

## Executive Summary of the Environmental Impact Statement

### A. Project Description

#### I. Basic Project Information

<b>Project Name</b>	: ATN Integrated Aggregates Project
<b>Nature of Project</b>	: Major Quarrying and Crushing Project
<b>Proposed Extraction Rate</b>	: 7,000,000 DMT
<b>Proposed Annual Crushing Rate</b>	: 5,000,000 DMT
<b>Commodity</b>	: Aggregates
<b>Location of Quarry and Facilities</b>	: Brgy. Macabud, Rodriguez (formerly Montalban), Rizal
<b>Permit</b>	: EP- IVA-019
<b>Total Project Area</b>	: 82.7092 hectares
<b>Mining Method</b>	: Surface Mining – Quarrying
<b>Mine Life</b>	: 14 Years

ATN Holdings, Inc., through its affiliate company, is implementing an energy project in Barangay Macabud, Rodriguez (formerly Montalban), Rizal. The company also owns 256.10 hectares of land encompassed under TCT # 463732; some which lies within the aforesaid project area.

With the potential of rock aggregates resource within the said areas, ATN plans to develop the area and utilize the aggregate resources for the upcoming projects of the company. With such, ATN Holdings, Inc. was issued with an Exploration Permit denominated as EP-IVA-019 covering an area of 82.7092 hectares.

