Environmental and Social Impact Assessment

Summit Communications Limited Nationwide Fiber Optic Network Project

Volume I: Executive Summary

Participatory Advanced Research and Development Foundation

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Background and Basis for ESIA

1. Introduction

With a view to facilitating low cost and faster internet and ICT enabled services for a large section of the people, SCL has approached to Investment Promotion and Financing Facility (IPFF-II) cell of Bangladesh Bank through Industrial and Infrastructure Development Finance Company (IIDFC) Ltd ("Arranger") and NDB Capital (Co-arranger) for syndication arrangement of term loan financing. The proposed project includes expansion of the network infrastructure, i.e. rollout of the fiber optic network in several locations across Bangladesh. The proposed project will finance the laying operation of fiber optic cables (underground) along designated routes. However, the actual layout of the fiber optic cable is not completely known at present and the details of the route may only be available just prior to the implementation of the different subcomponents.

2. Policy, Legal Framework and WBG Performance Standards

Environmental and Social Performance Standards refer to the "World Bank Performance Standards", which are IFC Performance Standards on Environmental and Social Sustainability adopted as the "World Bank Performance Standards" in 2013 pursuant WB Operational Policy 4.03 ; World Bank legal policies not limited to i.e. World Bank Group Environmental, Health, and Safety (EHS)Guidelines, Relevant Environmental & Social, Local and National laws and regulations of GoB, ESRM Guidelines issued by BB in February 2017 and various components of E&S management system together with other rules and regulation mentioned in Environmental and Social Policy and Procedures (ESPP) of IPFF II Project.

Table E-1: Triggered WBG Performance Standard (PS) in the Project

Sl.	PS and Title	Triggered (Yes/No)	Applicable Bangladesh Laws/Rules and Conventions to which Bangladesh is a Party
1	**Performance Standard 1:** Assessment and Management of Environmental and Social Risks and Impacts	Yes	Bangladesh Environmental Conservation Act (ECA '95), 1995 and amendments; Environment Conservation Rules (ECR), 1997 and amendments; National Environmental Policy, 2018 &1992; Environmental Court Act, 2010; National Environmental Management Action Plan, 1995, National Water Policy, 2000; National Water Management Plan, 2001
Explanations: PS1 is triggered in this project. This is an umbrella Standard as Assessment and Management of Environmental and Social Risks and Impacts are important in all projects with land-based activities. The project has environmental and social aspects which may pose potential E&S risks and/or impacts. These include noise emissions, air emissions, wastes and effluents, labour influx, traffic congestion etc. Projects where E&S aspects exist, should possess systems for assessing and managing potential E&S risks and impacts.			
2	**Performance Standard 2:** Labor and Working Conditions	Yes	Bangladesh Factories Act (1965); Bangladesh Labor Act, 2006; Bangladesh Labor Rules (2015), Bangladesh Children's

			Act 2013; ILO Conventions 29, 87, 98, 100, 105, 111 and 182
Workers (temporary) would be engaged to carry out various duties related to fiber optic cable laying in the field. It is therefore necessary for the Project to maintain appropriate labour and working conditions for these workers. As such, PS 2 is applicable.			
3	**Performance Standard 3:** Resource Efficiency and Pollution Prevention	Yes	*ECA95 and amendments, ECR 97 and amendments; Noise Pollution (Control) Rules 2006,* International Convention for the Prevention of Pollution of the Sea by Oil, London, 1954 (Ratified 1981); *The Ground Water Management Ordinance, 1985;* Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal, Basel, 1989 (Ratified 1993); Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1987 (Ratified 1990), (London Amendment, 1990) (Ratified 1994).
Explanation: There will be minor civil works and land excavation/drilling which are likely to generate wastes during the construction phase. Running heavy equipment will also have noise pollution potential. Therefore, PS3 is applicable.			
4	**Performance Standard 4**: Community Health, Safety, and Security	Yes	*The Fertilizer Regulation Order, 1995;* Disaster Management Act 2012; Motor Vehicle Ordinance 1983; Bangladesh Private Security Regulations Act, 2006.
Explanation: Though the project will have some positive effects through employment generation, there could be concerns to community regarding traffic congestion, risk of injury etc. Therefore, PS4 is applicable.			
5	**Performance Standard 5:** Land Acquisition and Involuntary Resettlement	No	Acquisition and Requisition Ordinance, 1982.
Explanation: Fiber optic cable laying by SCL is carried out in public land after taking the permission of the relevant authority. There is no land acquisition, involuntary Settlement (i.e. no physical or economic displacement). Therefore, this Performance Standard will not be applicable.			
6	**Performance Standard 6:** Biodiversity Conservation and Sustainable Management of Living Natural Resources	Yes	*Bangladesh Wild Life (Preservation) Act, 1974; National Biodiversity Strategy and Action Plan (2004):* Fish Act and Rules, Bangladesh Water Act 2013; National Water Bodies Protection Act 2000, National Conservation Strategy, 1992, ECA95, National Water Policy, 2000; National Water Management Plan, 2001; International Plant Protection Convention, Rome, 1951 (Ratified 1978); Convention on Wetlands of International Importance, especially as Waterfowl Habitat, Ramsar, 1971; the Ramsar Convention (Ratified 1992); Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973 (CITES Convention) (Ratified 1982); Agreement on the network of Aquaculture Centers in Asia and Pacific (NACA), 1988; Convention on Biological Diversity, Rio de Janeiro, 1992 (Ratified 1994); International Convention to Combat Desertification, 1994.

Explanations: Fiber optic cable laying operation may be carried out in areas having ecological and biological diversity and natural habitats may be encountered. Hence PS6 will be applicable.			
7	**Performance Standard 7:** Indigenous Peoples	Yes	Chittagong Hill Tracts Regional Council Act, 1998.
Explanations: The fiber optic cables may potentially run through areas having population of indigenous people. So PS7 would be applicable.			
8	**Performance Standard 8:** Cultural Heritage	Yes	Antiquities Act, 1968; Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris, 1972 (World Heritage Convention) (Ratified 1983).
Explanations: The fiber optic cables may potentially run through areas having cultural heritage (mosques, shrines, graves etc.). Access to these areas may be temporarily affected. Excavation of soil may potentially expose buried physical cultural resources. So PS8 will be triggered.			

In addition to these, WBG Environmental, Health and Safety Guidelines, World Bank Group Occupational Health and Safety Guidelines for Fiber Optic Cable Installation and World Bank Policy on Access to Information will be applicable for the project.

3. Project Description

Project Activities, Cost and Implementation schedule

The major project activities include route selection and survey, obtaining permission from local authorities, mobilization of construction equipment and manpower, construction of ancillary facilities ("hand holes" for cable splicing) and control stations (point of connectivity (PoC)) to house the drop points from PGCB towers, application of horizontal directional boring to carry out the underground fiber optic cable laying operation for installation of HDPE ducts, pulling and splicing of the communications cable through the conduit, pit cutting for the purpose of HDD operation and hand hole construction etc.

This underground fiber laying will take place along highways. It would have a coverage of around 1,182.4 kms. SCL is expected to cover 7,800 kms to provide additional connectivity to 1,300 BTS. In addition, SCL is planning to swap the existing fiber network from 4/6-core non-armored fiber to 12-core armored fiber; which would cover a total distance of around 1,154 kms.

Out of the total project cost of BDT 14,583 million BDT up to FY 2020/21, BDT 10,095 million BDT has already been incurred. The rest of BDT 4,488 million is to be incurred in FY 2019/20 and FY 2020/21. BDT 1,730 million would be utilized for expansion from IPFF II fund and rest would be financed by other commercial loans and equity. The implementation schedule shown in Table E-2

Table E-2: Schedule of implementation

Project Implementation Schedule	2020-21	2021-22			
Time Allocation	**Q-4**	**Q-1**	**Q-2**	**Q-3**	**Q-4**
Underground Optical Fiber Laying (Km)	180	252	268	229	204
Duct Laying (Km)	180	252	268	229	204
Civil and Construction Work for Fiber Laying (Km)	180	252	268	229	204
Overhead Optical Fiber Laying for Expansion (Km)	10	10	0	0	0
Overhead Optical Fiber Laying for Upgradation (Km)	102	167	144	144	91
Overhead Optical Fiber Laying for BTS (Km)	1,080	1,500	1,380	1,200	1,086
BTS Connectivity (Unit)	180	250	230	200	181
DWDM Multiplexer-OSN 9800 Installation (Unit)	2	1	1	-	-
DWDM Optical Multiplexer Installation (Unit)	2	3	3	2	2
DWDM Electrical Multiplexer Installation (Unit)	1	2	2	1	0
Router ACX2200 Installation for Mobile Backhauling (Unit)	180	250	230	200	181
Router ACX2200 Installation for Network Expansion (Unit)	40	50	50	50	47
Router MX104 Installation for Network Expansion (Unit)	1	1	1	-	-
Router MX204 Installation for Network Expansion (Unit)	16	21	20	13	10
Router MX240 Installation for Network Expansion (Unit)	-	-	-	-	-
Router MX480 Installation for Network Expansion (Unit)	1	2	0	0	0
Backbone PoP Construction (Unit)	5	5	5	5	2
Access PoP Construction (Unit)	40	50	50	45	39
Switch Installation in Access PoP (Unit)	40	50	50	45	39

Project Risk Categorization

As the project is to be partly financed by the IPPF-II project of Bangladesh Bank, which is funded by WB, the ESIA aims at achieving an acceptable level of compliance with applicable World Bank Group's Performance Standards under WB OP4.03 applicable to the IPFF-II project. The SCL project operation may have some adverse

impacts, but they are site-specific, localized in nature, readily reversible and can be mitigated through best management practices. The intervention is typically of a short duration with minimal impact on local communities. Therefore, the project can be categorized as a "**Medium Risk**" transaction.

Objectives of the ESIA

i. Provide an overview of the ESMS of the current SCL operations which includes its protocols for E&S screening and assessment, E&S monitoring requirements, Best management practices associated with fiber optic cable installation. It will highlight current practices of the firm in identifying and addressing E&S issues with respect to the project activities, risk assessment, grievance redress, stakeholder consulation etc.

ii. Identify key compliance gaps/issues of the SCL ESMS in line with the requirements of the WBG Performance Standards and rank the importance of the identified gaps/issues;

iii. Highlight corrective actions to close-out each of the identified gaps; and

iv. Develop an E&S action plan detailing the key deliverables, responsibilities, timelines, budgetary requirements, etc. of each of the gaps/issues;

Statement of Works

A list the studies and work streams required for compliance with WBG PS and other relevant WBG guidelines was prepared (Table E-3).

Table-E-3: List of Studies and Work Streams Required for Compliance with WBG PS

Sl. No.	Study Items/Topics	Applicable WBG PS and other guidelines	Reference Chapter/Annex
1	Project Description & Study of the project's Area of Interest for Environmental and Social Setting and Scoping, project's environmental and social risk screening.	The actual location of the physical intervention is not known at this point (fiber optic cable installation is a nationwide project and is divided into numerous work packages). Therefore, a framework approach has been adopted where SCL does E&S screening when the alignment of a particular work package is finalized. Visualization and understanding of environmental and social impacts will be done during E&S screening. Applicable Standards/Guidelines: PS1, WBG EHSG	Chapter 1,3, Annex III, IV, XXII
2	Audit of work in progress in the project area.	As this is not a green field project and the project is already in operation, an audit for all environmental and social activities needs to be done. The project	Chapter 4, Chapter 6, Annex XIX

Sl. No.	Study Items/Topics	Applicable WBG PS and other guidelines	Reference Chapter/Annex
		already has an ESMS. The audit of the existing ESMS needs to be done. Applicable Standards/Guidelines: PS1-PS8	
3	Legal and Policy Framework	Applicable Standards/Guidelines: PS1	Chapter 2, Annex XV
4	Baseline Studies	Actual location of intervention is not known apriori and only be known during implementation. Therefore a framework approach has been adopted for baseline studies. This will be done during E&S screening. Applicable Standards/Guidelines: PS1, PS3	Chapter 4 Annex III, IV, XX
5	Environmental impact (air pollution, noise pollution, water resources and water pollution, soil pollution), cumulative impact	Applicable Standards/Guidelines: PS3, WBG EHSG	Chapter 5, Annex IV
6	Management of hazardous materials	Fuel may need to be stored and loaded to generators on site during fiber optic cable installation. Applicable Standards/Guidelines: PS3, PS4, WBG EHSG	Chapter 5, Annex IX
7	Climate Change Risk Assessment and GHG Emission Assessment	Applicable Standards/Guidelines: PS3, IPCC Assessment Reports (2014 and 2018)	Chapter 4, Annex XVII
8	Natural hazards and disaster risk	Applicable Standards/Guidelines: PS1-8, WBG EHSG	Chapter 4, Annex XVIII
9	Labor, Human Rights and Gender Assessment	Applicable Standards/Guidelines: PS2	Chapter 7, Annex XIV
10	Community Health, Safety (including Hazardous materials) and Security Review	Fiber optic cable installation can have temporary impacts on local communities. Applicable Standards/Guidelines: PS3, PS4, WBG EHSG	Chapter 6, 7, Annex IX
11	Indigenous People Framework	Worksite may cross through areas where indigenous people live. Applicable Standards/Guidelines: PS7	Chapter 5, 7 Annex XIII
12	Critical Habitat Review and Ecosystem Services Assessment	Fiber optic cable lines may cross through natural habitats. Applicable Standards/Guidelines: PS6, IUCN Guidelines	Chapter 4,7 Annex III, IV

Sl. No.	Study Items/Topics	Applicable WBG PS and other guidelines	Reference Chapter/Annex
13	Cultural Heritage (both tangible and intangible) Assessment	Fiber optic cable lines may cross through areas of cultural heritage interest. Applicable Standards/Guidelines: PS8	Chapter 4,7, Annex VIII
14	Stakeholder engagement framework including Grievance Redress	Engaging local communities is required where fiber optic cables are going to be installed. Applicable Standards/Guidelines: PS1, PS5	Chapter 6, Annex XVI
15	Stakeholder Consultation	Consultation with regulatory authorities and authorities granting permission	Chapter 6, Annex XXI
16	Consideration of Alternatives	Alternate route and alternate technology for fiber optic cable installation	Chapter 4, Annex III, IV
17	Environmental and Social Action/ Management Plan (including EHS, Community EHS, Fire safety, Traffic Safety, Emergency Response and Preparedness, Monitoring)	The management plan can be developed generically or site-specific. Applicable Standards/Guidelines: PS1, PS3, PS4. PS6. PS8. EHS guidelines	Chapter 6, Annex IX, X, XVIII

4. Sub-project Baseline and E&S Screening

Before execution of each sub-project (work package), the relevant information regarding the work package needs to be documented. The actual location of the link will be finalized during implementation. Sub-project Description "Form 1" (for fiber optic cable line) has been developed (Annex III) for documenting description of sub-projects to be implemented under the proposed project. For systematic recording of data, baseline environment is usually classified into physicochemical environment, biological environment, and socio-economic environment; and important features/parameters under each category are identified and measured/ recorded during baseline survey. The baseline project information form (Form-1, Annex III) provides scope for documenting this exercise of choosing alternate routes early on in the planning process. The baseline description to be collected for each work-package may be the following (but not limited to):

- General Characteristics of route of optical fiber link
- Type of area
- Brief Information on human settlement, industrial/commercial establishments, water body, flora, fauna, historical or culturally important sites, ecologically sensitive areas, traffic

The screening form (Form-2, Annex IV) has been designed to conduct preliminary assessment of the impacts of major sub-project activities on the ecological, physical-chemical and socio-economic environment of the surrounding areas.

5. Identification of Environmental and Social Impacts and Mitigation Measures

Impacts During Construction

The potential environmental impacts during construction phase of sub-projects could be categorized into: (a) ecological impacts; (b) physic-chemical impacts; and (c) socio-economic impacts.

Ecological impacts of most sub-projects would be limited to loss of trees/vegetation, and possible adverse impact on aquatic habitat located close to the project location. Possible Physicochemical impacts from the sub-project activities to be carried out in different locations may include the following:

- Drainage congestion (resulting from obstruction to natural flow of drainage water due to the storage of materials, piled up excavated material/ soil)
- Noise pollution (HDD operation, short-term),
- Air pollution (temporary and incidental increases in particulate matter (fugitive dust) during construction, GHG emission from construction equipment),
- Water pollution (from discharge of water containing eroded soil (high suspended solids), spills and leaks of oils into nearby water bodies (e.g., drain, pond, khal, drain, river),
- Environmental pollution from solid/construction waste

The project will not require any land acquisition from the private or public sector. The most significant potential socio-economic impact from the proposed project would be loss of income due to temporary use of land in front of shops and vendors for construction of underground fiber optic cable lines. Other socio-economic impacts can be due to:

- traffic congestion,
- health and safety (workplace hazard, working in confined places, working from heights, handling fiber optic cable, laser exposure),
- employment and commercial activities (increase in income for some semi-skilled workers in the locality),
- Aesthetic and Visual Resources (Temporary impacts to visual and aesthetic resources will occur because of the presence of construction equipment)
- impact on archaeological and historical sites (Damage of such sites by digging, crushing by heavy equipment, uprooting trees, exposing sites to erosion, or by making the sites more accessible to vandals), and
- physical cultural resources (PCR) (buried PCR exposed by chance during excavation).

Impacts During Operation

Some of the sub-projects could cause a change in the habitation characteristics of aquatic/terrestrial fauna in the vicinity of the sub-project locations (in open-cut method primarily). No impacts on physic-chemical parameters are anticipated during the operation phase of the project. By providing additional, more reliable, and faster internet services, the proposed optical fiber network would result in beneficial,

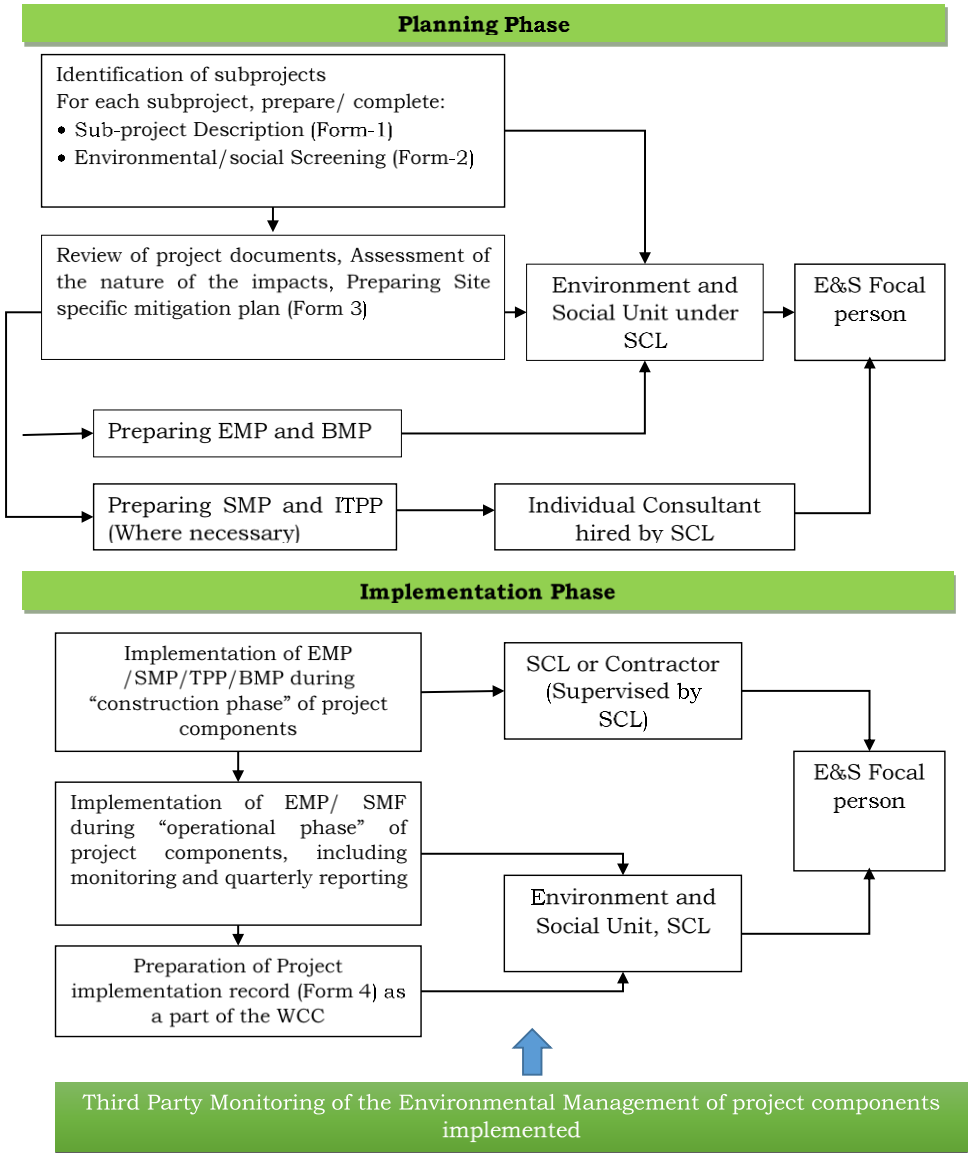
regional, long-term, moderate impacts to human health and safety. An improved broadband network will expand competition and will reduce the cost of Internet service to the consumers (i.e. reduced bandwidth price to be paid by the end users).

Cumulative Summary of Impacts

Implementation of the proposed action would have a limited amount of, short-term, local impacts on flora and fauna, soils, noise level, water resources, air quality, visual and aesthetic resources and traffic movement. It is not expected, however, that any of the above effects would persist over an extended period beyond the installation phase of this project. Positive impacts include improved and cheaper access to Internet and telecommunication facilities, which may have direct and indirect positive impact on the education, health, business and industrial sectors, job creation etc. Past, present, and future uses of the project area include continued use of the city roads for utilities and traffic, khals and waterways for drainage and navigation and bridges for traffic. These types of activities would continue after the project is completed. Thus the proposed project, in combination with past, present, and future uses would not result in any long-term adverse cumulative effects on the project area.

6. Environmental and Social Management System and Procedures

For sub-projects to be implemented by Summit Communications Ltd., an "Environmental and Social Unit" within the SCL will oversee the environmental and social management issues associated with the project. The following Figure shows activities and institutional responsibilities for overall implementation of the proposed fiber optic network project by SCL. SCL will be responsible for carrying out E&S screening in accordance with the template provided in Annex III-IV. SCL will prepare site-specific mitigation measures and monitoring protocol as shown in Annex V following the generic mitigation measures and BMPs stated in Chapter 5 and Annex X. The environmental and social focal person of PMU (General Manager or equivalent of SCL) will share half yearly progress report on EMF implementation with the IPFFII cell of Bangladesh Bank. The process of screening, assessment, implementation of mitigation measures to reporting during the life-cycle of the project is delineated in the diagram below:



7. Analysis of existing Environmental and Social Management System

Since SCL is already in operation and is not a greenfield project, an audit has been done based on the current activities of the SCL. The key findings from E&S audit are the following:

- SCL already has an established ESMS, with duties and responsibilities clearly defined, monitoring mechanism installed and record-keeping practiced.
- SCL provides training on related to OHS issues for contractors and supervisors.
- Site condition during work has been found to be generally well-organized with good housekeeping.
- Fuel use practice can be improved. Emission from generators is not monitored, fuel secondary containment is not practiced, and fuel containers are not found properly labelled.

- HDD is a wet process. Significant resuspension does not occur during operation. However bare soil and construction materials are managed as per Best management practices. But air quality monitoring needs to be done.
- SCL ensures that proper protective gears and jackets are worn all the time during work and they provide the PPEs for all work sites for the vendors to use.
- Emergency preparedness procedures are in place.

The gaps were identified in the existing Environmental and Social Management System of SCL with respect to the eight World Bank Group Performance Standard Requirements pertaining to OP 4.03 and measures for closing the gap were recommended.

8. Environmental and Social Action Plan (ESAP)

An ESAP has been designed to address the gaps between the environmental social requirements as stated in PS 1-8 and that of the current practice of SCL. The ESAP describes feasible and practical corrective actions to be taken by SCL that will bring its operation in conformity with the OP4.03 Performance Standards, the responsible personnel within the SCL to carry out the actions as well as indicators and timeline of implementation of actions (Table E-4).

Table E-4: The Environmental and Social Action Plan of SCL

S. No	Corrective Action	Responsibility	Indicator	Timeline
1	Integrate environmental and social due diligence into all stages of SCL operation from planning to implementation	Planning, implementation and audit department of SCL	- Half-yearly E&S compliance reports submitted to senior management of SCL, PFIs and Bangladesh Bank - Assignment of a focal person for E&S monitoring and compliance	6 months
2	Engage external stakeholders during sub-project execution through meaningful consultations	Stakeholder engagement Department of SCL	Stakeholder engagement framework document, documentations of consultations submitted as a part of the monitoring reports	6 months
3	Training and capacity building on World Bank Performance Standards, Environmental and Social Management	SCL MD/CEO	Allocation of budget for national or international training by SCL	6 months
4	Disclosure of project-related information in accessible locations	E&S Focal person	ESIA and executive summary (Bengali) of ESIA uploaded in SCL website	3 months

S. No	Corrective Action	Responsibility	Indicator	Timeline
5	Documentation of consultations	SCL field supervisor, Stakeholder engagement Department	Register system for consultations at the field level	6 months
6	Development of a documentation system for general grievance redress	SCL field supervisor, E&S focal person to review	Register system for grievances at the field level	6 months
7	Incorporation of specific environmental clauses in contract documents	SCL contract management team	General environmental management measures are incorporated in the Contract document	2 months
8	Development of a documentation system for workers' grievance redress	SCL field supervisor will maintain , E&S focal person will review	Register system for grievances at the field level	6 months
9	Adopt the WBG EHS Guidelines for Telecommunication safety in the SCL HSS policy	HR manager or E&S focal person to revise the policy, endorsed by the CEO/MD	WBG EHS Guidelines for Telecommunication safety formally endorsed by incorporating in the HSS policy.	6 months
10	Conduct environmental monitoring (impact monitoring and compliance monitoring) at work-sites	SCL management (allocation of budget) SCL field supervisor (conducting monitoring)	- Budget allocated for environmental monitoring. - Environmental Monitoring reports included in the quarterly reports	6 months
11	Development of a checklist for hazardous materials management	SCL field supervisor	Checklist for general hazardous material safety incorporated in the EHS audit	3 months
12	Documentation of Immunization records of workers	Contractor to Ensure proper treatment after receiving info from SCL field supervisor SCL field supervisor will maintain a register	Development of a database to store Health screening reports of workers	6 months
13	Revise the emergency response and preparedness plan to include representatives from local communities	E&S focal person to develop plan, SCL field supervisor to communicate with the local stakeholders regarding their role in emergency preparedness	Stakeholder Engagement Framework developed with this requirement	6 months

9. Discussion and Conclusion

The proposed project by SCL will finance the laying operation of fiber optic cables along designated routes. The issues in this ESIA documents are given briefly in itemized form:

- **Categorization:** As per Environmental Conservation Rules 1997, deployment of fiber optic cables do not specifically fall into any of the categories (i.e. Red, Orange-A, Orange-B and Green). Based on experience of SCL from implementation of similar projects, it appears that deployment of underground lines is not likely to generate significant environmental/social impacts. Such projects would not require acquisition of private/public land, and would involve construction works along existing corridors of power lines or road networks. Given the limited nature of impacts, the proposed project may be defined as an "Orange B" category project. DoE has provided an Environmental Clearance Certificate to SCL provided that certain criteria should be followed during project implementation. Applying the risk screening procedure of ESPP of IPFF-II, the project can be categorized as a "Medium Risk" transaction.
- **Environmental impacts during Fiber optic cable laying:** Ecological impacts of most sub-projects would be limited to loss of trees/vegetation, and possible adverse impact on aquatic habitat located close to the project location. During execution of civil engineering projects, temporary **drainage congestion** often results from obstruction to natural flow of drainage water due to the storage of materials, piled up excavated material/ soil, and temporary embankments constructed to keep the work area dry. During construction, minor short-term **noise impacts** will be incurred. The traffic-related noise at the area of construction is also not expected to exceed the prevailing baseline noise levels. However, no long-term noise impacts are envisaged. **Impacts to air quality** associated with the proposed fiber optic cable installation are limited to temporary and incidental increases in particulate matter (fugitive dust) during construction. **Temporary traffic disruption** may cause increased motor vehicle exhaust. Construction equipment, which uses fossil fuel, will cause **a short-term increase in GHG emissions** into the air and potentially create additional dust. **Water pollution** may result from discharge of water containing eroded soil (high suspended solids), spills and leaks of oils into nearby water bodies (e.g., drain, pond, khal (canal), drain, river). The presence and existing use of water bodies surrounding the sub-project site would determine the level of impact. In some sub-projects, **construction debris** is likely to be generated from different sub-project activities.
- **Social impacts during Fiber optic cable laying:** Installation of underground / overhead fiber optic cable lines may cause temporary loss of income resulting from temporary disruption of commercial activities at structures/ entities (e.g., shops) and that of the squatters located very close to the fiber optic cable routes (e.g., on footpaths close to the optic fiber line alignment). The loss of income to the street side shops or squatters may be significant, moderate or minor depending on the extent of the work. Once it is determined through the social screening that a sub-project will cause loss of income, a Social Management Plan (SMP) needs to be prepared. The detailed guideline for preparing a SMP is provided which describes procedures for participation and consultation, compensation entitlements, grievance redress mechanism and implementation arrangements for SMP. The other possible socio-economic impacts are traffic congestion, health and safety, impact on aesthetic and Visual Resources , impact on archaeological and historical sites and physical cultural resources (PCR). All these can be addressed using the EMP and Best Management Practices stated before.

