

<p>3 Natural Environment</p>	<p>(1) Protected Areas</p>	<p>1) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?</p> <p>1) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?</p> <p>2) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?</p> <p>3) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?</p> <p>4) Is there a possibility that the project will adversely affect aquatic organisms? If significant impacts are anticipated, are adequate protection measures taken to reduce the impacts on aquatic organisms?</p> <p>5) Is there a possibility that the project will adversely affect vegetation and wildlife of coastal zones? If significant impacts are anticipated, are adequate measures taken to reduce the impacts on vegetation and wildlife?</p>	<p>- Carry out monitoring of noise.</p> <p>1) No.</p> <p>1) The project area does not encompass primeval forests, tropical rain forests, ecologically valuable habitats. It will encompass tidal flats. However, the impact is not significant.</p> <p>2) No.</p> <p>3) It is anticipated that the ecological impacts are not significant</p> <p>4) It is anticipated that impacts to aquatic organisms are not significant</p> <p>5) It is anticipated that impacts to vegetation and wildlife of coastal zones are not significant</p> <p>6) There is not any valuable forest, wetland, fauna species, flora species in the project area.</p> <p>7) A part of the planned highway is located in the under-developing Dinh Vu Industrial Zone. However, there is not any possibility that the highway will result in extensive loss of natural environments.</p>
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	<p>6) Is there a possibility that installation of roads will cause impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystems due to introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered?</p> <p>7) In cases where the project site is located at undeveloped areas, is there a possibility that the new development will result in extensive loss of natural environments?</p>	
	<p>1) Is there a possibility that alteration of topographic features and installation of structures will adversely affect surface water and groundwater flows on the land?</p> <p>2) Is there a possibility that alteration of topographic features and installation of structures, such as piers and guide posts will cause oceanographic changes and adversely affect oceanographic conditions, such as induced currents, waves, and tidal currents?</p>	<p>(3) Hydrology</p>
<p>1) Impact caused by the planned highway to the rivers, canals, and other surface water system and groundwater flows in the project area is anticipated not significant.</p> <p>2) Impact caused by the planned bridge piers to the river flows and current oceanographic conditions is anticipated not significant.</p>	<p>1) Is there a soft ground on the route that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed?</p> <p>2) Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides?</p>	<p>(4) Topography and Geology</p>
<p>1) The project area is generally flat. Slope failures or landslides are not likely to be induced. However, the highway is planned on soft ground of Cat Hai Island and Dinh Vu Peninsula. There would be possibility of land subsidence if proper measures to treat soft ground are not carried out appropriately.</p> <p>2) The highway is planned in the plain coastal areas, and therefore, occurrence of large-scale slope failures or landslides are not</p>		

