New Planting Procedure - Summary of Integrated Management Plan

RSPO Roundtable on Sustainable Palm Oil	Goodhope	SGS
NPP Reference Number	SGS-NPP22-0002	
Country of the NPP submission:	Indonesia	
RSPO Membership Number	1-0175-14-000-00	
Reference to the management unit management plan	PT Agro Wana Lestari - Plasma 2022_NPP Summary of Integrated Management Plan	
Name(s) of estate(s) covered under this management plan:	PT Agro Wana Lestari - Plasma	

Guidance Notes:
This summary management plan shall indicate at a minimum but not be limited to the following:

- Key findings of the various assessments (e.g., potential minor environment and/or social risk requiring mitigation actions; total conservation areas).
- Key mitigation and monitoring regime, covering both the environmental and social aspects.
- Evidence of FPIC and key agreements with local communities (if any).
- An action plan describing operational actions consequent to the findings of the various assessments, referencing the grower's relevant operational procedures.
- Designation of the management team and responsible person for the implementation.

1	**SEIA**	**Social Environmental impact management and monitoring Plan** **Purpose of management and monitoring report compilation is:** a. Provide information on the implementation of environmental management and monitoring plan by PT AWL - PLASMA to government agencies and agencies to assist in monitoring environmental management by the regions. b. Provide information on management and monitoring implementation of PT AWL - PLASMA to central management to assist policy-making on environmental management. c. As control to the company for the implementation of management and monitoring in its operational area. d. Formulate the environmental management and monitoring plan (issues, strategies, programs and activities) that the company needs in managing the environmental aspect to create a healthy and safe environment. **Output:** a. Output expected from the implementation of those activities are the formulation of environmental management and monitorin plan of PT AWL - PLASMA that contain issues/problem, and efforts to solve them (strategy, program, activity, location and time of implementation). **Benefits:** a. As a guideline for the company to manage significant environmental aspects resulting from the company's activities to minimize significant environmental impacts. b. As material for the company in creating environmental management programs, both short-term, medium-term and long-term programs, based on applicable laws and regulations. c. To foster harmonious relationship between the company and the surrounding community

PT AWL - PLASMA's Environmental Impact Assessment (EIA) management plan

NO	MANAGED ENVIRONMENTAL IMPACT	SIMPACT SOURCES	INDICATOR OF SUCCESS	ENVIRONMENTAL MANAGEMENT FORM	LOCATION	PERIOD OF MANAGEMENT	MANAGING INSTITUTION		
							DOER	SUPERVISOR	REPORT RECEIVER
1.	**PHYISICAL – CHEMICAL COMPONENTS**								
1.1	**Air Ambient Quality**								
	Based on the significant impacts evaluation indicate that the parameters of the impact is air quality degradation in the form of increased dust and emissions which are significant negative impacts and direct.	1. Oil palm planting activities. 2. Harvesting and transportation of FFB. 3. Mill operations. 4. Workshop and generator	Air quality degradation in the form of dust and gas emissions not exceeding the established environmental quality standard:	1) On oil palm planting activities: a. Limit the speed of the transporting vehicles at maximum 20 km/ hour, particularly if passing residence or concentration of agriculture society.	1. On oil palm planting, harvesting and transporting activities of FFB's, management need to be performed along the road and	1. Oil palm planting, harvesting & transportation activities are managed every working day.	PT AWL - PLASMA	1. Plantation and forestry office of Kotawaringin Timur regency.	1. Plantation and Forestry Office of Kotawaring in Timur Regency

	The intensity of the impact that exceeds the environmental quality standard may have further impacts on public and workers' health.	operations in which series of these activities impact the air quality in the form of ambient dust concentration due to vehicle wheel friction with the road and emissions sourced from transporting truck, generator engine and boiler at the mill.	1. The quality standard of airborne dust content is 0.23 mg / m^3 (ambient air quality standard) based on Government Regulation number. 41 years 1999 on air pollution control. 2. Dust at workplace threshold limit value is o3 mg / m^3 based on Decree Minister of Labour number 51 year 1999 on Dust threshold values at the workplace. 3. Stationary Emission Source Standards are based on Decree of Environmental Minister number 13/MENLH/3/2005 (NO_2 = 1000 mg / m^3, SO_2 = 8000mg / m^3, Particulate = 350 and Opacity = 35% 1)	b. Conducting hardening and compaction on hauling roads with specific aggregates especially on seed transportation routes. c. During dry season, water the road every 3 hours especially on transportation route near the settlement. 2) Harvesting and Transportation of FFB's a. Limit the FFB's transporting vehicle at maximum 20km/h, especially when passing through the settlement, farming and concentration of agriculture society. b. Conducting hardening and compaction on hauling roads with specific aggregates especially on plantation road network. c. During dry season, water the road especially on transportation route near the settlement, farming and concentration of agriculture society. 3) Mill Operations: a. Chop as smooth as possible the oil palm waste used as boiler fuel in order to increase high efficiency level of combustion (perfect). b. Installing dust collector device on boiler's chimney. c. Construct higher boiler chimney as high as 5 x higher than the surrounding buildings. d. Emissions generated by generator and boiler operations, these emissions	the surrounding area. 2. On mill operations management carried out is on mill's machinery/ boiler unit. 3. On workshop and generator operations, management carried out is on the operation locations.	2. On mill operations maintenance to mill machinery need to be done at least once in 2 weeks. 3. On workshop and generator operations management need to be done once a month.		2. Regional Environment Agency of Kotawaringin Timur Regency	2. Environment agency of Kotawaringin Timur Regency 3. Environment Agency of Central Kalimantan Province.

				generally released to open air. Particulate releseased by boiler in the form of ashes generally controlled by installing dust collector to catch the dust. Dust collected by the dust collector can be used to harden the lower area. e. Allocate area specific for reforestation around the mill area in order to reduce pollutant concentration due to boiler activity. f. Require the workers primarily who work in mill location to wear personal protective equipment. g. Perform periodic and regular maintenance on machines to keep the condition well maintained and still in accordance with the technical age. 4)Workshop and generator operations: a. Perform regular maintenance on generator at regular intervals to maintain machine performance. b. Generator chimney should be ± 2.5 times higher than the surrounding buildings. c. Generator should be located at least 75 meters from the location of estate employees housing.					
1.2	**Noise**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of increased noise intensity which is negative and direct impact. The	Due to the operation of mill's machinery and generator engine and heavy equipment repair on workshop and generator area.	The level of noise emitted does not exceed the established environmental standard:	1). On mill operation activities: a. Perform periodic and regular maintenance on machines to keep the condition well maintained and still in	1. On mill operations management carried out is on mill's machinery/ boiler unit.	1. On mill operations maintenance to mill machinery need to be done at least once in 2 weeks.	PT AWL - PLASMA	1. Plantation and forestry office of Kotawaringin	1. Plantation and Forestry Office of Kotawaring

	intensity of the impact that exceeds environmental quality standard may have further impacts on the health of working people.		1. Quality standard of noise in housing and residential area is 55 dB (A) based on decree of Environment Minister Number 48 year 1996 on Noise Quality Standards. 2. Quality standard of noise for working environment as stated in decree of Minister of Labour and Workforce Number 51 year 1999 is 85 Db (A).	accordance with the technical age. b. Require the workers, especially workers working at mill location to use personal protective equipment. c. Placing the boiler in a separate area with reinforced concrete foundation, indoor and closed to reduce boiler noise level. d. Allocate area specific for reforestation around the mill area in order to reduce pollutant concentration due to boiler activity. e. Delivering information to communities living around the plant site on the equipment/ machinery activity and the noise it generates. 2). On workshop and generator operation activities a. Generator units must be placed on area specifically designed for generator to reduce the noise emitted. b. Perform maintenance on generator periodically and regularly so that the condition is well maintained and still in accordance with its technical age. c. Require all workshop workers to use ear plugs at the time of work in progress.	2. On workshop and generator operations, management carried out is on the operation locations.	2. On workshop and generator operations management need to be done once a month.		Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency	in Timur Regency. 2. Environment agency of Kotawaring in Timur Regency. 3. Environment Agency of Central Kalimantan Province.
1.3	**Surface Run off**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of disruption on surface flow in which the impact is negative and direct due to micro and macro flow	Road network construction activities with surface runoff	There is no surface flow disruptions.	1. Carry out land clearing for plantations road network in a planned and efficient manner. 2. Constructing culvert at each intersection equipped with drainage ditch with appropriate size.	At the road points and natural paths	Once during road network construction and evaluated once a year for improvements against damaged sections or material.	PT AWL - PLASMA	1. Plantation and forestry office of Kotawaringin Timur regency.	1. Plantation and Forestry Office of Kotawaring

	cut off on natural surface during cut and fill process.			3. Creating bridge on areas with river flowing. 4. Conduct routine maintenance on bridges and culverts constructed.				2. Regional Environment Agency of Kotawaringin Timur Regency	in Timur Regency. 2. Environment agency of Kotawaring in Timur Regency. 3. Environment Agency of Central Kalimantan Province
1.4	**Erosion Rates**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of increased erosion rates in which the impact is negative, significant and derivatives.	Vegetation degradation on areas cleared: a. Development of estate emplacement b. Development of road network c. Preparation of nursery land d. Preparation of planting area e. Preparation of mill site.	Resulted erosion rate does not exceed critical threshold of 9 ton/ ha/ year based on Government Regulation No. 150 year 2000.	**Development of Estate Emplacement.** a. Implementation of estate emplacement development should be carried out in a planned manner and does not allow open land to be neglected for long term. b. Land clearing carried out to construct estate emplacement should be done in a planned manner and according to the needs. c. Immediately plant land cover crops on areas cleared for emplacement. d. On sloping area with gradient > 8% should have terraces to avoid erosion prone areas. **Road network construction** a. Land clearing should be done in a planned and efficient manner. b. Construct terraces on runoff areas near river riparian. c. Immediately plant land cover crops on areas cleared.	On erosion-prone areas especially estate emplacement location, road network, nursery site planting location and mill's site.	Once during work on progress and evaluated once in 6 months.	PT AWL - PLASMA	1.Plantation and forestry office of Kotawaringin Timur regency.	1. Plantation and Forestry Office of Kotawaring in Timur Regency. 2. Environment agency of Kotawaring in Timur Regency. 3. Environment Agency of Central Kalimantan Province m

