This Environmental Impact Statement (EIS) Report was prepared for the acquisition of the Environmental Compliance Certificate (ECC) of the proposed 250-hectare golf course and resort project of Sky Blue New Clark City Golf Course & Resort Corp. located in New Clark City, Brgy. Maruglu, Capas, Tarlac.

The proposed project 250-hectare golf development project consists of 2 eighteen-hole golf course facilities with clubhouse, commercial complex, mixed-used housing, condotel, international school, terrace house, people's park etc. The project will be under a 25-year lease agreement, entered into and between the Bases Conversion and Development Authority (BCDA), represented by its President and CEO, Mr. Vivencio B. Dizon, and a consortium of JB Cresta Corporation, POSCO Architects & Consultants Co., Ltd., and R&H Golf Architect represented by their CEO Mr. Lim Jang Bin on November 9, 2018.

1 Project Fact Sheet

1.1 Summary of Project Description

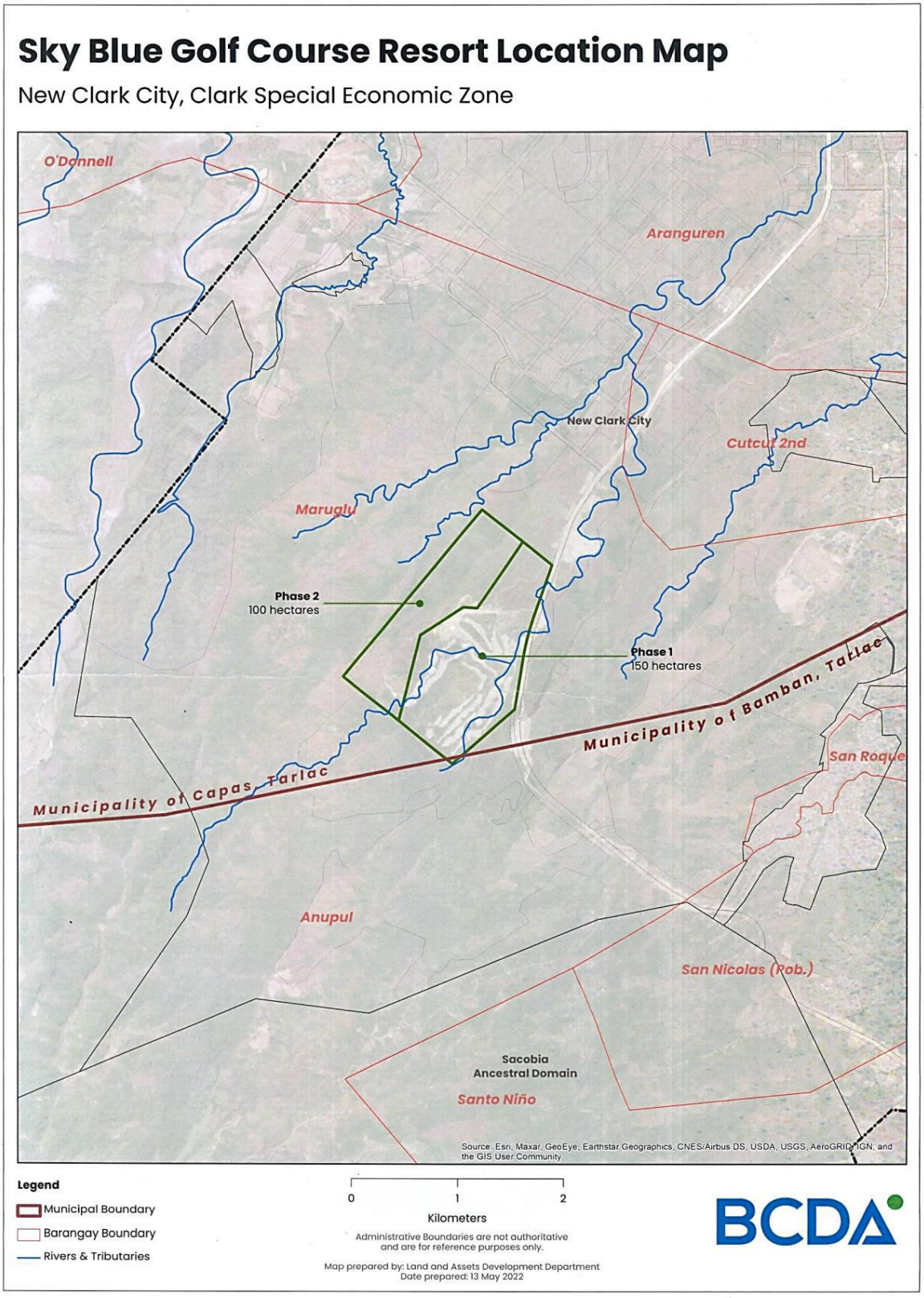
Project Name:	Sky Blue New Clark City Golf Course and Resort
Project Type:	Golf Course and Resort
Project Location:	New Clark City, Brgy. Maruglu, Capas, Tarlac
Project Size:	250-hectares
Project Components:	Golf Course (2 eighteen-holes fairway with underground perforated drainage pipes interconnected to man-made ponds/lagoons), 1 Clubhouse Building (2-storey building), People's Park, 100 Units Golf Villa 1 (2-storey residential building), 112 Units Golf Villa 2 (2-storey residential building), 1 Golftel (2-storey building), 4 Business Complex Buildings (2- storey building), 1 Convention Center Building (1-storey building), 121 Units Golf Villa 3 (2-storey residential building), 9 Units Condotel (5-storey residential building), 47 Units Mixed- Use Housing (2-storey building), 4 Golf Schools (2-storey building)
Project Investment:	Php 2,000,000,000

