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# ABBREVIATED RESETTLEMENT ACTION PLAN

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Road Development Authority  
Ministry of Higher Education and Highways

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*May 2019*

*Reconstruction of :*

a) *Bridge No 53/1  
and 53/2 on  
Rathnapura –  
Wellawaya Road  
A004- Ruwanwella.*

b) *Bridge No 23/1  
of Warakapola –  
Ruwanwella Road –  
B457 Road*

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## Abbreviations

AP	Affected Person
ARAP	Abbreviated Resettlement Action Plan
BP	Bank Procedures
CBOs	Community Based Organizations
CEB	Ceylon Electricity Board
CV	Chief Valve
DS	Divisional Secretary
GN	Grama Niladhari
GoSL	Government of Sri Lanka
GRM	Grievance Redress Mechanism
GRC	Grievance Redress Committee
LAA	Land Acquisition Act
M&E	Monitoring and Evaluation
MHRD	Ministry of Highways and Road Development
MoL	Ministry of Lands
NGOs	Non-Governmental Organizations
NIRP	National Involuntary Resettlement Policy
OP	Operational Policy
PAPs	Project Affected Persons
PD	Project Director
PIU	Project Implementation Unit
RDA	Road Development Authority
RE	Resident Engineer
ROW	Right of Way

## A. Project Description

### I. Background

The overall objective of the Climate Resilience Improvement Project (CRIP) is to reduce the vulnerability of exposed people and assets to climate risk and to improve GoSL's capacity to respond effectively to disasters. It is expected that this objective will be achieved through evidence-based investment planning and urgent risk mitigation measures. The proposed project also aligns with two of the main strategic objectives of the Country Partnership Strategy (CPS) FY2013 – FY2016), including: (i) facilitating sustained private and public investment, and (ii) improving living standards and social inclusion.

There are four components of the project to achieve overall project objectives

- Component 1: Development of Basin Investment Plans
- Component 2: Building climate resilience of infrastructure, including: (a) Flood risk mitigation; (b) Transport Continuity; (c) School protection
- Component 3: Project Implementation
- Component 4: Contingent Emergency Response Component

Under the sub-component 02 (“Transport Connectivity”), the Road Development Authority (RDA) of Sri Lanka has identified fifteen (15) low-lying bridges constructed in flood plains that are impacted by flood on a regular basis. To mitigate the flood risk to these low-lying bridges, the narrow river crossings and old bridges will be strengthened under the Project. Specifically, this will involve raising and widening of bridges to allow more water to flow underneath the bridges preventing the bridges from getting flooded.

### II. Proposed Intervention

The RDA has recently completed designs for 15 identified bridges to be supported under the Project. The nature of scope of works involve construction of 4 span bridges providing clear carriageway of 7.4m in length with 2x1.5m wide foot walks, construction of reinforced concrete abutment and wing walls on foundation. The decks are to be formed of 17.5m long pre-tensioned beams placed side by side with in situ in filler concrete. Handrails for both sides of the bridges will be provided as a safety measure and proper illumination facility is ensured by installing LED lamp posts.

Out of these 15 bridges, two bridges require land acquisition (Table 1) for reconstruction, especially during replacing existing old bridges with the construction of proposed bridges. However, there will be no resettlement of communities/affected persons due to such acquisition.

**Table 1. Details of Bridges Selected for Improvement**

No	Road Name	Bridge Number
01	Warakapola – Ruwanwella Road	23/1
02	Colombo- Rathnapura- Wellawaya road	53/1 and 53/2

Accordingly, 12 households will lose their lands and structures. This Abbreviated Resettlement Action Plan (ARAP) has been prepared in compliance with the Government's National Policy on Involuntary Resettlement, Land Acquisition Act, Land Acquisition Regulations, World Bank's Operational Policy (OP) 4.12 on Involuntary Resettlement and the project's social management framework (SMF).

### III. Significance of the Proposed Activity

Reconstruction of these two bridges (53/1 and 53/2) is necessary because of the following reasons:

- The existing water way (Aswathu Oya) has no capacity to carry storm water. The existing bridges cannot accommodate rain water during heavy rains and, as a result, the area experience frequent floods almost two to three times a day during the rainy season.
- The main road where the bridges are located provides access to a number of major Districts, such as Rathnapura, Hambanthota and Nuwara Eliya. A considerable number of vehicles use the two bridges (i.e. 4100 vehicles cross the Awissawella bridge and 1168 vehicle cross the Ruwanwella Bridge daily) to connect with all major towns in aforementioned Districts. Thus, these two bridges play a critical role in contributing to socio-economic activities & development of the districts.



Awissawella old bridge to be reconstructed



Ruwanwella old bridge to be reconstructed

### IV. Scope of Proposed Civil Works

Reconstruction of bridges involve: (a) de-silting and deepening the Aswathu Oya upstream and downstream, (b) replacing two old bridges and reconstruction of new bridges, (c) shifting of utilities and providing new utility services, and (d) earthen embankment protection in upstream and downstream for selected stretches of Aswathu Oya.

### V. Socio-Economic Profile

As mentioned above, the construction of the new bridges will require land acquisition affecting 12 households. All AP families were interviewed during the household survey carried to record their socio-economic condition. Table 2 provides the population distribution of the PAPs belonging to the twelve (12) affected families in the two bridges. The total number of individuals affected is 39 and all belong to the Sinhalese ethnic group.

**Table 2. Affected Population**

Location	Affected population	# of affected Families
Ruwanwella Bridge	17	5
Awissawella Bridge	22	7
<b>Total</b>	<b>39</b>	<b>12</b>

Source- social survey for bridges construction, 2017

The population characteristics of the area reflect a higher percentage of female population compared to their counterpart male population. Table 3 shows the gender composition of the population in the project impact areas. There are 20 females and 19 males in these families.

**Vulnerable groups:** No disabled members were found among the affected families. There was one female-headed household and 8 elderly persons (age over 60 years) in the affected population belonging to 6 households. These

families will be entitled to special grant of Rs.15,000/- per household in addition to the compensation available for other losses. As per the needs, PMU will also support these families them during the construction of their houses and will provide necessary support to uplift their livelihood status as noted in the Social Management Framework.

**Table 3 Gender Distribution of AP Families**

Location	Female	Male	Total Population
Ruwanwella bridge	8	9	17
Awissawella bridge	12	10	22
<b>Total Population</b>	<b>20</b>	<b>19</b>	<b>39</b>

Source- social survey for bridges construction, 2017

Different levels of education were reported from the affected community and details are provided in Table 4. Non-schooling children, that is, children who had never been to school are not reported and those who had studied between grades 6 to 10 is 27. Twelve (12) persons have passed General Certificate of Advanced Level, and one has obtained university degree (Further details on the education levels of the APs are provided in Table 1 of Annex II).

**Table 4. Level of Education of PAP families**

Level of Education	Number	Percentage %
Education between grade 1 to 5	00	0
Education between grades 6 to 10	27	57
Education Advance Level (A/L)	12	31
University/other higher levels	01	1.2
Not attending school	00	0

Source- social survey for bridges construction,2017

Table 5 provides details of monthly income levels of the affected families. All the 12 affected households lie in the income level that is above the national poverty level. None of the families draw a monthly income of less than Rs. 10,000.00 per month, and it was observed that only 04 families draw a monthly income more than Rs. 25,000.00. Majority of the families draw a monthly income in the range of Rs. 10,000 – 25,000.00 (See Table 5 of Annex II). Further, the socio-economic survey reveals that none of households in this project impact areas receive government’s ‘Samurdhi’ food subsidies given for households living below the poverty line.

**Table 5: Monthly income level of the AP families.**

Monthly income(Rs.)	AP Families
Less than 10,000.00	00
10,000.00 – 25,000.00	08
More than 25,000.00	04

Source-social survey for bridges constructions 2017

Table 6 presents the livelihood activities of the project affected households. Among the affected family members, the majority (4) is involved in businesses. Only one is employed in government sector and 03 persons work in the private sector. 01 household derives its livelihood from the agriculture sector, and 01 represents a retired household. A self – employed family makes ornamental flowers as a domestic business and provides o he local market.

**Table 6. Occupation/employment details of the APs families.**

Occupation	No. Families
Agriculture	01
Government Sector	01
Private sector	03
Self employed	01
Business	04
Retired	02
Unemployed	01

Source-social survey for bridges constructions 2017

## B. Legal and Regulatory Framework

The land acquisition process under the Project will be governed by the Land Acquisition Act No.9 of 1950 while the compensation for acquired properties and loss of other properties will be paid as per the provisions in the Land Acquisition Regulations 2008, the National Involuntary Resettlement Policy (NIRP) of 2001, the World Bank's Operational Policy 4.12 on Involuntary Resettlement, and the Social Management Framework prepared for the overall project. These instruments will help to ensure that the rights of project affected persons (PAPs) are not violated and that they are not impoverished in the course of subproject implementation. This ARAP is prepared in compliance with these policies and safeguards instruments.

### I. Land Acquisition Act No. 9 of 1950

The Land Acquisition Act (LAA) of 1950 as amended in 1986 provides for the acquisition of private land and servitudes for public purposes. It provides the payment of compensation at market rates for lands, structures and crops. The LAA gives directives for the acquisition of land in the public interest and provides benefits to both titleholders and non-titleholders. **Please refer Table 7 for detail process and Annex IV for Timeline for Normal Land Acquisition Procedures.**

**Table 7: Land Acquisition Process under Land Acquisition Act No. 9 of 1950**

No.	Activity	Responsibility
1.	Conduct land investigation	PIU (CRIP)
2.	Prepare application for acquisition of land for a public purpose on behalf of the Secretary of line ministry (MM&WD) with details of land extent, current situation, boundaries, names & addresses of landowners/claimants, estimated cost & source of payment (Form GAL 29)	PIU (CRIP)
3.	Apply to the secretary, Ministry of Land (MOL)	Secretary, MHRD
4.	Apply with his/her recommendation to the Minister, MOL	Secretary, MHRD
5.	Authorization for acquisition of land under Section 2 of LAA	Minister, MOL
6.	Produce Section 2 Notice to the acquiring officer indicating the intention of acquisition	MOL
7.	Exhibit Section 2 Notice in Sinhala, English and Tamil languages in the project area and send copies to claimants	DS-Ruwanwella and Seethawake
8.	Request District Superintendent of Surveys to prepare Advance Tracing	DS-Ruwanwella and Seethawake
9.	Survey the land and prepare the Advance Tracing	Superintendent of Surveys
10.	Produce Section 5 Notice to proceed with the acquisition	Minister, MOL
11.	Exhibit Section 5 Notice in Sinhala, English and Tamil languages in the project area	DS-Ruwanwella and Seethawake

No.	Activity	Responsibility
12.	Request Superintendent of Surveys to prepare a 'preliminary plan' under Section 6	DS-Ruwanwella and Seethawake
13.	Survey the land, prepare the preliminary plan and submit to the acquiring officer and MOL	Superintendent of Surveys
14.	Issue the notice of land acquisition under Section 7 in Sinhala, English and Tamil in the Government Gazette, exhibit the Notice in the project area and send copies to MOL and call for submission of claims by interested parties/claimants	DS-Ruwanwella and Seethawake
15.	Conduct inquiries under Section 9 to determine the ownership rights of the land and the compensation payable	DS-Ruwanwella and Seethawake
16.	Issue the notice of ownership status of the land under Section 10(1)(a)	DS-Ruwanwella and Seethawake
17.	Request Chief Valuer to determine the compensation for the property to be acquired.	DS-Ruwanwella and Seethawake
18.	Conduct the valuation of the land and other properties	Valuation Dept
19.	Send the valuation report to the acquiring officer	Valuation Dept
20.	Issue the Section 17 award letter indicating the eligible compensation to PAPs.	DS-Ruwanwella and Seethawake
21.	Apply for a Gazetted Ministerial order to take possession of the land	Secretary, MHRD
22.	Provide a Ministerial order in Gazette to take possession of the land	MOL
23.	Take over the possession of the land on behalf of State under Section 38	DS-Ruwanwella and Seethawake
24.	Vesting the possession of the property with the applicant organization by way of a certificate under Section 44 which constitutes a legal title for the land	DS-Kadawathsathara

Source: RDA, Land Division

Land Acquisition Regulations of 2008 issued under Section 63 (2) (f) of LAA 1950 and came into effect on 17 March 2009 incorporate provisions for statutory payments for compensation. It provides provisions for compensation beyond 'market value' by incorporating: compensation for injurious affection and severance (equivalent to the full cost of damage based on the market value of land acquired), disturbances (in terms of Section 3.11, principle based on the 'value to owner' of the property affected as per the written claims submitted by the AP: Gazette notification No.1596/12 of 7.4.2009), reconstruction costs calculated without depreciation, valuation of the affected plot of land at proportional unit cost, together with compensation for business losses and relocation.

## II. National Involuntary Resettlement Policy 2001

The National Involuntary Resettlement Policy (NIRP) 2001 represents a significant milestone in the development of a systematic approach to addressing resettlement issues in Sri Lanka. The Policy thus ensures that (i) project affected persons are adequately compensated, relocated and rehabilitated; (ii) delays in project implementation and cost overruns are reduced; and (iii) better community relations are restored. It aims at ensuring that people affected by development projects are treated in a fair and equitable manner and ensuring that they are not impoverished in the process. The Policy also enables establishing the framework for project planning and implementation that would meet international best practices in involuntary resettlement. The responsibility for reviewing and approving RAPs is vested with the Ministry of Land and Land Development.

The main principles of NIRP that apply to the present project are as follows:

- Avoid, minimize, and mitigate negative involuntary resettlement impacts by reviewing alternatives to the project
- Ensure that the affected persons (APs) are fully and promptly compensated and successfully resettled, their livelihoods are re-established, and their standard of living is improved
- Assist the APs in dealing with psychological, cultural, social, and other impacts caused by compulsory land acquisition and resettlement

- A commitment to gender equality and equity.
- Affected persons should be fully involved in the selection of relocation sites, livelihood compensation and development options at the earliest opportunity.
- Establish an accessible grievance redress mechanism in each development project.
- Resettlement should be planned and implemented with the full participation of the provincial and local authorities.
- Participatory measures should be designed and implemented to assist those economically and socially affected to be integrated into the host communities.
- Resettlement should be planned as a development activity for the affected persons.
- Affected persons who do not have title deeds to land should receive fair and just treatment.
- Vulnerable groups should be identified and given appropriate assistance to improve their living standards.
- Project Executing Agencies should bear the full costs of compensation and resettlement.

### **III. Involuntary Resettlement Policy of the World Bank (OP/BP 4.12)**

The World Bank operational policy on Involuntary Resettlement (OP 4.12) seeks to: (a) avoid where feasible or minimize involuntary resettlement, exploring all viable alternative project designs; (b) if not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programmes providing sufficient resources to enable the displaced persons to share in project benefits; (c) ensure that the displaced persons are informed about their options and rights pertaining to resettlement; (d) meaningfully consult the displaced persons and provide them with opportunities to participate in the planning and implementation of resettlement programmes; (e) assist the displaced persons in their efforts to improve their standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

The policy covers both direct economic and social impacts that are caused by involuntary taking of land, resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets; or (iii) loss of income sources or means of livelihoods, whether or not the affected persons must move to another location; or (iv) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

In order to address the above impacts, the policy requires the borrower to prepare a resettlement plan that includes measures to ensure that the displaced persons are (i) informed about their options and rights pertaining to resettlement; (ii) consulted on, offered choices among various resettlement options, and provided with technically and economically feasible resettlement alternatives; and (iii) provided prompt and effective compensation at full replacement cost for losses of assets attributable directly to the project.

The policy also requires that compensation and other assistance required for relocation be paid and completed, prior to displacement and provision of resettlement sites with adequate facilities, where required. In particular, taking of land and related assets may take place only after compensation has been paid and, where applicable, resettlement sites and moving allowances have been provided to the displaced persons.

Displaced persons eligible for compensation would include (i) those who have formal legal rights to land (including customary and traditional rights recognized under the laws of the country); (ii) those who do not have formal legal rights to land at the time the census begins but have a claim to such land or assets – provided that such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement plan; and (iii) those who have no recognizable legal right or claim to the land they are occupying.

#### IV. Preparation of the ARAP

Whereas LAA remains the main legal procedure for acquiring private land required for the Project, the affected persons and households will receive compensation and resettlement benefits as per the Entitlement Matrix given in this ARAP irrespective of their title or occupancy status before losing shelter, business, assets, and incomes due to this subproject. Specifically, the EM presents the categories of affected persons eligible for compensation and their corresponding losses.

The ARAP was developed based on a census survey conducted with persons/households affected by land acquisitions and consultations conducted with relevant stakeholders. Land acquisition process for this subproject including payment of compensation due to PAPs is scheduled to be completed **by 30th of June 2019 and by 31<sup>st</sup> August 2019 for the Ruwanwella and Awissawella bridge reconstruction interventions respectively.**

### C. Project Impacts and Mitigations Measures

This chapter describes the possible negative impacts to be caused by land acquisitions for the project activities. The census survey was conducted based on the surveys described in Table 8.

**Table 8: Details of survey plan with number and dates**

Awissawella No. 53/1 and No. 53/2 bridges	Advance Tracing Number: CO/KDW/2016/325 Date: 2016.10.24
Ruwanwella Bridge No. 23/1	Advance Tracing Number: KE/RWN/2016/388 Date: 2015/11/23

Source: Department of Surveys

#### I. Impacts of Land Acquisition

The summary of affected property along with ownership are shown in Table 10. Specifically, the losses incurred by the 12 families (39 persons) from land acquisition includes: (i) loss of 180 perches of privately-owned abandoned paddy lands and home gardens; (ii) loss of 54 perches of government land without any encumbrances on the said land lots.

Of the 54 perches of government owned lands to be acquired, the majority of them (49 perches) belongs to the Irrigation Department as the stream reservation of both sides of the Aswathu Oya. Only 5 perches belongs to the Pradeshiya Sabha, Ruwanwella and details are provided in the Table 9.

**Table 13 . Government Owned Lands**

Location	Ownership	Extent of Land ( Perches)
Awissawella Bridge Site	Irrigation Department	49
Ruwanwella Bridge Site	Pradeshiya Sabha, Ruwanwella	05

Source-social survey for bridges constructions 2017

#### II. Impacts on Structures

- Full damages to one abandoned house,

- Full damages to two parapet walls affecting 02 households;
- Full damages to garden gates affecting 08 households,
- Full damages to one temporary shelter.
- Full damages to one-story building used for commercial purpose with three small shops

### III. Impacts on Crops

Furthermore, the acquisition process will also cause the removal of 15 timber and fruit-bearing trees belonging to 08 families (out of the 12 families) and the temporary loss of a minor public road access. All affected households are titleholders.

