

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

1) Project Fact Sheet and Project Description Summary

This Environmental Impact Assessment (EIA) was made in compliance with the provision of Presidential Decree No. 1586, otherwise known as the Philippine Environmental Impact Statement (EIS) System.

The information used in this **Environmental Performance Report and Management Plan (EPRMP)** was based on data, plans and documents provided by the management of **MERALCO Operating Center**. Secondary data sources include previous studies and reports from the **Department of Environmental and Natural Resources (DENR)**, **Environmental Management Bureau (EMB)**, **Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA)**, **National Statistics Office (NSO)**, the **Socio-Economic Profile and Comprehensive Land Use Map Plan of Pasig City** and other pertinent researches conducted within the vicinity. Primary baseline data were gathered through a reconnaissance survey of the site and its vicinity.

The assessment focused on the description of the project, its location and evaluation of the project's expected impacts on the environment including its impact on the adjoining community. The **ENVIRONMENTAL PERFORMANCE REPORT AND MANAGEMENT PLAN (EPRMP)** attempts to provide definite mitigating measures to abate any adverse environmental impact during the construction of new components and the operation phase of the project. Likewise, it was prepared for **MERALCO Operating Center** located in Ortigas Avenue, Barangay Ugong, Pasig City owned and operated by **Manila Electric Company (MERALCO)**.

A thorough assessment of the environmental conditions and key impacts of the project had been conducted wherein the project can still be influenced by the development of the area and its environment: surface water, air quality, land use and socio-economic. Level of operation, key impacts and key measures were indicated in the foregoing discussions in the project study.

This study also includes the following environmental issues, impacts and the corresponding mitigating measures that will address the most likely changes that may be expected as a result of the operation of the project. There is also an appropriate monitoring plan established by the management.

As part of its contingency plans, **MERALCO Operating Center** through the Management has put up some safety measures in the entire facility with appropriate measures and emergency steps and procedures to abate untoward incidents that might occur during the construction of the new components and its operation.

MERALCO Operating Center intends to file an application for an Environmental Compliance Certificate (ECC) Amendment to the Department of Environmental and Natural Resources-Environmental Management Bureau-National Capital Region (DENR-EMB-NCR) due to the

increase of their Gross Floor Area that will cover retrofitting of existing buildings and the addition of building component. Environmental Compliance Certificate (ECC) that was previously issued by the Laguna Lake Development Authority (LLDA) on March 28, 2008 for the project located at Ortigas Avenue, Barangay Ugong, Pasig City

1.1 Project Information

Table ES-1: Brief Project Description

Project Title	MERALCO Operating Center		
Proponent	Manila Electric Company (MERALCO)		
Project Location	Ortigas Avenue, Barangay Ugong, Pasig City		
Nature of Project	Electric Distribution Facility		
Total Project Cost	Php 281,545,500.00.		
Land Area	258,973 square meters		
Total Gross Floor Area	Proposed: 314,436.61square meters		
Other Components	No.	Unit	Location
	1	One (1) Unit 521.98 KW (652.47 KVA) Pramac Diesel Engine Generator Set, connected to 6.130 kL Fuel Storage Tank (Day Tank)	Powerhouse
	2	Three (3) Units 521.98 KW (652.47 KVA) Pramac Diesel Engine Generator Set connected to 6.130 kL Fuel Storage Tank (day tank), connected to 6.130 kL Fuel Storage Tank (Day Tank)	Powerhouse
	3	One (1) Unit 507.2 kW (634 kVA) Pramac Diesel Engine Generator Set	Lineman's Training Camp
	4	One (1) Unit 1027 kW MTU Diesel Engine Generator Set (Mobile)	Mobile Unit
	5	One (1) Unit 518 kW Volvo Diesel Engine Generator Set (Mobile)	Mobile Unit
	6	Two (2) Units 200 kW Perkins Diesel Engine Generator Set	Business Solution Center
	7	One (1) Unit 200 kW Pramac Diesel Engine Generator Set	Powertech

Project Geographical
Coordinates/Technical
Description

POINT	NORTHING	EASTING
1	14°35'25.48"N	121° 3'42.92"E
2	14°35'23.81"N	121° 3'45.06"E
3	14°35'20.90"N	121° 3'48.66"E
4	14°35'19.93"N	121° 3'50.80"E
5	14°35'20.44"N	121° 4'2.92"E
6	14°35'25.39"N	121° 4'2.81"E
7	14°35'25.40"N	121° 4'6.91"E
8	14°35'24.91"N	121° 4'7.13"E
9	14°35'26.56"N	121° 4'7.41"E
10	14°35'24.78"N	121° 4'11.77"E
11	14°35'24.88"N	121° 4'11.83"E
12	14°35'24.73"N	121° 4'12.33"E
13	14°35'24.81"N	121° 4'12.49"E
14	14°35'26.73"N	121° 4'12.42"E
15	14°35'26.82"N	121° 4'14.49"E
16	14°35'32.77"N	121° 4'14.21"E
17	14°35'32.88"N	121° 4'16.35"E
18	14°35'34.43"N	121° 4'16.21"E
19	14°35'34.64"N	121° 4'15.50"E
20	14°35'34.95"N	121° 4'15.89"E
21	14°35'35.56"N	121° 4'15.83"E
22	14°35'35.67"N	121° 4'14.65"E
23	14°35'36.25"N	121° 4'13.79"E
24	14°35'35.89"N	121° 4'11.19"E
25	14°35'34.88"N	121° 4'9.90"E
26	14°35'32.87"N	121° 4'8.10"E
27	14°35'31.15"N	121° 4'5.44"E

