

Environmental Impact Statement (EIS) Executive Summary for the Public

A. DESCRIPTION OF THE PROJECT

INFORMATION ABOUT THE PROJECT

Table 1. Project Information

Project Name	POZZOLAN QUARRY (MPSA 347-2010-IVA)
Project Location	Barangay Maybancal, Municipality of Morong and Barangay Dalig, Municipality of Teresa, Province of Rizal The MPSA covered is 114.5206 hectares , the area covered by Barangay Maybancal, Municipality of Morong is 22.50 hectares falls within Parcel 1 and area covered by Barangay Dalig, Municipality of Teresa is 92.0206 hectares falls both in Parcel 1 and Parcel 2
Nature of Project	2.1 Mining and Quarrying Projects 2.1.3 Extraction of Non-Metallic Minerals \geq 20 hectares production
Project Area	114.5206 hectares (MPSA Coverage) (Parcel 1 = 82.80 hectares and Parcel 2 = 31.7206 hectares) Quarry Area = 46.6206 Hectares Parcel 1 = 36.7000 hectares Parcel 2 = 9.9206 hectares Excluded Area = 67.9000 hectares
Project Capacity	1,000,000 MT/year
Mineral Reserve	13.36 Million Metric Tons
Process Technology	Surface Mining Method

PROJECT COMPONENTS:

The project is composed of Pozzolan Quarry with annual production of 1,000,000 Metric Tons covered by Parcel 1 and Parcel 2 of MPSA 347-2010-IVA and Mobile Crushing Plant Operation.

Table 2. Project Components

Facilities	Project Components		
	No. of units	Area (sq.m)/ Capacity	Specification/ Description/ Remarks
Project Capacity	3,205 MT/day; 83,333.33 MT/month; 1,000,000 MT/yr		
Volume of Mineral Reserve	13.36 Million Metric Tons		
Project Area covered by MPSA for Parcel 1 and Parcel 2	114.5206 has		
Quarry Area	46.6206 has (36.70 has for Parcel 1 and 9.9206 has Parcel 2)		
MAJOR COMPONENT			
Quarry Operation	1	3,205 MT/day	The estimated daily quarry capacity of the project using conventional Surface Mining Method. The sequence of the

			quarry development are as follows: <ul style="list-style-type: none"> • Preparation of Access Roads • Topsoil / Waste Stripping • Drilling • Blasting • Loading and Hauling • Screening • Stockpiling
Mobile Crushing Plant	1	5,000 sqm	This serves as the area for crushing plant including raw materials
SUPPORTING FACILITIES AND UTILITIES			
Admin Support (Site Office, and Barracks/ Quarters etc.)	1	100 square meters	The project shall be provided with admin and barracks for use of office and quarry and site personnel.
Equipment Workshop and Fuel Tank	2	200 square meters	The project shall be provided with two (2) units equipment workshop each for Parcel.
Water Supply	-	1.0 cu.m/day	Domestic Water Requirement to be supplied by Local Water District.
Drainage System	NA	Underground RCP	Properly designed surface run-off thru construction of drainage system to divert to the settling pond
Road	NA	NA	Access Road inside the quarry operation shall be provided with width of 12.0 meters.
POLLUTION CONTROL FACILITIES			
Siltation Pond	4	300 sqm	Siltation pond shall be provided to control the silt and the run-off. Two (2) silt ponds shall be provided in Parcel 1 with volume capacity of 12,936.66 cum and two (2) silt ponds in Parcel 2 with volume capacity of 11,217.12 cum
Nursery	2	200 sqm	Both parcels shall be provided with nursery area in preparation for progressive rehabilitation activity.
Solid Waste Management Facility (MRF)	2	100 sqm	MRF shall be provided for each Parcel Area.
Toxic and Hazardous Waste Facility	2	100 sqm	Each parcel shall allocate an area for Toxic and Hazardous Waste Facility.
Domestic Wastewater Management Facility	2	50	Each parcel is provided with Three Chamber Septic Tank for primary treatment of domestic wastewater.
Buffer Zone	4 for each parcel	Parcel 1 N=20m, E=153m, W=63m S=421m Parcel 2 N=357m, E=166m, W=32m, S=25m	A minimum of 20-meters buffer zone will be established from major roads, residential, and agro-industrial areas
Excluded Area	2	Total of 67.90 has	Parcel 1 excluded is about 46.10 has while Parcel 2 is 21.80 has. Excluded area ay may nakitaang mayroong agro-pang-industriya at mga bahayan .