### IV. Impacts on Livelihoods

One-story building will totally be affected due to land acquisition. The building comprises of three small shops and it has been rented out by the owner of the building. A small-scale boutique (fruits and vegetable) and a small welding shop are operated by tenants. One tenant who owned the small-scale boutique had been utilizing two shops to run his business. The rental agreement for this boutique has already expired on 10<sup>th</sup> of August 2018 and the owner of this boutique has since vacated the premises.

The project will allow five (05) months to the owner to construct a new building in the balance part which is not affected in the same land before demolition of existing one, enabling the landlord and the tenant to continue existing lease agreement without disruption to their sources of income. This will be officially informed to the owner and an agreement will be signed between the owner and Road Development Authority. The tenant of the welding shop wishes to continue his business in the new premises, and the owner has agreed to such an arrangement.

### V. Impact on public utilities

The project will also have an impact on several public utilities, including electricity poles, telephone lines, water supply line and access to a minor road as shown in Table 10 and 11.

**Table 10 - Number of Project Affected Assets/Infrastructures**

Name of the Bridge	Parapet wall	Gates	Temporary shelters	Business places	Extent of Lands (perches)	Affected minor road entrance	Electricity Poles	Telephone poles	Water lines (m)	Trees	Total PAP families
Ruwanwella Bridge	1	7	1	0	25	0	6	4	100	03	5
Awissawella Bridge	1	1	0	1	209	1	10	14	300	12	7
Total	1	8	1	1	234	1	16	18	400	15	12

Source-social survey for bridges constructions 2017

**Table 11 – Affected property and Ownership**

Property	Type of Impact	No of AP families
<b>Lands</b>		
Privately owned lands	180 perches	12
Government owned lands	54 perches	0
<b>Structures</b>		
House (abandoned)	01	01
Parapet walls	02.	2
Garden Gates	08	08
Temporary shelters	01	01
Business places – one-story building	01	01
<b>Access roads</b>		
Minor road entrance	01	Public road
<b>Public utilities</b>		
Electricity poles	16	Public utilities
Telephone poles	18	Public utilities
Water supply lines	400m	Public utilities
<b>Vegetation (Flora)</b>		
Trees	15	08

Source-social survey for bridges constructions 2017

## VI. Proposed mitigation measures

Based on the properties to be affected, the type of impacts and proposed mitigation measures are described in Table 12.

**Table 12. – Affected property, numbers affected and proposed mitigation measures**

Property	Type of Impact	No of PAP families	Mitigation of Impacts
Land	234 perches of lands need to be acquired.	<b>12</b>	<p>The land owners have already given their consent for acquisition of lands.</p> <p>Payment of compensation for the <b>lands acquired for the project follows</b> the rules ratified by the parliament on 17<sup>th</sup> March 2009 giving legitimacy to the <b>Land &amp; Land Development Ministry Circular No.4/2008</b> dated 06.10.2008 on National Policy on Payment of Compensation and made effective by the Extra Ordinary Gazette No.1596/12 dated 17<sup>th</sup> March 2009.</p> <p>All (cash) payments for acquisition of land will be at replacement value at current market prices.</p> <p>The lands identified for acquisition are home gardens and abandoned paddy lands. Compensation will be paid at the market value of the area.</p> <p>To ensure gender equity compensation entitlements will be issued in the name of both spouses with the consent of the owner.</p>

Property	Type of Impact	No of PAP families	Mitigation of Impacts
Houses	Only 01 abandoned house will be affected.	<b>01</b>	The owner of this house does not live in this old and abandoned house. The owner will be paid replacement cost for the affected house without depreciation To ensure gender equity compensation entitlements will be issued in the name of both spouses with the consent of the owner.
Parapet walls	Two parapet walls, 14 meters long.	<b>2</b>	The owner will be paid replacement cost for the affected parapet wall without depreciation The owners have sufficient space in the remaining piece of land to construct new parapet walls. To ensure gender equity compensation entitlements will be issued in the name of both spouses in agreement with owner.
Garden Gates	Eight numbers of garden gates will be affected.	<b>08</b>	The owner will be paid replacement cost for the affected gates without deducting the depreciation value The owners have sufficient space to construct new gates. The owners can also salvage the existing gate, though compensation will be paid at replacement value. To ensure gender equity compensation entitlements will be issued in the name of both spouses with the consent of the owner.
Temporary shelters	One temporary shelter will be affected.	<b>01</b>	The shelter is used for selling ornamental plants. This will be compensated by paying replacement value and the owner has sufficient space to reconstruct the shelter and continue business. The existing structure will be demolished only after the new one has been constructed and the business has been re-established. The project has negotiated with the owner and an agreement will be signed between the owner and project allowing five months to construct. To ensure gender equity compensation entitlements will be issued in the name of both spouses with the consent of the owner.
Business places	One commercial building is totally affected	<b>01</b>	The owner will be paid replacement cost for the affected structure without depreciation. All (cash) payments for acquisition of land will be at replacement value at current market prices. The existing structure will be demolished only after the new one has been constructed and the business has been re-established. The project has negotiated with the owner and an agreement will be signed between the owner and project allowing five months to construct the new structure. PIU will provide necessary technical support for the construction if requested. To ensure gender equity compensation entitlements will be issued in the name of both spouses with the consent of the owner.

Property	Type of Impact	No of PAP families	Mitigation of Impacts
Access road entrance	One access road will be temporarily disturbed.	<b>01</b>	The village road connecting to the main road provides access for five houses located about 300 meters away from the main road. The total population of these families is 18. The connecting point of this village road with the main road will be disturbed during the construction period. A new, temporary connection will be provided to the connecting point of the road for the convenience of the road users. Temporary road will be constructed across the acquired land leading to the main road
Electricity poles	Sixteen electricity poles will be replaced	<b>Public Utilities</b>	Sixteen electricity poles have been identified for shifting. A disruption in electricity supply for few hours is expected while removing and re-erecting the poles. The users, which extends beyond the immediate project area, will be informed in advance about planned dates for removal. The project will pay the Electricity Board for the cost of the removal and replacement of the posts The removal and replacement process will be closely monitored, and the concerned agencies will be encouraged to complete re-establishment of utilities at the earliest time possible.
Telephone poles	Eighteen telephone poles need to be replaced	<b>Public utilities</b>	Eighteen telephone poles have been identified for shifting. The period of few hours taken for removal and re-establishment will be the only negative impact for the users of these facilities. The project will pay for the cost of the removal and replacement of the posts to the utility agencies and will closely monitor and encourage the utility agencies to complete re-establishment of utilities at the earliest time possible.
Water supply lines	About 400m length of water supply line needs to be shifted.	<b>Public utilities</b>	The period of few hours taken for removal and reestablishment will be the only negative impact time for the users. They will be informed in advance. The project will pay for the cost of the removal and replacement of the posts to the utility agencies and will closely monitor and encourage the utility agencies to complete re-establishment of utilities at the earliest time possible.
Trees	Fifteen trees have been identified for removal	<b>15</b>	The trees have timber value and valuation will be done by the Valuation Department. Cash compensation will be paid for the lost trees based on market value. To ensure gender equity compensation entitlements will be issued in the name of both spouses. Under the Environment Management Action Plan, the contractor will re-plant the cut trees and the associated re-planting costs are budgeted into the contractor's estimate.

Compensation for loss of built structures, will be determined by valuation process at replacement cost as per the Land Acquisition and Payment of Compensation Regulations of 2009. Transfer of the government land to the project referred to above will not cause any loss of built structures. Table 12 provides the number of project affected assets impacted due to land acquisition.

After taking possession of the government owned lands will be transferred to the Road Development Authority by Acquisition Officer as per regulation No. 44 of the Land Acquisition Act. Those lands will be registered in the Land Registrar's office before transferring to the Road Development Authority.

The affected trees have timber value and valuation will be done by the Valuation Department. Cash compensation will be paid for the lost trees based on market value. Details of affected trees due to land acquisition are given in Table 13.

**Table 13. Affected trees due to land acquisition**

Location	Name of the Trees	No. of trees to be removed	Valuation Process
Ruwanwella Bridge	Jack	01	CV assess all valuations as per LAA and 2008 regulations.
	Mahogany	02	CV assess all valuations as per LAA and 2008 regulations.
Awissawella Bridge	Jack	04	CV assess all valuations as per LAA and 2008 regulations.
	Mahogany	05	CV assess all valuations as per LAA and 2008 regulations.
	Alstonia	03	CV assess all valuations as per LAA and 2008 regulations.

Source-social survey for bridges constructions 2017

## **VII Temporary impacts from construction-related civil works**

Temporary impacts from construction-related civil works of the construction of bridges are also anticipated. Such construction-related impacts may include access difficulties, the safety of pedestrians, traffic congestion, disturbances to common utilities, dust, noise and labour influx and management. The RDA will closely monitor the effective and efficient implementation of the EMP and the compliance of the contractor and the staff involved. (see annex IV for the site specific EMP) and an anticipated social impacts mitigation plan has also been prepared – please see **Annex 1 – Table 1 for Social Impact Mitigation Plan.**

## **VIII. Environmental Management Plan**

This Environmental Management Plan (EMP) is the summarized matrix of all possible impacts that may occur during the reconstruction of bridge - please refer annex V.

The EMP should form part of the Bid Documents and shall be considered alongside the specifications. Thereby the prescriptions detailed in the EMP are mandatory in nature and also contractually binding. The EMP will also equally applicable to sub-contractors including nominated sub-contractors if any. The Contractor will be responsible for the compliance with the requirements of the EMP. With the assistance of the “Engineer” the Road Development Authority (RDA) will monitor the compliance of EMP by the Contractor.

In addition to national laws and regulations, the project should comply with World Bank Operational Policies, which are the policies of the International Donor Agency (IDA) of this project. Specially World Bank projects shall not finance the extraction of resources from or use of sites within protected areas defined under FFPO or declared forest reserves under the FO (as per OP 4.04-Natural Habitats Compliance requirements) regardless of approvals obtained from the respective GoSL agencies.

The bidders are advised to carefully consider the EMP requirements stated under item 2.0 “Construction phase” when preparing the bid and pricing the items of work. The prescriptions and clauses detailed in the EMP are integral component of the specifications for relevant item of work unless separate items are included in the Bill of Quantities. Separate payments will not be made in respect of compliance with the EMP. In case the Contractor or his sub-contractor/s fails to implement the EMP recommendations after informing in writing, the Engineer will take whatever actions it is deemed necessary to ensure that the EMP is properly implemented. If the contractor or his sub-contractor/s still fails to comply with EMP requirement, the “Engineer” may levy a penalty based on the level of non-compliance, cost incurred to rectify the damages caused by such negligence and/ or recover the cost from contractor’s payments.

A draft Environmental Method Statement (EMS) based on the requirements of the EMP and in line with the construction plan should be prepared within 30 days from the date of commencement and final EMS should be submitted within 02 months and approval should be obtained from the Engineer. The remedial actions and methodology proposed by the Contractor shall be acceptable by the Engineer and in accordance with EMP. The EMS shall be amended during the construction period if needed in agreement with Engineer and Employer.

The Contractor through an appointed dedicated / qualified Officer shall implement the requirements of the EMP. The officer is responsible for, (a) maintaining up to date records on actions taken by the Contractor with regard to implementation of EMP recommendations, (b) timely submission of reports, information and data to the Project Management Unit (PMU), (c) participating in the meetings conveyed by the Engineer and (d) any other assistance requested by the Engineer.

## **D. Eligibility, Compensation and Resettlement Assistance**

Parties entitled for compensation under the project can be individuals, households, families or public groups. **The Entitlement Matrix of this ARAP (Please refer Annex 1- Table 2)** considers affected categories of persons/households to determine their entitlements. Any person or household, or community who suffers the loss of land, shelter, business, and incomes because of the project impact is eligible for receiving compensation at replacement cost to offset such losses while also enabling restoration of living conditions to a state better or equal to the pre-project situation. To ensure gender equity compensation entitlements will be issued in the name of both spouses.

The cut-off date for eligibility for entitlements is the final day of the census survey conducted based on the detailed measurement survey and the public announcement and dissemination of the cut-off date and/or announcement of Section 2 of the Land Acquisition Act. The census survey was completed on 30<sup>th</sup> May 2017. Persons who encroach on the area after this cut-off-date are not entitled to claim compensation or any other form of resettlement assistance. Fixed assets such as built structures or planted trees after this date will not be covered and compensated.

All involuntary land acquisitions will be compensated at replacement cost as per the LAA-1950, LA Regulations of 2009, and the SMF prepared under the project that include cost of replacing assets calculated based on market value, transaction costs, interest accrued, transitional and restoration costs, and any other applicable payments. The PAPs will be assisted to reestablish their living standards (affected shelter and incomes) to a level higher or better than their living conditions before the project. Details of the entitlements based on different types of

impacts and losses are detailed in the Entitlement Matrix given in the Table 2 of the Annex I. If more than one person claims legal or customary ownership to the same property or resources, the compensation for such properties or resources will be shared between owners, as specified in the SMF for the Project.

## E. Stakeholder Consultations

1. Stakeholders are defined as individuals or agencies that are either impacted by and /or can impact the project. Four (4) small meetings/consultations (group meetings) were held, two in each bridge construction site.

<u>Location of the consultation</u>	<u>Date</u>
Ruwanwella Town	2017.10.02 – 1km away from the 23/1 bridge site
Anguruwella Town	2017.10.02 – Near the 23/1 Bridge site
Awissawella Town	2017.10.03 – 2km away from the 53/1 and 53/2 bridge sites.
Uswatte Village	2017.10.03 – Near the 53/1 and 53/2 bridge sites.

2. The most significant stakeholder is the Project Affected Person who is negatively/positively impacted by the Project. The most significant and direct beneficiary groups at the local level include all kinds of road users. Special attention was paid to consult following categories and major stakeholders consulted and their views are summarized in Table 14.

- Direct stakeholder -- 12 PAP families
- Direct beneficiary groups -- road users, drivers, farmers, traders, school children, school teachers, etc.
- Indirect beneficiary groups -- politicians, civil society, NGOs, etc..
- National level direct stakeholders – Provincial and Pradeshiya Sabha members. Middle level indirect stakeholders – District Secretaries, Divisional Secretaries, regional and district level officers of government departments etc.
- General public/ Local communities

**Table 14. A summary of Views of Stakeholders**

<b>Stakeholders</b>	<b>Statements made by stakeholders</b>	<b>How the project will respond</b>
Management of road and transport system. Chief Engineers -RDA Colombo Kegalle	Land acquisition will be a significant issue. It will delay the project. People welcome the project because they have been suffering from flood issue and affect paddy cultivation. The RDA can save maintenance cost after completion of construction because flood will not damage the existing road. The annual road maintenance cost will get reduced by replacement of old narrow bridges and it will be a real benefit for the government.	Land Acquisition will be done under the normal process of LAA. The RDA will monitor the process and take all efforts to expedite the process. The RDA will consult all the affected households and share information about the project and benefits of construction of new bridges at proposed locations.
Govt. bus service, Depot Supervisor- Awissawella and Ruwanwella Mr. C.S. Chandrapala Mr. R.D. Senerath	We had to cancel our bus services on these roads during the flood period at these bridges. After completion of construction, the transport system will improve. We will be able to continue our bus service without any interruption.	Construction of new bridges will enhance the transport system and it will be a real benefit for the road users. The RDA ensures that there will not be any flood issue during heavy rainy seasons in future.

