Environmental Assessment and Review Framework

March 2014

Philippines: Water District Development Sector Project

Prepared by Local Water Utilities Administration for the Asian Development Bank.

CURRENCY EQUIVALENTS

(as of as of 19 March 2014)

Currency unit	–	peso (Php)
Php1.00	=	$0.0224074572
$1.00	=	Php 44.63

ABBREVIATIONS

ADB	–	Asian Development Bank
CEMP	–	Contractor's Environmental Management Plan
CIA	–	cumulative impact assessment
CKWD	–	City of Koronadal Water District
CNC	–	Certificate of Non-Coverage
DAO	–	Department Administrative Order
DENR	–	Department of Environment and Natural Resources
ECC	–	Environmental Compliance Certificate
EIA	–	environmental impact assessment
EIS	–	Environmental Impact Statement
EMB	–	Environmental Management Bureau
EMP	–	Environmental Management Plan
GHG	–	greenhouse gas
GRM	–	Grievance Redress Mechanism
IEE	–	initial environmental examination
LGU	–	local government unit
LWUA	–	Local Water Utilities Administration
MC	–	Memorandum Circular
NGO	–	non-government organization
NIA	–	National Irrigation Administration
NWRB	–	National Water Resources Board
PD	–	Presidential Decree
PEISS	–	Philippine Environmental Impact Statement System
PIU	–	project implementation unit
PMU	–	project management unit
PNSDW	–	Philippine National Standards for Drinking Water
RA	–	Republic Act
REA	–	Rapid Environmental Assessment
RO	–	Regional Office
SpTF	–	Septage Treatment Facility
SPS	–	ADB's Safeguard Policy Statement (2009)
WD	–	water district
WDDSP	–	Water District Development Sector Project
WDGRC	–	Water District Grievance Redress Committee
WHO	–	World Health Organization

WEIGHTS AND MEASURES

ha	–	hectare
HP	–	horsepower
km	–	kilometer
KVA	–	Kilo volt ampere
lps	–	liters per second
m	–	meter
m^2	–	square meter
m^3	–	cubic meter
mg/L	–	milligrams per liter
mm	–	millimeter
MPN	–	most probable number
PCU	–	platinum cobalt unit

NOTE

In this report, "$" refers to US dollars.

ENVIRONMENTAL ASSESSMENT AND REVIEW FRAMEWORK

I. INTRODUCTION

A. OVERVIEW

1. Rapid urbanization in the Philippines has stretched the capacity of urban infrastructure services and facilities to the limit, and increased water resources pollution and levels of service deprivation. Piped water service coverage outside the National Capital Region (NCR) is assumed to be less than 50% on average and to vary significantly across the country.

2. The Asian Development Bank (ADB) loan proceeds are expected to be on-lent to participating water districts (WDs) through the Local Water Utilities Administration (LWUA), a government-owned specialized lender to WDs with associated roles as tariff regulator and institutional development advisor. WDs play a vital role in achieving the Government's Millennium Development Goal (MDG) targets for safe water and improved sanitation by 2015 because they service more than half of the urban-dwelling Filipinos outside the NCR.[1]

3. The impact of the project is improved public health and the outcome is increased access to improved water supply and sanitation services in the communities served by participating WDs including the two pilots: Metro San Fernando Water District (MSFWD), and City of Koronadal Water District (CKWD). Over 200,000 persons will benefit from access to safe water and over 400,000 from improved sanitation. The expected outputs are: (i) at least 20 water supply subprojects and at least four pilot sanitation subprojects; and (ii) capacity and institutional development for participating WDs and LWUA. The investment cost of the project is estimated to be $76 million, including taxes and duties. The project is to be implemented from 2014 to 2020.

4. LWUA will be the executing agency (EA), and each WD will be the implementing agency (IA) of its subproject(s).

B. PURPOSE OF THE ENVIRONMENTAL ASSESSMENT REVIEW FRAMEWORK

5. The purpose of this Environmental Assessment Review Framework (EARF)[2] is to: (i) describe the proposed subprojects to be financed under the sector loan; (ii) explain the general anticipated environmental impacts of these subprojects; (iii) specify the requirements that will be followed in relation to the environmental screening, assessment, and categorization of all subprojects, and planning, including arrangement for meaningful consultation with affected people (APs) and other stakeholders and information disclosure requirements and, where applicable, safeguard criteria that are to be used in selecting subprojects; (iv) assess the adequacy of the clients' capacity to implement national laws and ADB's requirements and identify needs for capacity building; (v) specify implementation procedures, including the budget, institutional arrangements, and capacity development requirements; (vi) specify monitoring and reporting requirements; and (vii) describe the responsibilities of the EA and IAs and of ADB in relation to the preparation, implementation, and progress review of safeguard

[1] According to LWUA, as of end-2012, there were 511 operational WDs.

[2] The preparation of safeguard frameworks aims to clarify safeguard principles and requirements governing screening and categorization, environmental assessment, and preparation and implementation of environmental plans of subprojects to be prepared after loan approval.

documents of subprojects. The selection of additional subprojects to be funded under the sector loan will be in accordance with the environmental subproject selection criteria as outlined in this EARF.

6. The EARF shall serve as guide to ensure compliance with the environmental assessment requirements under ADB's Safeguards Policy Statement, 2009 (SPS) and the Philippine Environmental Impact Statement System (PEISS) as promulgated in Presidential Decree No. 1586 and its implementing rules and regulations, with the Department of Environment and Natural Resources (DENR) as the implementing agency. During the PPTA, Initial Environmental Examinations (IEEs) were prepared for CKWD's water supply and SpTF subprojects.

7. The EARF ensures that all subprojects funded under the sector loan, in the entirety of their project cycle, will not deteriorate or interfere with the environmental sensitivity of the subproject area, but rather improve environmental quality.

II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

A. ENVIRONMENTAL LEGISLATION

8. The PEISS was established under Presidential Decree 1586 and is currently being implemented through its implementing rules and regulations contained in DENR Administrative Order No. 30, series of 2003 (DAO 03-30), which established the Revised Procedural Manual, together with Memorandum Circulars No. 2011-005, and 2010-14. The system categorizes environmentally critical projects (ECPs) as projects with significant potential to cause negative environmental impacts which have been declared as ECPs through Proclamation Nos. 2146 and 803. ECPs are grouped into four main categories, namely: (i) heavy industries, (ii) resource extractive industries, (iii) infrastructure projects, and (iv) golf courses. **Appendix 2** presents the list of ECP types and Environmentally Critical Area (ECA) categories.

9. **Environmentally Critical Areas.** An area is considered an environmentally critical area (ECA) if it exhibits any of the following characteristics:

(i) areas declared by law as national parks, watershed reserves, wildlife preserves, and sanctuaries;

(ii) areas set aside as aesthetic, potential tourist spots;

(iii) areas which constitute the habitat for any endangered or threatened species of indigenous Philippine wildlife;

(iv) areas of unique historic, archeological, geological, or scientific interests;

(v) areas which are traditionally occupied by cultural communities or tribes;

(vi) areas frequently visited and or hard-hit by natural calamities (geologic hazards, floods, typhoons, volcanic activity, etc.);

(vii) areas with critical slopes;

(viii) areas classified as prime agricultural lands;

(ix) recharged areas of aquifers;

(x) water bodies;

(xi) mangrove areas; and

(xii) coral reefs.

2.1 Grouping of Subprojects

10. An ECP located in a ECA or a non-ECA is classified as Group I, and required to secure an Environmental Compliance Certificate (ECC) by submitting an Environmental Impact Statement (EIS) to the Central Office of the Environmental Management Bureau (EMB) of DENR.

11. A non-ECP located in an ECA is categorized as Group II and required to secure an ECC by submitting an IEE or an IEE Checklist to the Regional Office of the EMB where the subproject will be located.

12. A non-ECP located in a non-ECA is categorized as Group III. This includes subprojects intended to directly enhance environmental quality or address existing environmental problems. Group III subprojects are unlikely to cause adverse environmental impacts and are not covered by the PEISS. Group III subprojects are issued a Certificate of Non-coverage (CNC) upon submission of an application online to the EMB.[3]

13. Group IV subprojects are co-located (a mix of subprojects in a contiguous area optionally applied as one subproject) and require programmatic EIS regardless of capacity, area, and number of locators/components.

14. Group V covers unclassified subprojects that are required to submit a Project Description Report as an interim documentary requirement. Unclassified subprojects may be covered or not covered by the PEISS subject to EMB review of the subproject description.

2.2 Environmental Impact Assessment Reports

15. EIA-covered subprojects in Groups I, II and IV require either an (i) EIS, (ii) PEIS, (iii) IEER, or (iv) IEEC, depending on subproject type, location, magnitude of potential impacts and project threshold. For non-covered subprojects in Groups II and III, a (v) Project Description Report (PDR) is the appropriate document to secure a decision from DENR-EMB. The PDR is a “must” requirement for environmental enhancement and mitigation projects in both ECAs (Group II) and non-ECAs (Group III) to allow the EMB to confirm the benign nature of proposed operations for eventual issuance of a Certificate of Non-Coverage (CNC). All other Group III (non-covered) subprojects do not need to submit PDRs – application is at the option of the proponent should it need a CNC for its own purposes, e.g. financing prerequisite. For Group V projects, a PDR is required to ensure new processes/technologies or any new unlisted subproject does not pose harm to the environment. The Group V PDR is a basis for either issuance of a CNC or classification of the subproject into its proper group.

16. **Environmental Impact Statement.** The EIS is a comprehensive study of the significant impacts of a subproject on the environment. It includes an EMP/Program that the proponent will fund and implement to protect the environment. The EIS is a document, prepared and submitted by the subproject proponent and/or EIA consultant that serves as an

[3] Based on DENR Memorandum Circular No. 2010-14.

application for an ECC.

17. **Initial Environmental Examination Report.** IEER is a document similar to an EIS, but with reduced details and depth of assessment and discussion.

18. **Initial Environmental Examination Checklist Report.** An IEEC Report is a simplified checklist version of the IEER, prescribed by the DENR to be filled up by the proponent to identify and assess a subproject's environmental impacts and the mitigation/enhancement measures to address such impacts.

19. The IEEC Report forms have been designed to simplify and standardize EIA reports so that minimal technical expertise is required to fill up of the form, which shall serve as the EIS submission for ECC applications. The checklist contains a series of questions that deals with issues and concerns about the proposed subproject and its environment. The checklist also provides information on the proposed subproject's environmental impact, both positive and negative. The information contained in the checklist will serve as a basis for the review and assessment of EMB's Regional Office for the issuance or denial of an ECC application.

20. The IEEC Report is applicable for the following types of subprojects that are covered under the provisions of existing guidelines on the PEISS:

(i) Batching and Crushing Plants
(ii) Fisheries/aquaculture Projects
(iii) Food & Food By-product and Beverages Manufacturing Plants
(iv) Non-Food Manufacturing (textile, rubber, chemical) Plants
(v) Subdivisions/Housing Projects
(vi) Building Projects (commercial, institutional, land transportation terminal, motels, hotels, condominiums/apartelles and storage facilities)
(vii) Cemetery and other Funeral Facility Projects
(viii) Livestock /Poultry Projects
(ix) Resorts and other Tourism/Leisure Projects
(x) Roads and Bridges
(xi) Water Supply Projects
(xii) Irrigation & Flood Control Projects
(xiii) Waste Management Projects

2.3 The Environmental Compliance Documents

21. **Environmental Compliance Certificate**. The Environmental Compliance Certificate (ECC) is a document issued by the EMB certifying that the proponent has complied with all the requirements of the PEISS and has committed to implement its approved EMP. The ECC also provides guidance to other agencies and to LGUs on EIA findings and recommendations, which need to be considered in their respective decision-making process.

22. **Certificate of Non-Coverage.** The Certificate of Non-Coverage (CNC) is a document issued by the EMB certifying that a project or undertaking is not covered by the PEISS and is not required to secure an ECC. A PDR may be submitted at the option of the proponent should the proponent need a CNC for its own purposes.[4]

[4] Under DENR Memorandum Circular No. 2010-14 issued on June 29, 2010, projects below the threshold of coverage based on the existing procedural manual for DAO 2003-30, CNC applications shall no longer require submission of Project Description Reports (PDR). The prescribed 1-page Application Form to be processed in the Automated Processing System is sufficient.

B. Applicable Government Environmental Requirements

23. **Environmental Permitting.** A summary of government environmental compliance requirements applicable to the subprojects is presented in **Table 2.1**.

Table 2.1: Applicable Environmental Permitting Requirements

Subproject	Stage of Development	Regulatory Permit	Issuing Agency	Applicable Legislation
Water supply	Pre-construction	ECC	EMB Regional Office	PD 1586 and its implementing rules and regulations
		Water Permit	NWRB	PD 1067 and its amended implementing rules and regulations
	Construction	Permit to Cut Trees	DENR Regional Office	PD 705
		Clearing/Fencing/ Excavation Permit	LGU	LGU Ordinance
	Operation	Permit to Operate Emission Source Installation	EMB Regional Office	RA 8749 and its implementing rules and regulations
		Compliance with Phil. National Standards for Drinking Water 2007	DOH	DOH AO 2007-0012
Septage Treatment Facility	Pre-construction	ECC	EMB Regional Office	PD 1586 and its implementing rules and regulations
	Construction	Permit to Cut Trees	DENR Regional Office	PD 705
		Clearing/Fencing/ Excavation Permit	LGU	LGU Ordinance
	Operation	Discharge Permit	EMB Regional Office	RA 9275 and its implementing rules and regulations
		Permit to Operate Emission Source Installation	EMB Regional Office	RA 8749 and its implementing rules and regulations

Note: ECC=Environmental Compliance Certificate, PD=Presidential Decree, NWRB=National Water Resources Board, DENR=Department of Environment and Natural Resources, LGU=Local Government Unit, EMB=Environmental Management Bureau, RA=Republic Act, DOH=Department of Health, AO=Administrative Order.