1.2. Project Size



PREPARED BY: BROADFIELD ENGINEERING
 4590 GUADAL CANAL ST. STA. MESA
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 BROADFIELD2006@GMAIL.COM



TOTAL PROJECT AREA

Table ES-2: Project TCT and Lot Area

Title No.	Lot Area (sq. m.)
TCT No. (210867) 12101	258,973 sq. m.
TCT No. PT 113804	
TCT No. PT 113806	
TCT No. PT113807	
TOTAL	258,973 sq. m.

Table ES-3: Project Size Summary

Item	Size, Area (sq. m.)
Lot Area	258,973.00
Road Footprint, Landscape & Other Open Spaces	227,689.61
Gross Floor Area of the Buildings (Amended) including the additional components.	86,746.48
Total Gross Floor Area	314,436.61

Table ES-4: Meralco Operating Center Project Components of Existing Components

COMPONENTS REFLECTED ON ISSUED ECC	
COMPONENTS	FLOOR AREA (SQ. M.)
Lopez Building	36,410.00
Meralco Theater	6,158.79
Operation Building	2,913.00
JFCH Building (Corporate Wellness Center)	3,465.00
Jollye Recreation Center Bldg.	4,351.54



Baseball Diamond & Jogging Path	5,379.00
Security Building	361.34
Covered Tennis Court	1,211.00
Tennis Clubhouse and Facilities Building	137.50
B & G Building	1,155.00
B & G Work Area	756.00
Lineman's Training Bldg. (U-Shape)	740.00
Inspection Building	1,080.00
Rice Distribution	189.00
Portion of Powerhouse	320.00
Gate 1 including Comfort Room	16.67
Gate 3 Including Comfort Room	12.00
Center Gate including Comfort Room	4.77
Technical Services Building	16,406.00
Powerhouse	647.24
Employees Facility Building and Motor Pool	1,544.58
Transportation Building	1,676.00
Transportation Extension	2,602.00
General Shops Building	3,180.00
Switching Station including C. R.	548.00
Post Office & Bayad Center	40.00



Gate 2 including Comfort Room	8.14
Gasoline Refilling Station	60.00

Table ES-6: Meralco Operating Center Project Proposed Additional Components

PROPOSED COMPONENTS ON ECC AMENDMENT	
COMPONENTS	GROSS FLOOR AREA (SQ. M.)
Integrated Operations Building	3,176.85
Firestation	367.95



EOC	1,013.23
Security Building	797.88
Employee Facility	344.94
New Museum & Art Center	321.27
Workshop Building	1,761.00
Fleet Building	1,250.00
Gasoline Station	336.47
Visitor Management Hub	59.18
Interim Visitor Management Hub	76.00
Security Barracks	245.30
Powertech	3,180.14
Disaster Preparedness	67.48
GIS Substation	862.50
Material Recovery Facility	1,520.00
Open Spaces Including Road Networks And Landscaping	227,689.61



1.2 Proponent

Table ES-7: Proponent Profile

Company	MANILA ELECTRIC COMPANY
Address	Meralco Center Ortigas Avenue, Pasig City
Project Proponent	MR. ANTONIO M. ABUEL, JR./Vice President
Contact Person/ Authorized Representative	MS. JENNIFER DIOKNO-ARAUULLO jcdiokno.araullo@meralco.com.ph ENGR. JUDY ANN GARCIA jadagarcia@meralco.com.ph

1.3 Preparer

Table ES-8: Proponent Profile

Company	Broadfield Engineering Technologies and Integrated Services
Address	4590H Guadal Canal Street, Barangay 587 Sta. Mesa, Manila
General Manager	MR. JAMES M. AQUENDE, CE/EnSE IPCO-220 09178528821

	jim_broadfield@yahoo.com
Assistant to the General Manager, Consultancy Department	DARLING JERICA B. IBANEZ IPCO-223 0917 887 3344 djbibanez@yahoo.com
Assistant Manager, Consultancy Department	JHENE A ELLICE R. YANDOC IPCO-455 09171000553 Jhenear_broadfield@yahoo.com

2) Process Documentation of the Conduct of EIA (EIA Team, EIA Study Schedule & Area, EIA Methodology, Public Participation)

Terms of Reference of the EIA Study

This report has been prepared in accordance with the guidelines set in the Revised Procedural Manual (RPM) for DENR Administrative Order 30 Series of 2003 (DAO 03-30). EMB Memorandum Circular 005 July 2014: Revised Guidelines for Coverage Screening and Standardized Requirements under the Philippine EIS System:

3.6.2. All office and residential buildings including storage with no hazardous or toxic materials.

Primary data (pertinent project information) has been provided by the project proponent and in-situ site testing and evaluation while secondary data has been compiled by conducting research on different government agencies and other resources available. Pertinent project information is gathered by the EIA Team including actual observation of the current operation of the project.

