] Not Applicable	Doc Clause / Notes: .....

3. Contractual Control Verification & Sign-off

Audited by E&S Safeguards Specialist: Signature: ..... Name: ..... Entity / Consultant: ..... Date: ..... / ..... /	Cleared by PMU Procurement / Project Director: Signature: ..... Name: ..... Position: ..... Date: ..... / ..... / .....
AIIB Procurement / Safeguards Alignment: [ ] Internal PMU Clearance Sufficient [ ] Prior Review - Submitted to AIIB AIIB Clearance Date: ..... / ..... /	Final Contractual E&S Control Decision: [ ] Cleared for Tender Advertisement / Issuance [ ] Conditional Clearance (Minor Revisions) [ ] Clearance Withheld (Major Gaps)

Annex 25: E&S Monitoring and Reporting Template

Environmental and Social Safeguards Periodic Monitoring & Compliance Report Form

Periodic Safeguards Monitoring & Reporting Framework:

prepared at the applicable level by contractors, the supervision consultant/Engineer (CSC), and the PMU; PMU reporting to AIIB shall follow agreed Project reporting arrangements

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): Reporting frequency shall follow the ESMP, contract and PMU/AIIB reporting arrangements. Contractor, CSC/Engineer and PMU reports may have different frequencies and consolidation levels. Monitoring shall cover compliance and performance trends, incidents, grievances, stakeholder engagement, ESS2 implementation where applicable, SEA/SH protocol implementation without survivor-identifying information, and corrective-action closure.

1. Monitoring Report & Subproject Identification Metadata

Subproject / Package:		**Reporting Period:**	
Target City / Location:		**Report Frequency:**	[ ] Monthly Contractor [ ] Quarterly CSC [ ] Semi-Annual PMU
Prepared By / Entity:		**Submission Status:**	[ ] Draft Report [ ] Final Cleared Report

2. Mandatory E&S Monitoring Report Content Verification

No.	Mandatory Report Section	Required Monitoring & Reporting Content	Verification Status	Report Section Ref & Summary Notes
1	**Executive Summary & Project Overview**	Physical progress summary, overall E&S compliance status, key accomplishments, major non-compliances, and critical pending actions.	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....
2	**E&S Organization & Staffing Mobilization**	Contractor/CSC/PMU safeguard staffing status, EHS personnel mobilization, training sessions conducted, and site induction records.	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....

No.	Mandatory Report Section	Required Monitoring & Reporting Content	Verification Status	Report Section Ref & Summary Notes
3	**Statutory Permits & Legal Compliance**	Status of national EIA approvals, environmental discharge permits, water extraction licenses, land use agreements, and permit condition tracking.	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....
4	**Environmental Quality Monitoring**	Quantitative sampling results (air quality, noise/vibration, surface water, groundwater, effluent, sludge) compared against national/GIIP standards.	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....
5	**ESMP Implementation & Site Controls**	Detailed assessment of site controls: dust suppression, erosion control, waste/hazardous material management, dewatering, and temporary site restoration.	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....
6	**Occupational Health & Safety (OHS)**	OHS statistics (man-hours worked, lost-time injuries, near-misses, first aid cases), PPE compliance, PTW audits, and high-risk activity controls.	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....
7	**Community Health, Safety & Traffic**	Public access maintenance, pedestrian protection, traffic diversion implementation, utility coordination, and community	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....

No.	Mandatory Report Section	Required Monitoring & Reporting Content	Verification Status	Report Section Ref & Summary Notes
		disturbance controls.		
8	**Involuntary Resettlement & Land Access**	Status of RP/DRP implementation, compensation payout progress, land clearance status, and assistance to vulnerable affected households.	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....
9	**Stakeholder Engagement & GRM Tracking**	Public consultation sessions, information disclosures, worker/community grievances received, resolved, pending, and SEA/SH referral tracking.	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....
10	**Incidents, Non-Compliance & Corrective Actions**	Log of E&S incidents, root-cause investigation findings, formal corrective action notices (CAN) issued, target dates, and verification status.	[ ] Complete / Verified [ ] Requires Revision [ ] Pending Data [ ] Not Applicable	Section Ref / Notes: ....

3. Monitoring Report Review, Sign-off & Submission Clearance

Prepared by E&S Safeguards Specialist: Signature: ..... Name: ..... Entity / Firm: ..... Date: ..... / ..... /	Reviewed & Cleared by PMU Safeguard Director: Signature: ..... Name: ..... Position: ..... Date: ..... / ..... / .....
Submission to AIIB / Disclosure Status: [ ] Cleared for Internal PMU Archive [ ] Submitted to AIIB for Review / Disclosure AIIB Submission Date: ..... / ..... /	Final Monitoring Report Status: [ ] Report Approved & Cleared [ ] Approved Subject to Minor Revisions [ ] Revision & Resubmission Required

Annex 26: Minimum Periodic E&S Monitoring Report Fields

Subproject Environmental and Social Safeguards Periodic Monitoring Summary Form

> **Mandatory Safeguards Periodic Summary Fields:**
> This form captures all minimum required information fields for periodic E&S monitoring reports. It provides a structured, scannable summary of project implementation, permit status, environmental sampling, OHS statistics, grievance redress, SEA/SH protocol adherence, and overdue corrective actions for PMU and AIIB review.

PROJECT-SPECIFIC / AIIB ALIGNMENT NOTE (REVISED): These are minimum fields and shall be used only where applicable to the reporting entity and stage. Sensitive personal data, SEA/SH survivor information and confidential grievance details shall not be included in routine monitoring tables. ESS2 progress shall distinguish land access, compensation/assistance, livelihood restoration and unresolved cases; ROW/site access shall not precede applicable requirements.

1. Monitoring Report Summary Form

No.	Reporting Field Item	Required Information & Status Details
1	**Subproject / contract package**	*Guidance: Specify contract name, package number, and municipality/site location.* [Enter status / required details here] .....
2	**Reporting period**	*Guidance: Specify month/quarter/year covered by this monitoring report.* [Enter status / required details here] .....
3	**Prepared / verified by**	*Guidance: Name, position, entity (Contractor/CSC/PMU), and submission date.* [Enter status / required details here] .....
4	**Key E&S staffing in place**	*Guidance: Mobilization status of E&S Manager, OHS Officer, Community Liaison, etc.* [Enter status / required details here] .....
5	**Permits / approvals status**	*Guidance: Current status of EIA clearances, discharge licenses, water extraction permits, etc.* [Enter status / required details here] .....
6	**Outstanding hold points**	*Guidance: Active hold points awaiting CSC/PMU/AIIB clearance or permit approval.* [Enter status / required details here] .....
7	**Construction / operational activities undertaken**	*Guidance: Key civil works, excavation, pipe laying, WWTP construction, or O&M activities.* [Enter status / required details here] .....
8	**Sensitive locations / receptors affected**	*Guidance: Proximity to schools, hospitals, water bodies, wetlands, or residential zones.*

No.	Reporting Field Item	Required Information & Status Details
		[Enter status / required details here] .....
9	**Weather / flood conditions relevant to performance**	*Guidance: Rainfall events, extreme weather, flooding, or seasonal alert windows observed.* [Enter status / required details here] .....
10	**Compliance monitoring summary**	*Guidance: Overall assessment of ESMP/C-ESMP compliance across all active work sites.* [Enter status / required details here] .....
11	**Environmental quality / performance monitoring**	*Guidance: Sampling results for air, noise, surface water, groundwater, effluent, and sludge.* [Enter status / required details here] .....
12	**Social / access / livelihood performance**	*Guidance: Land access progress, compensation payouts, business access maintenance, and ROW clearing.* [Enter status / required details here] .....
13	**OHS statistics and significant observations**	*Guidance: Man-hours worked, LTI rate, near-misses, PPE compliance, and PTW audit findings.* [Enter status / required details here] .....
14	**Community health / traffic / access issues**	*Guidance: Traffic diversions, pedestrian safety, flaggers, public disturbance, and utility repairs.* [Enter status / required details here] .....
15	**GRM cases received / resolved / outstanding**	*Guidance: Total worker/community grievances received, cases resolved, and pending cases.* [Enter status / required details here] .....
16	**SEA/SH-sensitive cases**	⚠️ **Confidentiality Note:** *Report only non-identifying aggregate information consistent with confidentiality protocol.* [Enter status / required details here] .....
17	**Incidents / near misses / notifications**	*Guidance: Summary of incidents, serious injuries, spills, or formal notifications to PMU/AIIB.* [Enter status / required details here] .....
18	**Corrective actions overdue / closed**	*Guidance: Tracking Corrective Action Notices (CAN), closed actions, and overdue items.* [Enter status / required details here] .....
19	**Design / scope changes requiring re-screening**	*Guidance: Any material design changes triggering Annex 11 re-screening procedure.*