SIZE OF THE PROJECT

The project is located in MPSA 347-2010-IVA with a total area of 114.5206 hectares (Parcel 1 with 82.80 hectares and Parcel 2 with 31.7206 hectares) and with a total capacity of 1,000,000 Metric Tons per year. However, the total quarry area is only 46.6206 Hectares (Parcel 1 is = 36.7000 hectares and Parcel 2 = 9.9206 hectares) while the remaining area 67.90 hectares is identified as Excluded Area.

Mineral Reserve and Quarry Limit

The minable reserve for both Parcel 1 and Parcel 2 has a total volume of 13.36 million MT (7.2 million LCM) of pozzolan materials with Quarry Limit of approximately 15 hectares for Parcel 1 and 10 hectares for Parcel 2.

ALTERNATIVE PROCESS/TECHNOLOGY

Siting: No other siting locations were considered for the proposed quarry projects as this has been awarded a Mineral Production Sharing Agreement (MPSA). In addition, the specific area is not susceptible to any form of natural hazards such as liquefaction, earthquake, volcanic eruptions, storm surges, tsunami, but classified within Moderately susceptible to flooding for low-lying area and landslide due to improper quarry practice. These identified hazards can be mitigated thru implementation of protective measures.

Technology Option and Design: The project shall adopt the conventional Surface Mining Method using heavy equipment, and application of Controlled Blasting when hard rock is reached, Crushing and Hauling and Delivery. Only raw materials shall be produced by the project to the cement plant industries.

The preparation of the environmental management and its implementation during construction and operation phase shall be strictly implemented by the company in order to minimize the possible impact to the environment. The following impact management plan is being prepared in all phases of the project is presented in **Table 3**:

Table 3. Summary of Impacts, Proposed Mitigation, Residual Effect and Percent Efficiency

Aktibidad / Mapagkukunan na Malamang	Potential Impact	Options for Prevention or Mitigation* or Enhancement	Target Performance/ Efficiency
CONSTRUCTION PHASE			
Clearing and Earthmoving	Dust pollution due to land preparation	<ul style="list-style-type: none"> Immediate compaction of open areas 	100% compliant to RA 8749 in terms of air quality standards
Construction of Access Road, and facilities and installation of Mobile Crusher	Dust pollution due to vehicle/equipment movements: -Along the road leading and the project area activities	<ul style="list-style-type: none"> Sprinkling of water using water tanker at least four times a day along all possible roads leading quarry area, especially during dry season. Covering all loaded trucks properly/fully using tarpaulin throughout the hauling period. All trucks shall be road-worthy. 	100% compliant to RA 8749 in terms of air quality standards
OPERATION PHASE			
Quarry Activity Including Blasting	Land Hazard due to geological instability, soil erosion, change in landform/topography	<ul style="list-style-type: none"> Implement phasing of activity and benching Immediate compaction of loose soil Reinforce slope material structures Rerouting surface towards silt pond 	100% No soil erosion and 100% hazard free
	Land - impact to the nearby infrastructures/structures due to vibration during the blasting operation	<ul style="list-style-type: none"> All blasting activities will be performed by a duly accredited blaster following Australian standard 2187.2-2006 on Ground vibration peak particle velocity of not greater than 10mm per sec and Airblast overpressure of not greater than 120dB (Linear) Peak at any time. However, with the advancement of blasting technology and the use of controlled blasting will help address this impact. Observed distance of the blasting area to the nearest infrastructure 	100% No damage free
	Loss of Vegetation Cover and Fauna Species	<ul style="list-style-type: none"> Implement minimum of 25-meter buffer zone along the road, agro-industrial and residential area. Implement Progressive Rehabilitation and participate in the National Greening Program 	100% No Cutting of Trees with Permit and Replacement