The EIA process aims to prepare an EPRMP document and the following scope of work:

- Prepare the description of the project;
- Prepare a description of the existing environmental profile of the project site;
- Identify impacts in the activities/ operation of the project;
- Evaluate environmental impact in the protection and mitigation measures to eliminate/ minimize adverse impacts of the project and the enhancement to maximize positive impacts; and
- Evaluate impact in environmental management and monitoring.

2.1 EIA Team



The preparation of this **Environmental Performance Report and Management Plan (EPRMP)** was prepared by the **EIA Study Team** tabulated below.

Table ES-7: EIA Team

NAME	DESIGNATION	EXPERTISE	PARTICIPATION
Engr. James M. Aquende (IPCO 220)	Consultant	EIA	-Oversees the overall EIS Project -Provided budget for the whole project process -Provided Technical advice to the team.
Darling Jerica B. (IPCO 223)	Consultant	EIA	-Coordination with the Proponent as well as manages the timeframe of the EIS Timeline -Provided Technical advice to the team.
Jhenea Ellice R. Yandoc (IPCO 455)	Consultant	EIA	-EIA Team Leader wherein allocated all the workloads to the team -Consolidates and review all the EIA Modules submitted by the whole team
Engr. Errol N. Secapuri (RChE) (EMBNCR-EIA-2022-IPR-002)	Consultant	EIA	- Preparation of Study/ Report and consolidation of documents for the Executive Summary, Project Description Report -Spearheaded the Public Participation activities such as Information and Education Campaigns and Public Scoping
Pamela E. Naz, ENP (IPCO 456)	Consultant	EIA	- Preparation of Study/ Report and consolidation of documents for the Land Module Key Impact and Environmental Management Plan
Diane Rose B. Lacena (IPCO 454)	Consultant	EIA	-Assisted on the conduct of Public Participation activities such as Information and Education Campaign and Public Scoping - Preparation of Study/ Report and consolidation of documents for the Air Module Key Impact, Environmental Management Plan -Consolidated all documents and/or requirements and information from the Proponent -Sourced out sub-contractor for Air Ambient Baseline Testing
Angelo Plumos, MP (EMBNCR-EIA-2022-IPR-003)	Consultant	EIA	-Facilitated the conduct of baseline study for Surface Water - Preparation of Study/ Report and consolidation of documents for the Water Module Key Impact and Environmental Management Plan, Environmental Compliance, Abandonment Plan, Institutional Plan Implementation and Environmental Risk Assessment
Christine Marie D. Aquende (IPCO 453)	Consultant	EIA	-Assisted in the conduct of Public Participation activities such as

			Information and Education Campaign and Public Scoping
Adrian Lexter D. Leon (EMBNCR-EIA-2022-IPR-006)	Consultant	EIA	-Assisted in the conduct of Public Participation activities such as Information and Education Campaigns and Public Scoping -Preparation of Study/ Report and consolidation of documents for the People Module Key Impact, Information & Education Campaign and Social Development Program, and Environmental Management Plan
Melvin Joseph B. Nineza	Consultant	EIA	-Assisted in the conduct of Public Participation activities such as Information and Education Campaign and Public Scoping
Engr. Judy Ann Garica	Corporate HSE	Proponent	-Provided all documents, data and information relevant to the preparation of report/ study

2.2 EIA Study Schedule

The EIA Preparer undertook the following schedule:

Conduct of survey, field investigation and site inspection of the project including the outlying areas to determine its biophysical conditions (i.e., air and water quality, noise/sonic environment, land such as geological, etc.)

Conduct research and gather data or information on the impact study area, i.e., geological, climatology, socio-economic aspects, past environmental conditions of the project.

Table ES-8: EIA Schedule Study Activities

ACTIVITIES	Date
Initial Meeting with Proponent for the Project Activities and Evaluation of Project Documents/Requirements	November 7,2022
Site Visit/ Ocular Inspection	November 7,2022
Identification of Stakeholders	November 14,2022
Information and Education Campaign (IEC) Distribution of Invitation Letters to the Stakeholders	November 17,2022
Conduct of Information and Education Campaign (IEC)	November 18,2022



Conduct of Initial Perception Survey to Direct Impact of the Proposed Project	November 17,2022
Public Scoping Distribution of Letters to Stakeholders	December 12-13,2022
Conduct of Public Scoping to Stakeholders	December 14,2022
Conduct of Technical Scoping with Department of Environment and Natural Resources-Environmental Management Bureau-National Capital Region	December 21,2022
Securing of Pasig City Comprehensive Land Use Map Plan and Socio-Economic Profile	November 17,2022
Surface Water Quality Testing	March 14,2022
Ambient Air Quality Testing	March 29,2022
EIS Study	March 30 – May 4,2022
Presentation of EPRMP Study Results to Proponent	May 5,2022

2.3 EIA Study Area

The study areas in general are the direct and indirect impact areas. Direct and indirect areas are defined by DAO 2017-05 “Guidelines on Public Participation under the Philippine Environmental Impact Statement (EIS) System”.

