HONGDA STEEL CORPORATION

Proposed Rolling Mill Plant Facility

Brgy. Dampol 1st., Pulilan, Bulacan

# PROJECT DESCRIPTION REPORT

Prepared by:
BROADFIELD Engineering Technologies and Integrated Services

## I. BRIEF INTRODUCTION

The proponent, HONGDA STEEL CORPORATION was founded on October 8, 2019 and registered with the SEC Number CS201916942. HONGDA STEEL CORPORATION is a proposed Rolling Mill Facility that will be situated in Barangay Dampol 1st, Pulilan, Bulican.

The Philippine iron and steel industry is a critical component in achieving inclusive economic growth and sustainable development. The industry provides necessary inputs for the construction of infrastructure, power generation and distribution, transportation facilities and vehicles, manufacturing machinery and equipment - all of which are vital for a nation's long-term growth. The industry's outputs are utilized by both commercial and industrial enterprises.

Due to Section 4 of PD1586, HONGDA STEEL CORPORATION intends to file for an Environmental Compliance Certificate (ECC) and conform to the system, as well as remain faithful to the requirements and compliance set by the DENR. Furthermore, HONGDA STEEL CORPORATION will take all necessary steps to maintain its excellent performance in accordance with the community, clients, and Department standards, as well as make every effort to comply with all environmental regulations.

## II. BRIEF PROJECT DESCRIPTION

Table below represents the data of Brief Project Description:

Table 1: Hongda Steel Corporation

| | |
|---|---|
| Company Name | Hongda Steel Corporation |
| Project Title | Proposed Rolling Mill Plant Facility |
| Project Location | Brgy. Dampol 1st, Pulilan, Bulacan |
| Nature of Project | Rolling Mill Plant Facility |
| Project Capacity | 360,000.00 MT/Year of Angle Bars and Deformed Bars |
| Gross Floor Area | 20,180.00 sq. m. |

## III. PROPONENT'S PROFILE

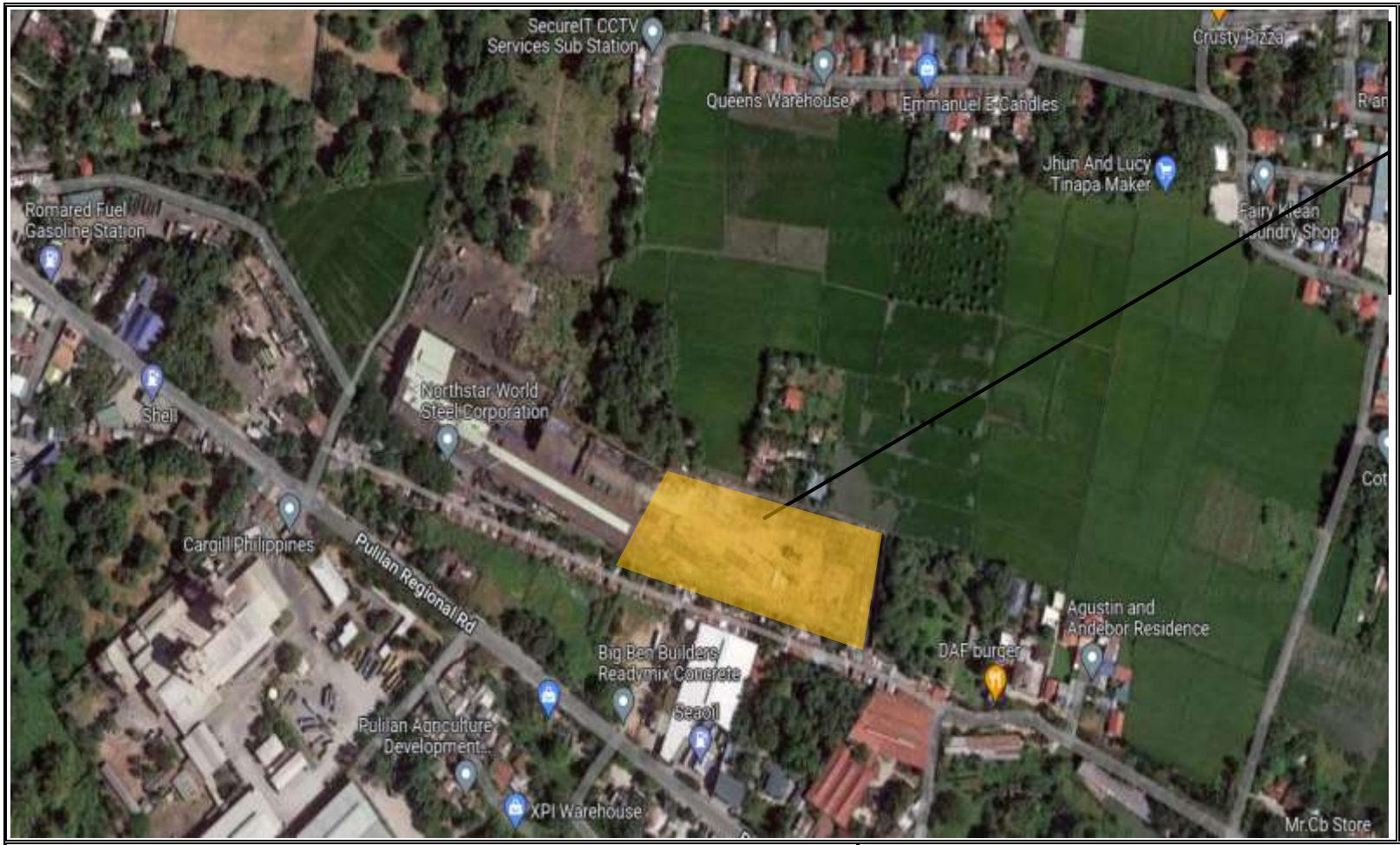
Table below, on the other hand, represents the Proponent's Profile:

Table 2: Proponent Profile

| | |
|---|---|
| Company Name | HONGDA STEEL CORPORATION |
| Address | Barangay Dampol 1st, Pulilan, Bulican |
| Email address | charlesontan@yahoo.com |
| TIN No. | 000-281-055-000 |
| President | Mr. Jenkins Lee Chua |
| Contact Person | Mr. Charles Tan |

## IV. PROJECT LOCATION AND AREA

Hongda Steel Corporation is engaged in manufacturing of angle bars and deformed bars. The facility is located at Barangay Dampol 1st, Pulilan, Bulacan. 400 meters away from the Angat Dam, 200 meters away from Cargil Philippines, 820 meters away from Tabon Elementary School, 520 meters away from Rufina School, and 200 meters away from Dampol 1 Barangay Hall.

