

Environmental and Social Management Plan

Name of Road: Rehabilitation of Junction Provincial Road –San Isidro- Margos and San Isidro-Limanon FMR

Location: Barangay San Isidro and Little Margos, Tungawan, ZamboangaSibugay

Implementing LGU : LGU of Tungawan, ZamboangaSibugay

Estimated number of Beneficiaries : 2,268 Population or 504 Households

Type of Work : Rehabilitation & Upgrading

Estimated Total Cost of Project : PHP 87,866,168.75

Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Schedule/ Duration of the Mitigation/ Measures	Instrument of Implementat ion (POW, Contract, IDP, or O&M Plan)*
1. Temporary increase in sedimentation during construction	<input checked="" type="checkbox"/> Topography of the road alignment necessitate massive earthmoving and cutting of clayey or loose topsoils <input type="checkbox"/> Cut materials will consist mainly of hard rocks and are unlikely to generate significant sediments	<input type="checkbox"/> Earthmoving/ cutting of slopes to be done during dry months <input checked="" type="checkbox"/> Proper disposal and compaction of spoils <input type="checkbox"/> No measures required	Before start implementation of the SP	DED/POW; Contract
2. Potential contamination of surface and groundwater with oil/grease	<input checked="" type="checkbox"/> Waste oil and grease from equipment could contaminate surface water <input checked="" type="checkbox"/> There will be no or insignificant amount of waste oil/grease	<input checked="" type="checkbox"/> Proper handling and disposal of waste oil and grease	Before start implementation of the SP	Contract
3. Potential contamination with human waste	<input checked="" type="checkbox"/> Construction workers would be temporarily housed in a base camp <input checked="" type="checkbox"/> Workers would be mostly locals and are expected to go home to their respective houses after works	<input type="checkbox"/> Set up adequate latrine/toilet facility at the base camp	Before start implementation of the SP	Contract
4. Potential disruption of traffic flow	<input type="checkbox"/> The access road and/or segments to be rehabilitated need is vital to daily activities of the residents	<input type="checkbox"/> Keep the road open to traffic flow and minimize disruptions along		Contract

	<p>and farmers and need to be kept open to traffic during construction</p> <p><input checked="" type="checkbox"/> The construction will not affect daily movement of residents and farmers</p>	<p>the access road and/or construction area; Provide adequate warning signs and traffic personnel when necessary;</p> <p><input type="checkbox"/> Undertake regular maintenance measures on the passable portions of the roads</p> <p><input checked="" type="checkbox"/> No measures needed</p>		
5. Potential dust/mud nuisance during construction	<p>Roads could become powdery during dry days and muddy during rainy days of the construction period</p> <p><input checked="" type="checkbox"/> Access road and/or the construction/ rehabilitation works passes through a populated area</p> <p><input type="checkbox"/> Access road and/or construction/ rehabilitation does not pass through any populated area</p>	<p><input type="checkbox"/> Undertake sprinkling of road (including access roads) during dry days, and filling up of potholes during rainy days, especially in residential areas</p> <p><input checked="" type="checkbox"/> Set up speed limits for vehicles, especially within residential areas</p> <p><input type="checkbox"/> No measures needed</p>	Before start implementation of the SP	Contract
6. Landslide/ erosion of exposed road sides resulting in sedimentation of waterways	<p><input type="checkbox"/> The road will traverse a mountainous area necessitating deep cuts on mountainsides, particularly between stations:</p> <p><u>San Isidro to Little Marggos</u> - 0+300 – 0+460, 0+500 – 0+600, 0+820 – 0+860, 0+800, 1+060 – 1+120, 1+760 – 1+820, 2+140 – 2+280, 2+880, 3,+060, 3+100 – 3+120, 3+300 – 3+400, 3+740 – 3+860, 4+020, 4+400 – 4+840, 5+120, 5+360, 5+460, 5+480.</p>	<p><input type="checkbox"/> Include slope protection works at the following stations: <u>Segment A @ Junction Prov. Rd. San Isidro to Little Margos</u> – 0+680 – 0+700, 0+700 - 0+720, 0+720 - 0+740, 0+740 - 0+760, 1+900 - 1+920, 1+920 – 1+940, 1+940 - 1+960, 1+960 - 1+980, 1+980 - 2+000,</p>	Base on BAR CHART in POW	DED/POW Or (if budget does not permit) LGU Co mmitment Letter