1.2 Project Proponent

Proponent Name:	Sky Blue New Clark City Golf Course & Resort Corp.
Proponent Address:	Unit 101 and 102 Building N1473 Rio Grande de Pampange corner Abacan Streets Clark Freeport Zone, Pampanga
Authorized Representative:	Roderick M. Gomez
Contact Details:	(045) – 499 – 0850 ; gomezrogie@gmail.com

1.3 EIA Preparer

EIA Prepaper Name:	North Green Environmental Consultancy and Services Provider
Prepaper Office Address:	Barangay Pasong Tamo, Tandang Sora, Quezon City
Preparer Representative:	Proculo C. Castañeda (Managing Head)
Contact Details:	0968-856-5953 ; caste_14@yahoo.com


Sky Blue Golf Course Resort Location Map
New Clark City, Clark Special Economic Zone
O'Donnell
Aranguren
New Clark City
Cutcut 2nd
Maruglu
Phase 2
100 hectares
Phase 1
150 hectares
Municipality of Bamban, Tarlac
Municipality of Capas, Tarlac
San Roque
Anupul
San Nicolas (Pob.)
Sacobia
Ancestral Domain
Santo Niño
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Legend
Municipal Boundary
Barangay Boundary
Rivers & Tributaries
0
1
2
Kilometers
Administrative Boundaries are not authoritative and are for reference purposes only.
Map prepared by: Land and Assets Development Department
Date prepared: 13 May 2022
BCDA

Sky Blue New Clark City Golf and Resort Site Development Plan

1.4 Project Components

Zone	Components	Area (m2)	Percentage (%)
PHASE 1			
GOLF ZONE	Golf Course (2 eighteen-holes fairway with underground perforated drainage pipes interconnected to man-made ponds/lagoons)		
	1 Clubhouse Building (2-storey building)	1,962,670.96	78.51%
Built-Up		1,432.00	0.06%
Open Space	Buffer Zone	1,961,238.96	78.45%
PARKS & RECREATION ZONE	People's Park		
Built-Up		1,021.00	0.04%
Open Space	Buffer Zone	56,448.69	2.26%
RESIDENTIAL ZONE	100 Units Golf Villa 1 (2-storey residential buildings) 112 Units Golf Villa 2 (2-storey residential buildings)	307,830.93	12.31%
PHASE 2			
COMMERCIAL ZONE	1 Golftel (2-storey building) 4 Business Complex Building (2-storey building) 1 Convention Center Building (1-storey building)		
Built-Up		8,415.15	0.34%
Open Space	Buffer Zone	77,738.53	3.11%
RESIDENTIAL ZONE	121 Units Golf Villa 3 (2-storey residential buildings)	22,871.22	0.91%
RESIDENTIAL ZONE	9 Units Condotel (5-storey residential buildings) 47 Units Mixed-Use Housing (2-storey building)	37,011.52	1.48%
Built-Up		127,116.63	5.08%
Open Space	Buffer Zone	240,597.04	9.62%
INSTITUTION ZONE	4 Golf School (2-storey building)	25,992.00	1.04%
Built-Up		11,664.00	0.47%
Open Space	Buffer Zone	14,328.00	0.57%
		2,500,000.00	**100.00%**

1.5 Project Duration and Schedule

Pre-construction activities are done simultaneously with ECC preparation as the proponent targets to complete the Phase 1 Project in time for the Sea Games which is set to be held on November 2019 at the New Clark City. Please see below revised project schedule for Phase I and Phase II with estimated number of workers.

Project Schedule

#	ACTIVITY	2018	2019	2020		2021	2022	2023	2024	2025	2026	2027	2028
1	Project Approval												
2	Planning & Design Stage/Government Permits												
3	Pre-Construction & Construction Activities Phase I												
4	Operational Stage Phase I												
5	Pre-Construction & Construction Activities Phase II												
6	Operational Stage Phase II												
	Accomplished for the turf and drainage for phase 1 only					90%							

NOTE:

- Pre-Construction of Phase I: Land/site Clearing, Temporary Housing, Health Services of the Workers, Temporary Facilities, Earthwork, F. Shaping, Drainage, S. Shaping, Irrigation, Shaping, Sand Capping, Grass Seeding
- Construction Activities Phase I: Construction of Project Components Including Civil and Structural Works, Sanitary, Electrical, Mechanical, Fire Protection, Electronics, Other Auxiliary Works
- Pre-Construction of Phase II: Land/site Clearing, Temporary Housing, Health Services of the Workers, Temporary Facilities, Earthwork, F. Shaping, Drainage, S. Shaping, Irrigation, Shaping, Sand Capping, Grass Seeding
- Construction Activities Phase II: Construction of Project Components Including Civil and Structural Works, Sanitary, Electrical, Mechanical, Fire Protection, Electronics, Other Auxiliary Works
- The 90% accomplishment is for the golf landscape development under Phase I only and has not started any construction of building structures. Likewise, Phase II has not started any constructionof building structures.