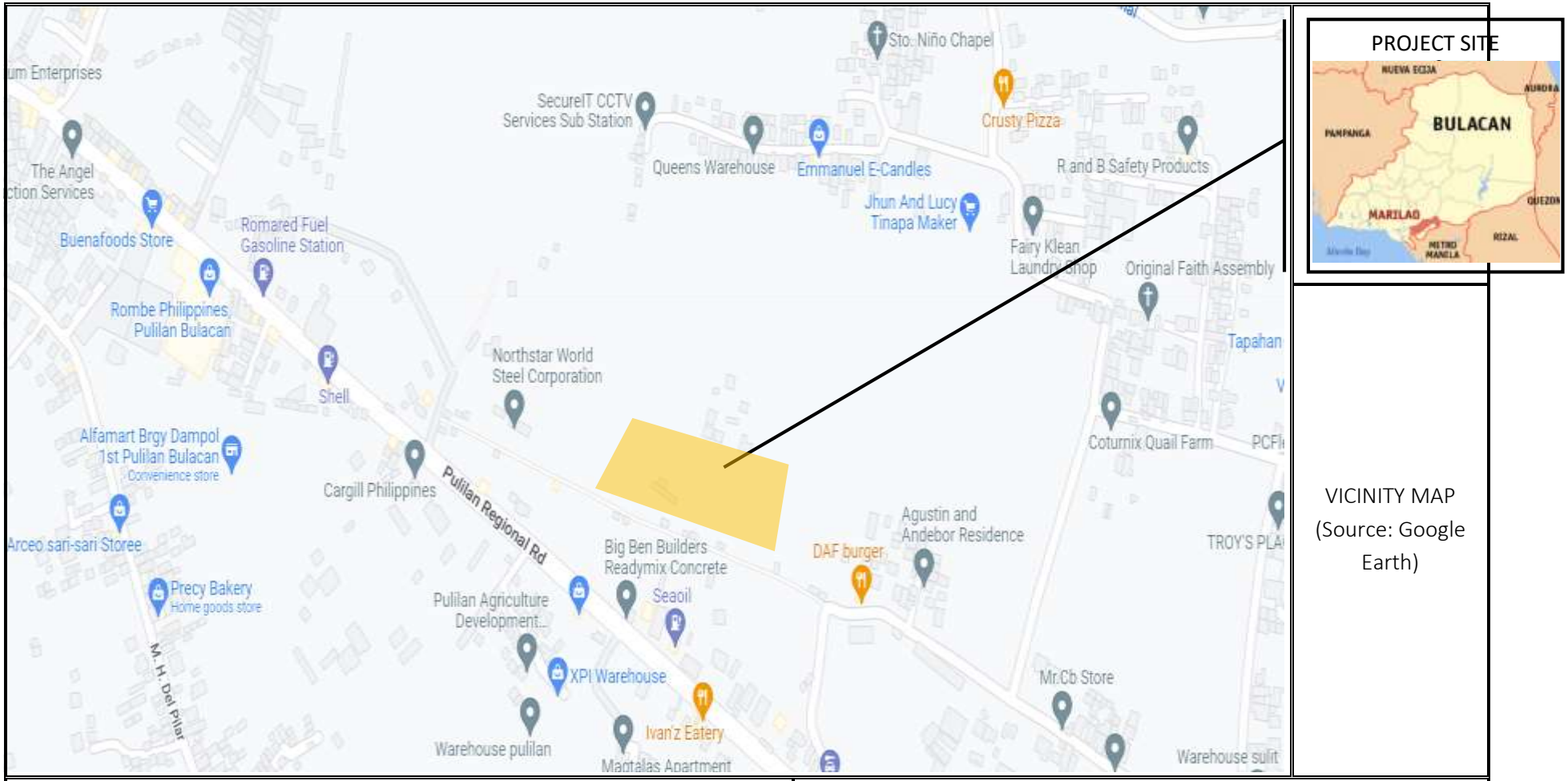



PROJECT SITE


SATELLITE V IEW (Source: Google Earth)