Source: PPTA Consultant.

24. Each water supply and SpTF subproject is required to submit an IEEC under the specified threshold as presented in **Table 2.2** in order to secure an ECC. **Appendix 3** contains the prescribed IEEC for water supply project and **Appendix 4** contains the IEEC for the septage management project.

Table 2.2: Project Grouping Matrix for Determination of EIA Report Type

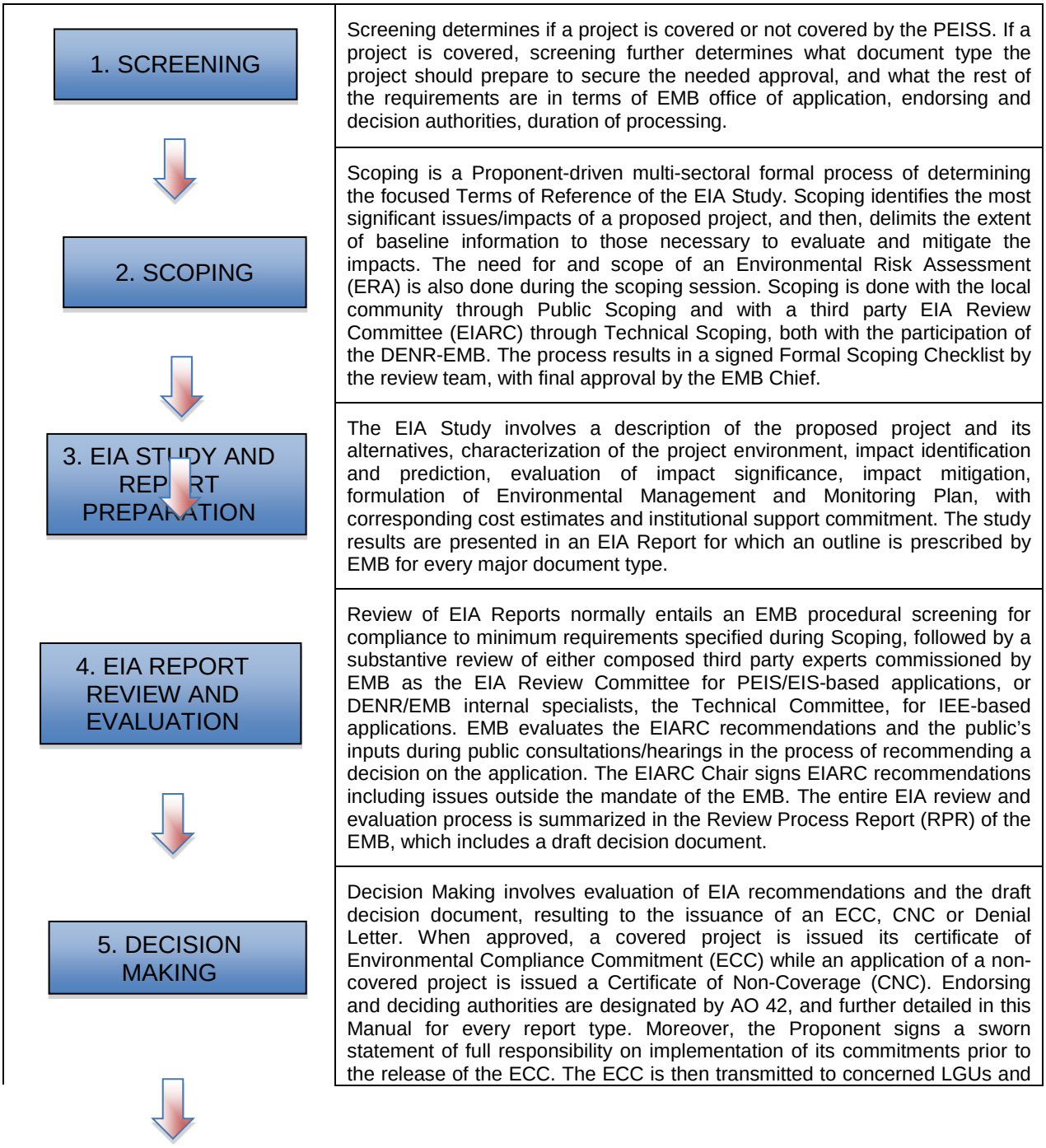
Type of Project	Project/Industry	Criteria/Limit (Threshold)
Water Supply Projects	Water supply systems (complete system)	Not more than 6 wells and other systems (infiltration gallery, etc.)

	Water supply system (distribution only)	Level III- with household connection and water treatment
Waste Management Projects	Domestic wastewater treatment facility	Less than 5,000 m^3 (quantity of waste to be treated annually

Source: DENR. 2011. DENR Memorandum Circular No. 2011-005: *Incorporating Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) concerns in the Philippine EIS System.* Manila. November 11, 2011.

25. **Figure 2.3** summarizes the Philippine EIA process.

Figure 2.3: Overview of the Philippine EIA Process



	other GAs for integration into their decision-making process. The regulated part of EIA Review is limited to the processes within EMB control. The timelines for the issuance of decision documents provided for in AO 42 and DAO 2003-30 are applicable only from the time the EIA Report is accepted for substantive review to the time a decision is issued on the application
6. MONITORING, VALIDATION, and EVALUATION/AUDIT	Monitoring, Validation and Evaluation/Audit stage assesses performance of the Proponent against the ECC and its commitments in the Environmental Management and Monitoring Plans to ensure actual impacts of the project are adequately prevented or mitigated.

Note: PEISS=Philippine Environmental Impact Statement System, EIA=Environmental Impact Assessment, EMB=Environmental Management Bureau, DENR=Department of Environment and Natural Resources, IEE=Initial Environmental Examination.

Source: Department of Environment and Natural Resources (DENR). 2008. Revised Procedural Manual for DENR Administrative Order No 30, series of 2003.

26. **Water Code of the Philippines.** The Water Code of the Philippines (Presidential Decree 1067) regulates the use of ground and surface waters in the Philippines. The Amended Implementing Rules and Regulations of the Water Code requires all users of ground and surface water to secure Water Permit from the NWRB.

27. The Water Code requires spacing for wells based on the rate of withdrawal as presented in **Table 2.4.**

Table 2.4: Spacing Requirements for Wells

Rate of Withdrawal (liters per second)	**Minimum Distance Between Wells** (meters)
2-10	200
More than 10-20	400
More than 20-40	600
More than 40	1,000

Note: NWRB may increase of decrease the above spacing requirements under any of the following circumstances:

a) For low-income housing development projects where home lot size will limit available spacing between homeowners' wells;
b) Where the geologic formation may warrant closer or farther spacing between wells; and
c) Where assessment of pumping test records on yields, drawdown, circle of influence, seasonal fluctuations in water table and other technical data on groundwater wells, drilling and operation indicate possible closer or farther spacing between wells.

Source: National Water Resources Board (NWRB). 2005. Water Code of the Philippines and the Amended Implementing Rules and Regulations.

E. INSTITUTIONAL CAPACITY

28. LWUA is the EA, while the WDs are the IAs. LWUA has overall responsibility for project coordination, implementation, and liaison with ADB and other government offices. LWUA will establish a Project Management Unit (PMU) to coordinate implementation at the national level, including procurement of goods, works, and services. A PMU staff shall be designated as the Social Development and Safeguards Officer (Safeguards Officer) for the project. The Safeguards Officer shall ensure that all subprojects will comply with the relevant safeguards

requirements. In addition, the Safeguards Officer shall provide technical assistance to the individual IAs/WDs in preparing and complying with safeguards requirements. Finally, the Safeguards Officer shall be responsible for the monitoring of safeguards compliance during the entire project life.

29. At the subproject level, each WD will be responsible during construction and operation phase of the subproject. During the construction phase, each WD shall establish a Project Implementation Unit (PIU) to work closely with LWUA's PMU. A team of consultants will assist LWUA's PMU and each WD's PIU during pre-construction and construction phases. The role of the WDGRC during the construction phase is highlighted since it is an important aspect of the grievance redress mechanism in promptly addressing the public's complaints about environmental performance of the subproject during execution of the construction activities.

30. Each WD is responsible for the preparation of environmental assessment report and monitoring of safeguards issues for its water supply and sanitation subprojects. WDs have long been developing and managing water supply systems and have the capability to operate and maintain the system. However, the WDs need to develop their capabilities in septage management. It is recommended that prior to implementing the septage management program, the WDs should develop their institutional capability to manage the operation and maintenance of the SpTF and the collection, transport and treatment of septage. It is further recommended that a unit in the WDs be created that would handle septage management.

31. The EA and IAs require capacity building measures for (i) a better understanding of the program-related environmental issues; and (ii) strengthen their role in implementation of mitigation measures and subsequent monitoring. Trainings and awareness workshops are included in the capacity development technical assistance. The primary focus of the trainings and workshops are to enable staff to conduct impact assessments and carry out environmental monitoring and implement the EMPs. After participating in such activities, the participants will be able to make environmental assessments for subsequent projects, conduct monitoring of environmental plans, understand government and ADB requirements for environmental assessment, management, and monitoring (short and long term), and incorporate environmental features into future project designs, specifications, and tender/contract documents and carry out necessary checks and balances during project implementation.

III. ANTICIPATED ENVIRONMENTAL IMPACTS

32. The pilot WDs' water and sanitation subprojects have been identified and their respective components that require civil works and infrastructure are listed in **Appendix 1** and environmental impacts during design, pre-construction, construction, and operation will be reviewed and assessed for each subproject. During project construction and implementation, impacts on the physical environment such as water, air, soil, noise; and on the biological environment, like flora and fauna and socio-economic environment will be carefully assessed by the project environmental specialists.

33. The pilot WDs' water supply subprojects and additional subprojects will be of small-scale and often involve construction of wells and support facilities consisting of pump stations (electro-mechanical parts), water tanks and reservoirs, transmission and distribution lines. It is anticipated that impacts will be temporary and of short duration. In such cases, mitigation measures, i.e. control of air, dust pollution, checking of water and noise pollution, protection of biological environment can address adverse impacts. Other measures such as preparation and implementation of traffic management plans during pipe-laying will also be done in coordination with the consultant teams, local police, contractors, and the public. Safety

measures, both occupational and other health and hygienic condition, including careful handling of public utilities along with social aspects will be considered and impacts and mitigation measures will be elaborated in the EMPs. As presented in **Figure 2.3,** the required document for securing ECC may be either an EIS or an IEEC depending on the number of wells to be constructed. The PPTA prepared the IEE for CKWD's water supply subproject.

34. In relation to CKWD's proposed SpTF and additional sanitation subprojects, an IEE will be prepared aimed at integrating the environmental impacts that may be attributed from the proposed subprojects from the design to the operation and maintenance stages of the subprojects. Mitigating measures will be drawn to address the negative impacts of the subprojects. The PPTA prepared the IEE for CKWD's SpTF.

35. Anticipated environmental impacts for the assessed subprojects are provided in the IEERs. For subsequent subprojects, anticipated impacts during design, construction and operation are identified in **Table 3.1**.

Table 3.1: Anticipated Environmental Impacts Due to Project Implementation

Impact Field	Anticipated Impact on the Environment
A. Water Supply	
Design Phase	
Environmental clearances	Environmental permits are required (**Table 2.2**) in order to implement the project. If not pursued on timely basis, this can delay the project. Necessary environmental clearances and permits have to be obtained following the guidelines issued by the authorities.
Utilities	Telephone lines, electric poles and wires, water pipe (old) existing within right-of-way (ROW) require shifting without disruption to services.
Water supply	Health risk due to closure of existing water supply such as community tanks, water stations, and privately-owned small water pipes.
Social and cultural resources	Ground disturbance can uncover and damage archaeological and historical remains. Impact on sites of cultural/religious importance during pipe-laying.
Temporary construction work camps, stockpile areas, storage areas, and disposal areas	Locations may cause encroachment/impact either directly or indirectly on adjacent environments. It may also include the impacts on the people who might lose their homes or livelihoods due to the project activities.
Traffic	Traffic flow will be disrupted if routes for delivery of construction materials and temporary blockages during construction activities are not planned and coordinated.
Construction Phase	
Sources of materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.
Air quality	Emissions from construction vehicles, equipment, and machinery used for excavation and construction resulting to dust and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulfur oxides, particulate matter, nitrous oxides, and hydrocarbons.
Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate downstream surface water quality.
Noise levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials, and people. Operation of heavy equipment and machines in the night time can cause nuisance to the surrounding environment/ people
Ecological resources	Cutting of trees would affect terrestrial ecological balance and affect terrestrial and aquatic fauna/wildlife.
Existing infrastructure and facilities	Disruption of service and damage to existing infrastructure located alongside roads, in particular electric poles and community-scheme water supply pipes.

