Environmental and Social Considerations in Detailed Planning Survey
(Technical Cooperation for Development Planning)

1. Full title of the Project

Project for Master Plan Study for Comprehensive Wastewater Management in Davao City

2. Type of the study (e.g. Master Plan, Feasibility Study, Detailed Design, etc.)

Studies on the Master Plan Formulation and Feasibility as Technical Cooperation for Development Planning.

3. Categorization and its reason

(1) Category: B

(2) Reason:

The project is not likely to have significant adverse impact on the environment under the JICA guidelines for environmental and social considerations (April 2010) in terms of its sectors, characteristics and areas.

4. Agency or institution responsible for the implementation of the project

Davao City (DC)

5. Outline of the Project (objectives, justification, location, proposed activities, and scope of the study)

5.1 Objectives

The purpose of the Project is that the sanitary environment and water pollution in Davao City is improved through comprehensive wastewater management* utilizing the Master Plan (M/P) and Feasibility Study (F/S) developed in the Project.

5.2. Justification

Davao City, located on the island of Mindanao, is the third largest city in the Philippines with a population of approximately 1.78 million (2020). The city has a vast area of 2,440 km^2, but population and economic activities are concentrated in the urban area, which accounts for 7% of the city's total administrative area, and rapid urbanization is occurring. This

overcrowding of the city has resulted in the escalation of various urban problems, such as water pollution and urban sanitation problems due to inadequate wastewater management.

Wastewater management in Davao City does not involve large-scale treatment, except for decentralized wastewater treatment facilities installed in some large shopping malls. Currently, the most of households discharge untreated wastewater directly into roadside ditches. Also, the septic tanks installed in each household discharge overflow water that is not well managed. Although septic tanks are widely used, with a penetration rate of about 94% of the city's total population, the percentage of respondents who answered "never" and "don't know" in the interview survey regarding the frequency of septage withdrawal was over 80%. This can be attributed to the situation that no outlet can be found, no system for proper collection of septage has been established, and there are currently no facilities to treat septage. In the Davao River and Davao Bay, concentrations of nitrogen, phosphorus, and fecal coliform have been observed that exceed the water quality standards of the Philippines, and this is thought to be partly due to the lack of proper planning and implementation of wastewater management.

This project will support the formulation of a Master Plan for comprehensive wastewater management and a Feasibility Study for priority projects in Davao City through centralized and decentralized wastewater management and septage management. The Feasibility Study will also help Davao City to organize the necessary financing methods, project implementation systems, and human resource development plans, etc., in order to proceed with the implementation of the project and strengthen the capacity of Davao City and related institutions.

5.3. Location

Davao City, The Philippines:

Davao City is located on southeastern Mindanao, and approximately 946 km southeast of Manila.