				d. Surfacing the road with coral mixture. **Preparation of nursery site** a. Establish nursery site on sloping area. b. Development of nursery land should be conducted in a planned and efficient manner. c. Setting the pre-nursery site that cuts the slope. d. Immediately plant land cover crops on nursery site that have been left. **Preparation of planting site** a. Land preparation should be conducted in a well and planned manner. b. Land clearing remnants should be stacked lengthwise and cut into the slope. c. Immediately plant oil palm & LCC on areas planned. d. Do not carry out land clearing by burning. **Preparation of mill site** a. Land clearing should be conducted in a planned and gradual manner. b. Land clearing should be carried out during dry season. c. Do not carry out land clearing by burning. d. Immediately commence construction activities after land clearing completed. e. Immediately conduct reforestation on surrounding area of the ste with fast-growth plant type and LCC to minimize erosion.					
1.5	**Sediment Load**								

	Based on significant impact evaluation results indicate that impact parameters on occurrence of increased sediment load rates in which the impact is negative, significant and may result in water quality degradation.	This is a derivative effect of the increased erosion rate caused by the activities implemented such as: a. Development of estate emplacement b. Development of road network c. Preparation of nursery land d. Preparation of planting área e. Preparation of mill site.	Controlled load of sediment in surrounding water bodies.	1) **Emplacement Development** a. Estate emplacement construction should be conducted in a planned manner and gradually. b. Construct drainage ditch which equipped with sediment trap around the area that has been cleared for estate emplacement site construction. c. Immediately plant LCC on area that has been cleared. 2) **Construction of road network** a. Road network construction should be conducted in a planned manner and gradually according to the needs. b. Construct drainage ditch on the right and the left side of the road c. Create sediment trap at each end of the drainage ditch that leads to water body. d. Conduct intensive maintenance to each sediment trap on each drainage ditch. e. Conduct land clearing for oil palm planting in a planned and effective manner. f. Create terraces for land cleared close to river riparian. g. Surfacing the road with coral mixture. 3) **Preparation of nursery site**	Surronding drainage ditch that áre connected with sediment trap and wáter body.	Once during work in progress and evaluated at least once in 3 months during PT AWL - PLASMA operations.	PT AWL - PLASMA	1. Plantation and forestry office of Kotawaringin Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency	1. Plantation and Forestry Office of Kotawaring in Timur Regency. 2. Environme nt agency of Kotawaring in Timur Regency 3. Environme nt Agency of Central Kalimantan Province m

				a. Development of nursery land should be conducted in a planned and efficient manner. b. Setting the pre-nursery site that cuts the slope. c. At the end of drainage ditch construct sediment trap measuring 40m x 15m x 2m which divide into 2 components. d. Conduct periodic maintenance on sediment trap. 4) **Preparation of planting site** a. Land preparation should be conducted in a well and planned manner. b. Land clearing remnants should be stacked lengthwise and cut into the slope. c. Immediately plant oil palm & LCC on areas planned. d. Do not carry out land clearing by burning. 5) **Preparation of mill site** a. Land clearing should be conducted in a planned and gradual manner. b. Land clearing should be carried out during dry season. c. Do not carry out land clearing by burning. d. Immediately commence construction activities after land clearing completed.					

				e. Immediately conduct reforestation on surrounding area of the ste with fast-growth plant type and LCC to minimize erosion.					
1.6	**Surface wáter quality**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of surface water quality degradation in which the impact is negative, significant and direct. Impact intensity that exceed environmental quality standard can cause further impacts of decreasing the diversity of aquatic biota.	Derivative impact due to increased sedimentation load (TSS) of fertilizers residue carried away to wáter bodies includes liquid waste sourced from mill, workshop and generator operations: a. Development of estate emplacement. b. Development of road network. c. Preparation of nursery site. d. Nursery activities. e. Preparation of planting área. f. Preparation of mill site. g. Plantation upkeep h. Mill operation i. Workshop and generator operations j. Fertilizer and pesticide warehouse activities	Declining quality occurred does not exceed the quality standard as set by local government regulation PERDA number 02 year 2011 on water quality management & water pollution control with value TSS = 50mg / L Pg = 6 - 9 in sediment basin and water bodies.	**Emplacement development:** a. Estate emplacement construction should be conducted in a planned manner and gradually. b. Construct drainage ditch which equipped with sediment trap around the area that has been cleared for estate emplacement site construction. c. Immediately plant LCC on area that has been cleared. **Road network construction** a. Road network construction should be conducted in a planned manner and gradually according to the needs. b. Construct drainage ditch on the right and the left side of the road. c. Create sediment trap at each end of the drainage ditch that leads to water body. d. Conduct intensive maintenance to each sediment trap on each drainage ditch. e. Construct terraces on area cleared close to riparian river. f. Conduct land clearing for oil palm road network in a planned and effective manner.	Surronding drainage ditches that áre connected with sediment trap and WWTP.	Once during work in progress and evaluated at least once in 3 months during PT AWL - PLASMA operations.	PT AWL - PLASMA	1. Plantation and forestry office of Kotawaringin Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency	1. Plantation and Forestry Office of Kotawaringin Timur Regency. 2. Environment agency of Kotawaringin Timur Regency 3. Environment Agency of Central Kalimantan Province

				g. Create terraces for land cleared close to river riparian. h. Surfacing the road with coral mixture. **Preparation of nursery site** a. Provide coagulation treatment on sediment basin to accelerate the precipitation process of suspended fertilizers & pesticides. b. Application of fertilizers and pesticides are implemented effectively & efficiently. **Nursery** a. Fertilizers & pesticides are applied in accordance with the doses that have been determined so as not to cause environmental pollution, especially resulting in hazardous and toxic waste around the nursery area. b. Conducting pesticides spraying in hot weather. c. Conducting fertilization after raining and applying only around the seeds. d. Create a drainage network that leads to the retention basin in each division so that the water flow does not flow to water bodies. e. Using a biodegradable and environmentally friendly pesticide type. f. Collect plastic waste from pesticide bottles and other					

				plastic waste at temporary storage facility for hazardous and toxic waste. **Preparation of planting area.** a. Land preparation should be conducted in a well and planned manner. b. Land clearing remnants should be stacked lengthwise and cut into the slope. c. Immediately plant oil palm & LCC on areas planned. d. Do not carry out land clearing by burning. e. Not clearing area close to river border zones and maintain springs and natural vegetation in river border zones. **Preparation of mill site** a. Construct WWTP to treat wastewater generated from milling activities. b. Based on the characteristics of waste and pollution loads, wastewater management is effective if WPH is more than 75 days so that COD and TTS levels can be lowered to below quality standards. For this intention PT AWL - PLASMA plans to handle wastewater generated by constructing WWTP that uses biological system (anaerobic and aerobic system) with a hydrological retention time (WPH) of approximately 150					

				days (5 months), the increased WPH is expected to decrease the quality of waste water and pollution loads to below environmental quality standards and not pollute the waste recipient. c. Implementation of Land Application in which requires assessment in advance on pollution aspect that will occur previously conducted in the previous assessment of the aspect of pollution that will occur, the carrying capacity of land in the plantation area and influence on the soil, especially the microbiology/ biology of the soil, surface water and its permit (This assessment is intended to obtain Land Application permit from the Regent/ Mayor in accordance with decree of Environmental Minister Number 28 year 2003 and Number 29 year 2003. d. For handling of used lubricants should be collected/ stored in a specific container (barrel) and then submitted to the farm or sold to the third party (local entrepreneurs who have received license from the Ministry of Environment based on recommendation from Kotawaringin Timur regency government. Company should consult with Environmental Agency of Central Kalimantan					