Impact Field	Anticipated Impact on the Environment
Landscape and aesthetics	Solid wastes as well as excess construction materials may create unacceptable aesthetic condition.
Accessibility	Traffic problems and conflicts in ROW. Roads/people/businesses may be disturbed by repeated trenching.
Socioeconomic– Income	Impede the access of residents and customers to nearby shops. Shops may lose business temporarily.
Occupational health and safety	Occupational hazards which can arise during construction (e.g., trenching, falling objects, etc.).
Community health and safety	Community hazards which can arise during construction (e.g., open trenches, air quality, noise, falling objects, etc.). Trenching on concrete roads using pneumatic drills will cause noise and air pollution. Traffic accidents and vehicle collision with pedestrians during material and waste transportation.
Construction waste	Trenching will produce additional amounts of waste soil. And also accumulation of debris waste materials and stockpiling can cause environmental visual pollution.
Temporary work camps	Temporary air and noise pollution from machine operation, water pollution from storage and use of fuels, oils, solvents, and lubricants. This may cause conflict with residents and problem of waste disposal and disruptions to residents.
Social and cultural resources	Risk of archaeological chance finds. Sites of social/cultural importance (schools, hospitals, religious place, tourism sites) may be disturbed by noise, dust, vibration, and impeded access.
Clean-up operations, restoration and rehabilitation	Impacts on social or sensitive receptors when post construction requirements are not undertaken, e.g. proper closure of camp, disposal of solid waste, and restoration of land after project construction.
Operation and Maintenance Phase	
General maintenance	Maintenance activities may cause disturbance to sensitive receptors, dusts, and increase in noise level.
Health of the served population	Public health is expected to improve with the available source of potable water.
Competition with other wells	Nearby wells may be adversely affected by the additional water abstraction.
Economic development	Impediments to residents and businesses during routine maintenance.
B. Septage Treatment Facilities	
Design Phase	
Effluent standards Environmental clearances	The SpTF must be designed to meet the prescribed effluent e standards specified in DENR DAO 35, series of 1992 (**Appendix 5).** Environmental permits should be complied with (**Table 2.2**) in the implementation of the project. If not pursued on timely basis, this can delay the project. Necessary environmental clearances and permits have to be secured following the guidelines issued by the authorities.
Construction work camps, concrete mixing plants, stockpile areas, storage	Locations may cause encroachment/impact either directly or indirectly on adjacent environments. It may also include the impacts on the people who might lose their homes or livelihoods due to the project activities.
Traffic	Traffic flow will be disrupted if routes for delivery of construction materials and temporary blockages during construction activities are not planned and coordinated.
Construction Phase	
Sources of materials	Extraction of materials can disrupt natural land contours and vegetation resulting in accelerated erosion, disturbance in natural drainage patterns, ponding and water logging, and water pollution.
Air quality	Emissions from construction vehicles, equipment, and machinery used for excavation and construction resulting to dust and increase in concentration of vehicle-related pollutants such as carbon monoxide, sulfur oxides, particulate matter, nitrous oxides, and hydrocarbons.
Surface water quality	Mobilization of settled silt materials, run-off from stockpiled materials, and chemical contamination from fuels and lubricants during construction works can contaminate downstream surface water quality.

Impact Field	Anticipated Impact on the Environment
Noise levels	Increase in noise level due to earth-moving and excavation equipment, and the transportation of equipment, materials, and people. Operation of heavy equipment and machines in the night time can cause nuisance to the surrounding environment/ people
Ecological resources	Cutting of trees may affect terrestrial ecological balance and affect terrestrial and aquatic fauna/wildlife.
Landscape and aesthetics	Solid wastes as well as excess construction materials create unacceptable aesthetic condition.
Accessibility	Traffic problems and conflicts in right of way.
Occupational health and safety	Occupational hazards which can arise during construction (e.g., falling objects).
Community health and safety	Community hazards which can arise during construction (e.g., air quality, noise, falling objects, etc.). Traffic accidents and vehicle collision with pedestrians during material transport.
Construction waste	Accumulation of debris waste materials and stockpiling can cause environmental visual pollution.
Temporary work camps	Temporary air and noise pollution from machine operation, water pollution from storage and use of fuels, oils, solvents, and lubricants. This may cause conflict with residents and problem of waste disposal and disruptions to residents.
Social and cultural resources	Risk of archaeological chance finds. Sites of social/cultural importance (schools, hospitals, religious place, tourism sites) may be disturbed by noise, dust, vibration, and impeded access.
Clean-up operations, restoration and rehabilitation	Impacts on social or sensitive receptors when post construction requirements are not undertaken, e.g. proper closure of camp, disposal of solid waste, and restoration of land after project construction.
Operation and Maintenance Phase	
General maintenance	Operation and maintenance activities may cause disturbance to sensitive receptors, dusts, and increase in noise level.
Air Quality	Sensitive receptors (e.g. hospitals, schools, churches) may be affected temporarily by increased traffic and related impacts during collection and hauling of septage to the SpTF.
Community health and safety	Desludging of septic tanks and transport of septage may cause health risks if spilled along the truck route. Traffic and noise nuisance may also occur.
Biodiversity fauna and flora	The proposed site is in a rolling terrain. No areas of ecological diversity occur within the project location. Due to the nature and locality of the project there is unlikely to any significant impacts on biodiversity within the area during maintenance works
Degradation of water quality of receiving body of water during malfunction of the facility	Water quality of the receiving body of water may be adversely affected during malfunction of the facility. However, since the site will be beside the sanitary landfill of the city, the partially treated wastewater can be temporarily diverted to the landfill while repair and maintenance is undertaken.
Health and safety	Danger of operations and maintenance-related injuries. Safety of workers and general public must be ensured.
Noise and Vibrations	Sensitive receptors (hospitals, schools, churches) may be affected temporarily by increased traffic and related impacts Disturbance from afterhours work.
Solid Waste	Solid waste residuals which may be generated by the SPTF such as sludge cake can be utilized as soil conditioner/fertilizers to enhance the fertility of the nearby farmlands.
Wastewater	Treated effluent will be discharged into the receiving body of water. All discharge must meet government prescribed effluent standards (**Appendix 5)**.
Bio-aerosols	Bio-aerosols (i.e., particles in the air consisting wholly or partially of microorganisms) are of particular concern to the health of workers and surrounding communities and have been shown to be the source of reduced pulmonary function and increased respiratory disease for those in immediate proximity of SpTF.

Impact Field	Anticipated Impact on the Environment
Air emissions and odors	Air emissions from wastewater treatment operations may include hydrogen sulfide, methane, volatile organic compounds, gaseous or volatile chemicals used for disinfection processes (e.g., chlorine), and bio-aerosols. Odors from treatment facilities can also be a nuisance to workers and the surrounding community.

Source: PPTA Consultant.

IV. ENVIRONMENTAL ASSESSMENT FOR PROJECTS AND COMPONENTS

A. SUBPROJECT ELIGIBILITY CRITERIA

36. The sector loan will fund water supply and sanitation subprojects, including septage treatment facilities (SpTFs). Improvements in the domestic water supply give rise to greater quantities of wastewater and increase pollution loading in the various environmental media. With SpTFs, the concomitant wastewater would be properly collected, transported and treated prior to discharge, thus safeguarding public health.

37. Subprojects to be funded under the sector loan will be screened based on eligibility criteria, including the following:

(i) Qualifies as ADB's Environment Category B or C in accordance with SPS;

(ii) Will not involve involuntary resettlement and/or dislocation (of any scale/magnitude);

(iii) Will not have significant impacts in terms of Biodiversity Conservation and Sustainable Natural Resource Management such as encroachment into natural/critical/modified habitat/s and/or legally protected areas;

(iv) Project scope/design will not inflict damage to any socio-cultural/historical/ archaeological resource/s of local, provincial, national and/or international importance.

8. Guidelines for subproject selection in **Table 4.1** provide further guidance to avoid or minimize adverse impacts during the identification and finalization of subprojects to be funded under the sector loan.

Table 4.1: Environmental Criteria for Subproject Selection

	Components	Environmental Selection Guidelines	Remarks
1.	Overall Selection Guideline (applicable to all subprojects)	Comply with all requirements of relevant national, state, and local laws, rules, and guidelines.	See Section II of this EARF
		Avoid where possible land acquisition and involuntary resettlement where possible including impacts on vulnerable persons and indigenous peoples.	See Resettlement Framework (RF)
		Avoid where possible locations in protected areas, including notified reserved forests or biodiversity conservation hotspots (wetlands, national reserves, forest reserves, and sanctuaries).	Approval from Protected Area and Wildlife Bureau, if unavoidable
		Project location shall not result in destruction/disturbance to historical and cultural places/values.	
		Avoid where possible, and minimize to extent feasible facilities in locations with social conflicts.	
		Avoid where possible tree cutting and if any trees have to be removed, shall plant 10 new trees for every one that is cut.	Approval from DENR

	Components	Environmental Selection Guidelines	Remarks
		Retain mature roadside trees which are important/valuable or historically significant. If any trees have to be removed, shall plant 10 new trees. for every one that is lost.	
		Avoid involuntary resettlement by prioritizing rehabilitation over new construction, using vacant government land where possible, and taking all possible measures in design and selection of site or alignment to avoid resettlement impacts.	
		Designs must be consistent with SPS and follow the RF prepared for the project and agreed by the Government and ADB.	See RF
		Reflect inputs from public consultation and disclosure for site selection.	All consultations should be documented and concerns expressed by public addressed in IEEs.
2.	Water Supply	Comply with all requirements of relevant national law.	See Section II of this EARF
		Locate all new facilities/buildings at least 100 m from houses, shops or any other premises used by people, thus establishing a buffer zone to reduce the effects of noise, dust and the visual appearance of the site.	Distance restriction may be reviewed depending on site availability, buffer zone planning, and odor-control technology.
		Locate all new facilities/buildings at sites where there is no risk of flooding or other hazards that might impair functioning of or present a risk of damage to existing water treatment plants, reservoirs, or its environs.	
		Consult the National Museum regarding the archaeological potential of proposed sites of buildings, primary mains, and distribution network to ensure that these are located in areas where there is a low risk of chance finds.	
		Avoid all usage of pipes that are manufactured from asbestos concrete.	
		Locate pipelines within road right of way (ROW) as far as possible, to reduce the acquisition of new land.	
		Ensure that pipeline routes do not require the acquisition of land from private owners in amounts that are a significant proportion of their total land holding (>10%).	
		Ensure that communities who relinquish land needed for pipelines or other facilities are provided with an Improved water supply as part of the scheme.	
		Ensure that water supplied to consumers meets national drinking water standards at all times, and confirm this by regular monitoring at the source and in domestic premises.	
		Ensure that improvements in the water supply system are combined with improvements in wastewater and drainage to deal with the increased discharge of domestic. wastewater.	
3.	Facilities/Buildings	Only projects proposed or requested by the relevant agencies shall be considered for	
		Projects shall involve improvements within the boundary of existing facilities only.	

	Components	Environmental Selection Guidelines	Remarks
		Ensure that any facilities involving hazardous or polluting materials (e.g. waste disposal) are designed to meet national and international standards, to protect human health, both within and outside the facility.	
		Where new facilities are required, these shall be sited on vacant government land and ROWs where feasible.	
		Ensure that water and waste disposal in constructed facilities are designed to national and international standards.	
4.	Septage Treatment Facility	Comply with all requirements of relevant national, state, and local laws, rules, and guidelines.	See Sec. II of this EARF.
		Site selection process shall avoid where possible land acquisition and involuntary resettlement where possible including impacts on vulnerable persons and indigenous peoples.	See RF and Indigenous Peoples Planning Framework.
		Locate SpTF preferably 50 m from any inhabited areas, in locations where no urban expansion is expected in the next 20 years, so that people are not affected by odor or other nuisance from the SpTF.	Distance restriction may be reviewed depending on the technology adopted for the treatment of wastewater, site plant availability and buffer zone planning.
		Locate SpTF at sites where there is a suitable means of disposal for the treated wastewater effluent.	
		Locate SpTF at sites where there is no risk of flooding or other hazards that might impair functioning of the SpTF and present a risk of damage to the plant or its environs.	Flood statistics data of the Project area needs to be reviewed
		Consult the relevant records of national and/or local archaeological agencies regarding the archaeological potential of proposed sites of SpTF.	

Source: PPTA Consultant.

38. The water supply and SpTF subprojects in the two pilot WDs (listed in **Appendix 1)** are classified as Environment Category B in accordance with SPS. The environmental impact assessments concluded that the subprojects of the pilot WDs will have only small-scale, localized and temporary impacts on the environment which can be readily mitigated. The potential adverse environmental impacts are mainly related to the construction period, which can be minimized by the mitigating measures and environmentally sound engineering and construction practices. The negative impacts of the SpTF during operation and maintenance phase can be prevented or minimized with appropriate mitigating measures. Therefore, no significant environmental impacts are anticipated. Sample IEEs were prepared for CKWD's water supply and SpTF subprojects. Mitigation measures and monitoring plans were proposed in the Environmental Management Plan (EMP) which forms part of the IEEs. The EARF shall be adopted for each subproject's environmental assessment and review.

B. ADB Environmental Assessment Procedures for the Subprojects

3.1 Screening and Classification/Categorization

39. A rapid environmental assessment (REA) using the ADB REA Checklist has been conducted on CKWD's water supply and SpTF subprojects. **Appendix 6** presents the REA Checklist for water supply subproject while **Appendix 7** shows the REA Checklist for SpTF

subproject. The completed REA Checklists for each subproject will be attached in the IEEs for ADB review, to ensure that the subproject meets ADB's environmental safeguard requirements, as stipulated in SPS. Subprojects will be screened, and the level of environmental assessment required (EIA/IEE) will be determined. While an environmental assessment will not be required for Category C subprojects, environmental implications will be reviewed.

3.2 Preparation of Environmental Assessment Report

40. Environmental assessment documents prepared for all subprojects to be funded under the sector loan will, to the extent possible, meet both ADB and Philippine government requirements, in order to streamline the environmental procedures required by both ADB and the government.

41. An IEE is required for subprojects with some adverse environmental impacts but which are expected to be less significant than those of Category A subprojects.[5] Appendix 1 of SPS provides the specific outlines and contents to be followed while preparing EIAs/IEEs. **Appendix 8** provides the outline of an ADB EIA or IEE Report. Also, the IEEs prepared for CKWD's water supply and SpTF subprojects during project preparation provides good sample, which can be followed for the preparation of environmental assessments of other subprojects.

42. For preparing EIAs and IEEs, relevant primary data will be generated and secondary data will be collected for project-influenced sites. An assessment of project impacts and risks on biodiversity and natural resources will also be undertaken. Issues regarding natural and critical habitats will be covered in the EIA/IEE report. In case of projects located within the buffer zone of protected areas, a review of management plans and consultation with concerned management staff of the protected area, local communities, and key stakeholders will be undertaken and reflected in EIA/IEE report. Pollution prevention for conservation of resources particularly technology for management of process wastes will be addressed in the EIA/IEE report. Occupational health safety and community health safety will be properly addressed in the EMP section of the EIA/IEE report. In case subprojects are likely to have adverse impacts on physical cultural resources, appropriate mitigation measures will to be planned and reflected in the EIA/IEE. EIA/IEE will also reflect meaningful consultation and disclosure process with a provision of grievance redress mechanism.

