

ENVIRONMENTAL PERFORMANCE REPORT AND MANAGEMENT PLAN

SUMMARY FOR THE PUBLIC (English) NCC CEMENT PLANT AND QUARRY EXPANSION OPERATION

Barangay Labayug, Sison, Pangasinan

Submitted by:



Submitted to:

Environmental Management Bureau – Central Office

23 September 2019



1.0 PROJECT DESCRIPTION

Name of Project	NCC Cement Plant and Quarry Expansion Project		
Project Location	Province of Pangasinan, Municipality of Sison, Barangay Labayug		
Project Category & Type (based on Annex A of MC 2014-005 Guidelines)	Cement Plant with Quarrying		
Existing ECC Reference No.	Environmental Compliance Certificate Ref. No. 9207-032-301C		
Project Size	Cement Plant Clinker Production		
	Existing Line 1 & 2 Production Capacity		Proposed New Line1&2 Production Capacity
	4,000 TPD (1.28 MMTPY) Clinker		5,500 TPD (1.76 MMTPY) Clinker
	Quarry		
	Existing Extraction Rate		Proposed New Extraction Rate
	2.72 MMTPY Limestone 0.672 MMTPY Shale		8.27 MMTPY Limestone 1.83 MMTPY Shale
Summary of Major Project Components	Component		
	Existing		
	Proposed Additional		
	Quarry		
	Limestone crushing system	2 units x 250 TPH Jaw and Impact Crusher	No additional
	Storage Bins	42,000 tons	No additional
	Cement Plant		
	Coal mill/grinding system	35 TPH coal grinder 2 units 25 TPH vertical mill 17.8 TPH coal mill 40 TPH hammer mill flash dryer 50 TPH coal flash dryer 40 TPH ball mill	No additional
	Coal storage	9-bays coal storage	No additional
	Raw material Pre-blending	75 TPH Roller Crusher 300 TPH Swing Hammer Crusher	No additional
	Raw Mill	2 units 165 TPH hammer mills 2,400 TPH Raw Ball Mill	
	Homogenizing silo	4 units 1,300 TPH	Upgrading and rehabilitation of old internal parts and blowers
	Pre-heater	2 units 4 stage pre-heater	Upgrading and modification of 2 units preheater with feed points for AFR
Gas Conditioning Tower	Old GCT Single fluid Spraying System	Upgrading of water spraying system of GCT using highly efficient Autojet Gas Cooling System	
Kiln feeding system	2 units 100 TPH	No additional	

	Kiln system	2 units 2,200 TPD	Replacement of old burner pipe to low-NOx German FLSmidth burner pipe
	Clinker cooler	2 units	No additional
	Clinker silo	2 units 25,000 MT	Additional 25,000 MT concrete clinker silo Additional steel clinker silo
	Cement grinding	190 TPH finish ball mill 130 TPD finish ball mill	No additional
	Cement silo	39,000 MT	No additional
	Packaging house	3 units 1,600 TPD rotary packing machines 4 units 90 TPH rotary packing machine	No additional
	Bulk loading facility	1 unit 40 TPH 2 units 2,500 MT steel silo	
	Support Facilities	<ul style="list-style-type: none"> • Medical Clinic • Administration Building • Machine Shop • Warehouse • Access Roads • Guest house/Staff house • Waste heat recovery system • Water Treatment Facility • Explosive Magazine 	
Resource Utilization	<p><u>Water Requirement</u></p> <ul style="list-style-type: none"> • The total water requirement for the cement plant and quarry expansion of NCC is 1,300 m³/day. NCC is sourcing its water requirements from three existing deep wells and from the Sapid Creek. NCC has necessary NWRB permits for its water supply. Desilted water from the siltation ponds are also being reused by NCC. <p><u>Power Requirement</u></p> <ul style="list-style-type: none"> • With the expansion and upgrading of the cement plant, the new power requirement will only be 190,000 MWH per year. NCC currently sources its power requirement from the Luzon grid. • In addition, the Plant Complex is equipped with the following back-up power sources: <ul style="list-style-type: none"> ○ Three (3) units of 536 HP diesel engines coupled to 625 KVA Power System Alternator; ○ One (1) unit 798 HP General Motors - Detroit Diesel Engine with 625 KVA coupled to a Siemens Alternator 		
Project Cost	Php 3.5 Billion		
Construction Period	2019-2020		
Commercial Operation Date	4 th quarter 2020		