Stakeholders	Statements made by stakeholders	How the project will respond
Private Bus Owners Mr. A. Amarasiri Mr. P.S. Muthukumara Mr. K.P. Nandasiri	This project is good, as it will improve the bridges. Currently we can't operate our bus service during flood season. The Ruwanwella Bridge (23/1) is very old. I have heard that this bridge was constructed in 1944. The bridge is very weak and unsafe. I have seen several times this bridge was under water and damaged to some parts. We had to stop our bus service due to this unsafe condition.	New bridges will be provided all safety features' for public safety. The new bridges have been designed properly and will not be affected by floods.
Road users and general public.		
Employees Mr.A.H.M.Deen - Civil Engineer	We welcome the project. On rainy days traveling on this road is a real headache due to these narrow bridges. We cannot attend our office on time due to flood at these locations. But after the improvement of the bridges we can avoid these difficulties. There must be close supervision of contractor's activities to ensure good quality work.	The RDA is responsible for monitoring of construction activities and quality of work. The Project Engineer, Technical Officers will directly check the quality of construction activities.
Mrs. Kanthi Perera- Company Manager	I have faced a lot of difficulties to pass this bridge during flood. I had to stay at home these days. I could not attend my office on time. Once the bridges are improved we can avoid such difficulties.  Road development is needed. Many women in this area use cycles as the mode of transportation. Attention should be focused on their safety during the construction period.	The project will provide a small track for pedestrians and cyclist to pass the bridge construction area safely.
Mrs. Lumbini Perera- Cleark	Reconstruction of bridges will encourage teachers and students to attend their schools regularly and staff members and children will also be able to attend the schools during heavy rainy seasons also.	-----
Mrs. Chithra Kalupahana - Teacher	There must be a proper time schedule for construction period. If this is time taken unnecessarily that will be a problem for road users. We hope after construction this will minimize flood damages to the Aswatta school.	The allocated time for construction for the bridges is 09 months. The contractor has to fulfill these requirements and complete the construction on time.
Mrs. W. Kumari- Development Assistant	The Ruwanwella bridge is very old and unsafe. We did not think the RDA will provide a new bridge so quickly. We have made several requests to the Divisional Secretary on this matter. I must thank for you all on this service to our village.	The RDA has planned to complete the construction activities within 09 months.
School children W. Sarana Pramod	We attend to the Aswawatta school and thank to the government. We have a lot of problems to reach school on time due	All the vehicle will have to reduce speed at the bridge construction area. The RDA will erect road

Stakeholders	Statements made by stakeholders	How the project will respond
<p>Nilushika Damayanthi P. Sugath Saman novar A.H. Risna W.Sumanaseeli M. Thayagarajah P. Bandumathi</p>	<p>to flood. The buses and school vans also cannot travel. We also cannot walk along the road. But there may be lot of accidents due to fast driving on the new widened bridges. There should be speed limits especially near the school.</p>	<p>humps, barricades and barriers to reduce speed of the vehicles. In addition to that traffic controllers will be employed 24 hours to control the road traffic.</p>
<p>Mr. W. Samarasinghe - Doctor</p>	<p>People face inconveniences in taking patients to nearby hospitals and medical centers, due to flood condition at Aswatte bridge. In emergency situations, doctors and health workers cannot reach the hospitals. Ambulances cannot take patients immediately to the hospitals. These issues will get resolved by this project.</p>	<p>----</p>
<p>Drivers,  Mr. P. Sundaralingam W. Piyasena Amal Senadheera T. Krishanthen Amli Jayawathsena</p>	<p>We were unable to pass the bridges during the flood seasons. The construction activities should be completed within the scheduled time without delay. There may be traffic congestions, accidents and delays during the construction periods. After completion we will benefit from this project.</p>	<p>----</p>
<p>Farmers  Mr. Nimal Seram and Mrs. Ramya Seram Mr. R. Piyasena Mr. Podisingho Banda Mrs. Kamalawathi Vithanage</p>	<p>We can't cultivate our paddy lands located upstream and downstream of the bridges due to flood situation.  We hope proposed improvements to the bridges and water streams will reduce flood and we will be able to cultivate our paddy lands.  Some of them will lose paddy lands due to land acquisition but they are abounded paddy lands. These lands cannot be cultivated due to high salinity and poor drainage pattern in this area.</p>	<p>Most of the paddy lands are not cultivated by the owners. However, some extent of paddy lands will have to be acquired. The owners will be paid compensation at market value of the area and any income loss due to the acquisition also will be compensated.</p>
<p>Business community and income generation groups.  Businessman – shop owner Mr. Kumarasiri Nanda - Awissawella  Shop Owner - Uswatte Mr. Tissa Ranatunga</p>	<p>The road sections near the bridges get inundated during the rainy seasons. The road is busy and used by heavy vehicles. We were unable to continue our business on rainy days.  Bridge construction activities will not disturb the business activities. The construction activities should be done by minimizing disturbances to our business.</p>	<p>The RDA ensures there will be no negative impacts to business during the construction period. If any damage or loss of income is identified that will be compensated and provide remedial actions to minimize the losses.</p>

Stakeholders	Statements made by stakeholders	How the project will respond
Fish Sheller – Rathnapuraya- Ruwanwella Mr. Sumathipala Perera		
Project Affected Persons.  Mr. W.A. Gunawardena Mrs. P.M. Chandreleka B.M. Somalatha	<p>We will lose our lands due to this project. We need reasonable compensation for our properties.</p> <p>The Government valuation is a very low rate.</p> <p>Method of payment of compensation totally unaware.</p> <p>The RDA needs to explain this for this payment method.</p> <p>My small commercial building will be affected due to land acquisition. I need reasonable compensation and I want reasonable time period to rebuild the structure in a separate place.</p> <p>We need full compensation without delay. We have ownership issues and we need the support from the RDA to resolve them.</p> <p>We are happy that the improved bridges will enhance social development activities in these areas and it minimize flood issues.</p>	<p>Reasonable amount of compensation will be paid for lands acquired at market value of the area.</p> <p>Method of payment and valuation procedure will be explained by the project before forwarding claims to the Valuation Department.</p> <p>You will be given a reasonable time to rebuild a business center before demolishing existing building.</p> <p>Land ownership issues will be solved by the Land Ownership Inquiry Officer of the Divisional Secretariat.</p>
Religious leaders.  Ven. Yatiyana Seelarithana – a monk- Awissawella Ven. Suseema Sumithra thero – a monk Ruwanwella P. Joshep – Catholic Priest - Awissawella	<p>During construction period there may be a lot of disturbances to the people.</p> <p>Specially by creating dust, noise and vibrations.</p> <p>The religious groups must be given proper priority to the religious centers for their day to day activities.</p>	<p>The project will regularly monitor the contractor's activities. As per the Environmental Management requirements of the EMP, the contractor has to take all remedial measures to control dust, noise and vibrations. All the precautions will be taken to minimize disturbances to the people.</p>
Local Politicians  Mr. Ranjith Siyambalapitiya- Minister – Power and Energy	<p>The proposed development activity will develop the area.</p> <p>The Government can make the people happy. Politicians can win the support of the people and can establish their position among the people in these areas.</p>	----

Source-social survey for bridges constructions 2017

- In addition to the aforementioned consultations, the project will take necessary measures to ensure that consultations are carried throughout the implementation of this ARAP. Additional details are presented in Table 15.

**Table 15. Planned Consultations**

<b>Activity</b>	<b>Objective</b>	<b>Timing</b>	<b>Responsible</b>
Distribution of the Sinhala and Tamil version of the ARAP to DSS, Pradeshiya Sabahs, GNN and Public libraries.	To maintain the policy of transparency and information dissemination	Simultaneous with the process of land acquisition.	PIU, RDA Executive Engineers Offices Office.
Visit to APs Residences	Distribute the Section 02 Notice under LAA	With the publication of the SEC 02 notices	DS, GN, PMU/and Consultants if employed.
Meeting APs in groups GN Division wise	Prepare them to face the title determination inquiries Sec.9 (1) and brief them on the inquiries	Before Sec.9(1)	PIU, GNN, Resettlement Staff RDA.
Meeting APs, CBOs, NGOS on required support especially for vulnerable groups	Protect all APs including vulnerable populations from negative impact and bring them up	Before the publication of the section 38 a) Notice	PIU, Resettlement Staff RDA.
Meeting with APs who need to readjust and redesign their houses and commercial buildings at the same location	Discuss if any help need to readjust their buildings.	Before demolition of affected parts.	GNN, PIU, Resettlement Staff RDA.
Meeting with APs, state agencies providing utility services and service deliveries	To assure continuation of undisturbed public services, utilities common amenities and socio-cultural structures	Before taking over physical possession of land	PIU, DSs and state agencies responsible for services and public utilities NGOs, CBOs and Consultants if employed
Meeting with the APs	Post-acquisition issues	After acquisition	DS, GNN, PMU, Resettlement Staff RDA.
Detailed land and property measurement survey (preparation of condition Report for valuation)	To ensure transparency and apprise the AP what his losses are	When valuation officers visit the APs residence with RDA officials	Valuation Officer ,RA of RDA , GN and AP concerned
Compensation Rates formulation and agreement on compensation	To make the AP aware that the types of entitlements he /she would receive .and the quantum of compensation he/she receives	At the time of preparation of the condition report with the participation of the AP and when the DS inform of his amount of compensation by the notice under SEC 17 of the LAA, if he is not agreeable he could appeal to the LARB within 03 weeks	Valuation Officer, DS, RA of RDA and the concerned AP

Activity	Objective	Timing	Responsible
Disbursement of compensation funds	To ensure that AP gets his compensation by cheque and without delay, to persuade him to receive the cheque in to a joint account with his wife or with a member of his family and to inform the AP regarding the interest he is entitled to. The interest will be calculated by DS.	Before signing the vouchers	DS, RA or CDO and Accountant of /RDA
Income and Livelihood Restoration Planning	To actively involve AP in the process and discuss APs preference.	When income restoration plans are formulated	AP, Income Restoration Officer of the RDA.
Information Dissemination through Public Information Centres	To allow the APs access to information and update them on project activities. Copies of informatory pamphlets', entitlement matrix and salient points of the ARAP will be available at the information centre.	Before the land acquisition process commence	PIU

## F. Institutional and Implementation Arrangements

The lead role in implementing the abbreviated resettlement action plan rests with the Road Development Authority (RDA) Which is the project implementation agency to the PMU established under the MIWRM.

The PIU will be supported by relevant experts in technical, social, land administration, and financial disciplines. In the implementation of the ARAP, the Social and Environmental Specialist has a major role to play. Roles and responsibilities of agencies involved in ARAP preparation and implementation are explained in Table 16.

**Table 16. Roles and Responsibilities of Agencies involved in ARAP Implementation.**

Agency / Unit	Roles and Responsibilities
Ministry of Highways and Road Development and Project Implementation Unit	Preparation of land acquisition proposals, staffing, coordination with other relevant agencies, consultation with stake holders, dissemination of information, secure funds, identify lands for resettlement with APs, procure land for resettlement sites when necessary, develop infrastructure at resettlement sites, arrange to construct auxiliary structures, arrange IRP. Implement the Gender Action Plan; attend to internal monitoring, progress review, Project MIS and documentation. Provide necessary policy guidelines, provide funds, coordinate with the WB and give directions to the PIU on implementation issues. Submit proposals forwarded by the PIU of RDA to MOL, arrange for funds including reimbursement responsibility. Submit proposals forwarded by the PIU of RDA to MOL, arrange for funds including reimbursement responsibility.
Ministry of Land and Land Development	Approvals of the publications of relevant orders under LAA. Monitor the progress of land acquisition and liaise with the DSS at different stages of acquisition process.

Agency / Unit	Roles and Responsibilities
Divisional Secretaries	Acquisition of land, payment of statutory compensation, payment of interest, consultation, information dissemination, GRC, and vesting of acquired land with the RDA. PIU provide technical assistance on request. Support implementation of ARAP when necessary on PIUs' request. Support rehabilitation and improvement of public utilities disturbed by land acquisition and construction program.
Grama Niladari	Delivery of notices under LAA to the APs, consultation, facilitation of acquisition of alternate lands, during preparation of advance tracing and final plan by assisting the surveyors to identify the claimants.
Valuation Department	Preparation of condition reports of properties to be acquired, preparation of valuation reports.
Government Printer	Publication of gazette notifications relevant to land acquisition.
Local Authority	Approval of resettlement sites, housing plans if required.
NGO	Consultations, dissemination of information, assist APs at the title determination inquiries (Sec.09), GRC, secure alternate land, external monitoring.
Affected People	Help in planning of resettlement sites if sites are required, IR, Monitoring
Construction Supervision Consultants	Plan and monitor construction of resettlement sites if required.
Contractor	Construct resettlement sites with infrastructure facilities if required; construct auxiliary structures of the affected on the instructions of the PIU/CSC.
WB	Review Missions (external monitoring)

### **I. Dissemination of ARAP**

The ARAP will be disclosed in local languages (Sinhala and Tamil) as required by the safeguard policies of the WB and the GOSL and disseminated to the public. The ARAP will be posted on the website of both the RDA and WB. Salient features of the ARAP should be translated into Sinhala and Tamil and made available at the DSD and GND offices.

### **II. Grievance Redress Mechanism**

Care will always be taken to prevent grievances rather than going through a redressal system, and grievances can be minimized through careful subproject design and implementation by ensuring active participation and

consultation with APs, establishing rapport between the community and RDA through frequent interactions, transparency and monitoring. A grievance mechanism is established by RDA to enable the APs to appeal any issue / decision or practice arising from compensations or to settle any general project-related disputes. APs were made fully aware of their rights and the procedures for making a grievance - whether verbally or in writing, during consultation.

Under the Project, there is potential for two types of grievances: grievances related to land acquisition and grievances related to reestablishment of affected structures / livelihood restoration and other construction related issues etc.

Although people will benefit from this project in the long run, they are likely to be affected in different ways in the short run-especially during construction period-such as by disturbance to their property and assets that they are dependent on for earning a living or income. An affected person can appeal any issue/decision or practice arising from project intervention or to settle any general project related disputes.

### **III. Awareness about the Mechanism**

The project will make information available to the potentially affected local community members through RDA, Divisional Secretaries, Pradeshiya Sabhas, Grama Niladharies, Samurdhi Officers etc. The application forms and other monitoring documents, formats have been prepared and is available in the project office and Provincial Director's office of the RDA.

### **IV. Steps for Implementation of the Mechanism**

#### **Field Level**

- Grievances can be forwarded to the Project Engineer (PE) responsible for construction work.
- A Complaint Register is kept in the Project Engineer's office of the RDA and contractor's office at the site level.
- Complaints / Applications can be forwarded to the Project Engineer and contractors' office.
- On receiving a complaint, it will be registered and complainant will be given a reference number.
- After receiving complaints PE and PIU/RDA and contractor will review the grievances and also make arrangements to redress it.
- If the issue cannot be handled/settled by the PE and PIU/RDA and the contractor this will be referred to the GRC.

#### **GRC Level**

- The Provincial Director / RDA (Chairman of GRC) will schedule a meeting of GRC
- If the PAP is in agreement with the decision, he/she will be invited to sign an agreement with the RDA and this will be binding on both parties.
- If the PAP does not agree with decision he can seek redressal from the judiciary.
- The final decision and minutes of the meeting will be prepared by the Chief Engineer of the RDA and circulated among the members of the GRC as well as the PAP. The minutes signed by the members of the GRC will be sent to the Head of the PIU/RDA for necessary action.

### **V. Grievance Redress Committee (GRC)**

A major part of the Grievance Redressal Mechanism is the Grievance Redress Committee (GRC) that will be established in each of the road contracts (construction area) and will also be established on the road extension

areas. The committee consists of the following members:

Provincial Director / RDA	– Chairman of the Committee
Chief Engineer / RDA	- Secretary of the Committee
Divisional Secretary	- Member
Head of Pradeshiya Sabha	- Member
A Community Leader/NGO/ or Priest	- Member
Project Affected Person or Party	- Representing the affected party
The Grama Niladhari and Samurdhi Officer attend committee meetings as an observers (non – member)	

## VI. Implementation Plan

Implementation activities identified are presented in Table 17.

**Table 17. Implementation Plan**

Project Stage	Activity	Time-frame	Responsibility
Project Identification and Preliminary Stage	Identify project stakeholders (primary and secondary);	Completed	PIU, GN, Resettlement Staff RDA.
	Organize information material and plans for dissemination;	Completed	DS, GN, PMU, Resettlement Staff RDA
	Organize and document public meetings; Involve stakeholders in the consultation process;	Completed	DS, GN, PMU, Resettlement Staff RDA
Project Planning and Designing Stage	Consultations with PAPs on alternatives; Involve PAPs in assessing project impacts; Obtain necessary baseline data from primary & secondary sources.	Completed	DS, GNN, PMU, Resettlement Staff RDA
	Establish Grievance Redress Committee (GRC) procedures.	Completed	DS, GN, PMU, Resettlement Staff RDA PMU, Resettlement Staff RDA
	Preparation of ARAP & WB's clearance for ARAP.	May 2019	PMU & WB

Project Stage	Activity	Time-frame	Responsibility
Implementation Stage	Ensure that GRC procedure is functional; Encouraging women participation in the committee.	Completed	PAPs
	Compensation Rates formulation and agreement on compensation.	Completed	Contractor
	Mobilization of Contractor, erection of signage and display boards to inform the public on safety measures	Completed	Contractor
	Distribution of the Sinhala and Tamil version of the ARAP to DSS, Pradeshiya Sabahs, GNN and Public libraries.	Upon clearance from WB	PIU, RDA Executive Engineers Offices Office, Website of the RDA
	Detailed land and property measurement survey (preparation of condition Reports for valuation)	By May 2019	Valuation Officer, DS, RA of RDA
	Institutionalize a participatory framework for compensation, income restoration and resettlement and payment of compensation.	By August 2019	DS, RA or CDO and Accountant of /RDA
	Restoration of the affected structures, assets, utilities, businesses and planting of cut trees.	By Jan 2020	DS, GNN, PIU, Resettlement Staff RDA
	Construction of the bridges.	Ongoing – May 2020	Valuation Officer, DS, RA of RDA
Monitoring, Reporting and Evaluation	Monitoring and reporting of the status of ARAP implementation.	Ongoing	NGO
	Final end line/satisfaction survey and evaluation.	End of implementation	NGO

## G. Monitoring and Reporting

The monitoring and reporting system will be responsible for the systematic collection of information on the progress of the application of the social safeguards program and reporting the findings to the stakeholders through the PIU. Overall the objective of monitoring and reporting will be to ensure that the proposed mitigation measures are producing the intended results. The monitoring system will involve: guidelines and terms and reference, monitoring indicators, mechanisms and methodologies, frequency, documentation and reporting arrangements.

There will be several monitoring roles and responsibilities in the delivery of the social safeguard program. The monitoring roles and responsibilities will follow the overall project management system and be organized as a two-way reporting to the implementing partnership and the affected households and communities. PIU has recruited an Environment and Safeguard officer who will be responsible to monitor and report on the implementation of the RAP. The contractor will also appoint its own Social Officer, who will be responsible to conduct day-to-day monitoring activities directly from the project sites. Monthly progress meetings will be held at PMU under the chairmanship of the Project Director. WB monitoring missions will also take place two times a year. The monitoring framework prepared for the project is given in table 18.