- **Land Acquisition:** There is no land acquisition, as fiber optic cable will be laid on public land taking permission from relevant authorities.
- **Impacts on indigenous population:** Possible impact on indigenous population is also an important consideration. Although the project has taken the exclusion criteria to avoid any negative impact on the indigenous communities, if screening suggests that indigenous people may be affected, an IPP needs to be prepared. The guidelines on indigenous people management are presented in the ESIA.
- **Impacts during operation:** During operational phase, the possible impact of the sub-project activities on the biological environment would be insignificant. No impacts on physic-chemical parameters are anticipated during the operation phase of the project. In general, during the operation phase of the project human health and safety is anticipated to be improved by the project through the provision of improved broadband service to unserved or underserved communities, including direct connection to medical facilities or emergency services providers. It will facilitate several services which were thought to be not feasible in the past such as online and internet banking, distant learning facilities for educational institutions, resource sharing for libraries as well as other research institutions, telemedicine (remote provision of health services, connecting health facilities to specialty consultation services, providing remote assessment and diagnostic services). This will bring forth a long-term positive impact in the socioeconomic landscape of the metropolitan areas.
- **Cumulative Impacts:** The proposed fiber optic cable laying operation by SCL will not have any lasting adverse environmental impacts on the project area. Implementation of the proposed action would have a limited amount of, short-term, local impacts on flora and fauna, soils, noise level, water resources, air quality, visual and aesthetic resources and traffic movement. It is not expected, however, that any of the above effects would persist over an extended period beyond the installation phase of this project. Positive impacts include improved and cheaper access to Internet and telecommunication facilities, which may have direct and indirect positive impact on the education, health, business and industrial sectors, job creation etc. Past, present, and future uses of the project area include continued use of the city roads for utilities and traffic, khals and waterways for drainage and navigation and bridges for traffic. These types of activities would continue after the project is completed. Thus, the proposed project, in combination with past, present, and future uses would not result in any long-term adverse cumulative effects on the project area.
- **Environmental Management Plan:** An environmental management plan and recommendations for Best Management Practices for fiber optic cable laying operation were developed. The EMP states the mitigation measures corresponding to specific adverse impacts during construction phase, along with assignment of responsibilities for their implementation. Apart from general monitoring of mitigation/enhancement measures, important environmental parameters to be monitored during the construction phase of the subprojects include noise level, water quality, drainage congestion etc. Therefore, a guideline for environmental monitoring, monitoring plan were developed and tentative cost of monitoring was suggested.

- **Public Participation and Community Concern:** Summit Communications Limited (SCL) has arranged a National Level Stakeholder Discussion Session on Environmental and Social Impact of optical fiber cable deployment with stakeholders such as BTRC, RHD, City Corporations, Mobile Operators, ISPs etc. Also, public consultations in the form of Key Informant Interviews (KIIs) were carried out for documenting the opinions and concerns of stakeholders regarding the proposed project, and for assessment of social and environmental impacts of project activities during construction or operation phases of this project. SCL recognizes that stakeholder consultation is an ongoing process while the fiber optic cable is being laid in different communities. Therefore, SCL has developed an engagement plan to delineate the approach to stakeholder engagement that is envisaged during project implementation. The framework firstly lays out how to identify the stakeholders who will be informed and consulted about the project, including individuals, groups, or communities. Then it discusses the procedures to be followed to arrange meetings or interviews with stakeholders.
- **Labor Management and Occupational Safety:** SCL has a well-developed labour management and occupational health and safety management system. The operation of SCL is governed by the Summit Group HR Policy 2017 which is based on Bangladesh labour law and rules. SCL also has an occupational health and safety policy. The occupational health and safety compliance is verified through regular system audits. There is an environmental and social focal person at SCL who oversees these activities.
- **Grievance Redress Mechanism:** SCL has a well-developed grievance redress mechanism. the SCL field supervisor oversees the response of Contractors. In case the Contractor is not able to solve the grievance, the SCL supervisor himself solves the problem at the sub-project level. The workers are free to register their grievances in SCL headquarters formally, the modality of which are through a 24-7 hotline, fax, email or letter. All grievances will be initially received by the Corporate Affairs Department of SCL. SCL would duly address their grievances within one month of the receipt of the complaint. After addressing the complainant's grievance, a written confirmation will be taken and finally the database will be compiled to the databank. GRC will not certainly prohibit the complainant's right to go to the court.
- **Compliance with PSs and Environmental and Social Action Plan:** An analysis has been carried out to identify the gaps in the existing Environmental and Social Management System of SCL with respect to the eight World Bank Group Performance Standard Requirements pertaining to OP 4.03. An ESAP is designed to address the gaps between the environmental social requirements as stated in PS 1-8 and that of the current practice of SCL. The ESAP describes feasible and practical corrective actions to be taken by SCL that will bring its operation in conformity with the OP4.03 Performance Standards, the responsible personnel within the SCL to carry out the actions as well as indicators and timeline of implementation of actions. The ESAP has been communicated with the top management of SCL and they have agreed to take the proposed actions within the stated timelines.
- **Disclosure:** Executive Summary of ESIA is to be translated into Bangla (local language) and disclosed locally and the English versions disclosed in the SCL website. In addition, hard copies of these documents in English (including an

executive summary in Bengali and English) will be made available in Headquarters and regional offices. Any public notices (or any other means of communication) posted ahead of the construction work at a certain location should also contain the information as to where the ESMF documents would be available.

Finally, with appropriate implementation of the ESMP and the ESAP proposed in the document, it will be sufficient to meet all requirements during construction and the operation phases of the SCL's activities, in accordance with WB OP4.03 (PSs) and applicable WBG guidelines and standards.

Environmental and Social Impact Assessment

Summit Communications Limited Nationwide Fiber Optic Network Project

Volume II: Main Report

Participatory Advanced Research and Development Foundation

MAY 2021

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List of Abbreviations

ARP	Abbreviated Resettlement Plan
BMD	Bangladesh Meteorological Department
BMP	Best Management Practice
BNBC	Bangladesh National Building Code
BOQ	Bill of Quantities
BR	Bangladesh Railway
BREB	Bangladesh Rural Electrification Board
BSCCL	Bangladesh Submarine Cable Company Limited
BTCL	Bangladesh Telecommunications Company Ltd.
BTRC	Bangladesh Telecommunication Regulatory Commission
CDA	Chittagong Development Authority
CHTs	Chittagong Hill Tracts
DG	Director General
DIT	Duct Integrity Test
DoE	Department of Environment
DRPs	Displaced Rohingya Population
DSP	Digital Signal Processing
DWC	Double walled corrugated
DWDM	Dense Wavelength Division Multiplexing
E&S	Environmental and Social
ECA	Environmental Conservation Act
ECR	Environment Conservation Rules
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESAP	Environmental and Social Action Plan
ESMS	Environmental and Social Management System
FPIC	Free, Prior, and Informed Consent
GHG	Green House Gases
GI	Galvanized Iron
GIS	Geographic Information System
GoB	Government of Bangladesh
GRM	Grievance Redress Mechanism
HDCs	Hill District Councils
HDD	Horizontal Directional Drilling
HDPE	High Density Poly-Ethylene
HH	Hand Hole
HSE	Health Safety and Security
ICDDRB	International Centre for Diarrhoeal Disease Research, Bangladesh
ICT	Information and Communications Technology
ICX	Interconnection Exchange
ICXs	Interconnection Exchanges
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IG	International Gateway
IIDFC	Industrial and Infrastructure Development Finance Company
IIG	International Internet Gateway
IIG	International Internet Gateway
ILO	International Labor Organization
IoL	Inventory of Losses

IP	Indigenous Peoples
IP	Internet Protocol
IPFF	Investment Promotion and Financing Facility
IPLC	International Private Leased Circuit
IPM	Integrated Pest Management
IPP	Indigenous People's Plan
ISPs	Internet Service Providers
ITC	International Terrestrial Cable
ITC	International Terrestrial Cable
ITPP	Indigenous and Traditional Peoples Program
IVM	Integrated Vector Management
LEA	Limited Environmental Assessment
LGED	Local Government Engineering Department
MoEFCC	Ministry of Environment, Forests and Climate Change
MPLS	Multi-Protocol Label Switching
NDB	New Development Bank
NGO	Non-Government Organization
NOC	Network Operation Centre
NTTN	Nation-wide Telecommunication Transmission Network
NTTN	Nationwide Telecommunication Transmission Network
O&M	Operation and Management
OP	Operation Policy
OTDR	Optical Time Domain Reflectometer
PAP	Project Affected Person
PCR	Physical Cultural Resources
PCR	Physical Cultural Resources
PDB	Power Development Board
PGCB	Power Grid Company of Bangladesh
PM	Particulate Matter
PMU	Project Management Unit
PNI	Private Network Interface
PoC	Point of Connectivity
PPE	Personal Protective Equipment
PS	Performance Standards
PSTN	Public Switched Telephone Network
QoS	Quality of Services
RAJUK	Rajdhani Unnayan Kartripakkha
RoW	Right of Way
SCL	Summit Communications Limited
SDH	Synchronous Digital Hierarchy
SMP	Social Management Plan
SPM	Suspended Particulate Matter
ToR	Terms of Reference
UPVC	Ultra-High-Density Polyvinyl Chloride
WBG	World Bank Group
WCC	Work Completion Certificate
WHO	World Health Organization

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

To deploy the fiber optic backbone throughout the country for the development of Information and Communications Technology (ICT) infrastructure sector Summit Communications Limited (SCL) received the Nation-wide Telecommunication Transmission Network (NTTN) license on 09 December 2009, International Terrestrial Cable (ITC) on 05 January, 2012, International Internet Gateway (IIG) license on 12 April, 2012, and Interconnection Exchange (ICX) License on 03 May, 2012 from BTRC.

SCL maintains more than 47,000 km of optical network all around the country. It has reached 64 districts and 489 upazilas already representing 99.39% penetration rate at the sub district level. It has the ample capacity to supply transmission bandwidth throughout the country. It is currently providing 2G/ 3G /4G backhauling services to all mobile operators – Grameenphone, Teletalk, Robi and Banglalink.

With a view to facilitating cheap and faster internet and ICT enabled services for the mass people, SCL has approached to Investment Promotion and Financing Facility (IPFF) cell of Bangladesh Bank through Industrial and Infrastructure Development Finance Company (IIDFC) Ltd ("Arranger") and NDB Capital (Co-arranger) for syndication arrangement of term loan financing. The proposed project includes expansion of the network infrastructure, i.e. rollout of the fiber optic network in several locations across Bangladesh.

SCL has decided to avail loan from IPFF II amounting to BDT 3,250 mm. IPFF II loan will be utilized to procure new optical fiber cable, router, multiplexer, other active equipment, generator, HDD machine, and other equipment from abroad and local sources and to conduct civil and construction works for expanding the fiber optic network and to refinance the borrowings which have been used to implement fiber network already established.

1.2 WORLD BANK POLICIES AND BASIS FOR ESIA

The proposed project will finance the laying operation of fiber optic cables (underground) along designated routes. This operation will involve small-scale civil works and the nature of environmental impacts arising from these activities is expected to be low. However, the actual layout of the fiber optic cable is not completely known at present and the details of the route may only be available just prior to the implementation of the different subcomponents. A framework approach was adopted and an Environmental and Social Management Framework (ESMF) was

previously prepared to address the environmental and social issues. The ESMF[1] was intended to provide general policies, guidelines, and procedures to be integrated in the formulation, design, implementation, and operation and monitoring of all components of the proposed nationwide fiber optic network project. As the project is to be partly financed by the IPPF-II project of Bangladesh Bank, which is funded by WB, the ESIA aims at achieving an acceptable level of compliance with applicable World Bank Group's Performance Standards under WB OP4.03 applicable to the IPFF-II project. OP 4.03 addresses the environmental and social due diligence process when the World Bank finances projects to private entities through financial intermediaries. OP 4.03 utilizes a sustainability framework through eight performance standards. The performance standards are directed towards clients, providing guidance on how to identify risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of client in relation to the project-level activities.

In summary, IPFF II supported infrastructure subprojects, the following applicable E&S requirements shall be met:

1. World Bank Environmental and Social Performance Standard i.e. Operational Policy 4.03 (OP4.03), 2012

2. Relevant environmental and social national and local laws regulations of GoB. As WB and GOB requirements are rather similar except in a few cases (e.g., emission standards), the OP4.03 compliance would provide assurance that the ESIA is compliant with GOB requirement

2. Environmental and Social List of Excluded Activities based on IFC Exclusion List and BB ESRM Guidelines

3. List of Environmentally and Socially Sensitive Activities based on BB ESRM Guidelines

4. WB EHS general and sector guidelines, WBG guidelines for telecommunication safety; and international best practice guidelines.

5. World Bank Policy on Access to Information

6. The guidelines mentioned in the ESPP of the IPFF II project.

1.3 PROJECT RISK SCREENING

As per Environmental Conservation Rules 1997, deployment of fiber optic cables do not specifically fall into any of the categories (i.e. Red, Orange-A, Orange-B and

[1] The ESMF provided guidance on Environmental screening, Assessment of impacts (both positive and negative), Environmental and Social Assessment, Public consultation and disclosure, Environmental and Social Management Plans (EMP, SMP), Implementation of EMP and SMP; and Monitoring and reporting.

Green). Based on experience of SCL from implementation of similar projects, it appears that deployment of underground lines is not likely to generate significant environmental/social impacts. Such projects would not require acquisition of private/public land and would involve construction works along existing corridors of power lines or road networks. DoE has provided a generic Environmental Clearance Certificate to SCL (dated January 2021) with conditions that certain criteria should be followed during project implementation. The DoE instructed SCL to submit a workplan before execution of the project (or subprojects) indicating that they are required to renew the environmental clearance every year (see Annex II for DoE Environmental Clearance certificate to SCL).

According to World Bank, this project will require an ESIA following the World Bank Operational Policies OP 4.03 addressing the eight Performance Standards adopted from the IFC to ensure that the project is environmentally sound and sustainable. There is difference in project categorization as per WBG PS and GOB rules (ECR-97). Table-1.1 shows the risk rating of different categories of sub-projects under IPFF-II according to the Bangladesh Bank ESPP.

Table 1.1: E&S Risk Rating of Sub-projects under IPFF-II

Category	Description
High risk	Sub-projects that are likely to have significant adverse E&S impacts that are diverse[1], irreversible[2], or unprecedented[3]. Examples of significant impacts can be impacts on critical habitats, impacts on vulnerable groups or ethnic minorities, large-scale involuntary resettlement or economic displacement, or critical cultural heritage. PFIs will always rate sub-projects that may involve activities on the List of E&S Sensitive Activities as High risk. It should be noted that there may be other high risk situations beyond those included in this List. Therefore, E&S risk rating will be based on a confluence of various factors in specific sub-project circumstances where sector of operation represents only one of many considerations. Both specific nature of impacts and their scale should be considered.
Medium risk	Sub-projects that are likely to have adverse E&S impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures and international best practice. Potential adverse environmental and/ or social impacts on communities or environmentally important areas are smaller in scale than those of High Risk transactions.
Low risk	Sub-projects that do not have the characteristics of High or Medium risk sub-projects are classified as Low risk category and typically involve business activities with minimal or no adverse E&S impacts. While PFIs would have Low risk rating within their overall ESMS, IPFF II sub-projects may not be rated Low risk.

Note: [1]Diverse impacts – impacts resulting on multiple E&S components or receptors over a varying time and spatial scale (e.g. activities that can cause large scale adverse impacts on local air quality, noise levels, generation of hazardous wastes as well as nuisance to community).

[2]Irreversible impacts – impacts on E&S components that, in all practical terms are permanent in nature and cannot be reversed in spite of the removal of the causal stress factor *(e.g. construction or change in land use that permanently destroys habitats used by critically endangered species in accordance with IUCN Red List).*
[3]Unprecedented impacts – are impacts that are first of its kind in terms of available knowledge of their potential to cause harm to the E&S components and their effective mitigation (*e.g. impact of noise pollution on an endangered faunal species in a geographical region where no prior studies are available on impact tolerance and response of the species*). In the present case it is the e-waste, as no facility for dealing with such waste exist in the country.

A detailed project risk screening has been conducted for SCL nationwide fiber optic cable project based on the guidelines mentioned in the ESPP of the IPFF II (Ref: Annex XII of ESPP). The detailed risk screening is presented in Annex XXII of Vol-II of the ESIA Report. It can be seen that the SCL project operation may have some adverse impacts, but they are site-specific, localized in nature, readily reversible and can be mitigated through best management practices. The intervention is typically of a short duration with minimal impact on local communities. Therefore, the project can be categorized as a "**Medium Risk**" transaction.

1.4 SCOPING OF ESIA

SCL already has an established Environmental and Social Management System. However, since the overall environmental and social sustainability needs to be ensured throughout the investment period and lifespan of the project, the ESMS needs to be assessed in order to determine its alignment with the World Bank Group Performance Standards. An Environmental and Social Action Plan (ESAP) is a management tool that identifies the actions required to close out gaps in the existing ESMS. Therefore, the specific objectives of the ESIA are:

i. Provide an overview of the ESMS of the current SCL operations which includes its protocols for E&S screening and assessment, E&S monitoring requirements, Best management practices associated with fiber optic cable installation. It will highlight current practices of the firm in identifying and addressing E&S issues with respect to the project activities, risk assessment, grievance redress, stakeholder consultation etc.

ii. Identify key compliance gaps/issues of the SCL ESMS in line with the requirements of the WBG Performance Standards and rank the importance of the identified gaps/issues;

iii. Highlight corrective actions to close-out each of the identified gaps; and

iv. Develop an E&S action plan detailing the key deliverables, responsibilities, timelines, budgetary requirements, etc. of each of the gaps/issues;

1.5 STATEMENT OF WORKS

Based on the scoping and screening activities the Table-1.3 below was prepared to list the studies and work streams required for compliance with WBG PS and other

relevant WBG guidelines. The relevant PS and guidelines involved are noted in each case.

Table 1.2: List of Studies and Work Streams Required for Compliance with WBG PS

Sl. No.	Study Items/Topics	Applicable WBG PS and other guidelines	Reference Chapter/Annex
1	Project Description & Study of the project's Area of Interest for Environmental and Social Setting and Scoping, project's environmental and social risk screening.	The actual location of the physical intervention is not known at this point (fiber optic cable installation is a nationwide project and is divided into numerous work packages). Therefore, a framework approach has been adopted where SCL does E&S screening when the alignment of a particular work package is finalized. Visualization and understanding of environmental and social impacts will be done during E&S screening. Applicable Standards/Guidelines: PS1, WBG EHSG	Chapter 1,3, Annex III, IV, XXII
2	Audit of work in progress in the project area.	As this is not a green field project and the project is already in operation, an audit for all environmental and social activities needs to be done. The project already has an ESMS. The audit of the existing ESMS needs to be done. Applicable Standards/Guidelines: PS1-PS8	Chapter 4, Chapter 6, Annex XIX
3	Legal and Policy Framework	Applicable Standards/Guidelines: PS1	Chapter 2, Annex XV
4	Baseline Studies	Actual location of intervention is not known apriori and only be known during implementation. Therefore a framework approach has been adopted for baseline studies. This will be done during E&S screening. Applicable Standards/Guidelines: PS1, PS3	Chapter 4 Annex III, IV, XX
5	Environmental impact (air pollution, noise pollution, water resources and water pollution, soil pollution), cumulative impact	Applicable Standards/Guidelines: PS3, WBG EHSG	Chapter 5, Annex IV
6	Management of hazardous materials	Fuel may need to be stored and loaded to generators on site during fiber optic cable installation. Applicable	Chapter 5, Annex IX

Sl. No.	Study Items/Topics	Applicable WBG PS and other guidelines	Reference Chapter/Annex
		Standards/Guidelines: PS3, PS4, WBG EHSG	
7	Climate Change Risk Assessment and GHG Emission Assessment	Applicable Standards/Guidelines: PS3, IPCC Assessment Reports (2014 and 2018)	Chapter 4, Annex XVII
8	Natural hazards and disaster risk	Applicable Standards/Guidelines: PS1-8, WBG EHSG	Chapter 4, Annex XVIII
9	Labor, Human Rights and Gender Assessment	Applicable Standards/Guidelines: PS2	Chapter 7, Annex XIV
10	Community Health, Safety (including Hazardous materials) and Security Review	Fiber optic cable installation can have temporary impacts on local communities. Applicable Standards/Guidelines: PS3, PS4, WBG EHSG	Chapter 6, 7, Annex IX
11	Indigenous People Framework	Worksite may cross through areas where indigenous people live. Applicable Standards/Guidelines: PS7	Chapter 5, 7 Annex XIII
12	Critical Habitat Review and Ecosystem Services Assessment	Fiber optic cable lines may cross through natural habitats. Applicable Standards/Guidelines: PS6, IUCN Guidelines	Chapter 4,7 Annex III, IV
13	Cultural Heritage (both tangible and intangible) Assessment	Fiber optic cable lines may cross through areas of cultural heritage interest. Applicable Standards/Guidelines: PS8	Chapter 4,7, Annex VIII
14	Stakeholder engagement framework including Grievance Redress	Engaging local communities is required where fiber optic cables are going to be installed. Applicable Standards/Guidelines: PS1, PS5	Chapter 6, Annex XVI
15	Stakeholder Consultation	Consultation with regulatory authorities and authorities granting permission	Chapter 6, Annex XXI
16	Consideration of Alternatives	Alternate route and alternate technology for fiber optic cable installation	Chapter 4, Annex III, IV
17	Environmental and Social Action/ Management Plan (including EHS, Community EHS, Fire safety, Traffic Safety, Emergency Response and Preparedness, Monitoring)	The management plan can be developed generically or site-specific. Applicable Standards/Guidelines: PS1, PS3, PS4. PS6. PS8. EHS guidelines	Chapter 6, Annex IX, X, XVIII

The methodology of the study comprised of desk review, interview with SCL officials and field visits to sub-project sites. Previous ESMF document, other E&S related

reports and contract documents of SCL have been reviewed. Interview with SCL officials has been carried out at different stages of the assignment to obtain a clear picture of the existing ESMS. Field visits to active work sites have been carried out to assess compliance issues. An evaluation of each identified gaps in alignment with the corresponding WBG E&S Performance Standards Requirements was also carried out. The ESAP was constructed based on the findings of the above exercise.

1.6 THE ESIA REPORT

This report will initially review current relevant policies, legislations, EIA procedures/practices and land acquisition procedures for transmission fiber optic line of the Government of Bangladesh (GoB) related to the sustainable urban sector development and explain its implication to the proposed project. It will also review the relevant World Bank Group Performance Standards and explain their implication to the proposed project. (Chapter 2)

Chapter 3 will provide a description of the nature of investment (project description) and typical activities in the field.

Chapter 4 will provide methodologies to collect baseline sub-project description. It will also include climate and disaster risk screening, GHG assessment, environmental and social audit of existing operation.

Chapter 5 will describe generic environmental and social impacts associated with project activities. This will give a general idea on what environmental, social and human use values may affected as a result of implementing the project.

Chapter 6 will describe the existing Environmental and Social Management System (ESMS) and Grievance Redress Mechanism of SCL.

Chapter 7 gives an analysis of compliance and gaps in compliance of the SCL ESMS with respect to each of the provisions of the Performance Standards. While assessing the gaps, the existing operational practices of SCL with respect to E&S issues (documented or undocumented) were taken into consideration.

Chapter 8 describes the Corrective Action Plan to be taken by SCL to achieve the performance standards.

Chapter 9 presents conclusion and recommended actions of the ESIA study.

The Annexes (Vol-III) provide details of various elements of the environmental and social due diligence process which was used to assess the compliance gaps. This includes, E&S screening forms, the environmental and social management procedures, preparation of EMP and SMPs, Best management Practices for fiber optic cable installation, monitoring and reporting procedures etc. Two standalone LEA document for two project areas are included in Vol-IV.

The proposed Nationwide Fiber Optic Network Project will be implemented in compliance with applicable environmental and telecommunication laws and regulations. Bangladesh has a wide range of laws and regulations related to environmental protection, natural resources conservation as well as social issues, which are mostly cross-sectorial and would be applicable to the proposed project. Also the World Bank Operating Principles 4.03 needs to be adhered to for the purpose of the implementation of this project. This section describes the applicability of national environmental, social and telecommunication laws, policies and regulations, WB Performance Standards that are relevant to the activities supported by the proposed project. An overview of the relevant policies, laws, guidelines and performance standards are provided in Annex XV.

2.1 APPLICABILITY OF NATIONAL POLICIES AND REGULATIONS ON THE PROPOSED PROJECT

The Environmental Conservation Rules (ECR) 1997 (DoE, 1997) classifies projects into four categories according to potential environmental impacts: (1) Green; (2) Orange A; (3) Orange B; and (4) Red. Green category projects are those with mostly positive environmental impacts or negligible negative impacts; Orange A category projects are those with minor and mostly temporary environmental impacts for which there are standard mitigation measures; Orange B category project are those with moderately significant environmental impacts; while Red category projects are those with significant adverse environmental impacts. As per Environmental Conservation Rules 1997, deployment of fiber optic cables do not specifically fall into any of the categories (i.e. Red, Orange-A, Orange-B and Green). The DoE category is list-based. The nearest thing is no-64 on the red list (64. Water, power and gas distribution line laying/ relaying/extension). So, the project could be classified as RED category although the DOE clearance does not mention any category. Based on experience of SCL from implementation of similar projects, it appears that deployment of underground lines is not likely to generate significant environmental/social impacts. Such projects would not require acquisition of private/public land, and would involve construction works along existing corridors of power lines or road networks. **Given the limited nature of impacts, the proposed project may be defined as an "Orange B" category project.** DoE has provided an Environmental Clearance Certificate to SCL provided that certain criteria should be followed during project implementation. (See Annex II) and instructed SCL to submit a workplan before execution of the project or subprojects. An account of the applicability of national policies, laws and regulatory framework for the proposed project is given in the table below. A description of the relevant national policies, laws and regulatory framework for environmental and social management are given in Annex XV.