No.	Reporting Field Item	Required Information & Status Details
		[Enter status / required details here] .....
20	**Training / consultation completed**	*Guidance: Toolbox talks, EHS inductions, stakeholder meetings, and public disclosures.* [Enter status / required details here] .....
21	**Next-period priority actions**	*Guidance: Key safeguard priority actions, target deadlines, and monitoring focus for next period.* [Enter status / required details here] .....

2. Verification & Submission Sign-off

Prepared / Verified by E&S Safeguards Officer: Signature: ..... Name: ..... Entity / Firm: ..... Date: ..... / ..... /	Approved by PMU Safeguard Director: Signature: ..... Name: ..... Position: ..... Date: ..... / ..... / .....
AIIB Review / Disclosure Status: [ ] Cleared for PMU Internal Filing [ ] Submitted to AIIB for No-Objection / Disclosure AIIB Clearance Date: ..... / ..... /	Overall Periodic Summary Decision: [ ] Summary Cleared & Complete [ ] Conditional Clearance (Action Items Pending) [ ] Revision Required

Annex 27: C-UIDP Land/ROW and Access Readiness Certificate

Mandatory use. This certificate shall be completed for each discrete site and work-front/chainage before site possession, vegetation clearance, demolition, excavation or contractor use. It adapts the land/asset transfer control used in Cambodia's NRRPCP ESMPF to C-UIDP's urban sewer, drainage, WWTP and dyke-road context. Certification confirms readiness only; it does not extinguish affected people's legal rights, entitlements, claims or access to the Project GRM, GDR mechanism, courts or AIIB PPM.

Form A: Site and Package Identification

City / Province		**contract package / lot**	
ESIA Package (1 or 2)		**Site / road / chainage / work-front ID**	
Approved DED drawing and revision		**Cadastral / ROW plan reference**	
Contractor / CSC		**Planned possession / work date**	
Applicable land instrument	None / DD / DRP-RP / other: ____	**Permit / approval references**	
Affected persons / businesses / users identified		**Open grievances / commitments**	

Form B: Mandatory Readiness Checks

No.	Readiness check	Evidence / reference	Status Y/N/NA	Residual action, owner and due date	Verified by / date
1	Final footprint, construction easement, temporary sites, access and no-go areas are mapped and pegged against the approved DED.				
2	Land ownership/tenure and public/state ROW status have been legally verified; informal and customary users have been identified. Verification separately records owners, tenants, rent-free occupants, informal/unauthorized structures, vendors, employees and water/natural-resource users; title status is not used as a proxy for impact eligibility.				
3	Census, DMS/IOL and socio-economic verification are complete where land, asset or livelihood impacts may occur; cut-off date was disclosed where applicable. The final DED corridor/footprint has been overlaid with the census/DMS/IOL, and any design change has been re-screened and updated before handover.				
4	Applicable DRP/RP/due-diligence instrument is approved; compensation and required assistance have been paid/provided before displacement or access restriction, subject to documented exceptional arrangements allowed by the approved instrument. No household has been directed to self-demolish and no contractor-side payment, in-kind settlement or construction favor substitutes for an approved entitlement.				
5	Livelihood restoration, relocation and vulnerable-household assistance required before works have commenced or been completed as specified; residual actions have funded owners and dates.				

No.	Readiness check	Evidence / reference	Status Y/N/NA	Residual action, owner and due date	Verified by / date
6	Utilities, encroachments, crops/trees, graves/cultural resources, water/drainage use and third-party access have been surveyed and resolved or protected by an approved method. For partial/full demolition, residual structural safety, utility disconnection, hazardous materials, salvage, exclusion zone, waste route and relocation logistics are approved.				
7	Household, business, hospital/school/pagoda/market, emergency and disability access arrangements are approved and can be maintained through the work-front sequence.				
8	Affected people received understandable notice of scope, timing, access/utility interruption, entitlements where applicable, GRM/GDR channels and contact points.				
9	All permits, land entry approvals, contractor temporary-site approvals and ESIA/ESMP/C-ESMP conditions relevant to the work front are effective.				
10	Joint PMU/PIU-CSC-contractor walkover confirms no unresolved physical or social condition creates an unlawful entry, imminent safety risk or unmitigated displacement.				
11	PMU/PIU, the competent resettlement mechanism and CSC jointly confirm that any physical/economic displacement, informal-occupant impact and vulnerable-person assistance due before works is resolved and that the work-front boundary is visibly handed over to the contractor.				

Form C: Readiness Decision and Authorization

Decision	**□ READY – work may start within certified limits**	**□ CONDITIONALLY READY – only listed preparatory actions**	**□ NOT READY – no entry or works**
Conditions / excluded areas / expiry date			
PMU Environmental/Social Safeguard Officer	Name / signature / date:	**PMU Project Director or delegate**	Name / signature / date:
GDR/IRC representative (when ESS2/land instrument applies)	Name / signature / date:	**PIU / municipal representative**	Name / signature / date:
CSC Resident Engineer / E&S specialist	Name / signature / date:	**Contractor Project Manager / E&S manager**	Name / signature / date:
Revalidation	Required after footprint, ownership, entitlement, schedule or access change; certificate reference and date:	**Work suspension / revocation record**	Reference and date:

Annex 28: Cambodia-Specific Detailed Change Register

All substantive text introduced or modified under Revision 5 is formatted in bold in the report. The register below identifies the principal locations; existing bold formatting from earlier revisions may also remain.

Report location	Rev. 5 addition / modification	Primary purpose
Document Control and Revision History	Added Rev. 5 entry and bold-format convention.	Traceability.
Chapter II – Construction Typologies and Temporary Works	Added detailed sewer sequence, WWTP lake/wetland filling requirements and flood-embankment-road sequence.	Define actual construction activities and design interfaces.
Chapter III – Table 12	Corrected the Law on Wastewater Systems citation to Royal Kram No. NS/RKM/1124/005 dated 22 November 2024; added waterbody land-status/approval verification.	Cambodian legal specificity.
Chapter IV – Table 19	Expanded environmental, social, land, community and climate risks for waterbody filling and dyke roads.	Risk identification.
Chapter V – Table 20	Added facility-specific screening for sewer work fronts, lake filling, dyke roads and UXO/ERW.	Early screening and scoping.
Chapter VI – Table 25	Added road/trench/utilities, lake/wetland fill, embankment/borrow and UXO/ERW baselines.	DED-quality baseline evidence.
Chapter VI – Land Acquisition and Livelihood Interface	Added title-neutral affected-person inventory, census/DMS/IOL, cut-off disclosure, no-entry/no-demolition gate and household demolition protocol.	ESS2/RPF/SOP-LAR compliance, including informal occupants.
Chapter VI – Construction-Stage Urban Impact Assessment	Added work-front planning, access, stop-work triggers and test-based pavement acceptance.	Sewer community safety and reinstatement quality.
Chapter VI – Lake, Wetland and Seasonally Inundated-Area Filling	Added waterbody footprint, flood-storage, habitat/use, sediment, permits, clean-fill, settlement and containment controls.	WWTP fill-platform environmental and engineering risk.
Chapter VI – Labor/OHS interface	Added Cambodia-specific UXO/ERW screening, accredited clearance and discovery response.	Excavation and earthwork safety.
Chapter VII – Minimum Contractor Plans and Hold Points	Added six activity-specific plans and mandatory work-front releases.	Contractor implementation control.
Chapter VII – Tables 28 and additional commitments	Added detailed ESMP rows and no-unapproved-fill/no-premature-demolition commitments.	Contract and acceptance requirements.
Chapter X – Minimum Monitoring Program	Added monitoring for lake fill/settlement, land and demolition readiness, and embankment/hydraulic performance.	Measurable compliance and corrective action.
Annex 8	Added screening questions for informal occupants, structures, temporary economic loss, natural-resource use and vulnerability.	Resettlement screening completeness.
Annexes 12 and 16	Added contractor-plan and community-safety checklist items.	Field verification.
Annex 21	Expanded the two city-specific ESIA TOR modules for detailed sewer, lake-fill, dyke-road and displacement assessment.	Consultant scope and deliverable quality.