2 EIA Process Documentation

2.1 EIA Team

EIA Team Member	Expertise	Module Assigned
Engr. Elisabeth S. Bungag (Chemical Engineer)	EIA, Environmental Management, Policy & Planning, Surface water, groundwater, air quality	Baseline Characterization – Water and Air Module ; Environmental Management and Monitoring Plans ; Impact Management Plan
Ms. Cecil G. Martinez (Licensed Geologist)	Geology, soil	Baseline Characterization – Land Module
Victor Valderama Jr. (Environmental Planner)	Terrestrial Fauna	Flora & Fauna
Maria Ana M. Pulido (Civil Engineer, Environmental Planner)	EIA, Environmental Managmeent, Urban Planning	Environmental Management Plan ; Impact Management Plan
Dianne I. Londob (Civil Engineer, Environmental Planner)	EIA, Environmental Management, Social Impact Assessment and Planning	Baseline Characterization – People Module ; Environmental Management and Monitoring Plans

2.2 EIA Study Schedule

January 2019	Presentation of project study with property owner
January 2019	Review and assessment of environmental ppolicies and regulations
February 2019	Conduct of pre-scoping, field investigation, and site inspection of the project area and research
March 2019	Conduct of Ambient Water Analysis for Surface and Groundwater
April 2019	Conduct of Ambient Air Testing, Geological Site Scoping and Flora & Fauna Inventory
May 2019	Conduct of Engineering Geological and Geohazard Assessment
July 2019	Conduct of IEC
August 2019	Public Scoping
September 2019	Technical Scoping
December 2019	Submission of EIS to DENR
November 2022	Submission of Revised EIS to DENR

2.3 EIA Methodology

The methodologies used for the EIS report were conducted to be able to:

• Review environmental regulations and standards implemented in the Philippines that cover the project.

• Conduct of public(site) and technical scoping to determine the issues to be addressed by the EIA Team.

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

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

Both primary and secondary data were determined in the assessment of project impacts. Primary data were obtained through on-site investigation and field sampling, while secondary data came from the proponent and related government agencies. The table below shows the methodology used for the baseline characterization in each module:

Module		**Methodology Used During Assessment**
The LAND	Land Use and Classification	Gathering/Review of secondary data from the LGU, BCDA and CDC
		Analysis and interpretation of NAMRIA land satellite imagery for soil cover and land use
		Site observation/validation
		Technical Evaluation of soil capability and suitability
	Topography	Analysis of NAMRIA maps
		Secondary data from MGB and BCDA
		Site observation
	Geology & Geomorphology	Conduct of EGGA and GSS
		Gathering/Review of secondary data
		Site observation
		Conduct of Geotechnical Survey
		Review and analysis of secondary data

Module		Methodology Used During Assessment
	Pedology	Site observation
	Terrestrial Biology (Flora and Fauna)	Conduct of Inventory
		Collection and review of secondary data
	Natural Hazards	Conduct of EGGA
		Gathering / Review of secondary data
The WATER	Hydrology/ Hydrogeology	Site observation
		Use of official secondary data
	Water Quality	Laboratory Sampling & Analysis by Eminent Laboratory
The AIR	Meteorology/Climatology	Review of secondary data
	Air Quality & Noise	Air quality sampling and laboratory analysis by Pure Jjem Environmental Corporation
The PEOPLE	Demography and Economic Profile	Review of secondary data

3 Public Participation

Coordination meetings with different stakeholders were conducted to discuss the project. IEC and Public Scoping were conducted to determine possible issues and concerns regarding the project.

The Public Scoping was conducted last August 6, 2019, at the Covered Court of Municipality of Capas, Province of Tarlac. Those who attended are from the Local Government Unit of Capas, DENR Offices, BCDA, CDC EPD, Barangay Chairmen and Representatives of Barangay Maruglu and Cutcut II, JB Cresta Corporation, and the Project Consultants.

Capas Mayor Reynaldo Catacutan welcomed all the participants to the Public Scoping and introduced participants of the event, particularly his constituents as well as the consultant. The honorable mayor mentioned that this project will bring jobs to the people of Capas and to nearby municipalities in Tarlac. He urges everybody present in the Public Scoping, including his staff, to support this golf course project, including the incoming locators and projects of the Bases Conversion and Development Authority (BCDA) in New Clark City.

The EIS Consultants discussed the proposed projects, potential impacts, and measures. Engr. Rogelio Magat made a brief presentation on DAO 2017-15 [Guidelines on Public Participation under the Philippine Environmental Impact Statement (EIS) System]. He emphasized the importance of public participation at all stages in the Environmental Impact Assessment (EIA) process, which also includes the monitoring of the impacts of the project through the mandatory formation of a Multi-Partite Monitoring Team (MMT), which will serve as a venue promoting stakeholder's vigilance. The presentation ended by saying that all discussions and issues, including commitments from the proponent during the scoping, will be documented and integrated into the proposed technical scope of the EIA.

The following were the issues raised by the stakeholders:

a. Possible negative impact on the flora;

b. Revision of the site development plan to include the site for the Materials Recovery Facility and Sewerage/ Septage Treatment Plant;

c. Inclusion of the Indigenous Peoples (IPs) in the planning process;

d. Voluminous requirements during employment and hiring process;

e. Benefits of the prospective workers who the proponent plans to employ people from Brgy Maruglu;

f. Appropriate agencies which should be in charge of the permitting requirements; and

g. Appropriate agencies which should be beneficiaries of the revenue.

Engr. Elisa Dimaliwat of DENR-EMB Region III synthesized that this Public Scoping is for the betterment of the project, the LGU, and the communities as well. She closed the Public Scoping by saying that the DENR EMB Region III will ensure that all projects within Clark complies with environmental laws and standards and that all issues raised will be addressed accordingly.