Table 2.1: Applicable national policies, laws and regulatory framework for environmental and social management related to SCL operation

Act/ Rule/ Law/ Ordinance	**Enforcement Agency – Ministry/ Authority**	**Applicability to proposed Project**
National Environmental Policy 2018	Ministry of Environment, Forests and Climate Change	Applicable to all projects
The Environment Conservation Act, 1995 and subsequent amendments in 2000 and 2002	Department of Environment Ministry of Environment and Forests,	Applicable to all projects. The umbrella environmental regulation of Bangladesh
Environmental Conservation Rules, 1997 and subsequent amendments in 2002 and 2003	Department of Environment Ministry of Environment and Forests	See explanation under section 2.1
Environment Court Act, 2000 and subsequent amendments in 2002	Ministry of Environment and Forests and Judiciary	Applicable for completing environmental legal requirements effectively
National Policy of Land Use, 2001	Ministry of Land	Applicable
Road Transport Act 2018, The Motor Vehicles Ordinance, 1983; and The Bengal Motor Vehicle Rules, 1940	Bangladesh Road Transport Authority	Applicable for proposed Project in relation to road transport
Water Supply and Sanitation Act, 1996	Ministry of Local Government, Rural Development and Cooperatives	Not directly applicable, however, indirectly applicable when considering provision of safe water and sanitation services.
National Biodiversity Strategy and Action Plan (2004)	Ministry of Environment and Forest Bangladesh Wild Life Advisory Board	Applicable for conservation of bio-diversity
National Water Bodies Protection Act, 2000	Town development authority/Municipalities	Applicable due to the proximity to and use of surface water bodies
Antiquities Act, 1968	Ministry of Cultural Affairs	Applicable as activities may be carried out near areas of archeological importance
Bangladesh Labour Law, 2006	Ministry of Labour	Applicable as labour is involved
Noise Pollution (Control) Rules 2006	Ministry of Environment and Forests	Applicable for control of noise generating activities
Bangladesh Water Act 2013	Ministry of Water Resources	Applicable. Related to protection of water resources.
The Chittagong Hill Tracts Regulation 1900 The CHT Regional Council Act, 1998	ministry on CHT Affairs	Applicable in case tribal people are affected by project interventions

2.2 TRIGGERING OF WB PERFORMANCE STANDARDS

The triggering of the WBG Performance Standards (PS) in the present project with explanations are given in the Table below. The applicable GOB laws, Rules, Policies, and Guidelines are listed alongside the WBG PS. The International Conventions signed by Bangladesh are also included, as once signed these are equivalent to the laws.

Table 2.2: Triggered WBG Performance Standard (PS) in the Project

Sl.	PS and Title	Triggered (Yes/No)	Applicable Bangladesh Laws/Rules and Conventions to which Bangladesh is a Party
1	**Performance Standard 1:** Assessment and Management of Environmental and Social Risks and Impacts	Yes	Bangladesh Environmental Conservation Act (ECA '95), 1995 and amendments; Environment Conservation Rules (ECR), 1997 and amendments; National Environmental Policy, 2018 &1992; Environmental Court Act, 2010; National Environmental Management Action Plan, 1995, National Water Policy, 2000; National Water Management Plan, 2001
Explanations: PS1 is triggered in this project. This is an umbrella Standard as Assessment and Management of Environmental and Social Risks and Impacts are important in all projects with land-based activities. The project has environmental and social aspects which may pose potential E&S risks and/or impacts. These include noise emissions, air emissions, wastes and effluents, labour influx, traffic congestion etc. Projects where E&S aspects exist, should possess systems for assessing and managing potential E&S risks and impacts.			
2	**Performance Standard 2:** Labor and Working Conditions	Yes	Bangladesh Factories Act (1965); Bangladesh Labor Act, 2006; Bangladesh Labor Rules (2015), Bangladesh Children's Act 2013; ILO Conventions 29, 87, 98, 100, 105, 111 and 182
Workers (temporary) would be engaged to carry out various duties related to fiber optic cable laying in the field. It is therefore necessary for the Project to maintain appropriate labour and working conditions for these workers. As such, PS 2 is applicable.			
3	**Performance Standard 3:** Resource Efficiency and Pollution Prevention	Yes	*ECA95 and amendments, ECR 97 and amendments; Noise Pollution (Control) Rules 2006,* International Convention for the Prevention of Pollution of the Sea by Oil, London, 1954 (Ratified 1981); *The Ground Water Management Ordinance, 1985;* Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal, Basel, 1989 (Ratified 1993); Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1987 (Ratified 1990), (London Amendment, 1990) (Ratified 1994).
Explanation: There will be minor civil works and land excavation/drilling which are likely to generate wastes during the construction phase. Running heavy equipment will also have noise pollution potential. Therefore, PS3 is applicable.			

4	**Performance Standard 4**: Community Health, Safety, and Security	Yes	*The Fertilizer Regulation Order, 1995;* Disaster Management Act 2012; Motor Vehicle Ordinance 1983; Bangladesh Private Security Regulations Act, 2006.
Explanation: Though the project will have some positive effects through employment generation, there could be concerns to community regarding traffic congestion, risk of injury etc. Therefore, PS4 is applicable.			
5	**Performance Standard 5:** Land Acquisition and Involuntary Resettlement	No	Acquisition and Requisition Ordinance, 1982.
Explanation: Fiber optic cable laying by SCL is carried out in public land after taking the permission of the relevant authority. There is no land acquisition, involuntary Settlement (i.e. no physical or economic displacement). Therefore, this Performance Standard will not be applicable.			
6	**Performance Standard 6:** Biodiversity Conservation and Sustainable Management of Living Natural Resources	Yes	*Bangladesh Wild Life (Preservation) Act, 1974; National Biodiversity Strategy and Action Plan (2004):* Fish Act and Rules, Bangladesh Water Act 2013; National Water Bodies Protection Act 2000, National Conservation Strategy, 1992, ECA95, National Water Policy, 2000; National Water Management Plan, 2001; International Plant Protection Convention, Rome, 1951 (Ratified 1978); Convention on Wetlands of International Importance, especially as Waterfowl Habitat, Ramsar, 1971; the Ramsar Convention (Ratified 1992); Convention on International Trade in Endangered Species of Wild Fauna and Flora, Washington, 1973 (CITES Convention) (Ratified 1982); Agreement on the network of Aquaculture Centers in Asia and Pacific (NACA), 1988; Convention on Biological Diversity, Rio de Janeiro, 1992 (Ratified 1994); International Convention to Combat Desertification, 1994.
Explanations: Fiber optic cable laying operation may be carried out in areas having ecological and biological diversity and natural habitats may be encountered. Hence PS6 will be applicable.			
7	**Performance Standard 7:** Indigenous Peoples	Yes	Chittagong Hill Tracts Regional Council Act, 1998.
Explanations: The fiber optic cables may potentially run through areas having population of indigenous people. So PS7 would be applicable.			
8	**Performance Standard 8:** Cultural Heritage	Yes	Antiquities Act, 1968; Convention Concerning the Protection of the World Cultural and Natural Heritage, Paris, 1972 (World Heritage Convention) (Ratified 1983).
Explanations: The fiber optic cables may potentially run through areas having cultural heritage (mosques, shrines, graves etc.). Access to these areas may be temporarily affected. Excavation of soil may potentially expose buried physical cultural resources. So PS8 will be triggered..			

In addition to these, WBG Environmental, Health and Safety Guidelines, World Bank Group Occupational Health and Safety Guidelines for Fiber Optic Cable Installation and World Bank Policy on Access to Information will be applicable for

the project. A summary of all relevant WBG Performance Standards, Guidelines and policies are provided in Annex XV.

3.1 MAJOR SUB-PROJECT ACTIVITIES

The major project activities during pre-construction and construction phase will be the following:

- A detailed survey is performed for the selection of route direction, number of hand holes to be constructed, meter measurement of loop for per hand hole, collection of infrastructural blueprints from RAJUK, roads & highway other related authorities.
- Collection of permission from relevant authorities (i.e. City Corporation, Roads & Highway, CDA, LGED, Pourashava, Union Parishad, Local Land).
- Mobilization of construction equipments and manpower facilitating by storing Duct, Cable, HDD machine, Cable blowing machine and other necessary requirements for the project in the site.
- Construction of ancillary facilities ("hand holes" for cable splicing) and control stations (point of connectivity (PoC)) to house the drop points from PGCB towers.
- Pulling and splicing of the communications cable through the conduit and any necessary final restoration and cleanup operations.
- Pit cutting for the purpose of HDD operation and hand hole construction.
- Application of horizontal directional boring to carry out the underground fiber optic cable laying operation for installation of HDPE ducts.

The following sections describes the overall project details with basic construction and installation techniques.

3.2 PROJECT DETAILS

Nationwide Telecommunication Transmission Network (NTTN)

SCL obtained the Nationwide Telecommunication Transmission Network (NTTN) license from Bangladesh Telecommunication Regulatory Commission (BTRC) in December 2009. The scope of the license empowers it to provide data connectivity services to the ISP providers, telecom operators, educational institutions, health & local government institutes etc. It has already developed a considerable network reach and currently SCL operates the largest fiber optic network i.e. 47,000 km in

Bangladesh. It has reached 64 districts and 492 upazilas already representing 100% penetration rate at the sub district level.

Bangladesh's telecommunications infrastructure requirement is growing at a rapid pace. The demand for additional infrastructure grows exponentially every year as content and device end users have progressively moved more of their work and lifestyles to mobile-unified communications and collaboration technologies. This has moved the need for robust, reliable, scalable and future-proof infrastructure which is the heart of strategic consideration for SCL and the Government of Bangladesh as part of its ongoing Digital Bangladesh 2021 Vision.

The most efficient and cost effective way for telecom operators and the government to expand their horizon is by partnering with an infrastructure solutions provider i.e. NTTN licensee that can help plan, acquire, implement, support, maintain and manage the entire lifecycle of the country's IT & telecommunication infrastructure. SCL has been designing, building and supporting telecommunications infrastructure in Bangladesh over the last decade.

SCL's strategy is to work as a partner in achieving the goals laid out in the ILDTS Policy with all industry stakeholders including the BTRC, other telecommunication companies, banks, commercial bodies, Internet Service Providers (ISPs), Interconnection Exchanges (ICXs), International Gateway Operators (IGWs) and ANS Operators.

It has the capacity to supply 10 Gigabit (upgradable up to 100 Gigabit) of transmission bandwidth within Dhaka and ample capacity to transmit data throughout the country. A talented and experienced staff of 1,200+ works round the clock to ensure 99.99% uptime. It is currently providing 2G/ 3G /4G backhauling services to all mobile operators – Grameenphone, Teletalk, Robi and Banglalink. Fiber connectivity to BTS of different operators is shown Figure 3.1.

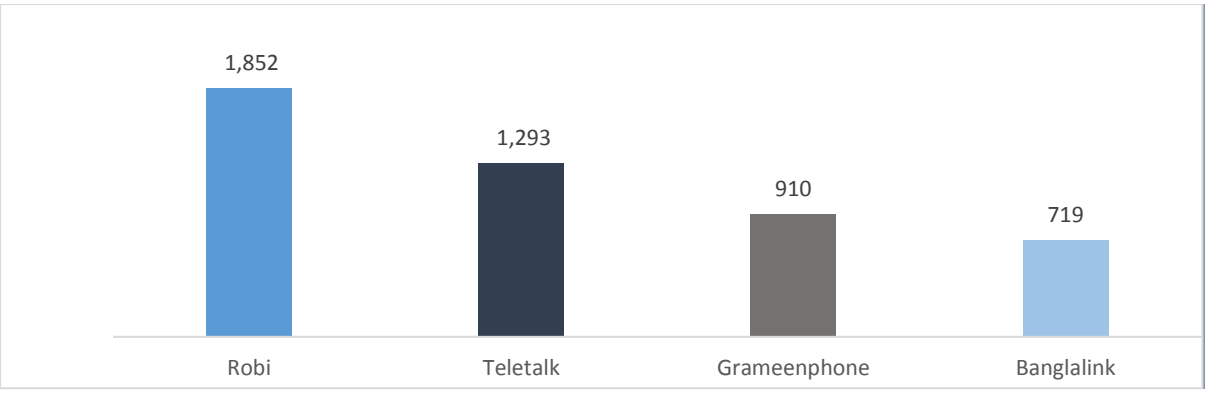


Figure 3.1: Fiber connectivity to BTS of different operators

In connection with the future prospect and business opportunity, SCL expects a positive outlook in the BTS connectivity. SCL is specialized in the installation of optical fiber by analyzing business needs. It can design an efficient backbone or

metro network utilizing the appropriate cabling technology. It also provides turnkey optical fiber transmission systems for security monitoring, industrial control and smart highway communication.

The voice and data penetration rate is increasing exponentially in Bangladesh with the advancement of telecommunication technology. Government targets 32% internet penetration rate at household level and 66% internet penetration rate at business level by the year 2020. The usage of smart phone is increasing which will simultaneously increase the bandwidth requirement with the launch of 4G/LTE.

International Terrestrial Cable (ITC)

In January 2012, SCL was awarded the license to provide International Terrestrial Cables (ITC) Systems and Services. Bangladesh used to subscribe to one submarine cable, SEA-ME-WE-4 and SEA-ME-WE-5 (South East Asia Middle East Western Europe) without any backup support. ITC license has allowed SCL to lay fiber optic network cross border and connect with the fiber optic network in India. Thus the Terrestrial Cable will provide operators in Bangladesh the benefit of connectivity with several submarine cables of India. This cable will facilitate the growth of the ICT and telecom sector through uninterrupted telecommunication services. As this project is being developed phase by phase, SCL expects to connect Bangladesh to the entire globe by providing access to fast and economical Internet connectivity.

In accordance with the ITC licensing guidelines, SCL is expected to maintain, operate and serve International Terrestrial Cable services. Its upstream partners in India are Tata Communications Limited and Bharti Airtel Limited and it is maintaining capacity of 200 Gbps with them. They are providing SCL with world class services and expertise required to bring enterprise and carrier grade services to Bangladesh.

SCL has developed a fully secure and redundant backhaul for its ITC network leading up to the Benapole landing station. SCL ITC MUX has been placed in Data Center at Benapole area to secure the network. These MUXs are connected with upstream provider with proper redundancy. Another part of the equipment is connected with SCL owned and PGCB network to carry traffic up to Dhaka. PGCB network is highly secured network in Bangladesh and it is also connected with other backhaul networks to provide a tertiary level redundancy to its valuable clients. After reaching Dhaka through DWDM network, link is connected with Dhaka MUX. It has multiple redundant paths on its nationwide network and sufficient drop points. It has modular network equipment to customize services as per customer requirements. Since power has long been an issue in Bangladesh, It has backup power supplies in all distribution points and multiple redundancies to boot. ITC Network Technology diagram has been shown in Figure 3.2.

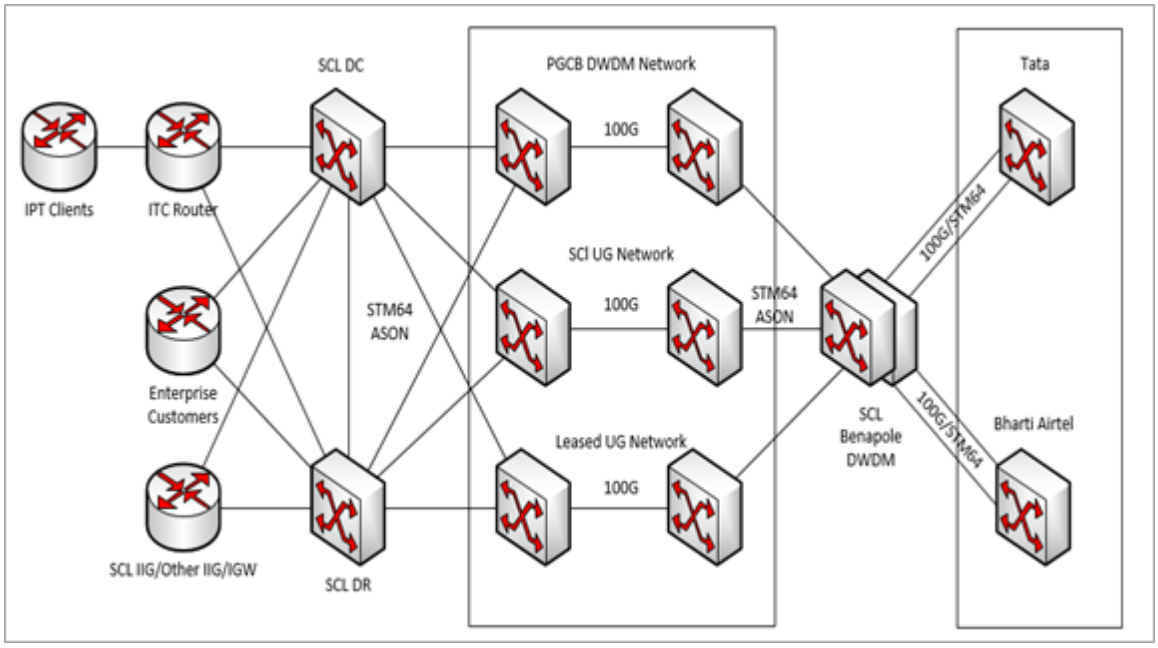


Figure 3.2: ITC Network Technology diagram

Neighboring markets like Maldives, Nepal and Myanmar are very interested to avail IPLC solutions from Bangladesh. In 2016-2018, consumption of SCL through ITC network was upto 180 Gbps and SCL expects this consumption to rise up to 400 Gbps by next 5- years. The reasons behind this expected increasing trend of Gbps consumption are:

Prospective growth rate of Bangladesh macroeconomic factor and accelerated growth rate of Information Technology sector with the decreasing cost of Bandwidth will lead the Bandwidth usage of Bangladesh to get high in upcoming years.

Increasing dependency on ITC network among multinational companies via IPLC service to secure data.To meet the vast usage of internet by individuals and institutions in Bangladesh, gateway operators will need more bandwidth via ITC network. The International Terrestrial Cable provides backup to two international connectivity that Bangladesh has through the SMW-4 and SMW-5 submarine cable. It acts as a redundant cable link up through India which ensure 100% uptime for all global bandwidth needs for all communications - voice, data and video.

SCL has planned its network capacity with the plan to provide services to 100 mn end users within the next 15 years. With the launch of 4G/LTE, it can forecast that the bandwidth demands will increase exponentially. Its plan is to cater to the massive growth in the coming years while providing round the clock support and a high degree of Quality of Service.

International Internet Gateway (IIG)

As an IIG Operator, SCL's objective is to establish a secure network infrastructure on a national scale and as such the network capacity may need to cater to over 10 mm clients within a brief horizon. SCL's strategy is to continue the roll out and expand the gateway capacity on an ongoing basis. Initially it established a central

gateway server in Dhaka Metropolitan City because of high bandwidth demand in this area and subsequently rolled out multiple PoPs across the country to facilitate this service to local customers. SCL is planning to establish additional substations in every division to spread its network and to serve the clients of those areas. Each regional operation will include multiple PoPs which will be equipped with world-class transmission equipment to facilitate distribution of the much demanded Internet Bandwidth, ensuring utmost quality of service. The tariff plan of bandwidth capacity and bulk capacity will be offered according to BTRC guidelines and will offer most competitive rate to the Internet users of Bangladesh.

Through SCL's IIG, Google caching is serving about 7 Gbps traffic; Akamai caching is already implemented in the system of IIG traffic. Four Layer vertical redundancy with international carriers like Telecom Italia Sparkle (STM1), BSCCL (1XSTM -4) and Cogent communications (STM-6) are already connected with SCL's IIG process.

Currently, it can provide customers with bandwidth through FE, GE, 10GE, E1 or STM-x level. It has international links running in both the East and West directions ensuring redundancy on a global scale and its upstream partners provide the technical knowledge and world class technology to ensure quality services.

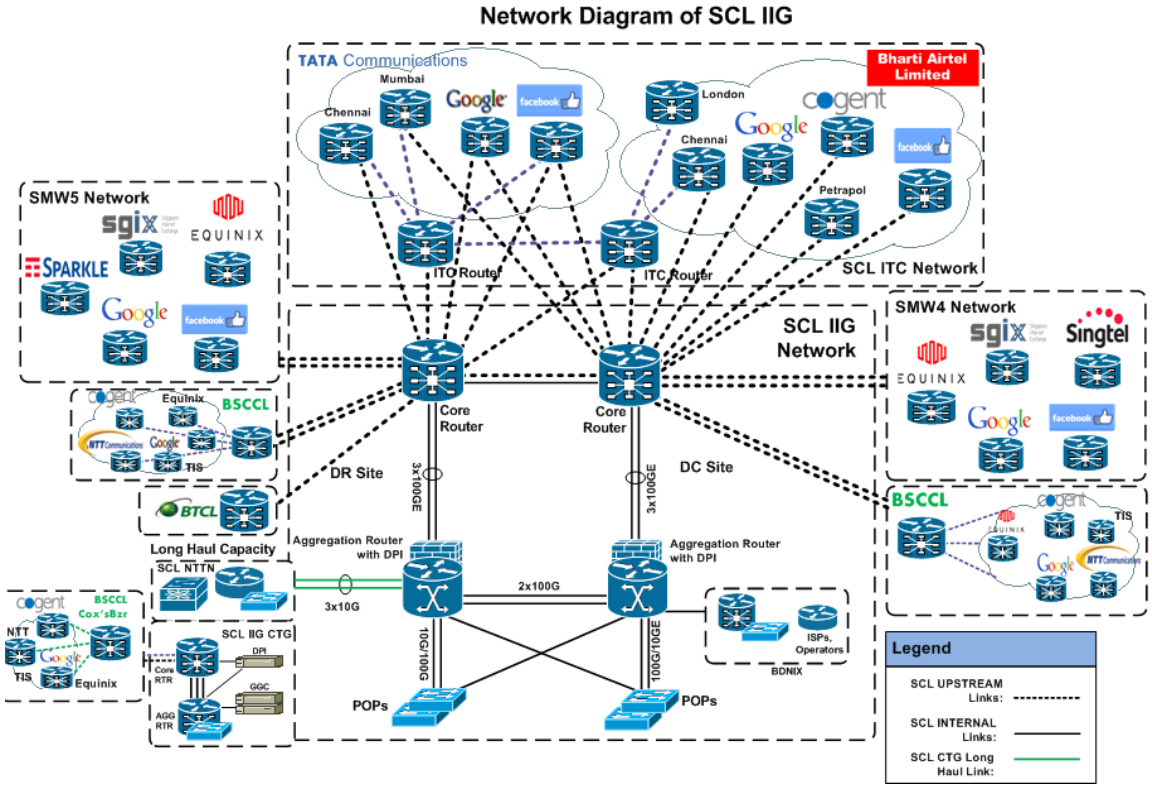


Figure 3.3: IIG Network Technology

SCL has established a state of art Data Center and several PoPs for providing IIG services in Dhaka as well as greater Dhaka. To ensure proper redundancy and also to protect disaster, it has established a full proof DR (Disaster Recovery) site in Uttara with adequate device capacity which can pick up the full load of the network any time. It has installed carrier grade equipment with proper redundancy which can provide best quality of service with value added services as well. It has established

connectivity with some renowned upstream operators like Telecom Italia Sparkle, BSCCL, BTCL, Cogent Communications and also from SCL ITC which secure its network through both Submarine and Terrestrial network (Tata, Bharti). SCL IIG also have Private Network Interface (PNI) with Google, Facebook, Verizon and bi-lateral peering with 32 major service providers. In Chattogram and Bogura, it has also established a separate and independent Data Center with carrier grade equipment setup. IIG Network Technology is shown in Figure 3.3.

SCL has introduced Multi-Protocol Label Switching (MPLS) in IIG Network to provide P2P branch connection to Corporate/Enterprise Customer(s). In future, new VAS and Cache will be integrated in IIG network for improving service experience. SCL's current Gbps consumption is about 300 Gbps and the Company expects this Gbps consumption to rise around 1 Tbps within next 5 years. Currently IIGs have four core customers, the ISPs, Telecom Operators, Call Centers and the BWA operators all over the country. It provides them with reliability, availability, competitive pricing and highest quality of services.

Interconnection Exchange

As an ICX licensee, SCL establishes, operates and maintains the interconnection exchange services to provide telecommunication services except data communications. Under this license, SCL provides routing or switching facilities for inter operator domestic voice calls and international calls between ANS and IGW operators, SMS, VMS or any other value added services. Previously all mobile operators were directly connected with each other. Now under this license all operators need to route their domestic and internal call through ICX. In this regard, SCL had to install its equipment at its own data center and establish connectivity with telecom and IGW operators. According to licensing guidelines, it has already established infrastructure in Dhaka, Chittagong and Sylhet. It is also connected to all major mobile phone operators, PSTN operators and IGWs in the country and are handling close to 12 mm minutes a day.

There are only 13 countries in the world with a mobile phone user base of more than 100 mm. Bangladesh has ranked 9th position. As of December 2018 it had a mobile phone subscriber base of 157.54 mm. These massive numbers of subscribers are serviced by ICXs for inter operator calls and as per regulation SCL ICX handle close to 12.0 mm minutes per day which is close to 330 mm minutes per month where Monthly market traffic is 5.9 BN minutes and such massive traffics are handled by SCL and other ICX(s).

SCL has above 4% market share (because of maintaining robust network and best quality) in International & Domestic Traffic (Dhaka, Chittagong and Sylhet). For the purposes of interconnection and maintaining network hierarchy SCL's ICX is connected to all the major mobile phone operators, IOS's through IGW's and IPTSP operator making SCL one of the more comprehensive ICXs on the market. Backed up with carrier grade equipment and a robust and secure network it provides the best voice quality and QoS to its clients maintaining 99.99% uptime.

3.3 EXPANSION PLAN OF SCL AND PROJECT COST

SCL plans to lay underground fiber throughout the nation in the backbone links to increase the country backbone capacity and make its network more secure. This underground fiber laying will take place in highways. It would have a coverage of around 1,182.4 kms. The details of the route is given below (Table 3.1). Figure 3.4 shows the tentative layout (to be finalized during project implementation) of the work packages mentioned in Table 3.1.