<p>3) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?</p> <p>4) Is there a possibility that installation of structures, such as piers and guide posts will cause a large-scale alteration of topographic and geologic features in the surrounding areas or elimination of natural beaches?</p>	<p>anticipated.</p> <p>3) The following measures are proposed to prevent soil runoff from earthwork sites, waste soil disposal sites, and borrow sites:</p> <ul style="list-style-type: none"> - Contractors will be obligated to minimize exposition of soil surface caused by excavation works during the rainy season where practicable. - The material stockpile sites, the earthwork sites where exposed land surface is vulnerable to runoff, etc. should be consolidated and/or covered; - The material stockpile sites should be far away from surface water bodies and areas prone to surface run-off. Loose materials should be bagged and covered. Open ditch should be built around the stockpile sites to intercept wastewater. Channels, earth bunds, netting, tarpaulin and/or sand bag barriers shall be used on site to manage surface water runoff and minimise erosion. - All exposed earth areas shall be completed and re-vegetated as soon as possible after completion of earthworks. <p>4) No.</p>
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<p>4 Social Environment</p>	<p>(1) Resettlement</p>	<p>1) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?</p> <p>2) Is adequate explanation on relocation and compensation given to affected persons prior to resettlement?</p> <p>3) Is the resettlement plan, including proper compensation, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?</p> <p>4) Does the resettlement plan pay particular attention to vulnerable groups or persons, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?</p> <p>5) Are agreements with the affected persons obtained prior to resettlement?</p> <p>6) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?</p> <p>7) Is a plan developed to monitor the impacts of resettlement?</p>	<p>1) The Project would acquire some lots of residential land, especially in Cat Hai Island. This will cause the need of involuntary resettlement. In the D/D stage, efforts should be made to minimize scale of land acquisition and involuntary resettlement, through the careful examination of route alignment, particularly at the section near the Trung Hamlet in Cat Hai Island.</p> <p>2) At present time, the Project have not been formally approved, and impacts caused by the land acquisition for the Project have not been identified clearly yet. Therefore, PMU2 and local authorities can provide residents living in the affected areas with only limited explanations on resettlement and compensation.</p> <p>3) The detailed socio-economic survey has not been carried out yet. A Pre-RAP had been prepared as a part of the F/S report prepared in July 2009 by VIDIFI. This Pre-RAP includes legal and policy framework for compensation and resettlement. Policy on restoration of livelihoods and living standards of PAP is described briefly in this Pre-RAP.</p> <p>4) A section in the Pre-RAP describes the compensation policy which includes several statements on particular considerations to the poor. However, a detailed socio-economic survey should be carried out in the D/D stage, to identify characteristics and living conditions of the poor, the elderly, the children, as well as other vulnerable groups in the Project area. And a detailed RAP should be prepared in the D/D stage, which should take into considerations particular measures to assist vulnerable residents in restoring their livelihoods and living</p>
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<p>standards.</p> <p>5) At this present time, PAP have not been formally identified yet, and negotiations on compensation and relocation have not been carried out yet.</p> <p>6) According to Vietnam regulations on compensation and resettlement in case of development project, a formal declaration on land acquisition will be done after the approval of the F/S and investment license. Organizational framework for implementation of compensation and resettlement will be established after such formal declaration on land acquisition.</p> <p>7) The Pre-RAP prepared by VIDFI in July 2009 includes a section describing outline of a system proposed for monitoring the implementation of the RAP. However, it is recommended that a RAP Monitoring Plan should be prepared in detail in the D/D stage.</p>		
<p>1) At present time, the main mean of transportation of residents in Cat Hai Island is motorbike and ferry (Dinh Vu Ferry). The Project may contribute to the improvement of residents' accessibility to other cities the main land. However, it may cause the termination of Dinh Vu Ferry. Workers of the Ferry as well as shopkeepers, peddlers, etc. who have means of livelihood in relation with the Ferry should lose income, and should be supported to change occupation.</p> <p>In addition, aquaculture and salt production which are main means of livelihood of local residents, would be significantly affected by the Project. Therefore, it is recommended that a proper Livelihood Restoration Program should be prepared and implemented in the D/D</p>	<p>1) Where roads are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these impacts?</p> <p>2) Is there a possibility that changes in water uses (including fisheries and recreational uses) in the surrounding areas due to project will adversely affect</p>	<p>(2) Living and Livelihood</p>