4 EIA Summary

4.1 Summary of Baseline Characterization

MODULE	BASELINE CONDITION
Land Use and Classification	The project site is certified by the LGU – Capas to be within the Industrial Zone as per the approved ComprehensiveLand Use Plan (CLUP) and zoning ordinance of the Municipality.
Topography	The project area and its vicinity are characterized by NorthEast trending pyroclastic finger ridges exhibiting the classical "ridge and valley" topography with elevations ranging from 100 to 200 MASL.
Geology & Geomorphology	The site of the project is in New Clark City, Tarlac, which is in the western part of the Central Luzon Basin. This western part is where the Western and Eastern Zambales Ranges are. The western range is made up of the Zambales Ophiolite Complex (ZOC), which runs along with the Manila Trench. The eastern part of the range is made up of a series of volcanic centers that run from north to south. These centers break up the already rough Zambales Range–Bataan Highlands from Bataan to the west of Tarlac and Pangasinan. The volcanoes are the Corregidor Caldera, the possibly active Mariveles and Natib, the active Pinatubo, and some smaller volcanic cones and plugs in western Tarlac and Pangasinan. East of the mountain range are the sedimentary Zambales Range Foothills. The project site has steep slopes, valleys, streams, and gently sloping areas that make up the basin or catchment area. It is on the eastern edge of a mountain range that runs north-northwest from Bataan Peninsula to Lingayen Gulf. It is also on the western edge of a large plain in Central Luzon. SRTM imagery was used to get a better idea of the project area's slope. This showed that most of the site is made up of slopes with rises between 8.1 and 18% and 18.1-30%. People say that these slopes are a little to a lot steep. In some parts of the area, there are also very steep slopes.

MODULE	BASELINE CONDITION
Pedology	Tarlac has clay loam soil, La Paz has fine sand, and Luisita has sandy sand. On the west side, volcanic rocks of the basalt and andesite types and undifferentiated Tarlac soils make up most of the border. Capas has soil with a coarse to medium texture that tends to flood during the rainy season. When farmers plant sugar cane and other annual crops, the texture of the soil and how they take care of their crops can change how permeable the soil is. Due to the soil's compactness, water moves through the town's hilly and mountainous parts slowly to very quickly. In the O'Donnell River, there were sand deposits made up mostly of the minerals quartz and magnetite. People think it came from the volcanic hills and mountains in the south of the Municipality. The sand and gravel in the area can be used to build things and make aggregates. Near Crow Valley, in Barangay Sta. Juliana, inactive cones were also found. There was proof that Capas has deposits of both metals and minerals that are not metals. The manganese ore reserve had 190,000 metric tons of metal deposits, some of which were in the area that used to be the US Military Reservation in Camp O'Donnell. On the other hand, pumice has been said to be part of placer gold deposits at Cabatuan Creek in Barangay Bueno.
Soil Quality	Based on a log of drill holes in the area where the clubhouse would be built, the area is made up of 6 meters of thick, brown, sandy silt, and 7.50 meters of thick, brown-gray, very dense, silty sand. Grading below is a solid layer that is mostly made up of tuff rock.
Fauna Assessment	1. Birds are one of the most important indicators of biodiversity and sustainability in space because they live in so many different ecosystems and eat so many different things, which affects the population of other species. This taxonomic group is essential for the spread of seeds and the eventual succession of the secondary-growth forest by other species. From the 2-kilometer transect, 183 birds from 23 species and 16 families were seen, making up a total of 183 individuals. Based on the number of species seen, the results show that the Columbidae family, which includes doves and pigeons, is the most common. On a species level, bird assessment showed that the Striated Grassbird (Megalurus palustrus, Horse field), with 28 individuals or 15.30% of the total count, is the most common species at the site.
	2. Based on biodiversity parameters, Fernando and Castillo (1996) found that birds have moderate diversity (H' = 2.792).
	3. The Biodiversity Management Bureau's (2014) database found three (16.67%) endemic species.
	4. None of the area's bird species are listed in CITES, DAO 2004-15, or IUCN 3.1. (2017). 8 species are declining globally.
	5. An ethnobiological survey and opportunistic sampling found seven reptile species from six families. All reptiles live there. The first method accounted for species not seen or found during the survey.
	6. The site had 25 bats from two genera in the same family.
	7. The area's wildlife, including species composition, density, diversity, conservation status, and population trends, suggests that managers should consider the feeding guilds' characteristics and habitat needs when planning their forest rehabilitation project. Analyses can help choose species and protect and improve forest cover. This will ensure that the action will improve biodiversity and taxonomic group conservation.
Flora and Vegetation	a. The area is classified as scrubland as it is dominatedby grass

MODULE	BASELINE CONDITION
	but with few scattered shrubs and/or small trees.
	b. Total of 315 tree individuals and 25 tree species were assessed, while for the understorey 15 species were assessed.
	c. Dominant tree species is Gmelina arborea (242individuals).
	d. The plurality (37.78 %) of the trees in the scrubland is in the established, 20.33 cm to 43.18 cm DBH class. Please, be informed that we have retained the original listing as submitted, considering that due to the development, almost all trees are no were to be found, and considering further, that if ever forest charges are imposed, then the original cubic meters could be made as the basis for computation of the said forest charges.
	e. The overall condition of the tree population is rated fair.
	f. All observed tree species in the sampling plots, exceptfor the following are not yet been assessed for the IUCN Red List, but are in the Catalogue of Life: *Artocarpus blancoi, Psidium guajava, Trema orientalist, Sandoricumkoetjape, Spathodea campanulata, Tamarindus indica, and Mangifera indica. M.* indica has deficient data. The endemic *A. blancoi* is categorized as Vulnerable. The remaining listed tree species are categorized as Least Concern, and they are either increasing, stable or unknown.
	g. All observed understory species in the sampling plots, except for the following are not yet been assessed for theIUCN Red List, but are in the Catalogue of Life: Laportea interrupta, Kyllinga nemoralis, Mimosa pudica, Eleusine indica and Saccharum spontaneum. These species are categorized as Least Concern, and they are either increasing, stable or unknown.
	h. The Shannon-Wiener Index of Diversity (H') value for the tree species collected is 1 which can be interpreted using Fernando Scale as very low relative value of diversity index.
Hazards	Two major natural hazards that could impact the project area are geological and hydrological. The site and surrounding area will likely be affected differently by these dangers. The Philippine Trench, Philippine Fault, West Marikina Valley Fault, and Manila Trench are the NCC's main earthquake sources. Ground shaking, liquefaction, uneven settlement, lateral spread, and volcanic hazards are earthquake-related geologic risks. Hydrologic hazards include concentrated runoff, overbank flooding, basin flooding, sedimentation, erosion, and landslides. The NCC route is safe according to PHIVOLCS' earthquake ground rupture risk assessment. Landslides are high to very high in the NCC's mountainous and hilly areas, according to the DENR MGB. When it rains, the northern and eastern NCC are flatter and less likely to slide. The NCC is in Zone 4, which is lahar-free according to the PHIVOLCS volcano hazard assessment.
Hydrology/ Hydrogeology	The site's main drainage is Kamanawan Creek. Isip Creek drains the NW site perimeter. The Lucong river joins the Rio Chico dela Pampanga in Concepcion after these creeks flow northeast. The creek channels are narrow and moderately incised upstream but shallow and meandering downstream due to the gentle terrain. Regionally, creeks appear radial. The regional slope influences moderate to shallow incised channels.
	Even in summer, Kamanawan Creek and Isip Creek have surface flows, making them perennial streams. A dam upstream of Kamanawan Creek was found southeast of the proposed clubhouse. The clubhouse had