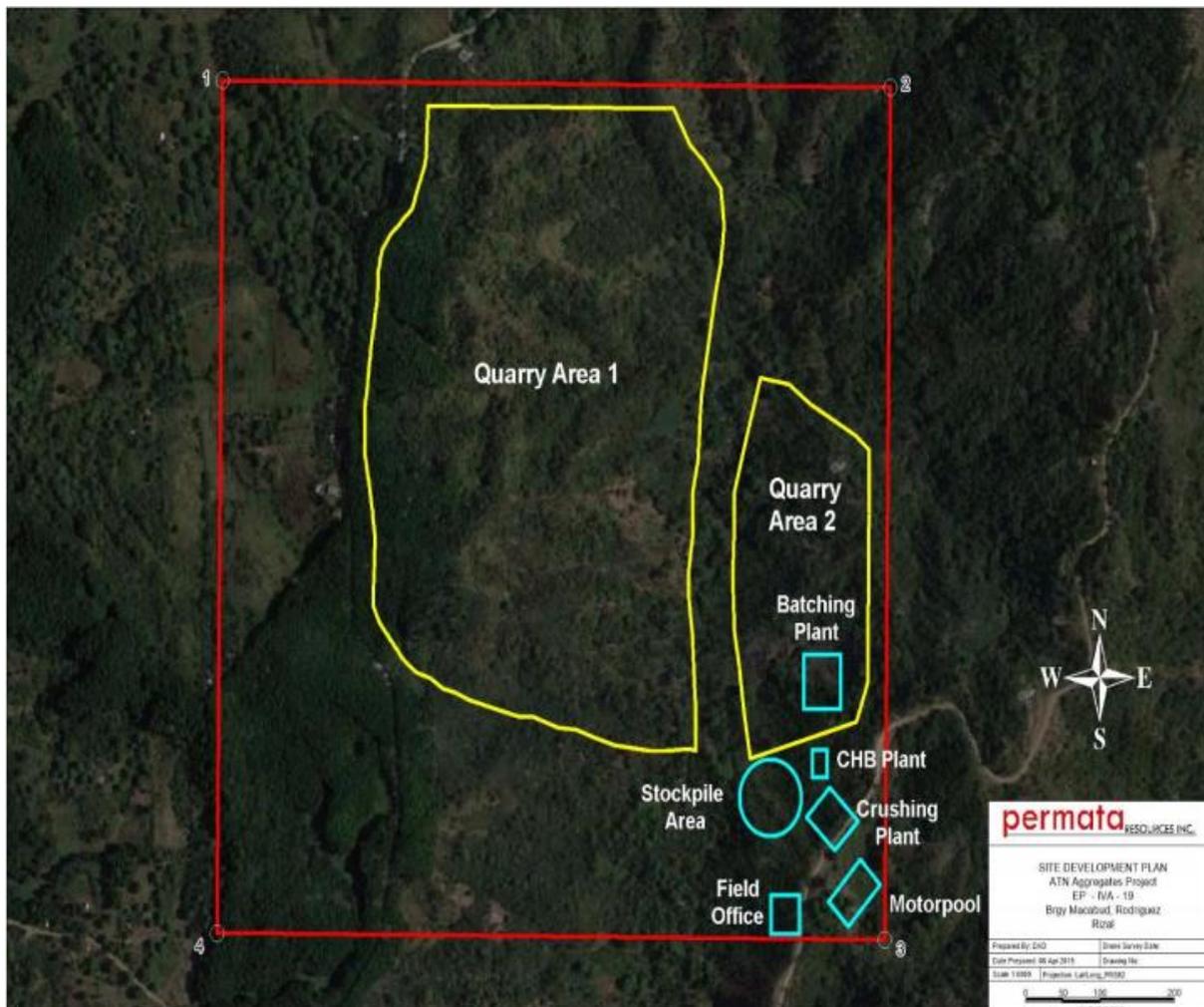
#### II. Project Components

<b>Major Components</b>	Quarry
	Crushing Plant
	Batching Plant
	Concrete Hollow Block (CHB) Plant
	Mine Haul Roads and Access Roads
	Stockpile and dumps
<b>Support Facilities</b>	Office Building
	Housing Facilities and Bunk Houses
	Security Outposts and Facilities
	Mechanical Repair Workshop, Inventory Warehouse and Fuel Depot
	Nursery
<b>Pollution Control Facilities</b>	Sedimentation Ponds/Settling Ponds
	Pit drainage

Mining projects are site specific because mineral extraction can only be undertaken where economic deposits occur. Given such, ATN Holdings, Inc. has not considered any alternative project site. For the mining method, given the nature of the deposit, result of the initial feasibility conducted, drilling/geologic results and environmental considerations, the most suitable method of extraction is by open-cut quarry method

For the quarry facilities and plants, the proposed locations of these facilities were determined by the following:

- Proximate locations of the proposed plant sites and quarry facilities would minimize impacts inherent to the transport of aggregate materials to the plant sites and limit footprint within the already disturbed areas;
- Proposed areas would allow for future expansion of the quarry area;
- The proposed area of the crushing, batching and CHB plant sites are not in a flood prone area in order to minimize and eliminate contaminated storm water runoff towards the natural waterways; and
- The proposed locations of the crushing, batching, and CHB plants were based on the prevailing strong winds in the project area to minimize the potential dust generation.



### Technology Selection

#### a. Batching Plant

Given the suitable area/space within the project area, ATN plans to develop an off-site batching plant to produce better quality concrete through accurate and computerized control of sand

aggregates and water as per mixed. The establishment of such also minimizes cement waste due to bulk handling.

The proposed batching plant has a rated output of 60m<sup>3</sup>/h and will utilize JS1000 concrete mixer. This said mixer is a twin shaft compulsory concrete mixer that can mix dry concrete, plasticity concrete, flow-ability concrete, light aggregate concrete and various mortar. It is also made up of high manganese wear-resisting cast steel lining board and mixing blades which is durable and convenient to replace. The mixer can be used for various kinds of large, medium or small prefabricated factory, construction sites, roads, bridges, airports and tunnels, etc. It has the advantages of reasonable design, compact structure, convenient operation, stable working, good mixing quality, high efficiency, low energy consumption, low noise and long-life wearing parts.

#### b. CHB Plant

Concrete Hollow Blocks (CHB) are one of the most extensively used walling materials in the Philippines. Some of the reasons for this are due to its relative low cost of manufacturing when compared to other materials and the speed by which it can be installed by semi-skilled workers. However, good quality CHB are hard to find as most CHB available in the market are manufactured by small to medium scale CHB manufacturers and quality control is not much of their concern.

Given such, the plant chose this instead of the other alternatives such as the Interlocking Compressed Earth Blocks (ICEB) and autoclaved aerated concrete (AAC).

### III. Process/Technology

The development and production of the Project will be through the typical open-cut quarrying method, which involves the following stages:

- Access road preparation;
- Overburden/Topsoil Stripping;
- Ripping/Breaking;
- Stockpiling;
- Loading and Hauling; and
- Crushing.

Proper benching shall be employed in each quarry sites. Once overburden has been stripped, terrace-like extraction faces are cut from the topmost strata progressing downward to serve as quarry levels for positioning equipment that will conduct excavation and loading activities. The company will construct a main haulage road going in and out of the quarry and to connect the production benches. The series of production benches shall be interconnected to each other by ramps for easier access and to maximize the deposit.

Accredited blasting contractors using the latest technologies such as in-hole-delays will be commissioned. Using non-electronic delay detonators and limited quantity of explosive fired in a given time minimizes the generation of ground vibration, fly rocks, dust and as well as noise emission. An average of 0.45 kg per cubic meter powder factor will be maintained in all formation except for highly fractured overburden where it will be lowered to 0.30 kg per cubic meter. To stabilize the slopes of the final wall, controlled blasting will also be applied to every last row of holes along the final boundary of the quarry.

The proposed crushing plant has a rated capacity of 800 tons per hour and will occupy an approximate area of 7,200 m<sup>2</sup>, located adjacent to the quarry area in order to minimize impacts brought about by the transport of quarried aggregate materials to the crushing plant. Moreover, in order to minimize water consumption, dry crushing process will be utilized.

The major components of the crushing plant include; dump hoppers, vibrating feeders, jaw crusher, cone crushers, vibrating screens, and belt conveyors, product outlet and control room.