Table 3.1 Underground fiber optic cable expansion details by SCL

Sl. #	Route	Distance (KM)	Justification
1	Benapole to Satkhira	17.5	UG Backbone for Benapole to Satkhira
2	Chittagong to Hathazari	14.3	UG Backbone for Chittagong to Hathazari
3	Jessore to Benapole	34.8	UG Backbone for Jessore to Benapole
4	Phulbari to Thakurgaon	117.6	UG Backbone for Phulbari to Thakurgaon
5	Saydabad to Tangail	36.7	UG Backbone for Saydabad to Tangail
6	Tangail to Kaliakair	47.3	UG Backbone for Tangail to Kaliakair
7	Elenga to Kalihati	78.5	UG Backbone for Elenga to Kalihati
8	Kurigram to Rangpur	55.2	UG Backbone for Kurigram to Rangpur
9	Rangpur to Barabari	61.0	UG Backbone for Rangpur to Barabari
10	Birampur to Gobindogonj	58.2	UG Backbone for Birampur to Gobindogonj
11	Pabna to Shahjadpur	57.0	UG Backbone for Pabna to Shahjadpur
12	Rajshahi to Chapai-Nawabganj	55.2	UG Backbone for Rajshahi to Chapai-Nawabganj
13	Tangail to Shibalaya	58.2	UG Backbone for Tangail to Shibalaya
14	Dhamrai to Manikganj	34.3	UG Backbone for Dhamrai to Manikganj
15	Keraniganj to Mawa	49.3	UG Backbone for Keraniganj to Mawa
16	Sreemangal to Kulaura	51.1	UG Backbone for Sreemangal to Kulaura
17	Bhanga to Rajoir	22.8	UG Backbone for Bhanga to Rajoir
18	Bhanga to Shibchar	23.3	UG Backbone for Bhanga to Shibchar
19	Cumilla-Chadpur-Laxmipur-Noakhali(Chawmuhuni)	136.8	UG Backbone for Cumilla-Chadpur-Laxmipur-Noakhali(Chawmuhuni)
20	Madaripur to Shariatpur	25.4	UG Backbone for Madaripur to Shariatpur
21	Ramganj,Lakshmipur to Lakshmipur Sadar	21.1	UG Backbone for Ramganj,Lakshmipur to Lakshmipur Sadar
22	Shahrasti,Chadpur to Chatkhil,Noakhali	22.4	UG Backbone for Shahrasti,Chadpur to Chatkhil,Noakhali
23	Betagi,Barguna to Mirzaganj,Patuakhali	8.9	UG Backbone for Betagi,Barguna to Mirzaganj,Patuakhali
24	Chandmari,Barisal to Nazir Moholla,Barisal	4.0	UG Backbone for Chandmari,Barisal to Nazir Moholla,Barisal
25	Jagannathpur,Sunamganj to Saharpara,Sunamganj	5.0	UG Backbone for Jagannathpur,Sunamganj to Saharpara,Sunamganj
26	Magura to Hat-Gopalpur,Jhenaidah	16.2	UG Backbone for Magura to Hat-Gopalpur,Jhenaidah
27	Magura to Narail	52.8	UG Backbone for Magura to Narail
28	Rajoir to Madaripur Sadar	17.4	UG Backbone for Rajoir to Madaripur Sadar

Sl. #	Route	Distance (KM)	Justification
Total		**1,182.4**	

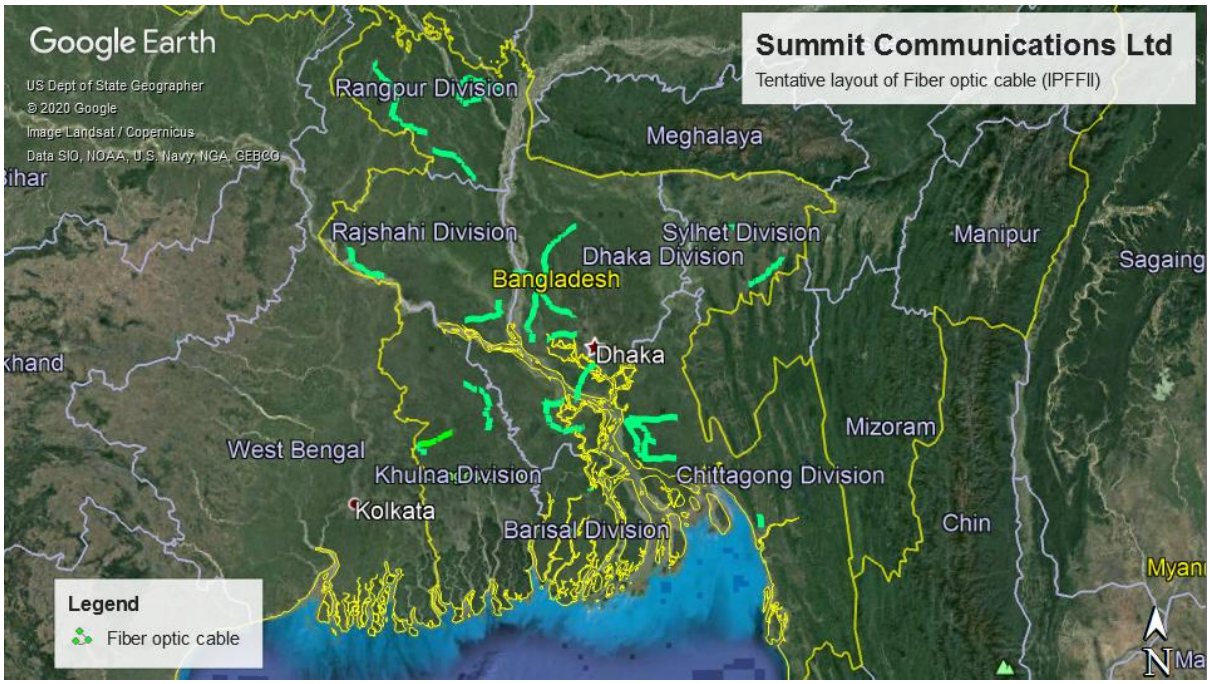


Figure 3.4: Proposed layout of fiber optic cable to be installed by SCL under IPFFII

As country-wide 4G roll out continues to take place, SCL is expected to cover 7,800 kms to provide additional connectivity to 1,300 BTS within June,2021. In addition, SCL is planning to swap the existing fiber network from 4-core non-armored fiber or 6-core non-armored fiber to have 12-core armored fiber in that network for more capacity and to strengthen the existing network to cater to the rising demand in its target regions. It would cover a total distance of around 1,154 kms. SCL also needs to upgrade the capacity (Gbps) of existing network. To achieve the goal, SCL is expected to deploy 635 kms of overhead fiber in target areas within June,2021 (Table 3.2).

Table 3.2: Overhead fiber optic cable route information

Sl. #	Route	Distance (KM)	Justification
1	Nation wide	7,800	Consider 1,300 mobile backhaul sites with 6 KM distance/site
2	New expansion for protection path	635	New OH fiber deployment for capacity upgradation
3	Existing fiber swap	1,154	Existing 4F/6F fiber swap and increase core availability
Total		**9,589**	

The company continues to undertake capital expenditures on an ongoing basis. This is in line with its licensing obligation to expand its network nationwide. However, the below table gives the total project cost including historical capex and expansion envisaged for FY 2019/20 and FY 2020/21.

Table 3.3: Project cost and components

Details	As on June'19	Proposed expansion	Total
	BDT mm	BDT mm	BDT mm
Property Plant & Equipment At Cost	**9,723**	**4,148**	**13,870**
Land	3	-	3
Ducts	616	101	717
Optical Fiber Cable (OFC)	1,847	1,061	2,908
OFC goods	451	-	451
Civil and Construction works	2,754	677	3,431
Multiplexer	1,351	788	2,139
Router	1,450	1,227	2,677
Active equipment & Others	117	-	117
HDD machine and generator	116	53	169
IT and electric machineries	651	140	791
Vehicles	182	71	253
Office equipment	60	11	71
Office Furniture and Fixtures	125	19	144
Intangible Assets At Cost	**141**	**-**	**141**
Capital WIP	**232**	**-**	**232**
IDCP	**-**	**341**	**341**
Total Project Cost	**10,093**	**4,488**	**14,583**

Out of the total project cost of BDT 14,583 mm up to FY 2020/21, BDT 10,095 mm has already been incurred. The rest of BDT 4,488 mm is to be incurred in FY 2019/20 and FY 2020/21. BDT 1,730 mm would be utilized for expansion from IPFF II fund and rest would be financed by other commercial loans and equity. BDT 1,520 mm from IPFF II fund would be utilized to refinance the high cost commercial borrowings.

3.4 IPFF II FUND UTILIZATION

SCL has decided to avail loan from IPFF II amounting to BDT 3,250 mm (excluding IDCP). IPFF II loan will be utilized to procure new optical fiber cable, router, multiplexer, other active equipment, generator, HDD machine, and other equipment from abroad and local sources.

To conduct civil and construction works including road cutting compensation to local authorities for expanding the fiber optic network with a view to establishing NTTN backbone within the country and facilitating the cheap and faster internet and ICT enabled services for the mass people.

The company has capex plans of around BDT 4,488 mm over 2019/20 and 2020/21. To meet capex requirements, SCL is seeking a total of BDT 3,250 mm from the IPFF II Fund which includes refinancing of BDT 1,520 mm worth commercial loans availed in 2017/18 and 2018/19 and BDT 1,730 mm to finance part of the capex to be undertaken in 2019/20 and 2020/21. This investment would be utilized to increase capacity, expand the underground and overhead network and to create more redundancies. Rest of the capex would be financed by internally generated cash flows and commercial loans. Table 3.4 shows the breakdown of the funding.

Table 3.4: Proportion of total funding by equity and other loans including **IPFFII**

Details	BDT mm	% Financing
Equity	5,082	35%
Loan	9,501	
IPFF Facility	5,127	35%
IPFF II	3,591	
IPFF I	1,536	
Other loan	4,374	30%
Total Financing	14,583	100%

3.5 PROJECT IMPLEMENTATION SCHEDULE

Expansion of optical fiber network in Telco BTS is dependent on the expansion plan of MNOs. It was anticipated that the auction for 5G enabled spectrum would take place in early 2020. Countrywide rollout of 4G connectivity was also expected to expand rapidly over the period. However the whole world have gone into standstill situation due to COVID-19 pandemic. For ensuring health and safety of the mass people, the government of Bangladesh declared general holiday all over the country from March 2020. The whole eco-system of supply chain collapsed with this sudden effect; countrywide economic, educational and social activities have become completely dependent on telecommunication infrastructure. To maintain and up-keep huge network of 48,000+ KM while ensuring safety of its workforce, SCL has had to engage very limited number of technical staff in maintenance of its network; thereby shifting its focus from the aggressive expansion. Due to the pandemic,

expansion of 4G network also slowed down during the general holidays. However, with COVID-19 cases decreasing in the later part of 2020 and countrywide vaccination program gaining momentum since beginning of 2021, the business activities are coming back to new-normal. Auction for new frequency spectrum was held in March 2021 and Telcos are increasing their 4G footprint to boost business. GoB remains committed to 5G launch soon to materialize its "Digital Bangladesh" vision. As a result, SCL has also revamped working on its planned implementation activities. In addition, in scarcity of low-cost long term infrastructure financing solutions, SCL was confined to utilize financing from commercial banks/Financial Institutions for its planned expansion activities at a relatively higher cost. Hence SCL has to contain the implementation activities during this tenure. Due to the situations mentioned above, implementation schedule has been revised partially as described in Table-3.5.

Table 3.5: Tentative schedule of implementation

Project Implementation Schedule	2020-21	2021-22			
Time Allocation	**Q-4**	**Q-1**	**Q-2**	**Q-3**	**Q-4**
Underground Optical Fiber Laying (Km)	180	252	268	229	204
Duct Laying (Km)	180	252	268	229	204
Civil and Construction Work for Fiber Laying (Km)	180	252	268	229	204
Overhead Optical Fiber Laying for Expansion (Km)	10	10	0	0	0
Overhead Optical Fiber Laying for Upgradation (Km)	102	167	144	144	91
Overhead Optical Fiber Laying for BTS (Km)	1,080	1,500	1,380	1,200	1,086
BTS Connectivity (Unit)	180	250	230	200	181
DWDM Multiplexer-OSN 9800 Installation (Unit)	2	1	1	-	-
DWDM Optical Multiplexer Installation (Unit)	2	3	3	2	2
DWDM Electrical Multiplexer Installation (Unit)	1	2	2	1	0
Router ACX2200 Installation for Mobile Backhauling (Unit)	180	250	230	200	181
Router ACX2200 Installation for Network Expansion (Unit)	40	50	50	50	47
Router MX104 Installation for Network Expansion (Unit)	1	1	1	-	-
Router MX204 Installation for Network Expansion (Unit)	16	21	20	13	10
Router MX240 Installation for Network Expansion (Unit)	-	-	-	-	-

Project Implementation Schedule	2020-21	2021-22			
Time Allocation	**Q-4**	**Q-1**	**Q-2**	**Q-3**	**Q-4**
Router MX480 Installation for Network Expansion (Unit)	1	2	0	0	0
Backbone PoP Construction (Unit)	5	5	5	5	2
Access PoP Construction (Unit)	40	50	50	45	39
Switch Installation in Access PoP (Unit)	40	50	50	45	39

3.6 DEVELOPMENT OF UNDERGROUND FIBER OPTIC CABLE

Underground fiber optic cable deployment is done mainly by Horizontal Directional Drilling (HDD). Other construction activities involve bridge crossing operation, hand hole construction, cable handling, blowing and splicing. The methods along with other supplementary construction actions are described briefly in the following sections.

3.6.1 Trenching

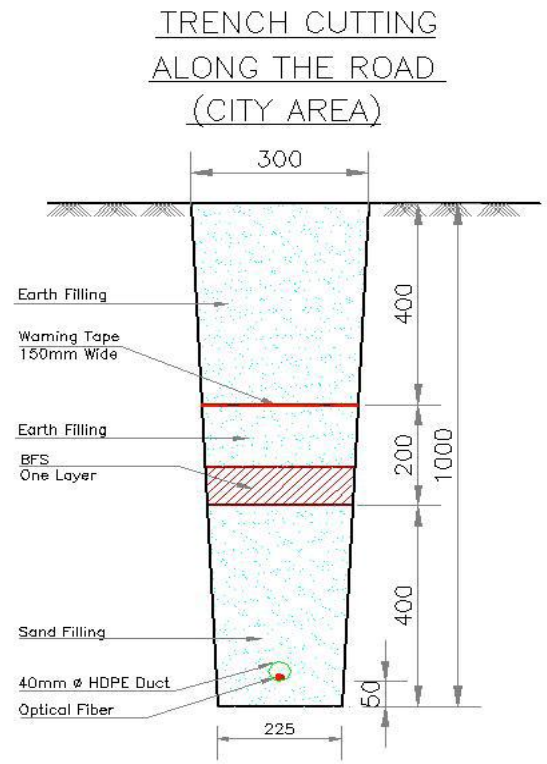
Before trench cutting, survey is done to ascertain soil type/ underground utilities/ trees & their roots/ road crossings/ bridges, culverts etc. A realistic work program is prepared before commencing trenching. A detailed BOQ is made so that continuous supply and availability of all the materials & accessories like duct, de-coiler, warning tape, sand, and bricks etc. are available on site.

Trenching physically removes the soil from the trench slot and requires restoration of the soil, since it needs to be backfilled using sand and native soil, packed in lifts. In the component A of the project trenching operations will be conducted along the roadway only, hence there will not be any impact on the vegetation due to trenching operation.

Trench cutting is done by labor using spade, shovel and hammer. After Cutting the trench duct is laid as per drawing. Trenching is followed mainly to cross roads of city and rural area. Deployment speed depends on the manpower employed and soil quality. However, SCL can deploy 1 to 1.5km cable a day through trenching. For this deployment, it employs one engineer from its part and required numbers of labor from contractor's part. In city areas trench depth is usually 1.0 m, whereas for the rural areas trench depth is usually 1.2 m and backfilling is done using 100% sand. All other specifications of the trench excavation of the city areas and the rural areas are shown in Figure 3.4.

After installing the duct in place, the trench is refilled and compacted with sand and soil. After that required hand holes are installed and the actual fiber optic cable is blown into the duct.

(a)



(b)

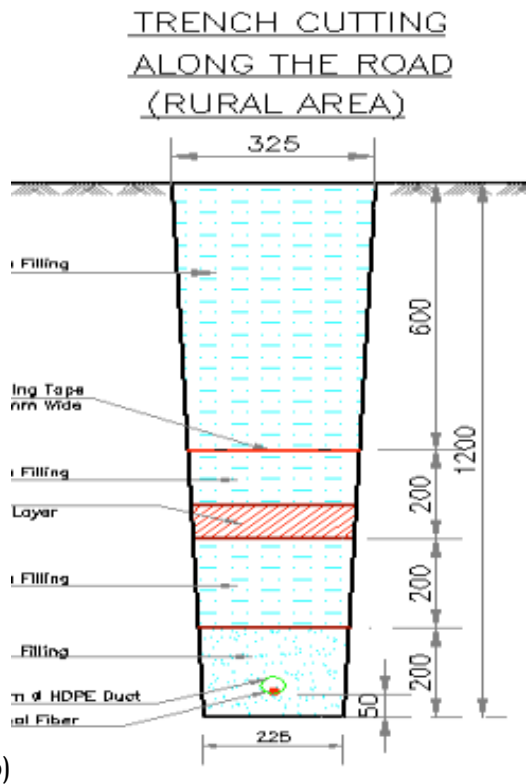


Figure 3.5: Trench cutting details along the road for (a) city areas and (b) rural areas. All drawing dimension units are in mm.

3.6.2 Horizontal Directional Drilling (HDD)

Horizontal Directional Drilling (HDD) is used for underground fiber optic cable deployment. If contractors are involved, two qualified and competent persons (in managerial designation from the operation department of implementation team) are assigned by SCL for monitoring the work.

HDD operation is initiated by cutting a pit to ensure if there is any existing facility being disturbed. HDD is deployed in the soft soil only by making a tunnel through HDD machine for installing HDPE ducts. After making the tunnel, HDPE ducts are laid with HDD machine and couplers are used for the connectivity of the ducts. Figure 3.5 shows HDD operation.

Figure 3.6 shows the specifications of a railway/roadway crossing by HDD method. As can be seen from the figure, a 75mm diameter galvanized iron (GI) pipe is placed below the railway or roadway using the HDD method and the silicon high density polyethylene (HDPE) duct along with the optical fiber cable is placed inside this GI pipe.

Figure 3. 6: Horizontal Directional Drilling (HDD) Machine

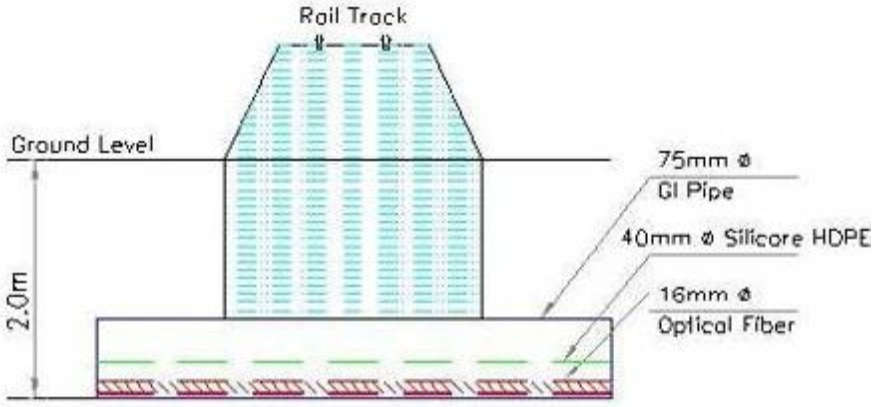


Figure 3.7: Details of a railway/roadway crossing using horizontal directional drilling (HDD) method.

3.6.3 Bridge crossing operation

Bridge crossing operation involves the following activities:

First and foremost, the use of existing ducts or service culverts within bridges must be fully explored.
SCL needs to inform the bridge owner the tentative schedule prior to the commencement of the work.
Ducts attached to the underside of bridges must not affect its load bearing capacity, reduce the clearance or cause other issues. Not all bridge structures will have the exact same installation configuration and procedures may vary to accommodate specific requirements.

Bracket mounting positions can now marked out on the side or underside of the bridge as directed by the design drawings and instructions. Next activity involves drilling the holes, fitting the concrete anchors and mounting brackets and firmly securing them.
The steel or ultra-high-density polyvinyl chloride (UPVC) base carrier duct is then positioned and firmly secured.
The micro ducts can be hauled through the newly mounted base carrier. Usually SCL use a continuous length of duct (no joints permitted).
Where required and as stipulated in the design instructions, both the approach and departure ends may have to be encased in concrete where they traverse the bridge abutments and enter the ground. It is desirable of course, for the end-product to be both safe and visually appeasing.
The details of the cable lying by HDD method are given in Figure 3.7.

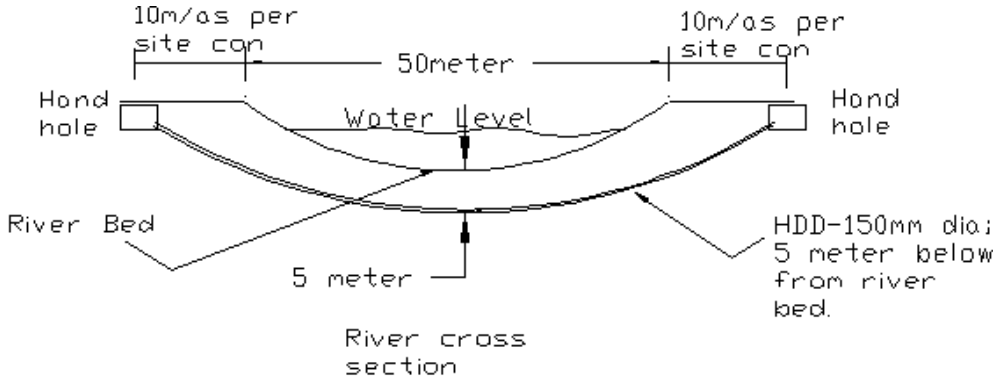
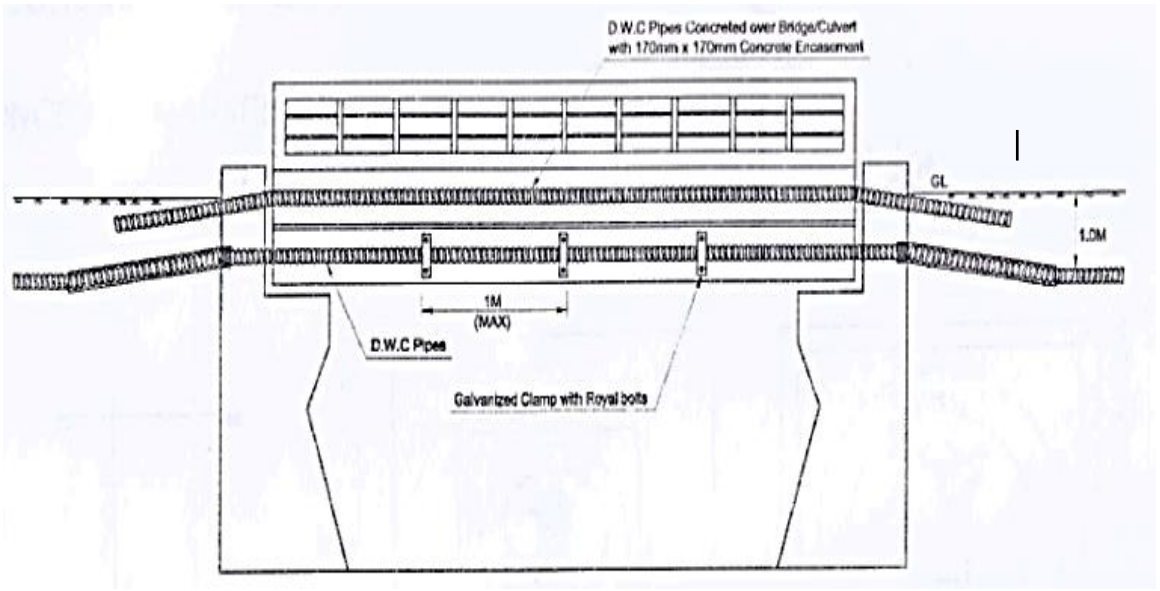


Figure 3.8: Bridge crossing of fiber optic cable using HDD method.

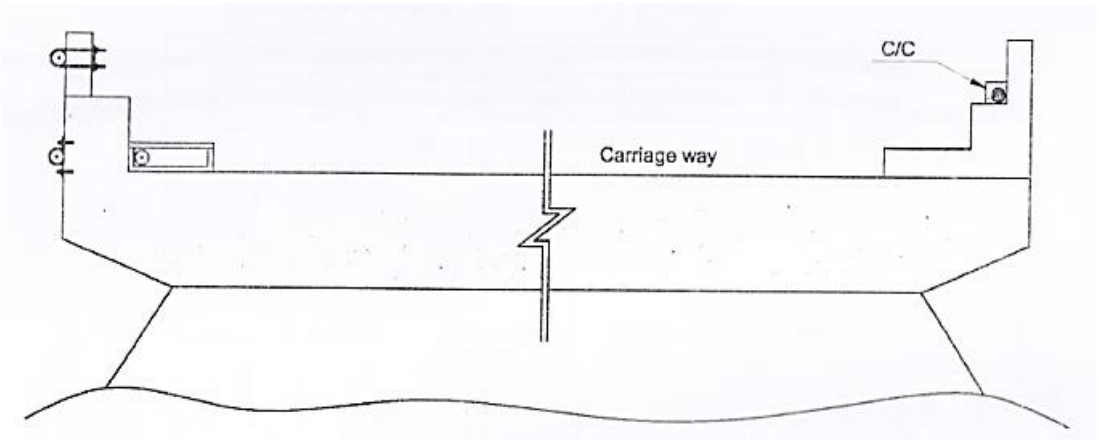
Double walled corrugated (DWC) pipe is used with clamping or by encasing in RCC for bridge crossing of the fiber optic cable when all other options become unsuccessful. A continuous path is created while hanging DWC pipe with clamps along the bridge girder as per bellow process.

- The layout of the bridge-crossing pipe is set as per design drawings.
- A 100 mm diameter DWC pipe is used and fixed as shown in the inset of Figure 3.5 (a).
- Clamping with bridge girder is done at every 1.5 meter (Figure 3.8 (a)).
- When the pipe is aligned on top of the bridge, it is encased by RCC (1:1.5:3) using local cement, Sylhet sand & stone chips as per attached drawing and 7 days curing must be done (Figure 3.8(b)). After fixing the DWC pipes with the bridge, 50/43mm HDPE (Tornado) duct and one copper cable (10 pair) is pushed/pulled in the DWC pipeline.

Figure 3.9 shows an ongoing bridge-crossing work of the fiber optic cable using DWC pipe with clamps.



(a)



(b)

Figure 3.9: Details of bridge crossing of fiber optic cable using (a) DWC pipe with clamping, (b) DWC Pipe with RCC encasing.

Figure 3.10: Bridge crossing of fiber optic cable using DWC Pipe with Clamping.

3.6.4 Hand Hole Construction

Hand holes are constructed to accommodate underground connection between fiber optic cables, PoC establishment, and maintenance. Figure 3.7 shows a hand hole constructed in the ground with fiber optic cables arriving from two separate directions. Generally, laborers use shovel, spade, hammer, chisel etc. (all are construction related tools) to construct a hand hole. The worker fabricates the reinforcement before excavating the hand hole. At site, they make the rod binding. They make an appropriately sized excavation on the ground based on the requirement and size of the prefabricated reinforcement casing. Laborers mix the cement, sand and stone chips as per 1:1.5:3 concreting ratio. After mixing they put it to the hand hole base and sidewalls gradually. Formworks are made for casting the concrete in the sidewalls. Vibrator is used to reduce honeycomb in the freshly poured concrete. A light-duty traffic-bearing lid (a concrete slab made separately with the a ratio of 1: 1.5: 3) is placed over the hand hole for covering the underground fiber optic cable connection. The hand hole unit would be completely buried to restrict access, but the hand hole locations would be marked for maintenance, repairs, and expansion needs. Maintenance and repairs at these hand holes will be limited to foot-traffic only. The following considerations are given during construction of hand holes:

- All duct entries and exits at the HHs must be a watertight seal.
- All ducts in HHs shall be coupled thoroughly.
- Ducts must be sealed with a watertight coupling that is cast or inserted into the wall of the HH.
- HH cover should be 150mm above natural ground level with the fill shaped back to natural ground level in a 2m radius around the HH cover.

- On paved sidewalks or verges, next to roads or streets, a cast in-situ concrete or asphalt backfilling shall be sloped to not impede pedestrian traffic. In these instances the HH installation shall be such that it is not more than 50mm higher than the surrounding paved sidewalk.

- The inside surface of the HH shall be sealed using an approved bituminous product.

Figure 3.1: Hand hole layout.

3.6.5 Cable Splicing and Integrity Checking

After trenching or HDD, cable splicing and DIT (duct integrity test) test is performed through the HDPE duct. The process include:

- Stripping back about 3 meters of fiber cable jacket to expose the fiber loose tubes or tight buffered fibers. Cable rip cord is used to cut through the fiber jacket and peeling back the jacket to expose the insides. Next Cutting off the excess jacket.

- Cleaning off all cable gel with Alco pad.

- For a loose tube fiber cable, about 2 meters of fiber tube is stripped away using a buffer tube stripper and the individual fibers are exposed; then tube gel is carefully cleaned off.

- Securing the end of the loose tube to the splice tray and laying out cleaned and separated fibers on the table. Stripping and cleaning of the other cable tube's fiber that is to be spliced, and is secured to the splice tray.

- Holding the first splicing fiber, 250um fiber coating is removed to expose 5cm of 125um bare fiber cladding with fiber coating stripper tool.
- Putting a fusion splice protection sleeve onto the fiber being spliced.
- With a high precision fiber cleaver, the fiber is cleaved to a specified length according to fusion splicer's manual but a fusion splice protection sleeve onto the fiber being spliced
- Strip, clean and cleave the other fiber to be spliced.
- Placement of both fibers in the fusion splicer and carrying out the fusion splice according to its manual.
- Slide the fusion splice protection sleeve on the joint and put it into the heat shrink oven, and press the heat button.

For integrity test of fiber optic cable laying SCL generally performs two types of tests:

ODTR Test: The Optical Time Domain Reflectometer (OTDR) is useful for testing the integrity of fiber optic cables. It can verify splice loss, measure length and find faults. The OTDR is also commonly used to create a "picture" of fiber optic cable when it is newly installed.

