REDUCTION OF LANDSLIDE VULNERABILITY BY MITIGATION MEASURES PROJECT

Site Specific Environmental and Social Management Plan

Site No. 229

Kotagala – Ambewela Railway Line
(CH 124/18)

Nuwaraeliya District

April 2026

Prepared for:

ASIAN INFRASTRUCTURE INVESTMENT BANK

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Table of Content

List of Annexes

List of Figures

List of Tables

Abbreviations

AIIB	Asian Infrastructure Investment Bank
CEA	Central Environmental Authority
DFC	Department of Forest Conservation
DS	Divisional Secretary
DWLC	Department of Wildlife Conservation
EH & S	Environmental Health & Social
E&SU of PMU	Environmental & Social Unit of Project Management Unit
ESMF	Environmental and Social Management Framework
SSE & SMP	Site Specific Environmental and Social Management Plan
ESMP	Environmental and Social Management Plan
GN	Grama Niladhari
GOSL	Government of Sri Lanka
GSMB	Geological Surveys & Mines Bureau
NBRI	National Building Research Institute
RHS	Right Hand Side
LHS	Left Hand Side
SLR	Sri Lanka Railways

1. Introduction

1.1 Project overview

The Government of Sri Lanka has received a loan from the Asian Infrastructure Investment Bank (AIIB) for mitigating/rectifying unstable slopes in high-risk areas, especially in 13 districts of 06 provinces of the country, under the Reduction of Landslide Vulnerability by Mitigation Measures Project (RLVMMP). The project requires implementation in accordance with environmental and social safeguards and mandates of the AIIB and those of Sri Lanka. Considering the nature of project actions and their implementation, an Environmental and Social Management Framework (ESMF) has been prepared as required by the AIIB environmental and social safeguard policy.

The purpose of the Environmental and Social Management Framework (ESMF) is to provide a guide for application of AIIB safeguards and national environmental and social mandates during the implementation of project actions. The project implementing agency (NBRI) is expected to ensure implementation of environmental and social management plans prepared under the ESMF during all phases of project implementation so that the impacts on the environment and community are minimal.
During the scoping exercise, it was revealed that the environmental & social setting, and health & safety conditions are more site specific, and require to be addressed specific to site conditions. Therefore, the ESMF has recommended a site-specific environmental and social assessment followed by Site Specific Environmental and Social Management Plans (SSE & SMP) for each site. The SSE & SMP gives planning, design, construction and operation phase environmental, social, and health & safety management measures to be considered in the project Implementation.

This is the site-specific environmental and social management plan for **the failed slopes along Kotagala – Ambewela Railway Line (CH 124/18), Nuwaraeliya District,** selected for mitigation under RLVMMP. This plan has been prepared by an in-depth environmental and social assessment to:

i. Identify sensitive environmental and social elements in the project influence area
ii. Identify significant environmental and social impacts due to project actions
iii. Propose mitigation measures
iv. Decide appropriate environmental and social monitoring requirements specific to this project
v. Study relevant environmental regulations and procedures to be followed during project implementation specific to the site

1.2 Intended users

The document provides an in-depth insight into site specific environmental and social issues associated with the proposed project and the mitigation measures and intends to be used by landslide mitigation design team, the PMU and the contractor in the implementation of Environmental and Social Management component of the project. The SSE & SMP is published on the project website (https://rlvmmp.lk/) and can be viewed by wide range of interested parties (public, stakeholder organizations) can be utilized by the contractors for the project and will form the basis of site-specific management plans that will be prepared by the contractors as part of their Site Specific Environmental and Social Management Action Plans (SSE-SMAP) prior to commencing works.

2. Description of the project

2.1 Name of the project

Rectification of Site No. 229 for the failed slopes at Kotagala – Ambewela Railway Line (CH 124/18), Nuwaraeliya District.

2.2 Location details

The proposed mitigation site considered under Galkandawatta GN division belong to the Nuwaraeliya DS division, Nuwaraeliya District, Central Province.

GPS Coordinates – 6.951833° N 80.700389° E

Nearest station and accessibility to the site – Great Western Railway Station is the nearest railway station to the site, located approximately 1.39 km away and towards Radella station (62nd railway station and code is RDL), within a picturesque rural landscape characterized by breathtaking mountain ranges and scenic natural surroundings. Great western railway station is approximately 7.6 km far away from the Nanuoya railway station of Central Province, Sri Lanka. Great western railway station (station code – GWR) is the 61st railway station on the main line. The station is located at approximately 119.3 km from Colombo Fort. The station is operated by the Nawalapitiya operation area of Sri Lanka.
Refer to Figures 1 & 2; proposed landslide mitigation sites in the main railway line in Sri Lanka and map showing accessibility to site no.229 respectively.

Figure 1: Proposed landslide mitigation sites in the main railway line in Sri Lanka

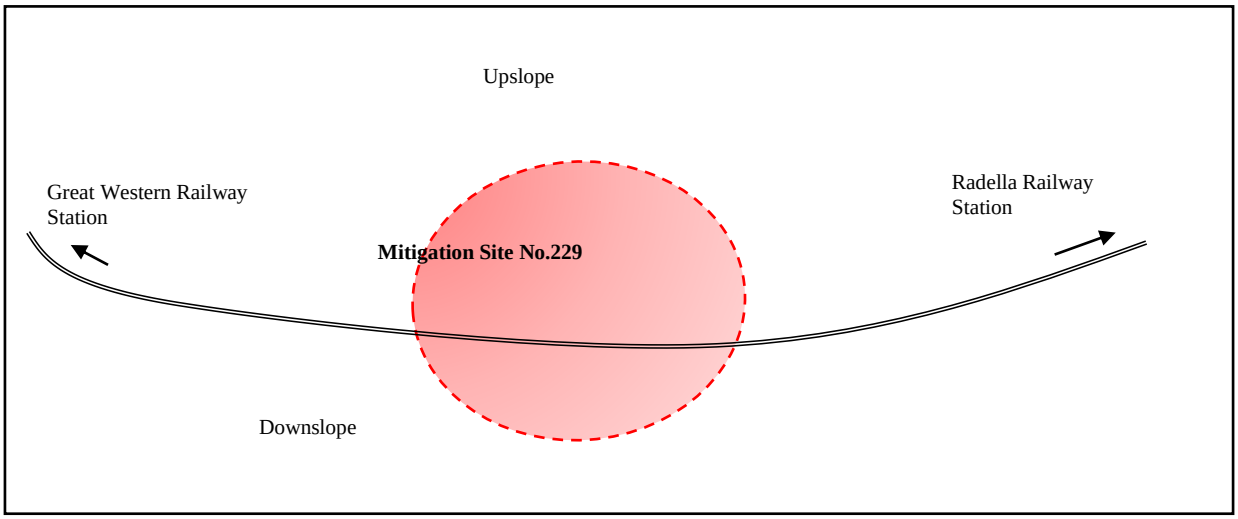

Figure 2: Map showing the accessibility to site no.229

2.3 Topography and land ownership

Mitigation site No. 229 is situated approximately 1.39 km from Great Western Railway Station along the upcountry railway line. The site is at an elevation of 1494.43 m above mean sea level. The length of the damaged railway section at site no.229 is approximately 50 m. The proposed mitigation site falls under the jurisdiction of the Sri Lanka Railways (SLR). In terms of land ownership, railway reservation area is owned by the Sri Lanka Railways (SLR), While in the downslope, adjacent to the land belonging to the Railway reservation, a land belonging to the Great Western plantation. It is located along the landslide flow path, and the landslide has damaged the plantation.