For the batching plant, the company will utilize the HZS60Q concrete mixing station with compulsory twin shaft mixer JS1000 that is equipped with dust collector at the top of the powder silo and rain cover on the strap conveying machine to prevent dust blowing.

The process of producing ready mix concrete starts with the raw materials (crushed aggregates) delivered to the batching plant by dump trucks. The cement will be stored in elevated silos pneumatically or by bucket elevator. The sand and coarse aggregates are transferred to elevated bins by a belt conveyor. From these elevated bins, the constituents are fed by gravity or screw conveyor to weigh hoppers, which combine the proper amounts of each material. Depending on customer's specifications, the amount of water and admixtures will also be combined.

For the production of concrete blocks, four basic processes are followed:

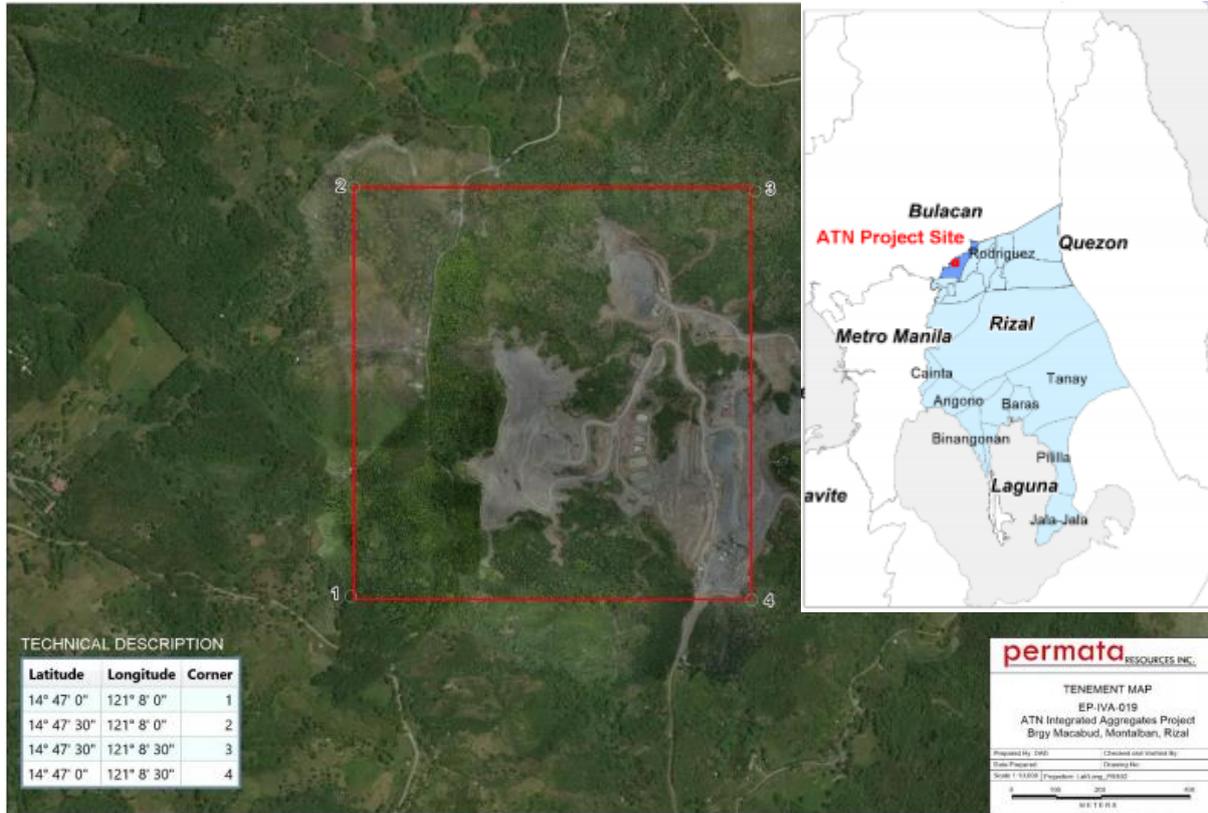
- **Mixing** – The required amount of sand and cement are transferred by gravity or by mechanical means to a weigh batcher that measures the proper amounts of each material. After the dry materials are blended, water is added. Once the load of concrete is thoroughly mixed, it is dumped into an inclined bucket conveyor and transported to an elevated hopper. From the hopper, the concrete mix is conveyed to another hopper on top of the block machine at a measured flow rate.
- **Molding** - Concrete is then forced downwards into molds that consist of an outer mold box containing several mold liners. The liners determine the outer shape of the block and the inner shape of the block cavities. When the molds are full, the concrete is compacted by the weight of the upper mold head coming down on the mold cavities.
- **Curing** - The compacted blocks are pushed down and out of the molds onto a flat steel pallet that are, then, eventually pushed out of the machine and onto a chain conveyor. The pallets of blocks are transferred and placed in curing racks by a forklift
- **Cubing** – The blocks pass through a cuber which aligns each block and then stacks them into a cube three blocks across by six blocks deep by three or four blocks high. These cubes are then carried outside with a forklift and placed in storage.