Report location	Rev. 5 addition / modification	Primary purpose
Land and ROW Readiness Certificate	Added explicit informal-user, DED-overlay, no-self-demolition, demolition-method and joint handover checks.	Final work-front gate.

Revision 5 is a framework-level enhancement. Exact impact quantities, affected-person numbers, compensation entitlements, fill areas/volumes and monitoring thresholds remain subject to final DED, site-specific ESIA/ESMP, approved resettlement instruments and Cambodian regulatory decisions.

Annex 29: Definition

Affected Persons (APs): In the context of involuntary resettlement, APs are those who are physically displaced (relocation, loss of residential land, or loss of shelter) and/or economically affected (loss of land, assets, access to assets, income sources, or means of livelihood as a result of (i) land acquisition and involuntary resettlement; or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas. In the case of APs, it includes all members residing under one roof and operating as a single economic unit, who are adversely affected by a project or any of its components. These can also be referred to as Displaced Persons. All persons displaced by the Project who are without title to land or any recognizable legal rights to land, are eligible for, and receive resettlement assistance and compensation for loss of non-land assets, in accordance with cut-off dates established in the Resettlement Plan (RP).

Biodiversity: is the variability among living organisms from all sources including, among others, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part. This includes diversity within species, between species, and of ecosystems.

Chance find procedures: refer to measures to address archaeological material encountered unexpectedly during Project construction or operation. A chance find procedure is a Project-specific procedure which sets out how chance finds associated with the Project will be managed. This procedure generally includes a requirement to notify relevant authorities of found objects or sites, to close off the area of finds or sites to avoid further disturbance, to conduct an assessment of found objects or sites by cultural resources experts, to identify and implement actions consistent with the requirements of Environmental and Social Standard (ESS) 1, applicable national law and to train Project workers on chance find procedures.

Corridor of Impact (CoI): It is the area which is required by civil works in the implementation of the subproject/Project, and it is agreed by the implementing agency and demarcated by the civil work consultant within which the construction activities will take place

Critical habitat: is defined as areas with high biodiversity importance or value, including: (a) highly threatened or unique ecosystems; (b) habitat of significant importance to Critically Endangered or Endangered species, as listed on the International Union for the Conservation of Nature (IUCN) Red List of threatened species or equivalent national approaches; (c) habitat of significant importance to endemic or restricted-range species; (d) habitat supporting globally or nationally significant concentrations of migratory or congregatory species; and (e) ecological functions or characteristics that are needed to maintain the viability of the biodiversity values described above in (a) to (d).

Cultural resources: include movable or immovable objects, sites, structures, groups of structures and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance. Cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.

Cumulative impact assessment: is the assessment of the impact on the environment, which results from the incremental impact of an action when added to other past, present or reasonably foreseeable actions, regardless of what agency or person undertakes such actions. Cumulative impact can result from individually minor but collectively significant actions taking place over a period of time.

Detailed measurement survey (DMS): With the aid of detailed engineering design, this activity involves the finalization of the results of the inventory of losses, measurement of losses, 100% socio- economic survey and 100% census of displaced persons.

Economic Displacement: Loss of land, assets, access to assets, income sources, or means of livelihood as a result of (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas.

Ecosystem services: are the benefits that people derive from ecosystems. Ecosystem services are organized into four types: (a) provisioning services, which are the products people obtain from ecosystems and which may include food, freshwater, timbers, fibres, medicinal plants; (b) regulating services, which are the benefits people obtain from the regulation of ecosystem processes and which may include surface water purification, carbon storage and sequestration, climate regulation, protection from natural hazards; (c) cultural services, which are the nonmaterial benefits people obtain from ecosystems and which may include natural areas that are sacred sites and areas of importance for recreation and aesthetic enjoyment; and (d) supporting services, which are the natural processes that maintain the other services and which may include soil formation, nutrient cycling and primary production.

Environmental and social impact assessment (ESIA): or environmental and social assessment, is an instrument to identify and assess the potential environmental and social impacts of a proposed Project, evaluate alternatives,

and design appropriate mitigation, management and monitoring measures. Projects need an ESIA to address important issues not covered by any applicable regional or sectoral assessment.

Environmental and social management plan (ESMP): is an instrument that details: (a) the mitigation and management measures to be taken during the implementation and operation of a Project to reduce, mitigate and/or offset adverse environmental and social impacts and enhance positive impacts; (b) the environmental and social monitoring and reporting requirements; (c) related institutional or organizational arrangements; (d) provisions for disclosure and consultation during Project preparation and implementation, including measures for stakeholder engagement; (e) capacity-development and training measures, including engagement of any environmental and social experts required for the purpose; (f) implementation schedule and cost estimates, which are integrated into the Project's overall schedule and budget; and (g) performance indicators.

Environmental and social management planning framework (ESMPF): is an instrument that examines the issues and impacts associated with the circumstances described in the ESP. The ESMPF sets out the principles, rules, guidelines and procedures to assess the environmental and social impacts. It contains: (a) measures and plans to reduce, mitigate and/or offset adverse impacts and enhance positive impacts; (b) provisions for estimating and budgeting the costs of such measures and determining the schedule for implementation of the measures and plans; and (c) information on the agency or agencies responsible for addressing Project impacts.

Environmental audit: is an instrument to determine the nature and extent of all environmental areas of concern at an existing facility. The audit identifies and justifies appropriate measures to mitigate the areas of concern, estimates the cost of the measures, and recommends a schedule for implementing them. Environmental and social audits follow similar approaches.

Environmental, health, and safety guidelines (EHSGs): are technical reference documents with general and industry-specific statements of good international practice. The EHSGs contain the performance levels and measures that are generally considered to be achievable in new facilities by existing technology at reasonable cost. For complete reference, consult the World Bank Group Environmental, Health, and Safety Guidelines.

Gender-based violence: is an umbrella term for any harmful act that is perpetrated against a person's will and that is based on socially ascribed gender-related differences between people. It includes acts that inflict physical, sexual or mental harm or suffering, threats of such acts, coercion, and other deprivations of liberty. These acts can occur in public or in private.

Good international practice: is defined as the exercise of professional skill, diligence, prudence and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. The outcome of such exercise should be that the Project employs the most appropriate technologies in the Project- specific circumstances.

Grievance Redress Mechanism (GRM): refers to an established mechanism to receive and facilitate the resolution of affected persons' concerns and grievances/complaints about physical and economic displacement and other project impacts. The grievance mechanism is expected to: (a) address concerns promptly and effectively, in a transparent manner that is culturally appropriate and readily accessible to all project-affected parties, at no cost and without retribution, and without preventing access to judicial processes

Habitat: is defined as a terrestrial, freshwater or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the nonliving environment. Habitats vary in their sensitivity to impacts and in the various values society attributes to them.

Hazard assessment: is an instrument for identifying, analyzing and controlling hazards associated with the presence of dangerous materials and conditions at a Project site, such as certain inflammable, explosive, reactive and toxic materials when they are present in quantities above a specified threshold level.