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

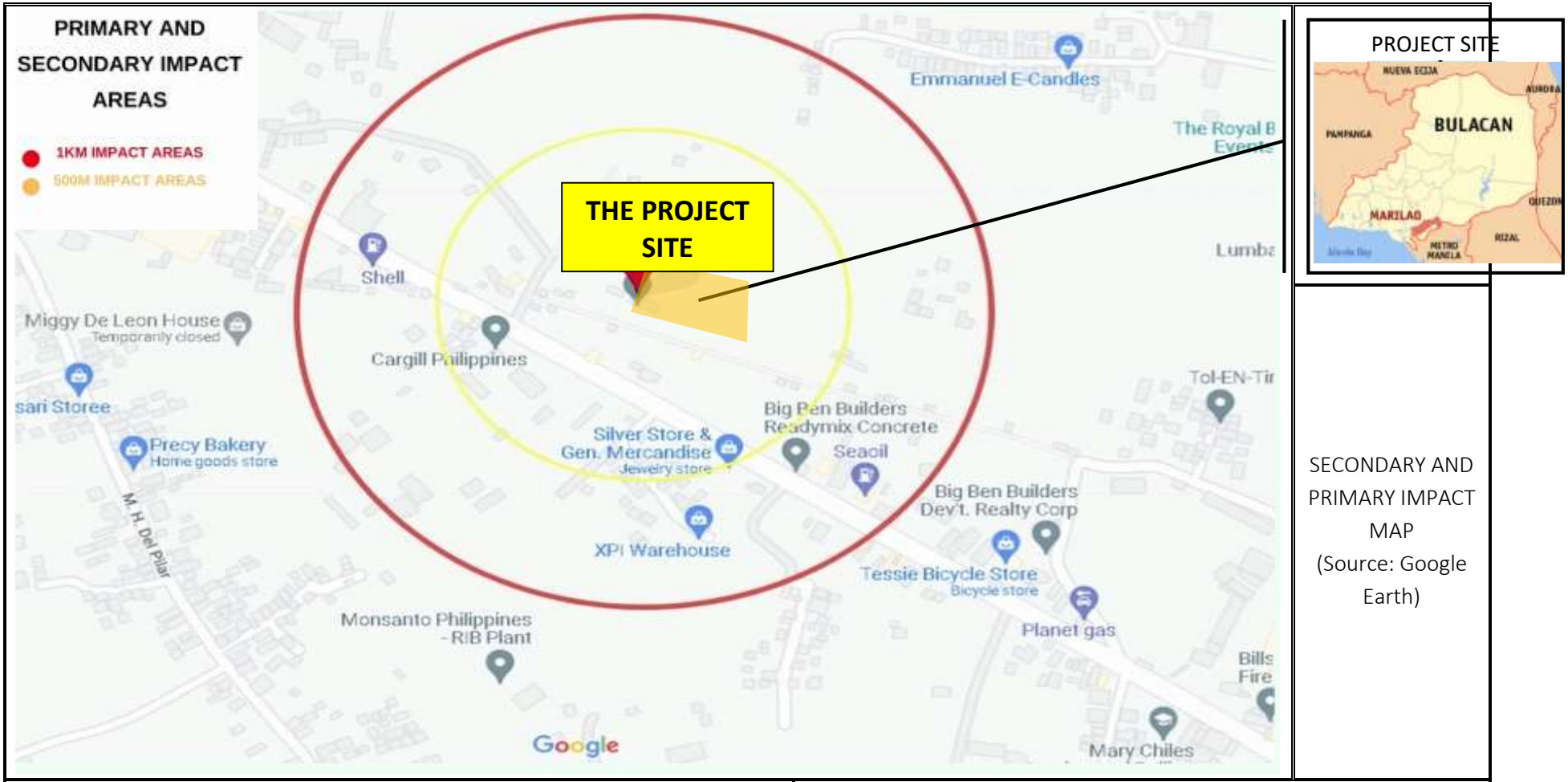
Figure 1: Satellite View of Hongda Steel Corporation (source: Google Earth Pro Application)




VICINITY MAP (Source: Google Earth)

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 2: Vicinity Map of Hongda Steel Corporation (source: Google Earth Pro Application)




SECONDARY AND PRIMARY IMPACT MAP (Source: Google Earth)

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 3: Primary and Secondary Impact of Hongda Steel Corporation (source: Google Earth Pro Application)

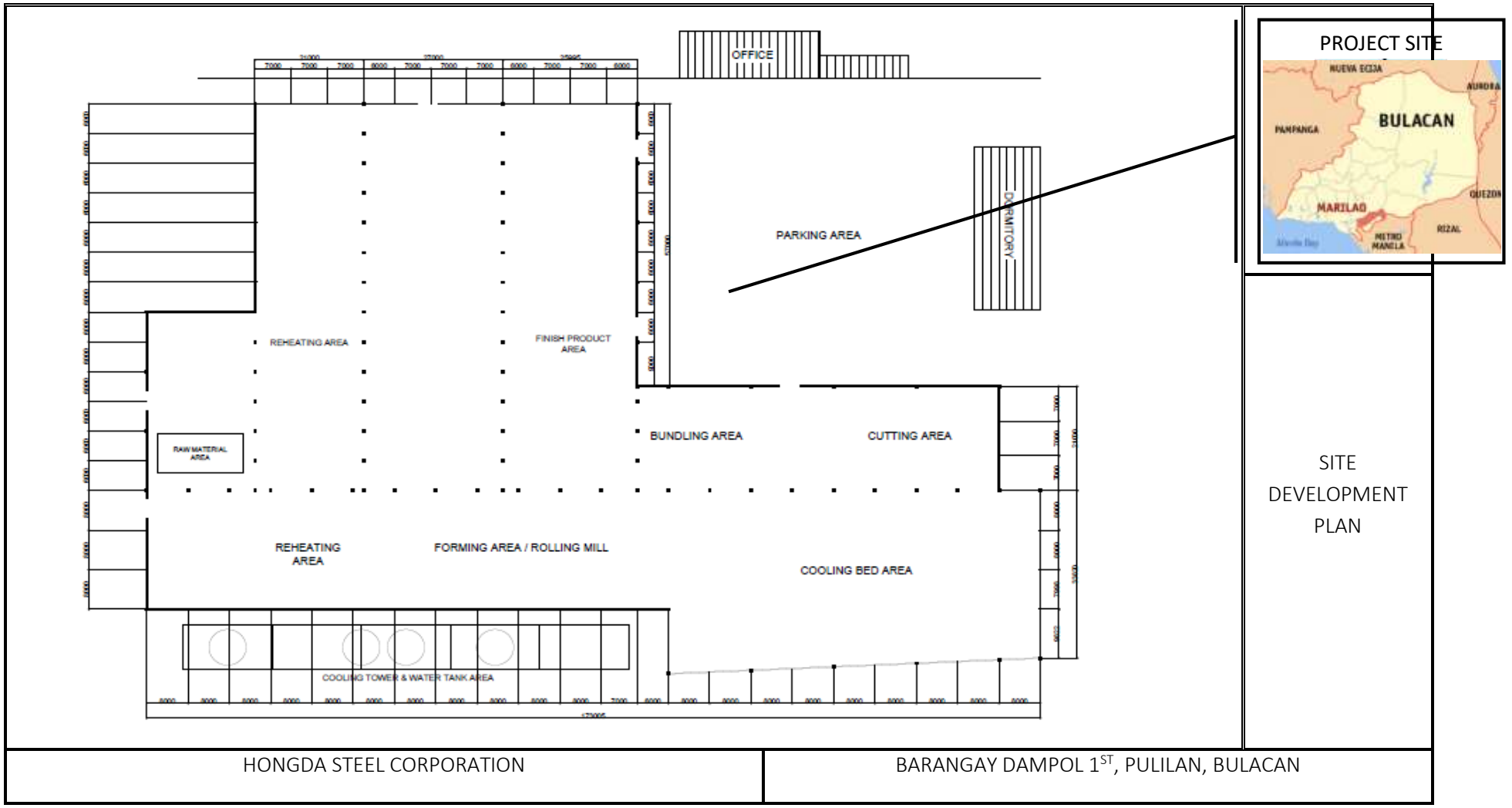



Figure 4: Site Development Plan of Hongda Steel Corporation

Accessibility of the Project Site

Hongda Steel Corporation is accessible via Pulilan Regional Road. Figure below shows the access point of the facility:

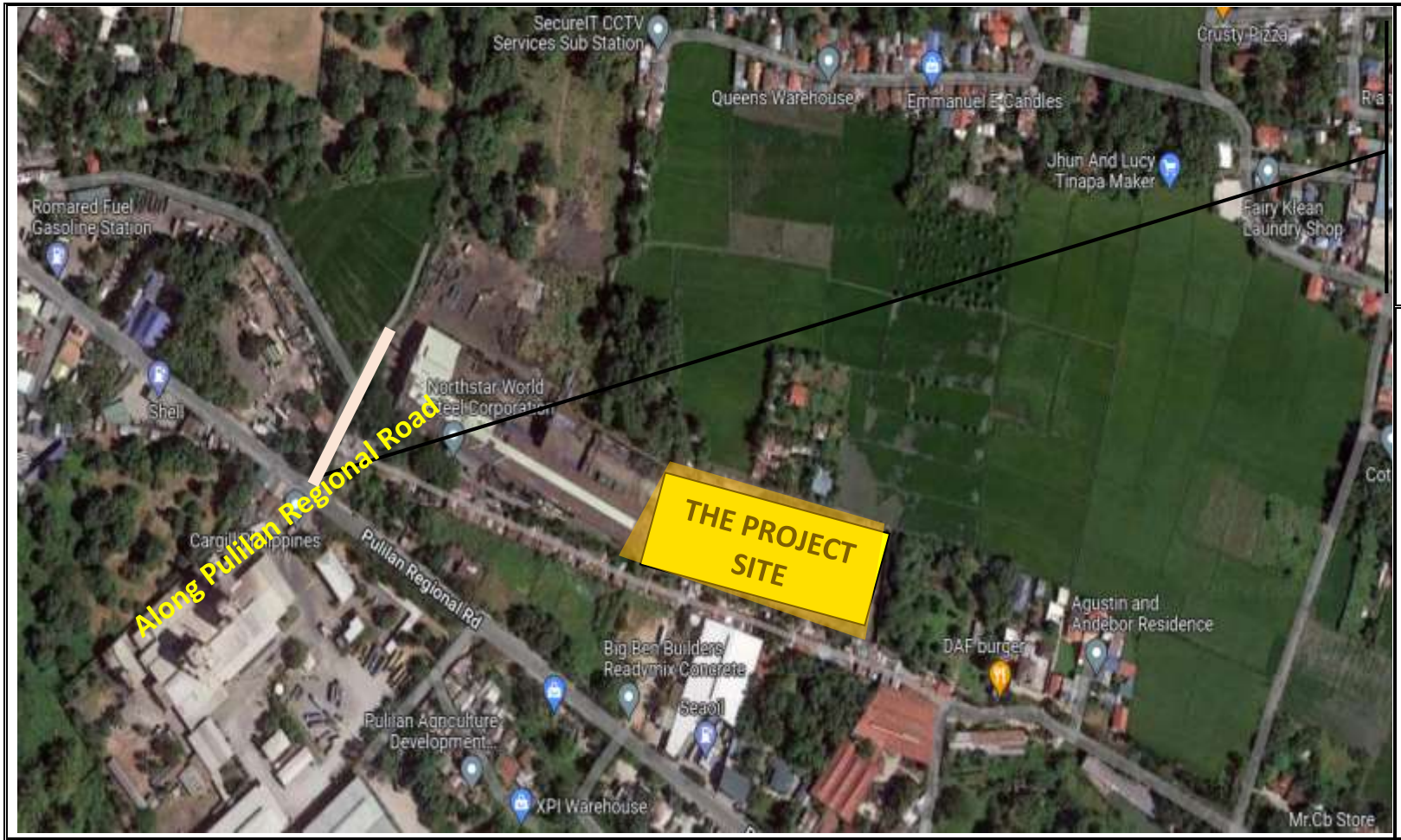



Figure 5: Accessibility Point of Hongda Steel Corporation

Aerial Photographs of the Project Site is presented on following figures:


Figure 6: Aerial Photographs of Hongda Steel Corporation

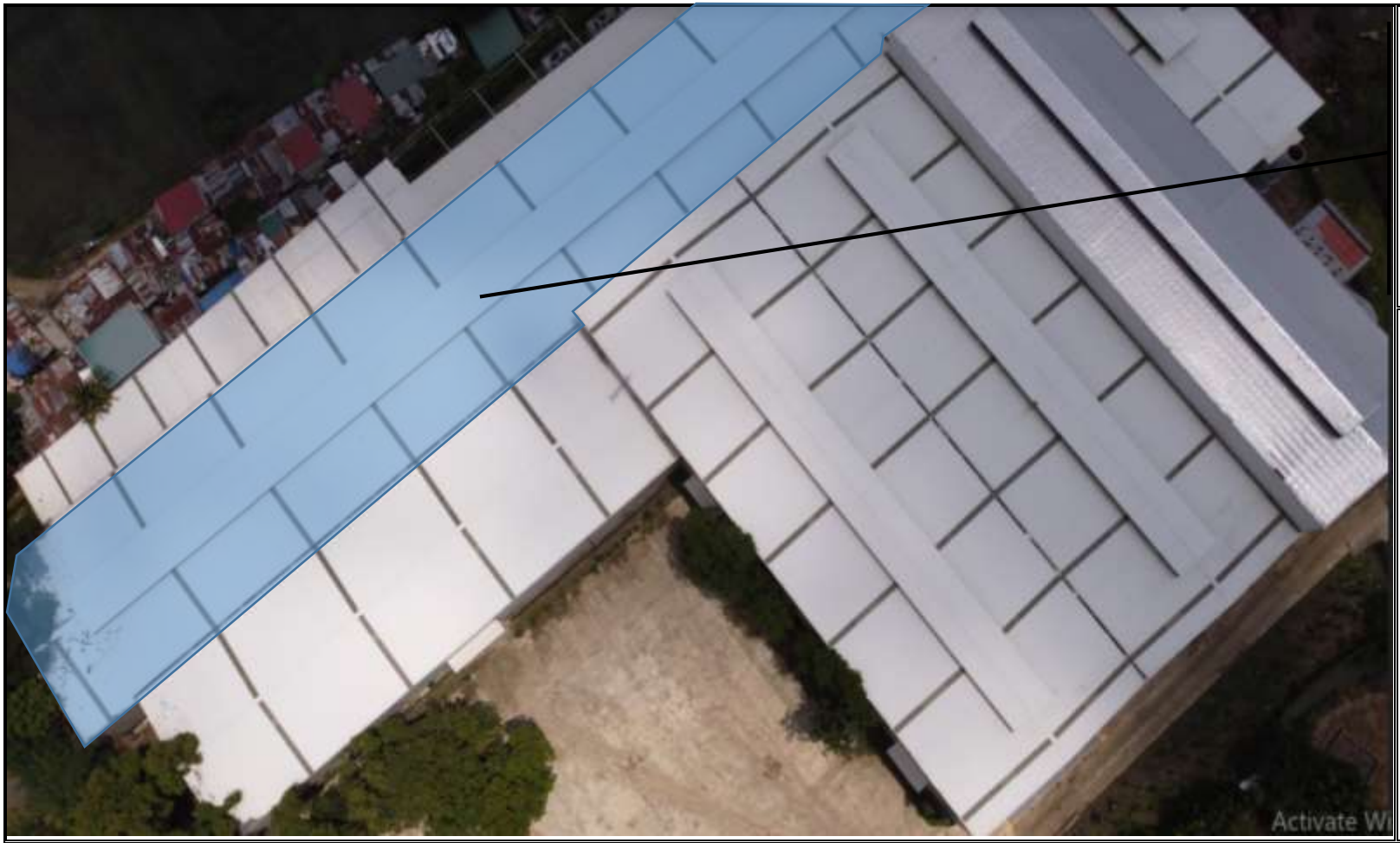
PROJECT SITE


AERIAL PHOTOGRAPHS OF THE PROJECT SITE

Taken: September 7, 2022

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 7: Aerial Photographs of Hongda Steel Corporation



PROJECT SITE


AERIAL PHOTOGRAPHS OF THE PROJECT SITE

Taken: September 7, 2022

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 8: Aerial Photographs of Hongda Steel Corporation

Figure on the following pages shows the Aerial Photographs of the nearby establishments within the Project Site:

PROJECT SITE


AERIAL PHOTOGRAPHS OF THE ESTABLISHMENTS WITHIN THE VICINITY OF THE PROJECT SITE

Taken: September 7, 2022

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 9: Aerial Photographs of the Establishments within the Vicinity of the Project Site

PROJECT SITE


AERIAL PHOTOGRAPHS OF THE ESTABLISHMENTS WITHIN THE VICINITY OF THE PROJECT SITE

Taken: September 7, 2022

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 10: Aerial Photographs of the Establishments within the Vicinity of the Project Site

PROJECT SITE


AERIAL PHOTOGRAPHS OF THE ESTABLISHMENTS WITHIN THE VICINITY OF THE PROJECT SITE

Taken: September 7, 2022

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 11: Aerial Photographs of the Establishments within the Vicinity of the Project Site

PROJECT SITE


AERIAL PHOTOGRAPHS OF THE ESTABLISHMENTS WITHIN THE VICINITY OF THE PROJECT SITE

Taken: September 7, 2022

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 12: Aerial Photographs of the Establishments within the Vicinity of the Project Site


AERIAL PHOTOGRAPHS OF THE ESTABLISHMENTS WITHIN THE VICINITY OF THE PROJECT SITE

Taken: September 7, 2022

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 13: Aerial Photographs of the Establishments within the Vicinity of the Project Site

PROJECT SITE


AERIAL PHOTOGRAPHS OF THE ESTABLISHMENTS WITHIN THE VICINITY OF THE PROJECT SITE

Taken: September 7, 2022

| | |
|---|---|
| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |

Figure 14: Aerial Photographs of the Establishments within the Vicinity of the Project Site

PROJECT SITE


AERIAL PHOTOGRAPHS OF THE ESTABLISHMENTS WITHIN THE VICINITY OF THE PROJECT SITE

Taken: September 7, 2022

| HONGDA STEEL CORPORATION | BARANGAY DAMPOL 1ST, PULILAN, BULACAN |
|---|---|

Figure 15: Aerial Photographs of the Establishments within the Vicinity of the Project Site

## V. PROJECT RATIONALE

The Philippine iron and steel industry aim to contribute to the country's sustainable development by manufacturing world-class products for the industry and society and sees itself as a majority producer of high-quality and safe steel products for domestic users by 2030. This is achieved when the industry is able to supply 70% of the tonnage of required apparent steel consumption

Given the studies from previous paragraph pertaining to the sustainable development and demands, HONGDA STEEL CORPORATION decides to invest on their proposed Rolling Mill Facility with 360,000.00 Metric Tons of Angle Bars and Deformed Bars per Annum.
The company will never come across to neglect the environment in its production processes. Thus, they will keep on reinventing and researching on technologies of producing commodities that are safe and environment friendly, so that the proponent may not be one of the contributors of the serious amount of waste products being thrown improperly to our environment. The proponent will develop and adapt international modules on proper management of the waste generated in their production. The existing environmental conditions within the location of Hongda Steel Corporation including its physical and socioeconomic conditions allow a smooth operation to the project. The proponent will take the advice of environmental experts and consultants on proper operation of the facility taking the environment into consideration.

HONGDA STEEL CORPORATION is a domestic company that is not only to promote the ideals of how enterprising Filipinos can be both successful in their own rights, but also on how they can contribute in nation building through their active participation in commerce. The investment firm this project is very encouraging contribution to boosting both the local economy, as well as the steel manufacturing sector nationwide.