Refer to Figures 3; Google image of the proposed landslide mitigation site No.229, the surrounding environmental features and service infrastructure.

Figure 3: Google image of the proposed landslide mitigation site no.229, the surrounding environmental features and service infrastructure.

2.4 Meteorology of the area (Great Western)

Annual average rainfall – 3000 - 5000 mm
Annual average temperature – 10 - 23 ºC
(Source: https://weatherandclimate.com)

2.5 Demographic features of the area

According to Grama Niladhari Mr. Visnayagam Gobinatha, Site No. 229 belongs to Galkandawatta Grama Niladhari, which has a population of 1078 (female: 580; male: 498).

3. Landslide hazard incident

3.1 Account of the incident

The most recent occurrence of the landslides at these locations were on occurred during 29th November 2025, coinciding with Cyclone “Ditwah.” During this event appears to have occurred due to a landslide triggered by the downslope movement of rock boulders, soil masses, and fallen trees. The movement of

these materials washed away the supporting soil beneath the railway track, resulting in ground instability and subsequent damage to the area.
Refer to Fig 4: Google image, land use, risk elements, and the photographs of special features of the location

3.2 Effects and consequences of landslide

During the Ditwah cyclone, intense rainfall and extreme weather conditions triggered multiple landslides and slope failures along the railway corridor, resulting in severe damage to railway infrastructure, scenic viewpoints, and surrounding landscapes. The landslide events caused the downslope movement of rock boulders, soil masses, and fallen trees, which subsequently washed away the underlying soil layers and destabilized the terrain. This ground failure led to structural deformation, obstruction of railway tracks, and increased risks to transportation safety and operational stability.

The damage significantly disrupted accessibility and mobility within the affected area, creating both economic and social consequences for communities and transportation services dependent on the railway network. Restoration activities now require comprehensive geotechnical assessments, slope stabilization measures, and professional engineering interventions to ensure the safe recovery and long-term resilience of the affected infrastructure.

In addition, the landslides caused considerable ecological degradation through the destruction of environmentally and economically valuable vegetation, including Tea (*Camellia sinensis*), Mahogany (*Toona sinensis*) and Turpentine etc. were destroyed due to extreme storm conditions. The region's fauna primarily consists of wild boars, Macaques, Monkeys, squirrels, Barking Deer (*Muntiacus muntjak*), porcupine, Sri Lankan leopard, and other common species. The removal of vegetation cover further increased slope vulnerability and accelerated soil erosion processes within the affected slopes

Although railway operations between Great Western and Radella remain temporarily suspended due to the hazardous ground conditions and damaged infrastructure.

3.3 Description of any remedial measures already undertaken to reduce the potential risk

Officials from the National Building Research Institute (NBRI) and the Sri Lanka Railway (SLR) conducted a joint inspection on 28th December, 2025, along the up-country railway line between the Kotagala – Ambewela section and issued an inspection report. The objective of the inspection was to carry out a preliminary assessment of the impacts of slope instability, evaluate existing site conditions, provide technical guidance for the rapid reopening of the railway line to transportation while ensuring user safety, and identify the requirements for long- term mitigation measures.
All the railway transportation was terminated with the destruction of the railway line. Therefore, no other slope remedial measures were stopped to reduce the potential risk in the area.

3.4 Evacuations

There is no requirement for evacuation for this location.

3.5 Resettlement (progress)

There is no requirement for a project-based resettlement programme for this site.

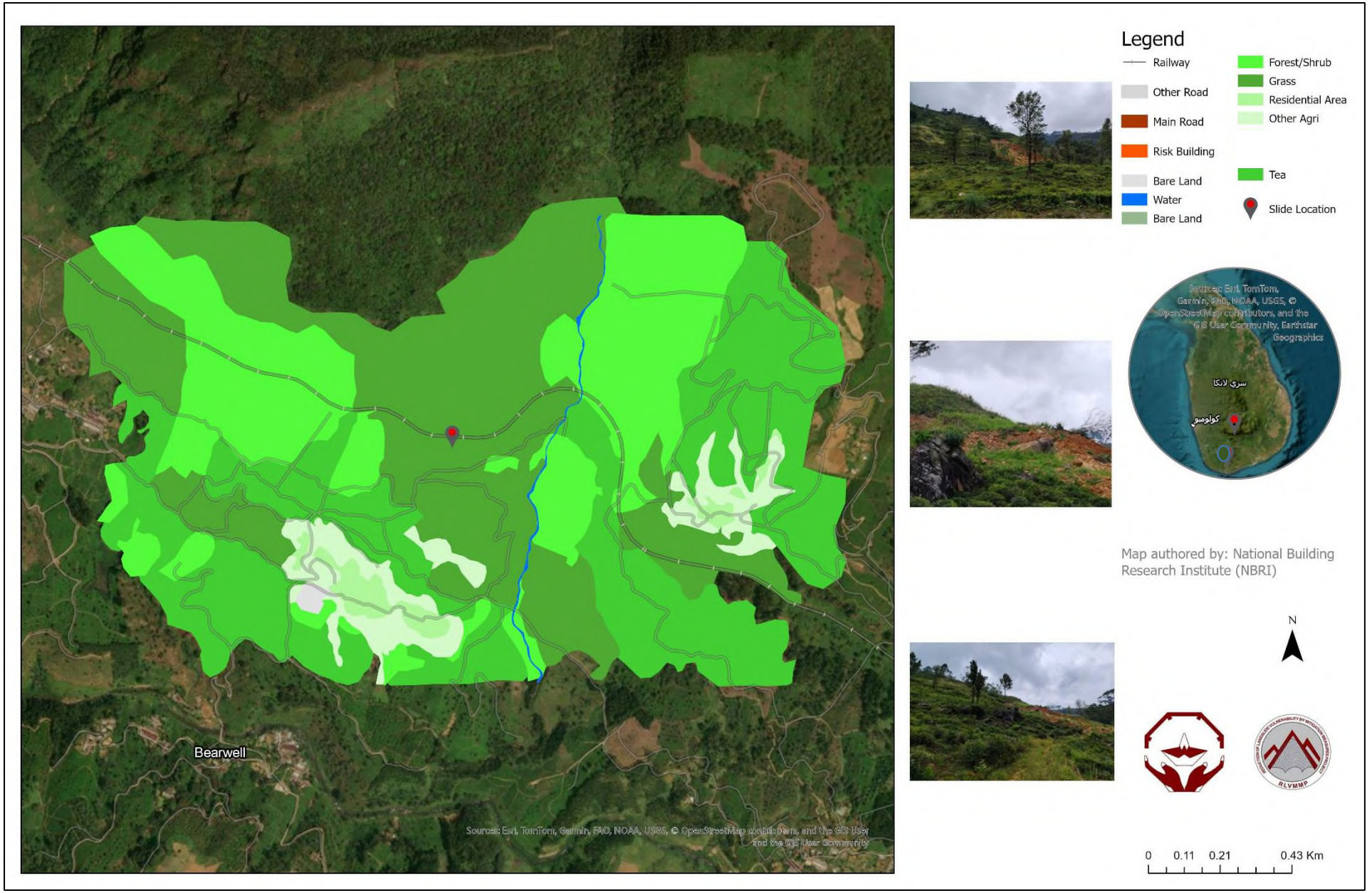

Figure 4: Google image, land use, risk elements and the photographs of special features of the location