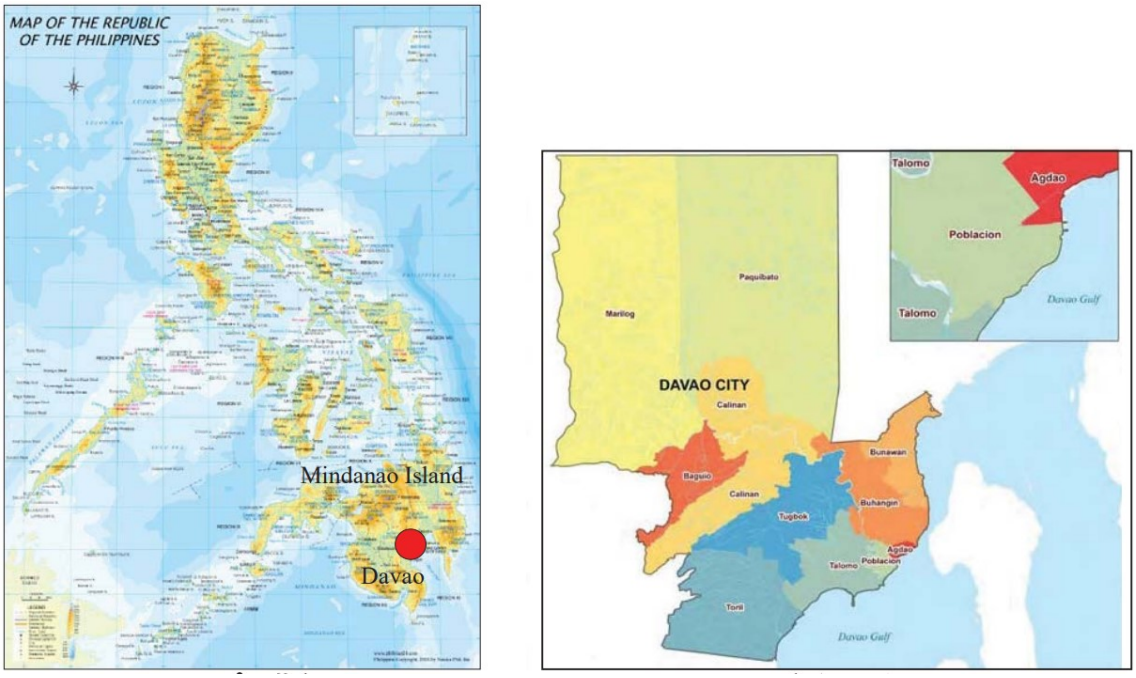

Figure 1. Location of Davao City and map of Davao City

- People

Residents of the Davao region are known as Davaoeños. Nearly all local Davaoeño are Visayan, while other groups of varying ethnicity, collectively referred to as Lumad, comprise the remainder of the population. Indonesians, Malaysians, Chinese, Koreans, Japanese, and Indians, form a small community respectively in Davao City. Non-Asians such as Americans and Europeans are also present in Davao City.

- Language

Cebuano (Visayan) is the most widely spoken language in Davao city. English is used in schooling and is widely understood by residents there. In addition to Cebuano, Chavacano and Hiligaynon are also widely spoken, along with other local languages.

- Religion

The majority of Davao City residents are Roman Catholics, representing 80% of the population. Other Christian groups comprise 18 percent. The remaining 2 percent are mostly Muslim. Other religions are Sikhism, Hinduism, Buddhism, animism, Judaism, and non-religious

- Population and Area

Davao City consists of 182 barangays grouped into 11 administrative districts and 3 congressional districts. Total population is 1,632,991 in 2015 and average annual growth rate is 2.3% in population from 2010 to 2015. Davao City has a vast area of 244,000 ha (or 2,440 km2) and is the largest city in the world.

- Climate

Davao City has a tropical rainforest climate with little seasonal variation in temperature. According to the Philippine Atmospheric, Geophysical and Astronomical Service Administration (PAGASA), the average monthly temperature is consistently above 27°C and the average monthly rainfall is above 100 mm (1981-2010).

- Geography

Davao City is composed of mountains and lowlands. Mountains occupy the northern part, while the southeastern part of the city is a flat area where urbanization continues to expand. The flat areas are distributed along the coastline facing Davao Bay. The topography comprising Davao City ranges in elevation from less than 0 m to 1,385 m. Topographic conditions in the urbanized areas such as Agdao and Poblacion Districts are flatter with lands and elevations less than 10 m. Most of the mountain slopes in Davao are covered with sedimentary rocks and volcanic deposits. Davao City is rich in metallic minerals such as chromium, copper, gold, silver, and lead, as well as nonmetallic minerals such as limestone, white clay, molybdenum, phosphate, and sulfur.

5.4 Scope of the Project

5.4.1 Expected Goals which will be attained after implementing the proposed plan

Appropriate wastewater management is promoted by utilizing the M/P and F/S developed in the Project.

5.4.2 Outputs

1)Basic information needed for formulating the M/P in Davao City is collected and analyzed.

2) The M/P for comprehensive wastewater management in Davao City is formulated.

3) The F/S for priority projects in the M/P is conducted.

4) Financing methods for priority projects are considered.

5) The capacity of comprehensive wastewater management of Davao City and Davao City Water District is strengthened.

5.4.3 Activities

1) Basic data collection, evaluation and analysis of the current status

a. Natural environment and socio-economic conditions in Davao City

b. Relevant plans in Davao City (such as drainage plan, solid waste management plan, land use plan, environment protection plan, etc.)

c. Water quality of groundwater, rivers, lakes and coastal water, sources of pollution load in Davao City, etc.