#### IV. Utilities

<b>Power Supply</b>	Power supply for the project area, facilities, and for the plant will be sourced from MERALCO. Nevertheless, a standby generator set shall be installed and used during power outages.
<b>Water Supply</b>	Rizal has an existing waterworks system (Manila Water Company, Inc.). Aside from this, deep wells and springs present shall also be sourced for water in the project area.
<b>Fuel</b>	Major fuel distributors like Shell and Petron service the needs at Rizal. Most of these fuel distributors are accessible and would be able to cater the needs of the company's fuel and oil requirements for its operations.

## B. Project Location

The proposed ATN Integrated Aggregates Project of ATN Holdings, Inc. (ATN) is covered by EP-IVA-019 which encompasses a total area of 82.7092 hectares and is located at Barangay Macabud, Rodriguez, Rizal.



## C. Project Proponent



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<b>E-mail Address</b>	:	atnsolar.team@gmail.com atnsolar@tbgi.net.ph

**D. Projected Timeframe of Project Implementation**

Project Phases	Year																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<b>Pre-Construction</b> - Planning of technical design and finalization of quarry plans and construction method for the installation of facilities; - Soil investigation prior to civil works; and - Securing of necessary permits																										
<b>Construction/ Site Preparation</b> - Hiring of qualified manpower required to complement the workers in the construction works. Hiring of qualified local residents will be prioritized at this stage. Company guidelines and policies on hiring will be imposed; - Site clearing and stripping of over burden; - Access road development; - Establishment of drainage line; - Construction of settling pond, office buildings, housing and other quarry buildings; - Establishment of crushing, batching and CHB plants; and - Preparation of loading pad and benches.																										
<b>Operation</b> - Quarrying of basalt - Hauling of extracted basalt - Progressive rehabilitation; - Crushing, batching and CHB manufacturing; and - Implementation of environmental, safety and health, and social development programs																										
<b>Abandonment</b> - Mobilization of equipment out of the quarry area; - Rehabilitation of remaining mined-out areas, and settling ponds in accordance to the planned land use program of the Local																										

Project Phases	Year																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
Government Unit (LGU); - Decommissioning of quarry ancillary facilities; - Decommissioning of Crushing, batching and CHB plant facilities and equipment; - Implementation of post mining social programs; and - Transfer/donation of buildings to interested LGUs																											

### E. Identified Stakeholders

The EIA was conducted based on the perceived direct and indirect impact areas of the proposed ATN Integrated Aggregates Project. Direct impact areas, in terms of physical environment, are those where all project facilities are to be constructed/situated and the designated mine areas. On the other hand, areas not directly subjected to any activities/construction and those outside the mining area but are within the jurisdiction of Rodriguez (e.g. stretch of river draining the project area, communities along haul roads) are considered as indirect impact areas. For the social impacts, direct impact community are those from Barangay Macabud, while other communities not encompassed by the delineated direct impact areas constitutes the indirect impact communities.

**F. Summary of Major Impacts and Residual Effects after Mitigation**

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
<b>Development/Construction Phase</b>				
Site preparation (clearing, grubbing and stripping of topsoil) Construction of benches/mine facilities/haul roads Stockpiling of topsoil	Land	<ul style="list-style-type: none"> <li>- Change in land use of areas occupied by the mine facilities</li> <li>- Loss of topsoil and decrease in soil quality/productivity</li> <li>- Soil contamination</li> </ul>	<ul style="list-style-type: none"> <li>- Planning of rehabilitation will be in accordance with the FMR/DP and in consultation with stakeholders</li> <li>- Removed soils will be conserved and stockpiled in a pre-determined area and will be in rehabilitation and backfilling activities</li> <li>- Stockpiles shall be graded to a stable relief</li> <li>- Progressive ground preparation/grubbing to minimize the area removed with soil cover at any one time</li> </ul>	<ul style="list-style-type: none"> <li>- Minimal inexorable topsoil loss due to transport/movement</li> </ul>
		<ul style="list-style-type: none"> <li>- Inducement of land slides</li> </ul>	<ul style="list-style-type: none"> <li>- Safe working slopes and land slide control structures will be established</li> <li>- Train pertinent personnel on recognition of the various slope/ground failure modes, hazard warning signs and standard operating procedures to be observed in the case of ground failure events or impending event</li> </ul>	<ul style="list-style-type: none"> <li>- None as thorough geological studies were and will continuously be implemented relative to the mine plan that will be laid out.</li> </ul>
		<ul style="list-style-type: none"> <li>- Generation of wastes</li> </ul>	<ul style="list-style-type: none"> <li>- Materials recovered from vegetation removal shall be used as:                             <ul style="list-style-type: none"> <li>▪ Trash lines on steep slopes to mitigate soil erosion</li> <li>▪ Materials for construction and/or composted and used for the fertilization of the seedlings in the nursery, seedling outplanting and field maintenance</li> </ul> </li> <li>- Proper disposal of construction debris and solid wastes</li> <li>- Implementation of an Integrated Solid Waste Management Plan: Reduce, reuse, recycle</li> </ul>	<ul style="list-style-type: none"> <li>- None; implementation of an integrated solid waste management plan on the commencement of project implementation</li> </ul>