Inclusion: means empowering people to participate in, and benefit from, the development process in a manner consistent with local conditions. Inclusion encompasses policies to promote equality of opportunity and non-discrimination, by improving the access of poor, disadvantaged and disabled people to education, health, social protection, housing, environmental quality, infrastructure, affordable energy, water and sanitation, employment, financial services and productive assets. It also embraces actions to remove barriers against vulnerable groups, who are often excluded from the development process, so that their voices can be heard.

Indigenous Peoples: "Indigenous Peoples" is used in a generic sense to refer exclusively to a distinct social and cultural group possessing all the following characteristics in varying degrees: a. Self-identification as members of a distinct indigenous social and cultural group and recognition of this identity by others; and b. Collective attachment to geographically distinct habitats, ancestral territories, or areas of seasonal use or occupation, as well as to the natural resources in these areas; and c. Customary cultural, economic, social, or political institutions

that are distinct or separate from those of the mainstream society or culture, and d. A distinct language or dialect, often different from the official language or languages of the country or region in which they reside.

Information Disclosure: The process of disseminating project/subproject information to stakeholders to allow them to understand the risks and impacts of the project/subproject, and potential opportunities.

Integrated Vector Management (IVM): is a rational decision-making process for the optimal use of resources for vector control. The approach seeks to improve the efficacy, cost-effectiveness, ecological soundness and sustainability of disease- vector control.

Invasive species: is defined as a species: (a) that is not native (or is alien) to the ecosystem under consideration; and (b) whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Inventory of losses (IoL): This is the process where all fixed assets (i.e. lands used for residence, commerce, agriculture, including ponds; dwelling units; stalls and shops; secondary structures, such as fences, tombs, wells; trees with commercial value; etc.) and sources of income and livelihood inside the subproject right-of-way are identified, measured, their owners identified, their exact location pinpointed, and their replacement costs calculated

Involuntary Resettlement (IR): refers to land acquisition, including restrictions on land use and access to assets and natural resources that cause physical displacement (relocation, loss of land or shelter) and/or economic displacement (loss of land or assets, or restrictions on land use, assets or natural resources leading to loss of income sources or means of livelihood). Involuntary Resettlement covers both of these impacts and the processes to mitigate and compensate these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in physical or economic displacement.

Labour influx: is a term that refers to the rapid migration to and settlement of workers and followers in the Project area that occur when the Project involves civil works for which the required labour force and associated goods and services cannot be fully supplied locally for a number of reasons, among them worker unavailability and lack of technical skills and capacity. In such cases, the labour force (total or partial) must be brought in from outside the Project area. In many cases, this influx is compounded by an influx of other people who follow the incoming workforce with the aim of selling them goods and services, or in pursuit of job or business opportunities.

Land acquisition: refers to all methods of obtaining land for Project purposes, which may include outright purchase, expropriation of property and acquisition of access rights, such as easements or rights of way, and changes in land use rights. Land acquisition may also include: (a) acquisition of unoccupied or unutilized land whether or not the landholder relies upon such land for income or livelihood purposes; (b) repossession of public land that is used or occupied by individuals or households; and (c) Project impacts that result in land being submerged or otherwise rendered unusable or inaccessible. “Land” includes anything growing on or permanently affixed to land, such as crops, buildings and other improvements, and water bodies legally associated with the land.

Livelihood: refers to the full range of means that individuals, families and communities utilize to make a living, such as wage-based income, agriculture, fishing, foraging, other natural resource-based livelihoods, petty trade and bartering.

Meaningful Consultation: A two-way process that is based on the prior disclosure and dissemination of relevant, transparent, objective, meaningful and easily accessible information in a timeframe that enables meaningful consultations with stakeholders in a culturally appropriate format, in relevant local language(s) and is understandable to stakeholders. It begins early in the Project planning process to gather initial views on the project proposal and inform project design and also at other stages of a project and land acquisition cycle and encourages stakeholder feedback, particularly as a way of informing project design and engagement by stakeholders in the identification and mitigation of environmental and social risks and impacts. It continues on an ongoing basis, as risks and impacts arise and provides for timely disclosure of relevant and adequate information in Khmer Language that is understandable and readily accessible to all APs. It is undertaken in an atmosphere free of intimidation or coercion with due regard to cultural norms and is gender inclusive and responsive, and tailored to the needs of disadvantaged and vulnerable groups. It considers and responds to feedback, supports active and inclusive engagement with project-affected parties and is free of external manipulation, interference, coercion, discrimination, and intimidation.

Mitigation hierarchy: is a tool commonly applied in environmental and social assessment that provides a stepwise approach to addressing risks and impacts as follows: (a) anticipate and avoid risks and impacts; (b) where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; (c) once risks and impacts have been minimized or reduced, mitigate; and (d) where residual risks or impacts remain, compensate for or offset them, where technically and financially feasible.

Natural habitats: are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.

Physical Displacement: Relocation, loss of residential land, or loss of shelter as a result of (i) involuntary acquisition of land, or (ii) involuntary restrictions on land use or on access to legally designated parks and protected areas.

Pollution: refers to both hazardous and nonhazardous chemical pollutants in the solid, liquid or gaseous phases, and includes other components such as thermal discharge to water, emissions of short- and long-lived climate pollutants, nuisance odours, noise, vibration, radiation, electromagnetic energy, and the creation of potential visual impacts, including light.

Pollution management: includes measures designed to avoid or minimize emissions of pollutants, including short- and long-lived climate pollutants, given that measures that tend to encourage reduction in energy and raw material use, as well as emissions of local pollutants, also generally encourage a reduction of emissions of short- and long-lived climate pollutants.

Precautionary approach: means that where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Project area of influence: includes the area likely to be affected by the Project, including all its ancillary aspects, such as power transmission corridors, pipelines, canals, tunnels, relocation and access roads, borrow and disposal areas, and construction camps, as well as unplanned developments induced by the Project (e.g., spontaneous settlement, logging or shifting agriculture along access roads). The area of influence may include, for example: (a) the watershed within which the Project is located; (b) any affected estuary and coastal zone; (c) off-site areas required for resettlement or compensatory tracts; (d) the airshed (e.g., where airborne pollution such as smoke or dust may enter or leave the area of influence); (e) migratory routes of humans, wildlife or fish, particularly where they relate to public health, economic activities or environmental conservation; and (f) areas used for livelihood activities (hunting, fishing, grazing, gathering, agriculture, etc.) or religious or ceremonial purposes of a customary nature.

Project workers: include persons engaged directly by the Client (whether full-time, part-time, temporary, seasonal or migrant), to work specifically on the Project; contractors engaged by the Client to work on the Project; and subcontractors hired by these contractors to work on the Project. The term does not apply to any other workers of the Client or other entities. It also does not apply to employees of an FI.

Replacement cost: is defined as a method of valuation yielding compensation sufficient to replace assets, plus necessary transaction costs associated with asset replacement. Where functioning markets exist, replacement cost is the market value as established through independent and competent real estate valuation, plus transaction costs. Where functioning markets do not exist, replacement cost may be determined through alternative means, such as calculation of output value for land or productive assets, or the undepreciated value of replacement material and labour for construction of structures or other fixed assets, plus transaction costs. In all instances where physical displacement results in loss of shelter, replacement cost must at least be sufficient to enable purchase or construction of housing that meets acceptable minimum community standards of quality and safety. The valuation method for determining replacement cost should be documented and included in relevant resettlement planning documents. Transaction costs include administrative charges, registration or title fees, reasonable moving expenses and any similar costs imposed on affected persons. In order for compensation to be made at replacement cost, planned compensation rates may require updating in Project areas where inflation is high or the period of time between calculation of compensation rates and delivery of compensation is extensive.

Resettlement Planning Framework (RPF): Prepared when Project components are not known and therefore land acquisition needs cannot be identified. The RPF will guide the preparation of future Resettlement Plans if these become necessary.

Resettlement Plan (RP): A time-bound action plan, with budget, setting out the resettlement objectives and strategies, entitlements the income and livelihood restoration strategy, institutional arrangements, monitoring and reporting framework, budget, and implementation schedule.