				Province in advance when appointing used lubricants collector. e. Training employees by incorporating environmental impact control programs. f. In collaboration with relevant agencies such as plantation office and forestry of Kotawaringin Timur regency and universities on wastewater treatment techniques. **Plants upkeep:** a. Provision of fertilizer in a planned and efficient manner to oil palm plant. b. Application of pesticides to prevent pests and diseases should refer to doses that have been recommended and using permitted materials. c. Herbicide application in weed control should be the last resort, non-chemical weeding is the priority. d. Conduct strict supervision on field workers applying fertilizers and pesticides in order to avoid irregularities during the application by following the work procedures that have been set. e. Apply strict rules that prohibit all estate workers either intentionally or unintentionally not to spill fertilizers or pesticides to water bodies					

				f. Preparing safe storage for fertilizers and pesticides from runoff and protected from rain at distribution points at planting area. g. Create SOP's on storage, distribution and application of fertilizers and pesticides in the field. h. Cease fertilization activities and pesticide applications temporarily during rain. i. All estate drainage ditches leading to local water bodies should have sediment basin that serves to test fertilizer and pesticide that carried away by water. j. Collect used fertilizer and pesticide containers on collection location that has been provided. k. Provide training to all workers who apply fertilizers and pesticides by prioritizing aspects of environmental security. l. Construct monitoring wells within the project location and local community residential location. **Mill maintenance:** a. Construct WWTP to treat wastewater generated from milling activities. b. Based on the characteristics of waste and pollution loads, wastewater management is effective if WPH is more than 75					

				days so that COD and TTS levels can be lowered to below quality standards. For this intention PT AWL - PLASMA plans to handle wastewater generated by constructing WWTP that uses biological system (anaerobic and aerobic system) with a hydrological retention time (WPH) of approximately 150 days (5 months), the increased WPH is expected to decrease the quality of waste water and pollution loads to below environmental quality standards and not pollute the waste recipient. c. Implementation of Land Application in which requires assessment in advance on pollution aspect that will occur the carrying capacity of land in the plantation area and influence on the soil, especially the microbiology/ biology of the soil, surface water and its permit (This assessment is intended to obtain Land Application permit from the Regent/ Mayor in accordance with decree of Environmental Minister Number 28 year 2003 and Number 29 year 2003. d. For handling of used lubricants should be collected/ stored in a specific container (barrel) and then submitted to the farm or sold to the third party (local entrepreneurs who have					

				received license from the Ministry of Environment based on recommendation from Kotawaringin Timur regency government. Company should consult with Environmental Agency of Central Kalimantan Province in advance when appointing used lubricants collector. e. Training employees by incorporating environmental impact control programs. f. In collaboration with relevant agencies such as plantation office and forestry of Kotawaringin Timur regency and universities on wastewater treatment techniques. **Workshop activities:** a. Create a drainage channel to contain waste water from the workshop with dimensions of 60 cm top width, 40 cm base width and 50 cm depth and connect it to oil trap unit. b. Construct oil trap with a size of 0.75 x 0.75 x 1 m x 4 in one series. c. Temporary storage of hazardous and toxic waste should be equipped with permit specific for hazardous and toxic waste temporary storage. d. Temporary storage of hazardous and toxic waste is equipped with symbols in					

				accordance with applicable regulations e. Containers used to accommodate hazardous waste should be equipped with symbols and identification labels in accordance with applicable regulations. f. In workshop area and generator house should be equipped with SOP on Fuel Management. g. Use workshop for estate equipment maintenance. h. Avoid oil/ used lubricants spills during estate equipment maintenance in the field. i. Accommodate used lubricants resulted from equipment maintenance in specific leak-proof container further collect them at specific storage. j. Maintenance/ repair of workshop equipment. - Accommodate all used lubricant on a leak-proof container and collect them in specific storage. - Temporary storage for used lubricants should be free from flood. - Used oil temporary storage must be free from flooding. k. Fuel loading and distribution unit: - Apply strict control and supervision to prevent the possibility of leakage on fuel tank installation.					

				- Immediately empty the fuel tank if there is a leak and immediately fix the leak. - Construct bund wall made of concrete that surrounds the fuel tank. The bund wall should have the capacity to contain fuel tank maximum capacity. - Create and place warning board around the workshop location to avoid the occurrence of pollution to local water bodies due to used oil and fuel spilled. - Remove all used lubricants that have been collected at the project site and submitting them to a business entity that has the official license from the Ministry of Environment to manage hazardous and toxic waste. - Provide periodic guidance to all personnel at workshop operations related to oil pollution control to water bodies around the project site.					
1.7	**Surface wáter debit**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of increased surface wáter flow in which the impact is negative, significant and direct. Impact intensity that exceed environmental quality standard can cause further impacts in the form of increased erosion rate.	Increased surface wáter flow to wáter bodies around the planting áreas.	Runoff occured still can be well overcome.	a. Implementation of planting site preparation activities gradually & planned as needed. b. Conducting land clearing activities during the dry season. c. Not clearing land in river border zones and maintaining the existence of natural vegetation as conservation zones. d. Adjust the slope and steep terraces on the steep terrain.	On áreas designated as planting áreas.	Once during land preparation activities	PT AWL - PLASMA	1. Plantation and forestry office of Kotawaringin Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency.	1. Plantation and Forestry Office of Kotawaringin Timur Regency. 2. Environment agency of Kotawarin

				e. Create trenches equipped with sediment trap around the field. f. Maintenance of erosion inhibitors is done regularly every week, especially in rainy season. g. Immediately plant the planting area after land clearing is completed.					gin Timur Regency 3. Environment Agency of Central Kalimantan Province.
2	**BIOLOGICAL COMPONENTS**								
2.1	**Vegetation**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of land cover decreased in which the impact is negative, significant and direct. Impact intensity that exceed environmental quality standard can cause further impacts in the form of increased erosion rate and wildlife migration.	Degradation on áreas cleared for: a. Development of estate emplacement. b. Development of road network. c. Preparation of nursery site. d. Preparation of planting área. e. Preparation of mill site.	Percentage of areas and type of cover vegetation with total area cleared.	**Environmental management activities for estate emplacement development, road network construction, Preparation of nursery site, preparation of planting area and preparation of mill site.** a. Planting area preparation should be done gradually and planned according to the needs. b. Land clearing is conducted on areas designated for road network construction, preparation of nursery area, Preparation of planting area (± 2,226 Ha). c. Enriching and maintaining conservation areas. d. Warning board installation to prohibit hunting on protected wildlife and land clearing on protected areas. e. Immediately plant the areas cleared with LCC. f. Employee training by incorporating environmental impact control programs.	Restoration is conducted on áreas that have been cleared so that impact the vegetations that are degraded.	Once a year, conducted gradually adjucted tol and cleared on each división and evaluated twice, first evaluation at the age of 6 months and second at the age of 1 year to obtain sucess rate. .	PT AWL - PLASMA	1. Plantation and forestry office of Kotawaringin Timur regency.	1. Plantation and Forestry Office of Kotawaringin Timur Regency. 2. Environment agency of Kotawaringin Timur Regency. 3. Environment Agency of Central Kalimantan Province.

				g. Slope maintained at 8% on road network construction. h. Road signs installation according to the needs. i. Maintain road surfacing to prevent slippery road. j. Protect trees that can be protected as home for wildlife. **2) Land rehabilitation ad restoration.** a. Land reclamation activities are carried out after the location permit has expired. b. Immediately undertake reclamation by conducting reforestation on the location. c. Land that has been restored is surfaced with top soil then planted with LCC. d. Conducting land regeneration with plant spacing of 3x3m on areas that have been restored with fast growing plant species. e. On regeneration areas need to be planted with local fruit rambutan, cempedak, durian etc. f. Plants maintenance and fertilizing include: - Planting hole measuring 30x30 cm – - Dose of SP 36 fertilizer is 150 gr/tree - Dose of NPK fertilizer is 100 gr/tree - Dose of calcium provided is 1 ton/Ha					

				- Plant insertion is done <1 month on dead plants - 1 year old plant maintenance is done every 3 months by weeding on the circle. - 2 year old plant maintenance is done every 6 months by weeding on the circle. - Fertilization for local fruit crops is done until the age of 3 years. g. Perform insertion on growing vegetation plants with growing percentage of 90% h. Installing signing board on re-vegetation areas measuring of 200x80 cm i. Intensify patrol activities to prevent destruction on areas restored and rehabilitated.					
2.2	**Wildlife habitat**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of wildlife migration in which the impact is significant negative and positive and derivative due to vegetation degradation. .	Activities that have impact on wildlife migration are: a. Development of estate emplacement. b. Development of road network. c. Preparation of nursery site. d. Preparation of planting área.	Percentage of number and types of wildlife living in the conservation area around the plantation location.	a. Installation of hunting prohibition board measuring 120x80 cm. b. Intensify patrol activity to prevent wildlife hunting and file a lawsuit to those who against it. c. Conservation areas and natural vegetation are wild animals' habitat, prevent disruption as much as possible and requires enrichment to maintain the existence of these locations. d. Conducting socialization to the community and workers to always protect the endangered species and if there is any endangered species kept please	Forested areas around the project site as well as the location of the river border around the location that are designated as conservation area.	One time during plantation work in progress by PT AWL - PLASMA and evaluated once in every 6 months to obtain conservation área capacity compared with number of percentage of wildlife living in the área.	PT AWL - PLASMA	1. Plantation and forestry office of Kotawaringin Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency.	1. Plantation and Forestry Office of Kotawaringin Timur Regency. 2. Environment agency of Kotawaringin Timur Regency. 3. Environment Agency of Central Kalimantan Province.

				report to the authorities immediately.					
2.3	**Aquatic Biota**								
	Based on significant impact evaluation results indicate that impact parameters on occurrence of aquatic biota decreased in which the impact is significant negative and direct.	The continued impacts of fertilizers & pesticides residues pollution on local water bodies, used oil & TSS content exceeding the environmental standard determined in accordance with the Central Kalimantan Government Regulation No. 2 Year 2011 which is 50	Aquatic biota diversity are well maintained such as bentos and nekton.	**Road network construction** a. Road network construction should be conducted in a planned manner and gradually according to the needs. b. Construct drainage ditch on the right and the left side of the road. c. Create sediment trap at each end of the drainage ditch that leads to water body. d. Add alum to sediment basin until reaching pH 6-7. **Plants upkeep** a. Water polution control against fertilizers and pesticides residue should be conducted seriously and responsibly. b. Install notification boards in strategic areas and easily visible. **Mill Operations** a. Create surounding ditches that are connected to WWTP. b. Implementation of land application in which requires study in advance. c. For handling of used lubricants are collected and kept in barrels and submitted to third party who have obtained license from Environmental Ministry. **Workshop and generator operations**	On sediment basin, oil trap and WWTP.	Once during work in progress and evaluated at least once in 3 months during operations.	PT AWL - PLASMA	1. Plantation and forestry office of Kotawaringin Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency.	1. BLH Prov Kaltim Plantation and Forestry Office of Kotawaringin Timur Regency. 2. Environment agency of Kotawaringin Timur Regency. 3. Environment Agency of Central Kalimantan Province.