<p>the livelihoods of inhabitants? Are adequate measures considered to reduce the impacts, if necessary?</p> <p>3) Is there a possibility that diseases, including communicable diseases, such as HIV will be introduced due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?</p> <p>4) Is there a possibility that the project will adversely affect the existing water traffic and road traffic in the surrounding areas (e.g., by causing increases in traffic congestion and traffic accidents)?</p> <p>5) Is there a possibility that roads will cause impede the movement of inhabitants?</p> <p>6) Is there a possibility that structures associated with roads (such as bridges) will cause a sun shading and radio interference?</p>	<p>stage. It also recommends to construct a parking area/ service zone in the area near the Cat Hai side- terminal of Got Ferry in order to facilitate the implementation of Livelihood Restoration Program for PAP.</p> <p>There is a plan to relocate all residents in the southern part of the Cat Hai Island to develop an industrial zone in connecting with the international port. However, detailed information about this plan are unknown.</p> <p>2) As mentioned above, aquaculture and salt production would be significantly affected by the Project.</p> <p>3) It is estimated that about 400 immigrant construction workers may come to work in and around the Project area. The EIA report identifies organic waste which affects human health, water-transmitted diseases and social evil activities as the negative impacts on health condition.</p> <p>In addition, possibility of outbreaks of infectious diseases from such workers such as malaria, dengue and HIV cannot be neglected. It is recommended to prepare a proper HIV/AIDS Prevention Program in the D/D stage, and duly carry out this Program during construction phase.</p> <p>4) During construction phase, traffic congestions and accidents may occurred frequently on the roads near Cat Hai City, due to the concentration of construction vehicles using these roads to access to construction sites. Several mitigation measures are recommended in the EIA Report such as the followings.</p>
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<ul style="list-style-type: none"> - Carefully prepare the construction plan in order to minimize the area and period of road occupation / closure, and avoid concentration of construction vehicles; - Prior notice local residents on the road occupation / closure through sign boards and mass media; - Allocate personnel at place vulnerable to traffic congestion to instruct detour. <p>5) The highway will cause split of the Ninh Tiep Hamlet and Trung Hamlet, and would impede residents' movement in these hamlets. Therefore, it is recommended to construct several underpass routes at road sections near these hamlets to mitigate such impedance.</p> <p>6) For the road section in Cat Hai Island, the heights of the road embankment are planned about 1~4 meters from the existing land level. A few number of houses in Ninh Tiep Hamlet may be affected by sun shading. However, impact of radio interference is unlikely anticipated.</p>	<p>1) No.</p>	<p>1) No.</p>
	<p>1) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage sites? Are adequate measures considered to protect these sites in accordance with the country's laws?</p>	<p>1) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?</p>
	<p>(3) Heritage</p>	<p>(4) Landscape</p>

	(5) Ethnic Minorities and Indigenous Peoples	<p>1) Where ethnic minorities and indigenous peoples are living in the rights-of-way, are considerations given to reduce the impacts on culture and lifestyle of ethnic minorities and indigenous peoples?</p> <p>2) Does the project comply with the country's laws for rights of ethnic minorities and indigenous peoples?</p>	<p>1) The Project area is far away from the living habitats of ethnic minorities. There are no indigenous people in the Project area.</p> <p>2) Not applicable</p>
5 Others	(1) Impacts during Construction	<p>1) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?</p> <p>2) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts?</p> <p>3) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?</p> <p>4) If necessary, is health and safety education (e.g., traffic safety, public health) provided for project personnel, including workers?</p>	<p>1) Measures described in the following annex are recommended to mitigate impacts during construction. However, an EMP (Environmental Management Program) should be prepared and implemented duly to ensure the implementation of these measures.</p> <p>2) Similar to Paragraph 1)</p> <p>3) Similar to Paragraph 1)</p> <p>4) The health and safety education (e.g., traffic safety, public health) will be provided for project personnel, including workers.</p>
(2) Monitoring		<p>1) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?</p> <p>2) Are the items, methods and frequencies included in the monitoring program judged to be appropriate?</p> <p>3) Does the proponent establish an adequate monitoring</p>	<p>1) An environmental monitoring plan is described briefly in the EIA Report.</p> <p>2) Items, methods and frequencies included in the environmental monitoring plan described in the EIA Report are judged not appropriate. In the D/D stage, a detailed Environmental Management Program (EMP) which includes a concrete environmental monitoring</p>

		<p>framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?</p> <p>4) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?</p>	<p>plan should be prepared.</p> <p>3) Establishment of an adequate monitoring framework should be examined and described in the EMP to be prepared in the D/D stage.</p> <p>4) The EIA report does not show any regulatory requirements on reporting monitoring results. However, the project proponent will have a responsibility for reporting periodically to the relevant governmental agencies as well as public.</p> <p>Besides, the Pre-RAP describes briefly about the need of monitoring of the RAP implementation, but does not go into detail about the organizational framework for the monitoring, and the systematic reporting process. It is recommended to examine this issue in more detail in the RAP to be prepared in the D/D stage.</p>
<p>6 Note</p>	<p>Note on Using Environmental Checklist</p>	<p>1) Where necessary, impacts on groundwater hydrology (groundwater level drawdown and salinization) that may be caused by alteration of topography, such as land reclamation and canal excavation should be considered, and impacts, such as land subsidence that may be caused by groundwater uses should be considered. If significant impacts are anticipated, adequate mitigation measures should be taken.</p> <p>2) If necessary, the impacts on transboundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).</p>	<p>1) Not applicable.</p> <p>2) Not applicable.</p>