4. Description of the area of the landslide/slope failure and areas adjacent to the landslide, and the current level of risk

4.1 Area of the landslide

The British colonial administration initially introduced the railway system in Sri Lanka to facilitate transportation, primarily for the movement of goods and passengers. The Railway Department was established in 1858, nearly one and a half centuries ago. Sri Lanka's railway network comprises nine main lines covering a total distance of approximately 1,508 kilometers. The construction of this major railway project was carried out in several phases, including Colombo to Ambepussa (1864), Ambepussa to Kandy (1867), Peradeniya to Nawalapitiya (1874), Nawalapitiya to Nanu Oya (1885), Nanu Oya to Bandarawela (1894), and Bandarawela to Badulla (1924). In addition, the line from Peradeniya to Kandy was later extended to Matale in 1880, further expanding the railway network into the central region of the country.

The upcountry railway, known as the Main Line of the railway network, runs through a scenic countryside from Rambukkana to Badulla via Peradeniya. The Northern Line and the Matale Line connect to the Main Line at Polgahawela and Peradeniya, respectively. This railway section serves as a crucial link between the lowlands and the central hill country, transporting passengers through a diverse landscape of villages, cultivated lands, rivers, steep slopes, and mountainous terrain.
The railway track was constructed by cutting through solid rock formations; as a result, the Main Line from Rambukkana to Badulla passes through 46 tunnels. The total distance between Rambukkana and Badulla along this route is approximately 208 km. On average, the line accommodates nearly 100,000 passengers per day, making it one of the most heavily utilized railway corridors in the country.
This railway line remains one of the most convenient and affordable modes of transportation for people traveling to the central hill country. Therefore, it is not merely a transportation route but also a vital public service that connects people, places, and economic opportunities.

However, Cyclone Ditwah has triggered the most extensive flooding and landslide damage in the past two decades in Sri Lanka, impacting approximately 2.2 million people across all 25 districts of the country. According to the Disaster Management Center, the cyclone had, as of 29 December 2025, resulted in 638 fatalities and left 175 people missing. (Disaster Management Situation Report as at 0900hrs on 28th December 2025).

The mitigation site no.229 situated between Great Western and Radella railway stations represents a highly vulnerable section of Sri Lanka's upcountry main railway line, which has been severely affected by heavy rainfall and landslides triggered during the Cyclone Ditwah. Intense precipitation caused severe slope instability, erosion, and mass soil movement within the surrounding mountainous terrain, leading to substantial damage to railway infrastructure and adjacent environments.

The affected area experienced significant ground failures, including landslides, slope collapses, and soil erosion processes, which resulted in the displacement of rock boulders, soil masses, and fallen trees around the railway reservation area. These processes destabilized the subsoil layers beneath the railway tracks and surrounding slopes, thereby threatening the structural integrity and operational safety of the railway corridor. Damages to signaling systems, railway tracks, nearby bridges, tunnels, and associated infrastructure further disrupted transportation connectivity along the upcountry railway network, contributing to the temporary suspension of nearly 30% of railway operations.

The railway section near Great Western station is recognized as one of the most economically and strategically important segments of the upcountry railway line due to its transportation, tourism, and regional accessibility value. Therefore, damage occurring within this corridor has generated extensive social, environmental, economic, aesthetic, and geographical consequences, severely affecting both railway transportation services and the livelihoods of surrounding communities.

Field observations indicated that no residential settlements were present within the immediate landslide-affected zone. The displaced soil masses and disturbed vegetation were mainly accumulated within the

railway reservation and downslope nearby mitigation location. Down-slope has washed out the railway line shoulder due to uncontrolled surface runoff. Land use within the affected area predominantly consists of vegetation species such as *Toona sinensis* (Mahogany), many of which suffered severe damage due to landslide activity and extreme weather conditions. The destruction of vegetation cover has further increased slope vulnerability, accelerated soil erosion, and reduced the natural stabilization capacity of the terrain within the affected railway corridor.

Soil failure has observed on the RHS of the railway track, in downslope direction. Downslope movement of debris was moved along the slope towards the Great Western plantation. The displaced soil mass, rock boulders and disturbed vegetation were aggregated along the railway reservation area. The land use of the site in the affected area mainly consists of grasses and shrubs. Water stagnation places were observed in the unstable area.

4.2 Areas adjacent to the landslide

The nearby Great Western section is also highly important from a geographical point of view. The first part of the upcountry railway runs through flatter land, but the railway line begins to climb into more difficult terrain. This geographical setting makes the railway route strategically important, as it provides access to the interior highlands. Still, it also makes it highly susceptible to natural disasters such as landslides, slope failures, and heavy rainfall. The winding alignment, steep gradients, and unstable ground require careful engineering and constant maintenance. Because of these geographical challenges, the restoration of the railway line is much more difficult than repairing a railway in a flat coastal region. At the same time, this geography is what gives the railway its uniqueness and importance. It serves as a critical transport corridor through terrain that would otherwise be more difficult and costly to access.

Site No. 229 is 1.39 km far away from the Great Western station. The upslope and downslope in this site were considered under the Sri Lanka Railway. Downslope adjacent to the site is belongs to Great Western plantation which was destructed due to tree falling, soil failure and fallen rock boulder.
Refer to Fig 4: Google image, land use, risk elements and the photographs of special features of the location

4.3 Current level of risk

Landslides on both up slopes of the railway line at this location pose a significant risk, particularly to the uninterrupted operation of train services along the upcountry railway between Colombo Fort and Badulla. Additionally, limited accessibility could severely affect essential services, facilities, and economic activities, including daily transactions and trade. Damage to the railway line from Great Western to Radella is a serious problem that goes far beyond the destruction of a transport route. It has social effects on the daily lives of people, economic effects on trade and tourism, environmental effects on fragile hill-country landscapes, geographical implications due to the difficulty of the terrain, and aesthetic effects on one of the most beautiful railway journeys in Sri Lanka. This railway section is a vital part of the country's transport network as well as its cultural and natural heritage. Therefore, it is essential to mitigate the risk around sites.

5. Description of the works envisaged under the project

During Cyclone Ditwah, failures occurred at site no.229 resulting in casualties and rendering the corridor impassable for more than several months, severely affecting public services, disaster rescue and relief operations, and the national economy. The project aims to implement slope stabilization solutions for reducing recurrent disruptions and ensuring safer transportation within the section of Great Western to Radella.
Location is highly potential for landslides. The proposed project aims to ensure further progressive landslides are prevented. Therefore, preventive measures such as gabion walls, soil nailing, embankment fill, surface and subsurface drainage improvement will be used.