MODULE	BASELINE CONDITION
	groundwater seepages. During rainy season, creeks get enough surface water.
Water Quality	According to DENR Administrative Order No. 2016-08, Kamanawan creek is classified as Class C, intended for fishery water for fish propagation and growth, boating, fishing, agriculture, irrigation, and livestock watering. Water quality analysis compared to DAO No. 2016-08 shows that all parameters except BOD, TSS, Fecal Coliform, and Total Coliform meet DENR standards. This is can be caused by presense of humans and animals located upstream (Bamban). During sampling, pre-construction work on the ASEAN Sports Complex, National Government Administrative Center, and roads can raise TSS.
	Groundwater analysis shows that all the parameters except for fecal coliform can be classified to Class A in the Groundwater Water Guidelines which is intended for potable water and other domestic use.
Freshwater Ecology	A total of six phytoplankton taxa representing three divisions were recorded. Bacillariophyta was the most abundant division, with 48.3% of the total count, followed by Chlorophyta (44.8%) and Xanthophyta (6.9%). The four sampling stations' zooplankton composition and has only one taxon, Ciliophora. Representatives of Phylum Arthropoda are present from FE1 to FE4, with members of F. Penaeidae and F. Varunidae present in all four stations. In contrast, representatives of F. Chironomidae were present in FE3 and FE4. Under Phylum Mollusca, F. Corbiculidae is present in FE2 and FE3, while a representative of F. Thiaridae is present in FE2. Members of P. Nematoda are also present in both FE3 and FE4. The freshwater fish species recorded and observed at the proposed site were widespread forms well adapted to tropical freshwater systems whose IUCN Red List statuses were "Least Concern" and "Not Evaluated."
Meteorology / Climatology	Tarlac has a Type-1 climate, which is wet from June to November and dry from December to May, according to the PAGASA modified coronas classification. Based on 1997–2017 rainfall data, July and August are wettest. From June to November, humid South China Sea winds cause more rain during the southwest monsoon. After crossing the high mountains 20km west of Pinatubo and the Cabusilan Mountains, moist fronts heading northeast have lower humidity and produce less precipitation in the rain shadow areas on the eastern slope. Long-lasting, heavy rains cause storing typhoons, which cause massive lahars. The PAGASA records showed that there are about 16 tropical cyclones per year, and an average of 3 to 4 pass over the Pinatubo Area. They enhance the southwest monsoon, which causes heavy rains.
Air Quality & Noise	The Ambient Air results at all Sampling Stations indicate that the PM10, TSP, SO2 and NO2 concentrations were within the applicable DENR standards.
	The location of Sky Blue New Clark City Golf & Resort Corp. was considered as a Commercial Area (Class B) with a DENR Day Time Noise Standard of 65 dBA. The results of the noise level measurement show that thenoise levels at both stations were within the applicable limit. Audible noise during the time of measurement normally came from environmental noise and trucks.

MODULE	BASELINE CONDITION
Demography	The Aetas were the first inhabitants of Capas, today it is inhabited by people of different ethnic groupings Pampangos, Ilocanos, Pangasinenses and Tagalogs. Onepercent are Bicolanos and Visayans. Capas has 20 barangays with a total population of 140,202 with a density of 370 inhabitants per square kilometer (NSO, 2015). Like the rest of the country, the young population in Capas exhibits a pyramidal age structure. The population between ages zero to 14 years old account for 40%. Capas is predominantly a Kapampangan speaking town. Roman Catholic religion has remained deeply rooted in the Municipality of Capas ever since its propagation followed by the Iglesia ni Cristo denomination. Literacy rate is pegged at 96%.
Economic Profile	The Municipality is predominantly an agricultural town despite the fast pace of urbanization. The total productive agricultural area devoted to crops is 9,567 has. This is 30.28% of the total land area. Secondary agricultural crops include corn, root crops and vegetables which are planted extensively on an intercropping basis in between rice planting and harvesting. The needed economic support facilities for agro-industrial activities such as post-harvest facilities, including drying stations, rice and feed mills must be put in place. These economic activities pose great potential economic gains for Capas. Organic farming is also an economic activity which poses a great potential. Already existing are organic farms in Barangays Sta. Rita and Manga.
	Tourism is also a vital player in Capas economy. Sta. Juliana is home to a satellite office while the Municipal Hall serves as the main tourism information center.
	The Barangay is home to a number of tourism sites and activities which includes a wellness SPA, Tambo lake and Hot spring. It also serves as the jump off point going to Mt. Pinatubo. Barangay O'Donnell the adjacent barangay of Sta. Juliana offers accommodation facilities for tourist.
	Barangay Bueno and Maruglu also serve as tourism sites for Bueno Hot springs, Mabanagnag Falls, the gunnery range and ethnic festivals for katutubo (Aeta Day)