- 1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are made, if necessary.
In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan' experience).
- 2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

Annex- Proposed mitigation measures in construction phase

A. AIR QUALITY CONTROL

- 1) Construction materials are supplied only from the quarries that have exploitation license and operated under a good environmental management
- 2) The Contractor shall not burn debris, construction wastes, vegetation or other materials on the site.
- 3) Specific mitigation measures to control air quality impacts arising from implementing the earthworks are as follows:
 - to minimize dust emissions, the amount of spoil exposed shall be kept as low as possible and
 - the dust generation potential shall be kept as low as possible, this can be accomplished by surface compaction, temporary fabric covers, minimizing the extent of exposed soil and the prompt re-vegetation of completed earthworks;
- 4) In transportation of earth and construction materials:
 - Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin in good condition.
 - The Contractor shall be responsible for ensuring that no earth, rock or debris is deposited on public or private right of way as a result of his operations, including any deposits arising from the movement of Construction Plant or vehicles.

- Wheel washing facilities shall be provided at the exit of all construction sites to prevent dusty material from being carried off-site on vehicles and deposited on public roads. Wash-water shall have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of wheel wash operations.
 - The Contractor shall spray all roads within the construction sites and roads leading to the sites to control dust.
 - The Contractor shall require that all vehicles, while parked on the site have their engines turned off.
 - On site vehicle speeds shall be restricted to a maximum of 15km/hour to reduce dust resuspension and dispersion by traffic within sites;
 - Areas within the Site where there is a regular movement of vehicles shall have a hard surface and be kept clear of loose surface material
 - During breaking/crushing or demolition works watering shall be implemented to control dust. Water sprays shall be used during the handling of excavated material and at active cuts, excavation and fill sites. Excessive watering should be avoided.
- 5) Heights from which excavated materials are dropped shall be controlled to the minimum practical to limit the fugitive dust generation from unloading.
- 6) Specific mitigation measures to control air quality impacts arising from concrete batching plant operation are as follows:
- Cement and other such fine-grained materials delivered in bulk shall be stored in closed silos fitted with a high-level alarm indicator. All air vents on cement silos shall be fitted with suitable fabric filters provided with either shaking or pulse-air cleaning mechanisms.
 - The Contractor shall frequently clean and water the concrete batching plant and crushing plant sites and ancillary areas to minimize any dust emissions.
 - Where dusty materials are being discharged to vehicles from a conveying system at a fixed transfer point, a three-sided roofed enclosure with a flexible curtain across the entry shall be provided. Exhaust fans shall be provided for this enclosure and vented to a suitable fabric filter system;
 - All stockpiles of sand and aggregate within the batching plant site which are greater than 50m³ shall be enclosed on three sides with walls extending above the stockpile and 2000mm beyond the front of the stockpile.

B. NOISE AND VIBRATION CONTROL

- 1) Construction works within 100 meters of residential areas and hospitals, shall be restricted to daytime hours 0600 to 1800, to minimize noise disturbance at night.
- 2) The Contractor shall select equipment with considerations for using equipment with lowest noise levels;
- 3) Positioning air compressors for various construction plant on rubber sheets;
- 4) Siting of mobile plant as far away from NSRs as possible. Orientation of plant known to emit noise strongly in one direction such that the noise is directed away from nearby SRs.

C. EROSION CONTROL

- 1) At the start of site establishment, perimeter cut-off drains to direct off-site water around the site shall be constructed and internal temporary drainage works and erosion and sediment control facilities implemented.
- 2) The Contractor shall plan his works to minimize surface excavation works during the rainy season (April to September) where practicable.
- 3) Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms shall be developed by the Contractor. Particular attention shall be paid to the control of surface runoff during storm events, especially for sites located near steep slopes.
If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces shall be protected by temporary drainage measures as detailed above.
- 4) Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. Failure to provide temporary drainage measures can result in considerable storm damage during the wet season to the site works as well as considerable water quality impacts.
- 5) All exposed earth areas shall be completed and revegetated as soon as possible after earthworks have been completed.
- 6) The overall slope of the works areas and construction yards shall be kept to a minimum to reduce the erosive potential of surface water flows