**Table 18. Monitoring Framework**

Monitoring Level	Monitoring Area	Indicator	Source of Information
Process	Participation and consultations	Number of consultations held and number of participants	Meeting records
	Grievance Redress	Number of grievances received and resolved by all internal instruments of GRC by type; redresses provided, timeliness of response;	GRC meeting minutes
Output	Entitlements and payment of compensation	Number & amount of compensation paid for acquired land, damaged structures, utilities, trees and affected businesses. Timeliness of making payments.	Partner records
	Restoration of personal assets	Number & type of new structures constructed to replace affected structures in a timely manner.	Progress / monitoring reports
	Restoration of public assets	Number and type of public assets/utilities restored to replace affected ones in a timely manner.	Progress / monitoring reports
	Restoration of incomes	Number & type of businesses supported and made functional in a timely manner.	Monitoring reports
	Restoration of environment	Number and type of trees re-planted in a timely manner.	Monitoring reports
Outcome/ Impact	Building climate resilience of infrastructure	Reconstruction of bridges in line with the specifications of the proposed civil works and timeline.	Contractors Reports
	Reduction in Floods	Reduction in the number of flood occurrences in comparison to the before situation.	Before and now data of flood situation – data from Department of Meteorology or from information gathered through FGDs.
	Re-establishment of Incomes	Number of persons/ households economically active following relocation of businesses or replacement of property/assets.	A mini end line survey or FGD discussion to understand the improvements in PAPs social-economic status and their satisfaction in the resettlement/ rehabilitation process.
	Resettlement Process & Social Development Status	% of people expressing their satisfaction in the resettlement process % of people expressing improved socio-economic living conditions	

## H. Budgetary Allocation and Cost for mitigation of negative impacts.

The overall responsibility for implementing the Resettlement Plan is with the Project Implementation Unit of the Road Development Authority created specifically for the CRIP. **The following cost calculation is based on the provisions contained in the Government Gazette No.1596/12 dated 07<sup>th</sup> April 2009 and the Guidelines Circulated by the Ministry of Land and Land Development on payment of compensation based on 2008 regulations.**

**Table 19. Calculation of cost for each affected item of Loss.**

Item	Quantity. Perches/Sq.	Unit	Rs./unit (Ag)	Total Rs.
<b>Land</b>				
Lands (home gardens, barren lands )	203	PERCH	100,000.00	20,300,000.00
Paddy Lands	31		9000.00	279,000.00
<b>Sub Total</b>				<b>20,579,000.00</b>
<b>Structures</b>				
House (abandoned)	400	Sq.ft	3,500.00	1,400,000.00
Commercial Structures	400		3000.00	1,200,000.00
Parapet wall	100	Sq.ft	2000.00	200,000
Gates	8	Sq,ft	18,000	144,000.00
<b>Sub Total</b>				<b>2,944,000.00</b>
<b>Loss of business Income</b>				
Informal	02	AP	15,000.00	30,000.00
<b>Sub Total</b>				<b>30,000.00</b>
<b>Disturbances</b>				
Change of Commercial establishments	1	AHH	25,000.00	25,000.00
Re-fixing fixtures and fittings (commercial)	2	AP	15,000.00	30,000.00
Advertising (informal)	2	AP	2,500,00	5,000.00
<b>Sub Total</b>	<b>5</b>			<b>60,000.00</b>
<b>Other Expenses</b>				
External Monitoring	12	Months	50,000.00	600,000.00
Admin Expenses		-	Lump Sum	50,000.00
Incentive paid to displacement of commercial establishments	01	10%of the Replacement cost	1,200,000.00 (approximate)	120,000.00
Provision for difference in replacement cost and cost of construction	01	15% of replacement cost of structures	1,200,000*15%	180,000.00 (estimate)
Payment for Vulnerability	6 Households		15,000 x 6	90,000.00
Replacement of Electricity poles	16	Number	30,000 x 16	480,000.00
Replacement of Telephone poles	18	Number	20,000 x 18	360,000.00
Replacement of water lines	400	Meters	20,000 x 400	8,000,000.00
<b>Sub Total</b>	-	-	-	<b>9,880,000.00</b>
<b>Total</b>				<b>33,493,000 .00</b>
Exigencies 10%	-	-	-	3,349,300.00
<b>Grand Total</b>	-	-	-	<b>36,842,300.00</b>
USD ==Rs.180.00				

## **I. Resettlement database**

All information related to land acquisition, socioeconomic information of the PAPs, inventory of losses of individual PAPs, compensation & entitlements and payments and reconstruction-related activities will be collected and computerized by the PIU. This database will be the baseline for monitoring and safeguards management. The External Monitor of social safeguard will also monitor the implementation of ARAP with a specific focus on the following.

- i. Review and monitor the overall implementation progress and performance of the Abbreviate Resettlement Action Plan (ARAP).
- ii. Determine the level of compliance of the implementation of ARAP with the policies of the World Bank and the Government as defined in the project's RPF, and recommend corrective actions to improve implementation and management, as required.
- iii. Monitor the progress of land acquisitions, payment of compensation and resettlement processes and its compliance with the ARAP.
- iv. Assess the overall adequacy and the effectiveness of the safeguard measures adopted to restore and improve the livelihoods, living standards and the overall wellbeing of the project affected persons, households and communities and provide recommendations on additional safeguard measures required.

Following the finalization of the design and completion of the preparation of the acquisition plan, the ARAP will be updated.

## **Reference List**

1. Department of Census & Statistics – Sri Lanka
2. Resettlement Plan of World Bank Funded Road Sector Assistance Project – December 2008.
3. Bureau of South and Central Asian Affairs—World Bank October 2006
4. Study of Center of Economic and Policy Research
5. Connecting Growth: Sri Lanka's poverty Reducing Strategy, Government of Sri Lanka June 2012

## Annex 1

**Table 1 - Social Impact Mitigation Plan**

PMU- Project Management Unit, - RDA- Road Development Authority, LA- Local Authority, N/A- Not Applicable, A-RAP- Abbreviated Resettlement Action Plan, GOSL- Government of Sri Lanka.

No	Adverse Social Impacts	Mitigation Measures	Location/ Place	Implementing Cost	Responsibility	Time Frame
<b>01</b>	<b>Access disturbances -Temporary Impact</b>					
	Households/Road Users/institutions will have difficulties in access during rehabilitation works	<ul style="list-style-type: none"> <li>Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for reporting any complaints.</li> </ul>	Bridge No 53/1 and 53/2 of Rathnapura – Wellawaya Road (A004) Bridge No 23/1 of Warakapola- Ruwanwella Road (B457)	Contractor's cost	Construction Contractor/ RDA/CRIP	During Construction
		<ul style="list-style-type: none"> <li>Provide walkways and metal sheets to maintain access for people</li> <li>Ensure the safety of the many women who travel in bicycles.</li> </ul>	Two small scale shops and one road entrance at No. 53/1 Bridge, Awissawella and one house access at Ruwanwella bridge (23/1) construction sites.	-Do-	Construction Contractor/ CRIP	-Do-
		<ul style="list-style-type: none"> <li>Consult business and institutions regarding operating hours and factoring this into work schedules</li> </ul>	Surrounding area of Sites	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Propose alternative access roads during construction period.</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Do not damage or block the existing access road for residential areas during construction</li> </ul>	One house access at bridge No.23/1 at Ruwanwella.	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Contractor to use small excavating equipment as much as possible to avoid unanticipated damages.</li> </ul>	Site	-Do-	-Do-	-Do-

No	Adverse Social Impacts	Mitigation Measures	Location/ Place	Implementing Cost	Responsibility	Time Frame
		<ul style="list-style-type: none"> <li>In case of complete loss of motorable access leading to loss of business over a day, financial assistance @ SLR 1000/ per day per business owner from the 1<sup>st</sup> day of such interruptions until ease of access has been restored by the contractor.</li> </ul>	When needed	Contractor cost	-Do-	-Do-
<b>02</b>	<b>Pedestrians Safety Issues- Temporary Impact</b>					
	Safety issues to the pedestrians, vehicles and workers during construction of bridges using heavy equipment's & machinery	<ul style="list-style-type: none"> <li>Comply with the provisions of Health and Safety regulations under the Factory Ordinance with regards to provisions of health and safety measures, amenities at workplaces.</li> </ul>	Bridge construction sites & contractor's vehicle yard	N/A	Construction Contractor/ RDA/ CRIP	During Construction
		<ul style="list-style-type: none"> <li>Alarm warning to the pedestrian, vehicle and workers using sign boards, fence, band tape, etc.</li> </ul>	-Do-	Contractor's Cost	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Ensure appropriate safety equipment, tools and protective clothing are provided to workers, and that safe working method are applied.</li> </ul>	-Do-	-Do-	Construction Contractor/ CRIP	-Do-
		<ul style="list-style-type: none"> <li>A safety inspection checklist should be prepared to take into consideration what the workers are expected to be wearing and monitored during specific construction activities.</li> </ul>	-Do-	N/A	-Do-	During construction/ Periodic monitoring
		<ul style="list-style-type: none"> <li>Ensure prevention of risks from electrocution by regular inspection and maintenance of all electric power-driven machines used on the construction site. They must be kept away from permanent/ temporary pedestrian walkways.</li> </ul>	Bridge construction sites & contractor's vehicle yard	N/A	-Do-	During Construction
		<ul style="list-style-type: none"> <li>A temporary safety fence will be erected on crossroad stretch near the bridge to avoid contact with the public and workers.</li> </ul>	Bridge No 53/1 and 53/2 of Rathnapura – Wellawaya Road (A004) Bridge No 23/1 of Warakapola- Ruwanwella Road (B457)	Contractor's Cost	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Ensure basic emergency aid service is in place in the work site as well as in labour camps</li> </ul>	Sites, contractor's vehicle yard & labor camps	-Do-	-Do-	-Do-

No	Adverse Social Impacts	Mitigation Measures	Location/ Place	Implementing Cost	Responsibility	Time Frame
		<ul style="list-style-type: none"> <li>Ensure training of basic health and safety are provided to the workforce before the commencement of construction work where all the above critical factors are emphasized</li> </ul>	N/A	-Do-	-Do-	Before starting construction
		<ul style="list-style-type: none"> <li>Clear work camp sites after use and reinstate with vegetation</li> </ul>	Labour camps	-Do-	-Do-	After construction
<b>03</b>	<b>Traffic Congestion- Temporary Impacts</b>					
	Traffic congestion would be aggravated due to construction activities	<ul style="list-style-type: none"> <li>Phase out the construction activities to minimize traffic congestion.</li> </ul>	Bridge No 53/1 and 53/2 of Rathnapura – Wellawaya Road (A004) Bridge No 23/1 of Warakapola- Ruwanwella Road (B457)	Contractor's Cost	Construction Contractor/ RDA/ CRIP	During Construction
		<ul style="list-style-type: none"> <li>Special traffic management plan and deploying additional traffic police should be put in place.</li> </ul>	-Do-	-Do-	-Do-	-Do-
<b>04</b>	<b>Shifting of Common and Private Utilities- Permeant Impact</b>					
	Shifting of Common and Private Utility Services	<ul style="list-style-type: none"> <li>If the relocation of common utility services anticipated, prepare an inventory of utilities at proposed sites with the assistance of service providers</li> </ul>	Site	N/A	-Do-	Project Planning Stage
		<ul style="list-style-type: none"> <li>Prepare relocation plans with service providers for utilities to be shifted.</li> </ul>	-Do-	N/A	-Do-	Designing stage
		<ul style="list-style-type: none"> <li>Liaise with NWS&amp;DB, CEB, and SLT to obtain utility plans &amp; shifting arrangement, machine operator awareness about utilities and plan rehabilitation routes and facility sites to avoid existing utilities wherever possible.</li> </ul>	-Do-	N/A	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Arrange for service providers to attend to the site immediately to deal with any accidental damage to utilities.</li> </ul>	When needed	Contractor cost	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Ensure the compensation for unexpected structural damages due to construction activities by Third Party Insurance Coverage</li> </ul>	All bridge construction sites	Contractor Cost	-Do-	Before start the construction

No	Adverse Social Impacts	Mitigation Measures	Location/ Place	Implementing Cost	Responsibility	Time Frame
		<ul style="list-style-type: none"> <li>If any public or private structures are damaged (including due to vibration), replace the structures or compensate owners.</li> </ul>	-Do-	Insurance Coverage	-Do-	During construction
<b>05</b>	<b>Siting of construction camps, labour camps, stockyards and managing the risk of adverse impacts on communities from temporary project induced labour influx - Temporary Impact</b>					
	If construction camps, labour camps, stockyards, vehicle refuelling areas etc. are located near sensitive areas such as wetlands, conservation zones and places of scenic beauty or recreational value, or any water body, those areas may be adversely affected. The risks of adverse impacts on communities from temporary project induced labour influx.	<ul style="list-style-type: none"> <li>Care will be taken not to disturb the sensitive areas and avoid highly residential areas when selecting sites to locate labour camps, stockyards, vehicle refuelling areas etc. and their layout of such place should be approved by project engineer/RDA</li> </ul>	Camps/Yards	N/A	Construction Contractor/ CRIP	During construction
		<ul style="list-style-type: none"> <li>Accumulation of water due to blocking of drains during construction activities should be mitigated by removal of soil and debris to the dumping yards to avoid potential flooding.</li> </ul>	Bridge construction sites	Contractor Cost	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Maintain the sound waste management system within the camps and the site and do not allow to dispose of the garbage, wastewater as well as sewerage water to open places/land</li> </ul>	Camps/ Yards/ Site	-Do-	construction Contractor/ CRIP/LAs	-Do-
		<ul style="list-style-type: none"> <li>Make the contractors aware of advantages in giving priority to selecting labour from project influenced areas/local communities to minimize the need for erecting labour camps and minimize labour influx.</li> </ul>	N/A	N/A	Contractor/ CRIP	-Do-
		<ul style="list-style-type: none"> <li>Introduce Worker Code of Conduct as part of employment and sanctions/penalties for non-compliance</li> </ul>	N/A	Contractor Cost	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Strengthen law enforcement activities around worker camps and work sites</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Establish a grievance redress mechanism for workers and host communities</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Frequent supervision of labourers' activities, labour welfare activities, basic needs provided for labours, hygienic condition of the camps/ sites</li> </ul>	Camps/ Yards/ Sites	N/A	Contractor/CRIP	-Do-
		<ul style="list-style-type: none"> <li>Avoid illegal lodging arrangements by workers of contractors</li> </ul>	Camps/ Yards/ Sites and project impact area	N/A	Contractor/ CRIP	-Do-
	<ul style="list-style-type: none"> <li>Avoid social conflicts or tension and prevalence of gender-based violence.</li> </ul>	-Do-	N/A	-Do-	-Do-	

No	Adverse Social Impacts	Mitigation Measures	Location/ Place	Implementing Cost	Responsibility	Time Frame
		<ul style="list-style-type: none"> <li>Conduct awareness programs to labourers on hygienic status including sexually transmitted diseases</li> </ul>	Camps/Yards	Contractor's Cost	Contractor/ CRIP	-Do-
		<ul style="list-style-type: none"> <li>Receive timely feedback from local/host communities</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>The contractor should adopt formal recruitment procedures to avoid ad-hoc recruitment of labourers</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Mandatory and continuous awareness raising for workers to refrain from unacceptable conduct of behaviour</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Keep a complaints/ grievances box and establish a labour GRM to report their grievances</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Prepare an inventory (including names/ National ID numbers/ addresses etc.) of the entire labour force employed by contractor, and share with PIU. This inventory shall be regularly updated.</li> </ul>	-Do-	-Do-	-Do-	-Do-
<b>06</b>	<b>Dust, Noise and Vibration- Temporary Impact</b>					
	Dust, Noise and Vibration during construction and night work will cause inconveniences/ disturbances to the residents	<ul style="list-style-type: none"> <li>Follow guidelines stipulated in the Environmental Management Plan (EMP)</li> </ul>	Sites	Contractor's Cost	Contractor/ SCDP/GMC	During construction
		<ul style="list-style-type: none"> <li>Disallow worker exposure to noise level greater than 85 dBA for the duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced effectively</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Use the temporary and permanent dumping site as directed in contract document with Engineer supervision and guided by EMP</li> </ul>	-Do-	-Do-	-Do-	-Do-
<b>07</b>	<b>Parking of Contractor's vehicles along the Road- Temporary Impact</b>					
	Parking of vehicles along the road especially in residential areas.	<ul style="list-style-type: none"> <li>Contractor shall rent out suitable places for parking of vehicles used for rehabilitation works to avoid inconveniences to communities</li> </ul>	-Do-	-Do-	-Do-	-Do-
<b>08</b>	<b>Social Mobility Issues- Temporary Impact</b>					
	Social mobility issues (community integration sensitivities)	<ul style="list-style-type: none"> <li>Safeguard Officer (Environment &amp; Social) appointed by the contractor need to liaise with stakeholders and build up the community integration.</li> </ul>	N/A	-Do-	-Do-	-Do-
<b>09</b>	<b>Occupational Health and Safety- Temporary Impact</b>					

No	Adverse Social Impacts	Mitigation Measures	Location/ Place	Implementing Cost	Responsibility	Time Frame
	Occupational hazards which can arise from working in subproject	<ul style="list-style-type: none"> <li>Develop and implement site-specific Health and Safety (H&amp;S) plan which will include measures: (a) excluding public from the site; (b) ensuring all workers are provided with and use personal protective equipment (PPE); (c) H&amp;S Training for all site personnel; (d) documented procedures to be followed for all site activities; and (e) documentation of work-related accidents;</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Ensure that qualified first-aid can be provided at all times. Equipped first-aid stations shall be easily accessible throughout the site</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Provide medical insurance coverage for workers</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Secure all installations from unauthorized intrusion and accident risks</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Provide suppliers of potable water and clean eating place where workers are not exposed to hazardous or noxious substances</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Provide H&amp;S training to all new workers to ensure that they are apprised of the basic site rules of work at the site, personal protection, and preventing injuring to fellow workers</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Ensure that visitor/s are escorted if it is required them to enter areas where hazardous conditions or substances are present.</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Ensure moving equipment is outfitted with audible backup alarms</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall abide by international standards and be familiar to, and easily understood by the workers, visitors, and the general public as appropriate</li> </ul>	-Do-	-Do-	-Do-	-Do-
<b>10</b>	<b>Lack awareness &amp; gender based issues of workers - Temporary Impact</b>					
	The absence of adequate sanitary facilities for female workers, child labour, wage disparity, entitlements for leave,	<ul style="list-style-type: none"> <li>Provide water and sanitation facilities for employees/ labourers as per IFC 2009 standards (1 toilet/15 persons) and separate facilities for men and women.</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Equal participation of women workers shall be encouraged and ensure wage parity during the implementation of subprojects</li> </ul>	-Do-	-Do-	-Do-	-Do-

No	Adverse Social Impacts	Mitigation Measures	Location/ Place	Implementing Cost	Responsibility	Time Frame
	lack of awareness for workers, encouraging local community for works.	according to GOSL's labour policy; women are given equal pay for work of equal value. (This will be included in the contractual agreements)				
		<ul style="list-style-type: none"> <li>Prevent employing children under 16 years of age and young persons in the age group of 16 and 18 years; Equal opportunities should be given to both males and females in work assignments and depending on the type of work, underground works can be carried out regardless of gender.</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Train employees in the storage and handling of materials which can potentially cause soil contamination. Precaution should be followed during construction</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>The contractor is expected to select the labour force from the local community as much as possible if the skilled people are available. Before recruiting the labour, the Contractor should inform the people in the surrounding area at least five days before the selection takes place by announcing through a public announcement system and by displaying posters in public places of the relevant villages.</li> </ul>	-Do-	-Do-	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Entitlement of Leave for workers according to the Shop and Office Employees (Regulation of Employment and Remuneration) Act</li> </ul>	-Do-	N/A	-Do-	-Do-
<b>11</b>	<b>Handling complains from the community - Temporary Impact</b>					
	Pedestrians, vehicles, residential & commercial community and workers of construction site make complaints regarding inconveniences due to construction works.	<ul style="list-style-type: none"> <li>Conduct GRC and LRC meetings once a month or when needed with community representatives from site impact area</li> </ul>	N/A	Project Cost	-Do-	-Do-
		<ul style="list-style-type: none"> <li>Keep complaint registry at site offices of RDA, contractor and DS offices.</li> </ul>	N/A	-Do-	-Do-	-Do-