The study areas in general are the primary and secondary impact areas. The primary impact areas of the project are the adjacent establishment within 500 – meter radius. These are consisting of adjoining buildings and establishments within the nearby vicinity including **Ortigas Avenue** which way may be affected or enhanced by the impacts of the project particularly during the construction of the new components and its project operation.

The secondary impact areas comprise the region approximately 1000 meters or 1.0 – kilometer radius from the project site. The secondary impact areas extend to the different complexes in the vicinity of **Pasig City**. The secondary impact area was defined in consideration of the possible social and economic impacts of the project particularly during the construction of the new components and its operational phase.

2.4 EIA Methodology

1. Methodology for Data Gathering

This report has been prepared in accordance with the guidelines set in the Revised Procedural Manual (RPM) for DENR Administrative Order 30 Series of 2003 (DAO 03-30). EMB Memorandum Circular 005 July 2014: Revised Guidelines for Coverage Screening and Standardized Requirements under the Philippine EIS System:

3.6.2. All office and residential buildings including storage with no hazardous or toxic materials.

Primary data (pertinent project information) has been provided by the project proponent and by in-situ testing and site evaluation while secondary data has been compiled by conducting



research on different government agencies and other resources available. Pertinent project information is gathered by the EIA Team including actual observation of the current operation of the project.

In the preparation of this EIA study, both primary and secondary data were used.

2. Secondary Data Gathered & Sources

Secondary data were obtained through extensive research work with different government & private agencies including PHIVOLCS, MGB, HLURB, DOTC, PAGASA, DENR-EMB, DPWH and the Government of Pasig City.

3. Primary/ Baseline Data

Primary data were obtained through actual site inspection and testing and data provided by the project proponent.

The following is the methodology used in gathering information and data about the environmental setting and receiving environment of the project site:

- a. Survey/ ocular inspection of the project site and its surroundings were done to identify the adjacent industries/ activities within the 1000-meter radius and the receiving environment.
- b. The proponent was interviewed regarding the operation of the project and requested other information/ technical data to complete this study.
- c. Conduct research to the different government agencies concerned such as the Department of Environment and Natural Resources/ EMB, CPDO of Pasig City and other references were also used to complete this EPRMP study.

SURFACE WATER SAMPLING BASELINE DATA

Pursuant to Section 19g of Republic Act 9275, otherwise known as the Philippine Clean Water Act of 2004; Rule 19.7 of DENR Administrative Order No. 2005-10 (Implementing Rules and Regulations of RA 9275); and DENR Administrative Order No. 2016-08 (Water Quality Guidelines and General Effluent Standards of 2016), the EMB Approved Methods of Analysis for Water and Wastewater listed below is hereby adopted. The list of analytical methods shall be used as a reference for laboratories in the conduct of testing for water (freshwater, groundwater, marine waters) and wastewater in accordance with the latest edition of the "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association/ American Water Works United States Environmental Protection Agency (US EPA) test methods contained in SW-846: Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, and/or in accordance with such other methods



of analysis as the EMB may prescribe. The Surface Water Testing was conducted and tested in CJK Laboratory, a DENR-EMB Accredited Laboratory.

Table ES-9: Analytical Methods of Analysis for Surface Water, Class C in Compliance with DAO 2016-08 and 2021-19

Parameters	Methodology
Biological Oxygen Demand (BOD)	SMEWW 5210 B. 5-Day BOD Test
Chloride	Argentometric Method
Color	Visual Comparison Method
Dissolved Oxygen	Azide Modification Method
Fecal Coliform	SMEWW 9221 E1. MTFT-Fecal Coliform Procedure
Nitrate as NO ₃ -N	Nitrogen, Nitrate (Colorimetric, Brucine)
pH	Electrometric Method
Phosphate	Stannous Chloride Method
Temperature	Laboratory and Field Method
Total Suspended Solids	Gravimetric, Dried at 103-105 deg C

AMBIENT AIR AND NOISE BASELINE TESTING METHODOLOGY

The sampling was conducted, ambient and noise, as part of the environmental monitoring program and permit requirements of the company.