		(NGP)	
	Water Pollution due to storm run-off. Possible Siltation	<ul style="list-style-type: none"> ▪ Properly maintained siltation ponds and regular desilting ▪ Installation of sand bags at the overflow area ▪ Implement Zero discharge thru re-use and recycling of cleared water 	100% Compliant to RA 9275 and DAO 2016-08 standards
	Air pollution emission of dust due to heavy equipment operation	<ul style="list-style-type: none"> • Sprinkling of water using water tanker at least four times a day within the project area especially during dry season. 	100% compliant to RA 8749 in terms of air quality standards
	Noise pollution due to heavy equipment operation and blasting	<ul style="list-style-type: none"> • Controlled blasting shall be implemented and shall be supervised by Licensed Authority. • Proper information dissemination proper to the conduct of blasting activity Use of very efficient silencers on equipment and other noise dissipating device on all equipment to be used • Avoid use of heavy machinery during night hours. Activities should be strictly done from 8:00 AM to 5:00 PM only. • Installation of fences/noise barriers along the perimeter of the project area. Corresponding areas to be monitored shall be submitted to EMB. 	100% compliant to RA 8749 in terms of air quality standards and 100% zero damaged to properties
	People - Health and Safety due to exposure to Construction Hazard	<ul style="list-style-type: none"> ▪ Implement wearing of PPE's at all times when inside the project site ▪ Sufficient signages showing information on the active quarry area, equipment navigation and safety precautionary measures 	100% compliant to PPEs and Zero accident
	Generation of untreated/improper disposal of domestic wastewater	<ul style="list-style-type: none"> ▪ Personnel stationed at the quarry land will be provided with on-site portable toilets and washrooms. Collection and disposal will be done by an DENR accredited hazardous waste hauler and treater 	100% Zero discharge of domestic waste
	Land pollution due to improper dumping of solid wastes and toxic substances	<p>The proponent shall ensure that its contractors shall practice on-site segregation and establish storage facility of the following:</p> <ul style="list-style-type: none"> • Construction debris • Hazardous wastes such as used oil, busted lamps, oily rags, etc. <p>The above waste materials shall be hauled and disposed of by a DENR accredited hauler and treater.</p> <p>Biodegradable materials shall be used for composting. Compost materials shall be used for greening activities.</p>	<p>100% compliant to the following:</p> <ul style="list-style-type: none"> • RA 9003 • DAO 1992-29 and DAO 2013-22 and its Revised Procedural Manual
	Land pollution effect on soil quality and fertility due to accidental release of toxic and hazardous wastes or potential oil spill and leaks	<ul style="list-style-type: none"> • All heavy equipment used during the construction and operation phase of the project will be pulled-out after project completion. • No overfilling of oil tanks to prevent spill; • Immediate containment and removal of land due to oil spill shall be done. 	100% Zero Spill
Mobile Crushing plant operation	Air pollution emission of dust due to heavy equipment operation	<ul style="list-style-type: none"> • Sprinkling of water using water tanker at least four times a day within the project area especially during dry season. • Providing adequate water spraying device per hauling unit to water along all possible roads leading to the site. 	100% compliant to RA 8749 in terms of air quality standards
	Noise pollution due crushing of rocks	<ul style="list-style-type: none"> • Use of very efficient silencers on equipment and other noise dissipating device on all equipment to be used • Avoid use of heavy machinery during night hours. 	100% compliant to RA 8749 in terms of air quality standards

		Activities should be strictly done from 8:00 AM to 5:00 PM only.	
Hauling of Materials	Air pollution emission of dust due to heavy equipment operation	<ul style="list-style-type: none"> • Providing adequate water spraying device per hauling unit to water along all possible roads leading to the quarry area. • Street sweeping along Pantay-Buhangin Rod 	100% compliant to RA 8749 in terms of air quality standards
	Impact on Road Safety and Road damage due to number of Hauling Trucks passing along Pantay-Buhangin Road	<ul style="list-style-type: none"> • Adequate signages with proper scheduled hours will be posted on strategic places for easy access and provide personnel to manage or direct the vehicle going in and out of the premises. • Imposition of speed limit along Pantay-buhangin Road • Formulate an organization to all quarry operators using Pantay-Buhangin Road as their access road for a road users fee which shall be used in the event of road damage. 	Compliant Road Safety of the LGU 100% Roadworthy

RESOURCE MATERIALS

I. Water Source

The project shall consider siltation pond as water collection for the implementation of environmental measures for re-use particularly sprinkling of water to open areas to control dust while domestic water requirement shall be provided by Local Water District.