6. Brief description of the surrounding environment with special reference to sensitive elements that may be affected by the project actions and damaged elements

The elements and services at risk during the project implementation are;

i. Vegetation around the mitigation area
ii. Residential activities nearby the mitigation sites (access roads to nearby houses)

(Ref. Fig.5 Sensitive elements that may be affected by the project actions and damaged elements)

Figure 5a: Washed out railway line near to Great Western station, Site no.229 (CH 124/18)

Figure 5b: Downslope with rock boulder and vegetation nearby mitigation location

Figure 5c: Commercially valuable vegetation such as Toona sinensis (Mahogany)

Figure 5: Sensitive elements that may be affected by the project actions and damaged elements of mitigation site no.229

7. Identification of social and environmental impacts and risks related to the works

7.1 Positive impacts

- The objective of this project is to mitigate landslides risk to an acceptable level in the unstable land sections in between Great Western and Radella Railway Station. These locations lie along the upcountry railway, a vital transportation corridor that connects key destinations across Sri Lanka. The line serves as the primary rail route between the capital city, Colombo, and the Badulla District, passing through Gampaha, Kegalle, Kandy, and Nuwara Eliya, and plays a crucial role in supporting daily commuting, tourism, and regional economic activity.

- Upcountry railway enhances rail connectivity to Sri Lanka's upcountry particularly the Badulla District. As Great Western and Radella station serves as a gateway to key attractions such as Great Western Mountain view point. This main railway line supports both local mobility and

tourism, boosting regional economic activity. The proposed project will improve service reliability by reducing landslide risks, ensuring year-round rail operations, and enhancing safety.

- Tourism activities and other lifeline activities of people in the area will be benefited largely by this mitigation.

7.2 Negative impacts

The mitigation works are generally confined to already failed land area. Therefore, negative impacts are much localized and also limited to construction period.

Table 1: Negative impacts and their level of significance

Impacts during the construction period	**Level of Significance**
7.2.1 Hydrological and water Quality impacts	
7.2.1.1 Impacts of the drainage pattern of the area The majority of the designs consider surface and subsurface drainage management. That involves extraction of water both surface and sub-surface. Therefore, during rainy season heavy flow of water is expected to be generated. The localized impacts may occur due to groundwater table drawdown while reducing the groundwater storage. As a result, the stream may dry up. During dry periods, the community may face water scarcity. This has a significant negative impact due to the project. However, during rainy season the runoff load on the stream will be high. This may result in stream bottom and bank erosion and erosion at culverts if surface runoff is directly conveyed to lands. This is considered highly significant impact.	**Highly Significant**
7.2.1.2 Water pollution and impacts on surface water quality During the slope excavation, the removal of debris can generate high sediment-laden runoff. No any water stream nearby the mitigation site, therefore possibility to pollute stream near to mitigation site by contaminated runoff water within the high seepage in the area is insignificant. However, improper disposal of oils and other harmful substances/contaminants from machinery, leakages from temporary storage tanks solid waste, and wastewater disposal/dumping could occur, causing adverse impacts on quality of the surface runoff water.	Insignificant
7.2.1.3 Erosional impacts and stream bed alterations The project activities will open the slope for surface erosion during the construction phase. The existing surface and sub-surface drainage pattern or destructed drains in the area will be disrupted during construction phase. Therefore, the erosional impacts are significant.	Significant
7.2.1.4 Open defecation and waterborne infections Mitigation site belonging to the mainline are not functioning until constructing the damaged railway line. The possibility of open defecation could be high due to isolated and covered with vegetation area around mitigation site of the railway line.	Significant
7.2.1.5 Impacts on the downstream water uses The construction activities will take place on an already disturbed slope adjacent to the railway line. The surface runoff is not used which flows to marshy lands nearby through the culvert at the base. Since there will not be an impact on water uses.	Insignificant

7.2.1.6 Impacts on groundwater table and groundwater quality The addition or mixing of construction materials, including cement and grout, with subsurface water flows could lead to temporary water quality degradation and the accumulation of unwanted substances. During the construction period, hazardous waste from chemical substances, wastewater from construction activities, and discharge from onsite septic systems may negatively impact groundwater quality. Additionally, the mitigatory activities carried out in the slope area could affect groundwater quality, potentially resulting in a drawdown of the groundwater table.	Significant
7.2.1.7 Impacts on water or wetlands Improper disposal of oils, chemicals, solid waste, or wastewater from machinery and worker sites, along with leaks from temporary storage tanks could contaminate surface runoff flowing through the culvert at the base of the slope, adversely affecting water quality at the discharge point.	Significant
7.2.2 Environmental Impacts	
7.2.2.1 Noise and vibration impacts Noise and vibration are expected from construction equipment. Noise and vibration Impacts are not highly significant as the constructions are carried out in mitigation site no. 229 where rural and isolated area.	Insignificant
7.2.2.2 Air pollution impacts Construction activities that contribute to air pollution include land clearing, operation of diesel engines, demolition, burning, and the storage, transportation, and disposal of construction materials and waste. During construction, high levels of dust are typically generated from concrete, cement, wood, stone, and silica. Workers are affected due to dust generated during the construction phase. Air pollution resulting from these activities is likely to affect nearby residents, particularly during dry periods.	Insignificant
7.2.2.3 Solid waste disposal issues Haphazard disposal of solid waste; various types of waste such as litter, food waste, construction waste will be generated and may store or dispose on site. The littering and haphazard storage and disposal of solid waste in and around the railway premises will create inconveniences to the neighboring community. It can block the water seepages to make breeding grounds for waterborne diseases. Waste can pollute the soil and leave various environmental impacts if proper disposal mechanism is not in place during the construction period.	Significant
7.2.2.4 Explosive hazards and hazardous materials As there are large, weathered rocks adjacent to mitigation site No. 229, therefore need for rock blasting will be anticipated.	Significant
7.2.3 Biological /Ecological Impacts	
7.2.3.1 Effects of important wildlife habitats There is a dense vegetation in railway reservation areas within the project influence area with high biodiversity. Wild habitats will be disturbed during the construction period.	**Highly Significant**
7.2.3.2 Effects on Fauna & Flora Trees such as Mahogani (*Toona sinensis)* plant found in the slope. Therefore, such flora and fauna significant impact during construction period.	**Highly Significant**
7.2.4 Social and Economic Impacts	
7.2.4.1 Impacts on agriculture within the area to be remedied/ immediately to the site There is no any cultivation immediately adjacent or the area to be remedied.	Insignificant