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
	Terrestrial Ecology	<ul style="list-style-type: none"> <li>- Loss of vegetation and habitat</li> <li>- Increase in noise</li> <li>- Mortality of small, less mobile animals due to project activities</li> <li>- Habitat Fragmentation</li> </ul>	<ul style="list-style-type: none"> <li>- For accessibility, existing roads will be utilized and improved</li> <li>- For new roads to be established, heavily disturbed (e.g., grassland, scrubland, etc.) areas or trails shall be prioritized as the location</li> <li>- Whenever possible, tree-balling and immediate transfer of trees to open areas within the project area will be done (Applicable only to the critically endangered tree species)</li> <li>- Tree cutting permit shall be secured prior to any clearing and cutting</li> <li>- Strictly prohibit poaching of wildlife to mitigate population reduction and allow safe movement</li> <li>- Vegetation removal kept at minimum through planned clearings</li> <li>- Establishing voluntary conservation zones and biological corridors within the Project area</li> </ul>	<ul style="list-style-type: none"> <li>- Minimal unavoidable impact on some vegetation and animals (eg. grasses, small plants) due to equipment movement and stripping activities</li> </ul>
	Surface hydrology	<ul style="list-style-type: none"> <li>- Increase in surface runoff and river discharge</li> <li>- Decline in river carrying capacity due to siltation</li> </ul>	<ul style="list-style-type: none"> <li>- Construction of a drainage system within the project area</li> <li>- Proper stockpiling of excavated materials with appropriate drainage to minimize sedimentation.</li> </ul>	<ul style="list-style-type: none"> <li>- Possible siltation of water body due to onslaught of extreme weather condition on project area</li> </ul>
		<ul style="list-style-type: none"> <li>- Increases sewage and solid wastes, including petroleum based products</li> </ul>	<ul style="list-style-type: none"> <li>- Placement of regulatory signs on proper waste disposal of construction solid wastes</li> <li>- Provide proper waste disposal facilities for petroleum products and solid wastes</li> <li>- Provide sufficient toilet facilities for workers</li> </ul>	<ul style="list-style-type: none"> <li>-</li> </ul>
	Air and Noise	<ul style="list-style-type: none"> <li>- Ambient air pollution</li> </ul>	<ul style="list-style-type: none"> <li>- Regular spraying of water in active</li> </ul>	<ul style="list-style-type: none"> <li>- Minimal fugitive dust and</li> </ul>

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
		<ul style="list-style-type: none"> <li>- Occupational health effects</li>   <li>- Increased ambient sound levels</li> </ul>	<ul style="list-style-type: none"> <li>- construction areas</li> <li>- Replacement of vegetation in non-construction areas</li> <li>- Compacting of exposed soil</li> <li>- Provision of tarpaulin cover on trucks transporting construction materials</li> <li>- Immediate hauling of spoils</li> <li>- Impose speed restrictions</li> <li>- Regular maintenance of heavy equipment and motor vehicles</li>   <li>- Regular maintenance of heavy equipment mufflers (noise)</li> <li>- Provision of ear mufflers to workers operating noisy equipment</li> <li>- Proper scheduling of noisy activities during day time</li> </ul>	noise generation
	People	<ul style="list-style-type: none"> <li>- Employment and Economic Opportunities</li> <li>- Population Influx</li> <li>- Loss of income from agricultural activities due to removal of crops and use of the land for mine development and road works</li> </ul>	<ul style="list-style-type: none"> <li>- Policy on the preferential hiring of locals</li> <li>- Pre-employment training to community residents</li> <li>- Training and development of local service cooperative</li> <li>- Preferential hiring of locals will be announced</li> </ul>	- None
		<ul style="list-style-type: none"> <li>- Exposure to safety and Health Hazards</li> </ul>	<ul style="list-style-type: none"> <li>- Safety and Health Program for workers and impact communities.</li> <li>- Community Health Survey</li> <li>- Assistance to the LGU on traffic management</li> </ul>	- None
		<ul style="list-style-type: none"> <li>- Proliferation of vices that affects the peace and order in the area</li> </ul>	<ul style="list-style-type: none"> <li>- Values orientation seminars to workers and community residents</li> <li>- Conduct of activities that promotes community cohesion</li> </ul>	- None