				a. Conduct strict control to prevent mineral oil pollution against local water bodies. b. Implement oil handling mechanism in accordance with regulations from Ministry of Energy and Mining. **Fertilizer & pesticide warehouse.** a. Avoid leakage during storage and distribution of pesticide and fertilizer. b. Apply storage provision for fertilizer and pesticides in accordance with regulations apply.					
3	**SOCIAL, ECONOMIC AND CULTURAL COMPONENTS**								
3.1	**Communitry attitude and perspective**								
	Significant impact in the form of positive perception on PT AWL - PLASMA's plan is significant positive impact and direct impact. Number of human affected and happy or agree with PT AWL - PLASMA's activity plan.	Changes in community's negative attitudes who reject the planned activities change their attitude into positive perception and support the development plan of PT AWL - PLASMA, among others: Sosialisasi rencana kegiatan a. Socialization of activity plan b. Recruitment c. CSR program d. Land rehabilitation and restoration.	Positive attitudes and perceptions of the community towards PT AWL - PLASMA	**1) Sosialization of activity plan** a. Conducting socialization/ public consultation relating to activity plan by PT AWL - PLASMA which involves related agencies and society around, Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages. b. Providing explanations to the public on the positive and negative effects from PT AWL - PLASMA's plantation & milling activities. c. Collaborate with village officials and related institutions by conducting socialization	1. Socialization activities are conducted at. Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages. 2. Workforce recruitment is conducted at PT AWL - PLASMA's location. 3. CSR Programs are performed for Tumbang	1. Socialization activities are conducted once at the following villages: Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages 2. Penerimaan Workforce recruitment is conducted once in the begining and evaluated once a year at PT AWL - PLASMA's location.	PT AWL - PLASMA	1. Village officials of Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages 2. Plantation and forestry	1. Plantation and forestry office of Kotawaring in Timur regency. 2. Regional Environment Agency of Kotawaring in Timur Regency 3. Regional Environment Agency of Central Kalimantan Province.

				d. Acmmodate the suggestions and aspirations of the community **2) Labour recruitment** a. Prioritizing local employment b. In the implementation of manpower, the initiator coordinates with village government and Manpower Department of Kotawaringin Timur Regency. c. Post an announcement at the village office relating to the recruitment of workers for PT AWL - PLASMA's activities. d. Announce the employee recruitment results at the village office e. Provide training to local workforce to improve skills and expertise in accordance with the level of education f. Provide salaries to workers in accordance with the classification, level of education and position and refers to the rules applicable. **3) CSR** a. Designing a CSR program that suits the needs and wants of the community around the plantation and explains the government 7 CSR program that can really be positive for the surrounding community. b. Immediately performs a deliberation with local community leaders in the	Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages. 4. Lands that have been restored are returned to the Kotawaringin Timur Regency Office.	3. CSR Programs are performed for Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages. 4. Rehabilitasi & pengembalian lahan dilakukan pada tahun ke 1 seluruh areal efektif tanam. Land rehabilitation and restoration are conducted at the first year at the end of PT AWL - PLASMA's operation to all planted áreas.		office of Kotawaringin Timur regency. 3. Regional Environment Agency of Kotawaringin Timur Regency.	

				project area relating to the CSR programs preparation whereby it also involves local government represented by Plantation and forestry office of Kotawaringin Timur regency. c. Implement all agreement resulted from deliberation in earnest. d. Entire activity plans are carried out openly both to the affected village apparatus and the community. e. The PT AWL - PLASMA works closely with the affected village government in explaining the entire CSR program **4) Land rehabilitation and restoration** a. Perform restoration activities gradually b. In restoration activities involves local business actors. c. Post an announcement at the village office on PT AWL - PLASMA's end of operations. d. Lands that have been restored are returned to the Kotawaringin Timur Regency Office.					
3.2	**Social conflicto**								
	Significant impact in the form of social conflict in which the impact is negative and direct to PT AWL - PLASMA's activities. Social conflict potential occured due to	A direct impact due to land acquisition activities at Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang	There is no social conflict occurred which may disruPT AWL - Plasmablic peace and inhibit the	1. Conduct socialization on boundaries of areas that will be acquired. 2. Perform land acquisition process gradually according to	Project site location especially on agriculture area, plantation and comunity field that will be acquired.	Once during land acquisition process at pre-construction stages.	PT AWL - PLASMA	1. Land Administration Division of Kotawaringin	1) Land Administration Division of Kotawaringi

	dipsute in land acquisition process such as overlapping in land ownership and dispute on land compensation value on land acquired.	Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages.	plantation activities of PT AWL - PLASMA.	the progress of plantation activity plan. 3. No land acquisition on areas that have the potential to cause land tenure disputes. 4. Determination of the boundaries according to land owner agreement and acknowledged by Tabang Sub District officials. 5. Provision of land compensation to each community according to agreement, in terms of type of compensation, amount, time of delivery and parties entitled to receive directly without intermediaries. 6. Implementation of land acquisition involves village and sub-district government apparatus and coordinate with related technical institution (Land Administration Division of Kotawaringin Timur Regency).				Timur Regency. 2. Village officials of Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages 3. Plantation and forestry office of Kotawaringin Timur regency. 4. Regional Environment Agency of Kotawaringin Timur Regency.	n Timur Regency. 2) Plantation and forestry office of Kotawaringin Timur regency. 3) Regional Environment Agency of Kotawaringin Timur Regency 4) Regional Environment Agency of Central Kalimantan Province.
3.3	**Employment opportunity**								
	Significant impact in the form of employment opportunities for the community in which the impact is direct and significant positive. It can lead to continued impact in increased of surrounding community income. In addition, it can also cause continued impact which is	It is the impact from recruitment activity and post-operations such as work termination.	Number of local people who are accepted to work in PT.PU with 60% percent of local workforce and wages provision in accordance with government regulations (UMSK in	**1) Workforce recruitment.** a. 30 days' prior the operations, required for the company to register the company to Workforce and Transmigration Department of Kotawaringin Timur Regency.	The management office of PT AWL - PLASMA, Settlement of Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung,	Once during recruitment process on progress in PT AWL - PLASMA and at the time of termination of employment.	PT AWL - PLASMA	1) Village officials of Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia,	1) Manpower and Transmigration Office of Kutai Regency Kartanegara.

	negative and cumulative in the form of perception and attitude of the community against PT.PU activity plan.		Kotawaringin Timur Regency).	b. Publicly announcing to Muara Ritan Village, Muara Ritan Baru Village, Villages, Muara Pedohon Village and Umaq Dian Village on the job recruitment. c. Prioritize local workforce to work in the company tailored to educational qualifications required by the company. d. Job recruitment should be based on the working age of 18 years in accordance with government regulations on employment. e. Inform the number, type, skills and requirements of the labour needed widely to the surrounding community. f. Provide special training for local workers to improve skills & expertise. **2) Employment termination** a. Termination of employment should be done in stages. b. Preparation for termination of employment should be done in advance and detailed. c. Provide severance pay to employees who will be affected by layoffs in which the amount is adjusted to the provisions of legislation.	Lunuk Bagantung Villages.			Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages 2) Manpower and Transmigration Office of Kutai Regency Kartanegara 3) Plantation and forestry office of Kotawaringin Timur regency. 4) Regional Environment Agency of Kotawaringin Timur Regency.	2) Plantation and forestry office of Kotawaringin Timur regency. 3) Regional Environment Agency of Kotawaringin Timur Regency 4) Regional Environment Agency of Central Kalimantan Province.
3.4	**Business Field**								
	Significant impact in the form of business opportunity creation for the community in which the impact is positive and direct, this impact can	Business activities that involve local business actors in the activities such as:	Increasing & developing local economic activity and the number of local people who can be	**1) Emplacement development** a. Providing opportunities for local carpenters in the provision of carpentry services during development activities.	Settlement of Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia,	Once during the development of estate emplacement, land preparation, nurseries, planting	PT AWL - PLASMA	1. Village officials of Tumbang Penyahuan, Tanah Haluan, Tumbang	1. Manpower and Transmigration Office

	lead to continued positive impacts on increased incomes of surrounding communities.	a. Development of estate emplacement. b. Preparation of nursery location. c. Nurseries. d. Preparation of planting area. e. Planting of oil palm. f. Construction of palm oil mill.	empowered by PT AWL - PLASMA	b. Provide wages in accordance with the agreement **2) Nursery location preparation** a. Provide widespread opportunities to business actors from surrounding communities for nursery activities b. Provide wages in accordance with the agreement **3) Nurseries** a. Provide announcement to the community around the location on the needs of services for nursery activities by the company either type, classification and expertise required. b. Provide opportunities for business units/ individuals who are in and around the plantation location to participate particularly in the provision of goods and services to meet the needs of employees and companies. c. Involving the community of the sub-district government in the business unit activities. **4) Preparation of palnting area** a. Provide business opportunities as wide as possible to the surrounding community in the provision of land. b. Provide wages in accordance with the agreement. **5) Oil palm planting**	Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages.	area preparation, mill area preparation.		Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages 2. Manpower and Transmigration Office of Kutai Regency Kartanegara 3. Plantation and forestry office of Kotawaringin Timur regency. 4. Regional Environment Agency of Kotawaringin Timur Regency.	of Kutai Regency Kartanegara. 2. Plantation and forestry office of Kotawaringin Timur regency. 3. Regional Environment Agency of Kotawaringin Timur Regency 4. Regional Environment Agency of Central Kalimantan Province.