43. ADB requires that an EMP must be developed as part of the EIAs/IEEs. EMPs describe the environmental management measures that will be carried out to mitigate negative impacts or enhance the environment during implementation of a project, and the environmental monitoring to be conducted to ensure that mitigation is provided and is effective in reducing impacts, or to determine the long-term impacts of a subproject. EMPs will outline specific mitigation measures, environmental monitoring requirements, and related institutional arrangements, including budget requirements for implementation. Where impacts and risks cannot be avoided or prevented, mitigation measures and actions will be identified so that the project is designed, constructed, and operated in compliance with applicable laws and regulations and meets the requirements specified in this document. The level of detail and complexity of the environmental planning documents and the priority of the identified measures and actions will be commensurate with the project's impacts and risks. Key considerations include mitigation of potential adverse impacts to the level of "no significant harm to third

[5] Subprojects expected to have potentially significant adverse environmental impacts (categorized as A) will not be eligible for funding under the sector loan.

parties," the polluter pays principle, the precautionary approach, and adaptive management.

44. If some residual impacts are likely to remain significant after mitigation, the EMP will also include appropriate compensatory measures (offset) that aim to ensure that the project does not cause significant net degradation to the environment. Such measures may relate, for instance, to conservation of habitat and biodiversity, preservation of ambient conditions, and greenhouse gas emissions. Monetary compensation in lieu of offset is acceptable in exceptional circumstances, provided that the compensation is used to provide environmental benefits of the same nature and is commensurate with the project's residual impact.

45. All EIAs/IEEs and EMPs will be conducted prior to the award of construction contracts. The bid documents will include the requirement to incorporate necessary resources to implement the EMP. The EMP will form part of the contract document, and, if required will need to be further updated during the construction phase of a project.

3.3 Environmental Audit of Existing Facilities

46. For subprojects involving facilities and/or business activities that already exist or are under construction, the WDs will undertake an environment audit, including on-site assessment, to identify past or present concerns related to impacts on the environment. The objective of the compliance audit is to determine whether actions were in accordance with ADB's safeguard principles and requirements for borrowers/clients and to identify and plan appropriate measures to address outstanding compliance issues. Where noncompliance is identified, a corrective action plan agreed on by ADB and the implementing agencies will be prepared. The plan will define necessary remedial actions, the budget for such actions, and the time frame for resolution of noncompliance. The audit report (including corrective action plan, if any) will be made available to the public in accordance with the information disclosure requirements of SPS. For environment category A projects involving facilities and/or business activities that already exist or are under construction, the implementing agency will submit the audit report to ADB to disclose on ADB's website at least 120 days prior to ADB Board approval. If a project involves an upgrade or expansion of existing facilities that has potential impacts on the environment, the requirements for environmental assessments and planning specified in SPS will apply in addition to compliance audit.

C. REVIEW OF ENVIRONMENTAL ASSESSMENT REPORTS

47. On completion, EIAs/IEEs will be reviewed initially by the PMU and the respective WDs and submitted to ADB. In the case an ECC is required, the EIAs/IEEs are to be submitted to the EMB Regional Office for application of an ECC. Processing of the ECC application will follow the Philippine EIA process outlined in **Figure 2.2** leading to the issuance of ECC.

48. It is the responsibility of the executing and implementing agencies to ensure that subprojects are consistent with the legal framework, whether national or municipal/local. Other environmental permits as presented in Table 2.2 shall also be complied with in all stages of the project including design, construction, and operation and maintenance.

V. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

A. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

49. Meaningful stakeholder consultation and participation is part of the project preparation and implementation strategy. A Consultation and Participation Program has been conducted for the Investment Plan and will be implemented with the assistance of consultants, non-government organization (NGO), and media contractors. By addressing stakeholder needs, there is greater awareness of the benefits, and 'ownership' of the Investment Plan among stakeholders, which in turn contributes to sustainability. The consultation process during the project preparation has solicited inputs from a wide range of stakeholders, including government officials, NGOs, residents in the vicinity of the subproject sites, marginalized/vulnerable beneficiary groups, and project affected persons (APs).

50. Consultation, participation and disclosure will ensure that information is provided and feedback on proposed project design is sought early, right from the project preparation phase, so that the views/preferences of stakeholders including potential beneficiaries and affected people can be adequately considered in project design, and continue at each stage of project preparation, processing, and implementation. Affected persons will be consulted at various stages in the project cycle to ensure: (i) incorporation of views/concerns of APs on compensation/resettlement assistance and environmental impacts and mitigation measures; (ii) inclusion of vulnerable in project benefits; (iii) identification of help required by APs during rehabilitation, if any; and (iv) avoidance of potential conflicts/smooth project implementation. It will also provide adequate opportunities for consultation/participation to all stakeholders and inclusion of the poor/vulnerable/marginalized and project-affected persons in the project process. Relevant information about any major changes to project scope will be shared with beneficiaries, affected persons, vulnerable groups, and other stakeholders.

51. A variety of approaches can be adopted. At minimum, stakeholders will be consulted regarding the scope of the environmental and social impact study before work is commenced and they will be informed of the likely impacts of the project and proposed mitigation once the draft EIA/IEE, Resettlement Plan, and Indigenous People Plan reports are prepared. The reports will record the views of stakeholders and indicate how these have been taken into account in project development. Consultations will be held with a special focus on vulnerable groups.

52. The key stakeholders to be consulted during project preparation, EMP implementation, and project implementation include:

(i) Beneficiaries;
(ii) Elected representatives, community leaders, religious leaders and representatives of community based organizations;
(iii) Local NGOs;
(iv) Local government and relevant government agency representatives, including local authorities responsible for land acquisition, protection and conservation of forests and environment, archaeological sites, religious sites, and other relevant government departments;
(v) Residents, shopkeepers and business people who live and work alongside the roads where pipes will be lay and near sites where facilities will be built;
(vi) Custodians, and users of socially and culturally important buildings;
(vii) WDs representatives and consultants, and
(viii) ADB representatives.

B. INFORMATION DISCLOSURE

53. Information is disclosed through public consultation and making relevant documents available at public locations. The following documents will be submitted to ADB for disclosure on its website for category B projects:

(i) final IEE;
(ii) a new or updated IEE and corrective action plan prepared during project implementation, if any; and
(iii) environmental monitoring reports.

54. The EA and the IAs will send written endorsement to ADB for disclosing these documents on ADB's website also provide relevant safeguards information in a timely manner, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. For illiterate people, other suitable communication methods will be used.

C. GRIEVANCE REDRESS MECHANISM

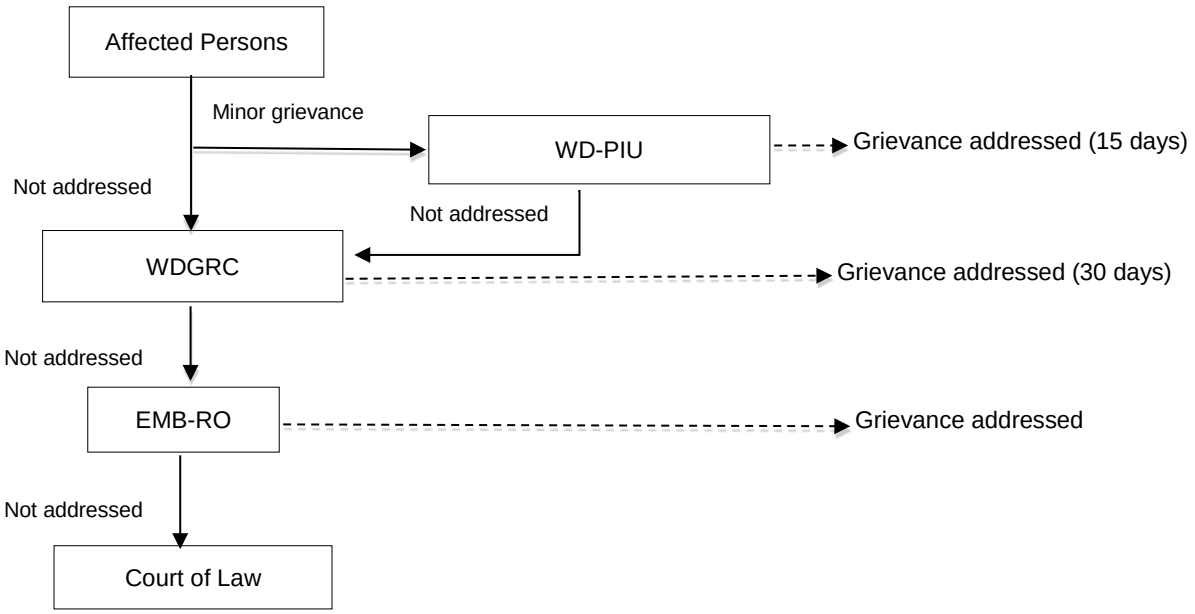
55. **Common Grievance Redress Mechanism.** A subproject-specific common grievance redress mechanism (GRM) will be established at the WD to receive, evaluate and facilitate the resolution of affected persons (APs) concerns, complaints and grievances about the social and environmental performance at the level of the subproject. The GRM will aim to provide a time-bound and transparent mechanism to voice and resolve social and environmental concerns linked to the subproject. This mechanism shall be disclosed in public consultations during detailed design and in meetings during the construction phase.

56. Each WD shall appoint a Social Development and Safeguards Officer (Safeguards Officer) in its PIU, and will form the Water District Grievance Redress Committee (WDGRC) to be chaired by the Water District-General Manager. Members shall include the following: (i) the contractor's highest official at the site such as the Construction Manager or the Construction Superintendent, (ii) barangay officials, (iii) concerned NGOs, and (iv) women's organizations. Creation of the WDGRC and its operation shall be included in appropriate sections of the civil works contract. Expeditious resolution of complaints during construction is important since activities are sometimes continuous and can easily change the landscapes within a week. For the quick filing of complaints, the WDGRC shall prepare a form to be used for the filing of grievances/complaints. The use of form will also facilitate the filing of complaints by illiterate persons. **Appendix 9** has the Sample Grievance Registration Form. Careful documentation of the name of the complainant, date of receipt of the complaint, address/ contact details of the person, location of the problem area and how the problem was resolved, will be undertaken. The WD's SDSO will be responsible for timely grievance redressal on environmental and social safeguards issues and responsible for registration of grievances, related disclosure and communication with the aggrieved party.

57. **Grievance Redress Process.** The steps to be followed in filing complaints and the procedures for redress are the following: (i) complainant shall provide the background and file the complaint verbally or in writing to WDGRC, and the Safeguards Officer or other WD personnel on site shall assist the complainant in filling-up the complaint form; (ii) within 2 working days, the WD-PIU head, contractor's representative, and complainant shall discuss if the complaint can be resolved without calling for a WDGRC meeting; (iii) if the complaint cannot be resolved by the WD-PIU head and contractor's representative, a WDGRC meeting shall be called within 5 working days with the complainant to resolve the complaint; (iv) if the complaint cannot be resolved by the WDGRC within 30 days, the complainant shall raise the issue to the EMB-Region Office; and (v) if the complaint cannot be resolve at the EMB level, the complainant shall seek recourse with the courts. If the complaints are based on violations of the

ECC terms and conditions, the complainant has an option to also bring the issue to EMB-Regional Office. **Figure 4** shows the grievance redress process.

Figure 4: Grievance Redress Process



WD=Water District, PIU=Project Implementation Unit, WDGRC=Water District Grievance Redress Committee, EMB-RO=Environmental Management Bureau-Regional Office.

58. **Record-keeping.** Records will be kept by each WD-PIU of all grievances received including contact details of complainant, date the complaint was received, nature of grievance, agreed corrective actions and the date these were effected, and final outcome.

59. The number of grievances recorded and resolved and the outcomes will be displayed/disclosed in the respective WD offices, LWUA's office, as well as reported in monitoring reports submitted to ADB on semi-annual basis.

60. **Periodic Review and Documentation.** The WD's Safeguards Officer will periodically review the functioning of the GRM and record information on the effectiveness of the mechanism, especially on the project's ability to prevent and address grievances.

61. **Costs.** All costs involved in resolving the complaints (meetings, consultations, communication and reporting/information dissemination) will be borne by the concerned WD; cost estimates for grievance redress are included in resettlement cost estimates.

62. **Complaints to the Department of Environment and Natural Resources.** Complaints about environmental performance of projects issued an Environmental Certificate of Compliance (ECC) can also be brought to the attention of DENR-EMB. The process of handling such complaints is described in the *Revised Procedural Manual (2007)* for the IRR of PD 1586. The steps that DENR-EMB may follow in handling complaints are: (i) DENR-EMB shall verify if the

complaint is actionable under PD.1586, (ii) within 72 hours from receipt of a complaint DENR-EMB will send the proponent a Notice of Alleged Violation (NAV) and requests for an official reply as to why the proponent should not be penalized, (iii) DENR-EMB may conduct field validation, site inspection and verification or other activities to assess or validate the complaint. The proponent is allowed to respond within seven days. Proponent's failure to respond to the NAV and further notices will force DENR-EMB to take legal actions. DENR may issue a Cease and Desist Order (CDO) to project proponents which shall be effective immediately based on: (i) violations under the PEISS, and (ii) situations that present grave or irreparable damage to the environment. PD 1586 also allows DENR to suspend or cancel the proponent's ECC if the terms and conditions have been violated.

VI. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

A. IMPLEMENTATION ARRANGEMENTS – WATER SUPPLY AND SEPTAGE MANAGEMENT

63. **Executing and Implementing Agencies.** For all subprojects, LWUA is the EA and WDs are the IAs. LWUA has overall responsibility for project coordination, implementation, and liaison with ADB and other government offices. LWUA will establish a Project Management Unit (PMU) to coordinate implementation at the national level. The PMU will be responsible for: (i) preparation and implementation of the each subproject, including procurement of goods, works, and services; (ii) management of project implementation consultants; (iii) disbursement of funds and recovery of loan repayments; and (iv) conducting overall monitoring and evaluation, including the preparation of necessary reports, with the help of the implementation consultants. A PMU staff shall be designated as the Safeguards Officer for the WD's subproject.