## VI. PROJECT SIZE AND COMPONENTS

Table 3. Hongda Steel Corporation Project Size and Components'

| | | |
|---|---|---|
| Plant Capacity | 360,000.00 MT/Year of Angle Bars and Deformed Bars | |
| Lot Area | Land Titles<br>The land area of the project is recognized under a single land title that has TCT No. 039-2015. | |
| Gross Floor Area | 20,180 sq. m. | |
| Project Components | Area | Floor Area (sq. m.) |
| | Office Building | 340.00 |
| | Dormitory Building | 1,110.00 |
| | Production Area | 13,174.33 |

| | | |
|---|---|---|
| | (Rolling Mill Area, Warehouse Area, and Coal Storage Area) | |
| | Open Spaces and Parking | 5555.60 sq. m. |

## VII. ENVIRONMENTAL FACILITY PLAN

Table below shows the proposed Air Pollution Source Installations (APSI) with its proposed Air Pollution Control Device/s (APCD), as well as its location:

Table 4: APSI and APCD and its Locations

| ENVIRONMENTAL FACILITY PLAN | LOCATION | AIR POLLUTION CONTROL DEVICES |
|---|---|---|
| LSFO/Coal Fired Reheating Furnace (Fuel Burning) | Production Area | -Baghouse Filter<br>-Water Scrubber |
| LSFO Fuel Storage Tank (Non-Furl Burning) | Production Area | -Secured Storage Facility |

Table below shows the other environmental facility areas in compliance with Land and Water:

Table 5: Other Environmental Facility Plan

| Environmental Facility Plan | Location |
|---|---|
| Cooling Tanks | Production Area |
| Garbage Room | Office Building |
| Material Recovery Facility (MRF) | For Future Construction |
| Septic Tank | Office Building and Dormitory Building |

## VIII. PROCESS TECHNOLOGY

*Raw Materials and Products*

The raw materials used are steel billet. The raw materials are sourced from various foreign sources both locally and abroad.

The plant had a maximum production capacity of 360,000 of various sizes of angle bars and deformed bars per annum.

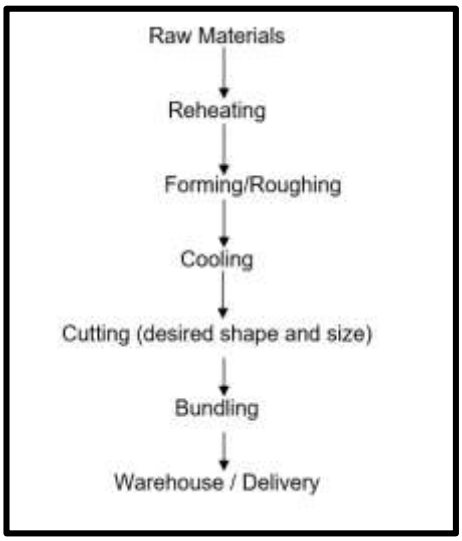



Figure 16. Process Flow Chart of Rolling Mill Plant Facility

Table below shows the components of the Rolling Mill Plant with the number of units as well as brief description:

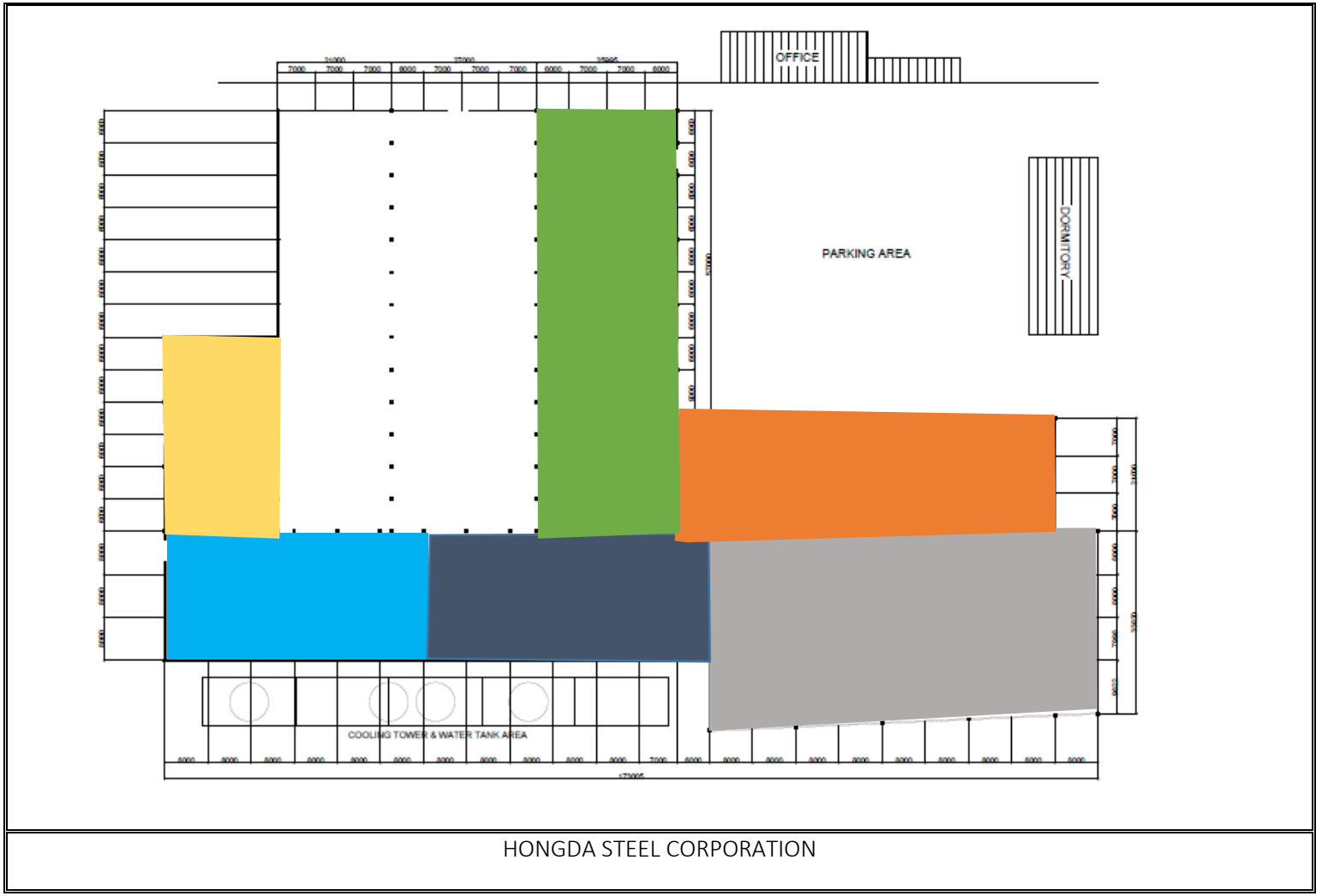
Table 6: Detailed Process of Rolling Mill Plant