Restrictions on land use: refers to limitations or prohibitions on the use of agricultural, residential, commercial or other land that are directly introduced and put into effect as part of the implementation of the Project. These may include: (a) restrictions on access to legally designated parks and protected areas; (b) restrictions on access to other common property resources; or (c) restrictions on land use within utility easements or safety zones.

Risk assessment: is an instrument for estimating the probability of harm occurring from the presence of dangerous conditions or materials at a Project site. Risk represents the likelihood and significance of a potential hazard being realized; therefore, a hazard assessment often precedes a risk assessment, or the two are conducted as one exercise. Risk assessment is a flexible method of analysis, a systematic approach to organizing and analysing scientific information about potentially hazardous activities or about substances that might pose risks under specified conditions.

Sexual exploitation and abuse (SEA): is any actual or attempted abuse of a position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. Sexual abuse is further defined as “the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.” SEA is not limited to a particular gender. In the context of Bank-supported projects, Project beneficiaries and members of Project-affected communities may experience SEA.

Sexual harassment (SH): includes unwelcome sexual advances, requests for sexual favours and other unwanted verbal or physical conduct of a sexual nature. SH occurs between personnel/staff working on the Project, and not between such personnel/staff and Project beneficiaries or communities (compare SEA above). SH is not limited to a particular gender.

Technical feasibility: is based on whether the proposed measures and actions can be implemented with commercially available skills, equipment and materials, taking into consideration prevailing local factors such as climate, geography, demography, infrastructure, security, governance, capacity and operational reliability.

Vulnerable Groups: persons or groups who, because of poverty, age, disability, gender, household status, social exclusion, limited access to information or services, dependence on affected livelihoods, or other circumstances, may be more adversely affected by Project risks or have a more limited ability to participate in consultation, access Project benefits, use the GRM, or restore their livelihoods. Project screening and assessment shall identify locally relevant vulnerable groups and provide proportionate measures for accessible engagement, mitigation, assistance and monitoring. Where land acquisition or involuntary resettlement occurs, vulnerability-related entitlements and assistance shall be applied in accordance with the RPF and applicable Cambodian procedures.

Annex 30: Design Procurement, Construction and Operational Management Requirements

Framework Environmental and Social Management Plan

This framework ESMP translates the anticipated risk themes into lifecycle controls that shall be refined in each site-specific ESIA/ESMP. The matrix below is not a substitute for the site-specific ESMP; it establishes the minimum management logic that must be carried into design, procurement, construction, commissioning and operation.

Table 32: Core Framework ESMP Management Matrix

Project phase / activity	Potential risk / impact	Minimum mitigation / management measure	Monitoring indicator / evidence	Responsibility	Timing / frequency	Verification
DED / site selection	Inappropriate footprint, avoidable land/receptor impacts, flood/odour exposure	Apply alternatives and mitigation hierarchy; verify AoI, land/receptors, hydraulic/odour/climate constraints; document design decisions.	Approved alternatives/design decision register; ESIA recommendations reflected in drawings.	DED consultant / PMU	Before design freeze	PMU design/E&S review; AIIB review through the agreed ESIA/ESMP process
Procurement	Mitigation not priced or contractually enforceable	Translate ESIA/ESMP commitments into technical specifications, BOQ/pay items, E&S clauses, staffing and reporting obligations.	Tender E&S schedule and priced BOQ items.	PMU / procurement team	Before bidding	Bid-document review
Mobilization	Contractor starts without approved systems/plans	Require E&S staff, C-ESMP, OHS plan, traffic/access plan, emergency plan, worker GRM, permits and site-specific method statements.	Approved pre-mobilization package.	Contractor / CSC / PMU	Before mobilization	Hold-point release
Construction - integrated wastewater/drainage	Excavation, access, utility, pollution, OHS/community safety, business disruption	Control work fronts, trench safety, dewatering, traffic/access, dust/noise, spoil/waste, utility coordination, reinstatement and grievance response.	Inspection findings, access/reinstatement closure, monitoring results, grievance closure.	Contractor / CSC	Continuous / activity-specific	CSC verification and PMU oversight
Construction - flood-control road	Flood transfer, erosion, land/access, road safety, embankment and community impacts	Maintain drainage continuity; control erosion/sediment; safe traffic diversions; manage access; verify embankment/drainage structures and land clearance.	Hydraulic/quality checks, road-safety inspections, access/land records.	Contractor / CSC	Construction and flood-sensitive periods	CSC/PMU verification
Commissioning	Untested systems, unsafe handover, uncontrolled discharge/overflow	Commission treatment/pumping/drainage assets; verify emergency arrangements, operator training, monitoring equipment and regulatory conditions.	Commissioning tests and E&S readiness certificate.	Contractor / operator / CSC / PMU	Before operation	Handover hold point
Operation and maintenance	Effluent/odour/sludge failure, blocked drainage, pump failure, embankment deterioration	Implement operational ESMS, preventive maintenance, effluent/receiving-water monitoring, sludge management, complaint response, flood-season	O&M logs, monitoring results, incident/grievance trends and corrective actions.	Operator / MPWT	Operation	PMU/operator management review

Project phase / activity	Potential risk / impact	Minimum mitigation / management measure	Monitoring indicator / evidence	Responsibility	Timing / frequency	Verification
		inspection and emergency response.				
Pre-construction - land access and structures	Uncompensated displacement, ad hoc clearance, unsafe partial demolition, loss of housing/business/income	Complete DED staking, census/DMS/IOL, approved RP/DRP or due diligence, compensation/assistance and Land/ROW Readiness Certificate; implement authorized demolition and hazardous-material controls.	Work-front certificate; entitlement/payment/assistance evidence; notices; pre/post structure and demolition-waste records; grievance status.	MEF/IRC/GDR / PMU / PIU; contractor only after handover	Before site possession or demolition	Competent resettlement mechanism and PMU release; CSC verifies no contractor entry
Construction - sewer trenches and road reinstatement	Trench collapse, drowning, utility strike, access/business interruption, dewatering pollution, pavement failure	Map utilities/trial pits; phase work fronts; provide shoring, egress, barriers, access bridges, traffic control and treated discharge; test pipe, backfill and pavement; reinstate full carriageway width.	Daily trench/work-front permit; utility and access log; discharge check; compaction/leakage/pavement tests; closure photographs and defects record.	Contractor / CSC	Each work front and defects period	Activity hold point and CSC/road-authority acceptance
Construction - lake/wetland fill for WWTP, where applicable	Loss of flood storage/habitat/use, turbidity, contaminated or unsuitable fill, instability and settlement	Limit filling to approved footprint; complete compensatory hydraulic works first; use approved clean fill and containment; stage/monitor placement and settlement; protect aquatic receptors and stop for plume, distress or instability.	Approved footprint and permit; source tickets; turbidity/upstream-downstream results; fill/compaction and instrumentation records; hydraulic-work completion; incident/CAR closure.	Contractor / CSC / PMU	Before and during every fill stage	MoE/MOWRAM/ land approvals as applicable; activity hold point; PMU oversight
Construction - flood embankment road	Flood-risk transfer, blocked drainage/fish access, breach/overtopping, slope/toe failure, borrow/haul and road-safety impacts	Follow approved hydraulic/geotechnical design; maintain cross-drainage and access; control moisture/lift compaction and placement rate; protect slopes/toes; use approved borrow sources/haul routes; install road-safety features and flood emergency measures.	Survey and density results; culvert/gate inspection; settlement/slope observations; borrow tickets; turbidity/erosion and road-safety checks; wet-season/emergency inspection log.	Contractor / CSC / PMU / operator	Each lift/structure; after heavy rain and during flood alerts	CSC hold points; PMU/operator handover and flood-season review

Design, Procurement and Contract Requirements

Design Integration

Every mitigation measure that depends on engineering shall be incorporated into drawings, specifications, cost estimates and the design/mitigation register before design approval. E&S requirements shall not remain only in narrative safeguard documents.