Ambient Air Monitoring Baseline Testing Sampling Methodology

DENR standard ambient sampling equipment and analytical procedures were used in the sampling activity. The said equipment and procedures are on table specified below:

Table ES-10: Ambient Air Monitoring Sampling Methodology



Parameters	Reference Procedure	Sampling Equipment	Method of Analysis
Particulate Matter-10 (PM ₁₀)	US EPA/Appendix B to Part 50, Subchapter C, 40 CFR Chapter 1 (7-1-03 Edition)	High Volume Sampler	Gravimetric Method
Sulfur Dioxide (SO ₂)	US EPA/Appendix A to Part 50, Subchapter C, 40 CFR Chapter 1 (7-1-03 Edition)	Gas Bubble Sampler	Pararosaniline Method
Nitrogen Dioxide (NO ₂)	Lodge, James P., Methods of Air Sampling and Analysis (3 rd Edition)	Gas Bubble Sampler	Griess-Saltzman Method

SO₂ and NO₂ samples were preserved in an icebox while the PM₁₀ filters were placed inside a sealed plastic container, after each sampling activity. The samples were immediately transported to BEST Environmental Services & Testing Corp. for analysis. For the particulate metals, the samples were placed inside a plastic container and immediately transported to BEST Environmental Services & Testing Laboratories for analysis.

Noise Monitoring Baseline Testing Sampling Methodology

A precision type, digital sound level meter was used in sound pressure (noise) level measurement. The said instrument is a LUTRON Sound Level Meter Model SL-4010. The sound level meter meets a Type I sound meter, which conforms to the ANSI-S1.4: 1983, IEC-804: 1979, IEC 1260: 1995 and IEC 61672 Class 2 Standards.

Noise/sound level meter was handheld at about thirty degrees (30°) from the horizontal plane directly pointing at sound pressure/noise sources in the area. Representative measurements within one (1) hour were made. The minimum and maximum sound pressure level/noise from the arithmetic median of each measurement set were obtained and their results were considered for reporting and comparison to standards.

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- Evaluate performance in environmental management and monitoring.



Table ES-11: Summary of EIA Methodology per Study Area

Study Area	Methodology
Land	
Land Use and Classification	Evaluation of Secondary Data Reference in Issued Clearances
Geology	Evaluation of the Project Site
Pedology	Evaluation of Secondary Data
Quality	Classification of Soil through Secondary Data
Water	
Hydrology	Evaluation of Secondary Data
Water Quality	Classification of water quality through baseline water sampling and analysis
Fresh Water Ecology	Evaluation of Secondary Data
Air	
Climate/ Meteorology	Evaluation of Secondary Data
Air Quality and Noise	Classification of air quality through baseline ambient air quality and noise testing analysis
People	
	Perception Survey Focus Group Discussion IEC KII Public Scoping Characterization of Socio-Economic condition

2.5 Public Participation

Participation of the stakeholders in connection to the project study is relevant since the project will create a positive impact that will be beneficial to the community and the local government of Pasig City. The table below shows the summary of Significant Findings during IEC and Public Scoping on November 18, 2022 and December 14, 2022 respectively.

During Public Participation, both IEC and Public Scoping, concerns/issues/inquiries were raised. Table below shows the said concerns/issues/inquiries that were raised:

Table ES-12: Information and Education Campaign (IEC) Concern/Issues/Inquiries Raised

STAKEHOLDER	QUESTIONS	ANSWER/S
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Representative – CPDO PASIG	For this application, the proposed 2-storey fire station along gardener street is already included in the request of permit?	PROPONENT: Yes sir. It is already included in our application with regard to ECC Amendment.
GRACE SCHOOL OF THEOLOGY-MANILA -IRENE TIAMSON	How and why were we chosen to participate?	CONSULTANT: As required by DENR, for choosing stakeholders of one project it must have a sector from the school since this is near the vicinity of MERALCO CENTER.
THE MALAYAN PLAZA – ENGR. ILAINE RODRIGUEZ	Is there any representative from DENR? Meralco conducted a new project on ECC Amendment because in our previous project, we just do an application for ECC and there is no public participation needed.	CONSULTANT: In information and education campaign it includes the consultant, proponent, and the neighbors which are all of you. We will be with the representative from DENR EMB when we do public scooping. DENR has what we call screening guidelines. So, with Meralco Operating Center is under Category B of EIS which requires public participation. Basically, provided that it's an institution, commercial and residential if it's greater than 50,000 square meters. The total square meter gross floor of MERALCO is greater than 50,000 during their ECC Amendment. PROPONENT: Based on the requirement provided by DENR, if there is any additional structure, all of the facilities that are not included in the previous permit. We have already had an existing ECC so if ever we have additional changes, specifically with regards to the floor area, regardless if it's within the same facility or compound. We need to seek an amendment. That's the reason why we have this kind of situation because this is the requirement provided by DENR. We need to inform the residents that MERALCO will build new infrastructure.
Representative – CPDO PASIG	For the Fire Station that will be built by MERALCO, its service is inside the compound or outside the compound in case there is a fire?	PROPONENT: We signed a partnership with BFP Pasig so we will have BFP Personnel that are joining our Fire Station. We still follow the protocols of