7.2.4.2 Cracks in the building due to vibration impacts Mitigation site no.229 is isolated therefore any building or houses are not nearby the railway line adjacent to the site, resulting in insignificant impacts.	Insignificant
7.2.4.3 Loosing access to land and future development activities The mitigation works will be concentrated on the railway reservation area and mitigation sites are railway reservation and vegetation nearby. Hence there will be significant impact with regard to loosing access to the land or loss to valuable uses.	Significant
7.2.4.4 Impacts on livelihood/ business and income activities There are not income-generating businesses activity near to proposed mitigation area.	Insignificant
7.2.4.5 Impacts on service provision (water supply, sewage, electricity) No any electricity and water lines run upslope from the unstable slope, and may not be at risk if further slope movement occurs during construction.	Insignificant
7.2.4.6 Effect due to loss of infrastructure and safety During construction phase, the railway tracks will be obstructed by frequently moving machinery, loaders, trucks etc. Although main railway line was already destroyed. However, material transportation is not obstructing the railway tracks.	Insignificant
7.2.4.7 Work camps and lay-down site requirements The camps site will be selected in the neighbourhood of community. If proper camp management is not in place, it may result several labour issues, social issues with community, conflicts for shared resources with the community, nuisances, and management of waste etc. If temporary camps are built in the close proximity of the site, management of solid waste and sewage will be an issue.	Significant
7.2.4.8 Relations between workers and staff / people living in the vicinity of the site and possibility of disputes The construction workers at this site will be from different social backgrounds and from different geographical areas often under poverty. Usually, they are with poor educational and social background. Such communities may have a wide range of social issues to cause dis-stress on the neighbouring community. Although the workers who would engage in such issues will be rare, even few possibilities cannot be ignored.	**Highly Significant**
7.2.4.9 Workers safety during construction The workers may not be exposed to risk of facing railroad due to termination of railway function. The constructions are carried out in a very limited space. They also may face risk of falling from the unstable slope. The heavy construction machinery may be used in limited work spaces. Risk of hazard from vehicles and construction machinery accidents is also highly significant at this site. Contractor may engage under age workers (children) for construction work, which is risky and can results serious accidents and injuries.	**Highly Significant**
7.2.4.10 Safety to the public from construction activities: Risk for residents As the site is in a land section featuring major railway track, ensuring safety will be significant. The presence of heavy machinery such as excavators, rollers, water dowsers, trucks, and lorries carrying materials and water may increase the risk of accidents.	Significant
7.2.4.11 Impacts on transport infrastructure (especially temporary loss of road or rail access, risks of traffic congestion) Due to railway function temporary terminated, the traffic on the railway may not effect.	Insignificant

7.2.4.15 Need for people to enter or cross the site Excavation machinery, loaders, trucks etc. will be used in the railway line premises where railway staff are moving. There is no special need for the station staff to enter the site for other purposes. Construction may use materials such as metal aggregates, steel etc. which can be injurious under improper storage and handling. However, unauthorized entry of ordinary people may occur due to intentional or unintentional purposes, and they may be at risk due to operating machinery, vehicles, electricity, and may be blasting materials.	**Highly Significant**

8. Site Specific Risk Analysis

Table 2: Site specific risk analysis

Risk	Affected group	Risk level
1. Facing accidents when working in a limited space	Workers	Very high
2. Transporting materials and machineries	Workers	Low
3. Throw out disposals (litter, bottles, and food) to the construction site from workers	Workers	high
4. Facing railway accidents during construction at night time	Workers	Low
5. Accidents from the construction activities and materials placed in the limited space	Workers	High
6. Water inundation in the unstable area	Workers	Very High
7. The wasps' attacks during the construction phase	Community nearby Workers	High
8. Injuries due to rock particles due to explosions/ blasting	Workers Community nearby	High
9. Work adjacent to electrified lines, signal lines	Workers	High
10. Site Working – Working in poor visibility	Workers	High
11. Lone Working	Workers	High
12. Emergency evacuation	Workers	High
13. Extreme weather conditions (wind, rain etc.)	Workers	High

9. Significant Environmental and Social Impacts

Environmental, social impacts or risks that will require special attention on the part of NBRI.

9.1 Priority Health and Safety Issues. Specific H&S concerns that require measures that go beyond the standard contractual requirements for contractors

The health and safety issues pertinent to these sites are significant as the workers have to work on an unstable slope with a risk of falling. Such common E & HS issues have been discussed in the **ESMF**. Worker safety requirements in the construction sites are more detailed under 2003 5: Safety equipment and clothing in the section 2003: Working conditions and community health and safety in the Bidding document.

9.2 Child labour & forced labour

Child labor & Forced labor is detailed under 2003.3 under section 2003: Working conditions and community health and safety in the Bidding document.

10. Environmental Social Management Plan (ESMP)

Measures to manage and or mitigate the impacts and risk. Especially the significant impacts and risks identified in sections 7 & 8. This section will include the specific recommendations and requirements of the ESMP for design stage, construction phase and maintenance operation phase.

10.1 Resettlement action plan

There is no project-based resettlement in this site. These houses may have some impacts in the form of structural damage during the project actions due to ground vibration induced by heavy machinery operation. (The scheme of compensation, in case of damage to structures due to project should be arranged, (Refer 2002.2.17) utilities and roadside amenities in contracts requirement to ESMP.

10.2 Evacuation of people

Project based evacuations are not required for mitigation site no.229.

10.3 Procedure for removal of damaged structures, facilities infrastructure (consent from owners to remove the articles)

In the aftermath of the landslide triggered by the Ditwah storm, which has caused significant damage to railway infrastructure and associated facilities, a formal procedure shall be initiated and conducted in a coordinated manner involving all relevant stakeholders, including Sri Lanka Railways, the Ceylon Electricity Board, Forest Conservation Department and the respective Provincial and Local Authorities, with the objective of systematically removing damaged structures, facilities, and infrastructure along the affected railway corridor in compliance with applicable legal and regulatory frameworks.

10.4 Requirement for compensation for loss of property /uses due to project actions

Project based compensation is not needed for mitigation location.

10.5 Public awareness and education- needed for following areas

Programs to inform and educate people in the vicinity about the risks posed by unstable land section located within the railway premises.

10.6 Design based Environmental/ Social Management considerations

The sites are located in an aesthetically beautiful, environmentally sensitive natural environment in the rural setup. Hence, following environmentally and socially significant design considerations are recommended. *Refer to Table 3; Design stage Environmental & Social considerations*

Table 3: Design stage Environmental & Social considerations

Design feature	**Recommended level of consideration for this site**
i. Natural resource management and resource optimized designs Project specific designs should be considered to eliminate mass clearing of vegetation and minimum number of removals of grown tree species. Sufficient emphasis should be made to consider conservation of trees if commercially important tree species such as Toona sinensis (Mahogany) like species are found. However, vegetation of site was destroyed due to soil movements.	Very High