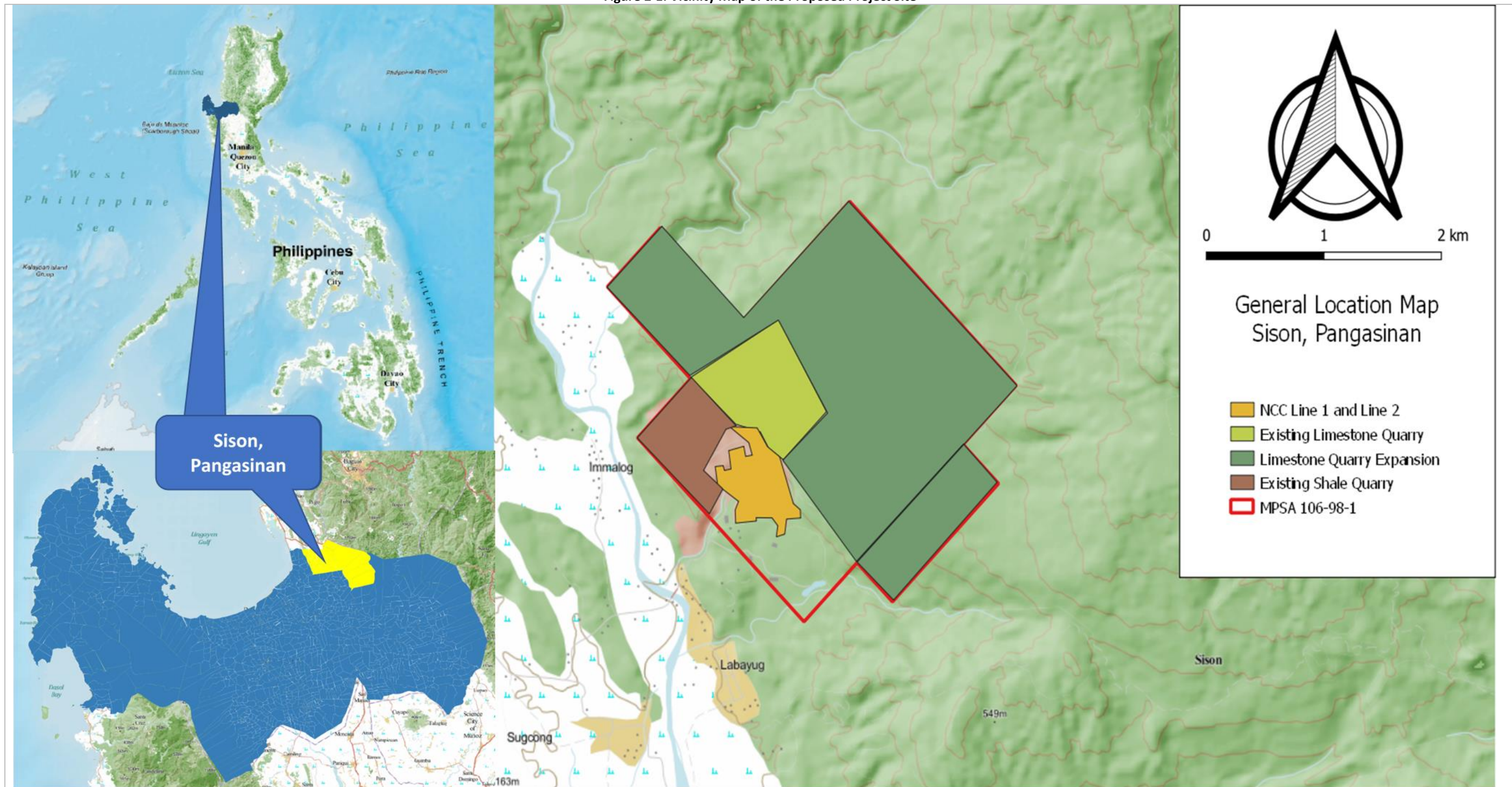
2.0 PROPOSED LOCATION

The proposed expansion of the cement plant facility will be within the existing 43.06-hectare NCC plant complex in Brgy. Labayug, Sison, Pangasinan. No additional land area will be used for the expansion since only upgrading and installation of additional equipment will be done to increase the clinker production capacity of the NCC Line 1&2. No additional production line will be constructed for the expansion.

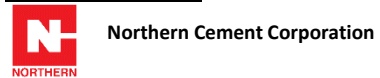
The quarry of NCC is under Mineral Production Sharing Agreement (MPSA) No. 106-98-1 with aggregate area of 630 hectares. The expansion for the limestone production will be utilizing the same MPSA No. 106-98-1 and will cover 483 hectares of mining area. For the shale, the same quarry area will be used.

The vicinity map is shown in **Figure 2-1**.

Figure 2-1: Vicinity Map of the Proposed Project Site

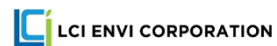


PROJECT PROPONENT:



Northern Cement Corporation

EIA REPORT PREPARER:



LCI ENVI CORPORATION

FIGURE TITLE:

GENERAL LOCATION MAP OF THE PROPOSED PROJECT

PROJECT TITLE & LOCATION:

NCC Cement Plant and Quarry Expansion Project
 Brgy. Labayug, Sison, Pangasinan

FIGURE NO.:

2-1

SOURCE:

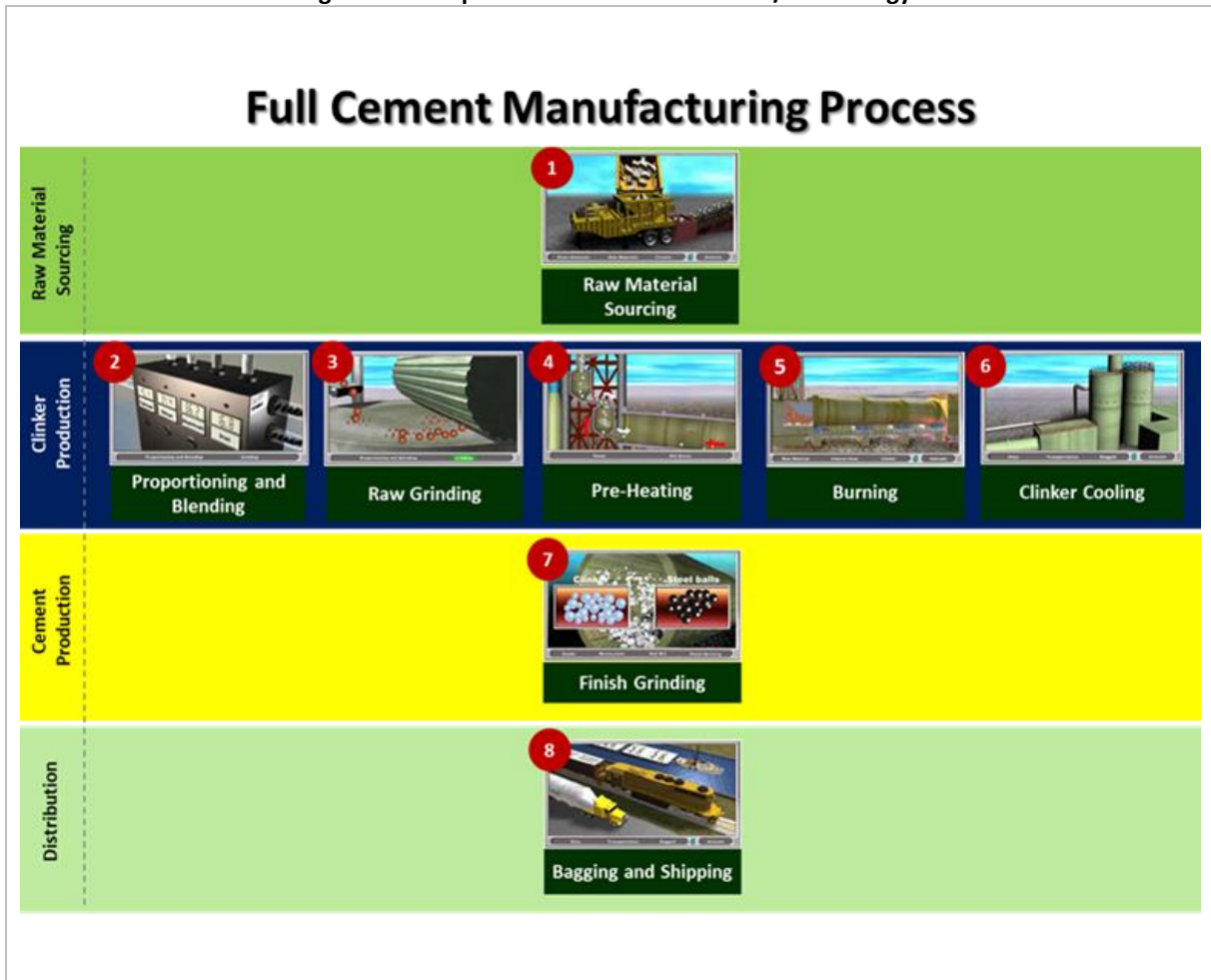
MAP GENERATED IN QGIS
 BASE MAP: NAMRIA



3.0 PROJECT ALTERNATIVES

ALTERNATIVES	ANTICIPATED ENVIRONMENTAL IMPACTS
Full Cement Plant	<ul style="list-style-type: none"> • Land: Solid waste generation may be higher due to use of more resources and employment of more personnel. • Water: Construction and operation of larger facilities may have higher water supply requirement that may, in turn, result to higher wastewater generation. • Air: Possible increase in dust emissions from the cement processing may also adversely affect ambient air quality in the project area if not properly mitigated. • People: Local benefits from the large-scale project (i.e., increased employment, social and economic activities, tax revenues, and basic social services) may be greater. However, dust generated from the cement plant may cause adverse health effects to the community and workers if not properly mitigated.
No-Project Scenario	<ul style="list-style-type: none"> • Land: Quarrying activities to supply raw materials for NCC will continue. Adverse impacts due to quarrying will still be experienced. • Air: The ambient air quality in the area, as well as the source emissions from the facilities of NCC Line 1 and 2 are within DENR standards. • Water: The current operation will continue to consume water for industrial and domestic uses. • People: The no-project scenario entails loss of local employment and service opportunities. If the project is not pursued, the supply of cement will be affected, especially with the Duterte Administration’s push for infrastructure development under the “AmBisyon Natin 2040” and the “Build, Build, Build” program.

4.0 PROCESS/TECHNOLOGY

Figure 4-1: Proposed Cement Plant Process/Technology



<p>PROJECT PROPONENT:  Northern Cement Corporation</p>	<p>FIGURE TITLE: PROCESS DIAGRAM OF CEMENT PRODUCTION</p>	<p>FIGURE NO.: 4-1</p>
<p>EIA REPORT PREPARER:  LCI ENVI CORPORATION</p>	<p>PROJECT TITLE & LOCATION: NCC Cement Plant and Quarry Expansion Project Brgy. Labayug, Sison, Pangasinan</p>	<p>SOURCE: PROJECT PROPONENT</p>