64. **Water District's Project Implementation Unit (PIU).** During the construction phase, each participating WD will establish a PIU to work closely with the PMU. The WD will provide all the necessary logistic support (vehicle, computers, support staff, etc.) to the PIU for carrying out the related activities for environmental and social safeguard implementation and monitoring. The WD will ensure that bidding and contract documents include specific provisions requiring contractors to comply with all applicable labor laws and core labor standards on (i) prohibition of child labor as defined in national legislation for construction and maintenance activities; (ii) equal pay for equal work of equal value regardless of gender, ethnicity, or caste; (iii) elimination of forced labor; and (iv) the requirement to disseminate information on health to employees and local communities surrounding the project sites.

65. The PIU will be responsible for implementing and monitoring safeguards compliance activities, public relations activities, gender mainstreaming activities, and community participation activities. The PIU will have a Social Development and Safeguards Officer (SDSO), who will be responsible for safeguards functions. The responsibilities of the PIU's SDSO are to: (i) ensure that the EARF provisions are observed, such as ensuring that works are selected according to the environmental criteria for subproject selection; (ii) review and approve IEEs and EMPs; (iii) confirm existing IEEs and EMPs are updated based on detailed designs; (iv) confirm whether the EMPs are included in bidding documents and civil works contracts; (v) provide oversight on environmental management aspects of the subprojects and ensure the EMPs are implemented by contractors; (vi) establish a system to monitor environmental safeguards of all subprojects including monitoring the indicators set out in the monitoring plan of the EMPs; (vii) facilitate and confirm overall

compliance with all government rules and regulations regarding site and environmental clearances as well as any other environmental requirements, as relevant; (viii) review, monitor and evaluate the effectiveness with which the EMPs are implemented, and recommend necessary corrective actions to be taken as necessary; (ix) consolidate monthly environmental monitoring reports and submit semi-annual monitoring reports to EMB-RO, LWUA, and ADB; (x) ensure timely disclosure of final IEE/EMP in locations and form accessible to the public; and (xi) address any grievances brought about through the GRM in a timely manner. The monitoring report will focus on the progress of implementation of the IEEs and RPs, issues encountered and measures adopted, follow-up actions required, if any, as well as status of compliance with relevant subloan covenants.

66. **Contractors.** Each Contractor will have an Environment Supervisor or pollution control officer to (i) coordinate with the WD on updating the IEE/EMP based on detailed designs, and (ii) ensure implementation of the EMP during civil works.

B. INSTITUTIONAL CAPACITY DEVELOPMENT PROGRAM

67. Each WD will organize training of the PIU, and staff on environmental awareness and management in accordance with both ADB and government requirements. Specific modules customized for the available skill set will be devised after assessing the capabilities of the target participants and the requirements of the project. The entire training will cover basic principles of environmental assessment and management; mitigation plans and projects, implementation techniques, monitoring methods and tools. Typical modules that will be present for the training session would be as follows: (i) sensitization; (ii) introduction to environment and environmental considerations in water supply and wastewater projects; (iii) review of IEEs and integration into the project detailed design; (iv) improved coordination within nodal departments; and (v) monitoring and reporting system. Each Contractor will be required to conduct environmental awareness and orientation of workers prior to deployment to work sites.

C. STAFFING REQUIREMENT AND BUDGET

68. The costs for environmental safeguard activities will be borne by the WDs. The cost of mitigation measures and surveys during construction stage will be incorporated into the contractor's costs, which will be binding on him for implementation.

69. The operation phase mitigation measures are again of good operating practices, which will be the responsibility of the WDs. All monitoring during the operation and maintenance (O&M) phase will be conducted by WDs as part of their O&M costs.

VII. MONITORING AND REPORTING

70. The PIU will monitor and measure the progress of EMP implementation. The monitoring activities will be corresponding with the project's risks and impacts and will be identified in the EIAs/IEEs for the projects to verify compliance with the EMP and progress toward the final outcome. The PIU will submit semi-annual monitoring reports the PMU and to ADB. Project budgets will reflect the costs of monitoring and reporting requirements.

71. For subprojects likely to have significant adverse environmental impacts, WDs will retain qualified and experienced external experts to verify its monitoring information and will

submit quarterly self-monitoring reports to EMB Regional Office.

72. ADB will review subproject performance against the WDs' and LWUA's commitments as agreed in the legal documents. The extent of ADB's monitoring and supervision activities will be commensurate with the subproject's risks and impacts. Monitoring and supervising of social and environmental safeguards will be integrated into the project performance management system. ADB will monitor subprojects on an ongoing basis until a project completion report is issued. ADB will carry out the following monitoring actions to supervise project implementation:

(i) Conduct periodic site visits for subprojects with adverse environmental or social impacts;
(ii) Conduct supervision missions with detailed review by ADB's safeguard specialists/officers or consultants for subprojects with significant adverse social or environmental impacts;
(iii) Review the periodic monitoring reports submitted by the EA to ensure that adverse impacts and risks are mitigated as planned and as agreed with ADB;
(iv) Work with the EA to rectify to the extent possible any failures to comply with their safeguard commitments, as covenanted in the legal agreements, and exercise remedies to re-establish compliance as appropriate; and
(v) Prepare a project completion report that assesses whether the objective and desired outcomes of the safeguard plans have been achieved, taking into account the baseline conditions and the results of monitoring.

APPENDIX 1
PILOT WATER DISTRICTS' WATER AND SANITATION SUBPROJECTS

Pilot Water District	Subproject	Details
City of Koronadal WD	Water Supply	In each of five unserved barangays, a new well source, pumping and treatment facilities, a reservoir, new transmission and distribution lines
City of Koronadal WD	Septage Treatment Facility	Construction of a septage treatment facility, procurement of vacuum trucks
Metro San Fernando (La Union) WD	Water Supply	Eight new deepwells and a treatment facility at each, two new reservoirs, rehabilitation of an existing reservoir, new transmission and distribution lines

APPENDIX 2
DENR-EMB List of Environmentally Critical Projects (ECPs) and Environmentally Critical Areas (ECAs)

In accordance with Presidential Proclamation No. 2146, series of 1981 and Proclamation No. 803 (Series of 1996), the four (4) main categories of ECPs are (1) heavy industries; (2) resource extractive industries; (3) infrastructure projects and (4) golf course projects.

1. Heavy Industries

    - Non-Ferrous Metal Industries
    - Iron and Steel Mills
    - Petroleum and Petrochemical Industries
    - Smelting Plants

2. Resource Extractive Industries

    - Non-Ferrous Metal Industries
    - Major Mining and Quarrying Projects
    - Forestry Projects
    - Dikes for/and Fishpond Development Projects

3. Infrastructure Projects

    - Major Dams
    - Major Power Plants
    - Major Reclamation Projects
    - Major Roads and Bridges

4. Golf Course Projects

In accordance with Presidential Proclamation No. 2146, series of 1981, there are twelve (12) main categories of ECAs:

1. Areas declared by law as national parks, watershed reserves, wildlife preserves, and sanctuaries
2. Areas set aside as aesthetic, potential tourist spots
3. Areas which constitute the habitat for any endangered or threatened species of indigenous Philippine Wildlife (flora and fauna)
4. Areas of unique historic, archeological, geological, or scientific interests
5. Areas which are traditionally occupied by cultural communities or tribes
6. Areas frequently visited and or hard-hit by natural calamities
7. Areas with critical slope
8. Areas classified as prime agricultural lands
9. Recharge areas of aquifers
10. Water bodies
11. Mangrove Areas
12. Coral Reefs

APPENDIX 3
INITIAL ENVIRONMENTAL EXAMINATION (IEE) CHECKLIST REPORT for Water Supply Projects

INITIAL ENVIRONMENTAL EXAMINATION (IEE) CHECKLIST REPORT

for

Water Supply Projects

Below is the IEE Checklist for Proponents of the following projects:

Project	Project Size Parameter	Corresponding Project Size/Threshold
Water Supply Systems (Complete System)	number of production wells	≤ 6 wells

Read the questions carefully and write the required information on the spaces provided or otherwise check (✓) the appropriate boxes □ or parenthesis ( ). Use additional sheets if necessary and indicate this in the appropriate space.

Project proponents are strongly **discouraged** to engaged the services of consultants/facilitators to accomplish/fill-up the IEE Checklist Report Form. The Report Forms have been designed to be user-friendly.

Furthermore, EMB Regional Office are required to complete the processing of an ECC application using the IEE Checklist Report within twenty (20) working days upon receipt for completed/duly-accomplished forms.

Misleading or erroneous answers are basis for legal actions and/or denial of ECC issuance.

PROJECT FACT SHEET

Project Name:

Project Location: _____

_____

(Attach proof of compatibility with the existing Land Use Plan)

Total Project Land Area: _____

(Attach proof of ownership or authority over the project site e.g. Title, Lease Agreement, ROW, etc.)

Total Project/Building Footprint Area
(Area actually utilized)

Project Proponent: _____

Office Address: _____

Contact Person: _____

Designation: _____

Contact Information

Telephone Number: _____

Fax Number: _____

Mobile Number: _____

E-mail Address: _____

I. PROJECT DESCRIPTION

1.1 PROJECT LOCATION AND AREA: Street Name, Barangay, and Municipality/City

_____

_____

_____

Attach vicinity map/s and photographs of the project site and site development/layout plan.

Geographic coordinates of the project area (Preferably use WGS 84 datum, otherwise specify datum used).

Perimeter/Boundary points (based on OCT/TCT/etc)	Longitude	Latitude

1.2 PROJECT COMPONENTS

	Facilities	Number of Units	Specification/Description/Remarks (Include capacity, length or other size description)
1.	Water collection		
	Production wells		
	Infiltration gallery		
	Diversion/Collection Weir		
	Others, specify		
2.	Water treatment facility		
	Chemical treatment (e.g., precipitation, coagulation, etc.)		
	Physical treatment (e.g., screening, sedimentation, etc.)		
	Disinfection (e.g., chlorination, etc.)		
3.	Water distribution system		(Indicate service area in m^2 and number of households served) _____ square meters _____ households
	Communal box/faucet (new)		
	Communal box/faucet (for rehabilitation)		
	Water pipelines, distribution main (new)		
	Water pipelines distribution main (for rehabilitation)		
	Water pipelines, service line (new)		
	Water pipelines service line (for rehabilitation)		
	Pumping stations		
4.	Chemical storage facility		
5.	Waste water management facility		
6.	Solid waste management facility		
7.	Drainage System		
8.	Others, specify		

(Use additional sheets if needed)

_____

1.3 UTILITIES/REQUIREMENTS (Operation Phase):

Utilities	Source	Estimated Demand/Consumption
Power/Electricity (Total)		KWh
Power/Electricity (From Renewable Energy Sources)		KWh
Water (Total) (Fill-up table below if water is not obtained from the local water utility)		m^3/day
Water (Rainwater Collection System)		m^3/day

Water Source

[ ] ground water [ ] well [ ] spring [ ] others: _____

[ ] Surface water [ ] river [ ] lake [ ] others: _____

Location of water source

_____

(Sitio/Zone, Barangay, Municipality/City, Province, Region)

Energy/Water Efficiency

Utilities	Estimated Savings	Proposed Efficiency/Conservation Measures
Power/Electricity	KWh	
Water	m^3/day	