ii. Site Planning During site planning it is necessary to be cautious on possible re-activation of slope failures and movements of soil masses. Also, the sites are located in a very limited space around railway line and reservation area. It should not be installed in the danger zones of the slides. It is very necessary to keep trained safety officer during the construction period and proper communication between contractor's workforce, and PMU must be built. The SLR buildings within the close proximity can be used as camping sites or storage houses under the permission of the Railway Department.	Very High
iii. Habitat connectivity and animal trails If large fractions of vegetation are required to be cleared in ecologically fragile habitats as for permanent structures or for access, or if deep drains etc. are to be made the designs should include habitat connectivity features, animal trails and vegetation strips and etc. even if the impacts are localized.	Low
iv. Conservation of water resources If extraction of water is involving as a mitigation measure, as the extracted water is in a good quality and yield it can be considered as a source of water.	High
v. Aesthetically compatible design considerations The designs in aesthetically sensitive environments should consider structures that blend with natural environment to keep the visual pollution to minimum. As the tourism industry is one of the major economic growth points for the project area, greening could be used in construction activities to develop the area as a tourist attraction. Service of landscape architect may be important for the design of suitable mitigation structures.	High
vi. Consideration of green environmental features As many of the mitigatory works are carried out in ecologically sensitive habitats, it is recommended to consider green environmental designs as much as possible in the designs e.g.: use of local vegetation species for erosion control, combination of plants to sustain species diversity in the environment, avoiding inclusion of potentially invasive species & etc.	High
vii. Conservation of social and Cultural features The local cultures and heritages are strengthened by their close connections to the natural environment that sustains them. Therefore, the project actions should be carried out considering local culture and social aspects, providing opportunities to reinforce them during the project actions.	Low
viii. Workers and community safety Due to the close proximity to the railway tracks people may face accidents specially the workforce during the construction phase. Unauthorized entry and ignorance may cause severe accidents around the site. Activation of slides may occur during construction phase and may pose threat to workers. Therefore, design-based safety consideration such as berms, safety nets etc. should be considered.	Very high
ix. Erosion control structures In drainage management, water is extracted and conveyed to nearby stream often through culverts. During rainy season the flow in these drainage structures can be significantly high and this may cause stream bed erosion. Hence the design should adequately consider flow speed breakers to reduce erosive flows. This should be an inclusive part of the design if there are streams and culverts in the proximity of the mitigation site.	High

x. Low post maintenance and operation designs The mitigation should consider passive techniques such as gravity drains for drainage management. Correct pipe diameters, pore diameters and laying angles should be considered to avoid clogging of drains. Low maintenance structures and designs such as designs to withstand erosive forces, sediment trapping systems etc. should be considered if drain water is expected be directed to natural streams. The materials used for structures and should be chosen carefully so as to withstand weather conditions with high durability. Designs should specially consider corrosion prevention techniques if steel structures are used.	High

10.7 Mitigation of impacts during the construction phase

10.7.1 Construction contractors' requirement to comply with environmental and social management during the construction phase

Measures to manage and to mitigate the environmental and social impacts are generally common to all landslide mitigation sites. Such impacts are largely attributed to activities in the construction phase. The mitigation of impacts therefore becomes an obligation of construction contractor. NBRI has prepared a comprehensive document on "***contractors' requirement to comply with Environmental and Social Health and Safety (ES & HS) management during the construction phase"*** to be included in construction contractors' bid document. The main sections are summarized below indicating the degree of relevancy for this site. For details ESMP for construction contractors should be referred.
Refer to Table 4; Contractor requirement to comply with ES & HS

Table 4: Contractor requirement to comply with ES & HS

Reference No. as per construction contractors obligation to ESMP	**Item**	**Relevant to the project**
2002. Environmental and Social Monitoring		
2002.2 1)	Storage on site	Highly Relevant (railway tracks)
2002.2 2)	Noise and Vibration	Not relevant
2002.2 3)	Cracks and damages to the buildings	Not relevant
2002.2 4)	Disposal of waste	Relevant (workers)
2002.2 5)	Disposal of refuse	Highly relevant (community nearby)
2002.2 6)	Dust control	Relevant (workers)
2002.2 7)	Transport of Construction materials and waste	Highly Relevant
2002.2 8)	Water	Highly Relevant
2002.2 9)	Flora and Fauna	Highly Relevant
2002.2 10)	Physical and cultural resources	Not relevant
2002.2 11)	Soil Erosion	Relevant
2002.2 12)	Soil Contamination	Relevant
2002.2 13)	Borrowing Earth	Relevant
2002.2 14)	Quarry Operations	Not relevant
2002.2 15)	Maintenance vehicles and Machinery	Relevant
2002.2 16)	Disruption to public	Relevant
2002.2 17)	Utilities and roadside amenities	Highly relevant
2002.2 18)	Visual environment enhancement	Relevant
2002-5. Environmental Monitoring	Baseline surveys (air, water, noise, vibration, crack surveys)	Refer site specific monitoring plan
	Surveys during construction (air, water, noise, vibration, crack surveys)	Refer site specific monitoring plan
	Surveys during operation phase	Refer site specific monitoring plan
	Reporting and maintenance of records	Relevant

2003. Working Conditions and Community Health and Safety		
2003.2	Safety organization and communication	Highly relevant (unsafe slope, heavy machinery)
2003.3	Child Labor and Forced Labor	Relevant
2003.4	Safety reports and notification of accidents	Low
2003.5	Safety Equipment and Clothing	Highly relevant
2003.6	Safety inspections	Highly relevant
2003.7	First Aid Facilities	Highly relevant
2003.8	Health and safety information and training	Highly relevant
2003.9	Plant equipment and qualified personnel	Relevant

Relevant: *The section is relevant to the site as a common ESMP applicable to any site*
Highly relevant: *The contractor should pay special emphasis in the preparation of environmental method statements to ensure that the relevant ESMP is implemented specific to the site*
Possibly relevant: *This ESMP will be triggered if the site come across with relevant aspect during project implementation*
Not relevant: *The section may not be relevant to this site under disclosed conditions*
Optional: *require to be implement if needed only*
Refer site specific monitoring plan*: Contractor is obliged to carry out monitoring as specified in the site specific monitoring plan*
Reference: Contractors Obligation for implementation of ESMP

10.7.2 Site Specific mitigation

Given below are the site-specific mitigation measures that the project is expected to implement during the construction period. *Refer to Table 5; Site specific ES & HS mitigation measures*

Table 5: Site specific ES & HS mitigation measures

Mitigation item	**Project implementation phase**	**Responsibility**
i. Avoid possible emergencies during construction Safety officer has all the responsibilities of material transportation vehicles within mitigation location. As well as railway staff officers also use railway line. Therefore, always be alert on the instructions given by the safety officers.	Site preparation & construction	PMU Construction Contractor Railway Department
ii. Priority Health and Safety Issues As the workers in the site have to work in high-risk conditions, it is imperative to implement recommendations given in section 2003 of contractors' obligation on ESMP under "working conditions and community health and safety". These recommendations should be followed carefully in a proper organization and safety monitoring system. • Prepare a special Occupational Health and Safety Management Plan before the commencement of construction activities • Adoption of standard worker safety methods • Provision of personal protective equipment (PPE) such as safety boots, helmets, protective clothing, goggles, etc. • Provision of training and awareness programs to employees • Conducting hazard analysis and plan/provide adequate mitigation measures for such hazards identified, before carrying out major construction activities • If the wasp nest is in the vicinity, it is mandatory to use Evacuation Centres for ensure of workers' safety • Additionally, work should be discontinued for a sufficient time period during rainy season as working on unstable land will be highly risky in the rainy season.	Construction	PMU Construction Contractor Railway Department