d. Laws, regulations, plans and strategies related to comprehensive wastewater management

e. Organization and institutional structure related to comprehensive wastewater management

f. Existing facilities related to comprehensive wastewater management

g. Existing projects, achievements and future plans of public works, the public-private partnership (PPP) project, etc. related to comprehensive wastewater management

h. Reuse of treated water, disposal and utilization of sludge generated by sewerage and septage

i. Activities to raise public awareness of comprehensive wastewater management and environment conservation

j. Public awareness and willingness to pay for comprehensive wastewater management and water environment conservation

k. Methods of financial arrangements for the wastewater management and for the water supply and sanitation sector

l. Analysis of economy, financial situations, future plans and goals of the implementing agency

m. Issues related to comprehensive wastewater management

2) Formulation of the M/P

a. Setting basic policies, objectives, target area and planning parameters (forecasts of future population and wastewater volume)

b. Collection and treatment methods for comprehensive wastewater management

c. Predictive evaluation and formulation of monitoring plan of the effect on the improvement of public water bodies through the comprehensive wastewater management

d. Formulation of the M/P (long-term and medium-term plan), and the implementation plan (3-year action plan).

e. Analysis of approximate project cost estimates

f. Study on criteria of sewer connections, its procedures and promotion measures

g. Study for the possibility of acceptance of industrial wastewater (pre-treatment methods, water quality standard and procedure for acceptance)

h. Study on stepwise development measures for comprehensive wastewater management

i. Study on the improvement of capacity and implementation structure of operation and maintenance for comprehensive wastewater management

j. Study on the tariff system of wastewater management (sewerage and/or septage system)

k. Proposal for institutional development plan, human resource development plan, operation and maintenance plan and asset management plan

l. Proposal for financial plan

m. Study on domestic laws, ordinances, procedures and implementation structures for the implementation of the plans

n. Study on procedures of revision of the M/P and 3-year action plan.

o. Survey on Environmental and social consideration

p. Study on enhancement of raising public awareness

q. Selection of priority projects in the M/P though the studies and surveys above

3) The F/S for priority projects

a. Identify the priority projects for F/S

b. Additional data and information collection

c. Survey on natural environment conditions (Topographic, geotechnical, volume of water flow, water level and water quality)

d. Preliminary design

e. Procurement and construction plan

f. Operation and maintenance plan (including the financial aspects)

g. Cost estimation

h. Economic and financial analysis

i. Project Implementation plan

j. Survey on environmental and social consideration

k. Consultations with stakeholders

4) Study on financing methods for priority projects

a. Study on national subsidy scheme such as National Sewerage and Septage Management Program (NSSMP), private funds such as Public Private Partnership and loans or grants from international organizations and JICA

b. Study on roles and procedures of relevant organizations regarding financial arrangements

c. Study on financial arrangements for priority projects

d. Support for application for NSSMP, etc.

5) Capacity Development on comprehensive wastewater management

a. On-the-job training of staffs

b. Training in Japan

c. Periodical meeting for information sharing (including relevant organizations such as central governments)

d. Implementing workshops (including relevant organizations such as central governments)

e. Activities for raising public awareness

6. Description of the project site (maps, environmental and social condition, current issues, etc.)

The study area is located in Davao City on the island of Mindanao. The entire land area includes residential, industrial, school, and agricultural use areas, as well as unclassified public forests. The entire Davao City area, including areas A-F of the proposed IM4D sewer improvement area and suburban areas, will be the project site.

7. Legal Framework of Environmental and Social Considerations

(1) Laws, regulations and standards related to environmental and social issues including

requirements and procedures of Environmental Impact Assessment (EIA), stakeholder participation, and information disclosure.

Relevant policies, frameworks, environmental protection, pollution control and environmental standards for environmental management in the Philippines are listed below.