1.4 MANPOWER

a. Construction Phase

Manpower Requirement	Expertise/Skills	Total

b. Operation Phase

Manpower Requirement	Expertise/Skills	Total

1.5 INDICATIVE PROJECT COST

Project Cost (PhP): _____

II. ENVIRONMENTAL IMPACTS AND MANAGEMENT PLAN

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
LAND				
☑ Consistency with land use	Current land use w/in 1km radius (as per zoning ordinance): ☐ Residential ☐ Commercial/ Institutional ☐ Industrial ☐ Agricultural/ Recreational ☐ Protected Areas ☐ Others, specify: _____ Actual land uses w/in 1km radius: ☐ Residential ☐ Commercial/ Institutional ☐ Industrial ☐ Agricultural/ Recreational ☐ Protected Areas ☐ Others, specify:_____	☑ See attached proof of compatibility with land use		
☐ Disturbance to wildlife due to vegetation clearing	Existing vegetation in the area: ☐ Forestland ☐ Marshland ☐ Grassland ☐ Mangrove ☐ Wetland ☐ Others, specify:_____	☑ Compliance with conditions of DENR/LGU SLUP, Tree Cutting Permit, ROW, PCA Permit ☑ Limit land clearing as much as possible ☑ Provide temporary fencing to vegetation that will be retained ☑ Promote restoration of damaged or destroyed vegetation where possible (e.g., tree planting);	☑ Annual inspection of area replanted/ revegetated	☑ Cost integrated in the construction /operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
☐ Change in surface landform/ topography/ terrain/slope ☐ Soil Erosion	Slope: ☐ flat (0-3%) ☐ gently sloping to rolling (3-18%) ☐ steep (>18%) Is the project site located in an area identified by MGB/PAGASA/PHIVOLCS as hazard prone? ☐ Yes ☐ No	☐ Provide erosion control and slope protection measures ☐ Designate a Spoils Storage Area, with topsoil set aside for later use and allow maximum re-use of spoils ☐ Construction during dry season ☐ Stabilization of embankment with grasses or other soil cover ☐ Others, specify: _____ ☐ Compliance with the DENR Administrative Order No. 96-37 and DENR Administrative Order No. 2000-28, Implementing Guidelines on Engineering Geological and Geo-hazard Assessment (EGGA).	☐ Regular inspection of slope protection measures in erosion-prone areas ☐ Regular inspection for new eroded areas near the site ☐ Others, specify: _____	☐ Slope/ Erosion Control Cost: _____ ☐ Others, specify: _____
☑ Soil/Land contamination due to improper solid waste disposal	Existing soil type in the area: ☐ sandy ☐ clay ☐ sandy-loam ☐ Others, specify: _____	☑ Implementation of the Ecological Solid Waste Management Plan (ESWMP) ☐ Set-up temporary fence around the construction area ☑ Implement re-use and recycling of waste materials ☑ Implement proper segregation, collection and disposal of domestic wastes in designated areas ☐ Implement proper collection, labeling and storage of hazardous waste ☑ Provide receptacles / bins for solid wastes ☐ Coordinate with the municipal / city waste collectors ☐ Engage third party company for waste collection ☐ Others, specify: _____	☑ Daily inspection of waste/recycling bins for segregation ☑ Daily inspection for presence of mixed garbage in the facility ☑ Weekly inspection of waste accumulated ☐ Others, specify: _____	☑ Cost integrated in the construction /operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
☐ Impairment of visual aesthetics ☐ Devaluation of land values	Presence of visually significant landforms/landscape/structures? ☐ Yes ☐ No	☐ Implement landscaping and other beautification measures ☐ Provide adequate buffer ☐ Compensate adjacent property owners ☐ Others, specify: _____	☐ Regular inspection of landscaping and other beautification activities ☐ Regular monitoring of buffer zones ☑ Regularly monitor presence/absence of complaints from adjacent property owners	☑ Cost integrated in the construction/ operation cost
WATER				
☐ Increased siltation due to project activities ☐ Water quality degradation ☐ Others, specify: _____	Specify nearest/receiving water body: _____ Distance to nearest/receiving water body: ☐ 0 to less than 0.5 km ☐ 0.5 to 1 km ☐ More than 1 km If nearest/receiving water body is fresh water, specify classification: ☐ AA ☐ A ☐ B ☐ C ☐ D If nearest/receiving water body is coastal or marine water, specify classification: ☐ SA ☐ SB ☐ SC ☐ SD	☑ Set-up proper and adequate sanitary facilities ☐ Strictly require the contractor and its workers to observe proper waste disposal and proper sanitation ☑ Strictly observe proper waste handling and disposal ☐ Provision of wastewater treatment facility ☐ Set up silt trap/silting ponds to minimize downstream siltation ☐ Provide ring canals around fueling tanks/ motorpool/ maintenance areas ☐ Others, specify: _____	Regular (ocular) inspection of: ☐ Drainage / canal systems ☐ Water treatment facility (i.e., grease trap, septic tank, etc.) Quarterly monitoring of the following: ☐ pH ☐ TSS concentration ☐ BOD ☐ Total Coliform ☐ Color ☐ Oil and Grease	☑ Cost integrated in the construction/ operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
	Current Water Use: ☐ Fishery ☐ Tourist Zone / Park ☐ Recreational ☐ Industrial ☐ Agricultural			
	Distance of project area to the nearest well used: ☐ 0 to less than 0.5 km ☐ 0.5 to 1 km ☐ More than 1 km Use of the nearest well: ☐ Drinking/Domestic ☐ Industrial ☐ Agricultural			
☐ Competition in water use ☐ Depletion of water resources	Size of population using receiving surface water: ☐ ≤ 1,000 persons ☐ >1,000 and ≤ 5,000persons ☐ >5,000person Available/nearest water source. ☐ Deepwell ☐ Water district/LGU ☐ Surface water ☐ Others, specify: _____	☐ Implement rainwater harvesting and similar measures as an alternative source of water ☑ Observe water conservation measures; ☑ Careful selection of project site to avoid disruption of traditional water uses ☑ Obtain Water Permit from NWRB ☑ Improve efficiency of water supply and distribution system ☐ Implement community ponds and similar measures as alternative water source for non-domestic uses ☑ Increase, when practical, storage capacities of water supply structures for resilience to greater climate variations and extremes ☐ Others, specify: _____	☑ Regularly monitor presence/absence of complaints ☑ Regular coordination with concerned agencies ☑ Regularly monitor occurrences of water shortages ☐ Others, specify: _____	☑ Cost integrated in the construction/ operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
☐ Increased occurrence of flooding	Is the project site located in an area identified by MGB/PAGASA as flood prone? ☐ Yes ☐ No	☐ Use appropriate design for project facilities ☐ Implement appropriate drainage system ☐ Regularly remove debris and other materials that may obstruct water flow ☐ Use appropriate technology (e.g. raised hand-pumps) to protect drinking water from flood contamination ☐ Others, specify: _____	☑ Regularly monitor presence/absence of complaints ☑ Regular coordination with concerned agencies ☑ Regularly monitor increased frequency of flooding ☐ Others, specify: _____	☑ Cost integrated in the construction/ operation cost
AIR / NOISE				
☐ Air quality degradation	Distance to nearest community: ☐ 0 to less than 0.5 km ☐ 0.5 to 1 km ☐ More than 1 km	☐ Properly operate and maintain all emission sources (e.g. vehicles, pumps, generator, etc) ☐ Install when applicable, the appropriate air pollution control device/s ☐ Strictly enforce good housekeeping practices ☐ Control vehicle speed to lessen suspension of road dust ☐ Conduct water spraying to suppress dust sources and minimize discomfort to nearby residents ☐ Use covered vehicles to deliver materials that may generate dust ☐ Other, specify: _____	☑ Regularly monitor presence/absence of complaints Regular (ocular) inspection of: ☐ Absence of white or black smoke from vehicles, generator, etc. ☐ Presence of truck cover during deliveries	☑ Cost integrated in the construction/ operation cost
☐ Nuisance due to noise generation	Distance to nearest community: ☐ 0 to less than 0.5 km ☐ 0.5 to 1 km ☐ More than 1 km	☐ Properly operate and maintain all noise sources (e.g. vehicles, pumps, generator, etc) ☐ Install when applicable, the appropriate noise control device/s (e.g., mufflers, silencer, sound barriers, etc.) ☐ Implement appropriate operating hours	☑ Regularly monitor presence/absence of complaints ☐ Regular monitoring of buffer zones	☑ Cost integrated in the construction/ operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
		☐ Provide adequate buffer and/or planting of trees ☐ Others, specify: _____		
PEOPLE				
☐ Displacement of residents in the project site and within its vicinity ☐ Displacement of Indigenous People ☐ Enhanced employment and/or livelihood opportunities ☐ Reduced employment and/or livelihood opportunities ☐ Increased revenues for LGU ☐ Disruption/Competition in delivery of public services (e.g., education, peace and order, etc.) ☐ Enhanced delivery of public services (e.g., education, peace and order, etc.) ☐ Increase in traffic volume and worsening of traffic flow	Size of population of host barangay: ☐ ≤ 1,000 persons ☐ >1,000 and ≤ 5,000persons ☐ >5,000person Classification of host barangay: ☐ Urban ☐ Rural Available services within/near the host barangay: ☐ Schools (e.g. elementary, high school, college) ☐ Health facilities (e.g., clinics, hospitals, etc.) ☐ Peace and order (e.g., police outpost, brgy. Tanod, etc.) ☐ Recreation and sports facilities ☐ Others, specify: _____	☐ Provide relocation/disturbance compensation packages ☑ Prioritize local residents for employment ☑ Promptly pay local taxes and other financial obligations ☑ Regular coordination with LGU ☐ Prior consultation & coordination to minimize disruption on daily domestic activities & respect for IP rights and cultural practices ☐ Ensure participation of IPs in consultations and dialogues ☐ Provide appropriate traffic/warning signs, lighting, etc ☐ Others, specify : _____	☑ Regularly monitor presence/absence of complaints ☑ Regular coordination with LGU ☐ Others, specify: _____	☑ Cost integrated in the construction/ operation cost
☐ Impacts on community health and safety ☐ Others, specify: _____		☑ Regular coordination with LGU ☐ Provide appropriate warning signs, lighting and barricades, whenever practicable	☑ Regularly monitor presence/absence of complaints ☑ Regular coordination with	☑ Cost integrated in the construction/ operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
		☑ Observe proper housekeeping ☐ Provide on-site medical services for any emergency. ☐ Participate in public awareness programs on health and safety ☐ Implement appropriate safety programs for both community and workers ☑ Strictly comply with fire, safety and similar regulatory requirements ☐ Strictly comply with requirements of RA 6969 ☐ Others, specify: _____	LGU ☑ Regularly monitor submission of reports to concerned agency ☐ Others, specify: _____	

III. ABANDONMENT /DECOMMISSIONING/REHABILITATION POLICIES AND GENERIC GUIDELINES (If Applicable)

Project Life or Service : _____ years
Provide description of the Abandonment activities, such as, dismantling and waste disposal.

_____
_____
_____
_____

IV. INSTITUTIONAL PLAN FOR EMP IMPLEMENTATION

Organization Chart:

Attach drawing/plan of air pollution source and control installations (with dimensions and descriptions)

Process Flow

Attach drawing/plan of waste water treatment facility (with dimensions and descriptions)

SWORN STATEMENT OF ACCOUNTABILITY OF THE PROPONENT

This is to certify that all the information and commitments in this Initial Environmental Examination (IEE) Checklist Report are accurate and complete to the best of my knowledge.

I hereby commit to implement all commitments, mitigating measures and monitoring requirements indicated in this IEE Checklist Report as well as the following:

- Conform with pertinent provisions of applicable environmental laws e.g., R.A. No. 6969 (*Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990*), R.A. No. 9003 (*Ecological Solid Waste Management Act of 2000*), R.A. No. 9275 (*Philippine Clean Water Act of 2004*), and R.A. No. 8749 (*Philippine Clean Air Act of 1999*).
- Abide and conform with LGU development plan and guidelines
- Promptly pay local taxes and other financial obligations
- Regularly submit reports to concerned agencies

I hereby bind myself to answer any penalty that may be imposed arising from any misrepresentation or failure to state material information in this IEE Checklist.

In witness whereof, I hereby set my hand this ____ day of _____ at _____.

_____
NAME OF PROPONENT HEAD
(Position)
(Company Name)

SUBSCRIBED AND SWORN TO before me this _____ day of _____ 201__, affiant exhibiting his/her Community Tax Certificate No. _____ issued at _____ on _____.

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

APPENDIX 4
INITIAL ENVIRONMENTAL EXAMINATION (IEE) CHECKLIST REPORT for Waste Management Projects

WASTE MANAGEMENT PROJECT

INITIAL ENVIRONMENTAL EXAMINATION (IEE) CHECKLIST

For

_____

Project Name or Title

Below is the IEE Checklist Report for Waste Management Projects.
Please check applicable project category:

✓	Project Type	Parameter	Threshold
	Compost/Fertilizer making	Daily production rate	15 MT
	Domestic waste water treatment facility	Quantity of waste to be treated annually	< 5,000 cubic meter
	Materials recovery facility	Kind of activity	With composting facilities of 15 MT daily production rate
	Receiving facilities, paper, plastic and other material recycling	Quantity of waste to be treated annually	< 300,000 MT OR involving the use of chemicals
	Sanitary landfill for domestic waste only	Daily waste input	1000 MT

Read the questions carefully and write the required information on the spaces provided or otherwise check (✓) the appropriate boxes □ or parenthesis ( ). Use additional sheets if necessary and indicate this in the appropriate space.

Project proponents are strongly **discouraged** to engaged the services of consultants/facilitators to accomplish/fill-up the IEE Checklist Report Form. The Report Forms have been designed to be user-friendly.

Furthermore, EMB Regional Office are required to complete the processing of an ECC application using the IEE Checklist Report within twenty (20) working days upon receipt for completed/duly-accomplished forms.

Misleading or erroneous answers are basis for legal actions and/or denial of ECC issuance.

PROJECT FACT SHEET

Project Name: _____

Project Location: _____

(Attach proof of compatibility with the existing Land Use Plan)

Total Project Land Area: _____

(Attach proof of ownership or authority over the project site e.g. Title, Lease Agreement, ROW, etc.)

Total Project/Building Footprint Area _____

(Area actually utilized)

Project Proponent: _____

Office Address: _____

Contact Person: _____

Designation: _____

Contact Information

Telephone Number: _____

Fax Number: _____

Mobile Number: _____

E-mail Address: _____

I. PROJECT DESCRIPTION

1.1 PROJECT LOCATION AND AREA: Street Name, Barangay, and Municipality/City

_____

_____

_____

Attach vicinity map/s and photographs of the project site and site development/layout plan.

Geographic coordinates of the project area (Preferably use WGS 84 datum, otherwise specify datum used).