| Rolling Mill Plant Component | Units | Description |
|---|---|---|
| Billet Raw Material Area | One (1) Unit | Incoming material forwarding to the Reheating Furnace |
| Reheating Furnace Area | One (1) Unit | The billet is heated to rolling temperature using Low Sulfur Fuel Oil (LSFO) |
| Forming and Roughing Area | One (1) Unit | Area used to reduce the thickness of steel while at the same time extending overall length. It includes: Rolling Area, Roughing Area, Crank Shear Area, Conveyors. |
| Cooling Bed Area | One (1) Unit | Cooling Bed will be used for the uniform air cooling of the rolled materials and transport it in a phased manner from the entry side of the cooling bed to its discharge side. It will transfer the bars one by one to the roller table, on which they will be transported to the finishing section. |

| | | |
|---|---|---|
| Bundling Area | One (1) Unit | Bundling area includes the Cutting to Length Area, Finished Product Forming Area. |
| Finished Product Storage Warehouse | One (1) Unit | Short-term storage area of finished product from the Rolling Mill. |

The process starts with steel billet and then feeding the same into the reheating furnace. Coil inside the furnace are heated to the rollable temperature of 1,250 degrees Celsius, pushed to the first pass of the rolling mill and into the intermediate mills, after which to the finishing for the final desired shape or section. During the movement of red-hot steel materials from roller to roller, water is sprayed for quenching and stress relieving.

The hot bars (finished products) then passes thru the crop shear, which cut the bars to the desired length and then guided into the tying bed for tying into small and big bundles. The finished products are then stored in the stockyard prior to delivery.




HONGDA STEEL CORPORATION

LEGEND

| NO. | COLOR | COMPONENT | NO. | COLOR | COMPONENT |
|---|---|---|---|---|---|
| 1 | | Reheating Furnace Area | 4 | | Bundling & Cutting Area |
| 2 | | Forming/Rolling Area | 5 | | Finished Product Storage Area |

| | | | | | |
|---|---|---|---|---|---|
| 3 | | Cooling Bed Area | 6 | | Raw Material Area |

## IX. PROJECTED TIMEFRAME OF THE PROJECT PHASES

Table below shows the projected timeframe of the project phases of Hongda Steel Corporation:

Table 7: Projected Timeframe of the Project Phases

| NO. | ACTIVITIES | PROJECTED TIMEFRAME |
|---|---|---|
| 1 | Engineering Activities | 6 Months |
| 2 | Delivery of Equipment and Installation | 6 Months |
| 3 | Erection of Auxiliary Facilities | 1 Month |
| 4 | Cold Tests | 1 Month |
| 5 | Start-Up/Hot Tests | 1 Month |
| 6 | Performance Tests | 1 Month |
| | TOTAL | 16 Months |

### Pre-Construction Phase

Activities in this phase are mainly detail engineering and site assessment works, including the process of securing all permits. Project feasibility is also conducted at this stage. Securing of permits will also be conducted such as Barangay Clearance, Resolution from LGU, and Environmental Compliance Certificate (ECC). On this phase, Public Participation such as Information and Education Campaign and Public Scoping is conducted in compliance with DAO 2017-15.

### Construction Phase

The development of the project site shall be implemented within a period of 24 months. The construction and civil works activities shall commence once all necessary permits have been secured. The project construction scope of works shall include:

Civil and Structural Works:

- Site Clearing
- Fencing
- Slab Concreting
- Installation of Rolling Steel Mill & Steel Smelting Equipment

Construction Materials, Manpower Requirement, and Utilities

The construction materials to be used in the project shall be strictly in accordance with the codes, standards and specifications acceptable in the Philippines such as:

- International Organization for Standardization (ISO)
- Philippines National Standard (PNS) 7:2005 Portland Cement
- Philippine Welding Society (PWS)
- American Society for Testing and Materials (ASTM)

Manpower Requirement shall include:

- Workers
- Sub-Contractors
- Qualified Engineers
- Security Personnel
- First Aid Station

The project proponent will fully coordinate with local Building Officials with respect to matters relative to its project development.

The project will have its own septic vault as required by the city sanitation officials.

Equipment to be used

The construction equipment and machinery needed during the construction period are listed as follows:

- Tower Cranes
- Utility Cranes
- Construction Vehicles
- Concreting Equipment
- Welding Equipment

Construction Method

The contractor shall be required to strictly follow the design and specifications as prepared by the proponent's engineers in accordance with the various provisions of the Building Code of the Philippines (P.D 1096).

All foundation works shall conform to the prescribed concrete mix and curing period. The contractors shall likewise be required to enforce all safety measures to prevent/minimize accidents and injuries to the construction workers.

## Operational Phase

Operation Stage

Rolling Mill Plant (using Reheating Furnace) connected with Water Srubber and bag filter.

Coil inside the furnace are heated to the rollable temperature of 1,250 degrees Celsius, pushed to the first pass of the rolling mill and into the intermediate mills, after which to the finishing for the final desired shape or section. During the movement of

red-hot steel materials from roller to roller, water is sprayed for quenching and stress relieving.

The hot bars (finished products) then passes thru the crop shear, which cut the bars to the desired length and then guided into the tying bed for tying into small and big bundles

## Abandonment Phase

The plant shall remain to serve its function unless otherwise the government ceases its operation. A facility Manager shall take over the maintenance the whole property.

The project is designed to render 50 years' service life. However, the building administration will implement proper maintenance, renovations, and retrofitting, if necessary, which is expected to an extended service life for the structure.

Abandonment/Demolition Program

Recent development in civil and structural engineering has improved the service life of new buildings. However, based on NIOSH (U.S. National Institute for Occupational Safety & Health) Standard, to qualify a building for demolition, it must have had either greater than 50% damage or greater than 35% of its structural system compromised.

A Demolition Program is divided into four phases:

Phase 1: Planning

Selecting the type and scope of building demolition program to be establish based upon acceptable procedures at that time.

Phase 2: Pre-Demolition

Step 1: Establish a demolition plan

Step 2: Identify affected properties

Step 3: Conduct historic preservation review

Step 4: Prepare video documentation

Step 5: Establish haul routes

Step 6: Obtain Waivers and releases

Step 7: Prepare contracts for cleanup work

Step 8: Select contractor

Phase 3: Demolition

Certain prepatory work must precede the primary task of demolishing structures, debris removal, and cleanup.