CDRRMO PASIG:	MERALCO and BFP NCR already had an agreement around Metro Manila. Now we are looking forward to partnering with MERALCO as Pasig LGU. One of the proposals that we have is we will buy a ladder that is 32 meter in height and MERALCO will buy 56 meters in height. That will have a MOA. That is the plan. MERALCO will respond once there is an emergency.	BFP which they call "RUNNING CARD". We have a level of alarm and we need help from the volunteers. There had been a fire in Rosario Pasig, and our Fire Volunteer together with BFP Personnel responded quickly. If we are needed by the community and received a call, we are ready to respond.
Representative – CPDO PASIG	can you also provide a hotline number? Just in case there is an emergency we can call you and respond immediately?	PROPONENT: Yes, sir that is noted.
Representative – PCSHS	can we also get the emergency hotline number so we can also call-in case of an emergency?	PROPONENT: Yes, sir noted. CONSULTANT: 8643-0000 This is the Hotline Number; public participation is good so that we can give public awareness to our stakeholders.

Table ES-13: Public Scoping Concern/Issues/Inquiries Raised

STAKEHOLDER	QUESTIONS	ANSWER/S
Mr. Jose Rey Espina GAD/OSCA/PDAO	Is it included if there is an LGBT comfort room in the project?	PROPONENT: As of now, we do not have yet the comfort room for all genders, but we will consider this one.
Mr. Glen Magusara Metrowalk	Is there a traffic plan in place for this situation, given the possibility that it will be included in the DOTR project?	PROPONENT: Yes, I think we already included it in the traffic plan, and we are not affected by the subway project. The construction of the buildings will not be done simultaneously. We will do all the construction in phases so it will not cause any traffic, and all of the activities will be inside our compound, where we have enough space for our materials. We will coordinate with traffic management if needed, but this one is just within our compound. We have three

		gates in Q.C., San Juan, and Pasig.
Mr. Dionesio T. Guira Jr. CENRO-Pasig	About trees inside the project The facility, please coordinate in our office because the one we have is an application or COC. Can you send us a copy of the Updated Site Development Plan?	PROPONENT: Yes, sir, we are aware of the ordinance, and you've visited a few times. The trees already have their corresponding numbers, and we have no plan to cut or transfer them. PROPONENT: Noted on this, sir
Ms. Jocelyn Sotto Corinthian Gardens Subdivision	I just want to know the timeframe of the project and if you will implement the necessary measures to be done so that houses along the perimeter of MERALCO will not be disturbed. And is it possible to get a copy of the site development plan? Ms. Jocelyn added, will the gym current location will not be moved? As of now, our concern there is the noise if there are activities.	PROPONENT: Yes. This plan is up to 2030, so as mentioned earlier, this will not be done simultaneously but in phases. We will discuss this with our manager in MOC if we can give you soft copies. PROPONENT: Yes Ma'am. We will not move it. Noted on the noises coming from the gym. We will raise it to the management.

EIA SUMMARY

Summary of Alternatives Considered in terms of Siting, Technology Selection/ Operations Processes and Design

CITE CRITERIA	DISCUSSION
SITING	The site was selected as the primary location of the project because of the availability of appropriate space for the operation of the project. Furthermore, the project site corresponds to the area requirement of the project. The site also provides a prime location because of its conformity with the land use of the vicinity and its proximity to the main road/ highway and nearby establishments and government offices.



RESOURCES	POWER Manila Electric Company (MERALCO) itself is the electric service provider. WATER The water service provider of the project is Manila Water Company Inc. COMMUNICATION With the liberalization of the telecommunication industry, more firms are now offering telephone services in the city aside from Postal letters and newspapers. The project is being serviced by telecommunication companies such as PLDT, Bayantel, Digitel, Multimedia, and Eastern Telecommunication Services, Inc. Cellular mobile phones are offered by Globe, Smart, Bayantel, and Digitel while broadband services are now available through PLDT, Bayantel, Digitel, Smart, and Globe.
LIQUEFACTION	The project site is not susceptible to any hazards caused by liquefaction because its underlying stratigraphy comprises dense plastic and hard medium material which inhibit the oversaturation and movement of soil particles.
GROUND SHAKING	The project site, given its proximity to the four (4) major geological structures, specifically, earthquake generators, is highly susceptible to intense ground shaking of PEIS Intensity VIII in an event that a large destructive earthquake occurs. This is also based on the seismic hazards assessment generated by Hazard Hunter
GROUND RUPTURE	In the case of the project site is safe to any hazard brought by a sudden ground collapse since the area is 754 meters west of the Valley Fault System but not directly adjacent to the fault line.
EARTHQUAKE-INDUCED LANDSLIDES	In the case of the project site, it is not susceptible to an earthquake-induced landslide since it is situated in a relatively flat area, far from any steeply sloping hillsides.
TSUNAMI	The project area is located far from the coastal area of the region negating the possibility of a tsunami within the area
STORM SURGE AND FLOODING	The project is not susceptible to storm surge.