Laser Test: Laser testing is also used for measuring the integrity of the fiber optic cables. This test throws a laser light to verify splice loss or any breakage in the fiber. The fiber connectivity seems good when after throwing a laser light it does not come back.

3.7 SCL SERVICE MAINTENANCE

Currently all the telecom operators, ISPs, gateway operators, CATV operators, a good number of government offices are using SCL's telecommunication transmission and internet services nationwide. So far SCL have covered 64 districts and 489 Upazillas with optical fiber distribution network. For maintaining the service quality Summit Communications Limited is using all the latest technology and ITU standard network monitoring tools and processes. SCL is providing 24x7 after sales services and maintaining 99.99% uptime for the entire network.

SCL services were designed and implemented including the capability to allow proactive monitoring, fault management, out-of-band access, metrics reporting, and configuration management. This provides the means to quickly identify and isolate problems that include failures or degradation of service. Faults are reported to centralized management systems, i.e. NOC Client Care Centre (later to servers and geographically diverse backup management servers). Indication of faults including nature of alarm and severity are displayed on management systems monitored 24x7 by service management staff that review and respond appropriately to alarm conditions.

3.7.1 The "Network Operation Centre" (NOC)

The NOC is the main hub of the operational level 24 X 7 monitoring and maintenance. The primary responsibility for day-to-day operation related systems/services. The NOC is also responsible for first level Client support and includes general user interface and Trouble Ticket (TT) administration. The NOC is responsible for overall network management, including service monitoring, sustaining operations, trouble resolution, network maintenance activities, major outage notification, and network event and alarm monitoring. The NOC can be reached by phones or emails or online reporting systems. If for any reason the NOC cannot be reached, Cell phone of the duty personnel can be contacted.

To ensure a rapid response to user inquiries, SCL Client Care Centre is operating now with Roster duty and appropriate training is also provided on need basis. SCL encourages users to contact the Client Care Centre with primary responsibility for their particular service. Primary systems/services for each centre are shown in Table 3.6, Primary Responsibilities by SCL Operations centre. If there is any question of where to report a problem or whom to contact for general SCL information, contact the NOC Operation centre.

Table 3.6: Primary Responsibilities by SCL Operations Centre

Sl.	SCL System/ Service	NOC	NOC Back Office
1	Data equipment consisting routers and switches	X	
2	Data equipment consisting of MPLS systems	X	
3	Element Management Systems for Data Service	X	
4	Network Management Systems for Data Services	X	
5	SDH equipment	X	
6	Element Management System for SDH equipment	X	
7	Network Management system for SDH Equipment (if any)	X	
8	Recording faults reported over Telephone		X
9	Recording faults reported over email/fax/letter or web based system		X
10	Monitoring and Escalating fault reports	X	X

Sl.	SCL System/ Service	NOC	NOC Back Office
11	Resolution of Faults to immediate Supervisors	X	X
12	Resolution of TT faults to Clients		X
13	Resolution of Dark core faults		X

SCL's network operation centre is equipped with modern technology and equipments.

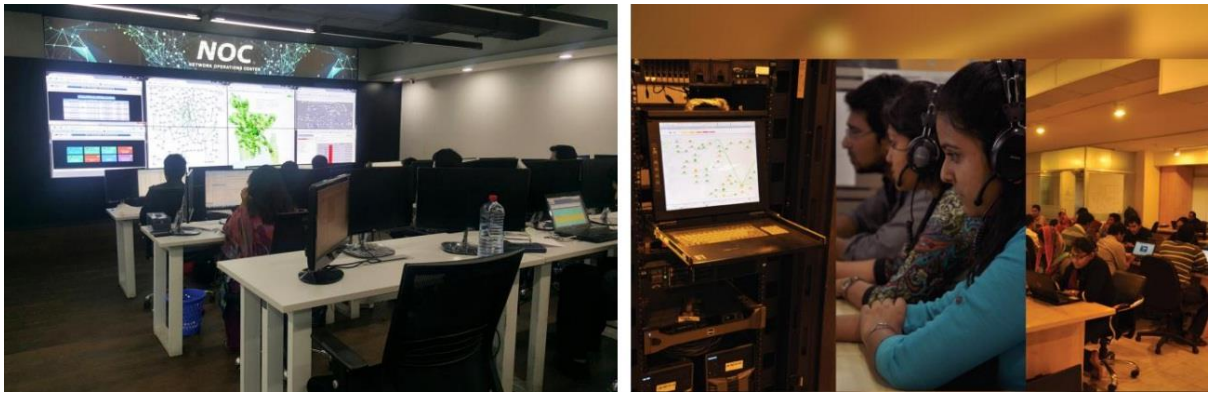


Figure 3.2: The Network Operation Centre (NOC) of SCL

3.7.2 SCL Field Operations

SCL has to maintain staffed facilities at each of SCL's operation region. Staffed sites include but not limited to NOC, Dhaka Zonal Offices, Chittagong, Khulna, Sylhet, Bogra, Savar, Tangail, Rangpur, Kustia, Rajshahi, Barishal, Faridpur, Comilla, Narayangong. Other areas are supported by on-site Vendor provided technicians, unless dispatch of a SCL technician from another site is warranted on an as needed basis. The field engineers are ensuring the fiber cut incidents and passive infrastructure related issues. The Network Operation Centre, generally manage and direct NOC actions regarding the SCL equipment and circuitry. SCL's field operation facilities are operated by highly trained SCL technicians with 24 x 7 call-out support and 2-hour response time. Diagnostic and corrective actions performed by on-site SCL engineers/technicians include: fault isolation; reporting of visual indicators or display information on equipment or consoles; verifying physical connections; circuit testing and acceptance; power cycling equipment; shipping and receiving equipment; and physical installation and/or replacement of equipment components for trouble resolution and new service implementation.

4.1 SUB-PROJECT BASELINE

For proper environmental assessment, it is important that each sub-project is clearly described by the project proponent. Before execution of each sub-project (work package), the relevant information regarding the work package needs to be documented. The actual location of the link will be finalized during implementation. Sub-project Description "Form 1" (for fiber optic cable line) has been developed (Annex III) for documenting description of sub-projects to be implemented under the proposed project. The information conveyed through this form also presents the baseline description of the work package site. The major work package baseline information collected through Form 1 are:

(1) Work Package Particulars (Type of Link, Length (km), number of control stations and handholes, modes of operation, info on local SCL office)

(2) Layout of proposed Fiber optic Line with maps

(3) Information on various crossings, if any (river, bridge, railway, road crossings)

(4) Land ownership details and area

(5) Baseline Environment

(6) Summary of public consultation (if any) during survey for route selection:

(7) Changes in alignment (if any) after survey

(8) Schedule of implementation :

For systematic recording of data, baseline environment is usually classified into physicochemical environment, biological environment, and socio-economic environment; and important features/parameters under each category are identified and measured/ recorded during baseline survey.

The baseline description to be collected for each work-package may be the following (but not limited to):

- General Characteristics of route of optical fiber link : (along local road or highway/ through paddy or crop field/ through human settlement/Important Environmental Features (IEF)) specify
- Type of area (Industrial/ commercial/ residential/ forest/ wetland/ other) specify
- Brief Information on human settlement, industrial/commercial establishments, water body, flora, fauna, historical or culturally important sites, ecologically sensitive areas, traffic

Typical Important Environmental Features (IEFs) include human settlements, educational institutions (school, college, madrassa, university), health care facilities (hospitals, clinics), commercial/ recreational establishments (markets, restaurants, parks, offices), religious establishments (mosques, temples, churches), major utility infrastructure (water/ wastewater treatment plants, water mains, sewers, power plants, sub-station, gas/ electricity transmission/ distribution lines), landfills, major ponds/ khals and rivers, and historical archaeological establishments, ecologically critical area (ECA), wildlife sanctuary, game reserve, protected area, and national park.

Under most circumstances, it is sufficient to identify IEFs based on a survey covering the sub-project influence area (which may be considered a 27m wide strip along the fiber optic cable line). Thus, a rapid physical survey of each sub-project will be required to identify the IEFs within the sub-project influence area. It should be noted that many of the IEFs (e.g., historical/ archaeological sites, wildlife sanctuary, and national park) should already be identified and recorded in available maps of the relevant areas. These maps could be utilized during identification of IEFs.

The sub-project layout and the identified IEFs within the sub-project influence area should be presented in a suitable map. For this purpose, the sub-project layout and IEF locations should be superimposed on the GIS maps (e.g., land-use maps) or Google images of project area and their surroundings. An exercise of baseline data collection is shown for previously completed work packages under IPFF is shown in Annex XX1. Typical components of baseline environment are:

Climate:
It is important to have a general idea about the climate of the area where the sub-project would be implemented. Important climatic parameters include precipitation, temperature, relative humidity, wind speed and direction. These data may be collected from secondary sources (e.g., from the nearest station of Bangladesh Meteorological Department, BMD)

Topography:
Data and information on topography are important for the design of the sub-projects to be implemented by SCL. Information on the topography is essential in fixing the alignment of the fiber optic cable lines. Topographic surveys will be conducted and necessary maps will be prepared.

Geology and soil:
Characteristics of soil could be important if a particular sub-project involves significant excavation/ earthworks, because wind-blown dust from these activities could contribute to air pollution. In such cases, characteristics of soils (particularly heavy metal content) are often determined as a part of baseline survey. However, considering the nature and scale of the structures to be constructed in the sub-projects to be implemented under SCL, geology and soil characteristics do not appear to be critical for environmental assessment.

Water resources:
Information on water resources within the influence area will be collected during baseline topographic survey.

Air quality:
Particulate matter (particularly PM10 and PM2.5) is the most important air quality parameter from health perspective. However, measurement of air quality is relatively expensive and facilities for air quality measurement are not widely available. Therefore, baseline air quality data (PM) from secondary sources may be collected. The Clean Air and Sustainable Environment (CASE) Project, under the Ministry of Environment, Forest and Climate Change, monitors different ambient air quality parameters from several fixed continuous air monitoring stations (CAMS) located in different parts of the country. The air quality data obtained from these CAMS can be reported in baseline sub-project description.

Noise level:
Noise is typically generated from operation of machines and equipment (e.g., horizontal directional drillers, concrete mixing machine), and movement of vehicles. Noise is of particular importance if the sub-project components are located close to sensitive installations such as educational institutions, health care facilities, religious establishments, and human settlements. Activities to be carried out during construction phase of the sub-projects would generate noise. For these sub-projects, baseline noise level should be measured and recorded, so that these could be compared with those generated during construction/ operation phase of the sub-projects. The location and frequency of baseline noise level measurements would depend on physical extent of project, and presence of sensitive installations within sub-project influence area, as noted above. Both day-time and night-time noise levels should be measured, using a calibrated noise level meter.

Water quality:
A number of activities during the implementation of sub-projects could have impacts on water quality. Accidental spillage of gasoline from construction equipment/trucks may contaminate surface and/or ground water-bodies. Stagnation resulting from obstruction of cross drainage pattern in rural areas may result in deterioration of water quality in the areas surrounding these sites. For these sub-project activities, baseline water quality of the relevant water body should be measured. Relevant parameters are pH, turbidity, TDS, Electrical Conductivity which mostly can be monitored using handheld portable meters.

Traffic:
Storage of construction materials, fiber optic cables on the adjacent roads are likely to cause traffic congestion. Similarly, movements of additional vehicles carrying construction and fiber optic cable deployment equipment along public roads are likely to increase traffic congestion. Existing traffic situation may be reported during baseline survey.

Biological Environment:
the sub-projects to be carried out by SCL are likely to have minor ecological impacts. In most cases, the most significant direct impact would result from felling/cutting of trees/vegetation within the control station sites and along the route of the fiber optic cable lines. These may not have any significant ecological impacts, thus, general bio-ecological description of the sub-project area from secondary information (landuse, vegetation etc.) would be sufficient for description of baseline biological environment

at the worksite. Information on number of trees to be felled or trimmed; area to be cleared of vegetation, presence of nearby ecologically critical areas may be collected.

Socio-economic Environment:
For the sub-projects, it is important to have a clear understanding to the baseline socio-economic condition of people, especially those living within the sub-project influence areas. Some information will be obtained through public consultation, while some information will be obtained through E&S Screening (e.g. information on squatters and mobile vendors, human settlement, industrial/commercial establishments, historically and culturally important establishments).

4.2 E&S SCREENING

Once SCL, using Form 1, prepares a sub-project description, it will be easier to carry out environmental/ social screening of the sub-project and to subsequently complete the "Form 2" (Annex IV). The screening form has been designed to conduct preliminary assessment of the impacts of major sub-project activities on the ecological, physical-chemical and socio-economic environment of the surrounding areas. Screening will address questions pertaining to identification of specific ecological, physico-chemical and socio-economic impacts of the area under consideration and will allow the project proponent to design specific mitigation measures. Typical impacts during construction and operation and generic mitigation measures and monitoring protocols are described in the subsequent chapter (Chapter 5).

4.3 SCREENING FOR ALTERNATIVE ALIGNMENT

During the preparation stage, SCL emphasizes on aligning the fiber optic cable according to the shortest possible route from one point to another. However, during the survey if it is found that choosing the shortest route is not going to be possible due to the presence of shops, buildings or other structures or due to the opposition from the community, an alternate route is chosen. Field consultations are carried out and the best possible route is chosen. The baseline project information form (Form-1, Annex III) provides scope for documenting this exercise of choosing alternate routes early on in the planning process.

4.4 CLIMATE AND DISASTER SCREENING

The project level Climate and Disaster Risks Screening Tool was used to screen the SCL operation for climate and disasters and its potential impact on project operation. Annex XVII summarizes the process and results of the screening process for the development of Summit Communications Limited Nationwide Fiber optic cable Project under IPFF-II.

Table 4.1 presents a summary description of exposure to climate and geophysical hazards for the Historical/Current and Future time frames[2]. Exposure to climate hazards is evaluated in two time frames, because past records are not necessarily indicative of future conditions. The extent of the project is nationwide, therefore, the risks described are for the whole of Bangladesh in general.

Table 4.1: Summary of Exposure to Climate and Geophysical Hazards

Hazard	Time Frame	Description of hazards for your location
Extreme Temperature	Current	Average monsoon-season maximum and minimum temperatures show an increasing trend annually at the rate of 0.05°C and 0.03°C, respectively An increasing trend of about 1°C in May and 0.5°C in November during the 14 year period from 1985 to 1998 has been observed
	Future	Projected to increase with greatest warming (Dec-Feb) 1.4°C by 2050 2.4°C by 2100
Extreme Precipitation and Flooding	Current	The erratic nature of rainfall and temperature has increased in Bangladesh. The project area is subject to River/Monsoon flooding. The Meghna River flows in close proximity to the project area.
	Future	As yet it is difficult to project rainfall changes for the Ganges River flood plain, with some models projecting wetter and others projecting drier conditions. However, Runoff, Time between rainy days and Peak 5-day rainfall intensity are expected to increase.
Drought	Current	Certain regions in the northwest where fiber optic cable will be deployed are vulnerable to climatic drought.
	Future	Agricultural drought is expected to increase due to the increase of the erratic nature of rainfall.
Sea Level Rise	Current	The rise is 6 to 9mm annually in the central coastal region, which covers Noakhali, Laxmipur and their adjacent districts while 11 to 20mm rise has been observed in the coastal areas of Chittagong and Cox's Bazaar. In another study by IWM, revaeled that the annual rate of increase of average water level at Khulna, Hironpoint and Khepupara is about 6mm, 8mm and 7mm respectively. Certain locations of the project could be in coastal regions where this risk persists
	Future	Sea level rise is projected for Bangladesh, although there is disagreement on what the degree of sea level will be- one study suggests an increase of 30100 cm by 2100, while the IPCC Third Assessment gives a global average range with a slightly lower values of 9 to 88 cm. While some the project area could be directly affected by sea level rise, there could

[2] The Future time frame is based on changes projected to occur between the 1980-1999 average and a future average. This future average is most likely the 2040-2059 average (i.e., the default in the Climate Change Knowledge Portal - CCKP). Users can choose to select another time frame, or choose to use national/local data sets, but if so, this should be reflected in the notes section of the tool (and summarized in Annex 2). The CCKP draws on global, quality-controlled datasets and is continually updated as new data become available. In some cases, the CCKP is supplemented with other sources of information. For more detail on the data used in this step, please refer to the Data Annex. Climate Change Knowledge Portal (http://climateknowledgeportal.worldbank.org).

Hazard	Time Frame	Description of hazards for your location
		be indirect effects from migrant populations from coastal areas.
Storm Surge	Current	During the period 1960 to 2009, nineteen cyclones hit the coast of Bangladesh. Simulation result from these cyclonic events shows the eastern coast gets a chance of being inundated by 2-3 m. Some project activities could take place in the coastal area. So there is risk of the effects of storm surge.
	Future	Storm surge height is expected to increase, but estimates are highly uncertain. The frequency of tropical cyclones in the Bay of Bengal may increase and, according to the Intergovernmental Panel on Climate Change's Third Assessment Report, there is " evidence that the peak intensity may increase by 5% to 10% and precipitation rates may increase by 20% to 30%" (IPCC 2001). Cycloneinduced storm surges are likely to be exacerbated by a potential rise in sea level of over 27 cm by 2050. An increase of 10 to 20% in tropical cyclone intensities for a rise in sea-surface temperature of 2 to 4°C relative to the current threshold temperature is likewise projected in East Asia, South-East Asia and South Asia (KnutsonandTuleya, 2004, IPCC 2007).
Strong Winds	Current	Significant increasing trends in the cyclone frequency over the Bay of Bengal during November and May, which are main months for cyclone activity in the Bay of Bengal, have been observed.
	Future	The maximum wind speed from tropical cyclones is expected to increase, but estimates are highly uncertain. With higher sea surface temperature, 10% increase in maximum wind speed of cyclone is expected by 2100.
Earthquake	Current	Bangladesh is earthquake prone while varying degrees of hazard are prevalent in different areas. Since the location of the project is all over Bangladesh, this could be in any of the hazard regions I, II and III. However due to climate change, the frequency and magnitudes of earthquakes are not likely to be affected.
Tsunami	Current	Some project activities may be carried out in the coastal or Chittagong-coxsbazar-comilla regions. So the risk of tsunami is there.
Landslide	Current	Existing fiber swap and increase core availability will take place in the Comilla- CTG-Cox region. Chittagong region is prone to landslides.

Insufficient Understanding	Not Exposed No Potential Impact No Risk	Slightly Exposed Low Potential Impact Low Risk	Moderately Exposed Moderate Potential Impact Moderate Risk	Highly Exposed High Potential Impact High Risk

In the case of SCL, the overall summary of risk is as follows:

- Physical components: **Impact from 'Low' to 'Moderate' in future**
- the Non-physical Components : **Slightly Reduces Impact**
- the Broader Development Context : **Slightly Increases Impact**
- Physical components: **Impact from 'Low' to 'Moderate' in future**
- Outcome/service delivery: **Impact from 'Low' to 'Moderate' in future**

4.5 GHG ASSESSMENT OF SCL OPERATION

Main source of energy consumption is diesel used in the generators and HDD operation in the field. On an average 120 Liter diesel is used per km of HDD operation. Assuming that 2.64 kg CO2 is emitted per liter diesel burnt and 5100 km of fiber optic line by HDD will be done in the proposed project over a period of two years, the annual CO2 emission from the project will be (5100/2)*120*2.64 = 807,000 kg CO2/year or 807MT CO2/year. This is much less than 25,000 CO2 emission benchmark per year. Therefore, GHG assessment is not required according to PS3 because the total yearly CO2 emission does not exceed 25,000 MT/year.

4.6 E&S AUDIT

Since SCL is already in operation and is not a greenfield project, an audit has been done based on the current activities of the SCL. The audit can be of two different types:

(a) Section 1 - Environmental Management Systems Audit Checklist

(b) Section 2 - Site Audit Checklist

A detailed ESMS system audit with respect to the provisions of PS1-8 has been carried out in Chapter 7 and the gaps have been identified. The ESAP has been framed based on those gaps. This section presents a sample audit based on field visits to sub-projects and can be considered a subset of the larger system level audit. The detailed findings are described in Annex XIX. **The key findings are below**:

- SCL already has an established ESMS, with duties and responsibilities clearly defined, monitoring mechanism installed and record-keeping practiced. Currently audit reports are internally generated when sub-project work is completed. But no consolidated report prepared.
- SCL provides training on related to OHS issues for contractors and supervisors. Mandatory Health and Safety training is conducted by SCL to technicians and field supervisors at SCL headquarters. Attending training session is mandatory for Vendors/Contractors if they are to undertake the assigned work of fiber optic cable laying.

- Site condition during work has been found to be generally well-organized. The water required for HDD drilling is sourced from outside and not from local water bodies. It is sometimes observed that the discharge from the site are directed towards water bodies without prior treatment (i.e. settling to remove turbidity).
- Plastic bags provided by SCL to dispose solid waste which are sent to designated dump sites.
- HDD work requires diesel as fuel. Although the accounting of fuel use is done, emission from generators is not monitored, fuel secondary containment is not practiced, and fuel containers are not found properly labelled.
- Ambient air monitoring is usually not done. HDD is a wet process. Significant resuspension does not occur during operation. However bare soil and construction materials are managed as per Best management practices.
- SCL ensures that proper protective gears and jackets are worn all the time during work and they provide the PPEs for all work sites for the vendors to use. Night-time is the preferred time for HDD work in dense traffic areas as there is less possibility for traffic disturbance. Adequate lighting is provided for work and the workers to be visible for others. Drinking water (for workers, water quality tested by ICDDRB at the expense of SCL) and first aid kit are provided at work site at all times.
- Emergency preparedness procedures are in place. The site has fire control devices and phone numbers of hospitals, local fire and police stations. Records of minor injuries are also kept.

5.1 ENVIRONMENTAL AND SOCIAL CONSIDERATIONS

By considering certain issues during project formulation, it is often possible to reduce or eliminate some of the possible adverse environmental impacts during both construction and operational phases of a project. For example, efforts to avoid, where possible, critical homestead areas or crossing of rivers/hills/bamboo groves along the route of fiber optic cable lines could greatly reduce adverse impacts during construction and operational phases. Such considerations at the project formulation stage could greatly reduce adverse impacts and facilitate proper environmental management of a project. The following considerations can be made for underground fiber optic cable line deployment sub-projects:

- Keeping the route layout of fiber optic cable line to follow existing roadway network or other public land
- Keeping layout of fiber optic cable line such that the future maintenance work would least interfere with movement of traffic/pedestrian
- Use suitable techniques like traditional trenching or horizontal directional drilling to minimize the socio-economic and environmental impacts.
- Constructing hand-holes in readily accessible locations, which do not disturb the traffic flow or pedestrian movement.

5.2 GENERIC ENVIRONMENTAL AND SOCIAL IMPACTS FOR UG FIBER OPTIC CABLE INSTALLATION

5.2.1 Impacts During Construction

The potential environmental impacts during construction phase of sub-projects could be categorized into: (a) ecological impacts; (b) physic-chemical impacts; and (c) socio-economic impacts.

Ecological impacts during construction

Based on primary assessment of the nature and scale of the proposed sub-projects, it appears that ecological impacts of most sub-projects would be limited to loss of trees/vegetation, and possible adverse impact on aquatic habitat located close to the project location.

Physicochemical impacts during construction

Possible Physicochemical impacts from the sub-project activities to be carried out in different locations may include the following:

- Drainage congestion,
- Noise pollution,
- Air pollution,

- Water pollution,
- Environmental pollution from solid/construction waste

Drainage congestion: During execution of civil engineering projects, temporary drainage congestion often results from obstruction to natural flow of drainage water due to the storage of materials, piled up excavated material/ soil, and temporary embankments constructed to keep the work area dry. Such congestion is particularly important at the project sites adjacent to low-lying areas. Drainage congestions could create significant discomfort to people living in project-surrounding areas.

Noise pollution: For the proposed fiber optic cable installation there will be no long-term impacts on noise levels. During construction, minor short-term noise impacts will be incurred. For underground installation, depending on soil conditions and routing, 0.5 - 1 miles of cable will be installed per day. Noise impacts from underground construction would occur for less than one day for any given area. The traffic-related noise at the area of construction is also not expected to exceed the prevailing baseline noise levels. In summary, no long-term direct impacts on noise levels will occur as a result of the fiber optic cable laying operation. There will also be no indirect or secondary impacts.

Air pollution: Impacts to air quality associated with the proposed fiber optic cable installation are limited to temporary and incidental increases in particulate matter (fugitive dust) during construction. Temporary traffic disruption may cause increased motor vehicle exhaust. Construction equipment, which uses fossil fuel, will cause a short-term increase in GHG emissions into the air and potentially create additional dust. With typical mitigation measures and BMPs, construction will have no long-term impacts to air quality and short-term impacts will be minimized.

Water pollution: Water pollution may result from discharge of water containing eroded soil (high suspended solids), spills and leaks of oils into nearby water bodies (e.g., drain, pond, khal (canal), drain, river). The presence and existing use of water bodies surrounding the sub-project site would determine the level of impact. For example, if a pond located close to a sub-project site is being used for washing/ bathing or for fish culture, pollution of the pond from sub-project activities would generate significant adverse impacts.

Environmental pollution from solid/ construction waste: In some sub-projects, construction debris is likely to be generated from different sub-project activities. Improper management of construction debris and solid waste could cause blockage of drainage line/ path.

Socio-economic impacts during construction: The most significant potential socio-economic impact from the proposed project would be loss of income due to temporary use of land in front of shops and vendors for construction of underground fiber optic cable lines. Possible impact on indigenous population is also an important consideration. The social management framework (SMF) presented in Chapter 5 addresses the temporary resettlement issues, and impact on indigenous population.

This section addresses the other possible socio-economic impacts, which include the following:

- traffic congestion,
- health and safety,
- employment and commercial activities,
- Aesthetic and Visual Resources
- impact on archaeological and historical sites, and
- safeguarding physical cultural resources (PCR),

Traffic congestion: During construction phase of sub-projects, traffic congestion may result from stock piling of material by the sides of roads, increased movement of people and vehicles carrying material and equipment. Installation of fiber optic cable lines in densely populated areas, and construction of fiber optic cable lines along busy highway could aggravate the existing traffic problem during construction phase. This should be addressed with proper traffic management, and avoiding stockpiling of materials in a way that could hamper traffic movement.

Health and safety: Construction activities in densely populated areas and along narrow roads (e.g. during installation of optical fiber lines within city areas) could increase risks to pedestrian and vehicular movement. Safety/ stability of structures (buildings, walls) located very close to the alignment of fiber optic cable lines could be an important issue, especially during construction of optical fiber lines along narrow roads. Besides this, workers involved in fiber optic cable installation or repair may be at risk of permanent eye damage due to exposure to laser light during cable connection and inspection activities. When extending a cable or mounting a cable connector, a microscope is typically attached to the end of the fiber optic cable allowing the worker to inspect the cable end and prepare the thin glass fibers for extension or connection assembly. Workers may also be exposed to minute or microscopic glass fiber shards that can penetrate human tissue through skin or eyes, or by ingestion or inhalation. Optical fiber installation activities may also pose a risk of fire due to the presence of flammable materials in high-powered laser installation areas. Risks of suffocation maybe there while doing work (cable joining, splicing) in confined spaces (the handholes). Adequate protective measures need to be taken.

Employment and Commercial Activities: Construction and installation activities related to this project would provide some relatively small, temporary increases in income and employment in the sub-project area. For example, labor-intensive sub-project works (e.g., manual excavation) could generate employment for considerable number of semi-skilled workforce. These job opportunities would be located in different areas as the work progresses. However, given the size of the labor force in the project area and in surrounding areas, most jobs could be filled by residents of the general area where the work is located except perhaps for a few specialized tasks. Additional facilities for workers (camps, water supply and sanitation, solid waste management) will not be required. Therefore, there likely would be no adverse impacts on community services, schools, housing, or other local services and facilities.