iii. Transporting materials and machineries Inform and take permission from the authorized person of SLR before any material and machinery transportation through / along the railway tracks running very close to the affected area. The workers should be informed about the material and machinery transportation schedule. The railway station platform or the railway trucks must not be damage due to the material and machineries transportation.	Construction	PMU Construction Contractor Railway Department
iv. Injuries due to rock particles due to explosions/ blasting Inform and take permission from the authorized person of SLR before blasting and making awareness announcements through the nearby railway station. Establish an emergency accidents preparedness plan for the injuries due to rock particles due to explosions/ blasting.	Construction	Construction Contractor Railway Department
v. Inundation of the railway tracks During the construction, the water inundation of the railway tracks will be expected. To mitigate this impact, contractor should construct a temporary surface and sub-surface drainage network directing excess water to nearby stream or canal before start of the construction.	Site preparation & construction	Construction Contractor
vi. Minimize erosional impacts during construction It is recommended that mitigation works involved with site clearance, slope reshaping, removal of debris etc. are avoided during rainy season. Therefore, site must work in slope mitigation are carried out in the dry season and avoid such activities on slope area in the wet season as much as possible. This should be considered in the project planning stage. Silt traps should be introduced to cut down sediment laden runoff.	Site preparation & construction	Construction Contractor
vii. Invasive species Should be avoided in using vegetative erosion control structures. Native plants in the local environment should be chosen for vegetative control. The species used for vegetative control measures need approval from the relevant authorities.	Construction	Construction Contractor
viii. Noise and vibration control Due to railway function is temporary terminated, the noise and vibration generating activities may not cause a disturb. However, Vibration generating activities should be done within the prescribed limits to avoid damage to structures. Suitable compensation should be made if damage cracks due to construction work occur in the infrastructure.	Construction	Construction Contractor
ix. Disposal of construction waste The contractor should pay special attention with respect to disposal of construction waste. This site is located within a public place in a rural landscape with a pleasing environment. Therefore, such waste if generated should store properly without getting washed off and dispose according to approved procedures by the PMU. Construction waste should not dispose along railway tracks.	Site preparation & construction	Construction Contractor
x. Onsite sanitary facilities for the workers The contractor should prepare temporary sanitary facilities for the workforce within the site, to mitigate open defecation of the workers.	Site preparation & construction	Construction Contractor
xi. Dust and aerosol control screens Dust particles generated during the construction period can influence and staff of the station. Special screens etc. should be used if heavy dust or aerosol generating activities are envisaged.	Site preparation & construction	Construction Contractor

xii. Water and electricity for construction Water for construction should be obtained only from approved places. If the Contractor intends to use electricity from the main electricity line, they should be informed and the required permission should be taken.	Construction	Construction Contractor
xiii. Working hours, working in extreme weather conditions and working in poor visibility The construction activities can be carried out at both day and nighttime. Working after 6.p.m. could be done after with the consent from Station Master due to safety issues.	Construction	Construction Contractor Railway Department
xiv. Impact on service infrastructure Telecommunication, electricity, and water lines should be relocated before construction starts on per the approval of PMU.	Construction	Construction Contractor
xv. During construction good housekeeping should be maintained to minimize visual pollution	Site preparation & construction	Construction Contractor
xvi. Worker's code of conduct Possible disputes between the labor force and the villagers, staff of the station should be prevented by maintaining the agreed code of conduct by the contractor. Possible disputes between workforce and villagers should be avoided especially when using shared resources such as common bathing and washing places etc.	Construction	Construction Contractor
xvii. Protecting flora and fauna The railway reserve areas within the project impact zone have dense vegetation cover with high biodiversity. Therefore, wildlife habitats may be disrupted and impacted during the construction period. Tree species such as mahogany (*Toona sinensis*) are found in the slope area. Therefore, there may be significant impacts on the flora and fauna of this area during the construction period.	Site preparation & construction	Construction Contractor
xviii. Snake bites, toxic insect bite management and emergency management by accidents Proper emergency management system for snake bites and toxic insect bite (include awareness on snake bites, safety shoes while at work, first aid on a snake bite, hospitalization and admission to correct hospital where snake bite management facilities are available) should be introduced. Accidents are common in these kinds of sites. Proper emergency management unit for other accidents (first aids facilities, safety items, hospitalization facilities and transportation facilities) should be maintained for this site.	Construction	Construction Contractor
xix. Fires in the forest area This can be caused intentionally or unintentionally by workers. Since it is a forested area, the potential impact of this can be very large.	Site preparation & construction	Construction Contractor

10.7.3 Monitoring requirements specific to the site

Following monitoring plan is strongly emphasized during the construction phase specific to this site. In addition to this, monitoring procedure indicated in the contractors' obligation to ESMP should also be implemented by construction contractor. The contractor is expected to indicate in the bid the ESMP procedure to be implemented along with relevant proofs of his competency. The cost for ESMP will require to be indicated as a separate pay item. The environmental and social management method statement is expected to be submitted by the selected construction contractor and to be approved by the PMU unit. *Refer to Table 6; Environmental and Social monitoring plan*

Table 6: Environmental and Social monitoring plan

Monitoring requirement	Parameter	Frequency
i. Baseline monitoring	Water quality	Once*
	Pre crack survey for the railway station	Once*
	Ground vibration	Once*
	Air quality: particulate matter	Once*
	Background noise measurement	Once*
ii. During construction	Water quality	During rainy season if noticeable change in the appearance of water
	Crack survey for the risk houses	If noticeable displacement is observed during construction **
	Ground vibration	During operation of drilling machinery, boring works, or any works that generate ground vibrations*
	Construction noise	Once a month during heavy noise generation times *
	Air quality particulate matter	Once a month *
iii. Vehicular Emission	All machinery/vehicles operational should have the emission control test certificate as applicable - should be checked by the site ES officer of the consultant	
iv. Monitoring agency	* A competent independent monitoring agency with registration of Central Environmental Authority for all parameters except crack surveys **Crack surveys should be conducted by competent agency acceptable to PMU	
v. Reporting requirements	**Stream water quality** – Comparison with ambient water quality standards published by the CEA, 2017 **Pre crack survey of the railway station** -Professional report **Ground vibration**-as per the interim standards on vibration for the Machinery, Construction activities and Vehicular movements, CEA **Background noise measurement** –Extraordinary Gazette No.924.1, May 23,1996, CEA **Air quality particulate matter**- The National Ambient Air Quality standards stipulated under the Extraordinary Gazette, No. 1562/22 August 15, 2008 -Central Environmental Authority of Sri Lanka.	

11. Public and Stakeholder Consultations - the public consultations that have been and/or will be held

11.1 Public Consultations

Mr. Visnayagam Gobinatha, Grama Niladhari of the Galkandawatta, was consulted and informed about the landslide early warning alerts, the mitigation project, and the funding mechanism. He acknowledged the importance of the mitigation works and expressed full support and cooperation for the project.

11.2 Stakeholders involved in the consultations any recommendations or agreements reached in the consultations

Mr. Basnayake, the station master of Great Western and Mr.K.S.P.Priyantha, the officer of the Great Western Railway Station were informed about the project works about mitigation site. They acknowledged the necessity of the mitigation and expressed their full support for the project.