II. Power Source

The power requirement for the proposed quarry project shall be serviced by Manila Electric Company (MERALCO).

RESOURCE ALTERNATIVES

The proponent considered the site based on the Mining Tenement and Mineral Rights covered by MPSA 347-2010-IVA. The combined measured and indicated resource totaling 38.10 million metric tons could be sufficient for more than 30 years at an extraction rate of one million tons a year. Moreover, there is a likelihood that portions of the inferred resource of 83 million tons could be upgraded to measured or indicated resource as extraction of the pozzolan material proceeds in time.

Despite the volume of mineral resources, the minable reserve for both Parcel 1 and Parcel 2 has a total volume of 13.3 million MT (7.2 million LCM) of pozzolan materials which can supply for the next 10-15 years to cement industries.

The project shall adopt the conventional Surface Mining Method using heavy equipment, and application of Controlled Blasting when hard rock is reached, Crushing and Hauling and Delivery. Only raw materials shall be produced by the project to the cement plant industries.

B. LOCATION OF THE PROJECT

Barangay Maybancal, Municipality of Morong and Barangay Dalig, Municipality of Teresa, Province of Rizal.

C. PROJECT PROPONENT

Name of the MPSA Holder : ROXANNA S. GO

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Authorized Representative : ABNER PADRIQUE - MANAGER

D. PROJECT IMPLEMENTATION TIMETABLE

Table 4 presents the timetable of the proposed quarry operation project.

Table 4. Timetable of the Project

Activity	YR1				YR2	YR4	YR6	YR8	YR10	YR12	YR14	YR16	YR18	YR20
	1	2	3	4										
Pre-Construction														
Construction														
Operation														
Progressive Rehabilitation														
Decommissioning and Final Rehabilitation														

E. IMPACT AREA

Based on the conduct of the study and pursuant to DAO 2017-15 on the identification and delineation of Direct Impact Area (DIA) and Indirect Impact Area (IIA), this report came up with the conclusion that the people, establishment, agro-industrial and institutional along Pantay-Buhangin Road falls within the Direct Impact Area (DIA) Category regardless of its proximity to the proposed quarry site for its impact on air and people due road safety.

The EIA Study area focused on the Direct Impact Area (DIA) of the project area in 114.5206 hectares identified as the People from Barangay Maybancal, Morong and Barangay Dalig, Teresa, Province of Rizal were considered for IEC and Public Participation, impact on land for terrestrial ecology, the nearest surface water body and air and noise on the impact community.

F. IDENTIFIED STAKEHOLDERS

Table 5 presents the identified stakeholders pursuant to DAO 2017-15.