5.0 SUMMARY OF MAJOR IMPACTS AND RESIDUAL EFFECTS AFTER MITIGATION

POTENTIAL IMPACTS	PROJECT PHASES	MITIGATING MEASURES	RESIDUAL IMPACTS
LAND			
Generation of solid wastes	Construction, Operation, Abandonment	Implementation of a solid waste management plan	Residual waste will be hauled off by accredited off-takers. Wastes will not be stocked in the area.
There may be some soil erosion due to the earth movement	Operation	Limitation of earth movement to areas where site development is necessary	There will be no soil movement outside the project site
Change in existing terrain due to quarry operations	Operation	Limit the bench slopes at 75 degrees	Minimized areas with altered terrain
There is a risk of soil contamination due to the maintenance of heavy equipment	Construction, Operation, Abandonment	Use sawdust, rice hulls, or coir dusts to absorb the oil spills	Contamination of land due to oil spills will be minimized with the use of absorptive materials
Loss of flora and fauna in the areas to be developed as quarry sites	Operation	<ul style="list-style-type: none"> Prepare management plans and protection/conservation strategies Retaining and managing viable habitat units within and surrounding the project's development block areas Progressive rehabilitation of disturbed areas 	Disturbed areas will be rehabilitated.
WATER			
Accidental oil spills from heavy equipment and delivery trucks	Construction/ Operation	Use sawdust, rice hulls, or coir dusts to absorb the oil spills Maintain drainage in the maintenance and repair area of vehicles and equipment	Concentration of oil & grease in the receiving body of water should comply with appropriate standards
Ground and surface water contamination from improper disposal of wastes, percolated wastewater, sludge and fecal matter	Construction/ Operation	Provision of sanitation facilities for workers (e.g. toilets, showers, etc.) Provision of Sewage Treatment Plant	Concentration of fecal coliform in the receiving body of water should comply with appropriate standards

POTENTIAL IMPACTS	PROJECT PHASES	MITIGATING MEASURES	RESIDUAL IMPACTS
Possible siltation and surface runoff Increase in turbidity of surface water due to quarry operations	Construction/ Operation	Establishment of sediment traps and erosion barriers Regular removal of silt and sediments Installation and maintenance of drainage system within the plant.	While siltation may still be present, this impact is expected to be minimized by erosion barriers and sediment traps.
AIR			
AMBIENT AIR QUALITY AND NOISE			
NO _x , SO ₂ , and CO emissions from heavy equipment that will be used during construction and quarry operation	Construction/ Operation	Proper maintenance on heavy equipment	Gaseous emissions in the area should be compliant with appropriate standards
TSP and PM ₁₀ emissions from the cement plant is of primary concern.	Operation	Installation of bag filters that will control at least 99% of the emissions from the cement plant Road watering within the plant site to control dust	Fugitive dust, while still prevalent but will significantly be less.
Gaseous emissions are expected from the kiln.	Operation	Proper maintenance of equipment to ensure efficiency	Gaseous emissions in the area should be compliant with appropriate standards
Heavy metal emissions are expected from the kiln due to use of alternative fuels	Operation	Bag filters can also control up to 92% of heavy metal emissions	Gaseous emissions in the area should be compliant with appropriate standards
Noise will be generated by heavy equipment during construction and quarry operations The cement plant will generate some noise	Construction/ Operation	Maintenance of engines and other mechanical parts of the equipment Installation of exhaust mufflers Constructing enclosures surrounding the project site Maintenance of vegetation surrounding the area to serve as natural noise barriers.	Noise from the facility will be lessened.
PEOPLE			
Dust may cause negative health effects (i.e., respiratory) to the community and workers if not properly mitigated	Construction Operation	Provision of PPEs to workers Conduct of medical missions and regular check-ups to workers and host barangay	Health effects of the proposed project can be lessened Health effects of the proposed project can be monitored.