**Table 2 - Entitlement Matrix**

	Type of Loss	Entitled Persons	Entitlements	Responsible Agency
<b>A. Residential Land and Structures</b>				
A1	Loss of Residential land and structure	Owner with title deed or registration certificate.	<p>Compensation at replacement cost and R&amp;R</p> <ul style="list-style-type: none"> <li>■ Compensation<sup>1</sup> for affected land at replacement cost as per LAA</li> <li>■ Three months advance notification for harvesting crops, or compensation for crop damage</li> <li>■ Compensation for trees affected at market price.</li> <li>■ Applicable interest on compensation amount for delay in payment of compensation calculated from the date of taking over land possession</li> <li>■ Compensation for the economically non-viable remainder or residual land, if the land loser is willing to surrender such land, at replacement cost</li> </ul>	<p>Chief Valuer (CV) assess all valuations as per LAA and 2008 regulations Land Acquisition Officer of the Divisional Secretary (DS) manages the acquisition process PMU provides funds DS draws cheque for compensation payments.</p> <p>PMU of the Road Development Authority</p>
A2	Loss of rental accommodation	Person renting in a residential structure	<p>Resettlement &amp; Rehabilitation Assistance</p> <ul style="list-style-type: none"> <li>■ Three months advance notice for relocation.</li> <li>■ An apportionment of compensation for registered lessees for the unexpired period of lease as permissible under law.</li> <li>■ Allowance for alternative rental accommodation of equivalent standard as determined by PMU or LKR 9,000/ month (whichever is higher) for a maximum of six months for tenants/lessees, and for such period as required by law in case of protected tenants.</li> <li>■ Transportation allowance of LKR 5,500.</li> </ul>	<p>Chief Valuer (CV) assess all valuations as per LAA and 2008 regulations Land Acquisition Officer of the Divisional Secretary (DS) manages the acquisition process PMU provides funds DS draws cheque for compensation payments.</p>
<b>B. Commercial Land and Structure</b>				
B1	Loss of commercial land and structure	Titled owner with deeds	<ul style="list-style-type: none"> <li>■ Compensation for the affected land at replacement cost as per LAA for whole plot if the residual plot is not developable under law, i.e. less than 2 perches (see endnote 4)</li> </ul>	<p>Chief Valuer (CV) assess all valuations as per LAA and 2008 regulations</p>

<sup>1</sup>Compensation must be paid fully prior to taking possession of any affected land or property or both for the Project, and not in installments as allowed by the section 29 of LAA in order to enable the land and property losers to re-establish their shelter/business.

			<ul style="list-style-type: none"> <li>■ Compensation for affected structure at replacement cost without deduction of any depreciation or salvageable materials</li> <li>■ Opportunity to avail of a shop on</li> <li>■ long-term lease at any commercial resettlement site (where available or planned) or any other public shopping scheme on payment of lease premium</li> <li>■ Transportation allowance of LKR 5,500.</li> <li>■ In case of emergency shifting, cash allowance for alternative rental accommodation of equivalent standard for 6 months as determined by PMU on case by case basis or @ LKR 11,000/ month (whichever is higher).</li> <li>■ Right to salvage material from the demolished structure</li> <li>■ Cash assistance to enable re-establishment of business calculated as net income for six months on the basis of average net annual incomes for preceding three years as recorded in income/sales tax returns filed, OR a lump sum livelihood assistance of LKR 25,000, whichever is higher</li> </ul>	<p>Land Acquisition Officer of the Divisional Secretary (DS) manages the acquisition process  PMU provides funds  DS draws cheque for compensation payments.</p>
B2	Loss of commercial land and structure	Person renting in a commercial structure	<ul style="list-style-type: none"> <li>■ Rental allowance of equivalent accommodation as determined by PMU, OR LKR 8,000/ month for six months</li> <li>■ Rental allowance as above for a period not exceeding six months in case of protected tenants, or as per the applicable law.</li> <li>■ Apportionment of compensation for protected tenants and lessees if and as permitted under applicable laws.</li> <li>■ Cash assistance to enable re-establishment of business in case of relocation calculated as net income for six months on the basis of average net annual incomes for preceding three years as recorded in income tax returns filed, OR a lump sum livelihood assistance of LKR 25,000, whichever is higher.</li> </ul>	<p>Chief Valuer (CV) assess all valuations as per LAA and 2008 regulations  Land Acquisition Officer of the Divisional Secretary (DS) manages the acquisition process  PMU provides funds  DS draws cheque for compensation payments.</p>
<b>C. Other Private Properties or Secondary Structures</b>				
C1	Partial or complete loss of other property or secondary structure (i.e.	Owners of structure (regardless of the ownership of land)	<ul style="list-style-type: none"> <li>■ Compensation for affected land and structure at replacement cost as per LAA according to the actual loss to repair or rebuild the structure to original or better condition when remaining land is sufficient to rebuild upon.</li> </ul>	<p>Chief Valuer (CV) assess all valuations as per LAA and 2008 regulations  Land Acquisition Officer of the Divisional Secretary (DS) manages the acquisition process</p>

	gates, parapet walls, sheds, etc.)		<ul style="list-style-type: none"> <li>■ Rental allowance for alternative accommodation of equivalent standards OR LKR 8,000/ month (whichever is higher) for six months for enabling owner rebuild the affected structure</li> <li>■ Transportation allowance of LKR 5,500.</li> </ul>	PMU provides funds DS draws cheque for compensation payments.
<b>C. Income and livelihoods</b>				
D1	Loss of livelihood due to relocation	<ul style="list-style-type: none"> <li>■ Business owners</li> <li>■ Vulnerable and women headed families losing income due to relocation</li> <li>■ Self-employed persons</li> </ul>	<ul style="list-style-type: none"> <li>■ Training, credit access and skill training support for maximum two youths (one male and one female) from the resettled families for livelihood strengthening with the help of NGOs</li> <li>■ Vulnerable families eligible for government welfare assistance, will be supported with Samrudhi poverty alleviation scheme or old age pension scheme</li> <li>■ Housekeeping assignments at the commercial resettlement sites and employment in civil works for this Project</li> <li>■ Opportunity to avail of a shop at the resettlement site on long term lease on payment of premium and maintenance charges as applicable.</li> <li>■ Continuation of any welfare assistance given by State to the vulnerable families after relocation.</li> <li>■ Cash assistance to enable re-establishment of income calculated as net income for six months on the basis of average net annual incomes for preceding three years as recorded in income/ sales tax returns filed, OR a lump sum livelihood assistance of LKR25,000, whichever is higher.</li> <li>■ Advertising cost from Rs. 2,500/= to Rs. 15,000/= for relocation of business to a new place (eg. Hand bills, name boards, information boards etc.)</li> </ul>	Chief Valuer (CV) assess all valuations as per LAA and 2008 regulations Land Acquisition Officer of the Divisional Secretary (DS) manages the acquisition process PMU provides funds DS draws cheque for compensation payments.
<b>E. Trees with Timber Value</b>				
E1	Loss of trees with timber value	Person who cultivates trees and/or own trees (regardless of the ownership of land)	<ul style="list-style-type: none"> <li>■ All payments for affected timber trees at the market value</li> </ul>	CV assess all valuations as per LAA and 2008 regulations. PMU provides funds DS draws cheque for compensation payments.
<b>G. Additional Allowances/Incentives</b>				

G1	Expenses incurred during acquisition process	All APs who appear for LAA Section 9 inquiry	<ul style="list-style-type: none"> <li>■ An allowance based on the actuals not <u>exceeding</u> Rs. 10,000 would be paid to each AP who appears for LAA Section 9 inquiry.</li> </ul>	<p>CV assess all valuations as per LAA and 2008 regulations  Land Acquisition Officer of the DS manages the acquisition process  PMU provides funds  DS draws cheque for compensation payments.</p>
<b>I. Community Assets ( unforeseen negative impacts)</b>				
	Loss of buildings and other structures etc. ( if any) , infrastructure (local roads, footpaths, water points etc), common resources(shrines ...etc.)	Divisional Secretary of the division, local community or local authority owning or benefiting from community property, infrastructure or resources	<ul style="list-style-type: none"> <li>■ Restoration in existing location of affected community and public buildings, structures, infrastructure and common property resources to original or better condition; OR Replacement in alternative location identified in consultation with affected communities and relevant authorities; OR (Cash) Payment at full replacement cost; AND restoration of such buildings, structures, infrastructure, services or other community resources.</li> </ul>	<p>PMU and Road Development Authority is fully responsible to restore community resources and full restoration of buildings, structures, infrastructure, services or other community resources (costs to be borne by project) or payment for such if agreement for local authority or community to undertake the restoration works.</p>

## Annexes II

**Table 1 - Project Affected Persons ( PAPs) – Ruwanwella Bridge Construction site**

No	Name	Address	Losses				
			Parapet walls	Gates	Lands (perches)	Trees	Temporary Shelter
1	H.P. Advin Perera	No. 25/1A, Imbulana, Ruwanwella		2	1.4	1	
2.	I.V. Gunathileke	No.25, Anguruwella	1	1	2.8		
3.	K.V. Nimalrathna	No 3/B, Ambagahamulahena, Imbulana		1	2	1	
4.	D.P. Anandasisirakumara	10A, Anguruwella		2	12.3		1
5.	M.A. Priyanthakumara	Imbulana, Anguruwella		1	0.5	1	
6.	Government Lands	Pradeshiya Sabha, Ruwanwella			6.0		

Source- social survey for Bridges, 2017

**Table 2- Project Affected Persons ( PAPs) –Awissawela Bridge Construction Site**

No	Name	Address	Losses				
			Parapet walls	Gates	Lands (Perches)	Business place	Trees
1.	B.K.P. Kamalawathi	Aswatte(North), Aswatte, Puwakpitiya			16.5		2
2.	D.P.J.S. Dasanayake	Siriweda Nivasa, 139/1, Puwakpitiya			10.0		
3.	M.K. Somwathi	139/1, Aswatte, Puwakpitiya			27.65		4
4.	R.V.C.P. Chandraleka,	5/8, Ukwatte, Awissawella			24.19	1	3
5.	E.R. Gunawardena	Geethani, Hingurala, Puwakpitiya	1	1	82.6		3
6.	Government Lands	Divisional Secretary, Seethawaka			48.06		

Source- social survey for Bridges, 2017

## Annexes II

**Table 1. Education levels of PAP families. (12 families, 39 persons)**

Construction Site	No Education	Children Not attending to school	Grade 1-5	Grade 6-10	Advance level	Degree/ higher education	Total
Awissawella Bridge Site	0	0	0	18	7	1	26
Ruwanwella Bridge Site	0	0	0	9	4	0	13
Total	0	0	0	27	11	1	39

Source- social survey for Bridges, 2017

**Table 2. Students in 12 PAP Families**

Construction Site	Family with students	Number of students	Family with no students
Awissawella Bridge Site	05	08	02
Ruwanwella Bridge Site	04	06	01
Total	09	14	03

Source- social survey for Bridges, 2017

**Table 3. Employment – 12 PAP Families**

Construction Site	1	2	3	4	5	6	7	Total
Awissawella Bridge Site	01	01	02	00	02	01	0	07
Ruwanwella Bridge Site	00	00	01	01	01	02	0	05
Total	1	1	3	1	3	3	0	12

Note: 1-Agriculture, 2-Govt. 3-Private sector, 4-Self-employment, 5-Business, 6-Retired, 7-Unemployed

Source- social survey for Bridges, 2017

**Table 4. Poverty Alleviation Programmes**

Road	Samurdhi Holders	Other Public Assistance	Total Families
Awissawella Bridge Site	0	0	0
Ruwanwella Bridge Site	0	0	0
	0	0	0

Source- social survey for Bridges, 2017

**Table 5. Income of 12 PAP Families**

Road	< Rs.10,000	Rs. 10,000 - 25,000	>Rs. 25,000
Awissawella Bridge Site	0	5	2
Ruwanwella Bridge Site	0	3	2
Total	0	8	4

Source- social survey for Bridges, 2017

## Annex III

**Table 1. Details of persons consulted during the meetings and field studies (Awissawella Town and Uswatte Village)**

Name and Road Number	Address	Position	Date
W.M. Muhandiram	9C, Rathnapura Road, Awissawella	Teacher	2017.10.03
V.S. Rathnayake	Rihana Trade Center, Main Street, Awissawella	Businessman	2017.10.03
P.M. Manjula	Senani, Madala, 23, Awissawella	Lottery Seller	2017.10.03
S.Nanayakkara	Nears Saman Devalaya, 1st Lane, Puwakpitiya	Clark	2017.10.03
P.M. Punchihewa	Paramount Motors, Main Street Awissawella	Businessman	2017.10.03
S.P. Kodikara	Kudagalwatha, Hatton Road, Yatiyanthota	Driver	2017.10.03
D.M. Nimal Kusum	25, Rathnapura Road, Awissawella	Student	2017.10.03
Amal Perera	Nissan Motors, 1C, Awissawella	Sales Representative	2017.10.03
P. Nilmini kumara	11/2 Main Street, Awissawella	Nurse	2017.10.03
M. Mallika	Pansala Road, Awissawella	Farmer	2017.10.03
L.P. Jyasinghe	Kahathura Road, Epitawala, Kiriella	Farmer	2017.10.03
S.P. Jayalakshmi	25/2c, Colombo Rd, Awissawella	House wife	2017.10.03
S.P. Seetha	12/c, Colombo Road, Awissawella	Fruit Seller	2017.10.03
W. wasantha	Nayomo Road, Nimali House, Puwakpitiya	Self Employee	2017.10.03
Aruna Mahagamage	Liberty Guarage, Rathnapuraya Road, Awissawella	Mechanic	2017.10.03
Ranjith Silva	Main Street, Awissawella	Petty Business	2017.10.03
Ajith Perera	18/2, Hospital Junction, Awiossawella	Police Officer	2017.10.03
Y. Siripala	2B, Dewata Road, Puwakpitiya	Laborer	2017.10.03
Wasantha Lal	Lal Gem, Hatton Road, Awissawella	Gem Seller	2017.10.03
S.D. Piyatillke	42/B, Hatton Road, Yatiyanthota Rathnapuraya	Technician	2017.10.03
S.V. Jatissa	Main Street, Awissawella	Petty Business	2017.10.03
S.M.P. Somadasa	19/2 Rathnapuraya Rod, Kiriella	Retired	2017.10.03
S.M. Dayawathi	½ Colombo Road, Awissawella	Sales Girl	2017.10.03
W. Wijethilaka	Main Street, Awissawella	Businessman	2017.10.03
N.P. Chandrasekaran	22/2, Hatton Road, Yatiyanthota	Gramaniladhari	2017.10.03
A.H.M. Mohamed	20C, Main Street, Awissawella	Lottery Seller	2017.10.03
A.M.S. Deen	23/1, Puwakpitiya, Awissawella	Shop Keeper	2017.10.03
P. Dharshan	Hospital Junction, Awissawella	Carpenter	2017.10.03
K.B. Raheem	Rest House, Road, Yatiyanthota	Policeman	2017.10.03
Wasantha Perera	Nisal Traders, Dehoowita Road,	Position	2017.10.03
M.N.M. Herath	New Traders, Colombo Road, Puwakpitiya	Salesman	2017.10.03
Y.C. Jayamanna	3/b, Colombo Road, Puwakpiyiya.	Driver	2017.10.03
M.P. Silva	Main Street, Awissawella	Self-Employee	2017.10.03
S.T. Subasinghe	Wasana Salon, Colombo Road, Puwakpitiya	Samurdhi Manager	2017.10.03
C.P. Senanayake	Maxi Traders, Hatton Road, Yatiyanthota	Store Keeper	2017.10.03

<b>Name and Road Number</b>	<b>Address</b>	<b>Position</b>	<b>Date</b>
N. Niaz	ACE Shoe Center, Colombo Road, Puwakpitiya	Businessman	2017.10.03
Y.P. Yahammath	10B/2 Main Street, Awissawella	Teacher	2017.10.03
S.P. Kumari	Manisha Bueaty Centre, Awissawella	Shop Keeper	2017.10.03
G. Fonseka	No14, Kitulgala, Yatiyanthota	Planter	2017.10.03
S.Wickramasinghe	1st Lane, 21a/ Yatiyanthota	Farmer	2017.10.03
D.M. Dayaratne	Betra Estate, Deraniyagala	University Student	2017.10.03
S.P. Ashwar	3B, Amithirigala Road, Dehiowita	Mechanic	2017.10.03
W. wasantha Lal	Manoj Café, Hatton Road, Awissawella	Shop Keeper	2017.10.03
S.D. M. Munasinghe	Milton Sound, Colombo Road, Awissawella	Technician	2017.10.03
Dhammica Katuthota	14C, 2nd Avenue, Puwakpitiya	Teacher	2017.10.03
Manuja Wimalasuriya	54, Main Street, Awissawella	Pawn Broker	2017.10.03
A.H.M. Ponnaia	Gold Jewellery, Puwakpitiya	Goldsmith	2017.10.03
P. Piripaharan	Ganesh Shine, 34C, Main Street , Awissawella	Goldsmith	2017.10.03
S. Sundarasaren	Niams Tea Shop, Colombo Road Puwakwatte.	Businessman	2017.10.03
P. Wasantha	46D, Hatton Road, Dehiowita	Labour	2017.10.03
S. Subramaniam	234, Colombo Road, Awissawella	Lottery Seller	2017.10.03
P. Surabdeen,	Main Street , Awissawella	Petty Business	2017.10.03
Nayan Chandra	Singha, Kahatagala Road, Danowita	Electrician	2017.10.03
S.D. Thomas	Siri Nivasa, Hatton Road, Awissawella	Govt. Servant	2017.10.03
W. Shiwanathen,	Main Street, Awissawella	Watcher	2017.10.03
S.P. Sinnathambi	123, Hatton Road, Awissawella	Taxi Driver	2017.10.03
D. Ramachandran	C5, Rathnapura Road, Awissawella	Fruit Seller	2017.10.03
W. S. Ramsundaram	School Lane, Awissawella	Security Guard	2017.10.03
Asela Wathuregama	Sun Vision House Colombo Road, Awissawella	Photographer	2017.10.03
K.A.Kokila Kuruppu	139/1,Siriweda Nivasa, Aswatte	Self-Employee	2017.10.03
Chaminda Witharanapathirana	305/1, Aswatte, Puwakpitiya	Salesman	2017.10.03
K. Nimal Jayathilake	411/1, Nimal Smarts, Egodagama Road, Aswatte	Trader	2017.10.03
Chaminda Widanapathirana	305/1, Aswatte North, Puwakpitiya	Government Servant	2017.10.03
M.K.Somawathi	140, Aswatte, Puwakpitiya	Housewife	2017.10.03
R.V.C.G. Chandralekha	815, Colombo Road, Ukwatte, Awissawella	Housewife	2017.10.03
U.R. Gunawardena	Geethani, Hingurala, Puwakpitiya	Businessman	2017.10.03
N,U,N, Dassanayake	132, Colombo Road, Hingurala, Puwakpitiya	Self-Employee	2017.10.03

