

**ENVIRONMENTAL AND SOCIAL MANEGEMENT PLAN (ESMP)**

Name of Sub-project : **Rehabilitation of Imbang Grande – Tagubong – Gemumua Agahon – Agtabo FMR**

Location : Passi City

Implementing LGU : Iloilo Provincial Government through the Provincial Engineer’s Office

Estimated No. of beneficiaries : 19,187 population; M= 9,983, F= 9,204  
4,080 households

Rehabilitation or New : Rehabilitation of existing road

Estimated Total Cost : Php 264,013,219.00

**A. Site and Design Consideration**

The road does not encroach or traverse any declared protected area or natural habitat.

The subproject will not displace, disfigure or render inoperable/inaccessible any monument or physical structure of known cultural and historical significance.

**B. Environmental Issues and Mitigation Measures**

Issue (Potential Impact)	Assessment	Mitigation Measures	Schedule/Duration of the Mitigation Measures	Instrument of Implementation	Responsible Unit
<b>A. Pre-construction Phase</b>					
1. Delivery of construction materials; transport of mechanical equipment to site.	Construction wastes (e.g sacks, cans, plastic, scrap lumber and steel will have a moderate impact to the environment	a. Segregation at source and regular disposal of construction residuals to the City dumpsite  b. Collect cement sacks, excess steel bars and lumber for disposal to MRF c. Provide trash can in the project site  d. Monitor litters of waste within the project site	Pre-operation phase  Pre –project phase, Implementation phase	By administration	PEO, Supplier
	Dust and Noise pose a moderate impact to the environment	a. Limit works at daytime  b. Decelerate trucks near busy intersections and narrow streets  c. Proper supervision of filling and construction works	Implementation phase		PEO, Contractor

2. Grievance during construction.	Complaints and Issues can hamper the implementation of the project.	d. Cover hauling trucks with canvass or any equivalent materials.  Establish Grievance Redress Mechanism	Implementation Phase	Grievance & Redress Mechanism	LGU Governor, RPCO
3. Possible loss of economic trees during construction.	A number of fruit bearing and forest trees will be cut prior and during construction.	The Local Government Unit (LGU) will be responsible for the cutting of trees and the lumber will be turned-over to the owner.  A notarized waiver of quite claim was signed by the owner of the affected trees.  A Cutting Tree Permit was issued by the CENRO with all the requirements for compliance included.	Prior, during and after construction	Notarized waiver of quite claim signed by the owner trees.  Cutting Tree Permit	LGU
<b>Construction Phase</b>					
1.Domestic wastes	The wastes generated by construction workers will have a moderate impact to the nearby environment  Construction wastes will have a moderate impact	a. Segregation at source and regular disposal of residuals to the city dumpsite.  b. Collect cement sacks, excess steel bars and lumber and place in the MRF	Construction phase	By administration	PEO
2. Temporary increase in sedimentation	Alteration in identified landscape and elevation due to excavation to minimize the slope and mitigate soil erosion	a. Earthmoving/cutting of slopes to be done during dry months.  b. Generated soil/spoil materials will be stockpiled in small mounds and buttressed appropriately with bunds and provided with drainage canal and siltation ponds.  c. Slope should be planted with grasses to prevent erosion	Construction Phase	By Contract	Contractor
3. Potential Contamination of surface and ground water with oil and grease	Waste oil and grease from equipment could moderately contaminate surface water	a. Check equipment for leaks and repair as necessary  b. Observe proper storage of fuel materials	Construction phase	By Contract	Contractor

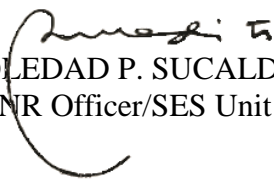
4. Potential contamination with human waste	Workers would be mostly locals and are expected to go home to their respective houses after work	Set up adequate toilet facility at the base camp	Construction phase	By contract	Contractor
5. Potential disruption of traffic flow	The access road and/or segments to be rehabilitated need is vital to daily activities of the residents and farmers and need to be kept open to traffic during construction	<p>a. Keep the road open to traffic flow and minimize disruptions along the access road and/or construction area</p> <p>b. Provide adequate warning signs and traffic personnel when necessary</p>	Construction Phase	By contract	Contractor
6. 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>Access road and/or the construction rehabilitation works passes through a populated area</p>	<p>a. Undertake sprinkling of road (including access roads) during dry days, and filling up of potholes during rainy days, especially in residential areas</p> <p>b. Set up speed limits</p>	Construction Phase	By contract	Contractor
7. Landslide/erosion of exposed road sides resulting in sedimentation of waterways	The road passes through a relatively benign terrain, cuts will be minimal	<p>a. Include slope protection works at the following stations:</p> <p><b>Segment A</b> Sta 03+795-Sta 03 + 835 Slope Protection at Right Side (40LM)</p> <p>Sta 15+780-Sta 15+920 Slope Protection at Right Side (140LM)</p> <p><b>Segment B</b> Sta 04+850-Sta 05+180 Slope Protection at Both Side (330LM)</p> <p><b>Segment C</b> Sta 00+338-Sta 00+378 Slope Protection at Both Side (40LM)</p> <p>Sta 01+410-Sta 01+430 Slope Protection at Both Side (20LM)</p> <p>Sta 02+270-Sta 02+300 Slope Protection at Both Side (30LM)</p> <p>Sta 03+855-Sta 03+875 Slope</p>	Construction Phase	By contract	Contractor