	<p><u>Sitio Limanon</u> – 0+060 – 0+100, 0+160, 0+230 – 0+260, 0+620 – 0+660, 0+720, 0+880 – 0+940, 1+020 – 1+060, 1+560 – 1+780, 1+960 – 2+040, 2+080 – 2+100, 2+180 – 2+220, 2+440 – 2+480, 2+620 – 2+640. (check DED for deep cuts)...</p> <p><input type="checkbox"/> The exposed slopes will likely consist of highly erodible loose materials</p> <p><input type="checkbox"/> The cut slopes will be hard materials that would resist erosion</p> <p><input checked="" type="checkbox"/> The road passes through a relatively benign terrain, cuts will be minimal</p> <p><input type="checkbox"/> The rehabilitation work does not involve additional road cuts</p>	<p>2+000 - 2+020, 2+740 - 2+760, 2+760 - 2+780, 2+780 - 2+800, 2+820 - 2+840, 3+480 - 3+500, 3+500 - 3+520, 3+620 - 3+640, 3+640 - 3+660, 3+660 - 3+680, 3+680 - 3+700, 4+900 - 4+920, 4+920 – 940, 5+160 - 5+180, 5+5180 - 5+200, 5+200 - 5+220. <u>Segment A @ Junction Prov. Rd.</u></p> <p><u>Sitio Limanon.</u> – 0+300 - 0+320, 0+320 - 0+340, 0+380 - 0+400, 0+400 - 0+420, 0+420 - 0+440, 1+260 - 1+280, 1+280 - 1+300, 1+300 - 1+320, 1+360 - 1+380, 1+380 - 1+400, 1+400 - 1+420, 1+860 - 1+880, 1+880 - 1+900, 1+900 - 1+920, 2+340 - 2+360, 2+360 - 2+380, 2+380 - 2+400, 2+520 - 2+540, 2+540 - 2+560, 2+560 - 2+580.</p> <p>(Specify the type/s of slope protection to be applied at each section- Consult with the Municipal Engineer:</p>		
--	--	---	--	--

		<input type="checkbox"/> Bioengineering with geomat and cover crop <input type="checkbox"/> Fast growing shrub species <input checked="" type="checkbox"/> Riprap <input type="checkbox"/> Gabions <input type="checkbox"/> Terracing <input type="checkbox"/> Concrete protection wall <input type="checkbox"/> Others _____)		
7. Inadequate drainage resulting in flooding or ponding	<input checked="" type="checkbox"/> The road will block runoff, resulting in flooding on one side of the road during rainy days. <input type="checkbox"/> Drainage issues unlikely	<input checked="" type="checkbox"/> Installation of cross drain between stations (RCPC 610 dia): <u>Sitio Limanon</u> – 0+360, 0+440, 0+460, 0+528, 0+680, 0+764, 0+840, 1+140, 1+200, 1+280, 1+340, 1+540, 1+660, 1+800, 1+900, 2+150, 2+260, 2+340, 2+540. <u>San Isidro to Little Margos</u> -- 0+002, 0+152, 0+232, 0+720, 0+920, 1+134, 1+200, 1+280, 1+320, 1+430, 1+680, 1+720, 1+800, 1+900, 2+140, 2+780, 3+160, 3+440, 3+540, 3+790, 3+940, 4+170, 4+250, 4+320, 4+430, 4+598, 4+726, 4+780, 4+980, 5+180, 5+240, 5+380, 5+480.	Base on BAR CHART in POW	DED

8. Potential increase use of pesticides due to intensification of cash crop production in the area	<input type="checkbox"/> There is an ongoing IPM program of DA in the service area <input checked="" type="checkbox"/> Farmers in the service area have not been trained on IPM	<input type="checkbox"/> DA to continue to support IPM program <input checked="" type="checkbox"/> LGU to Coordinate with DA on IPM training	Before start of the projects	Capacity Building Plan O&M Plan; Capacity Building Plan
9. Potential acceleration of denudation of the upland/hilly areas due to intensification of crop production	<input checked="" type="checkbox"/> The proposed road will connect to the market an upland/hilly area where farmers are currently practicing erosive farming techniques. The road could help accelerate the denudation of the upland/hillsides rendering them unproductive in a few years. <input type="checkbox"/> The road connects only lowland farms to the market	<input checked="" type="checkbox"/> DA to coordinate with LGU for the introduction of sustainable upland farming systems in the area <input type="checkbox"/> No measure required	Before start of the projects	O&M Plan; Capacity Building Plan
10. Potential increased in encroachments of human activities into the nearby public forest	<input type="checkbox"/> The proposed road will improve human access to the nearby public forest, resulting in increase slash and burn cultivation, illegal logging and poaching. <input checked="" type="checkbox"/> The proposed road does not improve access to a public forest	<input type="checkbox"/> Coordinate with DENR for the enactment of ordinance deputizing the local community to enforce forestry laws <input checked="" type="checkbox"/> No measure required		O&M Plan; Capacity Building Plan
11. Local employment	<input checked="" type="checkbox"/> Construction will provide local employment opportunities	<input checked="" type="checkbox"/> Hiring priority shall be given to qualified local residents; Implement RI Manual on local hiring	Before start of the projects	Contract
	<input type="checkbox"/> Construction does not provide any local employment opportunities	<input type="checkbox"/> No measures required		
11. Conversion of Land-use/natural	<input type="checkbox"/> the proposed quarry site is within a private land and need to convert existing land-use	<input checked="" type="checkbox"/> Quarry materials will be procured to existing quarry sites	Start of the SP implementations	Certification

habitat due to quarry	<input checked="" type="checkbox"/> Quarry site is existing and proven as a good source of quarry materials			
12. Potential damage to existing road due to hauling of quarry materials	<input checked="" type="checkbox"/> source of quarry materials is <u>14.72</u> km. (Item 201), <u>3.41</u> km. (Item 200) Transportation of quarry materials from source to FMR will cause damage to existing FMR	<input checked="" type="checkbox"/> regular maintenance and repair of existing road	Start of the SP implementations	Contract