D. Procurement and Contract Requirements

Bidding documents shall include applicable E&S specifications, staffing requirements, Codes of Conduct, reporting and incident requirements, monitoring obligations, sanctions/remedies and priced BOQ items. The contract shall require compliance with the approved ESIA/ESMP, permits, C-ESMP and topic-specific plans.

E. Minimum Contractor Plans

- C-ESMP and implementation schedule
- Air Quality and Dust Management Plan
- Noise and Vibration Management Plan
- Pollution Prevention Plan

- Water and Wastewater Management Plan
- Waste and Sludge Management Plan
- Erosion and Sediment Control Plan
- Traffic and Community Access Management Plan
- Occupational Health and Safety Plan
- Emergency Preparedness and Response Plan
- Community Health and Safety Plan
- Worker Accommodation Management Plan (where applicable)
- Labor Management / worker GRM procedures
- SEA/SH Prevention and Response Plan / Code of Conduct
- Biodiversity Management Plan (where triggered)
- Cultural Heritage / Chance Find Procedure
- Reinstatement and Demobilization Plan
- Utility Mapping, Protection and Service-Continuity Plan, including trial pits and emergency repair contacts
- Excavation, Trench Support, Confined-Space and Dewatering Plan, including work-front closure criteria
- Lake/Wetland Fill, Soft-Ground and Aquatic-Protection Plan, where water-body or seasonal-inundation filling is proposed
- Flood-Embankment, Borrow/Fill, Haul-Route and Erosion/Scour Control Plan
- Land Access, Resettlement-Interface and Structure-Demolition Protocol; this plan implements, and does not replace, the RPF and approved resettlement instrument
- UXO/ERW Screening and Chance-Discovery Procedure, with accredited survey/clearance where triggered

Construction Supervision and Hold Points

Construction Supervision

The supervision consultant shall review contractor plans and personnel, conduct announced and unannounced inspections, validate monitoring data, issue nonconformities, verify corrective actions, support incident investigations and recommend contractual remedies for serious or persistent noncompliance. The PMU shall provide oversight and consolidated reporting rather than duplicate day-to-day supervision functions.

F. Pre-Construction Hold Point

No works shall commence until the PMU confirms, through a documented readiness review, that required land access, permits, disclosed instruments, contractor E&S staff, C-ESMP/subplans, community notification, GRM, emergency arrangements and other pre-mobilization conditions are in place.

Operational ESMS and Readiness

Operation and Maintenance Environmental and Social Management System

Before commissioning, the responsible operator shall either establish an asset-specific operational ESMS/ESMP or demonstrate through a documented audit and gap analysis that existing departmental systems can meet AIIB and national requirements. Any gaps shall be closed before handover. MPWT/PIU and the future operator shall agree the O&M management model during DED, including ownership of procedures, staffing, budgets and reporting.

Operational controls shall cover wastewater process performance, effluent and receiving-water monitoring, sludge, odour, pathogens, chemicals, OHS/confined spaces, emergency overflows, power failure, pumping stations, community complaints, sewer pipeline integrity/leakage, planned and unplanned maintenance, flood-protection/embankment inspection, drainage blockage/sediment and asset condition.

Detailed Design, Climate and Procurement Requirements

FS-Derived Climate and Resilience Requirements for Design

The DED design review shall explicitly track climate-resilience recommendations recorded in the F/S/CRA and verify them against the final hydrological/hydraulic design and site-specific risk assessment. Stormwater and WWTP hydraulic sizing, flood-proofing, equipment levels and emergency power provisions shall use the confirmed final design basis. Standby-power duration, generator capacity, critical loads, fuel-storage

capacity and emergency operating arrangements shall be determined and justified during DED based on site-specific outage risk, operational criticality, reasonably foreseeable outage duration, fuel logistics, maintenance capacity and emergency-response requirements.

The DED shall verify and, where technically confirmed by the approved CRA/F/S and final hydrological/hydraulic analysis, incorporate the following feasibility-stage climate-adjusted design inputs. These parameters shall be treated as controlled verification items rather than automatically binding final design values; the DED Climate-Resilience Verification Checklist (Annex 14) shall record the source, calculation/design reference, confirmation status, any justified adjustment and approval.

1. IDF rainfall uplift and sensitivity testing: Verify the F/S/CRA rainfall-uplift assumptions (including any +10 to +13% central estimate and higher-emissions sensitivity value where supported by the approved climate assessment) against the final design horizon, dataset and hydrological method before applying them to drainage and WWTP hydraulic sizing.
2. Climate-adjusted flood/platform levels: Verify the CRA/F/S platform or finished-level values for each city through site-specific survey and hydrodynamic/hydraulic modelling. Adopt the confirmed levels and freeboard in DED; where modelling supports a different value, document the technical justification, E&S implications and approval.
3. Flood-season operational window: Use the F/S/CRA seasonal flood-risk window as an O&M and construction-planning input, but confirm the applicable dates for each city using current hydrometeorological evidence and the approved design basis. Seasonal restrictions on inspection, commissioning or maintenance shall be risk-based and reflected in the approved O&M/emergency procedures.
4. Compound-forcing/MJO sensitivity: Where the approved CRA identifies MJO or other compound-forcing effects as material, DED shall test the applicable uplift/sensitivity in the relevant city-specific IDF/hydraulic analysis. Any percentage uplift shall be applied only where its technical basis and applicability are verified and documented.
5. Dry-season operational resilience: DED and the operational ESMS shall assess elevated dry-season influent strength, reduced receiving-water dilution, vector risk and other climate-sensitive operating conditions, and shall define appropriate process, monitoring and contingency controls based on site-specific evidence.

Backflow prevention at relevant drainage outfalls, including the F/S-identified Kampong Chhnang and Doun Kaev locations, shall be incorporated where confirmed by DED hydraulics. Platform levels shall be checked through site-specific hydrodynamic modelling as recommended by the climate assessment. These measures shall appear in the E&S/design commitments register so that they are not lost during value engineering or procurement. Any proposed departure from an F/S climate recommendation shall be technically justified and reviewed for environmental and social consequences.

To support system reliability and public-health protection, DED shall verify the following engineering controls against the approved CRA/F/S, site-specific risk assessment and final design basis. Confirmed requirements shall then be incorporated into drawings, specifications, BOQs and O&M/emergency procedures.

a. Standby power: Provide adequate standby power for WWTP control rooms, pumping stations and other critical electrical/mechanical systems, as applicable. The required backup duration, generator capacity, critical loads, fuel-storage capacity and emergency operating arrangements shall be determined and justified during DED based on site-specific power-outage risk, operational criticality, historical and reasonably foreseeable outage duration, fuel logistics, maintenance capacity and emergency-response requirements. Confirmed requirements shall be incorporated into final technical specifications and O&M/emergency procedures.
b. Backflow prevention: Provide appropriate backflow-prevention measures, such as flap gates, duckbill valves or other technically suitable solutions, at drainage outfalls where backflow risk is confirmed through the final hydraulic assessment. Particular attention shall be given to the F/S-identified locations in Kampong Chhnang and Doun Kaev. The final type, location and design capacity shall be confirmed during DED based on site-specific hydraulic conditions.
c. Heat/material resilience: Verify design temperatures and thermal-stress assumptions using the approved CRA/F/S and equipment/material standards. Exposed thermoplastic and M&E

components shall be specified for the confirmed design temperature range, with higher-emissions/stress-test conditions assessed where supported by the climate analysis.

G. Procurement and Supervision Provisions Reflecting F/S Scale

The F/S construction costs and network quantities indicate large multi-year civil works packages requiring substantial construction supervision. The feasibility studies envisage CSC inputs on the order of several hundred person-months and include commissioning/operation allowances for wastewater and sewer assets. Procurement documents shall therefore provide adequate E&S and OHS staffing within the supervision structure and shall not assume that occasional specialist visits are sufficient for continuous urban works. Contractor E&S staffing and subplans shall be proportionate to the number of active work fronts and the risk profile.