Table 1. Environment-related Policies and Standards

Category	No.	Year	Name
Legal Framework	PD1151	1977	Philippine Environmental Policy
	PD1152	1977	Philippine Environmental Code
	EO192	1987	Reorganized the former DEENR and renamed it as DENR
	RA 9512	2008	National Environmental Awareness and Education Act of 2008
Environmental protection	PD 705	1975	Revised Forestry Code of the Philippines
	PD 1067	1976	The Water Code of the Philippines
	RA 7076	1991	People's Small-scale Mining Act of 1991
	RA 7586	1992	National Integrated Protected Areas System (NIPAS) Act of 1992
	RA 7942	1995	Philippine Mining Act of 1995
	RA 8435	1997	Agriculture and Fisheries Modernization Act of 1997
	RA 8550	1998	The Philippine Fisheries Code of 1998
	RA 9147	2001	Wildlife Resources Conservation and Protection Act
Pollution control	RA856	1975	Sanitation Code
	PA984	1976	Pollution Control Law
	PA6969	1990	Toxic Substances, Hazardous and Nuclear Wastes Control Act
	DENR AO 92-26	1992	Appointment/Designation of Pollution Control Officers
	DENR AO 92-29	1992	IRR of RA 6969
	DENR AO 98-46	1998	1998 Revised Rules and Regulations for the Prevention, Control and Abatement of Air Pollution from Motor Vehicles
	RA8749	1999	Clean Air Act
	RA9003	2001	Ecological Solid Waste Management Act
	DENR AO 01-34	2001	IRR of the Philippine Ecological Solid Waste Management Act of 2000
	DENR AO2003-27	2003	Preparation and Submission of Self-Monitoring Report (SMR)
	RA 9275	2004	Clean Water Act
	DENR AO 10-21	2010	Revised IRR of RA 7942, otherwise known as the Philippine Mining Act of 1995
	DENR AO 15-03	2015	Revised IRR of RA No. 7076
	EMB MC 15-011	2015	Guidance Manual for DENR AO 15-09 “Rules and Procedures for the Implementation of the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals in Preparation of Safety Data Sheet (SDS) and Labelling Requirements of Toxic Chemical Substances”
Environmental standards	NPCC MC 80-02	1980	Amendments to Article I (Noise Control Regulations), Chapter IV (Miscellaneous Regulations), Rules and Regulations of the National Pollution Control Commission (NPCC) 1978
	DENR AO 90-34	1990	Revised Water Usage and Classification/Water Quality Criteria Amending Section Nos. 68 and 69, Chapter III of the 1978 NPCC Rules and Regulations
	DENR AO 94-26A	1994	Philippine Standards for Drinking Water 1993 under the Provision of Chapter II, Section 9 of PD 856, otherwise known as the Code on Sanitation of the Philippines
	DOH AO 07-12	2007	Philippine National Standards for Drinking Water 2007
	DENR AO 90-35	1990	Revised Effluent Regulations of 1990
	DENR AO 00-81	2000	IRR of the Philippine Clean Air Act of 1999
	DENR AO 03-25	2003	Hydrocarbon Standards for Motorcycles
	DENR AO 03-51	2003	Revised Emission Standards for In-Use Motor Vehicles Equipped with Spark-Ignition and Compression-Ignition Engines Except

Category	No.	Year	Name
			Motorcycles
	DENR AO 99-32	1999	Policy Guidelines and Standards for Mine Wastes and Mill Tailings Management
	DENR AO 00-98	2000	Mine Safety and Health Standards
PD: Presidential Decree, EO: Executive Oder, PP: President Proclamation, PAO: Presidential Administrative Order, AO: Administrative Order, DAO: DENR Administrative Order, RA: Republic Act, NPCC: National Pollution Control Commission, MC: Memorandum of Circular			
Sources: DENR EMB Region XI. "Overview of the Environmental Impact Assessment Process (2013)" DENR-EMB. "The Philippine EIS System: In the Womb of Time, First National Convention of the PEISS (2013)". DENR Website: http://www.denr.gov.ph/, DENR-EMB Website: http://emb.gov.ph/			

The following is a summary of laws and regulations pertaining to social considerations in the Philippines.

Table 2. Social Consideration Laws and Regulations

Laws and Regulations	Abstract
Constitution of the Philippines (1987)	• Private property shall not be taken for public use without just compensation. (Article III, Section 9) • Free access to the courts and quasi-judicial bodies and adequate legal assistance shall not be denied to any person by reason of poverty. (Article III, Section 11) • The State shall, by law, and for the common good, undertake, in cooperation with the private sector, a continuing program of urban land reform and housing which will make available at affordable cost, decent housing and basic services to under-privileged and homeless citizens in urban centers and resettlement areas. (Article VIII, Section 9) • No resettlement of urban or rural dwellers shall be undertaken without adequate consultation with them and the communities where they are to be relocated. (Article VIII, Section 10). • The State…shall protect the rights of indigenous cultural communities to their ancestral lands to ensure their economic, social, and cultural well-being. By an act of Congress, customary laws governing property rights or relations can be applied in determining the ownership and extent of ancestral domains. (Article XII, Section 5) • Urban or rural poor dwellers shall not be evicted nor their dwellings demolished, except in accordance with the law and in a just humane manner. No resettlement of urban or rural dwellers shall be undertaken without adequate consultation with them and the communities where they are to be relocated. (Article XIII, Section 10)
RA 7160 (Local Government Code) (1991)	• An LGU may exercise the power of eminent domain for public use, or purpose or welfare for the benefit of the poor and the landless, upon payment of just compensation, pursuant to the provisions of the Constitution and pertinent laws • Provided, however, that the power of eminent domain may not be exercised unless a valid and definite offer has been previously made to the owner, and such offer was not accepted • Provided, further, that the LGU may immediately take possession of the property upon the filing of the expropriation proceedings and upon making a deposit with the proper court of at least fifteen percent (15%) of the fair market value of the property based on the current tax declaration of the property to be expropriated • Provided, finally, that, the amount to be paid for the expropriated property shall be determined by the proper court, based on the fair market value at the time of the taking of the property.
RA 7279 (Urban Development and Housing Act) (1992)	• The policy of the State to undertake, in cooperation with the private sector, a comprehensive and continuing Urban Development and Housing Program which shall be; - Uplift the conditions of the underprivileged and homeless citizens in urban areas and in resettlement areas by making available to them decent housing at affordable cost, basic services, and employment opportunities - Provide for the rational use and development of urban land - Adopt workable policies to regulate and direct urban growth and expansion