3.) Summary of Baseline Characterization Key Environmental Impacts and Management & Monitoring Plan

Table ES-14: Summary of Baseline Characterization

Module	Baseline Characterization
The Land	
Land Use and Classification	The City of Pasig is located at the eastern boundary of Metro Manila where it is bounded by Quezon City and Marikina City on the North; Mandaluyong on the West, Pateros, Taguig, and Makati on the South, and on East by Cainta and Taytay. The total land area of the city is 3,432 hectares or 34 square kilometers. It is politically subdivided into 30 barangays, of which Barangay Pinagbuhatan



Module	Baseline Characterization
	inhabits the largest area with 411 hectares of the total land area, and Barangay Bagong Katipunan with the smallest area-having 4.06 hectares. The project, MERLACO OPERATING CENTER is situated within the total land area of Two Hundred Fifty-Eight Thousand Nine Hundred Seventy-Three (258,973 SQ.M) square meters in the City of Pasig, specifically in Barangay Ugong.
Geology/Geomorphology	According to the Ecological Profile, the city is generally flat, characterized by level to undulating slopes with gradients ranging from 0-5%. The project site is located in the western part of the city which is the highest part. The slope of the city is about 95% level to gently undulating. However, barangay Ugong-where the site lies, has an undulating slope to moderately steep. The city of Pasig is a highly urbanized area making its land suitable for urban development, human settlement, and a network of green spaces.
Pedology	Pasig City is under the Marikina Valley Zone and its soil composition is generally characterized by the Marikina Clay loam representing about 86% of the total land area. The soil suitable for urban development is within the Guadalupe Plateau Zone which is about 14%. Detailed soil classification found in Pasig is as follows: Pinagbuhatan Clay, San Manuel Clay Loam, Marikina Clay, Boulevard Clay, Cupang Clay, Novaliches Urban Land Complex, and Baras Clay (Ecological Profile, 2021).
Terrestrial Ecology	There is no primary forest growth observed nearby since its location is just adjacent to the highway road. Hence, the proponent has designated a landscaping area.
The Water	
Hydrology	The project site is approximately 2 kilometers to Marikina River, 3.5 km to the mouth of Pasig River and 9 km to Laguna Lake. Meralco Electric Company's domestic wastewater that will be generated within the facility will go through the existing septic tank of the facility going to the existing Sewage Treatment Facility. Discharge Effluent of the Sewage Treatment Facility will have an outflow to a nearby creek going to Marikina River, which is a tributary river of Pasig River and Laguna Lake.
Water Quality	Both sampling points, Ammonia and Fecal Coliform were higher than the standard value limit. Nearby creek runs through highly industrialized areas, which are one of factors that contributed to higher ammonia in the water. Many households and establishments in the area discharge their wastewater directly into the river, leading to high levels of fecal coliform bacteria. Ammonia in high concentrations is toxic to aquatic organisms. Ammonia is soil nutrient and is commonly produced by human and animal waste. Other natural sources of ammonia include lightning, volcanic activity, and

Module	Baseline Characterization
	plant decomposition. Domestic sewage and industrial effluents are the most common sources of ammonia entering surface water and groundwaters. While fecal coliforms can enter surface water through sanitary sewer connections, poorly functioning septic systems, and effluent of poorly functioning wastewater treatment plant. Fecal Coliforms show whether or not the water has been contaminated by feces and as a result, whether high value of fecal coliforms means the river is potential to contain pathogens and other transmitting diseases.
Freshwater Ecology	Based on a study conducted on July 2018, entitled "Basic characteristics of river stations surveyed during river ecology baseline assessment in the Pasig River", three (3) sampling locations in the Pasig River were discussed using secondary freshwater ecological baseline assessment data. The plankton and benthos stations were located in the river's upstream, midstream, and downstream areas near the river's estuary. Phytoplankton, zooplankton, macroinvertebrates, and fish species diversity were also sampled at each location. Freshwater fish species were sampled in three locations using test fishing operations in order to document species diversity and catch rates. Phytoplankton The results of laboratory examination revealed a total density of 7,920 cells/L for all sample locations, with eleven (11) genera recognized Zooplankton For all three sample stations, a total of 279,304 ind/m³ was quantified and recorded, divided across eight zooplankton groups Macro invertebrate Across all survey stations, 727 species were identified, belonging into six (6) families/classes. Only two main phyla, Annelida and Mollusca, were represented in this survey's macrobenthos. The macrobenthos community was dominated by the phylum Annelida, which accounted for 81 percent of the total, while the phylum Mollusca accounted for only 19 percent. Fish The three test fishing operations in the Pasig River yielded six (6) brackishwater species, with the Tilapia dominating
The Air	
Meteorology	<u>Climate</u> The project study area is classified as having Type I climate, which means that there is a distinct dry and wet season, with the dry season lasting from November to April and the wet season lasting the rest of the year. <u>Rainfall</u> Rainfall data in the area was evaluated at the Science Garden in Diliman, Quezon City. It also has the same climate type as the project and a long record dating back to 2000 with no gaps in data. The average rainfall at Quezon City Science Garden was 2918.3 MM from 2000 to 2018. In 2018,