12. Clearances, no objection, consent and approvals required for the implementation of the project

Table 7: Clearances, no objection, consent and approvals

Requirement / Approval / Institution	Relevance to the project
12.1 Project implementation	
Approval from the District Secretariat	The approvals will be required and the proposals need to be presented at the District Coordinating Committee, to which chief minister and stakeholder agencies in the district will also participate. The Officer of PMU will present the project, disclose the project details and various concerns including environmental and social issues will be discussed at this meeting. The issues arrived will be addressed in the ESMP, the decisions and recommendations taken up at this meeting will be considered in the ESMP.
Approval from the planning committee	The approval from the planning committee of the Nuwaraeliya Pradheshiya Sabha.
12.2 Approval from the state lands owners relevant to the project	
Central Environmental Authority	Consent from District Central Environmental Authority is required.
Department of Forest Department of Wildlife Conservation	As there are no forest reservations and wildlife habitats; Department of Forest and Department of Wildlife Conservation approvals are not needed
Geological Surveys and Mines Bureau	Approval will be obtained for for extraction of materials, transportation and disposal of earth, rocks and mineral debris. (If necessary, only).
Nuwaraeliya Pradheshiya Sabha	Approvals from Nuwaraeliya Pradheshiya Sabha will be obtained for the disposal of waste and plant litter.
Ceylon Electricity Board	Approvals from regional office of Ceylon Electricity Board will be required for power supply for site operation.
National Plant Quarantine Service	Approval from Additional Director National Plant Quarantine Service Katunayake for Director General of Agriculture under the Plant Protect Act No. 35 of 1999 Plant or seed if needed for bio–Project Managed slope mitigation shall be imported into Sri Lanka under the authority and in accordance with the conditions, of a plant importation permit issued.
12.3 Consent/ no objection/ legally bound agreement from the private land ownerships	
Land owner (Sri Lanka Railways, Great Western Plantation)	Signing a legally bound agreement between the land owner and the project implementing authority allowing no-objection to remove the structures, access the land, implement construction works, and engage in long-term maintenance works

The tentative timeline for getting approval is given in the table 8.

Table 8: Tentative timeline for getting approvals

Approvals	Month 1				Month 2			
	W1	W2	W3	W4	W1	W2	W3	W4
Project implementation ***Approval from the District Secretariat*** Submission of application Project briefing Respond to comments Approvals								

Approval from planning committee Submission of application Project briefing Respond to comments Approvals								
Approval from Sri Lanka Railway Department Submission of application Respond to comments Approvals								
Other approvals GSMB Ministry of Defense (Depends on the requirement)								
Consent/ no objection from the land ownership								

13. Grievance redress mechanism for this site

The PMU ES officer is responsible for establishing the grievance redress mechanism for this site for impact communities. *(Reference: Environmental and Social Management Framework for recommended procedure for establishment of grievance redress mechanism).*

14. Information disclosure

It is the responsibility of the PMU to disclose the ES information to following agencies and organizations by indicated modes as a minimum as given in the table. 9

Table 9: Proposed scheme of information disclosure

Information	Proposed agencies	Mode of information disclosure
i. Project plan (site details, design, implementation arrangements)	District CEA, District Secretariat, Divisional secretary, Railway station master, Other district level Agencies, NBRI district office, AIIB	Meetings, District coordination committee, submission of relevant report to sign agreements, approvals and consents.
ii. Environmental and Social Management plan	District CEA, Railway station master, AIIB	Meetings, District Coordination Committee, submission of relevant report to sign agreements, approvals and consents
iii. Monitoring reports (baseline and during construction)	District CEA, AIIB and relevant parties as appropriate	Progress meetings, special meetings, submission of relevant reports
iv. Site inspections for environmental conformance workers health and safety	District CEA, Divisional secretary, Police, Railway station master, Grama Niladhari, District Office NBRI, AIIB and relevant parties as appropriate	Written and verbal communications, submission of relevant reports
v. Decisions taken and progress review meetings pertinent to ES matters	District CEA, Divisional secretary, Police, Railway station master, Grama Niladhari, District Office NBRI, AIIB and relevant parties as appropriate	Meetings, submission of relevant reports
vi. Grievance redress mechanism	Relevant parties, AIIB	Meetings, written and verbal communications

Table 10: Level of information gathered through consulting institutions

Date	Institution	Person contacted for information
28/04/2026	Sri Lanka Railways	Mr. Basnayake (0711731613), Station master – Great Western Railway Station

Annexure I: Images of the consultation during the field visit

Consultation with Mr.K.S.P.Priyantha (Officer – Great Western Station)

Annexure II: Report on the Stakeholder Consultation

Institution	Name and designation of the contact officer	Concerns raised
Central Environmental Authority	Mr. M.M.A.I Janaka, Provincial Director, Central Environmental Authority Central Province.	✓ The Basic Information Questionnaire (BIQ) is needed to fill for the project and submit the application ✓ As the proposed project (mitigation) intends to reduce the risk from landslide for an emergency action CEA approval is not needed considering the priority of the project. ✓ Before project commence a request indicating the mitigation sites need. ✓ If the project is carried out in a sensitive area, even not within a prescribed project, consideration of sensitive area will govern the process.
Way and Works Railway Department	Mr. E.M.S.P.K. Deegala, Chief Engineer	✓ This area is under the jurisdiction of the Department of Sri Lanka Railway. ✓ The SLR has no objection and states the mitigation is very much needed. ✓ Detailed work plan and time schedules must be provided to the SLR by contractor before starting construction activities and keep good relationship between contractor, PMU and SLR. ✓ Other concerns raised • Workers must be followed his advices and guidance for safety issues. • Material transportation for locations which haven't other road access will be done according to the requests of the contractor • All the cost including railway material transportation, and other resources from SLR should be bear by the construction contractor. • A proper handing over of the project is required after the mitigation. • SLR will do the maintenance after mitigation. • It is emphasised that during the construction the contractor should use Personal Protective Equipment

		• At all times, the contractor shall provide safe and convenient passage for material transportation. measures, barricades and for the night work, lights and illumination should be provided. • The contractor should use temporary toilet facilities • The service infrastructure should be relocated under the supervision of SLR. ✓ It is also stated that construction waste/ excavated materials should not be a nuisance to residents.

Annexure III: Proposed procedure for obtaining approvals from state land owners and environmental agencies.

1. **Proposed procedure by SLR for approval for implementation of landslide mitigation projects in SLR reservation areas**
   i. The design to be accepted by the SLR: The project implementing agency should submit detailed design report to SLR with a formal request on nature of approvals required. PMU should prepare above documents and should submit the documents to Way and Works of Railway Department.
   ii. Way and Works Railway Department will evaluate the proposal and may call for project briefing. The PMU should provide necessary briefing as appropriate
   iii. On the approval by SLR an agreement will be signed between SLR and Project implementing agency to access the site, erect structures, and implement mitigation works.

Annexure IV: Study team

Name	Designation	Position in the study
SAMS Dissanayake	Senior Scientist/ESSD/NBRI	Senior Environmental Scientist
Prabath Liyanaarachchi	Scientist/ ESSD/NBRI	Environmental scientist
A.G.Randombage	Project Assistant	Demographic Data Collection and Report Preparation

Annexure V: List of References

1. Contractor's obligations for Generic Environmental and Social Management Plan- Sri Lanka Landslide Mitigation Project-AIIB
2. Environmental and Social Management Framework-Sri Lanka Landslide Mitigation Project -AIIB
3. Resettlement Planning Framework- Sri Lanka Landslide Mitigation Project -AIIB
4. Felling Trees (Control) Act by Ministry of Agriculture, Rural Economic Affairs, Livestock Development, Irrigation and Fisheries and Aquatic Resources Development
5. Census and Statistical Report (2012), Department of Census and Statistics