				a. Set the speed of the transporting vehicle at maximum of 20 km/h, especially if passing through settlement or concentration of community agriculture. b. Conducting hardening & compaction of haul roads with special aggregate, especially on seedlings transportation path. c. During dry season water the road every 3 on the transportation path that passes the nursery. **6) Palm oil mil constrution** a. Conduct special open bidding for business groups from local communities for plant construction activities. b. Provide wages in accordance with the agreement.					
3.5	**Community Revenue**								
	Significant impact against community revenue in which a continued impact due to land conversion which increase the community revenue	Is a derivative impact of the recruitment activities that create jobs for the surrounding community from the following activities: a. Workforce recruitment b. Development of estate emplacement c. Preparation of nursery area d. Seedling e. Preparation of planting area	Increasing or decreasing revenue of the surrounding community of PT AWL - PLASMA.	**1) Recruitment activity during emplacement development, preparation of nursery, planting area, oil palm plantation, plant construction, harvesting transportation.** a. Provide wages/ salaries to workers adjusted to classification, expertise and level of education and refers to legislation relating to wages. b. Provide education and training to workers to improve skills and expertise.	At PT AWL - PLASMA management office and community settlement around PT AWL - PLASMA.	Once during operation in progress ad evaluated once a year during PT AWL - PLASMA estate and mill operations.	PT AWL - PLASMA	1. Village officials of Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages	1. Plantation and forestry office of Kotawaringin Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency 3. Regional Environme

		f. Oil palm planting g. Construction of a palm oil mill h. Harvesting & transporting of FFB's i. Mill operations		c. Encourage the development of community business around estate operations so that can create non-formal job opportunities. **2) Mill operations** a. Construct wastewater treatment plants to manage liquid waste generated from plant operations. b. Based on the waste characteristic & pollution load, the effluent treatment is effective if WPH is more than 75 days so that the COD & TSS level can be decreased to below the standard. PT AWL - PLASMA plans the wastewater treatment with a biologically WWTP system (anaerobe & aerobe system) with hydrological retention time of 150 days so that WPH increase is expected to decrease the quality of waste water & pollution loads to below the quality standard. c. Implementation of land applications in which requires study in advance on pollution aspect that may occur, the carrying capacity of the land, the effect on soil and ground water and surface water. d. Convert the local people's livelihoods sources from farming to estate workers. If the degradation of water				2. Manpower and Transmigration Office of Kutai Regency Kartanegara 3. Plantation and forestry office of Kotawaringin Timur regency. 4. Regional Environment Agency of Kotawaringin Timur Regency.	nt Agency of Central Kalimantan Province.

				quality at the site is considered to exceed the quality standard of water pollution.					
3.6	**General Traffic (Land)**								
	Significant impact in the form of traffic disturbance in which the impact is negative and direct. The occurrence of impact may cause inconvenience for road users in their if disturbance is not managed well.	Is a direct impact from the following activities a. Employees transportation. b. Harvesting and transportation of FFB's	1. No traffic congestion and traffic accidents during transporting employees activities, transportation & harvesting of FFB's	**1) Employees transportation** a. Time arrangement for employee transportation to work in the morning is at 06:00 pm b. Time arrangement for employee transportation to return to home in the afternoon is at 14:00 wita. c. Limit the speed of the transporting vehicles at max 20 km / hour, especially when passing through the settlement. d. Use appropriate vehicle in accordance with its function such bus/car for passenger. **2) Harvesting & transportation of FFB's** a. Disseminate to affected workers on the detailed plan estate road network. b. Allowing the local community to use the estate road for their accessibility. c. Prioritize maintenance of estate road which used by the community as access roads. d. Implement traffic rules to all road users. e. At the section of the road which used by the community as access roads are installed	At public road used by the company for transporting.	During the operations of PT AWL - PLASMA estates.	PT AWL - PLASMA	1. Village officials of Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages 2. Manpower and Transmigration Office of Kutai Regency Kartanegara 3. Plantation and forestry office of Kotawaringin Timur regency. 4. Regional Environment Agency of Kotawaringin Timur Regency.	1. Plantation and forestry office of Kotawaringin Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency 3. Regional Environment Agency of Central Kalimantan Province.

				with traffic signs in accordance with applicable laws and regulations. f. Prioritizing public road user first. g. Placing officer at the intersection of public roads and estate roads. h. To limit the capacity of CPO transporting unit at max 8 tons.					
3.7	**Water traffic**								
	Significant impact in the form of water traffic disturbance in which the impact is negative and direct. The occurrence of impact may cause inconvenience for public transportation due to the operations of LCT.	Impacts arising from the following activities such as: Mobilisasi peralatan a. Mobilization of equipment. b. Demobilization of equipment.	No disruption on water traffic during the mobilization and demobilization of equipment.	1. Conduct socialization to the surrounding community on estate equipment mobilization and demobilization plan 2. Setting the port location for heavy machine unloading zone. 3. Provide adequate lighting during equipment mobilization & demobilization process. 4. Provide adequate signs for the activities around the area. 5. Conduct estate equipment mobilization and demobilization in stages and periodically for the entire heavy equipment. 6. Coordinate with the relevant Kotawaringin Timur Regency office transportation to provide guard at the time of mobilization and demobilization.	On Belayan river wáter body.	Once during mobilization and demobilization process in progress.	PT AWL - PLASMA	1. Village officials of Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages 2. Manpower and Transmigration Office of Kutai Regency Kartanegara 3. Plantation and forestry office of Kotawaringin Timur regency.	1. Plantation and forestry office of Kotawaringin Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency 3. Regional Environment Agency of Central Kalimantan Province.

								4. Regional Environment Agency of Kotawaringin Timur Regency.	
3.8	**Environmental Hygiene**								
	Significant impact against environmental higiene and sanitation due to estate emplacement activities which may lead to degradation of sanitation quality in the project environment.	Impact arises due to mill operations, office and housing activities.	Hygiene and sanitation are well managed at the Project location.	**1) Mill operations** a. Accommodate the remaining liquid waste from mill operation in barrels then submitted to a licensed third party. b. Create surrounding ditches that are connected with WWTP. c. Implementation of Land Applications which requires assessment in advance. **2) Office and housing activities** a. Provide solid waste container at each unit that produces solid waste both organic & inorganic. b. Prohibit waste disposal to water bodies. c. Create waste disposal system for housing unit. d. Toilet provision should have septic tank. e. Use biological decomposition for septic tank. **3) Clinic operations** a. Accommodate all solid waste generated from clinical operational activities	At the location of activities such as office, employees housing and clinic.	Twice, in the evening and in the morning during the operations of PT AWL - PLASMA.	PT AWL - PLASMA	1. Health Department of Kotawaringin Timur Regency. 2. Plantation and forestry office of Kotawaringin Timur regency. 3. Regional Environment Agency of Kotawaringin Timur Regency.	1. Plantation and forestry office of Kotawaringin Timur regency. 2. Regional Environment Agency of Kotawaringin Timur Regency 3. Regional Environment Agency of Central Kalimantan Province.

				by preparing waste container at several strategic locations. b. Installing warning board on the obligation to maintain the environment c. Provide waste container at the location that generates waste. d. Immediately deliver solid waste generated by clinical operations to a licensed third party that have obtained from Ministry of Environment e. Cooperate with Kota Bangun hospital for medical waste destruction generated by clinical operations.					
3.9	**Occupational Health and Safety**								
	Significant impact to occupational helath and safety in which the impact is potentialy harmful for the workforce working at Project location during work in progress.	Impact arised due to the following activities. a. Development of estate emplacement. b. Road network construction. c. Preparation of nursery location. d. Preparation of planting area. e. Planting of oil palm. f. Plants upkeep g. Harvesting and transportation of FFB's h. Fertilizer and pesticides warehouse activities.	Occupational health and safety disturbance at work.	**1) Estate emplacement development** a. Determine and implement safety procedures relating to estate emplacement development. b. Provide means of first aid and medical personnel c. Perform periodic medical examinations d. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. e. Provide hearing & respiratory protection.	At the project location of the following activities: a. Development of estate emplacement. b. Road network construction. c. Preparation of nursery location. d. Preparation of planting area. e. Planting of oil palm. f. Plants upkeep g. Harvesting and transportation of FFB's h. Fertilizer and pesticides	During the operations of PT AWL - PLASMA.	PT AWL - PLASMA	1. Health Department of Kotawaringin Timur Regency. 2. Manpower and Transmigration Office of Kutai Regency Kartanegara. 3. Plantation and forestry office of Kotawaringin Timur regency. 4. Regional Environment Agency of	1. Health Department of Kutai Regency Kartanegara. 2. Plantation and forestry office of Kotawaringin Timur regency. 3. Regional Environment Agency of Kotawaringin Timur Regency 4. Regional Environmen

				f. Insuring all the labour involved in the project **2) Road network construction** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken c. Provide first aid facilities along with medical personnel d. Perform periodic health checks e e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Provide hearing & respiratory protection. g. Insuring all the labour involved in the project. **3) Nursery location preparation** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken.	warehouse activities.			Kotawaringin Timur Regency 5. .	t Agency of Central Kalimantan Province.