D. WATER POLLUTION CONTROL

- 1) The Contractor shall ensure that all temporary construction facilities are located at least 50 meters away from any waterbody.
The Contractor shall ensure that no tools or machinery are washed in any water source or areas that drain into an existing watercourse or to the marine environment.
- 2) The Contractor shall ensure that rain run-off from the construction sites is not deposited directly into any watercourse or the marine environment.
Drainage from vehicle maintenance areas, plant servicing areas and vehicle wash bays shall be passed via a petrol interceptor prior to discharge.
Wastewater shall be collected and disposed of off-site after oil/grease removal and settlement of suspended solids.
Sediment tanks of sufficient capacity, constructed from pre-formed individual cells of approximately 6-8m³ capacity shall be used at all sites for settling waste-waters prior to disposal. Wastewater arising from excavation works shall be discharged to storm drains via sediment tanks.
- 3) All drainage facilities and erosion and sediment control structures shall be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms.
- 4) The Contractor shall weekly check all equipment for prevention of oil and or lubrication leaks and ensure that all equipment oil and lubrication replacements are performed only in bunded maintenance and repair areas.
- 5) The Contractor shall at all times ensure that all existing stream courses and drains within, and adjacent to, the Site are kept safe and free from any debris and any excavated materials arising from the Works.

E. WASTE MANAGEMENT

- 1) Raw material requirements shall be planned at the outset of each construction activity to avoid excess material storage and wastage on-site.
Fill required for site formation of construction yards shall be sourced from cuttings required within the works areas only.
- 2) No burning of debris, construction wastes or vegetation shall be allowed on-site.
- 3) The Contractor shall segregate construction waste materials on-site to facilitate re-use, recycling and waste disposal practice in accordance with the best available technology, as follows:

- For construction waste deemed by the Engineer to be suitable for reclamation or land formation: the Contractor shall liaise with the Municipal Environmental Company of Hai Phong City to determine the appropriate location for reuse. Reuse shall not have a detrimental impact on the environment.
- For construction waste deemed by the Engineer to be unsuitable for reclamation or land formation: the Contractor shall classify wastes on-site with dedicated areas for each waste stream including but not limited to: wood/timber, metals and plastics.
- 4) Wastes shall be stored and handled in dedicated areas with bunded sides such a way as to avoid loss or leakage and subsequent pollution. Waste storage sites shall be located away from sensitive areas such as: residential, surface/groundwater. Designated waste storage areas shall be well maintained and cleaned regularly.
- 5) The Contractor shall enter into a contract with the Municipal Environment Company of Hai Phong City for the collection of domestic refuse. To facilitate waste collection the Contractor is required to designate locations on-site shielded from wind and rain.
The Contractor shall enter into a contract with the Municipal Environment Company of Hai Phong City or similar approved company for the collection of asbestos waste arising from demolition works. The Contractor shall employ within his team a specialist in the identification of asbestos containing material (ACM). On removal ACM shall not be broken, shall be kept dampened and shall be stored in a dedicated enclosed area on-site.
- 6) Waste oils, chemicals, paints and other such materials used for machinery maintenance and construction shall be collected and stored in bunded areas on-site for resale/re-use or managed disposal without resulting in damage or pollution of the environment.
- 4) In locations remote from the site offices the Contractor shall provide latrine pits in suitable locations for the convenience of the construction workforce. If any office, site canteen or toilet facilities are erected foul water effluent shall be directed to a sewage treatment facility either directly or indirectly by pumping.
- 7) All water and liquid waste products arising on the site shall be collected and removed from Site via a suitable and properly designed temporary drainage system and disposed of at a location and in a manner that will cause neither pollution nor nuisance.
Sewage from site toilets, kitchens and similar, shall be discharged to a septic tank and soak-away system. Grease traps shall be installed where canteen waste is collected and shall be capable of providing at least 20 minutes retention during peak flow, prior to discharge.

F. ECOLOGY AND LANDSCAPE