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
			- Assistance to the LGU on Peace and Order management	
		- Increased income of LGUs due to tax revenues	- Prompt payment of taxes to the Local and National Government	- None
		- Possible unearthing of historical artifacts and/or fossil remains	- Safeguard possible archeological site and immediately inform the National Museum in case of finds	- None
<b>Operation Phase</b>				
Quarry	Land	- Generation of open areas with greater potential for runoff, erosion and landslides	<ul style="list-style-type: none"> <li>- Establishment of safe working slopes and installation of land slide control structures</li> <li>- Implementation of a suitable and appropriate slope/ground failure monitoring plan to detect instability at an early and non-critical stage (eg. drone survey)</li> <li>- Train pertinent personnel on recognition of the various slope/ground failure modes, hazard warning signs and standard operating procedures to be observed in the case of ground failure events or impending event;</li> <li>- Identification, early recognition and monitoring of warning signs of potential and impending slope stability problems</li> <li>- Progressive rehabilitation of disturbed areas</li> <li>- “Vengineering” (i.e. planting of vegetation with high rainfall intercepting capacity and high transpiration rate characteristics to serve as re-evaporators/biological pumps, respectively)</li> <li>- Utilization of removed topsoil for backfilling low-lying areas and service roads</li> <li>- Formulate a topsoil management plan (TMP) to address topsoil removal, stockpiling, and</li> </ul>	- None; open areas during operation phase are only those where active mining operations revolve

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
			archiving of topsoil inventory for the project's progressive rehabilitation activities	
	Soil Quality	<ul style="list-style-type: none"> <li>- Decrease in surface soil quality due to compaction, shearing and dust deposition during quarrying and hauling activities</li> <li>- Improper disposal of domestic wastes</li> <li>- Soil Contamination due to accidental fuel and lubricant spills from vehicles and equipment</li> </ul>	<ul style="list-style-type: none"> <li>- Constant monitoring of the surface soil physico-chemical quality (i.e. Bulk density, metals, plant essential nutrient elements, pH)</li> <li>- Use vegetative cover (i.e. Grass and shrub species with known tolerance to acidic soil conditions; hyper/accumulator of metals to expedite and enhance soil quality</li> <li>- All domestic wastes will be sold to DENR accredited recyclers. Residual waste will be disposed to a designated sanitary land fill</li> <li>- All used oils, lubricants will be sold to recyclers. Residual waste will be disposed to a designated sanitary land fill</li> <li>- Contaminated soils will be removed and disposed off-site</li> <li>- Provision of refuse storage facility with oil and water separator to contain any accidental spill</li> </ul>	- None
	Air and Noise	<ul style="list-style-type: none"> <li>- CO2 generation</li> <li>- Dust generation</li> <li>- Noise generation</li> </ul>	<ul style="list-style-type: none"> <li>- Implement regular inspection and preventive maintenance of heavy equipment, machineries and service vehicles</li> <li>- Use electric or fuel-efficient equipment, machineries and vehicles and maximize its operation, if possible</li> <li>- Water spraying</li> <li>- Mining activities to be confined during daytime</li> </ul>	- Minimal fugitive dust and noise generation
	Water	<ul style="list-style-type: none"> <li>- Increase in surface runoff and river discharge</li> </ul>	<ul style="list-style-type: none"> <li>- Establishment of siltation ponds and implementation of sediment and erosion</li> </ul>	- Possible siltation of water body due to onslaught of

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
		<ul style="list-style-type: none"> <li>- Decline in river carrying capacity due to siltation</li> <li>- Water pollution</li> <li>- Water resource use</li> </ul>	<ul style="list-style-type: none"> <li>- control plan</li> <li>- Provision of drains to access roads to contain and limit sedimentation downstream of the quarry</li> <li>- Strengthen water monitoring system by keeping a record of daily water extraction and consumption.</li> <li>- Rainwater harvesting through decentralized impoundments</li> </ul>	<ul style="list-style-type: none"> <li>- extreme weather condition on project area</li> </ul>
	Terrestrial Ecology	<ul style="list-style-type: none"> <li>- Removal of ecologically and economically important species and wildlife habitat</li> <li>- Removal of photosynthesizing plants</li> <li>- Mortality of small, less mobile animals due to project activities</li> <li>- Accessibility of area to illegal hunters and poachers of animals</li> </ul>	<ul style="list-style-type: none"> <li>- Priority conservation for ecologically and economically important species identified in the area</li> <li>- Establishment of a nursery to propagate the seeds/propagules of these species, which will provide seedlings for future rehabilitation requirements</li> <li>- Tree plantation development using the indigenous species and assisted natural regeneration (ANR) techniques</li> <li>- Enhancement of Agro-forestry technologies suitable for the area</li> <li>- Prevention of unnecessary clearing of vegetation</li> <li>- Strictly prohibit poaching of wildlife to mitigate population reduction and allow safe movement.</li> <li>- Personnel, heavy equipment, other vehicles, etc. shall be confined only to pre-determined designated areas and shall not occupy other areas to avoid further disturbances</li> <li>- An active and continuous wildlife protection and conservation campaign will be pursued</li> </ul>	<ul style="list-style-type: none"> <li>- Minimal unavoidable impact on some vegetation and animals (eg. grasses, small plants) due to equipment movement and stripping activities</li> </ul>