Aesthetic and Visual Resources: If the cables are buried underground, they will not have any long-term visual impact. Temporary impacts to visual and aesthetic resources will occur because of the presence of construction equipment such as trucks, horizontal directional drilling/boring machines, road safety equipment and other construction related items. Along the construction route, sidewalks within cities may be temporarily closed for safety reasons. Long-term impacts include any influences maintenance crews may have during routine maintenance or repairs. 'Handholes' will be located in existing right-of-way and will project slightly above the ground surface. However, the top of the 'Handholes' provide as a base for street side vendors to locate their stalls for business after they are relocated back following the construction works. This will result in insignificant long-term impact on visual aesthetics in the locations chosen for installation. Cable will be laid at a rate of 0.5 – 1 miles per day but it is not anticipated that any construction equipment or activities will be present in any particular location within the project area for more than three days (except HDD work).

Impact on archeological, historical sites and buried PCR: Archeological and historical sites are protected resources. Damage of such sites by digging, crushing by heavy equipment, uprooting trees, exposing sites to erosion, or by making the sites more accessible to vandals are of particular concern. Excavation work may also expose buried physical cultural resources.

5.2.2 Impacts During Operation

The potential environmental impacts could also be categorized into: (a) ecological impacts; (b) physico-chemical impacts; and (c) socio-economic impacts. In general, the potential adverse impacts of the sub-projects during operational phase are not likely to be significant.

Ecological impacts
During operational phase, the possible impact of the sub-project activities on the biological environment would be insignificant. Some of the sub-projects could cause a change in the habitation characteristics of aquatic/terrestrial fauna in the vicinity of the sub-project locations (in open-cut method primarily).

Physicochemical impacts:
No impacts on physic-chemical parameters are anticipated during the operation phase of the project.

Socio-economic impacts:
Human Health: In general, during the operation phase of the project human health and safety is anticipated to be improved by the project through the provision of improved broadband service to unserved or underserved communities, including direct connection to medical facilities or emergency services providers. Improved broadband connectivity may potentially encourage the expansion of remote health services (e.g. connecting health facilities to specialty consultation services, and

providing remote assessment and diagnostic services). By providing additional, more reliable, and faster internet services, the proposed optical fiber network would result in beneficial, regional, long-term, moderate impacts to human health and safety.

Infrastructure: It will facilitate several services which were thought to be not feasible in the past such as online and internet banking, distant learning facilities for educational institutions, resource sharing for libraries as well as other research institutions, telemedicine (remote provision of health services, connecting health facilities to specialty consultation services, providing remote assessment and diagnostic services). This will bring forth a long-term positive impact in the socio-economic landscape of the metropolitan areas.

Employment, commercial activities and other benefits: The properties and anchor institutions that will receive broadband Internet and telecommunication services will provide a significant positive impact to the areas served by the project through shared use of the installed optical fiber network. These impacts include providing disadvantaged and vulnerable populations with access to affordable broadband services in un-served and underserved areas. Once the project is completed, it would directly create a small number of additional jobs. These new jobs would tend to accrue over time, as part of a gradual expansion of the economy. In addition, the increased availability of high-speed broadband infrastructure would provide opportunities for improved efficiencies in commercial and industrial operations and in Government. An improved broadband network will expand competition and will reduce the cost of Internet service to the consumers (i.e. reduced bandwidth price to be paid by the end users).

5.2.3 Cumulative Summary of Impacts

The proposed fiber optic cable laying operation by SCL will not have any lasting adverse environmental impacts on the project area. Implementation of the proposed action would have a limited amount of, short-term, local impacts on flora and fauna, soils, noise level, water resources, air quality, visual and aesthetic resources and traffic movement. It is not expected, however, that any of the above effects would persist over an extended period beyond the installation phase of this project. Positive impacts include improved and cheaper access to Internet and telecommunication facilities, which may have direct and indirect positive impact on the education, health, business and industrial sectors, job creation etc. Past, present, and future uses of the project area include continued use of the city roads for utilities and traffic, khals and waterways for drainage and navigation and bridges for traffic. These types of activities would continue after the project is completed. Thus the proposed project, in combination with past, present, and future uses would not result in any long-term adverse cumulative effects on the project area.

Table 5.1 shows a summary of the environmental and social impacts which were identified in the previous section using a simple semi-quantitative descriptive checklist. The impacts on the environmental compartments (flora and fauna, air, water resources, soil and geology, noise level, etc.) and human-use factors (loss of

income, visual and aesthetic resources, infrastructure, historical and cultural resources human health and safety, etc.) were quantified depending on their typical interaction with project activities during construction and operation phases. The comparison of impacts corresponding to the no project scenario is also presented. Assessments were made as to whether the impacts were positive (beneficial) or negative (harmful), short-term (short recovery time) or long-term (extended recovery time) and of high or low/moderate intensity. Table 5.1 shows that most of the negative impacts are of low intensity and are short-term in nature.

Table 5.1: Summary of environmental and social impacts associated with activities during construction and operation of fiber optic cable network by SCL.

Environmental and Social Impacts	Construction Activities					Operation of fiber optic cable network	No Project Scenario
	Excavation, backfilling and other construction work	Horizontal Directional Drilling work	Fiber optic cable handling and installation	Equipment mobilization	Bridge-crossing of fiber optic cables		
Flora and fauna	**-1S**	**-1S**	**0**	**-1S**	**0**	**0**	**0**
Noise pollution	**-1S**	**-1S**	**0**	**-1S**	**-1S**	**0**	**0**
Air pollution	**-1S**	**-1S**	**0**	**-1S**	**0**	**0**	**0**
Geology and soils	**-1S**	**-1S**	**0**	**0**	**0**	**0**	**0**
Water resources	**-1S**	**-1S**	**0**	**0**	**0**	**0**	**0**
Aesthetic and visual resources	**-1S**	**-1S**	**0**	**-1S**	**-1S**	**+1L**	**-1L**
Infrastructure	**-1S**	**0**	**0**	**-1S**	**-1S**	**0**	**0**
Loss of income	**-1S**	**-1S**	**-1S**	**-1S**	**0**	**0**	**0**
Socio-economic impact	**+1S**	**+1S**	**0**	**+1S**	**+1S**	**+3L**	**-2L**
Human health and safety	**-1S**	**-1S**	**-2S**	**-1S**	**-1S**	**+3L**	**-1L**

Note: +3 = High Positive Impact, +2 = Moderate positive impact, +1 = Low Positive Impact, 0 = No impact, -1 = Low Negative Impact, -2 = Moderate Negative Impact, -3 = High Negative Impact S = Short term impact, L = Long term impact.

5.2.4 No Project Scenario

The No Action Alternative would have no negative impacts on the existing environmental and social resources but the positive socio-economic and infrastructure impacts would also not be realized under this alternative. The project service area will continue to be underserved or un-served, which will result in limited opportunities for improved education, medical, employment, and economic development. The metropolitan areas would continue to use the existing limited bandwidth broadband services provided by different ANS providers. The internet connectivity in the region would continue to be outdated, and potentially even obsolete, and the system would continue to be limited in reliability, speed and capacity. The No-Action Alternative would not provide improved reliable and faster telecommunications networking services, including high-speed connections, which are required in today's environment for educational, medical, and commercial purposes. Also the current cluttering of broadband lines operated by multiple ANS operators that we now see will increase (due to increased number of connections in future) further deteriorating the aesthetic and visual resources of the metropolitan cities.

5.3 MITIGATION MEASURES AND MONITORING REQUIREMENTS

Table 5.2 shows the mitigation measures corresponding to specific adverse impacts during construction phase, along with assignment of responsibilities for their implementation. The measures presented in Table 5.2 are aimed at minimizing the effects of the possible adverse impacts and enhancing the positive impacts. This is the responsibility of Contractors (supervised by SCL)

Table 5.2: Environmental impact during construction phase for installation of fiber optic cables by SCL and mitigation measures

Activity/Issues	Potential Impacts	Proposed Mitigation and Enhancement Measures
Excavation and backfilling (trenching operation), concreting work, mobilization of vehicles and equipment	• Air Pollution due to fugitive construction dust, fossil fuel burning by construction equipment, increased traffic	• Ensure that all project vehicles are in good operating condition • Spray water on dry surfaces/ unpaved roads/ vulnerable areas regularly to reduce dust generation • Maintain adequate moisture content of soil during transportation, compaction and handling • Sprinkle and cover stockpiles of loose materials (e.g., fine aggregates for concreting work). • Securing and covering material in open trucks while hauling excavated material, construction materials (for concreting work)

Activity/Issues	Potential Impacts	Proposed Mitigation and Enhancement Measures
		• For concreting work, not using equipment such as stone crushers at site, which produce significant amount of particulate matter • Establishment of minimally intrusive and well-designed traffic patterns for onsite construction activities • Limiting GHG emission by using modern construction equipment and by prohibiting excessive idling of equipment when not in use. • Apply relevant Best Management Practices for excavation and preventing air pollution from construction activities (Annex X)
	• Damage/ reduction of native flora, displacement of wildlife, birds etc.	• Plantation/afforestation program for tree replacement (plantation of at least two trees of similar species for each cut tree). • Provide proper compensation if there is any destruction of trees outside RoW. • Not removing undergrowth fully where possible, so that they may re-grow naturally after the project activity. • Control intensive movement of heavy construction vehicles. • Temporary stockpiling of materials should be done on non-vegetative surfaces • Avoid removing mature riparian vegetation. • Re-vegetation should be done using native, non-invasive species and by preventing the introduction of noxious weeds • Keep noise level (e.g., from equipment) to a minimum level, as certain fauna may be very sensitive to loud noise. • Apply relevant Best Management Practices (Annex X) for disturbance to fauna and faunal habitat.
	• Water pollution by suspended solids as a result of soil erosion or by accidental fuel spills	• Remove from site excess subsoil, substrate, and/or large rock materials that cannot be buried in the excavated trench • Install sediment basins to trap sediments in storm water prior to discharge to surface water. • Replant vegetation when soils have been exposed or disturbed. • No in-stream river or water body crossing will be allowed • Work would be halted when wet conditions would lead to excessive damage to soils and vegetation in work areas.

Activity/Issues	Potential Impacts	Proposed Mitigation and Enhancement Measures
		• Employ typical spill prevention guidelines as outlined in the BMP (Annex X). • Hazardous materials (fuel) will not be drained into the ground or allowed to drain into the nearest drainage canals. • A spill prevention, containment, and countermeasure plan would be prepared. This plan would detail the measures required of all construction, operation, and maintenance personnel for transport, storage, use, spill response/ containment, and disposal of hazardous materials, waste, and debris.
	• Noise pollution	• Use of noise suppressors and mufflers in heavy construction equipment. • Avoid using of construction equipment producing excessive noise during school hours and also at night • Avoid prolonged exposure to noise (produced by equipment) by workers/ give protective gears • Regulate use of horns and avoiding use of hydraulic horns in project vehicles.
	• Disruption of local drainage	• Provide adequate diversion channel, if required • Provide facilities for pumping of congested water, if needed • Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the wet season.
	• Traffic congestion during roadside work	• Schedule deliveries of material/ equipment during non-school hours and after regular working hours • Employ a minimally intrusive and well-designed traffic patterns for onsite activities • Depute flagman for traffic control • Arrange for signal light at night
	• Direct or indirect impact to natural, manmade or buried physical cultural resources	• Excavation activities through places of archaeological and historical importance should be avoided at all costs. • Place fences at the boundaries of these places so that construction activities or equipment movement do not harmfully affect them. • Limiting noise-generating activities near such sites, which can interfere with the use and enjoyment of PCR such as tourist destinations, historic buildings, religious establishments and cemeteries.

Activity/Issues	Potential Impacts	Proposed Mitigation and Enhancement Measures
		• During excavation activities, if any buried PCR items are found, the Chance Find Procedures outlined in Annex VIII should be followed.
	• Health and safety of workers, risk to pedestrian movement	• Clean bill of health a condition for employment • Provide the workers with personal protective equipments for protection against dust and noise • Contractors and workers should wear high visibility safety apparel while working in public right of way. • Signposts and directional signs should be provided at appropriate locations for pedestrians and traffic at construction site. • Contractor/SCL should develop an occupational health and safety plan
	• Obstruction or interference with other utility infrastructures	• During design and permitting process of the project, efforts should be made to coordinate and minimize disruptions
Installation of fiber optic cables	• Various injuries related to fiber optic cable handling (exposure to laser, microscopic fiber optic shards), fire hazard	• Follow the fiber optic cable safety protocols as stated in IFC guidelines for environmental, health and safety for telecommunications Annex X
	• Risks due to working in confined spaces (handholes) for joining, splicing cables and for periodic maintenance	• Designing the handhole in such a way that the dimensions are suitable for entry for most workers. • Providing protective clothing (boots, helmets) and arranging adequate lighting. • Ventilating the workspace, if required.
Horizontal Directional Drilling Work	• Noise and air pollution, worker health and safety, disruption of local drainage	• As applicable, adopt similar noise and air pollution mitigation measures, measures to prevent drainage congestion and ensuring worker health and safety stated above for trenching operation, concreting work, mobilization of vehicles and equipment.
	• Water pollution due to sediment suspension (increase in suspended solids) or washing away of slurry to the water bodies	• The directional drilling equipment should be placed away from stream shore (at least 20 feet away from stream shore according to BMP in Annex IX) • Ensuring that no seepage occurs through the borehole. In case of seepage, the procedures outlined in

Activity/Issues	Potential Impacts	Proposed Mitigation and Enhancement Measures
		the BMP (Annex IX) should be followed. • In water body crossing, it has to be ensured that the borehole remains at a sufficient depth below the lowest bed level of the water body. The accurate bed level of water bodies needs to be determined through morphological surveys.[a] • After completion of the borehole, all slurry should be removed from the construction site and disposed in an approved site.
Water body crossing operation of fiber optic cables by clamping to bridge	• Noise and air pollution	• As applicable, adopt similar noise and air pollution mitigation measures stated above for trenching operation, concreting work, mobilization of vehicles and equipment.
	• Disruption of bridge traffic	• Employ a minimally intrusive and well-designed traffic patterns for onsite activities • Depute flagman for traffic control • Arrange for signal light at night
	• Health and safety of workers	• Provide the workers with personal protective equipment for protection against noise. • Provide the workers with life jackets with high visibility while working on the bridge. • The contractor needs to provide workers with protective clamping to workers working form high elevations. • Signposts and directional signs should be provided at appropriate locations for diverting pedestrians and traffic on the bridge. • SCL/Contractors should comply with the relevant IFC guidelines of occupational health and safety (Annex X)

[a]Any morphological survey work performed by the Contractor or any other party has to be approved by SCL before the initiation of drilling. Detailed survey maps prepared by the Contractor or any other party will be presented to SCL who would first check the technical viability of HDD operation. Only after their approval, work can commence.

At the operational phase, SCL will be responsible for the operation and maintenance of the fiber optic cable network and ancillary facilities. Operation and maintenance will be on foot traffic only and no adverse environmental impact to environmental parameters is anticipated during this phase. However, during the maintenance and repair of fiber optic cables, the issue of worker exposure to laser and microscopic fiber optic shards would have to be considered. The safety protocols stated in the IFC/World Bank Group EHS guidelines for fiber optic cable safety would have to be

followed in order to minimize and eliminate any adverse effect on worker health and safety.

Monitoring Plan

Apart from general monitoring of mitigation/enhancement measures, important environmental parameters to be monitored during the construction phase of the sub-projects include noise level, water quality, drainage congestion etc. Table 5.3 presents guidelines for monitoring of specific environmental parameters during construction phase of all the sub-projects.

Table 5.3: Guidelines for monitoring of environmental parameters during construction phase

Monitoring	Period/Location	Parameters to be monitored	Monitoring Frequency and responsibility	Resources Required
Noise Level	Baseline One set of measurements at property boundaries of selected critical locations (schools, residential areas, hospitals etc.) prior to commencing cable laying activities	Equivalent Noise level (L_{eq}) with GPS location, wind speed and direction	Spot checking at SCL's discretion; Contractor/SCL's Responsibility	Noise level meter, GPS;
	Three set of measurements at the same locations during cable laying process (trenching)			
	Three set of measurements at the same locations during cable laying process (HDD operation)			
Air Quality (dust particles/ particulate matter)	Baseline Only at selected critical locations downwind of site activities (prior to commencement of work) and in close proximity to human receptors	SPM, PM_{10} with GPS location, wind speed and direction	Spot checking at SCL's discretion; Contractor/SCL's Responsibility	Particulate matter sampling device, GPS Wind speed/direction data to be collected from local BMD station
	Only at selected critical locations downwind of site activities (during trenching and cable laying work) and in close proximity to human receptors			

Monitoring	Period/Location	Parameters to be monitored	Monitoring Frequency and responsibility	Resources Required
	Only at selected critical locations downwind of site activities (during HDD activities) and in close proximity to human receptors			
Water Quality	Baseline: One measurement from the nearest surface water body[a]	Turbidity, Total Suspended Solids, Total Solids, Dissolved Oxygen	As directed by field supervisor; Contractor/SCL's Responsibility[a]	Laboratory facilities for water/ wastewater analysis, visual observation of water turbidity before and after work
	One measurement from the nearest surface water body during cable laying operation by trenching			
	One measurement from the nearest surface water body during cable laying operation by HDD[a]			
General site condition	Baseline: Visual survey (once) of proposed cable laying site before prior to cable laying operation	General site condition, traffic condition, pedestrian movement, vegetation clearance etc. by visual survey (photographs)	As directed by field supervisor; Contractor/SCL's Responsibility	Digital camera (Photograph of work area)
	Visual survey of cable laying site during the entire period of cable laying operation			
House-keeping activities, Safety measures during construction	Visual survey of cable laying site during the entire period of cable laying operation	Construction debris management, traffic management, management of flammable materials (if any), use of Personal Protective Equipment by workers etc.	As directed by field supervisor; Contractor/SCL's Responsibility	Digital camera (photograph evidence)
Occupational Health and safety Compliance	During the period of cable lay for workers engaged in optical fiber connection	Routine eye examination	For workers exposed to laser light during cable installation. For SCL's employees, annual eye screening test report and for vendors, awareness to be	Eye specialist

Monitoring	Period/Location	Parameters to be monitored	Monitoring Frequency and responsibility	Resources Required
			created in training session.	
Drinking water and sanitation at workplace	During entire period of construction	Drinking water quality parameters, provision of sanitation	Provision for each worker	Water quality test: laboratory facilities

[a]No need to perform this measurement if no water body is present in close proximity to the work site

No adverse environmental or social impacts during the operation phase of the proposed fiber optic cable installation project is anticipated. However, the following issues need to be addressed during the operation phase:

- For open-cut method, the trenches should be monitored over a three-year period for settling and possible cracks showing evidence of disturbance from proposed activities. Visual observation with photograph documentation in this case would be sufficient. This is the responsibility of SCL.

- For open-cut method, the project-affected area should be monitored over a period of one year to ensure reseeding does not appear unnatural (i.e. presence of non-native or invasive species). Visual observation with photograph documentation in this case would be sufficient. This is the responsibility of SCL.

- For personnel engaged in fiber optic repair and maintenance, if they are exposed to laser during such operation, they should have their eyes examined regularly by a medical professional. This would be the responsibility of SCL and the actual frequency of monitoring would have to be determined by SCL as well.

5.4 COST OF ENVIRONMENTAL MONITORING

Many of the activities to be carried out as a part of EMP would not involve any additional direct cost e.g., employing local work force, where appropriate; keeping sub-project vehicles in good operating condition; scheduling deliveries of materials/ goods in off-peak hours; good housekeeping, avoiding spills; etc. On the other hand, a number of activities would require additional cost. Environmental monitoring during construction phase would involve direct cost. At the same time, a number mitigation measures (including health and safety measures) would require additional cost; these include medical examination, installation of health and safety signs, awareness documents (signs/ posters), water sprinkling on surfaces, plantation, and protective gear. Table 7.4 provides method of estimation of costs of different items of EMP.

Table 5.4: Method/ basis of estimation of cost of Monitoring

Item	Basis of cost/Estimated cost
Monitoring:	
Noise level	Prevailing rate (~ Tk. 5,000/- per measurement per day)
Air Quality (SPM, PM_{10})	Prevailing rate (~ Tk. 8,000/- per measurement)
Water quality (Turbidity, Total Suspended Solids, Total Solids, Dissolved Oxygen)	Prevailing rate (~ Tk. 2,000/- per sample)
Health/ safety signs (size and number to be estimated)	Prevailing PWD/LGED/REB/PGCB rate /Lump sum amount
Water sprinkling on aggregate	Latest PWD/LGED rate (if available)/A fixed rate per cubic meter of aggregate per day
Traffic control (estimate number of flagman needed and duration of work)	Latest PWD/ LGED rate (if available)/A fixed rate per flagman per day/ Lump sum amount
Traffic light	Latest PWD/ LGED rate (if available)/ Lump sum amount
Protective gear	Contractor to quote rate of different items of works considering the provision of adequate protective gear for workers, in accordance to the conditions of contract, specified in the Tender Document
Plantation (including protection/ fencing and conservation during project period)	Prevailing rate (~ Tk. 1,000/- per plant)

5.5 OCCUPATIONAL HEALTH AND SAFETY

For the sub-projects to be implemented by SCL, the occupational health and safety primarily focuses on work equipment and protective gear. The following section provides guidelines/ directives for: (a) work equipment, (b) protective gear, and (c) safety and health signs.

5.5.1 Suggested Safety Directives for Work Equipment

It is employer's (contractor/SCL) obligation that every possible measure is taken to ensure the safety of the work equipment made available to workers. During the selection of the work equipment the employer shall pay attention to the specific working conditions, which exist at the workplace, especially in relation of safety and health of the workers. A brief list of work equipment safety issues is given below:

- Work equipment control devices which affect safety must be clearly visible and identifiable and appropriately marked where necessary.

- Where there is a risk of mechanical contact with moving parts of work equipment, which could lead to accidents, those parts must be provided with guards or devices to prevent access to danger zones or to halt movements of dangerous parts before the danger zones are reached.

- Work equipment may be used only for operations and under conditions for which it is appropriate.

- Work equipment must bear the warnings and markings essential to ensure the safety of workers.

- All work equipment must be appropriate for protecting workers against the risk of the work equipment catching fire or overheating, or of discharges of gas, dust, liquid, vapor or other substances produced, used or stored in the work equipment.

- Work equipment must be erected or dismantled under safe conditions, in particular observing any instructions, which may have been furnished by the manufacturer.

5.5.2 Safety Directives for Protective Gears

Personal protective equipment is suggested for use when the risks cannot be avoided or sufficiently limited by technical means. All personal protective equipment must

- be appropriate for the risks involved, without itself leading to any increased risk
- correspond to existing conditions at the workplace
- fit the wearer correctly after any necessary adjustment.

The Contractor/SCL shall organize orientation to use of personal protective equipment. Workers shall be informed of all measures to be taken. Consultation and participation shall take place on the matters related to the use of the protective equipment. A partial list of protective gears to be worn by the workers at designated work areas is given below:

- Head Protection: Protective helmets will be put on at all times mainly at the control center construction sites, under scaffolds, erection and stripping of formworks, etc., where there are possibilities of head injuries from falling/flying objects.
- Eye and Face Protection: Spectacles, Goggles, Face Shield or Arc-welding Mask with Hand Masks, whichever is appropriate

5.5.3 Safety and Health Signs

Safety signs, health signs, prohibition sign, warning sign, mandatory sign, emergency escape sign, first-aid sign, information sign, signboard, supplementary signboard, safety color, symbol, pictogram, illuminated sign, acoustic signal, verbal communication and hand signal are essential tools for preventing accidents by

providing information in advance. The Contractor/SCL will provide or ensure that appropriate safety and/or health signs are in place at their work sites where hazards cannot be avoided or reduced.

5.6 SOCIAL MANAGEMENT PLAN (SMP)

Installation of underground / overhead fiber optic cable lines may cause temporary loss of income resulting from temporary disruption of commercial activities at structures/ entities (e.g., shops) and that of the squatters located very close to the fiber optic cable routes (e.g., on footpaths close to the optic fiber line alignment). The loss of income to the street side shops or squatters may be significant, moderate or minor depending on the extent of the work. Once it is determined through the social screening that a sub-project will cause loss of income, a Social Management Plan (SMP) needs to be prepared. SMPs are designed to ensure that impacts arising from loss of income and assets are mitigated, managed and compensated. The SMP focuses on people affected by restriction of access, loss of assets and define a strategy for formalizing arrangements and responsibilities for mitigating impacts caused due to these losses. The detailed guideline for preparing a SMP is given in Annex XII. The Annex describes procedures for participation and consultation, compensation entitlements, grievance redress mechanism and implementation arrangements for SMP.

5.7 INDIGENOUS PEOPLE'S PLAN (IPP)

Although the project has taken the exclusion criteria to avoid any negative impact on the indigenous communities, if screening suggests that indigenous people may be affected, an IPP needs to be prepared. The guidelines on indigenous people management are presented in this Annex XIII which will apply where sub-projects proposed in areas inhabited by indigenous peoples. The annex describes procedures for identifying indigenous people, IP consultation strategies outline of an IPP.

6.1 PROCEDURES FOR E&S MANAGEMENT

For sub-projects to be implemented by Summit Communications Ltd., an "Environmental and Social Unit" within the SCL will oversee the environmental and social management issues associated with the project. For effective and timely implementation of environmental safeguard activities, two senior officials (Deputy Manager and Senior Manager of SCL) will work and report to the General Manager or equivalent who will assist the focal person (General Manager of SCL). These officials will be responsible for the activities of "Environmental and Social Unit" in undertaking environmental screening and monitoring and will report directly to the General Manager SCL. Figure 5.1 shows activities and institutional responsibilities for overall implementation of the proposed fiber optic network project by SCL.

SCL will be responsible for carrying out E&S screening in accordance with the template provided in Annex III-V. The screening form has been designed to conduct preliminary assessment of the impacts of major sub-project activities on the ecological, physical-chemical and socio-economic environment of the surrounding areas. SCL will prepare site-specific mitigation measures and monitoring protocol as shown in Annex V. SCL will adopt the mitigation measures which best suits their practice and relevant to the conditions at the site based on the generic EMP and BMPs. For environmental assessment, SCL will not hire individual consultants. The 'Environment and Social Unit' of SCL will be responsible for implementation of EMP and preparation of quarterly reports. Timing, frequency and duration of monitoring protocols is linked to the overall implementation schedule of the project and will be decided by the head (General Manager or equivalent) of PMU. The environmental and social focal person of PMU (General Manager or equivalent of SCL) will share half yearly progress report on EMF implementation with the IPFFII cell of Bangladesh Bank. A sample Project implementation record is provided in Annex XI.

A third party consulting firm (to be hired separately by SCL) may be given the responsibility to independently monitor the overall performance of environmental management of the proposed project, including compliance with relevant WB regulations and performance standards.