POTENTIAL IMPACTS	PROJECT PHASES	MITIGATING MEASURES	RESIDUAL IMPACTS
		Coordination with Municipal Health Officer (MHO) and barangay health units to address health-related needs of the community	Health of the community can improve because of the medical missions and regular check-ups.
<p>Generation of additional source of income and livelihood</p> <p>Additional revenue for the local government</p> <p>Increased basic social services</p> <p>Addition and improvement of local residential dwelling</p> <p>Increase in budget for SDP and SDMP</p>	Operation	Implementation of social development programs that are responsive to local needs in the impact area	The community will reap the benefits of the project through social development programs and corporate social responsibility projects.
Increase in traffic generation in the area due to delivery trucks coming in and out of the Plant	Construction Operation	<p>Coordination with LGU on scheduling and handling the flow of traffic near the project area</p> <p>Provision of private road with interface to the National Road</p>	The project may still generate traffic on the National Road only.

6.0 IDENTIFIED STAKEHOLDERS

Stakeholders	Name
Local Government Unit	<ul style="list-style-type: none"> • Municipal LGU of Sison, Pangasinan (host municipality) • Municipal LGU of Pozorrubio, Pangasinan (adjacent municipality) • Brgy. Calunetan, Sison (SDMP barangay) • Brgy. Inmalog, Sison (SDMP barangay) • Brgy. Labayug, Sison (host barangay) • Brgy. Paldit, Sison (SDMP barangay) • Brgy. Sugcong, Pozorrubio (SDMP barangay)
Government Agencies	<ul style="list-style-type: none"> • DENR Region I (Ilocos Region) • DENR EMB Region I (Ilocos Region) • DENR MGB Region I (Ilocos Region) • DOH Region I (Ilocos Region) • Provincial Environment and Natural Resources Office (PENRO Pangasinan) • Community Environment and Natural Resources Office (CENRO Dagupan City)
Sector Representatives	<ul style="list-style-type: none"> • Sison Senior Citizens Association • Women Sector • Youth Sector
Local Institutions	<ul style="list-style-type: none"> • Labayug Elementary & High School

7.0 STATEMENT OF COMMITMENT AND CAPABILITY TO IMPLEMENT NECESSARY MEASURES

The institutional organization of the cement plant as shown in **Figure 7-1** contains people with their assigned responsibilities that require interaction between **Northern Cement Corporation's** different departments. The objective of this organization is to achieve the following:

- Economical and safety operations and maintenance of the proposed project's components;
- Implementation of company policies;
- Environmental compliance and sustainability; and
- Promotion and enhancement of the social acceptability of the proposed project.

The institutional organization will involve **NCC's** top-level management, since this group is responsible for providing the corporate direction and policies of the company. The policies shall then be disseminated to department heads and managers for implementation of the company personnel, including those who will be working on the operations of the proposed project.