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
			with the participation of all key stakeholders (e.g., communities, LGUs, etc.) within and around the project site.	
	People	- Safety and health risks to workers	- Provision of PPE to every personnel - Conduct of safety orientation and training	- None
Crushing, batching and CHB plant	Water	- Water pollution - Water resource use	- Strengthen water monitoring system by keeping a record of daily water extraction and consumption. - Alternative source of water such as rainwater harvesting through decentralized impoundments - Water monitoring system by keeping a record of daily water extraction and consumption.	- None
		- Water contamination from leaks and spills from vehicles and equipment, fuel and oil tanks and used oil storage	- Access roads will be provided with drains - Site water management that includes the provision of facilities that would reutilize effluent to ensure minimal effluent discharge (specially constructed tanks, pipe systems), and planting of vegetation—grassy plots, flowering shrubs, and fruit trees. - Training on in proper handling and implementation of good housekeeping practices.	- None
	Air and Noise	- CO2 generation - Dust generation - Noise generation	- Implement regular inspection and preventive maintenance of heavy equipment, machineries and service vehicles - Use electric or fuel-efficient equipment, machineries and vehicles and maximize its operation, if possible - Water spraying - Installation of dust suppression devices	- Minimal fugitive dust and noise generation

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
	People	- Safety and health risks to workers	- Provision of PPE to every personnel - Conduct of safety orientation and training	- None
Stockpiling of waste rock Hauling of materials	Land	- Soil erosion	- Proper and strategic siting of stockpiles - Progressive reclamation of exposed waste rocks - Stockpiling below angle of repose - Stockpiling in benches - Provision of rock facing and installation of large boulders along the toe line increase stability	- None
	Water	- Siltation of nearby water body	- Proper management of stockpile - Addition of soil amelioration and seeding of stockpiled topsoil - Provision of drainage	- Possible siltation of water body due to onslaught of extreme weather condition on project area
	Air and noise	- Ambient air pollution - Occupational health effects  - Increased ambient sound levels	- Regular spraying of water in active construction areas - Replacement of vegetation in non- construction areas - Compacting of exposed soil - Provision of tarpaulin cover on trucks transporting aggregates - Impose speed restrictions - Regular maintenance of heavy equipment and motor vehicles  - Regular maintenance of heavy equipment mufflers (noise) - Provision of ear mufflers to workers operating noisy equipment - Proper scheduling of noisy activities during day time	- Minimal fugitive dust and noise generation
	People	- Safety and health risk to workers	- Provision of PPE to every personnel	- None

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
		and communities near the haul roads	<ul style="list-style-type: none"> <li>- Conduct of safety orientation and training</li> <li>- Implementation of speed limit and other relevant safety procedures</li> </ul>	
Operations of motorpool	Land	- Contamination of soil	<ul style="list-style-type: none"> <li>- Provision of procedures for proper handling, storage, and transport of used oils, lubricants and chemicals</li> <li>- Provision of relevant pollution control devices (i.e. oil and water separator, auto shutoff valves)</li> <li>- Contaminated soils will be removed and disposed off-site.</li> <li>- Provision of Refuse storage facility with oil and water separator to contain any accidental spill.</li> </ul>	- None
	Water	- Contamination of water		
	People	- Safety and health risks to workers	<ul style="list-style-type: none"> <li>- Provision of procedures for proper handling, storage, and transport of used oils, lubricants and chemicals</li> <li>- Provision of PPE</li> <li>- Implementation of proper housekeeping</li> </ul>	- None
Operationalization of administrative complex	Land, water, people	<ul style="list-style-type: none"> <li>- Contamination of soil and water</li> <li>- Health risks to workers and the community</li> </ul>	<ul style="list-style-type: none"> <li>- Implementation of proper housekeeping</li> <li>- Provision of proper domestic waste handling and disposal</li> <li>- Provision of a materials recovery facility for wastes</li> <li>- Implementation of segregation</li> </ul>	- None
<b>Abandonment Phase</b>				
Decommissioning of equipment Rehabilitation of disturbed areas Dismantling of structures	Land	<ul style="list-style-type: none"> <li>- Erosion of newly replaced soils</li> <li>- Difficulty in plant establishment within footprints due to soil compaction</li> </ul>	<ul style="list-style-type: none"> <li>- Establishment of newly restored areas with proper drainage and soil erosion control structures</li> <li>- Soil amelioration</li> </ul>	- None
		<ul style="list-style-type: none"> <li>- Permanent land use change</li> <li>- Generation of wastes</li> </ul>	<ul style="list-style-type: none"> <li>- Rehabilitation of the project area to the agreed and approved final land use</li> </ul>	- None