Module	Baseline Characterization
	the area's wet season runs from April to October, with an average rainfall of 470.02mm <u>Temperature</u> The projected seasonal temperature rises in NCR in 2020 and 2050 under the medium-range emission scenario. Temperatures will rise by 0.9 to 2.3 degrees Celsius between 2000 and 2036-2065. <u>Relative Humidity</u> The relative humidity recorded for the Science Garden station ranges from 67% to 84% with annual mean relative humidity of 78%. During the months of March to May, the mean monthly relative humidity ranged from 67 to 72% while on February to June ranged from 73 to 79%. The most humid months usually occur during July to November while the month of April is the least humid. <u>Wind Regime</u> The direction of the surface wind at the Science Garden, Diliman, Quezon City is southwesterly and southeasterly with the maximum speed wind of 11 m/second (mps) as an annual average. Annual average maximum speed 8.80 to 11mps was recorded as strongest wind occurred in 2017 going to East. The easterly winds generally affect the project area throughout the months except during the month of August where the prevailing wind direction is westerly. The average wind speed is about 2.0 m/s.
Air Quality	The proponent with the aid of its engaged consultant hired Best Environmental Services and Testing Corp to conduct ambient air monitoring. The sites selected are those that are close to air pollution-sensitive receptor areas. The sampling was carried out in accordance with the Department of Environment and Natural Resources (DENR) National Ambient Air Quality Standards (NAAQS) to determine the concentrations of Particulate matter (PM10), Nitrogen dioxide (NO₂), and Sulfur Dioxide (SO₂). During sampling on 31 March 2023, the weather was generally fair with cloudy skies and prevailing moderate wind speeds. The results of sampling indicate that SO₂, NO₂ and PM10 levels in ambient air at all stations are within the applicable National Ambient Air Quality Guideline Values. The result of the Noise Level measurement was compared to the standards based on the land use plan within the sampling location. The sampling locations were considered as Category B (A section or contiguous area which is primarily a commercial area) and Category AA (A section or contiguous area which requires quietness, such as area Within 100 meters from school sites, hospitals, and other institutional facilities).
Noise	As observed from the tables, the maximum noise values (dBA) were only read momentarily and will not affect the result in General. The Noise level measured for a 1-hour station (daytime) is exceeded the standard limit based on Noise Control Regulation issued by the National Pollution Control Commission. The following factors contributed to the measured
The People	



Module	Baseline Characterization
Perception Survey	Primary data were generated through on-site inspections, environmental scanning, and also conducting the Information and Education campaign & Initial Perception Survey (IPS) together with host barangay and officials of the direct impact barangay and neighboring barangay, the concerned offices/agencies of Pasig City. The Information and Education Campaign was conducted last November 17, 2022 through a zoom meeting while an initial perception survey was conducted on November 18, 2022.
Demography	The city has a land area of 48.46 square kilometers or 18.71 square miles. Its population as determined by the 2020 Census was 803,159. This represented 5.96% of the total population of the National Capital Region. Based on these figures, the population density is computed at 16,574 inhabitants per square kilometer or 42,927 inhabitants per square mile. Ugong is a barangay in the city of Pasig. Its population as determined by the 2020 Census was 28,737. This represented 3.58% of the total population of Pasig.
Housing	In 2015, there were 180,612 households in the city, representing a significant increase of 16.55% from 2010. Similarly, the number of occupied housing units grew by 17.13% in 2015, and it reached a total of 175,280 units.
Education	Literacy rate is the percentage of the population 10 years old and over who can read, write and understand simple messages in any language or dialect as defined by the PSA. In Pasig, the literacy rate of the household population 10 years old and over by age group and sex is illustrate. Pasigueños in general were literate, with 99.8% of them being able to read, write and understand simple messages.
Health Conditions	Pasig also recorded acute respiratory infection (ARI) and hypertension as among the top leading causes of morbidity in 2019. Hypertension was the highest leading at 16,897 counts or 30.3%, followed by injury of unspecified body region at 13,471 or 24.2% and then by acute upper respiratory infections of multiple and unspecified sites at 13,161 or 23.6%. Other causes comprised by 21.8% cases were Type II diabetes mellitus, non-insulin requiring; other disorders of urinary system; viral infection of unspecified site; post-traumatic wound infection, not elsewhere classified (wound infection); cutaneous abscess, furuncle and carbuncle; disorder of lipoprotein in metabolism unspecified (dyslipidemia); and acute pharyngitis, unspecified.

Module	Baseline Characterization
Employment Generation	The 2008 Census of Pasig City revealed that more than half (60.7%) of the productive age group (15-64 years old) belongs to the working population. The males dominated the work force representing 64.1% of the productive population. On the other hand, an equal proportion of females or 64.1% do not have jobs. The overseas workers (OFW) represented almost 5.71% of the working population of Pasig City of this proportion, 5, 370 (3.97%) are males and 2, 353 (1.74%) are females. In terms of place of work, more than half or 58.2% of the Pasig resident work within the city. About 34.7% work within Metro Manila, 1.4% out of Metro Manila, and approximately 5.8% are overseas workers.