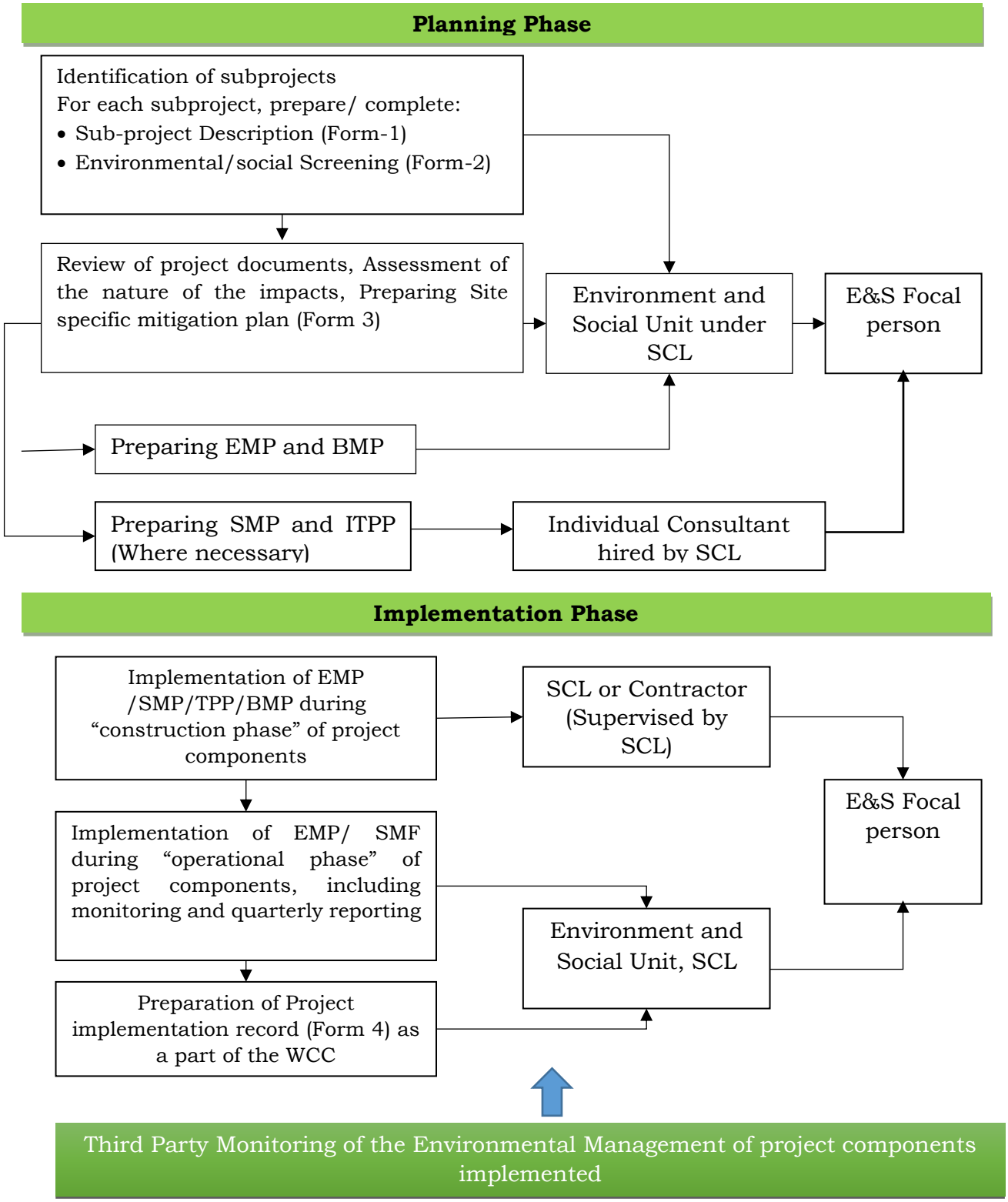


Figure 6.1: The Environmental and Social Management System of SCL

6.2 STAKEHOLDER ENGAGEMENT

6.2.1 Stakeholder engagement Plan

Stakeholder engagement is an indispensable part of SCL operation as fiber optic cable will be installed in public land near human settlements or other workplaces. Since the details of the project location are not known and will be decided at a future date, the Stakeholder Engagement Plan is presented as a framework (see Annex XVI) as to delineate the approach to stakeholder engagement that is envisaged during project implementatioin. The framework firstly lays out how to identify the stakeholders who will be informed and consulted about the project, including individuals, groups, or communities that:

• Are affected or likely to be affected by the project (project-affected parties); and
• May have an interest in the project (other interested parties).

Then it discusses the procedures to be followed in order to arrange meetings or interviews with stakeholders. SCL will carry out stakeholder consultation as a part of the baseline survey which will document the procedures followed, summary of discussions and key issues solved (if any). These will be documented in Form-1.

6.2.2 National level and local stakeholder discussions

Summit Communications Limited (SComm) has arranged a National Level Stakeholder Discussion Session on Environmental and Social Impact of optical fiber cable deployment on Tuesday, April 20, 2021 at 11:00 AM through online platform. The Company sent invitation to mostly related stakeholders such as BTRC, RHD, City Corporations, Mobile Operators, ISPs and ESIA Consultant. The discussion session was aimed at informing the stakeholders on SCL activities and its Environmental and social management procedures. Annex XXI provides the detailed minutes of the discussion session

Also, public consultations in the form of Key Informant Interviews (KIIs) were carried out for documenting the opinions and concerns of stakeholders regarding the proposed project, and also for assessment of social and environmental impacts of project activities during construction or operation phases of this project. KIIs were carried out among several Internet Service Providers, government officials, members of the local government, roads and highways department whose comments highlighted several issues involving maintenance operations and long-term sustainability of the project. Most participants expressed their opinion regarding the proposed project, their involvement, suggestion etc based on similar type of project experience by them. The Telecomm. Ministry official informed that implementation problems arise during laying of fiber optic cable by NTTNs mostly due to lack of co-ordination between NTTNs and permitting agencies which causes unnecessary delays. The Roads and Highways Dept official opined that SCL should try to lay the fiber optic as per approved layout and they should be cautious about not damaging existing road structures. The internet service providers mostly talked about various issues associated with fiber optic cable laying in dense neighbourhoods, price of internet service and how SCL can improve their operation to provide a better service. Annex XXI provides the details of the discussions.

6.3 GRIEVANCE REDRESS AND DISCLOSURE

Grievance Related to Workers

The third party (Contractors) are the first recipients of any grievance related workers (salary, working condition, working hours etc). However, the SCL field supervisor oversees the response of Contractors. In case the Contractor is not able to solve the grievance, the SCL supervisor himself solves the problem at the sub-project level. The workers are free to register their grievances in SCL headquarters formally, the modality of which are mentioned below.

Grievance Related to SCL Employees or Any Affected Persons

Any persons can register their grievances by the modes of receive set by SCL. All grievances are accumulated directly to the SCL head office. The Receive modes are:

- **24-7 Hotline:** Grievances are received mainly by a 24-7 hotline (Number: +8801938432480, +8801938432481). Competent representative of SCL is required to be available at the hotline to receive any grievance at the first time.
- **Fax:** The sub-project-affected persons can also register their grievances via a fax (Fax Number: 02-8189577).
- **Email:** Any kind of complain can also be received by SCL via Email (Email address: support@summitcommunications.net).
- **Letter:** preferred mode of grievance placement by government organizations or private entities.

The first stage of grievance redress involves solution of the problem directly at the field level by the field supervisor. This is usually the case when remedy is sought if SCL operation ruptures adjacent utilities (Gas, water or wastewater lines) and the grievance is received by the field supervisor directly. If the grievance cannot be solved at the field level, it will be forwarded to the headquarters in Dhaka for the Corporate Affairs Office to deal with.

If the grievance is received at the Headquarters, grievances may be categorized according to the severity level of the Grievance and registered to the databank of SCL. All grievances will be initially received by the Corporate Affairs Department of SCL. SCL would duly address their grievances within one month of the receipt of the complaint. A Grievance Redress Committee (GRC) may be considered in outstanding cases that cannot be resolved directly and require mediation by a third party. After addressing the complainant's grievance, a written confirmation will be taken and finally the database will be compiled to the databank. GRC will not certainly prohibit the complainant's right to go to the court.

DISCLOSURE

Executive Summary of the document is to be translated into Bangla (local language) and disclosed locally and the English versions disclosed in the SCL website. In addition, hard copies of these documents in English (including an executive

summary in Bengali and English) will be made available in Headquarters and regional offices. Any public notices (or any other means of communication) posted ahead of the construction work at a certain location should also contain the information as to where the ESIA would be available.

This section analyzes the gaps in the existing Environmental and Social Management System of SCL with respect to the eight World Bank Group Performance Standard Requirements pertaining to OP 4.03 and provide recommendations of closing the gap. The analysis and the recommendations are delineated in Table 7.1.

Table 7.1: Analysis of gaps of ESMS of SCL with respect to the OP4.03 Performance Standards and measures

	OP 4.03 Performance Standard Requirements	Observations	Measures
1	**PS 1: Assessment and Management of Environmental and Social Risks and Impacts**		
Environmental and Social Assessment and Management System			
1.1	The client will conduct a process of environmental and social assessment, and establish and maintain an ESMS appropriate to the nature and scale of the project and commensurate with the level of its environmental and social risks and impacts.	The SCL project involves laying underground fiber optic cables over several Thousand kilometers primarily through HDD. The actual location of these interventions (i.e subprojects) are not decided yet and will only be known during implementation. SCL has previously developed an ESMF which has been applied for E&S Screening, Assessment and designing mitigation measures. The templates for screening and assessment are provided in Annex III-V. The ESMF was designed for the purpose of integrating it into the company's ESMS. However, regular E&S screening and documentation has not been universally practiced for all sub-projects. This indicates that the Environmental and Social due diligence has not been wholly integrated into the system.	Integrate environmental and social due diligence into the operations of SCL. This includes: - E&S screening and assessment - Application of mitigation measures - Documentation and reporting
1.2	The client will establish an overarching policy defining the environmental and social objectives and principles that guide the project to achieve sound environmental and social performance.	SCL has a health, safety and security policy which guides its compliance activities (Annex I).	No Action required
Identification of Risks and Impacts			

	OP 4.03 Performance Standard Requirements	Observations	Measures
1.3	The client will establish and maintain a process for identifying the environmental and social risks and impacts of the project.	The process of identification of the E&S risks and impacts are laid out in the screening forms (Annex IV). The process has been established but it has not been wholly integrated in the ESMS.	See recommendations of 1.1
1.4	Where the project involves specifically identified physical elements, aspects, and facilities that are likely to generate impacts, environmental and social risks and impacts will be identified in the context of the project's area of influence.	The area of influence of the underground fiber optic cable laying operation is defined clearly in the protocol of assessment.	No actions required
1.5	In the event of risks and impacts in the project's area of influence resulting from a third party's actions, the client will address those risks and impacts in a manner commensurate with the client's control and influence over the third parties, and with due regard to conflict of interest.	There may be risks of fiber optic cable rupture during activities of other projects which involves earthwork and excavation. The management of risk is addressed in the environmental management plan	No action required
1.6	Where the client can reasonably exercise control, the risks and impacts identification process will also consider those risks and impacts associated with primary supply chains, as defined in Performance Standard 2 and Performance Standard 6.	Primary supply chain is not relevant to SCL operations	Not applicable
1.7	Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate environmental and social impacts, the identification of risks and impacts will take into account the findings and conclusions of related and applicable plans, studies, or assessments prepared by relevant government authorities or other parties that are directly related to the project and its area of influence.	Other development activities may affect the proposed layout of the fiber optic cables. In the screening process, there is scope to address this at the initiation of the sub-project. It is suggested to study feasibility reports, ESIA reports of such projects in order to determine impact and route of fiber optic cable	No action required

	OP 4.03 Performance Standard Requirements	Observations	Measures
1.8	Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate impacts, and as part of the process of identifying risks and impacts, the client will identify individuals and groups that may be directly and differentially or disproportionately affected by the project because of their disadvantaged or vulnerable status.	SCL engages with key stakeholders before the work order of their contractors are issued. This includes local authorities (municipalities, city corporations, pourashavas) to get their approval and conditions (if any) for work. Local utility companies are also consulted to avoid potential conflict.	No action required
Management Programs			
1.9	Consistent with the client's policy and the objectives and principles described therein, the client will establish management programs that, in sum, will describe mitigation and performance improvement measures and actions that address the identified environmental and social risks and impacts of the project.	A generic environmental and social management plan has been developed for typically identified risks and impacts for the SCL project. Site-specific plans may be developed based on screening and assessment.	No Action Required
1.10	Depending on the nature and scale of the project, these programs may consist of some documented combination of operational procedures, practices, plans, and related supporting documents (including legal agreements) that are managed in a systematic way.	The generic environmental and social management plan refers to Best Management Practices of fiber optic cable laying operation (see Annex IX)	No Action Required
1.11	Where the identified risks and impacts cannot be avoided, the client will identify mitigation and performance measures and establish corresponding actions to ensure the project will operate in compliance with applicable laws and regulations, and meet the requirements of Performance Standards 1 through 8.	A generic environmental and social management plan has been developed for typically identified risks and impacts for the SCL project. Site-specific plans may be developed based on screening and assessment.	No Action Required

	OP 4.03 Performance Standard Requirements	Observations	Measures
1.12	The management programs will establish **environmental and social Action Plans**, which will define desired outcomes and actions to address the issues raised in the risks and impacts identification process, as measurable events to the extent possible, with elements such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods, and with estimates of the resources and responsibilities for implementation.	An Environmental and Social Action plan has been developed for SCL in order to address the gaps in the system with respect to Performance Standards 1 - 8	No Action Required
Organizational Capacity and Competency			
1.13	The client will establish, maintain, and strengthen as necessary an organizational structure that defines roles, responsibilities, and authority to implement the ESMS. Key environmental and social responsibilities should be well defined and communicated to the relevant personnel and to the rest of the client's organization.	The Deputy Manager of Human Resources is currently acting as the EHS focal person of SCL. His operation includes addressing general compliance issues by taking feedback from the field supervisors. However, the E&S screening is done by other personnel who will not necessarily report to the EHS focal point. On the other hand the EHS audit for Work Completion Certificate is done by a separate division which also works independently of the above two personnel. This indicates that the organizational structure needs revision for better environmental and social due diligence.	The organizational structure needs to be revised for effective implementation of ESMS. This includes: - Designating a focal point of the ESMS - Establish a clear link between the field supervisors, EHS auditors with well-defined roles and hierarchy in monitoring and reporting
1.14	Personnel within the client's organization with direct responsibility for the project's environmental and social performance will have the knowledge, skills, and experience necessary to perform their work, including current knowledge of the host country's regulatory requirements and the applicable requirements of Performance Standards 1 through 8.	The Deputy Manager of Human Resources is currently acting as the EHS focal person of SCL. Although he has training on basic EHS compliance but there is scope for further training and improvement	SCL should arrange for training of the EHS focal point on relevant regulations, and the applicable requirements of PS 1 to 8

	OP 4.03 Performance Standard Requirements	Observations	Measures
1.15	The process of identification of risks and impacts will consist of an adequate, accurate, and objective evaluation and presentation, prepared by competent professionals.	Currently the screening is carried out by competent professionals within the SCL	No Action Required
Emergency Preparedness and Response			
1.16	Where the project involves specifically identified physical elements, aspects and facilities that are likely to generate impacts, the ESMS will establish and maintain an emergency preparedness and response system so that the client will be prepared to respond to accidental and emergency situations associated with the project in a manner appropriate to prevent and mitigate any harm to people and/or the environment.	SCL has an emergency preparedness and response system at the worksite. Workers injury and accidents are the major emergency concerns for SCL operation.	No Action Required
1.17	Where applicable, the client will also assist and collaborate with the potentially Affected Communities (see Performance Standard 4) and the local government agencies in their preparations to respond effectively to emergency situations, especially when their participation and collaboration are necessary to ensure effective response.	During work in progress, SCL field supervisor liaise with local police station and district hospitals/ upazila health complexes for security and emergency medical treatment. The involvement of local communities in addressing emergency situations has so far has not been necessary.	Not applicable
Monitoring and Review			
1.18	The client will establish procedures to monitor and measure the effectiveness of the management program, as well as compliance with any related legal and/or contractual obligations and regulatory requirements.	The SCL field supervisor oversees the compliance activities in the worksite and enforces the contractor to adhere to the basic EHS requirements. The reporting of compliance is not done in a coherent manner (i.e. different persons in the organization are assigned to assess various compliance tasks). So determining the overall effectiveness is difficult. Also, several suggested monitoring requirements in the EMP has not been met (e.g. eye	Streamline all compliance monitoring so that effectiveness of ESMS can be assessed. Also, expand the current system of EHS audit to include the recommended monitoring parameters suggested in the EMP.

	OP 4.03 Performance Standard Requirements	Observations	Measures
		examination of personnel involved in checking fiber integrity with laser). This should be integrated into the EHS requirement.	
1.19	In addition to recording information to track performance and establishing relevant operational controls, the client should use dynamic mechanisms, such as internal inspections and audits, where relevant, to verify compliance and progress toward the desired outcomes.	SCL has a system of internal audit to verify compliance	No Action Required
1.20	Senior management in the client organization will receive periodic performance reviews of the effectiveness of the ESMS, based on systematic data collection and analysis	The data collection for E&S screening and assessment has not been systematic, although internal EHS audits have been done. So the higher management do not get the whole picture of the ESMS	Establish a system so that the senior management receive reviews on all aspects of the ESMS
	Stakeholder Analysis and Engagement Planning		
1.21	Clients should identify the range of stakeholders that may be interested in their actions and consider how external communications might facilitate a dialog with all stakeholders	SCL has a framework for identifying stakeholders	No Action Required
1.22	The client will develop and implement a Stakeholder Engagement Plan that is scaled to the project risks and impacts and development stage, and be tailored to the characteristics and interests of the Affected Communities.	SCL currently does not have any framework for developing a stakeholder engagement plan.	SCL will develop a stakeholder engagement framework under which site-specific or impact specific stakeholder management plans could be developed
1.23	In cases where the exact location of the project is not known, but it is reasonably expected to have significant impacts on local communities, the client will prepare a Stakeholder Engagement Framework, as part of its management program, outlining general principles and a strategy to identify Affected Communities and other relevant stakeholders	SCL currently does not have any framework for developing a stakeholder engagement plan.	Same as above

	OP 4.03 Performance Standard Requirements	Observations	Measures
	and plan for an engagement process compatible with this Performance Standard that will be implemented once the physical location of the project is known.		
	Disclosure of Information		
1.24	Disclosure of relevant project information helps Affected Communities and other stakeholders understand the risks, impacts and opportunities of the project.	The SCL field supervisor shows a letter of permission of the work when he is asked about it in the field. However that is not sufficient for the local community to understand the risks and impacts.	Display project operation risks in a concise format (preferably in Bengali)
	Consultation		
1.25	When Affected Communities are subject to identified risks and adverse impacts from a project, the client will undertake a process of consultation in a manner that provides the Affected Communities with opportunities to express their views on project risks, impacts and mitigation measures, and allows the client to consider and respond to them.	Since the duration of activities is very short and the impacts are temporary, SCL does not deem it necessary to engage in wide consultation. However, informal consultations are carried out in the field and take feedback from the local community. However, the details of the consultation, if carried out, is not documented.	SCL should document all field consultations, if carried out during work execution.
	Informed Consultation and Participation		
1.26	For projects with potentially significant adverse impacts on Affected Communities, the client will conduct an Informed Consultation and Participation (ICP) process that will build upon the steps outlined above in Consultation and will result in the Affected Communities' informed participation.	Potentially significant adverse impacts are not anticipated as a result of SCL operation. The stakeholder Engagement Framework is sufficient to deal with temporary inconvenience caused by the project operation.	SCL should document all field consultations, if carried out during work execution.
	Indigenous Peoples		
1.27	For projects with adverse impacts to Indigenous Peoples, the client is required to engage them in a process of ICP and in certain circumstances the client is required to obtain	Potentially significant adverse impacts on Indigenous People are not anticipated as a result of SCL operation. The Indigenous People's Plan (see Annex XIII) is sufficient to deal with temporary	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
	their Free, Prior, and Informed Consent (FPIC).	inconvenience caused by the project operation.	
	Private Sector Responsibilities Under Government-Led Stakeholder Engagement		
1.28	Where stakeholder engagement is the responsibility of the host government, the client will collaborate with the responsible government agency, to the extent permitted by the agency, to achieve outcomes that are consistent with the objectives of this Performance Standard.	There is no government-led stakeholder engagement in the SCL operation	Not applicable
External Communications and Grievance Mechanisms			
	External Communications		
1.29	Clients will implement and maintain a procedure for external communications that includes methods to (i) receive and register external communications from the public; (ii) screen and assess the issues raised and determine how to address them; (iii) provide, track, and document responses, if any; and (iv) adjust the management program, as appropriate.	The SCL field supervisor and Vendor/Contractor addresses all grievances during work from local communities. His contact number is available at the site. The grievances are solved at the field level. However, there is currently no mechanism to document the grievances on behalf of the Contractor or SCL.	SCL should develop a documentation system for grievance redress
	Grievance Mechanism for Affected Communities		
1.30	The client will establish a grievance mechanism to receive and facilitate resolution of Affected Communities' concerns and grievances about the client's environmental and social performance.	Since the duration of work at a certain location is very short and the work area is continuously moving, there is no relevance in establishing an elaborate grievance committee consisting of members of the locality with regular meetings and updates. Most grievances will be resolved by the SCL supervisor or Contractor at the sub-project level. However, documentations should be kept for recording grievances.	SCL should develop a documentation system for grievance redress.

	OP 4.03 Performance Standard Requirements	Observations	Measures
Ongoing Reporting to Affected Communities			
1.31	The client will provide periodic reports to the Affected Communities that describe progress with implementation of the project Action Plans on issues that involve ongoing risk to or impacts on Affected Communities and on issues that the consultation process or grievance mechanism have identified as a concern to those Communities.	Since the duration of work at a certain location is very short, there is no relevance in providing periodic reports to local communities	Not applicable
2	**PS 2: Labor and Working Conditions**		
Working Conditions and Management of Worker Relationship			
	Human Resources Policies and Procedures		
2.1	The client will adopt and implement human resources policies and procedures appropriate to its size and workforce that set out its approach to managing workers consistent with the requirements of this Performance Standard and national law.	SCL has two different types of workforce: (1) contracted workforce (termed 'Vendors', 'Suppliers' or 'Contractors') who undertakes the fiber optic cable laying operation in the field; (2) own workforce who primarily have a supervisory and management role.	No action required
2.2	The client will provide workers with documented information that is clear and understandable, regarding their rights under national labor and employment law and any applicable collective agreements, including their rights related to hours of work, wages, overtime, compensation, and benefits upon beginning the working relationship and when any material changes occur.	SCL follows the Bangladesh Labor Law 2013 (amended 2016) in hiring their own workforce. They have a specific Human Resources (HR) policy which states their rights, hours of work and overtime, compensation and benefits. In case of contracted workforce, the terms and conditions pertinent to Labour Law 2013 are reflected in the contract. A sample contract between SCL and a 'Vendor' is provided in Annex XIV. It states what the obligations of the Vendor would be if he hires a worker. The Vendor hires day-labourers in a daily basis in order to undertake the assigned work. There is usually no written contract between the Vendor and the day-labourers which is typical in Bangladesh. Day-labourers are	No action required

	OP 4.03 Performance Standard Requirements	Observations	Measures
		usually illiterate and having a contract with them will not have a meaningful effect. However, SCL undertakes supervision whether the rights and responsibilities of workers are protected as per contract.	
	Working Conditions and Terms of Employment		
2.3	The client will provide reasonable working conditions and terms of employment, where collective agreements do not exist, or do not address working conditions and terms of employment.	There are no employee's association in SCL therefore there is no scope for collective bargaining. SCL provides reasonable working conditions to its employees in terms of benefits, wages, provident fund and gratuity, overtime compensation, leaves etc. and also in line with National Labour Law 2013. For contracted workforce, SCL supervises the field activities to ensure reasonable working conditions are established for workers as per contract with 'Vendors'. There is also no scope for collective bargaining or worker associations, because 'Vendors' employ labour on a daily basis.	No action required
2.4	The client will identify migrant workers and ensure that they are engaged on substantially equivalent terms and conditions to non-migrant workers carrying out similar work.	No migrant workers are hired directly by SCL or their contracted work force. SCL strictly ensures that their 'Vendors' do not employ any Displaced Rohingya Population (DRPs) as their workforce in their work near those regions. Many Contractors in the region consider them as cheap workforce and try to exploit their conditions for profit.	Not applicable
2.5	Where accommodation services are provided to workers covered by the scope of this Performance Standard, the client will put in place and implement policies on the quality and management of the accommodation and provision of basic services	The day labourers hired by 'Vendors' are typically residents from nearby areas and there is no requirement to provide accommodation. Therefore there is no requirement for a policy for the quality and management of the accommodation and provision of basic services.	Not applicable
	Workers' Organizations		

	OP 4.03 Performance Standard Requirements	Observations	Measures
2.6	In countries where national law recognizes workers' rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the client will comply with national law.	Bangladesh Labour Law 2013 (amended 2016) recognizes workers' organizations and collective bargaining. Although SCL does not discourage associations and collective bargaining, no such associations have been formed yet (or the requirement of such is yet to be realized). For contracted workforce, the labourers are hired by the 'Vendor' on a daily basis. Workers Association and collective bargaining is not practiced in such instances.	Not applicable
2.7	In either case described above row, and where national law is silent, the client will not discourage workers from electing worker representatives, forming or joining workers' organizations of their choosing, or from bargaining collectively, and will not discriminate or retaliate against workers who participate, or seek to participate, in such organizations and collective bargaining.	The provision not applicable as Bangladesh Labour Law 2013 (amended 2016) recognizes workers' organizations and collective bargaining. See explanation above.	Not applicable
	Non-Discrimination and Equal Opportunity		
2.8	The client will not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The client will base the employment relationship on the principle of equal opportunity and fair treatment, and will not discriminate. The client will take measures to prevent and address, harassment, initimidation, and/or exploitation, especially in regard to women.	Due to the nature of the work in the field, only men make themselves available for work under the 'Vendor'. SCL prohibits hiring disadvantaged groups (e.g. DRPs) as cheap labours and monitors this very strictly. There is no difference in wage rate based on age and ethnicity. The wage rate varies depending on the experience of the workers and the work location. SCL supervisors randomly check (through interviewing workers hired by Vendors) whether or not they are paid timely and as per their agreed daily wage rate. Within the SCL organization, both men and women are employed	No action required

	OP 4.03 Performance Standard Requirements	Observations	Measures
		(including those of ethnic origin). Women mainly prefers positions based in the headquarters in Dhaka. The field officers who supervises the work in the field are all males. There is no evidence of discrimination within the organization with respect to sex and ethnic origin.	
2.9	In countries where national law provides for non-discrimination in employment, the client will comply with national law. When national laws are silent on non-discrimination in employment, the client will meet this Performance Standard	Bangladesh Labour Law is not silent on non-discrimination. Therefore Labour law 2013 is followed.	Not applicable
	Retrenchment		
2.10	Prior to implementing any collective dismissals, the client will carry out an analysis of alternatives to retrenchment and implemented to reduce the adverse impacts of retrenchment on workers.	There has so far has not been any instances within SCL of any collective dismissals of jobs. For Contracted workers, this performance standard criteria not applicable.	Not applicable
2.11	The client should ensure that all workers receive notice of dismissal and severance payments mandated by law and collective agreements in a timely manner.	Same as above	Not applicable
	Grievance Mechanism		
2.12	The client will provide a grievance mechanism for workers (and their organizations, where they exist) to raise workplace concerns. The client will inform the workers of the grievance mechanism at the time of recruitment and make it easily accessible to them.	For SCL own employees there is a compliance helpline for any grievance and recording/addressing system of grievance. For the contracted workforce, there is no scope for any collective agreement. However, at the field level, they have access to the SCL field supervisor. The supervisor informs the central SCL HR department and imposes the Vendors to take corrective action. However, there is no grievance recording/logging system. The workers are also not informed of the grievance	Modify or update the existing GRM for workers to make it more transparent. This includes: - Informing the workers before start of work about the GRM and its redressal process - Maintaining a logsheet of issues raised and resolved with time-stamps and necessary details

	OP 4.03 Performance Standard Requirements	Observations	Measures
		redressal mechanism at the time of employment although the SCL supervisor has made himself accessible to complaints and he forwards it to an appropriate level of management. Since there is no logging system, it is not clear how much time usually takes for redressal. The Vendor himself does not have an established or fully disclosed grievance redress mechanism. The GRM is established by SCL at the field level.	
Protecting the Work Force			
	Child Labor		
2.13	The client will not employ children in any manner that is economically exploitative, or is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. If national laws allow minors, the client will follow the laws applicable to the client. But children <18 will not be employed in hazardous work and will be subjected to appropriate risk assessment and regular monitoring of health and working conditions and hours of work	On principle, as stated in the contract with the Vendor, SCL strongly support ILO Declaration on Fundamental Principles and Rights at work (1998) and does not tolerate any form of Child labour. SCL fully supports Government's National Child Labour Elimination Policy 2010 and Vendors are contractually obligated not to employ any worker having an age<15 years. Despite this contractual obligation, contractors or SCL does not hire anybody <18 years. The nature and technicality of the work demands that the workers have a certain experience which is typically not found in workers at a young age.	No action required
	Forced Labor		
2.14	The client will not employ forced labor, which consists of any work or service not voluntarily performed that is exacted from an individual under threat of force or penalty.	All the workforce are Bangladesh citizens and free to work without any duress. There is no scope for employing forced labour (e.g. convicted criminals, trafficked persons) in such work in Bangladesh.	Not applicable
Occupational Health and Safety			
2.15	The client will provide a safe and healthy work environment, taking into account inherent risks in its particular sector and specific	The Vendor is contractually obligated to maintain workplace health and safety. (as stated in	Refer to the specific recommendations pertaining to the assessment of WBG EHS Guidelines and Guidelines