Perimeter/Boundary points (based on OCT/TCT/etc)	Longitude	Latitude

1.2 PROJECT COMPONENTS

Facilities	No. of Units	Area (sq. m.) / Capacity	Specification/ Description / Remarks
1. Receiving facility			
Transfer station			
Segregation/Sorting facilities			
Mechanized Materials Recovery Transport and Facility (MRTF)			
Recycling facility			
Waste inspection and quarantine area			
Weigh Bridge			
Vehicle Washing Facilities			
Crasher			
Others: (Please specify)			
2. Treatment and disposal facility			
Waste reception area			
Waste quarantine area			
Waste emplacement cells			
Ponds and lagoons			
Composting area			
Others:_____ _____			
3. Support Facilities			
Road/access system			
Drainage system			
Landfill Gas Collection/ Recovery Facility			
Gas venting/ temporary flare			
Leachate collection and treatment facility			
Electrical / Genset Room			
Building for Composting Plant			
Pump Room			
Fuel storage and dispensing facility			
Power Supply System			
Water Supply System			
Others: (please specify) _____			
4. Admin support			
Administration Building			
Guard House			
Engineering Office			
Clinic			
Mess Hall/Canteen			
Personal Quarters			
Motor Pool			
Stalls/Storage			
Trucks Wait Area/ Parking			
Public Toilet			
Laboratory			
Others: (please specify) _____			
5. Water source / supply			
6. Others (please specify) _____ _____			

1.3 UTILITIES/REQUIREMENTS (Operation Phase):

Utilities	Source	Estimated Demand/Consumption
Power/Electricity (Total)		KWh
Power/Electricity (From Renewable Energy Sources)		KWh
Water (Total) (Fill-up table below if water is not obtained from the local water utility)		m^3/day
Water (Rainwater Collection System)		m^3/day

Water Source

[ ] ground water [ ] well [ ] spring [ ] others: _____

[ ] Surface water [ ] river [ ] lake [ ] others: _____

Location of water source

_____

(Sitio/Zone, Barangay, Municipality/City, Province, Region)

Energy/Water Efficiency

Utilities	Estimated Savings	Proposed Efficiency/Conservation Measures
Power/Electricity	KWh	
Water	m^3/day	

1.4 MANPOWER

a. Construction Phase

Manpower Requirement	Expertise/Skills	Total

b. Operation Phase

Manpower Requirement	Expertise/Skills	Total

1.5 INDICATIVE PROJECT COST

Project Cost (PhP): _____

II. ENVIRONMENTAL IMPACTS AND MANAGEMENT PLAN

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
LAND				
☑ Consistency with land use	Current land use w/in 1km radius (as per zoning ordinance): ☐ Residential ☐ Commercial/ Institutional ☐ Industrial ☐ Agricultural/ Recreational ☐ Protected Areas ☐ Others _____ Actual land uses w/in 1km radius: ☐ Residential ☐ Commercial/ Institutional ☐ Industrial ☐ Agricultural/ Recreational ☐ Protected Areas ☐ Others _____	☑ See attached proof of compatibility with land use		
☐ Disturbance to wildlife due to vegetation clearing	Existing vegetation in the area: ☐ Forestland ☐ Marshland ☐ Grassland ☐ Mangrove ☐ Wetland Others, specify _____	☑ Compliance with conditions of DENR/LGU SLUP, Tree Cutting Permit, ROW, PCA Permit ☑ Limit land clearing as much as possible ☑ Provide temporary fencing to vegetation that will be retained ☑ Promote restoration of damaged or destroyed vegetation where possible (e.g., tree planting);	☑ Annual inspection of area replanted/ revegetated	☑ Cost integrated in the construction /operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
☐ Change in surface landform/ topography/ terrain/slope ☐ Soil Erosion	Slope: ☐ flat (0-3%) ☐ gently sloping to rolling (3-18%) ☐ steep (>18%) Is the project site located in an area identified by MGB/PAGASA/PHIVOLCS as hazard prone? ☐ Yes ☐ No	☐ Provide erosion control and slope protection measures ☐ Designate a Spoils Storage Area, with topsoil set aside for later use and allow maximum re-use of spoils ☐ Compliance to the standard criteria for sanitary landfill development DAO 49 and 50. ☐ Construction during dry season ☐ Stabilization of embankment with grasses or other soil cover ☐ Others, specify _____ ☐ Compliance with the DENR Administrative Order No. 96-37 and DENR Administrative Order No. 2000-28, Implementing Guidelines on Engineering Geological and Geo-hazard Assessment (EGGA).	☐ Regular inspection of slope protection measures in erosion-prone areas ☐ Regular inspection for new eroded areas near the site ☐ Others (Pls. specify): _____	☐ Slope/ Erosion Control Cost: _____ ☐ Others, specify _____ _____
☑ Soil/Land contamination due to improper solid waste disposal	Existing soil type in the area: ☐ sandy ☐ clay ☐ sandy-loam ☐ Others, specify _____	☑ Implementation of the Ecological Solid Waste Management Plan (ESWMP); ☐ Set-up temporary fence around the construction area ☑ Implement re-use and recycling of waste materials ☑ Implement proper segregation, collection and disposal of domestic wastes in designated areas ☑ Implement proper collection, labeling and storage of hazardous waste	☑ Daily inspection of waste/recycling bins for segregation ☑ Daily inspection for presence of mixed garbage in the facility ☑ Weekly inspection of waste accumulated ☐ Others, specify: _____	☑ Cost integrated in the construction /operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
		☑ Provide receptacles / bins for solid wastes ☑ Coordinate with the municipal / city waste collectors ☐ Engage third party company for waste collection ☐ Others, specify: _____		
☐ Impairment of visual aesthetics ☐ Devaluation of land values	Presence of visually significant landforms/landscape/structures? ☐ Yes ☐ No	☑ Implement landscaping and other beautification measures ☑ Provide adequate buffer ☐ Compensate adjacent property owners ☐ Others, specify: _____	☑ Regular inspection of landscaping and other beautification activities ☑ Regular monitoring of buffer zones ☑ Regularly monitor presence/absence of complaints from adjacent property owners	☑ Cost integrated in the construction/ operation cost
☐ Encroachment into protected areas or ecologically-sensitive areas	Is the project area near protected areas or ecologically-sensitive areas? ☐ Yes ☐ No	☑ Obtain appropriate permits/clearances from concerned agencies ☑ Provide adequate buffer ☐ Others, specify: _____	☑ Regular coordination with concerned agencies	☑ Cost integrated in the construction/ operation cost
WATER				
☐ Increased siltation due to project activities ☐ Water quality degradation ☐ Others, specify _____	Specify nearest/receiving water body: _____ Distance to nearest/receiving water body: ☐ 0 to less than 0.5 km ☐ 0.5 to 1 km	☑ Set-up proper and adequate sanitary facilities ☐ Strictly require the contractor and its workers to observe proper waste disposal and proper sanitation ☑ Strictly observe proper waste handling and disposal ☐ Provision of wastewater treatment facility	Regular (ocular) inspection of: ☐ Drainage / canal systems ☐ Water treatment facility (i.e., grease trap, septic tank, etc.) Monthly monitoring of the following: ☐ pH	☑ Cost integrated in the construction/ operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
	☐ More than 1 km If nearest/receiving water body is fresh water, specify classification: ☐ AA ☐ A ☐ B ☐ C ☐ D If nearest/receiving water body is coastal or marine water, specify classification: ☐ SA ☐ SB ☐ SC ☐ SD Current Water Use: ☐ Fishery ☐ Tourist Zone / Park ☐ Recreational ☐ Industrial ☐ Agricultural	(e.g. septic tank, oil and water separator, etc.) ☐ Set up silt trap/settling ponds to minimize downstream siltation ☐ Provide ring canals around fueling tanks/ motor pool/ maintenance areas ☐ Limit, where possible, the extent of impervious (paved) areas ☐ Installation of biogas digesters system ☐ provision on at least 50 meters distance between the landfill and any perennial lake, stream or river ☐ Provision on the minimum standard for sanitary landfill liner system ☐ Installation of underdrain system ☐ Separation of at least two (2) meters between the top of the liner system and the underlying groundwater ☐ Others (Pls. specify): _____	☐ TSS concentration ☐ BOD ☐ Total Coliform ☐ Color ☐ Oil and Grease Monthly monitoring of the following: ☐ Trace Metals (Pb, Cd, Hg, CrS, As)	

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
☐ Increased occurrence of flooding	Is the project site located in an area identified by MGB/PAGASA as flood prone? ☐ Yes ☐ No	☐ Use appropriate design for project facilities ☐ Implement appropriate drainage system ☐ Regularly remove debris and other materials that may obstruct water flow ☐ Use appropriate technology (e.g. raised hand-pumps) to protect drinking water from flood contamination ☐ Others, specify: _____	☑ Regularly monitor presence/absence of complaints ☑ Regular coordination with concerned agencies ☑ Regularly monitor increased frequency of flooding ☐ Others, specify: _____	☑ Cost integrated in the construction/ operation cost
AIR/NOISE				
☐ Air quality degradation	Distance to nearest community: ☐ 0 to less than 0.5 km ☐ 0.5 to 1 km ☐ More than 1 km	☐ Properly operate and maintain all emission sources (e.g. vehicles, boiler, generator, etc) ☐ Install when applicable, the appropriate air pollution control device/s ☐ Install methane recovery facility ☐ Install biogas and composting facility ☐ Strictly enforce good housekeeping practices ☐ Control vehicle speed to lessen suspension of road dust ☐ Conduct water spraying to suppress dust sources and minimize discomfort to nearby residents ☐ Use covered vehicles to deliver materials that may generate dust ☐ Other, specify _____	☑ Regularly monitor presence/absence of complaints Regular (ocular) inspection of: ☐ Absence of white or black smoke from vehicles, heavy equipment, generator, etc. ☐ Presence of truck cover during deliveries Quarterly monitoring of ambient air for the following: ☐ TSP ☐ PM10 ☐ NOx ☐ SOx ☐ CO / CO_2	☑ Cost integrated in the construction/ operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
☐ Nuisance due to generation of obnoxious/unpleasant odor	Distance to nearest community: ☐ 0 to less than 0.5 km ☐ 0.5 to 1 km ☐ More than 1 km Is the wind direction blowing towards the nearest community most of the year? ☐ Yes ☐ No	☐ Use of environment-friendly deodorizer or odor masking substances ☐ Spraying natural / microbial disinfectants ☐ Daily application of soil cover ☐ Provide adequate buffer and/or planting of trees ☐ Others (Pls. specify): _____	☑ Regularly monitor presence/absence of complaints	☑ Cost integrated in the construction/ operation cost
☐ Nuisance due to noise generation	Distance to nearest community: ☐ 0 to less than 0.5 km ☐ 0.5 to 1 km ☐ More than 1 km	☐ Properly operate and maintain all noise sources (e.g. vehicles, boiler, generator, etc) ☐ Install when applicable, the appropriate noise control device/s (e.g., mufflers, silencer, sound barriers, etc.) ☐ Implement appropriate operating hours ☐ Provide adequate buffer and/or planting of trees ☐ Others, specify ☐ _____	☑ Regularly monitor presence/absence of complaints ☐ Regular monitoring of buffer zones	☑ Cost integrated in the construction/ operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
PEOPLE				
☐ Displacement of residents in the project site and within its vicinity ☐ Displacement of Indigenous People ☐ Enhanced employment and/or livelihood opportunities ☐ Reduced employment and/or livelihood opportunities ☐ Increased revenues for LGU ☐ Disruption/Competition in delivery of public services (e.g., education, peace and order, etc.) ☐ Enhanced delivery of public services (e.g., education, peace and order, etc.) ☐ Increase in traffic volume and worsening of traffic flow	Size of population of host barangay: ☐ ≤ 1,000 persons ☐ >1,000 and ≤ 5,000persons ☐ >5,000person Classification of host barangay: ☐ Urban ☐ Rural Available services within/near the host barangay: ☐ Schools (e.g. elementary, high school, college) ☐ Health facilities (e.g., clinics, hospitals, etc.) ☐ Peace and order (e.g., police outpost, brgy. Tanod, etc.) ☐ Recreation and sports facilities ☐ Others, specify: _____ ___	☐ Provide relocation/disturbance compensation packages ☑ Prioritize local residents for employment ☑ Promptly pay local taxes and other financial obligations ☑ Regular coordination with LGU ☐ Prior consultation & coordination to minimize disruption on daily domestic activities & respect for IP rights and cultural practices ☐ Ensure participation of IPs in consultations and dialogues ☐ Provide appropriate traffic/warning signs, lighting, etc ☐ Others: specify _____	☑ Regularly monitor presence/absence of complaints ☑ Regular coordination with LGU ☐ Others, specify _____	☑ Cost integrated in the construction/ operation cost

Possible Environmental/ Social Impacts	Baseline Environment	Preventive/ Mitigating Measures	Monitoring Parameters/ Implementation	Cost of Mitigation/ Monitoring
☐ Impacts on community health and safety ☐ Others, specify _____ _____		☑ Regular coordination with LGU ☐ Provide appropriate warning signs, lighting and barricades, whenever practicable ☑ Observe proper housekeeping ☐ Provide on-site medical services for any emergency. ☐ Participate in public awareness programs on health and safety ☐ Regularly spray disinfectant, pesticides and other similar substances when applicable ☑ Implement appropriate safety programs for both community and workers ☑ Strictly comply with fire, safety and similar regulatory requirements ☐ Strictly comply with requirements of RA 6969 ☐ Others, specify _____	☑ Regularly monitor presence/absence of complaints ☑ Regular coordination with LGU ☑ Regularly monitor submission of reports to concerned agency ☐ Others, specify _____	☑ Cost integrated in the construction/ operation cost

III. ABANDONMENT /DECOMMISSIONING/REHABILITATION POLICIES AND GENERIC GUIDELINES (If Applicable)

Project Life or Service : _____ years

Provide description of the Abandonment activities, such as, final sealing of the filled landfill, subsidence process and the monitoring and inspection activity.

IV. INSTITUTIONAL PLAN FOR EMP IMPLEMENTATION

To include in the plan a discussion on improve coordination within and among affected stakeholders, organizing, and providing scientific, technical and managerial personnel on climate change.

Organization Chart:

Insert chart here:

Attach sketch plan/lay-out of the project

(Use additional sheet if necessary)

Attach site development/layout plan (with dimensions and descriptions)

SWORN STATEMENT OF ACCOUNTABILITY OF THE PROPONENT

This is to certify that all the information and commitments in this Initial Environmental Examination (IEE) Checklist Report are accurate and complete to the best of my knowledge.

I hereby commit to implement all commitments, mitigating measures and monitoring requirements indicated in this IEE Checklist Report as well as the following:

- Conform with pertinent provisions of applicable environmental laws e.g., R.A. No. 6969 (*Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990*), R.A. No. 9003 (*Ecological Solid Waste Management Act of 2000*), R.A. No. 9275 (*Philippine Clean Water Act of 2004*), and R.A. No. 8749 (*Philippine Clean Air Act of 1999*).
- Abide and conform with LGU development plans and guidelines
- Promptly pay local taxes and other financial obligations
- Regularly submit reports to concerned agencies

I hereby bind myself to answer any penalty that may be imposed arising from any misrepresentation or failure to state material information in this IEE Checklist.