Contract BOQs and specifications shall separately recognize high-cost or recurrent mitigation obligations where necessary, including traffic and pedestrian management, road reinstatement, dewatering and sediment control, temporary access, safety barriers, worker welfare, monitoring, emergency equipment, waste management and community communication. The feasibility construction budget is not itself evidence that these measures are funded; tender preparation shall verify that environmental and social obligations are clearly measurable and financially allocated.

For sewer and force-main works in paved urban roads, BOQs shall include full-width carriageway resurfacing by continuous work section, including pavement cutting, selected backfill, compaction testing, pavement layers, tie-ins, drainage/cover adjustments, markings, traffic management and defects-liability repair. Interim trench surfacing may be used for safety and settlement control, but final payment for reinstatement shall require completion and acceptance of the full-width surface.

H. Operational Readiness Based on F/S O&M Assumptions

The F/S recognizes labor, electricity, maintenance/repair, sludge disposal and administration as recurring O&M costs. Operational readiness shall therefore verify that these cost drivers are supported by an identified operator, staffing plan, annual budget, maintenance program, sludge route, monitoring program and emergency arrangements. For WWTP facilities, operational planning shall include inlet and pond management, vegetation and vector control, embankment condition, sludge accumulation, access control, water-quality monitoring and complaint response. For pumping stations and force mains, preventive maintenance and backup power are essential to avoid overflow or service failure.

For Kampong Chhnang, operational readiness must address the institutional and technical interface between C-UIDP-financed network assets and the existing ADB-funded WWTP. Responsibilities for flow monitoring, pumping, treatment performance, emergency response, maintenance and reporting shall be documented before commissioning. For Kampong Cham, the relationship between the existing and proposed WWTP systems shall similarly be clarified so that environmental monitoring and incident response are not fragmented between assets or operators.

Operational readiness for each new WWTP shall include an annual energy budget and, where technically and financially justified through DED, a solar-generation plan demonstrating the forecast and measured renewable-energy contribution. Any renewable-energy target shall be confirmed through site-specific assessment of available area, energy demand, lifecycle cost, grid/interface conditions, O&M capacity and climate resilience; the ESMPF does not impose an unsupported fixed percentage. The operator shall also maintain the landscape/odour buffer, inspect plant survival and irrigation needs, keep solar panels free of shading from vegetation, and report annual electricity consumption, renewable-energy generation and share, outages and corrective maintenance.

I. Environmental and Social Requirements in Detailed Design

DED shall convert screening and assessment findings into engineering requirements. Examples include WWTP buffer and site boundary; flood platform elevation; outfall configuration; erosion/scour protection; safe access; pumping redundancy; emergency storage or bypass controls; drainage/backflow protection; pipeline material and burial; manhole safety; pedestrian crossings; utility protection; noise or odour control; landscape/buffer planting; and permanent safety fencing. These measures shall be visible in drawings, specifications and design calculations rather than left only in an ESIA narrative.

The design review shall include an E&S sign-off that confirms whether each significant commitment has been incorporated, deferred with justification, or remains open. Open design-related E&S actions shall have an owner and due date and shall not disappear between design stages.

J. Project-Specific Sustainable Design and Construction Commitments

The following commitments shall be resolved during DED and transferred into drawings, specifications, BOQs, performance requirements, contractor method statements, commissioning tests and O&M manuals. Any proposed departure shall be supported by technical and E&S justification and approved through the Project change-management process.

Table 33: Additional C-UIDP Sustainable Design, Construction and Acceptance Requirements

Commitment	DED / contract requirement	Assessment and control	Acceptance evidence	Lead responsibility
Controlled agricultural reuse of treated effluent	Provide a safeguarded reuse outlet and, where approved, storage/conveyance suitable for the identified agricultural users. Prevent potable/reuse cross-connections and uncontrolled public access.	Confirm both discharge compliance and fit-for-purpose reuse quality, including microbiological health risk, salinity/sodicity, nutrients, crop/soil/groundwater suitability, seasonal demand, user agreement and permit conditions.	Approved reuse plan/permit; baseline; farmer/user information and agreement; commissioning results; sampling and distribution records; shutdown procedure.	DED/ESIA consultant; PMU; operator; agricultural and environmental authorities as applicable
Nature-based, low-energy treatment process	For the new Kampong Cham, Doun Kaev and Prey Veng WWTPs, retain waste stabilization ponds as the principal treatment process and minimize pumps, mechanical aeration and complex equipment unless required for compliance, safety or reliability.	Life-cycle energy, land, odour, pathogen, sludge, flood resilience, operator capacity and effluent performance shall be compared during process confirmation. Mechanical equipment shall be accessible, maintainable and limited to justified functions.	Approved process calculation and energy balance; equipment schedule; gravity-flow profile; O&M staffing/spares plan; performance-guarantee and commissioning test.	DED designer; PMU; operator; CSC at commissioning
Solar PV / renewable-energy integration (where technically and financially justified)	Assess and, where justified by the approved DED energy assessment, incorporate solar PV or other renewable-energy measures. The design shall consider available area, shading, flood/wind exposure, electrical safety, grid/interface requirements, lifecycle cost, O&M capacity and expected energy yield. Any numerical renewable-energy target shall be taken from the approved Project/DED requirements.	Assess roof/ground area, shading, flood/wind exposure, electrical safety, glare, battery need where proposed, grid interconnection, fire response, lifecycle replacement and O&M competency. The target is an annual energy share, not merely 30% of installed peak load or electricity cost.	Energy model and PV design; authority/interconnection approval; commissioning yield test; separate generation and consumption meters; annual renewable-energy share report.	DED electrical designer; PMU; operator; contractor/CSC

Commitment	DED / contract requirement	Assessment and control	Acceptance evidence	Lead responsibility
Strengthened landscape and odour buffer	Provide multi-layer native/adapted planting around WWTP boundaries and odour-prone facilities, with irrigation during establishment, replacement planting, fire/security access and root setbacks from ponds, pipes and structures.	Use odour-source/receptor and wind assessment to locate planting. Do not rely on landscaping instead of process, sludge and housekeeping controls. Avoid invasive species and plantings that obstruct solar panels, surveillance or pond ventilation.	Approved landscape plan and species schedule; planting completion; establishment-period survival inspection; replacement and long-term maintenance record.	DED landscape/environment team; contractor; CSC; operator
Pavement/carriage way reinstatement after sewer works	Reinstate affected pavement to the DED and responsible road-authority standard after trench backfilling and settlement/compaction verification. The required resurfacing width shall be defined for each road/work section; full-width resurfacing shall be applied where technically justified or required by the road authority.	Confirm road authority standard, pavement layers, compaction, levels/crossfall, drainage, utility covers, markings, property access and traffic staging. Include measurable BOQ items rather than an unpriced general reinstatement obligation.	Approved pavement/reinstatement drawing; density/material/thickness and surface-tolerance tests; before/after photographs; road-authority/CSC acceptance; defects-liability repairs.	DED road engineer; contractor; CSC; PIU/road authority
Approved borrow pits and earth-fill supply	Use only sources screened and approved before extraction or purchase. Contract requirements shall cover source licensing, quantities, haul routes, traffic/road maintenance, drainage, erosion, safety, progressive rehabilitation and closure.	Survey land/livelihood, biodiversity, water, slope stability, dust/noise, traffic, cultural heritage, cumulative extraction and community concerns. Re-screen contractor-proposed source changes.	Permit and screening form; land/access evidence; source register and delivery tickets; inspection results; rehabilitation/closure certificate and photographs.	Contractor; DED/ESIA consultant where source is known; CSC and PMU approval
No uncontrolled sediment plume from dyke works	Design construction access, temporary works and sequencing to keep loose fill and dewatering discharge out of rivers/lakes/canals; provide silt barriers, sediment basins, stabilized slopes and rapid cover/revegetation.	Establish waterbody setback and work-window controls from rainfall, flow, habitat, fishery and user assessment. Monitor turbidity/TSS upstream and downstream during water-adjacent earthworks and after major rain.	Approved erosion/sediment-control method; baseline and monitoring results; rainfall/activity log; photographs; incident/NCR closure; stabilized final slopes and drainage.	Contractor; CSC; PMU/PIU; operator/local authority after handover
No unapproved lake/wetland filling or unmanaged loss of hydraulic function	Show the approved permanent/temporary fill boundary, land/water	Verify alternatives, flood-storage/conveyance balance, aquatic and community use, sediment/water quality,	Permit/authority confirmation; approved ESIA/ESMP and drawings; pre-fill	DED/ESIA consultant; PMU; contractor; CSC;