**Table 2. Details of persons consulted during the meetings and field studies (Ruwanwella and Anguruwella Town Area)**

Name	Address	Position	Date
P.B. Dahanayake	2b/Walgampatha,Galapitamada	Driver	2017.10.02
A.C. Ramanayake	165/Basnagoda,Waharaka	Self Employee	2017.10.02
Sudath Perera	Mahakanda,Waharaka	Self Employee	2017.10.02
P.Somawathi	Sisira, Dunumala,Galapitamada	Teacher	2017.10.02
S. Piyalala	22A/ Imbulana,Ruwanwella	Post Master	2017.10.02
S.Piyawathi	Basnagoda Road,Waharaka	Self Employee	2017.10.02
T. Martin	32C/ Palleanugala,Amithirigala	Farmer	2017.10.02
M. Joslin	Moraliya,Waharaka	Tailor	2017.10.02
A.M. Podisingha	2a/Gonagala,Ruwanwella	Technician	2017.10.02
W.Chamila	Gonagala Ruwanwella	Businessman	2017.10.02
Nimali Anusha	Humbaswalana,Ruwanwella	School Children	2017.10.02
V.S. Amali	21/a, Doranuwa,Ruwanwella	Self Employee.	2017.10.02
Nimal Kumara	Gonaramba,Ampagala	Labor	2017.10.02
A. Samarasinghe	Morawaththa,Ruwanwella	Lottery Seller	2017.10.02
S. Abeynanda	11B, Wendala ,Ruwanwella	Shop Keeper	2017.10.02
N.S. Abeydheera	Morathota,Waharaka	Lottery Seller	2017.10.02
G. Sapnaiya	26/c, Gonagala Ruwanwella	Goldsmith	2017.10.02
A. Dharmaratnam	Morathota,Waharaka	Petty Business	2017.10.02
A.H.M. Deen	10A/Pettangoda,imbulana	Businessman	2017.10.02
A.H.M. Ahamad	Udakanugala,Amithirigala	Labour	2017.10.02
P. Sarawanamuttu	21B, Gonaramba,Ampagala	Retired Person	2017.10.02
L. P. Buddadasa	25/1, Wahakula,Ruwanwella	Bus conductor	2017.10.02
Sunanda Silva	6B, Anguruwella,Ruwanwella	Sales Ref.	2017.10.02
M.G. Adwin Perera	25/1A, Imbulana, Ruwanwella	Farmer	2017.10.02
I.V. Gunathileke	20/1, Anguruwella Imbulana	Self-Employee	2017.10.02
K.V. Nimalrathna	3/B, Ambagahamulahena, Imbulana	Retired Person	2017.10.02
D.G. Ananda Sisirakumara	Imbulana, Anguruwella	Businessman	2017.10.02
Priyanthakumara Meegoda	21 Imbulana, Anguruwella		2017.10.02

## Annex IV - Timeline for Normal Land Acquisition Procedures

Sections and actions to be taken under LA Act	Responsibility	Time (weeks)
1. 1 Application for land acquisition from the Appropriate Ministry (requesting for land acquisition) to the Ministry of Lands	Appropriate Ministry	2
1.2 Approval from the Ministry of Lands to publish the <b>Section 2 notice</b>	Ministry of Lands	2
1.2 Publish section 2 notice and issue of survey requisition	Divisional Secretary and Government Printer	2
2. Survey the land and preparation of the Advanced Tracings	Superintendent of Survey	4
3.1 Publish a notice under <b>Section 4</b> for submission of written objections to the relevant Ministry (Appropriate Secretary) with a specified time period for submissions	Divisional Secretary	2
3.2 Inquiry of objections and prepare a report with recommendations to the Ministry of Land	Appropriate Ministry/DS	8
4. 1 Approval of land acquisition by the Ministry of Lands under <b>Section 5</b>	Ministry of Lands	2
4.2 The decision to be published in the Government Gazette under Section 5	Divisional Secretary and Government Printer	2
4.3 Survey requisition to the Survey Department	Divisional Secretary	1
5. Preparation of final survey plans (preliminary plans)	Survey Department	8
6. Issue <b>Section 7</b> Gazette notification under Section 7 with details of lands to be acquired	Divisional Secretary and Government Printer	4
7. Ownership inquiries under <b>Section 9</b> and issue of ownership determination under <b>Section 10 (1)</b>	Divisional Secretary/Acquiring Officer	8
8. Request for preparation of valuation report after ownership determination under Section 10 (1)	Divisional Secretary	2
9. Preparation of valuation reports and submission to the Divisional Secretary	Valuation Department	8
10. Award of compensation to the owners under Section 17	Divisional Secretary	1
11. Payment of compensation	Divisional Secretary	1 ✓
12. Take physical possession of lands after removing structures under <b>Section 38</b> order published in the Government Gazette	Divisional Secretary and Government Printer	1
<b>Total estimated</b>		58

## Annex V

**Table 1 – Environment Management Plan**

Activities	Protection and preventive measures	Locations/ Project phase	Mitigation cost	Institutional Responsibility	
				Implement	Supervision
<b>1.0 Advance Works</b>					
<b>1.1</b>	<b>Design for culverts, bridges, leader ways, silt traps and catch pits</b>				
(a)	RDA should obtain prior consent from relevant authorities such as Department of Coast Conservation, ID. MASL etc., for implementation of proposed drainage management plan and any proposed construction works on/at areas belong to these institutions. RDA should obtain prior consent from relevant public if any land use of people is likely to be interfered temporarily or permanently by the proposed drainage improvement work.	Design stage Design stage	-	RDA	
(b)	For culverts designs should be considered to allow overland flow and sheet flow from the pavement or cross drainage without any blocking  For bridges designs should be considered to allow overland flow and cross waterways without any blockage  For leader ways designs should be considered for smooth flow without any blocking  For silt traps designs should be considered for trapping of silt in proper manner		Design cost	RDA	

		<p>For catch pits appropriate designs should be considered in order to drain out rain water without blocking / flooding</p> <p>Designed drainage facilities must be capable of disposing of the runoff generated in a given water catchment without inundating the surrounding land (adjacent properties and utilities or land uses) in an event of a fifty year return period flood”.</p>				
	<b>1.2</b>	<b>Design of slope protection / land-slide management structures</b>				
	(a)	<p>Design must ensure structural integrity and safety of structures to address issues such as physical trauma associated with failure of structures and address potential reduction of stabilization of the nearby land due to slope protection activities. Incorporate as appropriate the following during planning, siting and design phases:</p> <p>Inclusion of buffer strips or physical separations around project sites</p> <p>Incorporation of siting and safety engineering criteria to prevent failures due natural and/or man-made risks (such as wind, flooding, landslides, etc.)</p> <p>Application of locally regulated building codes to ensure structural integrity</p> <p>Certification of designing and constructing infrastructure, the applicability and appropriateness of structural criteria</p>	Design stage	Design cost	RDA	
	<b>1.3</b>	<b>EMP</b>				
	(a)	<p>EMP should be included as a Special Condition in the Bid Document; and EMP should be attached to contract to form part of the contract requirement</p>	Prior to bidding	To be provided as a provisional sum and/or as part of the engineering cost	RDA,	

2.0 Construction Phase							
	2.1	Earthwork and Soil Conservation					
	2.1.1	Site Clearance and Land Development					
		<p>Prevention of removal of trees as far as possible.</p> <p>During removing, attention should be paid to maintain minimum disturbances to soil cover and also care should be taken not to damage adjoining trees.</p> <p>Degraded state land identified for forestry activities will be improved to compensate for the trees removed as 1:2 at least</p> <p>Water spraying should be done at a regular interval to avoid dust generation due to site clearance</p>	Applicable throughout the construction areas	Engineering cost	RDA,	FD	
	2.1.2	Disposal of Debris and Spoil					
	(a)	<p>All debris and residual spoil material including any left earth shall be disposed only at locations approved by the engineer for such purpose and subjected to the clauses 2.1.1.b and 2.1.1.c.</p> <p>All material that is reusable or recyclable shall be used for such purposes either by the contractor or through dealers.</p>	Disposal sites to be identified by the contractor and approved by Engineer.	Engineering cost	contractor	RDA,	
	(b)	<p>The contractor shall obtain the approval from the relevant Local Authority such as Prdeshiya Sabha, Municipal Council and other government agencies (as required) for disposal and spoil at the specified location, as directed by the Engineer</p> <p>Private land that will be selected for disposal should also require written consent from the land owner</p>					
	(c)	The debris and spoil shall be disposed in such a manner that;					

		(i) waterways and drainage paths are not blocked  (ii) the disposed material should not be washed away by runoff and  (iii) should not be a nuisance to the public				
	(d)	The debris and residual spoil material including any left earth shall be used, to refill the burrow areas as directed by the engineer, subjected to laying of topsoil as per EMP clause 2.1.2.	All burrow sites (licensed sites) identified by contractor and approved by engineer.			
	(e)	Excavated earth materials and all debris materials shall be disposed immediately without allowing to stockpile at identified locations for debris disposal, recommended by the engineer. During transportation, dispose materials should be covered with tarpaulin.	Applicable throughout the project sites			
	(f)	If approved by the engineer, contractor can dispose the debris and spoil as a filling material provided that the contractor can ensure that such material is used for legally acceptable purposes with disposed in an environmentally acceptable manner.	In identified filling sites subjected to the approval of engineer			
	<b>2.1.2</b>	<b>Conservation and reuse of top soil</b>				
	(a)	Top soil of the agricultural areas and any other productive areas where it has to be removed for the purpose of this project shall be stripped to a specified depth of 150mm and stored in stockpiles of height not exceeding 2m, if directed by the engineer. If the contractor is in any doubt on whether to conserve the topsoil or not for any given area he shall obtain the direction from the engineer in writing	Within the project sites where topsoil from productive land to be removed	Engineering cost	Contractor	RDA,

	(b)	Removed top soil could be used as a productive soil when replanting/establishing vegetation	Site(s) identified for replantation program			
	(c)	Stockpiled topsoil must be returned to cover the areas including cut slopes where the topsoil has been removed due to project activities. Residual topsoil must be distributed on adjoining/proximate barren areas as identified by the engineer in a layer of thickness of 75mm – 150mm.	Within the project sites where slope stabilization is carried out and/or on barren land			
	(d)	Topsoil thus stockpiled for reuse shall not be surcharged or overburdened. As far as possible multiple handling of topsoil stockpiles should be kept to a minimum.	Locations where topsoil is stockpiled for reuse	-		
	<b>2.1.3</b>	<b>Protection of Ground Cover and Vegetation</b>				
	(a)	Construction vehicle, machinery and equipment shall be used and stationed only in the areas of work and in any other area designated/ approved by the engineer. Entry and exit of construction vehicles and machinery should be restricted to particular points as directed by the engineer	Within the project areas	-	Contractor	RDA,
	(b)	Contractor should provide necessary instructions to drivers, operators and other construction workers not to destroy ground vegetation cover unnecessarily	Within the project areas			
	<b>2.1.4</b>	<b>Burrowing of Earth</b>				
	(a)	Earth available from construction site excavation works as per design, may be used as embankment materials, subject to approval of the engineer	All excavation areas and embankments	-	Contractor	RDA
	(b)	Contractor shall comply with the environmental requirements/guidelines issued by the CEA and the respective local authorities with respect of locating burrow areas and with regard to all operations related to excavation and transportation of earth from such sites.	All burrow sites identified and used by the contractor			

		Contractor can also find suitable soil materials from currently operated licensed burrow pits in the surrounding area, subject to approval of the engineer  No burrow-sites be used (current approved) or newly established within areas protected under FFPO and FO				
	(c)	Burrow areas shall not be opened without having a valid mining license from the GSMB. The location, depth of excavation and the extent of the pit or open cut area shall be as approved by the engineer.				
	(d)	All burrow pits/areas should be rehabilitated at the end of their use by the contractor in accordance with the requirements/guidelines issued by the CEA and the respective local authority.		Engineering cost		
	(e)	Establishment of burrow pits/areas and its operational activities shall not cause any adverse impact to the near-by properties. Also shall not be a danger of health hazard to the people.	All excavation areas, slopes and burrow sites	-		
	(f)	Contractor shall take all steps necessary to ensure the stability of slopes including those related to temporary works and burrow pits.		Engineering cost		
	<b>2.1.5</b>	<b>Prevention of soil erosion</b>				
	(a)	Debris material shall be disposed in such a manner that waterways, drainage paths would not get blocked.  Drainage paths associated with the infrastructure should be improved / erected to drain rain water properly.  Silt traps will be constructed to avoid siltation into water ways where necessary.  To avoid siltation, drainage paths should not be directed to streams, other water bodies and sea directly and they should be separated from streams / other water bodies / sea	Applicable throughout project sites  Locations of culverts, lead away drains.  (directly connected to streams / water	Engineering cost	Contractor	RDA

			bodies), toe walls & silttraps to be erected.			
	(b)	Barricades such as humps will be erected at excavated areas for culverts, silt traps, toe walls, filling and lifting with roper sign boards, as some work in these sections will have to be stopped during heavy rains due to heavy erosion. To prevent soil erosion in these excavated areas, proper earth drain system should be introduced.	Applicable throughout project sites			
	(c)	Embankment slopes, slopes of cuts, etc. shall not be unduly exposed to erosive forces. These exposed slopes shall be graded and covered by grass or other suitable materials as per the specifications.  All fills, back fills and slopes should be compacted immediately to reach the specified degree of compaction and establishment of proper mulch.				
	(d)	Work that lead to heavy erosion shall be avoided during the raining season. If such activities need to be continued during rainy season prior approval must be obtained from the Engineer by submitting a proposal on actions that will be undertaken by the contractor to prevent erosion.		-		
	(e)	The work, permanent or temporary shall consist of measures as per design or as directed by the engineer to control soil erosion, sedimentation and water pollution to the satisfaction of the engineer. Typical measures include the use of berms, dikes sediment basins, fiber mats, mulches, grasses, slope drains and other devices. All sedimentation and pollution control works and maintenance thereof are deemed, as incidental to the earthwork or other items of work and no separate payment will be made for their implementation.		Engineering cost		

	<b>2.1.6</b>	<b>Contamination of soil by fuel and lubrications</b>				
	(a)	Vehicle/machinery and equipment servicing and maintenance work shall be carried out only in designated locations/ service stations approved by the engineer	Servicing yards to be used for vehicle servicing	Engineering cost	Contractor	RDA,
	(b)	Approval from CEA in the form of an Environmental Protection Licenses (EPL) should be secured by the contractor if he intends to prepare his own vehicle servicing yard				RDA, CEA
	(c)	Waste oil, other petroleum products and untreated wastewater shall not be discharged on ground so that to avoid soil pollution. Adequate measures shall be taken against pollution of soil by spillage of petroleum/oil products from storage tanks and containers. All waste petroleum products shall be disposed of in accordance with the guidelines issued by the CEA or the engineer.	Servicing yards to be used for vehicle servicing and locations where vehicles will be temporarily stationed			
	(d)	Sites used for vehicle and plant service and maintenance shall be restored back to its initial status. Site restoration will be considered as incidental to work.	New servicing yards developed by the contractor for the project			RDA,
	<b>2.1.7</b>	<b>Disposal of harmful construction wastes</b>				
	(a)	Contractor prior to the commencement of work shall provide list of harmful, hazardous and risky chemicals/ material that will be used in the project work to the Engineer. Contractor shall also provide the list of places where such chemicals/materials or their containers or other harmful materials have been dumped as waste at the end of the project.	Locations identified to store chemicals and waste disposal	-	Contractor	RDA,
	(b)	All disposal sites should be approved by the engineer and approved by CEA and relevant local authority.				RDA
	(c)	The contractor shall clean up any area including water-bodies affected/contaminated (if any) as directed by the engineer at his own cost.	All affected water bodies close to			

			material storage and waste disposal sites			
	<b>2.1.8.</b>	<b>Quarry operations</b>				
	(a)	Utilizing the existing quarry sites available in the project influential area as much as possible which are approved by GSMB with valid EPL and Industrial Mining Licences;  If new quarries are to be opened, prior approval should be obtained from GSMB, CEA and local authorities such as Pradeshiya Sabha.  Selected quarry sites should have proper safety measures such as warnings, safety nets etc., and third party insurance cover to protect external parties that may be affected due to blasting.  Quarry sites should not be established within protected sites identified under the FFPO and FO	All, quarry sites which will be used during construction phase.	Engineering cost	Contractor	RDA,  CEA, GSMB, local authorities
	(b)	It is recommended not to seek material from quarries that have ongoing disputes with community.		-		
	(c)	The maintenance and rehabilitation of the access roads in the event of damage by the contractors operations shall be a responsibility of the contractor.		Engineering cost		
	<b>2.2</b>	<b>Storage and handling of construction material</b>				
	<b>2.2.1</b>	<b>Emission of dust</b>				
	(a)	Storage locations of sand, metal, soil should be located away from settlements and other sensitive receptors and covered (with artificial barriers or natural vegetation).  Measures given under clauses 2.5.1 (c), (d), (e) should be considered within material storage site to minimize dust during handling of material.	At all material storage locations (stock piles of sand, gravel and metal)	Engineering cost	Contractor	RDA,