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
			<p>embodied in the FMR/DP</p> <ul style="list-style-type: none"> <li>- The final perimeter and cover of the quarry area will have an undulating profile to facilitate drainage and future land use</li> <li>- Recyclable materials will be sold to recyclers. Residual wastes will be hand over to the municipal garbage collectors. Hazardous waste will be transported to accredited disposal companies</li> <li>- Decommissioning of infrastructures and rehabilitation of quarried out areas will be conducted in accordance with the project FMR/DP</li> </ul>	
	Water	<ul style="list-style-type: none"> <li>- Contamination of water quality due to failure of the siltation ponds</li> </ul>	<ul style="list-style-type: none"> <li>- Design impoundment structures relative to seismic and structural parameters</li> <li>- Monitoring of structural integrity for the duration of operation of these facilities and beyond mine closure</li> <li>- Development of an Emergency Response Plan to handle possible siltation pond failure</li> </ul>	<ul style="list-style-type: none"> <li>- Possible siltation of water body due to onslaught of extreme weather condition on project area</li> </ul>
	Air and Noise	<ul style="list-style-type: none"> <li>- Ambient air pollution</li> <li>- Occupational health effects</li>   <li>- Increased ambient sound levels</li> </ul>	<ul style="list-style-type: none"> <li>- Regular spraying of water in active areas</li> <li>- Provision of tarpaulin cover on trucks transporting decommissioned materials</li> <li>- Impose speed restrictions</li> <li>- Regular maintenance of heavy equipment and motor vehicles</li>   <li>- Regular maintenance of equipment mufflers (noise)</li> <li>- Provision of ear mufflers to workers operating noisy equipment</li> <li>- Proper scheduling of noisy activities during</li> </ul>	<ul style="list-style-type: none"> <li>- Minimal fugitive dust and noise generation</li> </ul>

Project Activity	Environmental/ Social Component to be Affected	Potential Impacts	Options for Prevention, Mitigation or Enhancement	Residual Effects
	People	<ul style="list-style-type: none"> <li>- Termination of LGU revenues</li> <li>- Loss of employment/livelihood opportunities</li> <li>- Discontinuation of the social services offered by ATN through CSR and SDMP</li> </ul>	<p>day time</p> <ul style="list-style-type: none"> <li>- Extensive IEC prior to decommissioning</li> <li>- Implementation of a post-mining Social development plan</li> </ul>	<ul style="list-style-type: none"> <li>- None</li> </ul>

For mining projects, a financial mechanism called the Contingent Liability and Rehabilitation Fund (CLRF) is established. This CLRF is an environmental guarantee fund mechanism that ensures the just and timely compensation for damages and progressive and sustainable rehabilitation for any adverse effect a mining operation or activity may cause. This fund is further broken down as follows: Environmental Trust Fund (ETF), Mine Rehabilitation Fund (MRF), MWTF Reserve Fund (MWTFRF), and Final Mine Rehabilitation and Decommissioning Fund (FMRDF).

The MRF is established and maintained by each operating mine as a reasonable environmental deposit to ensure the availability of funds for the satisfactory compliance with the commitments and performance of the activities stipulated in the EPEP/Annual EPEP and this comes in two (2) forms: the Monitoring Trust Fund (MTF), which covers the maintenance and other operating budget for the transportation and travel expenses, cost of laboratory analysis, and other reasonable expenses incurred by the multi-partite monitoring team in the amount of PhP150,000.00 which is replenishable every quarter; and the Rehabilitation Cash Fund (RCF), which is being used to ensure compliance with the approved rehabilitation activities and schedules for specific mining phase including research as defined in the EPEP/AEPEP in the amount equivalent to ten per cent (10%) of the total amount needed to implement the EPEP or PhP 5 Million, whichever is lower.

Alternatively, the FMRDF is the cost used to implement the final mine rehabilitation and decommissioning plan which is after the life of the mine.

The MWTFRF are pertinent costs collected based on the amount of mine waste and tailings generated by a mining project and are used for payment of compensation for damages caused by mining operations. The proposed project's mine wastes costs PhP 0.05/MT. Conversely, the ETF is used for payment to mining-related compensable damages other than those caused by mine waste and tailings and should be at least PhP 50,000.00.

For the implementation of the Social Development and Management Program, an SDMP fund shall be established by the company. This fund shall be 1.5% of the operating cost.

ATN Holdings, Inc. is committed in establishing the above needed funds after approval of all pertinent permits/documents.

## G. Additional Information

### Preparer



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