5 Impact Assessment and Environmental Management Plan

A summary of the potential impacts of the project per project phase and the corresponding mitigation measures and enhancement, are presented in the table below:

Project Activity	Impacts	Mitigating Measures	Target EfficiencyPerformance
Pre - Construction and Construction Phase			
Clearing and removal of trees (earth ball, cutting)	Removal of affected trees present in the proposed projecteither through cutting or earthballing	Preparation of a detailed management plan for the removal of trees	100 % Completion of the Management Plan
		Replacement and planting of trees	100% of the cut trees replaced
	Reduction of ecosystem services such as microclimate	Periodic monitoring of planted and earthballed trees	Quarterly monitoring conducted
Project Activity	Impacts regulationand carbon sequestration	Permits such as Tree Cutting Permit must be secured from the appropriateagencies	Cutting Permit issued per Tree Cut
Generation of demolition wastes	Soil contaminationand aesthetic impacts	Agricultural wastes may be used as raw materials for the production of a soil enhancer or compost.	100% agricultural wastes converted to soil enhancer or compost
Construction SiteActivities	Impairment ofaesthetics	Use of "green walls" as Construction barriers or fences	100% covered fences with green walls
Earthworks	Alteration in topography due to excavations of earth and stockpiling	Use of proper cut slope techniques	1 slope technique implemented
	Slope failures, landslides and subsidence due to cutting and filling; Soft ground		
	Soil erosion and siltation along the rivers and creeks	Good housekeeping, planting of vetiver and other turf.	Weekly monitoring of facilities maintained for good housekeeping
	Soil runoff	Proper waste disposal, Good housekeeping, planting of vetiver, other turf and planting of trees	100% segregation and segregated collection of solid wastes
		Construction	100% completion of a good drainage system
		Fencing of the rivers and creeks with vegetative buffers to keep construction and people out	100% fenced rivers and creeks
		Installation of temporary sediment traps and basins along areas where erosion is critical	100% of the critical areas are installed with sediment traps andbasins
		Conduct of earthworks during dry season, if practicable, to minimize possible soil erosion	100% earthworks conducted during dry season
Leaks and accidental spills on soil	Soil contamination	Require contractors to implement proper handling and management of chemicals	MOA established between the contractor and the proponent; Monthly monitoring of the chemical storage area; 100% of the Chemicals handled properly

Project Activity	Impacts	Mitigating Measures	Target EfficiencyPerformance
		Good housekeeping	Weekly monitoring ofthe chemical and hazardous waste storage area
		Contain chemicals and other hazardous wastes in an impermeable area with a secondary Containment	Weekly monitoring of the hazardous waste storage area; 0% spilled chemical
		Establish and implement an emergency and contingency plan in case of spills as well as health and safety management plan	100% Completion of the contingency plan and health and safety management plan
		Comply to policies on handling and Transporting hazardous wastes	100% Compliance to policies
Generation of excavated soil	Increased siltation of water bodies	Proper scheduling of excavation works	100% Compliance to the schedule of excavation works
		During dry Season	100% earthworks conducted during dry season
		Fencing/planting along rivers and creeks with vegetative buffers to keep people out of the construction site.	100% of the critical areas are installed with sediment traps and basins
		Installation of Temporary sediment traps and basins Along areas where erosion is Critical	100% of the critical areas are installed with sediment traps and basins
	Aesthetic impacts Soil contamination	Avoidance of cart traffic to highly erodible areas	100% erodible areas inspected
		Construction of a good drainage System	100% Completion of a good drainage system
Generation of solid wastes from the construction workforce	Spread of diseases	Construction of a temporary waste holding area/ Materials Recovery Facility (MRF)	100% Completion of the MRF
	Land and watercontamination	Submission and implementation of Solid Waste Management Plan as part of contractors' Engagement	100% Compliance to theSolid Waste Management Plan
	Damage of visualaesthetics	Installation of waste bins to avoid dispersal of litter and regular site maintenance duties	100% of the litter placed in the installed waste bins
		Regular collection, transportation and disposal of wastes to minimize the proliferation of insects and pests	100% of wastes collected weekly
THE WATER			
Clearing and excavation activities	Increase in suspended sediments in the receiving water	Immediate hauling of excavated materials by an accredited hauler	MOA between the hauler and proponent established; 100% collection of excavated materials

Project Activity	Impacts	Mitigating Measures	Target EfficiencyPerformance
		Conduct excavation and demolition works during summer, if Possible	100% demolition worksconducted during summer
		Fencing of the rivers and creeks with vegetative buffers to keep construction people out	100% fenced rivers and creeks
		Installation of temporary sediment traps and basins along areas where erosion is critical	100% of the critical areas are installed with sediment traps and basins
		Avoidance of cart traffic to highly erodible areas	100% erodible areas inspected and monitored
		Conduct of earthworks during dry season, if practicable, to minimize possible soil erosion	100% earthworks conducted during dry season
Excavation works	Lowering of groundwater level due to inflow of groundwater into underground tunnel	Conduct more detailed geological and groundwater level surveys in detailed design stage	1 geological and 1 groundwater surveyconducted
		Consider proper construction plans on the basis of the survey results	100% of the construction plans considered
		Ensure compliance with pertinent permits, such as the Water Permit from the National Water RegulatoryBoard (NWRB).	NWRB Permit acquired
		Regular checking of the drainage lines to ensure that the runoffs from the golfcourse are impounded back to the lake or diverted to constructed irrigation canals	100% of the drainage lines are checked
		Ensure that company personnel operating the water supply equipment and devices are well trained and equipped with knowledge about the assigned tasks to ensure job efficiency. Personnel in charge with the irrigation system, should regularly document the working condition of the facility to monitor its efficiency.	100% of the company personnel are well trained
		In case one of the components failed; it should be reported immediately so proper corrective measures can be applied.	Monthly documentation of the working condition of the facility
Landscaping	Soil and groundwater contamination	Implementation of proper application of fertilizers, pesticides, and other chemicals	100% of the guidelines for the proper application of fertilizers,pesticides and other chemicals considered