				c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Insuring all the labour involved in the project **4) Planting area preparation** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken. c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Insuring all the labour involved in the project. **5) Oil palm planting** a. Socialization of the use of occupational health and					

				safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken. c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Insuring all the labour involved in the project. **6) Plant upkeep** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken. c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to					

				hospital or public health centre. f. Insuring all the labour involved in the project. **7) Harvesting and Transportation of FFB's** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety procedures relating to the operations undertaken. c. Provide first aid facilities along with medical personnel. d. Perform periodic health checks. e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Insuring all the labour involved in the project. **8) Fertilizer and pesticides warehouse activities.** a. Socialization of the use of occupational health and safety equipment especially for workers b. Determination & implementation of safety					

				procedures relating to the operations undertaken c. Provide first aid facilities along with medical personnel d. Perform periodic health checks e e. Provide an evacuation unit to evacuate workers who suffered injury due to accident at workplace and require further treatment to hospital or public health centre. f. Provide hearing & respiratory protection. g. Insuring all the labour involved in the project.					
3.10	**Human Resources**								
	Human resources development is a positive significant impact and direct. The impact will develop local community human resorce for both sklled and non-skilled and have immediate impact against increased local community income.	Developed human resources due to CSR activities.	Meningkatnya keterampilan dan produktifitas masyarakat sekitar akibat program CSR	1. Conducting socialization to the surrounding community on company CSR program. 2. Company provides special field experts to train the workers enrolled in the program 3. Conduct skills tests to program participants 4. Conduct placement activities and course on the community so that people can be more independent to fulfil their economic needs. 5. Together with the government to develop local business by using public facility as facilitator for local economy development.	Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages	During the estate operation of PT AWL - PLASMA.	PT AWL - PLASMA	1. Village Officials of Tumbang Penyahuan, Tanah Haluan, Tumbang Kaminting, Tumbang Sapia, Tumbang Getas, Tumbang Batu, Tumbang Torung, Lunuk Bagantung Villages. 2. Land Administration Division of Kotawaringin	1. Plantation Office of Kotawaringin Timur Regency 2. Regional Environment Agency of Kotawaringin Timur Regency 3. Environment Agency of Central Kalimantan Province.

								Timur Regency. 3. Plantation Office of Kotawaringin Timur Regency. 4. Environment Agency of Kotawaringin Timur Regency.	
4	**COMMUNITY HEALTH COMPONENTS**								
4.1	**Community Health**								
	Significant impact is the occurrence of public health problems with indicators of increased morbidity rate among local community.	Impact arised due to the following activities a. Nursery b. Planting of oil palm c. Plant upkeep d. Harvesting & transportation of FFB's e. Mill operations.	No increase in public health problems in the vicinity of the project site.	**1) Nursery** a. Nursery activities should be conducted in a planned manner and gradually according to the estate development. b. Construct drainage network that lead to retention basin at each división. c. Use environmentally friendly pesticide type. d. Collect hazardous and toxic waste at hazardous and toxic waste storage facility. **2) Oil palm planting** a. Avoid air pollution along the seedling transportation routes. b. Inventory number of resident who affected by nursery activities. c. Conducting intensive road watering, especially in the	At the project location of the following activities: a. Preparation of nursery location. b. Preparation of planting area. c. Planting of oil palm. d. Plants upkeep e. Harvesting and transportation of FFB's f. Mill operations.	Once during activities on progress and evaluated once a month during the operations of PT AWL - PLASMA.	PT. PU	1. Health Department of Kotawaringin Timur Regency. 2. Plantation Office of Kotawaringin Timur Regency. 3. Environment Agency of Kotawaringin Timur Regency.	1. Health Department of Kotawaringin Timur Regency. 2. Environment Agency of Kotawaringin Timur Regency. 3. Environment Regency of Central Kalimantan Province.

				dry season on the community residential areas once in 2 hours **3) Plant upkeep** a. Planting activities should be conducted in a planned manner and gradually according to the estate development. b. Construct drainage network that lead to retention basin at each división. c. Use environmentally friendly pesticide type. d. Collect hazardous and toxic waste at hazardous and toxic waste storage facility. **4) Harvesting and transportation of FFB's** a. Minimize the dust caused by transporting activities by limiting the transportation vehicle speed. b. Installing notification board on the need to use mask especially on dusty áreas. c. Provision of dust mask to community affected by the dust on the transporting route. d. Incorporate CSR program as main program. **5) Mill operations** a. Construct wastewater treatment plants to manage liquid waste generated from plant operations.					

				b. Based on the waste characteristic & pollution load, the effluent treatment is effective if WPH is more than 75 days so that the COD & TSS level can be decreased to below the standard. PT AWL - PLASMA plans the wastewater treatment with a biologically WWTP system (anaerobe & aerobe system) with hydrological retention time of 150 days so that WPH increase is expected to decrease the quality of waste water & pollution loads to below the quality standard. c. Implementation of land applications in which requires study in advance on pollution aspect that may occur, the carrying capacity of the land, the effect on soil and ground water and surface water.					
4.2	**Public safety**								
	Impact on public safety disturbance in which the impact is significant negativem and direct. The impact may occur durig the estate operations of PT AWL - PLASMA.	Impact arised from activities such as: a. Mobilization of equipment b. Transport of employees c. Harvesting & transportation of FFB's d. Demobilization of equipment	No traffic accident occured during the following activities: 1) Mobilization of equipment 2) Transport of employees 3) Harvesting & transportation of FFB's 4) Demobilization of equipment	**1) Equipment mobilization and demobilization** a. Conduct mobilization to equipment in stage to entire heavy equipment. b. Coodinate with Transport Department of Kotawaringin Timur regency on LCT operations. c. Install adequate lightings. **2) Employee transportation** a. Time arrangement for employee transportation to	At public road intersection passed by or areas prone to traffic accident	During the operational activities of PT AWL - PLASMA.	PT AWL - Plasma	1. Health Department of Kotawaringin Timur Regency. 2. Plantation Office of Kotawaringin Timur Regency. 3. Environment Agency of Kotawaringin Timur Regency.	1. Health Department of Kotawaringin Timur Regency. 2. Environment Agency of Kotawaringin Timur Regency. 3. Environment Regency of Central Kalimantan Province.

				work in the morning is at 06:00 pm b. Time arrangement for employee transportation to return to home in the afternoon is at 14:00 wita. c. c. Limit the speed of the transporting vehicles at max 20 km / hour, especially when passing through the settlement. d. Use appropriate vehicle in accordance with its function such bus/car for passenger. **3) FFB's Harvesting and Transportation** a. Carry out control measures of road traffic b. Preparing mobilization units, first aid facilities & medical personnel to anticipate traffic accidents. c. Prioritizing public road users first.					

2	**HCV areas and HCS forests**	The general objective of HCV management is to maintain elements of the HCV; (if needed), the importance of the area can be enhanced. Maintenance of HCV elements is a minimum requirement in HCV management. This HCV maintenance can be done by protecting the HCV area and mitigating its threats so that the important value of the HCV is not degraded. In addition, the company is also expected to be able to recover from the significant decline in the value of HCV caused by the negative impact of the company's operational activities. The management recommendations for managing HCV areas in general are as follows: 1. The Plasma Cooperative Institution PT AWL as a partner or plasma of PT Agro Wana Lestari shall demarcate the boundaries of the HCV (HCV) and HCS (HCS) areas that have been identified and issue the area as a conservation area and issue it as land to be cleared for plantations. This is done starting from land clearing planning activities as outlined in the land clearing plan map. 2. Conduct consultations and socialization to the community, especially to cooperative members regarding the existence of HCV and HCS areas as well as future management and monitoring plans. 3. Re-socialization regarding the plasma program and the location of plasma plantations in the villages surrounding the PT AWL plasma permit 4. Finalize and finalize agreements with the community, especially members of the cooperative regarding the Plasma plantation development plan in partnership with PT AWL as the last step as part of the FPIC (FPIC) process. 5. Resolve agreements with villages that have not yet formed a cooperative and have not partnered with PT AWL. 6. Finalize the ICLUP plan map that has been mutually agreed upon by referring to the results of the HCV and HCS studies and input from stakeholders. 7. Carry out land clearing activities that refer to the final ICLUP. **HCV's area monitoring plan** The general objective of monitoring is to know the development of the condition of the elements and the size of the designated HCV area. Monitoring of HCV elements is related to the value/function inherent in the HCV area, whether it is increasing (getting better) or decreasing (getting worse). Monitoring the size of the HCV area that has been determined is related to the coverage area that still has HCV value/function (HCV1-5). In addition to monitoring the indicators for HCV elements, the management strategy is also monitored. There is a possibility that over time there will be a decrease in the value/function of the HCV. Monitoring of the management strategy includes: 1. Implementation of the management strategy in the field, related to whether or not the planned HCV management strategy is carried out in the field (operational monitoring) 2. Implementation of management strategy is done poorly. Even if the planned management strategy is good, if it is carried out poorly it will not achieve the expected goals and objectives (strategic monitoring/effectiveness).

3. New or changed threats/conditions. Management strategies that were effective over time may not always be effective forever (threat monitoring)

The results of this monitoring serve as a basis for evaluation to ensure whether the implementation of the HCV area management strategy is in accordance with its goals and objectives. The direction in this HCV area management system is an adaptive management system where the manager always tries to make continuous improvement in the management and monitoring of HCVs. Recommendations for management and monitoring of HCV areas are presented in Tables 48 (Document HCV & HCS).