Laws and Regulations	Abstract
	towards a dispersed urban net and more balanced urban-rural interdependence - Provide for an equitable land tenure system that shall guarantee security of tenure to Program beneficiaries but shall respect the rights of small property owners and ensure the payment of just compensation - Encourage more effective people's participation in the urban development process - Improve the capability of local government units in undertaking urban development and housing programs and projects.
RA 8974 (An Act to Facilitate the Acquisition of ROW, Site or Location for National Government Infrastructure Projects) (2000)	• IRR of RA 8974 provides the different bases for land valuation for the modes of acquisition: negotiated sale and expropriation. • The IRR of this law state that the Implementing Agency shall negotiate with the owner for the purchase of the property by offering first the current zonal value issued by the Bureau of Internal Revenue for the area where the private property is located. • The law also states that valuation of the improvements and/or structures on the land to be acquired shall be based on the replacement cost which is defined as the amount necessary to replace the structure or improvement based on the current market prices for materials, equipment, labor, contractor's profit and overhead, and all other attendant costs associated with the acquisition
IPRA (1997)	• IPRA sets conditions, requirements, and safeguards for plans, programs, and projects affecting Indigenous Peoples. It spells out and protects the rights of Indigenous Peoples.
Republic Act No. 10752 (2016)	• Act Facilitating the Acquisition of Right-of-Way Site or Location for National Government Infrastructure Projects
RA: Republic Act, IRR: Implementing Rules and Regulations, LGU: Local Government Unit, IPRA: Indigenous Peoples' Rights Act	
Source: Constitution, RA 7160, RA 7279, Land Acquisition, Resettlement, Rehabilitation and Indigenous Peoples' Policy (LARRIPP), Department of Public Works and Highways (DPWH), Republic of the Philippines Revised March 23, 2007	

(2) Environmental Impact Statement

The main laws and regulations regarding "Philippine Environmental Impact Statement System" PEISS are listed below.

Name	Abstract
- Establishing an Environmental Impact Statement System including other Environmental Management related Measures and for other purposes, Environmental Impact Statement System, Presidential Decree No. 1586 (1978)	Establishment of Philippine Environmental Impact Statement System (PEISS)
- Proclaiming Certain Areas and Types of Projects as Environmentally Critical and within the scope of the Environmental Impact Statement System established under Presidential Decree No. 1586, Presidential Proclamation No. 2146 (1981) - Declaring the Construction, Development and Operation of a Golf Course as an Environmentally Critical Project Pursuant to Presidential Decree No.1586, Presidential Proclamation No. 803 (1996)	Designation of Environmental Critical Projects (ECP) and Environmentally. Critical Areas (ECA)
- Rationalizing the Implementation of the PEISS and giving authority in addition to Secretary of the DENR, to the Director and Regional Directors of the Environmental Management Bureau to Grant or Deny the Issuance of ECC, Administrative Order No. 42 (2002)	Designation of an organization to issue Environmental Compliance Certificate (ECC)
- Implementing Rules and Regulations (IRR) for the Philippine Environmental Impact Statement (EIS) System, DENR Administrative Order No. 2003-30 (DAO 03-30) - Revised Procedural Manual for DENR Administrative Order No. 2003-30 (DAO03-30) (2007)	Manuals and instructions for implementation of PEISS