Step 1: Identify hazardous materials in damaged buildings.

Step 2: Obtain proper permits

Step 3: Deploy field staff

Step 4: Notify neighbors and utilities

Step 5: Remove hazardous materials and dispose of them properly as per RA 6969 requirements.

Step 6: Recycle demolition debris

Step 7: Develop a plan to handle special materials

Step 8: Demolish the building

Step 9: Remove, transport, and dispose of remaining debris

Phase 4: Post-Demolition

When the sites have been cleaned in accordance with the specification criteria established by the building, some post-demolition activity will be performed including:

- Issue reports as required by city.
- Inspect property and accept reports.
- Videotape and photograph the completed site and area, by lot.
- Maintain contract records.
- Complete processing of claims for funding and project close out, if any.

## X. MANPOWER

Currently, limited manpower is required for the operations and maintenance of Hongda Steel Corporation. Table below shows the breakdown of Manpower/Workforce:

Table 7: Rolling Mill Project Workforce

| Work Force | Number of Workers |
|---|---|
| Office Staffs | 6 |
| Production Staffs | 34 |
| TOTAL | 40 |

Table 8: Rolling Mill Project Operation Hours

| | |
|---|---|
| Office Hours/Day | 8 |
| Office Days/Week | 6 |
| Operation Hours/Day | 8 |
| Operation Days/Week | 6 |

## XI. UTILITY PROVIDERS AND INDICATIVE PROJECT COST

*Power*

The Hongda Steel Corporation located at Barangay Dampol 1st, Pulilan, Bulacan is mainly being serviced by MERALCO when it comes to electric power supply.

*Water*

The Water service provider of the Hongda Steel Corporation is the Bulacan Water District.

*Project Cost*

Hongda Steel Corporation project indicative cost is estimated to be around Php 400 Million for its proposed Rolling Mill Plant Facility.

## XII. PROJECT ALTERNATIVES

Table 9. Project type, components, and size Alternatives

| | |
|---|---|
| PROJECT TYPE | Rolling Mill Plant with additional products such as equal leg angle bar, reinforcement bar, flat bar, channel bar, square bar, round bar, I bar |
| PROJECT SIZE | 900,000 MT/Year |
| PROJECT COMPONENTS | -Reheating Furnace Area<br>-Rolling Area<br>-Cooling Bed Area<br>-Rollshop Area<br>-Bundling, Tying, and Collecting Area<br>-Finished Product Storage Area<br>-Finished Product Warehouse<br>-Wire Rod Storage Area<br>-Wire Rod Charging Area<br>-Raw Material Storage Area<br>-Finished Product Storage Area<br>-Motor Pool<br>-Car Parking<br>-Finished Product Weighing Scale<br>-Fabrication<br>-Storage Tanks<br>-Barracks<br>-Admin Building<br>-Truck Parking<br>-Machine Shop |

Table 10. Process/technology (including toxic chemicals that will be used or produced and may be released to the environment) Alternatives

| | |
|---|---|
| Process Technology | MF Induction Billet Heating Furnace<br>  <br><br>Heating Temperature: 200 to 1300 degree Celsius<br><br>Used for reheating billet and after the billet is pulled out from the continuous casting machine, surface temperature is 75 to 850 degree Celcius, internal temperature of 950 to 1000 degree Celcius. Its features are:<br>1. Simple operation, flexible feeding and discharging, and high degree of automation<br>2. Fast heating speed, high efficiency, less oxide scale<br>3. The heating speed and temperature of the workplace can be accurately controlled.<br>4. Inductor can be made according to customer requirements, and the maintenance cost is low.<br>5. Energy-saving design, low energy consumption, high efficiency, lower production cost than coal burning, oil, etc.<br>6. Meet the requirements of environmental protection, low pollution, and small area occupied.<br>7. No need to install, plug, and play. No need to preheating, start heating when starting up. |
| Toxic Chemicals that will be produced and released to the Environment | -Scales<br>-Heat and Dust<br>-Cooling Water<br>*No chemicals and no emission of air pollutants since this furnace will be electrically fired. |

Table 11: Resource Utilization (water, energy, etc.) Alternatives

| | |
|---|---|
| Water | -Manila Water Company Inc.<br>-Rain Water Harvesting<br>-Delivery of Water from Third Party |

| | |
|---|---|
| Energy | -Heat-To-Energy Process Utilization (from the heat coming from the Reheating Furnace)<br>-Solar Energy |

Proposed location of the project facilities/components and alternatives will be at Global Aseana Business Park, San Simon, Pampanga.

## XIII. BRIEF ENVIRONMENTAL MANAGEMENT PLAN (EMP)

Table 12: Environmental Management Plan (EMP)

| Key Impact | Identified Impact | Mitigating Measures |
|---|---|---|
| LAND | Solid Wastes Generation | -Proper segregation of solid wastes generated<br>-Storage of solid waste to the material recovery facility<br>-Solid waste hauling by accredited transporter |
| | Hazardous Wastes Generated | -Proposed storage and labeling on containers/drums<br>-Proper storage area inside project area premises<br>-Hauling and Treatment of DENR-EMB Accredited Hauler and Treated |
| WATER | Wastewater Generation | -Installation of septic tanks to be hauled by DENR-EMB Accredited Transporter and Treater (Domestic Wastes)<br>-Storing and recycling of Industrial wastewater in cooling tanks |
| | Change in drainage morphology (During Construction Phase) | -Properly designed storm drainage layout |
| AIR | Degradation of Air Quality | -Proper maintenance of air pollution sources<br>-Public Announcement of keeping vehicles running in good condition to avoid emission of harmful smoke<br>-Water sprinkling on grounds for dust suppression |
| | Ambient Noise Level | -Schedule the use of equipment/machines emitting high noise during daytime operation.<br>-Defective equipment/parts with abnormal noise will be either replaced or repaired.<br>-Coverage of facility that emits high noise during operation. |
| PEOPLE | Threat to Public Health and Safety | -Incident reporting survey, include in the health and safety plan of the proponent. |

| | | |
|---|---|---|
| | Traffic Congestion | -Properly coordinate with the LGUs regarding the schedule of supplies and equipment deliveries<br>-Ensure proper signaling and traffic routes for services of the project operations. |