		All access roads within the storage site should be sprinkled with water for dust suspension.				
	<b>2.2.2</b>	<b>Storage of fuel, oil and chemicals (avoid fumes and offensive odor)</b>				
	(a)	<p>All cement, bitumen (barrels), oil and other chemicals should be stored and handled on an impervious surface (concrete slab) above ground level.</p> <p>Storage facility of cement, bitumen (barrels), oil and other chemicals should be an enclosed structure ensuring that no storm water flows in to the structure.</p> <p>A ridge should be placed around the storage facility to avoid runoff getting in to the structure.</p> <p>Adequate ventilation should be kept to avoid accumulation of fumes and offensive odor that could be harmful to material handlers.</p> <p>Measures given under clause 2.9 should be considered to avoid any accidents and risks to worker population and public.</p>	At all material storage locations (cement, bitumen, fuel, oil and other chemicals used for construction activities)	Engineering cost	Contractor	RDA,
	<b>2.2.3</b>	<b>Transportation of material</b>				
	(a)	<p>The contractor should avoid over loaded trucks to transport material to construction sites. During transportation, materials should be covered with tarpaulin. Avoid peak hours in roads with moderate to high traffic'; the contractor shall minimize possible public nuisance due to dust, traffic congestion, air pollution, etc., due to such haulage; If local roads are used, select routes based on the truck load; divide the load to prevent damages to local roads and bridges; observe speed limits and maintain vehicles in the good condition; transport material under cover; avoid peak hours in roads with moderate to high traffic.</p> <p>If there are damages to local roads and other utilities due to hauling in roads which were not identified during design stage, Contractor shall attends to</p>	Within the project locations and the vicinity	-	Contractor	RDA,

		repair all damaged infrastructure/ roads, if needed through relevant authorities				
	<b>2.3</b>	<b>Water – Protection of Water Sources and Quality</b>				
	<b>2.3.1.</b>	<b>Loss of minor water sources and disruption to water users</b>				
	(a)	Contractor should make employees aware on water conservation and waste minimization in the construction process.	Project sites and worker camps	-	Contractor	RDA,
	(b)	<p>Arrange adequate supply of water for the project purpose throughout the construction period. Not obtain water for project purposes, including for labor camps, from public or community water supply schemes without a prior approval from the relevant authority.</p> <p>Not extract water from ground water or surface water bodies without the permission from engineer &amp; relevant authority. Obtain the permission for extracting water prior to the commencing of the project, from the relevant authority.</p>		Engineering cost		
	(c)	Contractor shall protect sources of water (potable or otherwise) such as water sources used by the community so that continued use these water sources will not be disrupted by the work. In case the closer of such sources is required on temporary basis contractor shall provide alternative arrangement for supply. Alternative sources such as wells thus provided should be within acceptable distance to the original sources and accessible to the affected community.	Wells and other public water sources locations within the project sites			
	(d)	Contractor shall not divert, close or block existing canals and streams in a manner that adversely affect downstream intakes. If diversion or closure or blocking of canals and streams is required for the execution of work, contractor must obtain the engineers approval in writing. Contractor shall also obtain the approval from the National Water Supply and Drainage Board (NWS&DB) or local authority or Divisional Secretary depending on the operating agency of the intake/water supply. Contractor shall restore the drainage path back to its original status once the need for such diversion or	Waterways located in the surrounding areas of road sections or the contractor's work sites.			

		closure or blockage ceased to exist. During the affected period contractor shall supply water to the affected community.				
	(e)	In case the contractors activities going to adversely affect the quantity or quality of water, the contractor shall serve notice to the relevant authorities and downstream users of water sufficiently in advance.	Project sites			
	(f)	Apply best management practices to control contamination of run-off water during maintenance & operation of equipment.  Maintain adequate distance between stockpiles & water bodies to control effects to natural drainage paths.	construction sites, material and soil storage areas, and equipment and machinery service areas	-		
	<b>2.3.2</b>	<b>Siltation into water bodies</b>				
	(a)	Contractor shall take measures to prevent siltation of water bodies as a result of construction work including, construction of temporary / permanent devices to prevent water pollution due to siltation and increase of turbidity. These shall include the measures against erosion as per EMP 2.1.6.	All water bodies located around the project areas	Engineering cost	Contractor	RDA,
	(b)	Construction materials containing small / fine particles shall be stored in places not subjected to flooding and in such a manner that these materials will not be washed away by runoff.				
	(c)	Temporary soil dumps should be placed at least 200m away from all water bodies				
	(d)	If temporary soil piles are left at the site for a long time those piles should be covered with thick polythene sheets				
	(e)	All fills, back fills and slopes should be compacted immediately to reach the specified degree of compaction and establishment of proper mulch				

	<b>2.3.3</b>	<b>Alteration of drainage paths</b>				
	(a)	Contractor shall not close or block existing canals and streams permanently. If diversion or closure or blocking of canals and streams is required for the execution of work (e.g. for construction of bypass), contractor must first obtain the Engineers approval in writing. Contractor shall carry out an investigation and report to the Engineer, if an investigation is requested by the Engineer. Contractor shall also obtain the approval from the relevant agencies such as ID/ /Divisional Secretary prior to such action is taken. Contractors shall restore the drainage path back to its original status once the need for such diversion or closure or blockage is no longer required.	All drainage paths impacted by the project activities	Engineering cost	Contractor	RDA
	(b)	The debris and spoil shall be disposed in such a manner that waterways and drainage paths are not blocked.				
	(c)	Avoid/ minimize construction works near/ at such drainage locations during heavy rain seasons such as monsoon rain periods.				
	<b>2.3.4.</b>	<b>Contamination of water from construction wastes</b>				
	(a)	The work shall be carried out in such a manner that pollution of natural water courses rivers, lagoons, sea and other minor stream paths located within construction areas or downstream. Measures as given in 2.1.6., 2.1.7, 2.1.8, 2.3.2 and 2.3.6 clauses shall be taken to prevent the wastewater produced in construction from entering directly into streams, water bodies or the irrigation systems.	At all water courses located adjacent construction sites and downstream	Engineering cost	Contractor	RDA,
	(b)	Avoid / minimize construction works near / at such drainage locations during heavy rainy seasons	At all water courses located adjacent construction sites	-		
	(c)	The discharge standards promulgated under the National Environmental Act shall be strictly adhered to. All waste arising from the project is to be disposed in a manner that is acceptable to the engineer and as per the guidelines/instructions issued by the CEA.	At all water courses located adjacent construction sites and downstream	Engineering cost		

	<b>2.3.5.</b>	<b>Contamination from fuel and lubricants</b>				
	(a)	All vehicle and plant maintenance and servicing stations shall be located and operated as per the conditions and /or guidelines stipulated under the EPL issued by CEA. In general these should be located at least 200m away from water bodies and wastewater shall not be disposed without meeting the disposal standards of the CEA. Wastewater from vehicle and plant maintenance and servicing stations shall be cleared of oil and grease and other contaminants to meet the relevant standards before discharging to the environment.	Vehicle and plant maintenance and servicing centers	Engineering cost	Contractor	RDA,
	(b)	Vehicle, machinery and equipment maintenance and re-filling shall be done as required in EMP clause 2.1.6. to prevent water pollution as well	Yards, servicing centers			
	<b>2.3.6.</b>	<b>Locating, sanitation and waste disposal in construction camps</b>				
	(a)	Locations selected for labor camps should be approved by engineer and comply with guidelines/ recommendations issued by the CEA/Local Authority. Construction of laborer camps shall not be located within 200m from waterways or near to a site or premises of religious, cultural or archeological importance and school.	At all labor camps	Engineering cost	Contractor	RDA,
	(b)	Labor camps shall be provided with adequate and appropriate facilities for disposal of sewerage and solid waste. The sewage systems shall be properly designed, built and operated so that no pollution to ground or adjacent water bodies/watercourses takes place. Garbage bins shall be provided the camps and regularly emptied. Garbage should be disposed off in a hygienic manner, to the satisfaction of the relevant norms. Compliance with the relevant regulations and guidelines issued by the CEA/LA shall be strictly adhered to.				
	(c)	Contractor shall ensure that all camps are kept clean and hygienic. Necessary measures shall be taken to prevent breeding of vectors				

	(d)	Contractor shall report any outbreak of infectious disease of importance in a labor camp to the engineer and the Medical Officer of Health (MOH) or to the Public Health Inspector (PHI) of the area immediately. Contractor shall carry out all instructions issued by the authorities, if any.		-		
	(e)	Contractor shall adhere to the CEA recommendations on disposal of wastewater. Wastewater shall not be discharged to ground or waterways in a manner that will cause unacceptable surface or ground water pollution.		-		
	(f)	All relevant provisions of the Factories Act and any other relevant regulations aimed at safety and health of workers shall be adhered to.		-		
	(g)	Contractor should remove all labor camps fully after its need is over, empty septic tanks, remove all garbage, debris and clean and restore the area back to its former condition.  A consent letter from the land owner should be obtained that certifies the decommissioning has taken place to the level acceptable to the land owner		Engineering cost		
	<b>2.3.7.</b>	<b>Wastage of water and waste minimization</b>				
	(a)	The contractor will minimize wastage of water in the construction process/operations by reusing water as much as possible, utilizing only the required amount of water for the construction works etc...	Within project sites and labor camps	-	Contractor	RDA,
	(b)	The contractor shall educate and made employees aware on water conservation, waste minimization and safe disposal of waste following guidelines given by CEA and LA.				
	<b>2.3.8.</b>	<b>Extraction of water</b>				
	(a)	The contractor is responsible for arranging adequate supply of water for the project purpose throughout the construction period. Contractor shall not obtain water for his purposes including for labour camps from public or community water supplies without approval from the relevant authority.	Within project sites and labor camps	Engineering cost	Contractor	RDA,

		Such extraction (if approved) should be under direct supervision of the engineer				
	(b)	Extraction of water by the contractor for the project purposes shall comply with the guidelines and instructions issued by relevant authority.  The Contractor shall not extract water from groundwater or from surface water-bodies without permission from the Engineer.		-		
	(c)	Construction over and close to rivers, minor streams and lagoon shall be undertaken in dry season.	All drainage and irrigation activities			
	(d)	The Contractor may use the natural sources of water subject to the provision that any claim arising out of conflicts with other users of the said natural sources of water shall be made good entirely by the contractor	At all natural water sources used for construction works			
		<b>Flood Prevention</b>				
	<b>2.4.1.</b>	<b>Blockage of drainage paths and drains</b>				
	(a)	Contractor's activities shall not lead to flooding conditions as a result of blocked drainage paths and drains. The contractor shall take all measures necessary or as directed by the Engineer to keep all drainage paths and drains clear of blockage at all times.	All construction work sites	Engineering cost	Contractor	RDA,
	(b)	If flooding or stagnation of water is caused by contractor's activities, contractors shall provide suitable means to (a) prevent loss of access to any land or property and (b) prevent damage to land and property. Contractor shall compensate for any loss of income or damage as a result.				
	<b>2.4.2</b>	<b>Work in Flood Prone Areas</b>				
	(a)	Contractor's activities shall not lead to aggravate floods in flood prone areas when working in flood prone areas.		-	Contractor	RDA,

	(b)	When working in flood prone areas during rainy season the contractor shall avoid storing materials, chemicals and other items of work in areas where those can be washed away by the floods.	All construction work sites and their impacts areas			
<b>2.5</b>	<b>Air Pollution</b>					
<b>2.5.1.</b>	<b>Generation of Dust</b>					
	(a)	The contractor shall effectively manage the dust generating activities such as topsoil removal, handling and transporting sand, rubble, bitumen, and cement during periods of high winds or during more stable conditions with winds directed towards adjacent residences and other facilities.	Within the construction area where earth work will take place, storage locations of sand, rubble, bitumen, cement and all sub roads used for material transportation, paying special attention to sensitive locations.	Engineering cost	Contractor	RDA,
	(b)	All stockpiles shall be located sufficiently away from sensitive receptors.				
	(c)	All vehicles delivering materials shall be covered to avoid spillage and dust emission.				
	(d)	The Contractor should avoid, where possible and take suitable action to prevent dirt and mud being carried to the roadway (particularly following wet weather).				
	(e)	The contractor should enforce vehicle speed limits to minimize dust generation.				
	(f)	The Contractor shall employ a water truck to sprinkle water for dust suppression on all exposed areas as required (note: the use of waste water / waste oil for dust suppression is prohibited)				
	(g)	All cleared areas shall be rehabilitated progressively.				
	(h)	All earthwork shall be protected in a manner acceptable to the minimize generation of dust.				
	(i)	All existing roads used by vehicles of the contractor, or any of his sub-contractor or supplies of materials or plant and similar roads which are part				

		of the works shall be kept clean and clear of all dust/mud or other extraneous materials dropped by such vehicles or their tyres.				
	(j)	Clearance shall be affected immediately by manual sweeping and removal of debris, or, if so directed by the Engineer, by mechanical sweeping and clearing equipment. Additionally, if so directed by the Engineer, the road surface will be hosed or sprinkled water using appropriate equipment.				
	(k)	Plants, machinery and equipment shall be handled (including dismantling) so as to minimize generation of dust.				
	(l)	The contractor shall take every precaution to reduce the level of dust emission from the hot mix plants and the batching plants up to the satisfaction of the Engineer in accordance with the relevant emission norms.				
	<b>2.5.2</b>	<b>Emission from Hot-Mix Plants and Batching Plants</b>				
	(a)	The hot mix plants and batching plants shall be sited in accordance with CEA guidelines. It is recommended that hot mix plants and batching plants to be located sufficiently away from sensitive receptors such as vulnerable habitats, religious and cultural sites, residential areas, schools and industrial areas	Locations at which hot mix plant/s and concrete batching plant/s to be located	-	Contractor	RDA
	(b)	The exhaust gases shall comply with the requirements of the relevant current emission control legislation. All operations at plants shall be undertaken in accordance with all current rules and regulations protecting the environment as well as the conditions given in the EPL.				
	(c)	The hot mix plant be sited in accordance with CEA guidelines and operated with an EPL. The hot mix plants shall be fitted with the requirements of the relevant current emission control legislation.  Road side mixing should be avoided				
	<b>2.5.3.</b>	<b>Odor and offensive smells</b>				

	(a)	Contractor shall take all precautions such as storing all chemicals used for construction works in properly closed containers with good ventilations to prevent odor and offensive smell emanating from chemicals and processes applied in construction works or from labor camps. In a situation when/where odor or offensive smell does occur contractor shall take immediate action to rectify the situation. Contractor is responsible for any compensation involved with any health issue arisen out of bad odor and offensive smells.	Within construction and work sites including all sites used for store all chemicals and places where chemical reactions take place.	Engineering cost	Contractor	RDA,
	(b)	The waste disposal and sewerage treatment system for the labor camps shall be properly designed, built and operated so that no odor is generated. Compliance with the regulations on health and safety as well as CEA and LA guidelines shall be strictly adhered to.	At all labor camps			
	<b>2.5.4.</b>	<b>Emission from construction Vehicles, Equipment and Machinery</b>				
	(a)	The emission standards promulgated under the National Environment Act shall be strictly adhered to.	All plants, machinery and vehicles used for construction	-	Contractor	RDA
	(b)	All vehicles, equipment and machinery used for construction shall be regularly serviced and well maintained to ensure that emission levels comply with the relevant standards.		Engineering cost		
	(c)	Contractor should obtain the certificate issued by the Vehicular Emission Test (VET) for all construction vehicles, plants and other machineries and it should be renewed annually				
	<b>2.5.5.</b>	<b>Air Pollution from Crusher</b>				
	(a)	Crusher plants should operate under an EPL and shall confirm to relevant dust emission levels as stated in the EPL. Only the quarries approved by GSMB and holding current EPL shall be used for material extraction.	Location of crusher plants	-	Contractor	RDA,

	(b)	Crushing plants shall be sited sufficiently away from sensitive receptors such as houses, place of worships and outdoor recreation areas (locations given under item 2.4.1) or as required by the Engineer.				
	(c)	Sprinkling of water (through a sprinkler system) for dust suppression.		Engineering cost		
	<b>2.6</b>	<b>Noise Pollution and Vibration</b>				
	<b>2.6.1</b>	<b>Noise from Vehicles, Plants and Equipment.</b>				
	(a)	All machinery and equipment should be well maintained and fitted with noise reduction devices in accordance with manufacturer's instructions.	All machinery and vehicles used for construction works	Engineering cost	Contractor	RDA,
	(b)	In construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing and , mechanical compaction, etc., will be stopped between 20.00 hours to 06.00 hours. No construction shall take place within 100m around hospitals between 20.00 hours to 06.00 hours. Near noise sensitive sites, such as schools noisy equipment shall not be used during noise sensitive times of the day.	Within the construction sites and their vicinity	-		
	(c)	All vehicles and equipment used in construction shall be fitted with exhaust silences. During routine servicing operations, the effectiveness of exhaust silencers shall be checked and if found to be defective shall be replaced. Notwithstanding any other conditions of contract, noise level from any item of plant(s) must comply with the relevant legislation for levels of sound emission. Non-compliant plant shall be removed from site.		Engineering cost		
	(d)	Noise limits for construction equipment used in this project (measured at one meter from the edge of the equipment in free field) such as compactors, rollers, front loaders, concrete mixers, cranes (moveable), vibrators, and saws shall not exceed 75 dB(A).	All equipment, machinery and vehicles used for construction works	-		

	(e)	Maintenance of vehicles, equipment and machinery shall be regular and proper, to the satisfaction of the Engineer, to keep noise from these at a minimum.		Engineering cost		
	(f)	Workers in vicinity of strong noise, and workers working with or in crushing, compaction, batching or concrete mixing operations shall be provided with protective gear.	Within the construction sites and their vicinity			
	<b>2.6.2</b>	<b>Vibration</b>				
	(a)	Contractor shall take appropriate action to ensure that construction works do not result in damage to adjacent properties due to vibration.	Within the construction sites and their vicinity	-	Contractor	RDA,
	(b)	Prior to commencement of excavation, blasting activity, the Contractor shall undertake a condition survey of existing structures within the zone of influence, as agreed with the relevant government agencies and the engineer.				
	(c)	Contractor shall carry out monitoring at the nearest vibration sensitive receptor during blasting or when other equipment causing vibration are used.				
	(d)	The contractor shall modify the method of construction until compliance with the criteria, if vibration levels exceed the relevant vibration criteria.				
	(e)	Contractor shall pay due consideration on vibration impacts of blasting on adjoining structures. Explosive loads shall be determined so that excessive vibration can be avoided and blasts shall be controlled blasting in nature. Notwithstanding to these provisions contractor is liable for any damage caused by blasting work.				
	<b>2.6.3</b>	<b>Noise from Blasting Operations</b>				
	(a)	Blasting shall be carried out during fixed hours (preferably during mid-day), as permitted by the Engineer. The timing should be made known to all the people within 500 m (200 m for pre-splitting) from the blasting site in all directions. People, except those who actually light the fuse shall be excluded	At quarry sites and landslide mitigation sites	-	Contractor	RDA