Name	Abstract
- Standardization of Requirements and Enhancement of Public Participation in the Streamlined Implementation of the Philippine EIS system, DENR Memorandum Circular No. 2010-14	Participation of the public in the case of ECPs, period of review for ECC, table of contents of the EIA report, guidelines for identifying stakeholders, etc.
- Revised Guidelines for Coverage Screening and Standardized Requirements, EMB Memorandum Circular No. 2014-005	Criteria for projects requiring EISS
- Guidelines on Public Participation under the Philippine Environmental Impact Statement (EIS) system, DENR Administration Order No. 2017-15	Public participation in EIA surveys, reviews and monitoring
- Guidelines on the Five (5) Year Validity of Environmental Compliance Certificate (ECC) Pursuant to DENR Administrative Order No.30 Series of 2003, EMB Memorandum Circular No.2020-31	Procedures for extensions in case a project fails to commence within 5 years of ECC issuance

(2) Relative agencies and institutions

Following agencies and institutions are expected to be relative to this project:

- Davao City (DC)
- Davao City Water District (DCWD)
- Department of Public Works and Highway (DPWH)
- Department of Environment and Natural Resources (DENR)
- Department of Health (DOH)
- National Economic and Development Authority (NEDA)
- Regional Office XI of DPWH, DENR, DOH and NEDA

8. Provisional Scoping (types and magnitudes of possible adverse impacts)

items			Scoping result: Before/during construction	Scoping result: During operation	Reasons
Pollution Control	1	Air pollution	✓	✓	During construction: Air pollutant emissions and dust will be generated due to the operation of construction vehicles and machinery.
					During operation: Vacuum trucks and dump trucks transporting sludge and/or septage and dump trucks transporting sludge and sludge emit air pollutants.
	2	Water pollution	✓	✓	During construction: Wastewater from construction and installation work, heavy vehicles and equipment, truck operations, and worker and laborer activities can cause water pollution.
					During operation: Installation of wastewater treatment systems improves the water quality of rivers and coastal areas affected by wastewater. On the other hand, wastewater from wastewater and septage treatment facilities may affect water quality at the destination.
	3	Waste	✓	✓	During construction: Construction overburden, demolition waste, and debris are expected to be generated.

items			Scoping result		Reasons
			Before /during construction	During operation	
					During operation: General waste from treatment facilities related to comprehensive wastewater management is expected to be generated.
	4	Soil and groundwater Contamination	✓		During construction: Possible soil contamination due to machine oil spills from construction vehicles, equipment, and transport trucks.
					During operation : No hazardous substances are expected to be generated from the operation of the facility that could cause soil contamination.
	5	Noise and Vibration	✓	✓	During construction: Noise from construction vehicles and machinery is expected to be generated.
					During operation: Noise will be generated from pumps and other equipment to be installed above ground.
	6	Ground Subsidence			No activities that may cause land subsidence (e.g., use of large amounts of groundwater) are anticipated.
	7	Offensive Odor		✓	During construction: No construction activities are expected to generate offensive odors.
					During operation: Odors will be generated during the collection, treatment, and transportation of wastewater, sludge and septage.
	8	Bottom Sediment			No activities affecting bottom sediment are expected.
Natural Environment	9	Protected Areas			Protected areas and national parks will be excluded from the planned construction of treatment facilities related to comprehensive wastewater management and sewer pipelines construction.
	10	Biodiversity			Habitats of rare species and protected flora and fauna will be excluded from the construction of treatment facilities related to comprehensive wastewater management. KBA (Key biodiversity Area) and IBA (Important Bird Area) have to be excluded.
	11	Hydrology	✓		During construction: The sewer pipelines will be laid under existing roads and may cross several rivers in the city. Therefore, there is a possibility of some impact on these rivers during the construction period.
					During operation: No hydrologic impacts are expected from the operation of treatment facilities related to comprehensive wastewater management.
	12	Topography and Geographical Features			No major excavation or fill is assumed for the construction of the treatment facility related to comprehensive wastewater management.
Social Environment	13	Involuntary Resettlement and Land Acquisition	✓		Land acquisition and house relocation may be required to secure land for the treatment facilities related to comprehensive wastewater management before the construction.
	14	Poverty			No impact on the poor in the area is assumed to be identified.
	15	Minority and Indigenous Peoples			Ancestral domain will be excluded..