Table 5. Identified Stakeholders

Potential Impact Area		Basis for Selection of Sector as a stakeholder of the Project	Sectors/Sub-sectors Identified by Proponents to be Likely Stakeholders of the Project	Specific Organizations/Entities Likely to be invited to IEC/Site Scoping as Representing the Sectoral Stakeholders
A.				
<i>Direct Impact Area (e.g. barangays within the project area)</i>				
1.	Hon. Jhanda Sto. Domingo Barangay Chairman Barangay Dalig, Municipality of Teresa	The project is located in the barangay, Primary Impact as they are the host barangay	LGU - Barangay	Barangay Chairman and officials
2.	Hon. Harold Ramos Barangay Chairman Barangay Maybanca, Municipality of Morong	The project is located in the barangay, Primary Impact as they are the host barangay	LGU - Barangay	Barangay Chairman and officials
B.				
<i>LGU with Political Jurisdiction over the project area (other than the barangays listed in A)</i>				
1.	Hon. Raul Palino Municipal Mayor Municipality of Teresa	The project is covered by the Municipality of Teresa	LGU - Municipal	Municipal Mayor
2.	Hon. Jose Jeriel Villegas Municipal Vice Mayor Municipality of Teresa	The project is covered by the Municipality of Teresa	LGU - Municipal	Municipal Vice Mayor and Council
3.	Municipal Planning and Development Office (MPDO) Municipality of Teresa	The project is covered by the Municipality of Teresa	LGU – Municipal Land Use	MPDO
4.	Hon. Olivia de Leon Municipal Mayor Municipality of Morong	The project is covered by the Municipality of Morong	LGU - Municipal	Municipal Mayor I
5.	Hon. Julian Joseph De Ungria Municipal Vice Mayor Municipality of Morong	The project is covered by the Municipality of Morong	LGU - Municipal	Municipal Vice Mayor and Council
6.	Municipal Planning and Development Office (MPDO) Municipality of Morong	The project is covered by the Municipality of Morong	LGU - Municipal	MPDO
7.	Hon. Rebecca Ynares Office of the Provincial Governor of Rizal	The project is covered by the Province of Rizal	LGU- Province	Provincial Governor
8.	Hon. Reynaldo San Juan, Jr. Office of the Provincial Vice-Governor of Rizal	The project is covered by the Province of Rizal	LGU- Province	Provincial Governor and Council
C.				
<i>Other Evident pre-identified areas of potential impact (may be candidates for Indirect Impact Areas, subject to EIA Findings)</i>				
1.	Gilbert Gonzales Regional Executive Director DENR-4A	DENR Regional Jurisdiction	EMB 4A	DENR
2.	Ms. Noemi A. Parana Regional Director EMB-Calabarzon	EMB Regional Jurisdiction	EMB 4A	EMB
3.	Mr. Isidro L. Mercado, Ph.D. PENRO Province of Rizal	PENRO-Rizal	PENRO	DENR
6.	Municipal Health Officer Municipality of Teresa, Rizal	Impacts on the health	DOH	DOH
7.	Municipal Health Officer	Impacts on the health	DOH	DOH

		<i>Municipality of Morong, Rizal</i>			
8.		<i>The Principal Pantay Elementary School</i>	<i>The nearest institution to be affected by the project</i>	<i>School - Institution</i>	<i>DePEd</i>
9.		<i>The Principal Maybancal Elementary School</i>	<i>The nearest institution to be affected by the project</i>	<i>School - Institution</i>	<i>DePEd</i>
10.		<i>Samuel T. Paragas, CESO IVs Regional Director Mines and Geosciences Bureau (MGB) Region 4A 6th Floor, DENR By The Bay Building, Roxas Boulevard, Manila</i>	<i>Quarry and Mining</i>	<i>National Office Regional</i>	<i>MGB</i>
11.		<i>Atty. Wilfredo G. Moncano Acting Director Mines and Geosciences Bureau (MGB) Central Office North Avenue, Diliman, Quezon City</i>	<i>Quarry and Mining</i>	<i>National Office Central</i>	<i>MGB</i>
12.		<i>The Manager Coral Farm Dalig, Teresa, Rizal</i>	<i>Nearest Agro farm in the project</i>	<i>Representing Agro- Industrial</i>	<i>PO</i>
9.		<i>Teresa Gospel Four Square Church Teresa, Rizal</i>	<i>Nearest Church in the Rae</i>	<i>PO</i>	<i>PO</i>
13.		<i>Community Residents of Barangay Maybancal, Morong, Rizal</i>	<i>Stakeholders in the area</i>	<i>Resident, Sari-sari store owners, etc.</i>	<i>Stakeholders</i>
14.		<i>Community Residents of Barangay Dalig, Teresa, Rizal</i>	<i>Stakeholders in the area</i>	<i>Resident, Sari-sari store owners, etc.</i>	<i>Private Sector</i>
15.		<i>The Manager Robina Farm Teresa, Rizal</i>	<i>Stakeholder in the Area Southeast boundary of the project</i>	<i>Representing Industrial stakeholders</i>	<i>Private Sector</i>
16.		<i>The Manager Quest Adventure Park Teresa, Rizal</i>	<i>Stakeholder in the Area Northeast boundary of the project</i>	<i>Representing Commercial stakeholders</i>	<i>Private Sector</i>
17.		<i>HOA Unity Village Antipolo, Rizal</i>	<i>Stakeholder in the Area North boundary of the project</i>	<i>Representing Residential stakeholders</i>	<i>Private Sector</i>

G. OTHER ADDITIONAL INFORMATION

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