		<p>Protection at Both Side (20LM)</p> <p>Sta 03+950-Sta 03+970 Slope Protection at Both Side (20LM)</p> <p>b. Bioengineering with geomat with cover crop or grasses.</p>			
8. Inadequate drainage resulting in flooding or ponding	The road will block run-off, resulting in flooding on one side of the road during rainy days	<p>Drain at stations:</p> <p><b>Segment A</b> (cross drain)</p> <p>Sta 01+713</p> <p>Sta 02+733.50</p> <p>Sta 03+520</p> <p>Sta 03+929.40</p> <p>Sta 04+896</p> <p>Sta 04+951</p> <p>Sta 05+236</p> <p>Sta 05+296</p> <p>Sta 07+660</p> <p>Sta 11+512</p> <p>Sta 11+773</p> <p>Sta 15+625</p> <p>Sta 15+795</p> <p>Sta 15+848</p> <p>Sta 16+129</p> <p>Sta 16+240</p> <p>Sta 16+311</p> <p>Sta 16+669</p> <p>Sta 03+781(box culvert)</p> <p><b>Segment B</b>(cross drain)</p> <p>Sta 00+768</p> <p>Sta 01+048</p> <p>Sta 01+357</p> <p>Sta 01+694</p> <p>Sta 01+700</p> <p>Sta 01+927</p> <p>Sta 01+995</p> <p>Sta 02+198</p> <p>Sta 02+624</p> <p>Sta 02+822.6</p> <p>Sta 02+986.9</p> <p>Sta 04+915</p> <p>Sta 04+960</p> <p>Sta 05+796</p> <p>Sta 06+035</p> <p>Sta 06+808.5</p> <p>Sta 06+852</p> <p>Sta 07+697</p> <p>Sta 03+989 to 04 + 004- overflow bridge</p> <p>Sta 07+030 to 07 + 048 – box culvert</p> <p><b>Segment C</b> (cross drain)</p> <p>Sta 00+221</p> <p>Sta 00+358</p> <p>Sta 00+589</p> <p>Sta 02+286</p> <p>Sta 02+611</p> <p>Sta 02+719</p> <p>Sta 02+737</p>	Construction phase	By Contract	Contractor


		Sta 02+893 Sta 03+354 Sta 03+865 Sta 03+959 Sta 04+385 Sta 01+419 to 01 + 422 – box culvert			
9. Local Employment	Construction will provide local employment opportunities.	Hiring priority shall be given to qualified local residents.	Construction Phase	By Contract	Contractor
10. Potential damage to existing road due to hauling of quarry materials	Transportation of quarry materials from source to FMR will cause damage to existing roads.	Regular maintenance and repair of existing road.	All throughout the construction duration	By Contract	Contractor
11. Possible discovery of artifacts, bones, and other objects of interest during construction of the road.	Discovery of artifacts bones and other objects of interest within 10 meter radius.	Suspension of the activities and immediately report to the PLGU and RPCO SES Focal Person.	All throughout the construction duration	Finds Procedures	Contractor, LGU, PPMIU
12. Possible impacts of quarrying activities in the quarry sites.	Over extraction of quarry materials in the quarry sites and the possible negative impact in the surrounding area.	The Provincial Environment and Natural Resources Office (PENRO) is mandated through its officer in-charge of quarry sites to regularly monitor quarrying activities and ensure that the volume of materials extracted does not exceed on what is indicated in the quarry permit issued.	The mitigation measure is a regular function of PENRO and it will be conducted during construction.	PENRO function	PENRO
13. Possible contamination of soil and water from the waste water of the batching plant operation.	Waste water from the operation of the batching plant will moderately contaminate the water and soil in the area.	Constant monitoring of the engineer in-charge on the operation of the batching plant.	During Batching Plant operation	Regular function of the field engineer assigned to the project	PEO
14. Possible long term impact of waste water from the project.	Moderate impact of waste water from the project and possible impact would be temporary.	Provide proper area for disposal of waste water from the construction.	During construction	By Contract	Contractor
<b>Post -Construction Phase</b>					
1. Potential increase use of pesticides due to intensification of cash crop production in the area	There is an ongoing IPM program of City Agriculture's Office (CAO) and DA in the service area	CAO & DA to continue to support IPM program	Ongoing even before construction	Capacity Building Plan O&M Plan; Capacity Building Plan	CAO & DA
2. Potential acceleration of denudation of the upland/hilly areas due to intensification of crop production	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	The OPA and PENRO will introduce sustainable upland farming systems in the area	Post-Construction Phase	O & M Plan, capacity building Plan	OPA, PENRO

<p>3. Potential increased in encroachments of human activities into the nearby forest</p>	<p>rendering them unproductive in a few years.  The proposed road will improve human access to the nearby public forest, resulting in increased slash and burn cultivation</p>	<p>DENR will deputize the local community to enforce forestry laws</p>	<p>Post-Construction Phase</p>	<p>Capacity building plan</p>	<p>DENR, PENRO</p>
---	--	--	--------------------------------	-------------------------------	--------------------

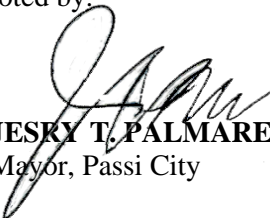
Prepared by:

  
**SOLEDAD P. SUCALDITO**  
 PENR Officer/SES Unit Head

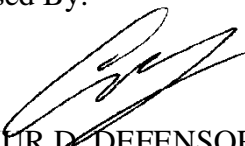
Adopted By:

  
**RAUL N. BANIAS, M.D.**  
 Provincial Administrator/  
 Chairperson, PPMIU

Noted by:

  
**JESRY T. PALMARES**  
 Mayor, Passi City

Endorsed By:

  
**ARTHUR D. DEFENSOR, SR.**  
 Governor