items			Scoping result		Reasons
			Before /during construction	During operation	
	16	Local Economy (Employment, Livelihood etc.)	✓		During construction: Temporary employment of local residents is expected due to construction and installation work. In addition, social impacts (adverse effects on traffic and commercial activities) on the area around the existing road may occur due to the installation of the facility.
					During operation: employment generation for facility operation (security guards, gardeners, etc.) is expected.
	17	Land Use and Utilization of Local Resources	✓	✓	The location of the facility should be consistent with the land use plan. Consideration should be taken to ensure that the tourism and fishery are not affected.
	18	Water Use			Large amounts of water use are not expected during construction and service.
	19	Existing Social Infrastructure and Services	✓	✓	During construction: Temporary negative impacts on traffic congestion on surrounding roads due to increased large vehicles, equipment, and transport trucks are anticipated during the construction of the facility.
					During operation: Traffic congestion may occur due to the transportation of septage and/or sludge. The increase in septage and/or sludge could increase the load on the capacity of the existing final disposal facility.
	20	Social Institutions such as Local Decision Making Institutions			No impacts on social organization are foreseen due to project implementation.
	21	Misdistribution of Benefit and Damage			Uneven distribution of damage and benefits from project implementation is not foreseen.
	22	Local Conflict of Interest			The project is for the development of treatment facility for comprehensive wastewater management and is not expected to cause conflicts of interest within the community.
	23	Cultural Heritage			When selecting the site of the proposed treatment plant, sites that will have an impact on cultural heritage will be excluded.
	24	Landscape			The project is not expected to affect the landscape through the placement of facilities that do not affect the landscape or the adoption of an underground system.
	25	Gender	✓	✓	Employment opportunities need to be given equally regardless of gender, and the gender balance of the implementing agencies needs to be taken into account.
	26	Children Right			No impact on children's human rights is expected due to project implementation.
	27	Sanitation and Infectious Diseases (HIV/AIDS)	✓		During operation: the temporary influx of migrant workers will increase the risk of HIV/AIDS and other outbreaks during the construction period.
					During operation: no increase in the risk of HIV/AIDS incidence is foreseen.
	28	Work environment (including	✓	✓	During construction: If not properly managed, health and safety and working conditions associated with construction work are foreseen to deteriorate.

items			Scoping result		Reasons
			Before /during construction	During operation	
		occupational safety)			During operation : The working environment for employees of the treatment facility and drivers of sludge and/or sludge collection and transport vehicles should be properly ensured in accordance with laws and regulations.
	29	Accidents	✓	✓	During construction: Accidents associated with construction work are expected to occur. During operation: Accidents associated with facility operation are expected to occur.
others	30	Global Warming			Impacts on transnational or global issues such as climate change are not anticipated.

9. Result of the consultation with recipient government on environmental and social consideration including roles and responsibilities.

Davao City agreed to abide “JICA guidelines for Environmental and Social Considerations (April 2010)” in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project.

10. Terms of Reference for Environmental and Social Considerations

(1) Confirmation of the objectives and goals of policies, plans, etc.

(2) Examination of alternatives to achieve the objectives within various constraints

(3) Examination of the contents of policies and plans (development forecasts, lists of countermeasures, routes and maps of future development areas, etc.)

(4) Scoping (identification of environmental and social items of critical importance in decision-making for policies, plans, programs, etc., and methods for their evaluation)

(5) Confirmation of baseline of environmental and social conditions (land use, natural environment, indigenous peoples' living areas, economic and social conditions, etc.)

(6) Confirmation of the environmental and social considerations system and organization in the country

1) Laws, regulations, and etc. related to environmental and social considerations (environmental impact assessment, resettlement, public participation, information disclosure, etc.)

2) Gap between the JICA Guidelines for Environmental and Social Considerations, April 2010

3) Outline of relative organizations

(7) Prediction of impacts

(8) Assessment of impacts and comparative study of alternatives (PPP-level study based on the strategic assessment approach)

(9) Examination of mitigation measures (avoidance, minimization, and compensation)

(10) Consideration of monitoring methods

(11) Preparation of scoping results of environmental and social considerations for priority projects (alternatives to be considered, scope of environmental and social consideration items that are considered important, and proposed forecasting and evaluation methods)

(12) Support for holding stakeholder consultations (review of purpose, participants, method and content of consultation, etc.)

(13) If direct GHG emissions from individual projects in the Program are 25,000 tons of CO2 per year or more, estimation of emissions in the service phase

11. Other relevant information