		<p>from the area of 200 m (50 m for pre-splitting) from the blasting site in all directions at least 10m minutes before the blasting.</p> <p>Use chemical blasting where rocks have to be removed for landslide mitigation measures</p>				
	<b>2.7</b>	<b>Impacts to Flora</b>				
	<b>2.7.1</b>	<b>Loss or Damage to Trees and Vegetation</b>				
	(a)	All works shall be carried out in a manner that the destruction to the flora and their habitats is minimized. Trees and vegetation shall be felled / removed only if that impinges directly on the permanent works or necessary temporary works. In all such cases contractor shall take prior approval from the Engineer.	All project sites	-	Contractor	RDA, FD,
	(b)	Contractor shall make every effort to avoid removal and/or destruction of trees of religious, cultural and aesthetic significance. If such action is unavoidable the Engineer shall be informed in advance and carry out public consultation and report on the same should be submitted to the Engineer.				
	(c)	Contractor shall adhere to the guidelines and recommendations made by the Central Environmental Authority, if any with regard to felling of trees and removal of vegetation.				
	(d)	Removed trees must be handed over to the Timber Corporation.				
	(e)	<p>The contractor shall plant over 5 year old root-balled native trees suitable for the location as identified by the Engineer. The contractor shall build hardy structures around the trees for protection.</p> <p>The contractor shall be responsible for ensuring the well-being of the trees/plants until the end of the contract</p>				

			by the contractor. Planting should take place as soon as the plant removal takes place			
	<b>2.7.2</b>	<b>Chance finds of important Flora</b>				
	(a)	During construction, if a rare/threatened/endangered flora species is found, it shall be immediately informed to the PMU by the contractor through the engineer. All activities that could destroy such flora and/or its habitat shall be stopped with immediate effect. Such activities shall be started only after obtaining the Engineer's approval. Contractor shall carry out all activities and plans that the Engineer instructed him to undertake to conserve such flora and/or its habitat.	All project sites	-	Contractor	RDA,
	<b>2.8.</b>	<b>Impact on Fauna</b>				
	<b>2.8.1.</b>	<b>Loss, Damage or Disruption to Fauna</b>				
	(a)	All works shall be carried out in such a manner that the destruction or disruption to the fauna and their habitats is minimum.	All project sites	-	Contractor	RDA, FD, DWLC
	(b)	Construction workers shall be instructed to protect fauna including wild animals and aquatic life as well as their habitats. Hunting, poaching and unauthorized fishing by project workers is not allowed.				
	(d)	Siting of all hot mix plants, crushing plants, workshops, depots and temporary worker camps and storing of toxic and hazardous materials at approved locations, and recycling and dumping of solid waste matter at locations approved by local authorities, maintenance of vehicles and equipment in good operable condition, ensuring no leakage of oil or fuel and the fitting of proper exhaust baffles. Any solid waste should not be dumped into natural habitats.	Locations selected for erecting the asphalt, crusher and concrete batching plants and workshops	Engineering cost		

	<b>2.8.2</b>	<b>Chance found important Fauna</b>				
	(a)	During construction, if a rare/threatened/endangered fauna species is found, it shall be immediately informed to the PMU by the contractor. All activities that could destroy such fauna and/or its habitat shall be stopped with immediate effect. Such activities shall be started only after obtaining the Engineer's approval. Contractor shall carry out all activities and plans that the Engineer instructed him to undertake to conserve such fauna and/or its habitat.	All project sites	-	Contractor	RDA, FD, DWLC
	<b>2.9</b>	<b>Disruption to people</b>				
	<b>2.9.1</b>	<b>Loss of Access</b>				
	(a)	At all times, the Contractor shall provide safe and convenient passage for vehicles, pedestrians and livestock. Work that affects the use of existing accesses shall not be undertaken without providing adequate provisions to the prior satisfaction of the Engineer.	All project sites	Engineering cost	Contractor	RDA,
	(b)	The works shall not interfere unnecessarily or improperly and ensure convenience of public at all times		-		
	(c)	On completion of the works, all temporary obstructions to access shall be cleared away, all rubbish and piles of debris that obstruct access be cleared to the satisfaction of the Engineer.		Engineering cost		
	(d)	Providing advance information to the public about the planned construction works and activities causing disruption to access and the temporary arrangements made to give relief to public in order to avoid any inconveniences due to the construction activities.				
	<b>2.9.3</b>	<b>Traffic Control and Safety</b>				

	(a)	The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including signs, markings, flags, lights and flagmen as may be required by the Engineer for the information and protection of traffic approaching or passing through the section of the highway under improvement. The provision of traffic safety measures shall be considered incidental to work and follow The Institute for Construction Training and Development (ICTAD) guidelines and instructions given by the Police, if any.	Road-side construction sites	Engineering cost	Contractor	RDA,
	(b)	Informing the public through newspapers/ announcements/ radio/ TV etc. about the construction activities in order to avoid any inconveniences due to the construction activities.	Project influence area			
	<b>2.10</b>	<b>Accidents and Risks</b>				
	<b>2.10.1</b>	<b>Public and Worker safety</b>				
	(a)	All reasonable precautions will be taken to prevent danger of the workers and the public from accidents such as fire, explosions, blasts, falling rocks, falling to excavated pits, chemical sprays, unsafe power supply lines etc.	Construction areas, material storage and worker camps	Engineering cost	Contractor	RDA,
	(b)	The Contractor shall comply with requirements for the safety of the workmen as per the international labor organization (ILO) convention No. 62 and Safety and Health regulations of the Factory Ordinance of Sri Lanka to the extent that those are applicable to this contract. The contractor shall supply all necessary safety appliances such as safety goggles, helmets, masks, boots, etc., to the workers and staff. The contractor has to comply with all regulations regarding safe scaffolding, ladders, working platforms, gangway, excavations, trenches and safe means of entry and egress.				
	<b>2.10.2</b>	<b>Prevention of Risks of Electrocutation</b>				
	(a)	All electrical wiring and supply related work should confirm to British Standards (BS) or relevant Sri Lankan Standards. Adequate precautions will be taken to prevent danger of electrocuting from electrical equipment and power supply lines including distribution boards, transformers, etc. Measures	Construction areas, material storage and worker camps	Engineering cost	Contractor	RDA,

		such as danger signboards, danger/red lights, fencing and lights will be provided to protect the public and workers. All electric power driven machines to be used in the construction shall be free from defect, be properly maintained and kept in good working order, be regularly inspected and as per BS provisions and to the satisfaction of the Engineer.				
	<b>2.10.3</b>	<b>Risk at Hazardous Activity</b>				
	(a)	All workers employed in hazardous activities shall be provided with necessary protective gear. These activities include mixing asphalt material, cement, lime mortars, concrete etc., welding work, work at crushing plants, blasting work, operators of machinery and equipment such as power saws, etc.	Construction areas, material storage and worker camps	Engineering cost	Contractor	RDA,
	(b)	The use of any toxic chemical shall be strictly in accordance with the manufacturer's instructions. The Engineer shall be notified of toxic chemicals that are planned To be used in all contract related activities. A register of all toxic chemicals delivered to the site shall be kept and maintained up to date by the Contractor. The register shall include the trade name, physical properties and characteristics, chemical ingredients, health and safety hazard information, safe handling and storage procedures, and emergency and first aid procedures for the product.				
	<b>2.10.4</b>	<b>Lead Pollution</b>				
	(a)	No paint containing lead or lead products will be used except in the form of paste or readymade paint. Facemasks shall be supplied to workers who are working in spray painting or scraping lead paints.	Workshops, yards where spray painting is done	-	Contractor	RDA,
	<b>2.10.5</b>	<b>Handling of Explosives</b>				
	(a)	Except as provided in the contract or ordered or authorized by the Engineer, the Contractor shall not use explosives. Where the use of explosives is so provided or ordered or authorized, the Contractor shall comply with the		-	Contractor	RDA,

		requirements of the following Sub-Clauses of this Clause besides the law of the land as applicable.	All locations where blasting activities will commence			
	(b)	The Contractor shall at all times take every possible precaution and shall comply with relevant laws and regulations relating to the importation, handling, transportation, storage and use of explosives. Contractor shall obtain Ministry of Defense & Urban Development (MoDUD) approval for importing and handling explosives and keep the Local Police informed of the same.		Engineering cost		RDA, MoDUD
	<b>2.11</b>	<b>Health and Safety</b>				
	<b>2.11.1</b>	<b>Prevention of Vector based Diseases</b>				
	(a)	Contractor shall take necessary actions to prevent breeding of mosquitoes at places of work, labor camps, plus office and store buildings. Stagnation of water in all areas including gutters, used and empty cans, containers, tyres, etc shall be prevented. Approved chemicals to destroy mosquitoes and larvae should be regularly applied.  All burrow sites should be rehabilitated at the end of their use by the contractor in accordance with the requirements/guidelines issued by the Central Environmental authority and relevant local authorities	At worker camps, stores, yards	Engineering cost	Contractor	RDA,
	(b)	Contractor shall keep all places of work, labor camps, plus office and store buildings clean devoid of garbage to prevent breeding of rats and other vectors such as flies.				
	<b>2.11.2</b>	<b>Workers Health and Safety</b>				
	(a)	Contractor shall comply with the provisions in Health and Safety regulations under the Factory Ordinance with regard to provision of health and safety measures and amenities at work place(s).	Within construction sites, workshops and worker camps	-	Contractor	RDA,
	<b>2.11.3</b>	<b>First Aid</b>				

	(a)	At every workplace, first aid kit shall be provided as per the regulations. At every workplace an ambulance room containing the prescribed equipment and nursing staff shall be provided.	Within construction sites, quarry, crusher, concrete batching plants, workshops and worker camps	Engineering cost	Contractor	RDA,
	<b>2.11.4</b>	<b>Potable Water</b>				
	(a)	In every workplace and labor camps portable water shall be available throughout the day in sufficient quantities.	Within construction sites, quarry, crusher, concrete batching plants, workshops and worker camps	Engineering cost	Contractor	RDA,
	<b>2.11.5</b>	<b>Hygiene</b>				
	(a)	The contractor shall provide and maintain necessary (temporary) living accommodation and ancillary facilities for labour to standards and scale approved by the engineer.	Worker camps and temporary sheds at work sites	Engineering cost	Contractor	RDA,
	(b)	At every workplace and labor camps sufficient number of bathing facilities, latrines and urinals shall be provided in accordance with the Health and Safety regulations and/or as directed by the Engineer. These bathroom and toilet facilities shall be suitably located within the workplace/buildings. Latrines shall be cleaned at least three times daily in the morning, midday and evening and kept in a strict sanitary condition. If women are employed, separate latrines and urinals, screened from those for men and marked in the vernacular shall be provided. There shall be adequate supply of water, within and close to latrines and urinals.				
	(c)	The sewage system for the camp must be properly designed, built and operated so that no health hazard occurs and no pollution to the air, ground or adjacent watercourses takes place.				

	(d)	Garbage bins must be provided in the camp, work sites and regularly emptied and the garbage disposed off in a hygienic manner. Construction camps shall have a clean hygienic environment and adequate health care shall be provided for the work force.				
	(e)	Unless otherwise arranged for by the Local Authority, the contractor shall arrange proper disposal of sludge from septic tanks. The contractor shall obtain approval for such disposal from the Public Health Inspector of the area.				
	<b>2.12</b>	<b>Protection of Archaeological, Cultural and Religious Places and Properties</b>				
	<b>2.12.1</b>	<b>Prevention of damage to Cultural and Religious Places and Properties</b>				
	(a)	During construction activities the contractor should take all necessary and adequate care to minimize impacts on cultural properties which includes cultural sites and remains, places of worship.  Workers should not be allowed to trespass in to such areas.	Near physical cultural resources	-	Contractor	RDA,
	<b>2.12.2</b>	<b>Chance finds of Archaeological property</b>				
	(a)	All fossils, coins, articles of value of antiquity and structures and other remains or things of geological or archaeological interest etc. discovered on the site and/or during construction work shall be the property of the Government of Sri Lanka, and shall be dealt with as per provisions of Antiquities Ordinance of 1940 (Revised in 1956 & 1998)	In all project sites	-	Contractor	RDA,  Department of Archeology
	(b)	The contractor shall take reasonable precaution to prevent his workmen or any other persons from removing and damaging any such article or thing and shall, immediately upon discovery thereof and before removal acquaint the Engineer of such discovery and carry out the Engineer's instructions for dealing with the same, awaiting which all work shall be stopped within 100m in all directions from the site of discovery.		Engineering cost		
	(c)	If directed by the Engineers the Contractor shall obtain advice and assistance from the Department of Archaeological of Sri Lanka on conservation				

		measures to be taken with regard to the artefacts prior to recommencement of work in the area.					
	<b>2.13</b>	<b>Environmental Enhancement</b>					
	<b>2.13.1</b>	<b>Landscaping</b>					
	(a)	Landscape plantation, re-vegetation of road embankments and other slopes, edge treatment of water bodies shall be taken up as per either detailed design or typical design guidelines given as part of the Bid Documents. The contractor also shall remove all debris, piles of unwanted earth, spoil material, away from the roadsides and from other work places and disposed at locations designated or acceptable to the Engineer or as per Clause 2.1.1.	All project sites and associated sites	Engineering cost	Contractor	RDA,	
	(b)	On completion of the works, the temporary structures shall be cleared away in full, all rubbish burnt, waste dumps and septic tank shall be filled and closed and roadsides, workplaces and labor camps, cleared and cleaned.					
	<b>2.13.2</b>	<b>Utilities and Roadside Amenities</b>					
	(a)	Contractor shall take care not to damage/destroy or affect the functional purposes of utilities such as water, electricity, telephone posts. The arrangements the contractor made with those service providers shall be informed to the Engineer in writing (advance work). Contractor shall assist the service providers in whatever possible manner to minimize disruption to such services.	At all locations where electricity, telecommunication and water supply lines need to be shifted	-	Contractor	RDA,	
	(b)	In case of an inadvertent damage cause to a utility, the contractor shall immediately inform the service provider and help to restore the service without delay.	All project sites				

	<b>2.13.3</b>	<b>Safety signage</b>				
	(a)	Safety signage for slope/landslide protection structures will be provided as appropriate	Sites where slope/landslide protection takes place	Engineering cost	Contractor	RDA,
	<b>2.14</b>	<b>Handling Environmental Issues during Construction</b>				
	(a)	For large contracts, the Contractor will appoint a suitably qualified Environmental Officer following the award of the contract. The Environmental Officer will be the primary point of contact for assistance with all environmental issues during the pre-construction and construction phases. He/ She shall be responsible for ensuring the implementation of EMP.	Relevant construction sites during the construction period	Engineering cost	Contractor	RDA,
	(b)	The Contractor shall appoint a person responsible for community liaison and to handle public complaints regarding environmental/ social related matters. All public complaints will be entered into the Complaints Register. The Environmental Officer will promptly investigate and review environmental complaints and implement the appropriate corrective actions to arrest or mitigate the cause of the complaints. A register of all complaints is to be passed to the Engineer within 24 hrs they are received, with the action taken by the Environmental Officer on complains thereof.				
	(c)	Contractor shall develop suitable method to receive complaints. The complaint register shall be placed at a convenient place, easily accessible by the public.				
	(d)	Contractor shall prepare detailed Environmental Method Statement (EMS) clearly stating the approach, actions and manner in which the EMP is implemented. It is required from the contractor to prepare the EMS for each work site, if work will be carried out at more than one site at once and time				

		plan for implementation. The EMS shall be updated regularly and submit for Engineers review.				
<b>3.0 Operational stage</b>						
	<b>3.1</b>	<b>Stagnation of water at culverts, drainage and irrigation structures during heavy rains due to siltation and blocking of openings with debris.</b>				
	(a)	Regular clearing/ cleaning and maintenance of all culverts, drainage and irrigation structures to reduce the chances of failures and blocking due to debris.	At all hydraulic structures supported by the project	Maintenance cost	RDA,	
	<b>3.2</b>	<b>Encroachment of ROW and reservation</b>				
	(a)	Continuous monitoring and strict regulations should be followed to avoid the encroachment.	In all project sites	Maintenance cost	RDA,	

**Table 2 – Environment Management - Monitoring Plan**

<b>Parameters /Indicator</b>	<b>Verifiable Indicators</b>	<b>Verification Methods</b>	<b>Location</b>	<b>Schedule</b>	<b>Responsible Implementation and Monitoring Agency</b>
Awareness and orientation training	Training programs for skill development, occupational safety and environmental protection	Training records, feedback from participants	At construction area	Beginning of construction and during construction	RDA,
Compliance to occupational health and safety matters	Health and safety regulations, first aid and medical arrangements, number and type of safety equipment such as mask, helmet,	Spot checks at work sites, photos, accident records, interviews	At key construction sites	Throughout construction period	RDA,

<b>Parameters /Indicator</b>	<b>Verifiable Indicators</b>	<b>Verification Methods</b>	<b>Location</b>	<b>Schedule</b>	<b>Responsible Implementation and Monitoring Agency</b>
	glove, safety belt, accidental insurance				
Vegetation clearance	Actual number of trees felled during construction works	Record, counting, observation, inspection and interview with local people	At construction sites	Before construction work, construction period	RDA
Measures to protect environment from air & noise pollution	Dust level and noise level at work sites, major settlements and sensitive spots like health centers and schools	Visual observation and discussion with residents and workers	At construction sites	Every three months during construction	RDA,
Measures to protect water bodies from pollution	Visual observation, observation of open defecation and waste disposal around water sources near construction sites, camp sites, and laboratory test results	Site inspections and laboratory sections if necessary.	Rivers and water sources used particularly drinking water	Every three months during construction	RDA,
Adequate technical and environmental supervision	Adequate number of technicians regularly at site with ability to implement the EMP	Number and type of technicians available at site, discussion	At construction sites	During construction	RDA,
Compensatory plantation	Number of trees planted	Records, field observation	Planted area	During project implementation	RDA,