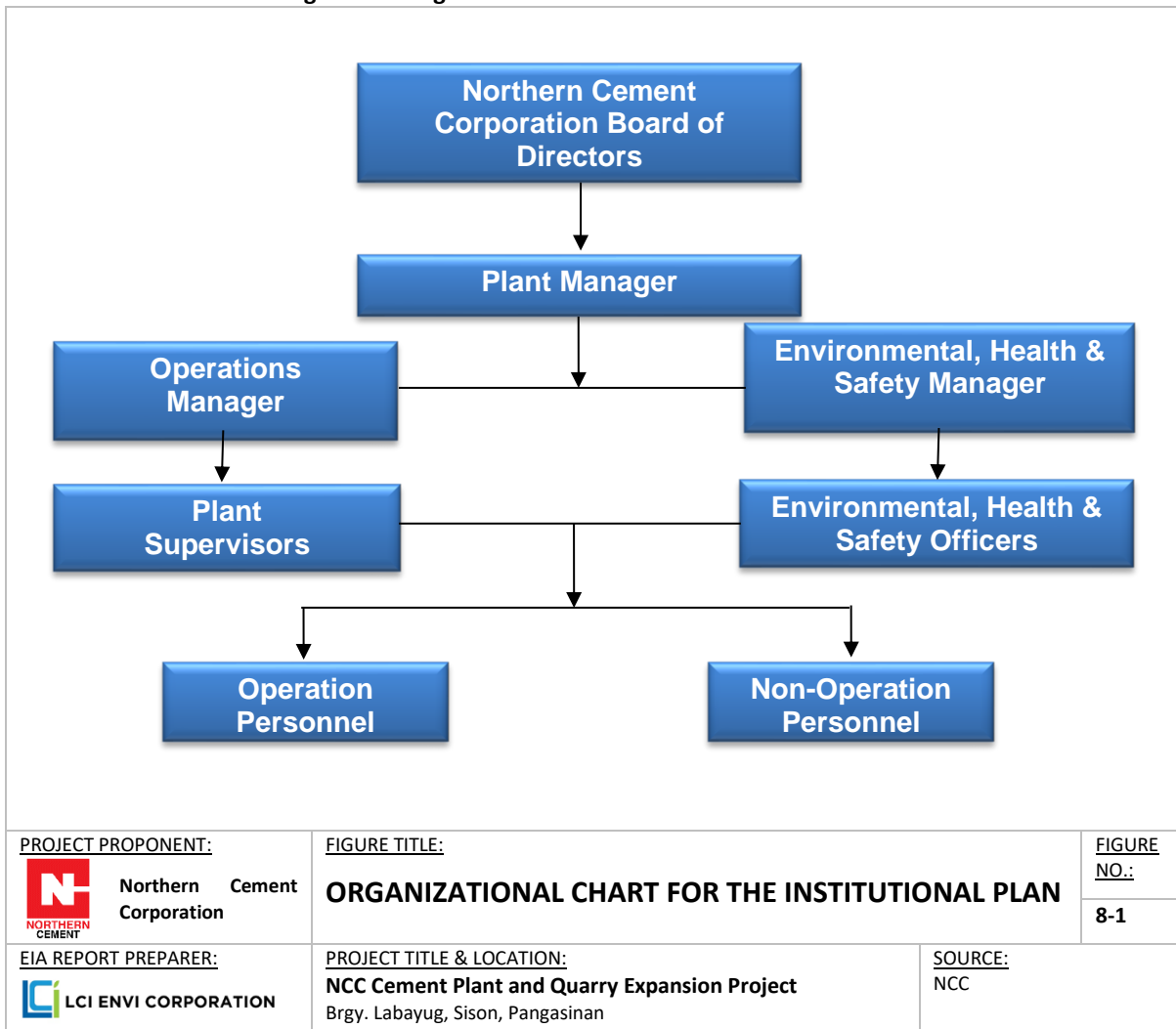
Northern Cement Corporation will also continue to establish a partnership with relevant government agencies, various stakeholders and local host communities in relation to the project. This partnership is necessary to maintain a transparent and positive relationship for the proposed project and its stakeholders, as well as to ensure that the environmental protection and enhancement measures are complied with. The following are the identified key stakeholders of the project:

- Municipal LGU of Sison, Pangasinan (host municipality)
- Municipal LGU of Pozorrubio, Pangasinan (adjacent municipality)
- Brgy. Calunetan, Sison (SDMP barangay)
- Brgy. Inmalog, Sison (SDMP barangay)
- Brgy. Labayug, Sison (host barangay)
- Brgy. Paldit, Sison (SDMP barangay)
- Brgy. Sugcong, Pozorrubio (SDMP barangay)
- Residents and community organizations that will be affected by the proposed project;
- Farmers' organizations;
- Chamber of Commerce;
- Various industry organizations;
- Local peace-and-order councils (i.e., PNP, Barangay Police); and
- Other concerned non-government organizations.

Northern Cement Corporation commits to:

- Comply with the conditions that will be stipulated in the ECC and other related environmental laws;
- Foster mutually beneficial partnership and cooperation with host communities;
- Promote sustainable use and responsible development of resources by adopting appropriate technologies;
- Develop livelihood programs and upgrade skills of host communities to contribute and enhance the quality of life; and
- Develop training programs for its employees which will ensure that they will be continually prepared for the tasks assigned to them

Figure 7-1: Organizational Chart for the Institutional Plan



8.0 PROPONENT AND PREPARER DETAILS

For more information about the project, please contact the following people:

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The full EPRMP report is accessible in the DENR-EMB Website.