Commitment	DED / contract requirement	Assessment and control	Acceptance evidence	Lead responsibility
	authorization, hydraulic compensation, clean-fill specification, staged earthwork and reinstatement in drawings, BOQ and contract hold points.	geotechnical settlement/stability, borrow/haul impacts and cumulative development.	hydraulic completion certificate; monitoring and final as-built/bathymetric survey.	competent authorities
No land entry, demolition or displacement before ESS2/RPF readiness	Include work-front exclusion and payment withholding clauses; prohibit contractor-side agreements; require an approved demolition protocol and Land/ROW Readiness Certificate.	Verify title separately from affected-person eligibility; census tenants/informal occupants/vendors/employees/resource users; assess physical/economic displacement, residual-structure safety, vulnerable assistance and GRM access.	Approved RP/DRP/due diligence; census/DMS/IOL; compensation and assistance evidence; readiness certificate; notices, demolition/waste records and grievance close-out.	MEF/IRC/GDR; MPWT/PMU/PIU; CSC; contractor after site handover

K. Contractor Management Plans and Minimum Standards

The C-ESMP shall be a site-specific management system supported by topic plans. As relevant, these shall include OHS, community health and safety, traffic management, air quality/dust, noise and vibration, pollution prevention, water and wastewater management, erosion and sediment control, waste and hazardous materials, emergency preparedness and response, worker accommodation, labor/worker code of conduct, SEA/SH prevention and referral, biodiversity, cultural heritage/chance finds, spoil/borrow management, reinstatement and stakeholder communication. Plans shall reflect the actual work method and receptors, not merely repeat generic contract clauses.

Each plan shall define objective, scope, legal/GIIP basis, organization, roles, procedures, monitoring, records, incident/escalation requirements, training and review. The supervision consultant shall verify consistency among the plans and with the approved ESIA/ESMP.

Mobilization, Compliance, Commissioning and Handover

Pre-Mobilization and Activity Hold Points

230. Before mobilization, the PMU and supervision consultant shall verify land access, permits, approved C-ESMP and key subplans, contractor E&S/OHS staff, worker accommodation arrangements, GRM communication, emergency contacts, monitoring arrangements, training and community notification. High-risk activities may require additional activity-specific hold points, such as approval of excavation or confined-space methods, dewatering discharge arrangements, traffic diversions or work near sensitive water bodies.

231. Additional mandatory activity hold points apply before: (i) opening each sewer/trench work front after utility, shoring, access, dewatering and closure-resource checks; (ii) any lake/wetland/seasonally inundated-area filling after permit, land/water status, hydraulic-compensation, fill-source and containment verification; (iii) each flood-embankment foundation, first fill lift, culvert/gate closure and pavement stage; (iv) any structure demolition after resettlement and utility-disconnection clearance; and (v) intrusive work in an area with a triggered UXO/ERW risk. The release record shall identify drawings/method statements, responsible reviewers, acceptance criteria and residual conditions.

Hold points shall be documented in a pre-mobilization compliance record. Failure to meet a hold point shall delay the relevant activity, not merely generate an administrative observation. This establishes a practical link between the framework and contract control.

L. Supervision, Nonconformance and Contractual Remedies

The supervision consultant shall independently verify contractor compliance through routine and unannounced inspections, document review, monitoring validation, worker/community interviews where appropriate, and review of grievances and incidents. Nonconformances shall be classified by severity and tracked to closure. Corrective actions shall identify responsible party, deadline and evidence required. Persistent or serious noncompliance may justify withholding payment, suspension of affected work or other contractual remedies.

Contractor monthly reports shall summarize staffing, training, inspections, monitoring, grievances, incidents, waste, stakeholder communication, corrective actions, upcoming high-risk work and status of subplans. The supervision consultant shall consolidate and critically review these data rather than simply forward contractor reports.

M. Commissioning, Handover and Operational ESMS

Before commissioning, the Project shall complete an operational-readiness review covering permits, operator staffing, competency, O&M manuals, environmental monitoring, safety equipment, emergency response, backup power, sludge route, spare parts, asset registers, as-built drawings, unresolved defects, grievance contacts and community notification. Commissioning shall be sequenced to avoid unnecessary risk during periods of high flood or other unfavorable conditions identified in the F/S.

The operator shall establish an ESMS or equivalent structured management system suitable for the asset. It shall include legal compliance, operational control, wastewater performance, sludge, OHS, community safety, emergency response, contractor maintenance activities, monitoring, grievance handling, incident investigation, corrective action, records, internal review and management review. Existing departmental systems may be used where a documented gap analysis confirms that they meet Project requirements; otherwise they shall be strengthened before handover.

N. Implementation Controls by Project Phase

Figure 9: Key E&S phase-gate checklist

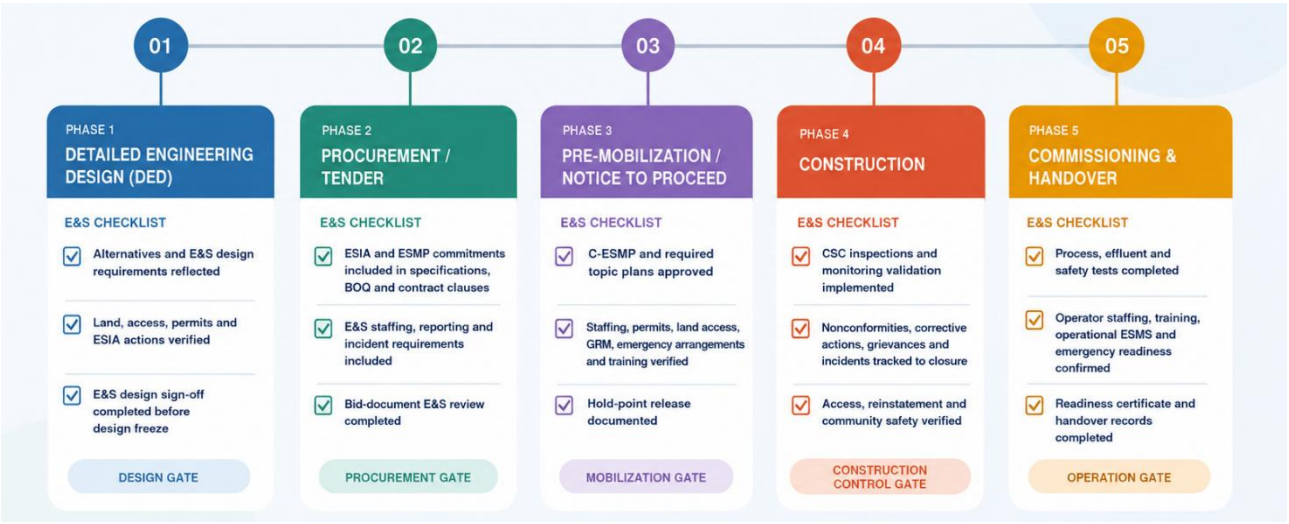


Table 34: Design, Procurement, Construction and Operational Control Summary

Management issue	**Framework requirement**	**Key output/evidence**	**Lead responsibility**	**Project stage**
Design integration	Embed permanent mitigation in drawings/specifications/costs.	Design E&S sign-off	DED consultant/PMU	DED
Contractor readiness	Approve C-ESMP, staffing, permits, land/access and high-risk methods before relevant work.	Pre-mobilization/hold-point record	SC/PMU	Pre-construction
Operational readiness	Confirm operator, ESMS, budget, monitoring, emergency and maintenance arrangements.	Operational-readiness certificate	PMU/operator	Commissioning