Project Activity	Impacts	Mitigating Measures	Target EfficiencyPerformance
THE AIR			
Generation of dusts and PM from earthmovingworks and during stockpiling	Short-term increase of air emissions (TSP and PM)	Hauling trucks for excavated soil must be covered during travel	100% hauling trucks covered
		Regular wetting of ground soil in the construction site	Daily wetting of the ground soil conducted
Emissions fromgenerator sets and vehicles	Short-term increase of air pollutant emissions (NOx, SOx, CO, and HC)	Regular preventive maintenance ofheavy equipment and service vehicle	Weekly preventive maintenance conductedto 100 % of the vehicles
Noise Pollution	Nuisance to People	Relocating noise sources to less sensitive areas	100% noise sourcesrelocated
		Use of Personal Protection Equipment(PPEs)	100% of the construction workers are with PPEs
		Installation of temporary noise barriers such as galvanized iron shields	Noise barriers installed to 100% sources of noise
		Regular maintenance of heavyequipment, machineries and support vehicles	Weekly preventive maintenance conductedto 100 % of thevehicles
		Installation of noise suppressors to equipment	100% equipment installed with noisesuppressor
THE PEOPLE			
Health and Safety	Increased risk of accidents due to improper work ethics which may threaten health and safety of workers and local residents.	Secure of barangay clearance or certificate of good moral character formigrant applicants	100% of the migrant applicants
		Provision of appropriate PPEs to all construction Workers	100% of the construction workers arewith PPEs
		Contractors should submit Occupational Health and Safety Management Plan prior to commencement of works	Plans submitted by 100% Contractors
Communicable and infectious diseases	Spread of communicable and infectious diseases	Implementation of an Occupational Health and Safety Management Plan by the contractor.	100% Implementation ofthe Occupational Health and Safety Management Plan by the contractor.
		Appropriate sanitary facilities shall be provided at all construction sites such as portable toilets and trash bins	Appropriate facilities provided to 100% construction sites
		Observance of cleanliness and sanitation at the construction sites	Zero litter in 100% construction sites
Service utilities	Service utilities interruption	Coordinate with the service utility providers during the planning and construction stage	At least weekly coordination with the100% service utility providers
		Develop a Utility Management Plan	100% Completion of the Utility ManagementPlan
Traffic condition	Increase in traffic congestion due to mobilization of workers, heavy equipment	Proper coordination with the Traffic Management Department of BCDA and the LGU concerned	At least weekly coordination with the Traffic Management Department, BCDA andthe LGU

Project Activity	Impacts	Mitigating Measures	Target EfficiencyPerformance
	and construction materials, transport of demolition debris and excavated soil		concerned
		Proper scheduling of transport of heavy structures during periods when there are less vehicles on the road	100% Compliance to the Sschedule of Transport
OPERATIONAL PHASE THE LAND			
Generation of solid wastes	Land and water contamination Spread of diseases	Effective operations of the Materials Recovery Facility (MRF)	100% Segregation in the MRF
		Solid wastes to be hauled by an accredited hauler to an accredited sanitary landfill	100 % Solid Wastes hauled by an Accredited Hauler
Generation of solid wastes	Spread ofdiseases	Solid waste management plan shouldbe implemented in all areas	100% Implementation ofthe solid waste management plan
	Impairment of visual aesthetics		
Hazardous waste generation	Soil and water contamination	Provision of storage area for fertilizers and chemicals	100% Completion of the construction of the storage area
		Regular coordination with the suppliers of fertilizer, insecticides, to ensure regular collection of empty chemical containers	100% collected empty containers as needed
		Hazardous wastes shall be contained in durable/approved containers	100% Hazardous Wastes contained in labeled and approvedcontainers
Geological hazards (liquefaction, Ground shaking/groundrupture)	Damage to underground structures and overlying structures	Regular maintenance checks of structures and tests of safety measures	100% structures and tests of safety measures conducted weekly
		Earthquake drills and early warning system	Monthly conduct ofearthquake drills
THE WATER			
Septage. Application of chemicals on grass	Groundwater contamination	Installation of grease traps and interceptors on all food establishments;	100% food establishments installed with grease traps and interceptors
		Institute proper application of fertilizers, pesticides to avoid overfeeding of the greens	100% compliance to the guidelines for the application of fertilizers and pesticides
Application ofchemicals on grass	Groundwater contamination	Installation of grease traps andinterceptors on all food establishments;	100% food establishments installedwith grease traps and interceptors
		Institute proper application of fertilizers, pesticides to avoid overfeeding of the greens	100% compliance to the guidelines for the application of fertilizers and pesticides
Implementation ofa Pest Management Program	Groundwater contamination	Selection of drought and disease resistant grass species for fairways, tees and greens	100% of the grass species are drought resistant
		Use of biological controls instead of chemicals	70% use of biological controls