In witness whereof, I hereby set my hand this ____ day of _____ at _____.

_____
NAME OF PROPONENT HEAD
(Position)
(Company Name)

SUBSCRIBED AND SWORN TO before me this _____ day of _____ 201__, affiant exhibiting his/her Community Tax Certificate No. _____ issued at _____ on _____.

Doc. No. _____
Page No. _____
Book No. _____
Series of _____

APPENDIX 5
DENR Effluent Standards (DENR Administrative Order No. 1990-35)

TABLE 1 _ EFFLUENT STANDARDS: TOXIC AND OTHER DELETERIOUS SUBSTANCE
(Maximum Limits for the Protection of Public Health)

PARAMETER	UNIT	PROTECTED WATERS CATEGORY I (Class AA & SA)		PROTECTED WATERS CATEGORY II (Class A, B, & SB)		INLAND WATERS CLASS C		MARINE WATERS CLASS SC		MARINE WATERS CLASS SD	
		OEI	NPI	OEI	NPI	OEI	NPI	OEI	NPI	OEI	NPI
Arsenic	mg/L	(B)	(B)	0.2	0.1	0.5	0.2	1.0	0.5	1.0	0.5
Cadmium	mg/L	(B)	(B)	0.05	0.02	0.1	0.05	0.2	0.1	0.5	0.2
Chromium (hexavalent)	mg/L	(B)	(B)	0.1	0.05	0.2	0.1	0.5	0.2	1.0	0.5
Cyanide	mg/L	(B)	(B)	0.2	0.1	0.3	0.2	0.5	0.2	--	--
Lead	mg/L	(B)	(B)	0.2	0.1	0.5	0.3	1.0	0.5	--	--
Mercury	mg/L	(B)	(B)	0.005	0.005	0.005	0.005	0.005	0.005	0.05	0.01
PCB	mg/L	(B)	(B)	0.003	0.003	0.003	0.003	0.003	0.003	--	--
Formaldehyde	mg/L	(B)	(B)	2.0	1.0	0.2	1.0	2.0	1.0	--	--

TABLE 2A _ EFFLUENT STANDARDS: Conventional and Other Pollutants in Protected Waters Category I & II and in Inland Waters Class CA

PARAMETER	UNIT	PROTECTED WATERS				INLAND WATERS	
		CATEGORY I (CLASS AA & SA)		CATEGORY II (CLASS A,B, & SB)		CLASS C.	
		OEI	NPI	OEI	NPI	OEI	NPI
Color	PCU	(B)	(B)	150	100	200(C)	150(D)
Temperature oC rise (max. rise in deg.Celsius in RBW)		(B)	(B)	3	3	3	3
pH (range)		(B)	(B)	6.0-9.0	6.0-9.0	6.0-9.0	6.5-9.0
COD	mg/L	(B)	(B)	100	60	150	100
p 6 2							
Settleable Solids (1-hour)	mL/L	(B)	(B)	0.3	0.3	0.5	0.5
5-Day 20oC BOD	mg/L	(B)	(B)	50	30	80	50
Total Suspended Soils	mg/L	(B)	(B)	70	50	90	70
Total Dissolved Solids	mg/L	(B)	(B)	1,200	1,000	1,500	1,000
Surfactants	mg/L	(B)	(B)	5.0	2.0	7.0	5.0
Oil/Grease (Petroleum Ether Extract)	mg/L	(B)	(B)	5.0	5.0	10.0	5.0
Phenolic Substances as Phenols	mg/L	(B)	(B)	0.1	0.05	0.5(G)	0.1(G)
Total Coliforms	MPN/mL	(B)	(B)	5,000	3,000	15,000	10,000

TABLE 2B - EFFLUENT STANDARDS: Conventional and Other Pollutants in Inland Waters Class D,Coastal Waters Class SC and SD and Other Coastal Waters not yet Classified)

PARAMETER	UNIT	INLAND WATERS (CLASS D)		COASTAL WATERS (CLASS SC)		CLASS SD & OTHER COASTAL WATERS NOT CLASSIFIED	
		OEI	NPI	OEI	NPI	OEI	NPI
Color	PCU	—	—	(C)	(C)	(C)	(C)
Temperature (max. rise in deg. Celsiusin RBW)	oC rise	3	3	3	3	3	3
pH (range)		5.0-9.0	6.0-9.0	6.0-9.0	6.0-9.0	5.0-9.0	5.0-9.0
COD	mg/L	250	200	250	200	300	200
5-Day 20oC BOD	mg/L	150(D)	120	120(D)	100	150(D)	120
Total Suspended Solids	mg/L	200	150	200	150	(G)	(F)
Total Dissolved Solids	mg/L	2,000(H)	1,500(H)	---	---	---	---
Surfactants (MBAS)	mg/L	---	---	15	10	---	---
Oil/Grease (Petroleum Ether Extract)	mg/L	---	---	15	10	15	15
Phenolic Substances as Phenols	mg/L	---	---	1.0(I)	0.5(I)	5.0	1.0
Total Coliforms	MPN/ 100mL	(J)	(J)	---	---	---	---

APPENDIX 6
Rapid Environmental Assessment (REA) Checklist for Water Supply

Rapid Environmental Assessment (REA) Checklist

Instructions:

(I) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES) for endorsement by the Director, RSES and for approval by the Chief Compliance Officer.

(II) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.

(III) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:

Sector Division:

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area...			
• Densely populated? • Heavy with development activities? • Adjacent to or within any environmentally sensitive areas?			
⇒ Cultural heritage site			
⇒ Protected Area			
⇒ Wetland			
⇒ Mangrove			
⇒ Estuarine			
⇒ Buffer zone of protected area			
⇒ Special area for protecting biodiversity			
⇒ Bay **B. Potential Environmental Impacts** Will the Project cause... • pollution of raw water supply from upstream wastewater discharge from communities, industries, agriculture, and soil erosion runoff?			

Screening Questions	Yes	No	Remarks
• impairment of historical/cultural monuments/areas and loss/damage to these sites?			
• hazard of land subsidence caused by excessive ground water pumping? • social conflicts arising from displacement of communities ?			
• conflicts in abstraction of raw water for water supply with other beneficial water uses for surface and ground waters? • unsatisfactory raw water supply (e.g. excessive pathogens or mineral constituents)?			
• delivery of unsafe water to distribution system? • inadequate protection of intake works or wells, leading to pollution of water supply?			
• over pumping of ground water, leading to salinization and ground subsidence? • excessive algal growth in storage reservoir? • increase in production of sewage beyond capabilities of community facilities? • inadequate disposal of sludge from water treatment plants? • inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances and protect facilities? • impairments associated with transmission lines and access roads?			
• health hazards arising from inadequate design of facilities for receiving, storing, and handling of chlorine and other hazardous chemicals. • health and safety hazards to workers from handling and management of chlorine used for disinfection, other contaminants, and biological and physical hazards during project construction and operation?			
• dislocation or involuntary resettlement of people? • disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
• noise and dust from construction activities? • increased road traffic due to interference of construction activities?			
• continuing soil erosion/silt runoff from construction operations?			

Screening Questions	Yes	No	Remarks
• delivery of unsafe water due to poor O&M treatment processes (especially mud accumulations in filters) and inadequate chlorination due to lack of adequate monitoring of chlorine residuals in distribution systems?			
• delivery of water to distribution system, which is corrosive due to inadequate attention to feeding of corrective chemicals? • accidental leakage of chlorine gas?			
• excessive abstraction of water affecting downstream water users? • competing uses of water?			
• increased sewage flow due to increased water supply • increased volume of sullage (wastewater from cooking and washing) and sludge from wastewater treatment plant			
• large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)? • social conflicts if workers from other regions or countries are hired? • risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during operation and construction?			
• community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?			

Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks
• Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I)? • Could changes in temperature, precipitation, or extreme events patterns over the Project lifespan affect technical or financial sustainability (e.g., changes in rainfall patterns disrupt reliability of water supply; sea level rise creates salinity intrusion into proposed water supply source)?			
• Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g.,high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? • Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by using water from a vulnerable source that is relied upon by many user groups, or encouraging settlement in earthquake zones)?			

* Hazards are potentially damaging physical events.

APPENDIX 7
Rapid Environmental Assessment (REA) Checklist for Sewage Treatment

Rapid Environmental Assessment (REA) Checklist

Instructions:

(I) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES) for endorsement by the Director, RSES and for approval by the Chief Compliance Officer.

(II) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.

(III) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title:	
Sector Division:	

Screening Questions	Yes	No	Remarks
B. Project Siting Is the project area… • Densely populated?			
• Heavy with development activities? • Adjacent to or within any environmentally sensitive areas?			
• Cultural heritage site			
• Protected Area			
• Wetland			
• Mangrove			
• Estuarine • Buffer zone of protected area • Special area for protecting biodiversity • Bay **A. Potential Environmental Impacts** Will the Project cause… • Impairment of historical/cultural monuments/areas and loss/damage to these sites?			

Screening Questions	Yes	No	Remarks
• interference with other utilities and blocking of access to buildings; nuisance to neighboring areas due to noise, smell, and influx of insects, rodents, etc.? • dislocation or involuntary resettlement of people?			
• disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups? • impairment of downstream water quality due to inadequate sewage treatment or release of untreated sewage?			
• overflows and flooding of neighboring properties with raw sewage? • environmental pollution due to inadequate sludge disposal or industrial waste discharges illegally disposed in sewers?			
• noise and vibration due to blasting and other civil works? • risks and vulnerabilities related to occupational health and safety due to physical, chemical,and biological hazards during project construction and operation? • discharge of hazardous materials into sewers, resulting in damage to sewer system and danger to workers?			
• inadequate buffer zone around pumping and treatment plants to alleviate noise and other possible nuisances, and protect facilities? • road blocking and temporary flooding due to land excavation during the rainy season?			
• noise and dust from construction activities? • traffic disturbances due to construction material transport and wastes?			
• temporary silt runoff due to construction? • hazards to public health due to overflow flooding, and groundwater pollution due to failure of sewerage system?			
• deterioration of water quality due to inadequate sludge disposal or direct discharge of untreated sewage water? • contamination of surface and ground waters due to sludge disposal on land?			

Screening Questions	Yes	No	Remarks
• health and safety hazards to workers from toxic gases and hazardous materials which maybe contained in confined areas, sewage flow and exposure to pathogens in untreated sewage and unstabilized sludge?			
• large population increase during project construction and operation that causes increased burden on social infrastructure (such as sanitation system)? • social conflicts between construction workers from other areas and community workers? • risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			
• community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning?			

Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks
• Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I)? • Could changes in precipitation, temperature, salinity, or extreme events over the Project lifespan affect its sustainability or cost? • Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g. high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)?			
• Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., increasing traffic or housing in areas that will be more prone to flooding, by encouraging settlement in earthquake zones)?			

APPENDIX 8
Outline of an Environmental Impact Assessment Report (ADB SPS – 2009)

OUTLINE OF AN ENVIRONMENTAL IMPACT ASSESSMENT REPORT

This outline is part of the Safeguard Requirements 1. An environmental assessment report is required for all environment category A and B projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical EIA report contains the following major elements, and an IEE may have a narrower scope depending on the nature of the project. The substantive aspects of this outline will guide the preparation of environmental impact assessment reports, although not necessarily in the order shown.

A. Executive Summary

This section describes concisely the critical facts, significant findings, and recommended actions.

B. Policy, Legal, and Administrative Framework

This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.

C. Description of the Project

This section describes the proposed project; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (for example, access roads, power plants, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence.

D. Description of the Environment (Baseline Data)

This section describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.

E. Anticipated Environmental Impacts and Mitigation Measures

This section predicts and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media [Appendix 2, para. 6]), and physical cultural resources in the project's area of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that cannot be mitigated; explores opportunities for enhancement; identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics that do not require further attention; and examines global, transboundary, and cumulative impacts as appropriate.

F. Analysis of Alternatives

This section examines alternatives to the proposed project site, technology, design, and operation—including the no project alternative—in terms of their potential environmental

impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements. It also states the basis for selecting the particular project design proposed and, justifies recommended emission levels and approaches to pollution prevention and abatement.

G. Information Disclosure, Consultation, and Participation

This section:

(I) describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;

(II) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and

(III) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

H. Grievance Redress Mechanism

This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

I. Environmental Management Plan

This section deals with the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority). It may include multiple management plans and actions. It includes the following key components (with the level of detail commensurate with the project's impacts and risks):

(I) Mitigation:

(a) identifies and summarizes anticipated significant adverse environmental impacts and risks;

(b) describes each mitigation measure with technical details, including the type of impact to which it relates and the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and

(c) provides links to any other mitigation plans (for example, for involuntary resettlement, Indigenous Peoples, or emergency response) required for the project.

(II) Monitoring:

(a) describes monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations,

frequency of measurements, detection limits and definition of thresholds that will signal the need for corrective actions; and

(b) describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.

(iii) Implementation arrangements:

(a) specifies the implementation schedule showing phasing and coordination with overall project implementation;

(b) describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures, which may include one or more of the following additional topics to strengthen environmental management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and

(c) estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.

(iv) Performance indicators: describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

J. Conclusion and Recommendation

This section provides the conclusions drawn from the assessment and provides recommendations.

APPENDIX 9
SAMPLE GRIEVANCE REDRESS FORM

The _____Project welcomes complaints, suggestions, queries, and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing "(CONFIDENTIAL)" above your name. Thank you.

Date		**Place of Registration**			
Contact Information/Personal Details					
Name		**Gender**	* Male * Female	**Age**	
Home Address					
Place					
Phone no.					
E-mail					
Complaint/Suggestion/Comment/Question Please provide the details (who, what, where, and how) of your grievance below: If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of Official registering grievance)	
Mode of communication: Note/Letter E-mail Verbal/Telephonic	
Reviewed by: (Names/Positions of Officials Reviewing Grievance)	
Action Taken:	
Whether Action Taken Disclosed:	Yes No
Means of Disclosure:	