Objective(s)	Action(s)	Timeline
HCS Forest	1. Socialization and prohibition of timber harvesting and land clearing in conservation areas to communities in HCV/HCS areas and socialization of applicable laws and regulations related to the protection of protected plants. 2. Installation sign boards on the prohibition of timber harvesting and land clearing in conservation areas (HCV and HCS) and remaining forested areas. 3. Regular patrols to secure conservation areas	Field delineation: 2022
HCV 1	1. Socialization of protected and/or rare wildlife species, especially those with RTE status, to the public and socialization of applicable laws and regulations related to wildlife protection. 2. Installation of hunting ban boards especially in conservation areas (HCV) 3. Installation of sign boards about the importance of protected wildlife 4. Awareness-raising on the importance of wildlife to the community and the area where the wildlife is located. 5. Collaborate with BKSDA and security forces (police) to prevent and	Start 2022 and continuous

			enforce protected wildlife trade laws. 6. Take measures to prevent land/forest fires, through socialization, installation of fire hazard warning boards, prohibition of actions that can cause fires. 7. Provision of fire fighting equipment 8. Make a fire hazard index board	
		HCV 3	1. Socialization and prohibition of timber harvesting and land clearing in conservation areas to communities in HCV/HCS areas and socialization of applicable laws and regulations related to the protection of protected plants. 2. Socialization of HCV/HCS areas to the government and the importance of the functions of these areas 3. Advise against infrastructure development and regional development in HCV/HCS areas. 4. Take action to prevent land/forest fires, through socialization, installation of fire hazard warning boards, prohibition of actions that can cause fires. 5. Installation of warning boards on the prohibition of timber harvesting and land clearing in conservation areas (HCV and HCS) and remaining forested areas.	a. Start 2022 and continuous b. Monitoring the progress of HCV Management and Monitoring will be carried out pnce every 1 years
		HCV 4	1. Socialization and prohibition of timber harvesting and land clearing in conservation areas to communities in HCV/HCS areas and socialization of applicable laws and regulations related to the protection of protected plants 2. Installation of warning/sign boards on the prohibition of timber	1. Monitoring of water quality has been started on 2022 will be continued as long as plasma (cooperation with company

			harvesting and land clearing in conservation areas (HCV and HCS) and remaining forested areas 3. Routine patrols to secure conservation areas 4. Take action to prevent land/forest fires, through socialization, installation of fire hazard warning boards, prohibition of actions that can cause fires. 5. Provision of fire fighting equipment 6. Improve employee, contractor, and community fire management skills 7. Establish SOPs prohibiting or limiting the use of agrochemicals (fertilizers, herbicides, and pesticides) on farm areas near water sources (their boundary zones) such as rivers and water sources 8. Use of eco-friendly agrochemicals	operation) 2. Monitoring of land cover of conservation area will start 2023 and continuous 3. Monitoring of river water quality standards, on a regular basis (every 6 months) 4. Supervision of workers in the field by foremen at work sites using agrochemicals
		HCV 5	1. Socialization and prohibition of timber harvesting and land clearing in conservation areas to communities in HCV/HCS areas and socialization of applicable laws and regulations related to the protection of protected plants 2. Installation of warning/sign boards on the prohibition of timber harvesting and land clearing in conservation areas (HCV and HCS) and remaining forested areas 3. Routine patrols to secure conservation areas 4. Socialization of HCV/HCS areas to the government and the importance of the functions of these areas 5. Advise against infrastructure development and regional development in HCV/HCS areas.	5. Monitoring of water quality has been started on 2022 will be continued as long as plasma (cooperation with company operation) 6. Monitoring of land cover of conservation area will start 2023 and continuous 7. Monitoring of river water quality standards, on a regular basis

				(every 6 months) Supervision of workers in the field by foremen at work sites using agrochemicals
3	**Stakeholder and local people engagement (FPIC process)**	The presence and operation of PT AWL - Plasma oil palm plantations has the potential to give social impact on the communities in the surrounding villages of the company's HGU areas and associated employees. The impacts arise from various activities undertaken relating to the development process and operations of the estate. Discussion of impacts are identified from the facts or sources of occurring impact within the employee, community surrounding the company, as well as within the scope of neighbourhood, village, sub-district and district and can have both negative and positive dimensions on Pentagonal Assets. The explanation are as follows: • Social impacts are positive or negative changes to one or more of social pentagon assets occurred at the time of the assessment as a direct or indirect result due to company operations (estates and mill); policies of management practices or corporate social management performance. • Potential social impacts are positive or negative changes to one, or more, possible social pentagon assets that may occur in the future as a direct or indirect result due to company operations (estate and mill); policies of management practices or corporate social management performance. • Social risks are social conditions, social issues or social reactions that are likely to disrupt the performance of the company's operations and or sustainability. • Social issue in this case is the perception of a particular social group about a matter. Explanation on the relation and explanation on social impacts of PT AWL - Plasma's existence to society, social impact on employees, and on the end, on social risks, and social issues faced by the company. Explanations on impact relationships, potential impacts, social risks and social issues need to be done so that we can understand the cause-and-effect relationship between these three issues and the source of the cause. Social Risk Social risk is a social condition that has the potential to cause material or immaterial losses/damage for the company so that the company is forced to stop operating or has to bear high social cost due to social issues. The source of the risk		

in question comes from the surrounding community as an outside party. Based on the social conditions in the study area and the conditions of the people who have interaction with the company, it was found that there are social risks faced by the company. There are three risks identified by reviewing the condition of the community:

- Prohibition of any activities until the request of the Villages community is approved, which stems from the failure to reach an initial agreement with the Villages community. The problem is that there are some requests or expectations that are quite demanding from certain individuals or groups.
- Low land acquisition rates and high social costs due to land disputes and conflicts. The low level of land acquisition is classified as operational risk, but because the source comes from the community who controls the land in the HGU area, it can be categorized as social risk.
- Disturbance from the community which has high social costs originating from the development of plasma plantations which if not carried out in conjunction with the nucleus plantations.

The level of risk is highly dependent on the company's attitude, leadership policies/decisions, and ways of communicating. The level of risk is categorized as high if the land acquisition is far below the target and the company's plantation development planning is hampered. In addition to the risks mentioned above, there are other risks with a medium or low level, the sources of which are the internal environment itself or the control measures tend to be less complex which do not depend on external parties or factors:

- Did not get full support from all community groups. There are community groups in Villages who feel that the company is only communicating with a certain person or community group. This group feels less involved in matters related to PT AWL - PLASMA.
- Reputational risk. The long process of developing the plantations and the lack of communication and openness have made the community view that the new management of PT AWL - PLASMA is the same as other companies that are not serious about investing in the village area.

Objective(s)	Action(s)	Timeline
Communication, social relations and partnerships, forms of activities include: Socialization of land clearing plans and plasma development plans	1. Re-identification of current social conditions includes assessing the impact and control to existing social issues. Changes in perceptions that occur in the field today need to be done study first. 2. Creat FPIC plans through key stakeholder engagement. Among others: • Establish communication and consultation mechanisms as	At the time of the plantation development plan will be initiated (2022).

			a guide in communicating effectively to the community • Determine FGD schedules or regular meetings to collect information relating to level of public perception towards the company • Periodic analysis against developed strategic issues within the community resulted from FGD results or community perceptions surveys • Adopt an accountable Community development program, such as donations of religious activities, communication and coordination assistance, superior fruit seed support, national day activities assistance, provision of working capital such vegetable carts, community economic improvement in the form of women group assistance, fish farming assistance , home finance management training, educational assistance, assisting women's groups in home industry products, indigenous activities assistance, financial assistance for youth organization 3. Building public trust back through socialization and/ or community activities prior to plantation development plan at PT AWL - PLASMA is commenced 4. Establishment of a committee to resolve the status of plasma land 5. Transparency and socialization of plasma location development plan (location map).	
			Land acquisition process	Implementation of FPIC to: 1. Develop a participatory mechanism in handling conflict / complaints. 2. Socialization, FGD.	During land acquisition process is undertaken.

			3. Participatory mapping during land acquisition including joint review for HCV determination & SIA review. 4. Transparent land acquisition process 5. Implement an accountable community development program. 6. Preparing the community for the changes that will occur and their implications Plans/ system / model of plasma division	
		Nursery	1. Informing nursery jobs to affected villages in accordance with skills and expertise required. For local people who are not recruited to work in the company, can be developed through the community empowerment program through improving self-skills training and soft capital loans 2. Establishing environmental management aspects, policies and procedures. Environmental management and monitoring are conducted periodically including HCV/ flora fauna studies prior to land clearing for nursery 3. Ensuring that the aspects of OHS & environment management are properly implemented and monitored. Environmental programs that can be applied such as road watering especially on the village roads that are located within company immediate vicinity and often used by the company as access road.	During nursery activities undertaken.
		Land clearing	Implementation of FPIC for: 1. Ensure that the community has a perceptual understanding of land clearing plans. 2. Local communities accept land clearing plan. 3. Conduct	During land clearing activities undertaken.

			HCV & SIA studies prior to land clearing. 3. Develop program and mitigation plan of social impact arising from land clearing. 4. Strengthening local institutional capacity and intensive assistance for the independence of local organizations. 5. Land clearing activities are done in stages Ensuring the aspects of OHS & environment management are properly implemented and monitored. Environmental programs that can be applied such as road watering, especially village roads that are located within immediate vicinity of company's location and often used by the company.	
		Planting	Implementation of FPIC for : 1. Developing a program and mitigation plan social impact, one of which is counseling, socialization 2. Strengthening local institutional capacity and intensive facilitation for local organizational independence 3. Ensuring the aspects of OHS & environment are implemented and monitored properly	During planting activities undertaken.
		Plant upkeep	1. Company must have all clear working procedures on the oil palm plantations upkeep activities. 2. Socialization and training activities to workers. 3. Ensure environmental management and monitoring are implemented well. 4. Provision of PPE to all workers and installation of traffic signs at estate roads and housing and periodic health checks to all workers.	During the operations of the company.