Project Activity	Impacts	Mitigating Measures	Target EfficiencyPerformance
		Where pesticides are used, selection of less toxic chemicals, less mobile and have a shorter shelf-life	100% of the chemical pesticides used are less toxic, less mobile and have a shorter shelf-life
		Strict control over those pesticides interms of location of application	100% monitoring of locations of application
		Identification of areas that are susceptible to groundwater or surfacewater contamination	100% susceptible areas identified
		Installation of monitoring wells for observation and monitor change of the surrounding groundwater levels.	100% wells installed with monitoring wells
		Implementation of water conservation measures such as the containment of treated wastewater in ponds to promote zero discharge	100% treated wastewater reused and recycled
THE AIR			
Operation of service vehicles and standby generator set	Air Pollution	Proper preventive maintenance ofservice vehicles and air pollutive devices/ equipment	100% of the vehicles and air pollutive devices/ equipment
		Conduct tree planting or urban gardening in site's premises	Semi - annual conduct of tree planting and 100% of the trees planted are maintainedas part of the company's CSR
		Implement dust spraying on unpavedroads and parking spaces	Daily dust spraying to 100% unpaved roads and parking spaces
		Installation of appropriate pollutioncontrol facilities to reduce emissions	Pollution control facilities installed to 100% possible sources of emissions
THE PEOPLE			
Employment andlivelihood	Employment of skilled personnel	Proper selection	100% of the personnelunder went through the company's thorough hiring process
Health and Safety	Risk of accidents due to improper work ethics	Implementation of an OccupationalHealth and Safety Management Plan, which includes an Emergency Response Plans	100 % Implementationof the Occupational Health and Safety Management Plan, which includes an Emergency ResponsePlans
ABANDONMENT PHASE			
LAND/ WATER			
Cease of operation	Possible contamination of soil and water	An abandonment plan will be prepared and carried out that will ensure proper management, storage, transport, and disposal of hazardous and/or wastes;	100% Completion of theAbandonment Plan 30 days prior to Abandonment

Project Activity	Impacts	Mitigating Measures	Target EfficiencyPerformance
		Ensure that all hazardous materials are transported and disposed DENR-accredited transporter and treater;	100% Hazardous Wastes are transportedand disposed
		If necessary and required by pertinent laws, conduct of Environmental Site Assessment shall be done	(1) Environmental Site Assessment performed
		Properly inform the DENR, as required under pertinent laws, prior to abandonment activities	(1) Letter Submitted to DENR regarding the abandonment activities
		In case of soil contamination, three remediation technologies will be considered: soil washing, bioremediation, and thermal desorption	100% soil contaminated are treated
		In case of water contamination, bioremediation will be performed.	100% water contaminated treated
THE AIR			
Cease of Operation	Generation of dust	Watering of exposed ground shall bedone to minimize dust Dispersion	100% Expose Ground watered
THE PEOPLE			
Termination of workers	Advance notice workers. Proper compensation shall be provided	Advance notice to workers. Proper compensation shall beprovided	100% of the workers informed 100% of the workers granted with compensation in accordance to DOLE guidelines

6 Multi-Sectoral Monitoring Framework

In compliance to DAO 2003-30, a Multi–Partite Monitoring Team (MMT) should be formed after issuance of the ECC. The MMT is tasked to monitor the compliance of the project as in accordance to what the ECC, EMP and other related policies require. Furthermore, the MMT shall be a venue where complaints will be discussed as well as the impacts of the project to the environment and community.

The said monitoring team, in reference to DENR Administrative Order 2017-15 and DENR Administrative 2018-18 shall be composed of the following members:

a) MENRO / MPDO - LGU Capas
b) RHU Chief - Barangay Maruglu
c) Barangay Chairman - Barangay Maruglu
d) Environmental Unit Manager - Clark Development Corporation
e) Subsidiaries, Affiliates and Projects Monitoring Department Head - BCDA
f) NGO Member - Mother Earth Foundation
g) People's Organization Member - Sitio Bilad Upland Farmers Association
h) People's Organization Member - New Maruglo Reforestation PrimaryMulti-Purpose Cooperative

7 EMF and EGF Commitments

The Proponent must establish the Environmental Monitoring Fund (EMF) to support MMT compliance monitoring. The MOA between DENR-EMB and the Proponent will establish the EMF, with MMT approval. All EIS-based MMTs need an EMF.

The Environmental Management and Monitoring Plan and ECC for a project or undertaking determine the initial EMF. The MMT's Annual Work and Financial Plan (AWFP)—derived from the Proponent's Environmental Monitoring Plan—will determine the EMF's actual allocation (EMoP).

The Environmental Management Plan proposes using the cost of monitoring and environmental information programs to calculate the EMF. The Work and Financial Plan will use agreed-upon rates or amounts within the limits set herein or in relevant government guidelines. For this, the proponent must set aside an initial amount of **TWO HUNDRED THOUSAND PESOS (PhP 200,000.00)**.

Proponents must establish an Environmental Guarantee Fund (EGF) when they receive an ECC for projects or undertakings determined by EMB to pose significant risk to life, property, and the environment. Trust and Cash Funds make up the EGF.

The trust fund will compensate aggrieved parties for life or property damages, fund community-based environmental programs, conduct environmental research to strengthen measures to prevent environmental damage, and finance environmental restoration and rehabilitation of the project-affected area. The Sky Blue New Clark City Golf Course & Resort Corporation will open a bank guarantee account for the Trust Fund in the amount of **ONE MILLION PESOS (PhP 1,000,000.00)**, whose earnings/interests will go to the Fund.

The Proponent will open an Environmental Guarantee Cash Fund account at a reputable bank in the amount of **FIVE HUNDRED THOUSAND PESOS (PhP 500,000.00)** for immediate rehabilitation and compensation of affected

communities in case of damage or accidents. It will also cover EGF Committee operations. This Cash Fund will receive interest from an interest-bearing account. The Fund shall be replenished to its original amount annually or whenever the amount goes below 50% of the amount. If the EGF Trust Fund and EGF Cash Fund are insufficient to cover expenses, the Proponent shall pay the difference.