4	**Soil and Topography**	Soil classification in PT AWL's plantation area based on the Soil Taxonomy System (USDA, 1982) and its equivalent according to the Bogor Soil Research Center Classification System (1981) there are 2 associations of soil types in plasma and landscape areas, while the dominant soil types in PT AWL's plantation area are Ultisols (tropudults) and Inceptisols (Dystropepts, and Tropaquepts). Inceptisol; is a young soil, but more developed than Entisol. Inceptisol comes from the word Inceptum which means beginning. Generally have a cambic horizon. This land is not yet developed, so most of it is quite fertile. Matches with the old classification system include Alluvial, Andosol, Regosol and Glei humus soils. The Inceptisol soil order developed from alluvial material in the form of clay deposits on sand deposits, the reaction of the soil was very acidic to acidic, ripe and drainage was hampered. Horizon A is very dark gray to light gray. Sometimes there is yellowish brown rust, the texture is clay to dusty clay, the consistency is sticky and slightly plactic, the soil reaction is very acidic to sour. This layer contains sulfidic material (pyrite) at a depth of >50 cm from the surface. Ultisols; is clay stockpiling soil in the lower horizon, acidic, base saturation (KB) at a depth of 180 cm from the soil surface is less than 35%. KB < 35% can be approximated by measuring pH (soil acidity) < 6.5. Detail see table bellow:

No	Soil Name	Plasma Area (HA)
1	Inceptisol	440.28
2	Ultisol	4,069.54
	Total	4,509.82

Based on the image of the National Digital Elevation Model (DEMNAS) of the Geospatial Information Agency with a spatial resolution of 8 meters. The topography of PT AWL's plasma plantation area is at an altitude between 7 to 219 masl. In general, the slope in the PT AWL plantation area is dominated by a slope of 0 – 8% (flat). See detail table bellow:

No	Hiight (MDPL)	Plasma Area (HA)
1	7-36	1,766.03
2	36-54	2,322.34
3	54-79	367.87
4	79-115	37.52
5	115-162	12.41
6	162-219	3.63
	Total	4,509.82

No	Slope (%)	Plasma Area (HA)
1	0-8	1,860.58
2	8-15	1,580.76
3	15-25	857.24
4	25-45	197.87
5	>40	13.38
	Total	4,509.82

		<table><tr><th>Objective(s)</th><th>Action(s)</th><th>Timeline</th></tr><tr><td>Soil quality improvement of Tropudults and Tropaquepts</td><td>Adding organic fertilizer to soils that have a high flood intensity, or lime to soils that have iron/rust deposition that is toxic to plants.</td><td>During the operations of the company.</td></tr><tr><td>Soils with suitability classes S3 and N have poor nutrient status.</td><td>Management of land with S3 and N classes can be done with a combination of applying organic fertilizers, inorganic fertilizers, and lime in high enough quantities.</td><td>During the operations of the company.</td></tr><tr><td>high slope issues</td><td>terracing each block or disk in the planting area</td><td>During land clearing activities undertaken</td></tr></table>
5	**GHG**	The objects of mitigation and monitoring within the scope of new plantations are divided into three categories, namely (1) land clearing, (2) use of fuel, and (3) use of fertilizers. Land clearing is one of the mitigation objects because potential lands for new plantations (land that have not been planted) have potential for biomass carbon stocks, especially on lands covered with forest and scrub. The use of fuel and fertilizers is also the main object of mitigation because they are a significant source of GHG emissions. In the calculation, the production rate of fresh fruit bunches (FFB) per hectare is obtained from data from surrounding companies (Group Goodhope Kalteng), which is on average 14-15 tons-FFB/ha. Explanation of the mitigation object, as follows: **Plantations scope:** **1. High Carbon Stock (HCS) and High Conservation Value (HCV) areas** Biomass carbon stocks on potential lands for new planting were identified through the HCSA assessment and high value areas were determined from the HCV assessment results. Low-medium density secondary forest (HKR) is the area with the highest AGB carbon stock in the PT AWL - PLASMA area, followed by young regeneration forest (HRM) or Shrubs. Meanwhile, open land (shrubs and inland swamps) is the area with the lowest AGB carbon stock. In the GHG emission mitigation plan, the company's management unit decided to exclude areas of conservation value and high carbon stock from the development plan (defined as non-development areas). This mitigation plan is embodied in the land use plan in the field for new developments and conservation. **2. Projected fuel use in plantation area** GHG emission mitigation plans through fuel use planning are carried out based on projections of fuel use based on the planned area of new plantation development. The amount of fuel used is a variable in plant maintenance

that depends on the area of the new plantation. Therefore, land use plans in GHG mitigation efforts have a direct effect on the projection of fuel use.

Table IV-9. Projected fuel use in plantation areas

No	Fuel Type	Usage per Year per Hectare (liter/ha)	Total Usage per Year (liter)*	Projected GHG Emissions (ton CO_2e/Year)
1	Diesel	99.37	571,780.87	1,784
2	Premium	1.88	10,817.63	30

3. Projected use of fertilizers in plantation areas

The GHG emission mitigation plan through fuel use planning is carried out based on the projected use of fertilizers based on the types of fertilizers used and the area of new plantations. Like the projected use of fuel, the amount of fertilizer use is also directly and directly proportional to the area of land use for new plantations.

Table IV-10. Projected use of fertilizers in plantation areas

No	Fertiliser Type	Usage Per Year per Hectare (ton/ha)	Total Usage oer Year (ton)*	Projected GHG Emissions (ton CO_2e)		
				Transportation	N_2O Emissions	CO_2
1	Urea	0.314	1806.8	2,861.75	5,152.21	1,324.97
2	RP	0.203	1168.1	971.72	-	-
3	MOP	0.321	1847.1	819.91	-	-
4	Kieserite	0.149	857.4	380.58	-	-

Milling scope:

PT AWL - PLASMA does not plan to build a palm oil mill. The results of the FFB will be brought to the nearest PKS, namely Bukit Santui POM (PT AWL - Bukit Santui POM). Therefore, GHG mitigation originating from mill s is not under the authority PT AWL - PLASMA, but in the management of the Perdana POM unit. The amount of emission from this mill depends on the contribution of FFB supplied by PT AWL - PLASMA's plantation. The parameters used in estimating GHG emissions from the scope of palm oil (CPO) production are presented in Table III-43.

Mitigation and monitoring plan

GHG emissions strategic

The GHG emission mitigation strategy is prepared based on practical achievements that can be realized as part of the company's operational activities. In addition, the GHG emission mitigation strategy also considers increasing productivity. In other words, an increase in productivity without an increase in the amount of significant emissions is also a form of reducing GHG emissions relative to the level of production, while a decrease in GHG emissions that causes a decrease in productivity will increase the amount of GHG emissions relative to the level of production.

Mitigation and monitoring plans can be divided into two, namely specific mitigation and monitoring plans, and general mitigation and monitoring plans. In the new plantation development plan stage, specific GHG emission mitigation plans are focused on land use as the main variable affecting the amount of

emissions from other operational activities (the scope of FFB production and the scope of palm oil production). Mitigation plans for other operational activities are implemented through planning the use of measurable emission source materials. In other words, the implementation of specific GHG emission mitigation and monitoring plans can be carried out in a practical and measurable manner by following the land use plan and the amount of fertilizer and fuel use that has been determined.

A general mitigation and monitoring plan is made for components of GHG emission sources that cannot be projected by the company. In this case, the components of GHG emission sources from the palm oil production process. The company does not yet have a mill, so measurable measures to reduce GHG emissions from mill operational activities are not yet relevant.

General mitigation plan

General GHG emission mitigation activities apply to all aspects within the company's operational scope. The successful implementation of general mitigation activities will be recorded in periodic records in management, for example the decrease in fuel use due to rearrangement of FFB transport routes, decrease in fertilizer use due to technology application, etc.

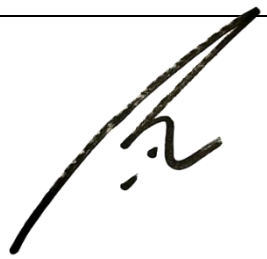
The success achieved in the implementation of a general mitigation plan can also be applied as a specific and measurable mitigation plan to be implemented in the next period. Therefore, recording in management is important. In simple terms, a general mitigation plan is an experimental space for companies to implement new innovations in an effort to reduce emissions, either directly or by increasing productivity.

Some of the recommended general mitigation plans include:

1. Arrangement of FFB transport routes in the plantation.
2. Turning off vehicle engines when not in use for transportation.
3. Save electricity consumption, especially those that are generated with fuel.
4. Preventing fires.
5. Maintain and manage conservation areas.
6. Maintain and/or enhance oil palm growth.
7. Implementing new technologies that support GHG emission mitigation efforts.
8. Implementing the use of alternative materials that support GHG emission mitigation efforts.

Objective(s)	Action(s)	Timeline
Arrangement of FFB transport routes in the plantation	Road improvement and maintenance from plantation to mill.	During the operations of the company.
Turning off vehicle engines when not in use for transportation.	Conduct socialization to employees and staff to turn off the vehicle engine when	During the operations of the company

			not used for transportation.	
		Save electricity consumption, especially those that are generated with fuel	Conduct socialization to employees and staff to Save electricity consumption, especially those that are generated with fuel	During the operations of the company
		Preventing fires	Provision of fire fighting equipment	During the operations of the company
		Maintain and manage conservation areas	Monitor the Conservation Area from any other activities	During the operations of the company
		Maintain and/or enhance oil palm growth.	Use best management practice in agronomy activites	During the operations of the company
		Implementing new technologies that support GHG emission mitigation efforts.	Development and Use of Methane Capture	During the operations of the company
		Implementing the use of alternative materials that support GHG emission mitigation efforts.	Use of Compost from Mill Waste Activities	During the operations of the company

6	**Acceptance of Management Plans**	**Name of Person Responsible**	Mr. Donald Ginting
		Designation	Management Representative
		Signature	
		Date	14 Desember 2022