	OP 4.03 Performance Standard Requirements	Observations	Measures
	classes of hazards in the client's work areas, including physical, chemical, biological, and radiological hazards, and specific threats to women.	the Suppliers Conduct Principles, Annex XIV) WBG EHS Guidelines will be applicable for all works, whereas the WBG Telecommunication Safety guidelines will be applicable for this specific project.	for Telecommunication Safety
Workers Engaged by Third Parties			
2.16	With respect to contracted workers the client will take commercially reasonable efforts to ascertain that the third parties who engage these workers are reputable and legitimate enterprises and have an appropriate ESMS that will allow them to operate in a manner consistent with the requirements of this Performance Standard, except for Retrenchment and supply chain related paragraphs.	The contracted 'Vendors' are legitimate enterprises and have been working with SCL for some time. While some Vendors have their own compliance mechanism and ESMS, most 'Vendors' do not have them. In such instances, SCL applies its own ESMS as per the different provisions of PS2 which has been delineated above.	No action required
2.17	The client will establish policies and procedures for managing and monitoring the performance of such third party employers in relation to the requirements of this Performance Standard. In addition, the client will use commercially reasonable efforts to incorporate these requirements in contractual agreements with such third party employers.	SCL applies certain measures for managing and monitoring the performance of Vendors. These are: - Withholding payment or not issuing Work Completion Certificate (WCC) if site not fully restored to pre-work condition, PPE (safety equipment) usage or site housekeeping non-compliance etc. - Blacklisting certain contractors or not renewing licenses for contracts not willing to oblige safeguard issues - Reprimand or penalty etc - Rewarding contractors for compliance issues (SCL organizes annual contractors meeting/summit where they give away awards to best-performing contractors) Compliance policies are stated in the Supplier Management	No Action required

	OP 4.03 Performance Standard Requirements	Observations	Measures
		Guidelines (Effective 1st Jan, 2018) The contract between SCL and the Vendor addresses requirements related to Child labour, EHS at working hours, wages, overtime, benefits, child labour, health and safety of employees (see Annex XIV) which are in line with PS2.	
2.18	The client will ensure that contracted workers, have access to a grievance mechanism. In cases where the third party is not able to provide a grievance mechanism the client will extend its own grievance mechanism to serve workers engaged by the third party.	The contracted third party has no GRM and SCL extends its GRM. However, some modifications are suggested for the SCL GRM as stated above.	No action required
Supply Chain			
2.19	Where there is a high risk of child labor or forced labor in the primary supply chain, the client will identify those risks consistent with paragraphs 2.13 and 2.14 above. If child labor or forced labor cases are identified, the client will take appropriate steps to remedy them.	SCL contract out to Third Party Vendors. Primary supply chain workers not relevant.	Not applicable
2.20	Additionally, where there is a high risk of significant safety issues related to supply chain workers, the client will introduce procedures and mitigation measures to ensure that primary suppliers within the supply chain are taking steps to prevent or to correct life-threatening situations.	SCL contract out to Third Party Vendors. Primary supply chain workers not relevant.	Not applicable
2.21	The ability of the client to fully address these risks will depend upon the client's level of management control or influence over its primary suppliers. Where remedy is not possible, the client will shift the project's primary supply chain over time to suppliers that can	SCL contract out to Third Party Vendors. Primary supply chain workers not relevant.	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
	demonstrate that they are complying with this Performance Standard 2.		
3	**PS 3:Resource Efficiency and Pollution Prevention**		
3.1	During the project life-cycle, the client will consider ambient conditions and apply technically and financially feasible resource efficiency and pollution prevention principles and techniques that are best suited to avoid, or where avoidance is not possible, minimize adverse impacts on human health and the environment	SCL prepares site-specific EMPs and Best Management Practices (see Annex IX)) which addresses pollution prevention.	No Action Required
3.2	The client will refer to the EHS Guidelines or other internationally recognized sources, as appropriate, when evaluating and selecting resource efficiency and pollution prevention and control techniques for the project.	General EHS guidelines are referred in the document.	No Action Required
Resource Efficiency			
3.3	The client will implement technically and financially feasible and cost effective measures for improving efficiency in its consumption of energy, water, as well as other resources and material inputs, with a focus on areas that are considered core business activities.	The SCL operation does not consume any significant water. Energy in terms of diesel fuel is used in HDD operation and fiber laying as well as in vehicles. SCL procures the best quality HDD equipment available in the market which has the best efficiency in terms of consumption of fuel.	No Action Required
	Greenhouse Gases		
3.5	In addition to the resource efficiency measures described above, the client will consider alternatives and implement technically and financially feasible and cost-effective options to reduce project-related GHG emissions during	GHG emission is likely to be low in SCL operation.	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
	the design and operation of the project.		
3.6	For projects that are expected to or currently produce more than 25,000 tonnes of CO2-equivalent annually, the client will quantify direct emissions from the facilities owned or controlled within the physical project boundary, as well as indirect emissions associated with the off-site production of energy used by the project. Quantification of GHG emissions will be conducted by the client annually in accordance with internationally recognized methodologies and good practice.	GHG emission is approximately 807 tonnes CO_2 per year which is much less than 25,000 CO_2 per year.[3]	Not applicable
	Water Consumption		
3.7	When the project is a potentially significant consumer of water, in addition to applying the resource efficiency requirements of this Performance Standard, the client shall adopt measures that avoid or reduce water usage so that the project's water consumption does not have significant adverse impacts on others.	The project is not a significant consumer of water. Water is required only for concrete mixing for construction of handholes.	Not applicable
Pollution Prevention			
3.8	The client will avoid the release of pollutants or, when avoidance is not feasible, minimize and/or control the intensity and mass flow of their release. This applies to the release of pollutants to air, water, and land due to routine, non-routine, and accidental circumstances with the potential for local,	SCL prepares site-specific EMPs and Best Management Practices (see Annex IX) which addresses pollution prevention. Regarding pollution, there could be temporary water-logging, noise pollution and air emission from exhaust of HDD equipment and vehicles. The Management measures are delineated in the EMPs.	No Action Required

[3] Main source of energy consumption is diesel used in the generators and HDD operation in the field. On an average 120 Liter diesel is used per km of HDD operation. Assuming that 2.64 kg CO2 is emitted per liter diesel burnt and 5100 km of fiber optic line by HDD will be done in the proposed project over a period of two years, the annual CO2 emission from the project will be (5100/2)*120*2.64 = 807000 kg CO2/year or 807MT CO2/year. This is much less than 25,000 CO2 emission benchmark per year.

	OP 4.03 Performance Standard Requirements	Observations	Measures
	regional, and transboundary impacts.		
3.9	To address potential adverse project impacts on existing ambient conditions, the client will consider relevant factors, including, for example (i) existing ambient conditions; (ii) the finite assimilative capacity of the environment; (iii) existing and future land use; (iv) the project's proximity to areas of importance to biodiversity; and (v) the potential for cumulative impacts with uncertain and/or irreversible consequences.	Ambient conditions, existing vegetation cover, projects' proximity to areas of biodiversity are addressed during E&S Screening. There are no irreversible consequences as a result of the SCL project activities.	No Action Required
	Wastes		
3.10	The client will avoid the generation of hazardous and non-hazardous waste materials. Where waste generation cannot be avoided, the client will reduce the generation of waste, and recover and reuse waste in a manner that is safe for human health and the environment.	There is a Govt instruction that the site should be restored back to its pre-work condition after the completion of work. Some amount of solid waste (non-hazardous) is generated as a result of the civil works and drilling works (construction debris, loose soil, refuse, food waste etc). SCL allocates bin-bags to the field supervisors who instructs the Vendor to clean the site and dispose the bags in the nearest solid waste dumping area.	No Action required
	Hazardous Materials Management		
3.11	Hazardous materials are sometimes used as raw material or produced as product by the project. The client will avoid or, when avoidance is not possible, minimize and control the release of hazardous materials.	Hazardous materials are not used as raw materials and not produced as product due to activities of SCL	Not applicable
	Pesticide Use and Management		
3.12	The client will, where appropriate, formulate and implement an integrated pest management (IPM) and/or	There is no pesticide use. This provision of the standard not relevant.	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
	integrated vector management (IVM) approach targeting economically significant pest infestations and disease vectors of public health significance.		
3.13	When pest management activities include the use of chemical pesticides, the client will select chemical pesticides that are low in human toxicity, that are known to be effective against the target species, and that have minimal effects on non-target species and the environment.	There is no pesticide use. This provision of the standard not relevant.	Not applicable
3.14	The client will design its pesticide application regime to (i) avoid damage to natural enemies of the target pest, and where avoidance is not possible, minimize, and (ii) avoid the risks associated with the development of resistance in pests and vectors, and where avoidance is not possible minimize.	There is no pesticide use. This provision of the standard not relevant.	Not applicable
3.15	The client will not purchase, store, use, manufacture, or trade in products that fall in WHO Recommended Classification of Pesticides by Hazard Class Ia (extremely hazardous); or Ib (highly hazardous).	There is no pesticide use. This provision of the standard not relevant.	Not applicable
4.	**PS 4: Community Health, Safety, and Security**		
Community Health and Safety			
4.1	The client will evaluate the risks and impacts to the health and safety of the Affected Communities during the project life-cycle and will establish preventive and control measures consistent with good international industry practice (GIIP), such as in the World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) or other	During construction there will be some impacts on traffic, safety of local people using the right of way, noise and air pollution. Management measures of these are addressed in the Environmental management procedures.	No Action required

	OP 4.03 Performance Standard Requirements	Observations	Measures
	internationally recognized sources.		
4.2	*Infrastructure and Equipment Design and Safety* The client will design, construct, operate, and decommission the structural elements or components of the project in accordance with GIIP, taking into consideration safety risks to third parties or Affected Communities.	There are no structural elements (buildings, dams etc) constructed under the SCL operation. Therefore, this provision not relevant.	Not applicable
4.3	*Hazardous Materials Management and Safety* The client will avoid or minimize the potential for community exposure to hazardous materials and substances that may be released by the project.	Fuel storage and use are the potential risk areas during SCL operation. HDD operation requires diesel and the Vendor brings barrels from the local warehouse when it is operated. The barrels are regularly checked for leaks. The Environmental Management Plan and BMP addresses the safety precautions to be followed while handling fuel.	Not applicable
4.4	*Ecosystem Services* The project's direct impacts on priority ecosystem services may result in adverse health and safety risks and impacts to Affected Communities. With respect to this Performance Standard, ecosystem services are limited to provisioning and regulating services.	There is no significant impact on ecosystem services as a result of SCL activities.	Not applicable
4.5	*Community Exposure to Disease* The client will avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases, and communicable diseases that could result from project activities, taking into	The cause for water-logging will be addressed through application of site-specific EMP and BMP by the Contractor. There is no scope for communicable disease spreading from workers.	No Action Required

	OP 4.03 Performance Standard Requirements	Observations	Measures
	consideration differentiated exposure to and higher sensitivity of vulnerable groups.		
4.6	The client will avoid or minimize transmission of communicable diseases that may be associated with the influx of temporary or permanent project labor.	Vendors employ day-labourers for the work. Health inspection is not routinely done for day-workers in Bangladesh. However, if communicable disease is suspected, SCL has a provision for investigation.	If suspected by field supervisor, SCL should take appropriate measure in this regard. Contractors will be encouraged and made aware to keep health records of their workers.
4.7	*Emergency Preparedness and Response* In addition to the emergency preparedness and response requirements described in Performance Standard 1, the client will also assist and collaborate with the Affected Communities, local government agencies, and other relevant parties, in their preparations to respond effectively to emergency situations, especially when their participation and collaboration are necessary to respond to such emergency situations.	The emergency response plan currently does not have any involvement of local people, local government agencies or other parties than what is stated before. Although the local community is made aware of the project, their inclusion in the emergency risk management is not currently warranted	It will be addressed in the stakeholder management framework.
Security Personnel			
4.8	When the client retains direct or contracted workers to provide security to safeguard its personnel and property, it will assess risks posed by its security arrangements to those within and outside the project site.	SCL employs contracted security personnel at the site only when the HDD equipment needs to be kept overnight at the site. In other instances, security personnel are not deployed in the field. SCL field supervisor monitors the activity and performance of the security personnel. Any lapses in their activities are reported to the Contractor of the third party security services who will take appropriate measures. Security measures may include cordoning the area off and making signages visible at night. The risk of this is particularly not assessed by SCL currently	Modify the screening form and audit template to include a checklist for risk assessment of security arrangement at site

	OP 4.03 Performance Standard Requirements	Observations	Measures
4.9	The client will assess and document risks arising from the project's use of government security personnel deployed to provide security services.	Government security personnel are not deployed for SCL operation	Not applicable
4.10	The client will consider and, where appropriate, investigate all allegations of unlawful or abusive acts of security personnel, take action (or urge appropriate parties to take action) to prevent recurrence, and report unlawful and abusive acts to public authorities.	This may be done using the SCL GRM. Currently the SCL GRM does not have a documented procedure and recommendations have been provided above.	Extend the GRM to include the risk from security personnel and security arrangements
5.	**Performance Standard 5: Land Acquisition and Involuntary Resettlement**		
Fiber optic cable laying by SCL is carried out in public land after taking the permission of the relevant authority (City Corporation, Municipality, Local Government Engineering Department or Roads and Highways Department). There is no land acquisition, involuntary Settlement (i.e. no physical or economic displacement). Therefore, this Performance Standard will not be applicable. Often temporary vendors are encountered during setting the location of the handhole or HDD equipment. In those cases, they are requested to move aside so that SCL can carry out the operation. After the operation is complete, the vendors may come back to their previous position. Such a temporary move does not constitute to have an economic loss. However, there could be other impacts which necessitate compensation such as felling of trees, damage to other underground infrastructure etc. A social management framework is developed under the provisions of PS1 for such impacts which is given in Annex XII.			
6	**Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources**		
General			
6.1	The risks and impacts identification process as set out in Performance Standard 1 should consider direct and indirect project-related impacts on biodiversity and ecosystem services and identify any significant residual impacts.	Addressed through the E&S screening forms.	No Action required
6.2	As a matter of priority, the client should seek to avoid impacts on biodiversity and ecosystem services.	SCL will do most of the operation through HDD (as opposed to cut and fill method) which will avoid cutting trees or clearing vegetation. There will be minimal impact on biodiversity.	No Action required
6.3	In case of natural habitats, the client will retain competent professionals to assist in	Fiber optic cable laying operation is carried out along existing roads within the right of way of the	No Action required

	OP 4.03 Performance Standard Requirements	Observations	Measures
	conducting the risks and impacts identification process. In case of critical habitats, the client should retain external experts with appropriate regional experience to assist in the development of a mitigation hierarchy that complies with this Performance Standard and to verify the implementation of those measures.	road. The right of way may consist of trees which were planted on the roadside ('modified habitat') as a part of the earlier road project. SCL typically avoids felling of trees as it creates complications related to increased cost due to felling, obtaining permission and/or providing compensation. Natural or critical habitats will typically not be encountered and if so, SCL will tend to avoid it through alternate routes or underground HDD operation. Whether or not natural/critical habitat is present will be known from the E&S screening (Annex IV). There is a provision for consulting experts if that is the case.	
Protection and Conservation of Biodiversity			
6.4	For the protection and conservation of biodiversity, the mitigation hierarchy includes biodiversity offsets, which may be considered only after appropriate avoidance, minimization, and restoration measures have been applied.	Usually avoidance and minimization measures would be sufficient to protect the biodiversity in case of SCL operation and a biodiversity offset will not be required.	Not applicable
	Modified Habitat		
6.5	The client should minimize impacts on such biodiversity and implement mitigation measures as appropriate.	See 6.3 above. Appropriate mitigation measures are built in the generic EMP and BMPs.	No Action required
	Natural Habitat		
6.6	The client will not significantly convert or degrade natural habitats.	See 6.3 above. Natural habitat encounter unlikely.	Not applicable
6.7	In areas of natural habitat, mitigation measures will be designed to achieve no net loss of biodiversity where feasible.	See 6.3 above. Natural habitat encounter unlikely.	Not applicable
	Critical Habitat		
6.8	In areas of critical habitat, the client will not implement any project activities unless	See 6.3 above. Critical habitat encounter unlikely.	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
	certain conditions are demonstrated.		
6.9	In such cases where a client is able to meet the requirements defined above, the project's mitigation strategy will be described in a Biodiversity Action Plan and will be designed to achieve net gains of those biodiversity values for which the critical habitat was designated.	See 6.3 above. Critical habitat encounter unlikely.	Not applicable
6.10	In instances where biodiversity offsets are proposed as part of the mitigation strategy, the client must demonstrate through an assessment that the project's significant residual impacts on biodiversity will be adequately mitigated to meet the requirements above.	Usually avoidance and minimization measures would be sufficient to protect the biodiversity in case of SCL operation and a biodiversity offset will not be required.	Not applicable
	Legally Protected and Internationally Recognized Areas		
6.11	In circumstances where a proposed project is located within a legally protected area or an internationally recognized area, the client will meet the above general requirements of of this Performance Standard, as applicable. In addition, the client will: ▪ Demonstrate that the proposed development in such areas is legally permitted; ▪ Act in a manner consistent with any government recognized management plans for such areas; ▪ Consult protected area sponsors and managers, Affected Communities, Indigenous Peoples and other stakeholders on the proposed project, as appropriate; and ▪ Implement additional programs, as appropriate, to promote and enhance the conservation aims and	The probable locations of intervention (mostly upgradation of existing fiber optic networks) do not fall in any legally protected areas.	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
	effective management of the area.		
	Invasive Alien Species		
6.12	The client will not intentionally introduce any new alien species (not currently established in the country or region of the project) unless this is carried out in accordance with the existing regulatory framework for such introduction.	SCL operation does not involve introduction of any non-native species. Vegetation cover is established using native grass. The generic EMP and BMP addresses this issue.	No action required
6.13	Where alien species are already established in the country or region of the proposed project, the client will exercise diligence in not spreading them into areas in which they have not already been established.	The generic EMP and BMPs include provisions for not spreading alien species.	No action required
Management of Ecosystem Services			
6.14	Where a project is likely to adversely impact ecosystem services, as determined by the risks and impacts identification process, the client will conduct a systematic review to identify priority ecosystem services.	The project work will not likely affect any ecosystem services	Not applicable
6.15	With respect to impacts on priority ecosystem services of relevance to Affected Communities and where the client has direct management control or significant influence over such ecosystem services, adverse impacts should be avoided.	The project work will not likely affect any ecosystem services	Not applicable
Sustainable Management of Living Natural Resources			
SCL is not engaged in the primary production of living natural resources, including natural and plantation forestry, agriculture, animal husbandry, aquaculture, and fisheries. Therefore the provisions under this section are not applicable for SCL operation.			
Supply Chain			
6.16	Where a client is purchasing primary production (especially but not exclusively food and fiber commodities) that is	SCL does not purchase primary production relevant to this provision	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
	known to be produced in regions where there is a risk of significant conversion of natural and/or critical habitats, systems and verification practices will be adopted as part of the client's ESMS to evaluate its primary suppliers.		
7.	**Performance Standard 7: Indigenous Peoples**		
General			
	Avoidance of Adverse Impacts		
7.1	The client will identify, through an environmental and social risks and impacts assessment process, all communities of Indigenous Peoples within the project area of influence who may be affected by the project, as well as the nature and degree of the expected direct and indirect economic, social, cultural (including cultural heritage), and environmental impacts on them.	Project activities does not cause any adverse effects on the livelihood of surrounding people. Project activities carried out in public land beside the road/highway and there is no land acquisition. However, screening is done to determine the presence of Indigeneous People (IP) and assess their likely impacts before implementation of work as per the screening template shown in Annex IV. So far in their operation, SCL has not encountered any IP.	No action required
7.2	Adverse impacts on Affected Communities of Indigenous Peoples should be avoided where possible.	If the presence of IP are detected, SCL will prepare an Indigenous Peoples Plan (IPP), the guideline of which is presented in the Annex XIII. Guidelines are provided for identification of IP, consultation strategy and a draft outline of the IPP. So far in their operation, SCL has not encountered any IP.	No action required
	Participation and Consent		
7.3	The client will undertake an engagement process with the Affected Communities of Indigenous Peoples as required in Performance Standard 1.	Discussed in the guidelines of preparing an IPP in Annex XIII.	No action required
7.4	In recognition of the vulnerability of IP to their land and cultural resources, the	Operation of SCL is not likely to cause of loss of or alienation from their land and access to natural resources. Obtaining FPIC of IP is	No action required

	OP 4.03 Performance Standard Requirements	Observations	Measures
	client will obtain FPIC of affected communities.	part of the guidelines of IPP in Annex XIII.	
7.5	The client will document (i) the mutually accepted process between the client and Affected Communities of IP and (ii) evidence of agreement between the parties as the outcome of the negotiations	Obtaining FPIC of IP is part of the guidelines of IPP in Annex XIII.	No action required
Circumstances Requiring Free, Prior, and Informed Consent			
	Impacts on Lands and Natural Resources Subject to Traditional Ownership or Under Customary Use		
7.6	Indigenous Peoples are often closely tied to their lands and related natural resources. Frequently, these lands are traditionally owned or under customary use. These uses can be substantiated and documented.	SCL operation does not use privately owned land and will avoid public land having a certain use by IP, which will be detailed in the IPP. Annex XIII discusses the process and guidelines of preparing IPP.	No action required
7.7	If the client proposes to locate a project on, or commercially develop natural resources on lands traditionally owned by, or under the customary use of, Indigenous Peoples, and adverse impacts can be expected, the client will take the following steps: ▪ Document efforts to avoid and otherwise minimize the area of land proposed for the project; ▪ Document efforts to avoid and otherwise minimize impacts on natural resources and natural areas of importance to Indigenous People; ▪ Identify and review all property interests and traditional resource uses prior to purchasing or leasing land; ▪ Assess and document the Affected Communities of Indigenous Peoples' resource use without prejudicing any Indigenous Peoples' land claim.	SCL operation does not use privately owned land and will avoid public land having a certain use by IP by choosing alternate routes using the suggestions and recommendations provided by the IP. These consultations will be disclosed as a part of developing the IPP. Annex XIII discusses the process and guidelines of preparing IPP. SCL operation will not require purchasing or acquiring any private land, hence the provisions of compensation of affected communities are not relevant.	No action required

	OP 4.03 Performance Standard Requirements	Observations	Measures
	▪ Ensure that Affected Communities of Indigenous Peoples are informed of their land rights under national law, including any national law recognizing customary use rights; and ▪ Offer Affected Communities of Indigenous Peoples compensation and due process in the case of commercial development of their land and natural resources, together with culturally appropriate sustainable development opportunities.		
	Relocation of Indigenous Peoples from Lands and Natural Resources Subject to Traditional Ownership or Under Customary Use		
7.8	The client will consider feasible alternative project designs to avoid the relocation of Indigenous Peoples from communally held lands and natural resources subject to traditional ownership or under customary use.	Project will not cause relocation of any people, let alone IP.	Not applicable
7.9	Where a project may significantly impact on critical cultural heritage that is essential to the identity and/or cultural, ceremonial, or spiritual aspects of Indigenous Peoples lives, priority will be given to the avoidance of such impacts.	Project operation will not cause any significant impact on critical cultural heritage. If access to cultural heritage areas are temporarily blocked due to fiber optic cable laying operation, the IP will be consulted if this would be acceptable to them. If not, alternate routes would be selected. These guidelines are provided in the EMP and can be incorporated in the IPP.	No action required
7.10	Where a project proposes to use the cultural heritage including knowledge, innovations, or practices of Indigenous Peoples for commercial purposes, the client will inform the Affected Communities of Indigenous Peoples of (i) their rights under national law; (ii) the scope and nature of the proposed commercial development; (iii) the potential consequences of	SCL operation will not use any cultural heritage for such objectives	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
	such development; and (iv) obtain their FPIC.		
Mitigation and Development Benefits			
7.11	The client and the Affected Communities of Indigenous Peoples will identify mitigation measures in alignment with the mitigation hierarchy described in Performance Standard 1 as well as opportunities for culturally appropriate and sustainable development benefits.	Will be detailed in the IPP. Annex XIII discusses the process and guidelines of preparing IPP.	No action required
7.12	The determination, delivery, and distribution of compensation and other benefit sharing measures to the Affected Communities of Indigenous Peoples will take account of the laws, institutions, and customs of these communities as well as their level of interaction with mainstream society.	There is no land acquisition. Therefore there is no scope for compensation. Any other loss due to temporary inconvenience will be addressed in the SMP. Benefits due to SCL operation is the access to internet in remote areas. However, the service will come through internet service providers as SCL is not a service-oriented company.	Not applicable
7.13	Identified opportunities should aim to address the goals and preferences of the Indigenous Peoples including improving their standard of living and livelihoods in a culturally appropriate manner, and to foster the long-term sustainability of the natural resources on which they depend.	Benefits due to SCL operation is the access to internet in remote areas. However, the service will come through internet service providers as SCL is not a service-oriented company.	Not applicable
Private Sector Responsibilities Where Government is Responsible for Managing Indigenous Peoples Issues			
7.14	Where the government has a defined role in the management of Indigenous Peoples issues in relation to the project, the client will collaborate with the responsible government agency, to the extent feasible and permitted by the agency, to achieve outcomes that are consistent with the objectives of this Performance Standard.	Not relevant to the SCL project.	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
7.15	The client will prepare a plan that, together with the documents prepared by the responsible government agency, will address the relevant requirements of this Performance Standard.	Not relevant to the SCL project.	Not applicable
8	**Performance Standard 8: Cultural Heritage**		
Protection of Cultural Heritage in Project Design and Execution			
8.1	In addition to complying with applicable law on the protection of cultural heritage, including national law implementing the host country's obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage, the client will identify and protect cultural heritage by ensuring that internationally recognized practices for the protection, field-based study, and documentation of cultural heritage are implemented.	SCL is compliant to the relevant legal framework for protecting cultural artifacts (Bangladesh Antiquities Act 1968). Identification of cultural heritage site is incorporated in the screening template of SCL before undertaking the project. If cultural heritage is present and if it falls within the influence area of the sub-project, appropriate measures for documentation, protection and impact mitigation is stated in the Environmental Management Procedures stated in Annex VI and VII.	No Action Required
8.2	Where the risk and identification process determines that there is a chance of impacts to cultural heritage, the client will retain competent professionals to assist in the identification and protection of cultural heritage.	Since fiber optic cable is laid along the roadside and within the right of way of the road using HDD, there is no possibility of directly intercepting any cultural heritage sites above ground. And the typically encountered culturally significant entities found are religious institutions. The Stakeholder Engagement Department may consult with the local people if any relocation of their layout is required.	No Action Required
	Chance Find Procedures		
8.3	The client is responsible for siting and designing a project to avoid significant adverse impacts to cultural heritage. The environmental and social risk and impact identification process should determine whether the proposed location of a project is in areas where cultural heritage is expected to be found. As a part of the client's ESMS, the client will	Identification of cultural heritage is done during screening process the template of which is provided in Annex IV. Since the operation of SCL is mostly underground, there is chance of accidental discovery of artifacts or culturally significant items. A Chance Find Procedure has been developed for SCL on the event of such findings (See Annex VIII).	No Action Required

	OP 4.03 Performance Standard Requirements	Observations	Measures
	develop provisions for managing chance find procedure which will be applied in the event that cultural heritage is subsequently discovered.		
	Consultation		
8.4	Where a project may affect cultural heritage, the client will consult with Affected Communities within the host country who use, or have used within living memory, the cultural heritage for longstanding cultural purposes.	SCL project operations are not likely to affect any cultural heritage directly. However, when the work is in progress, the Vendor usually arranges sanitation of its workers in nearby religious institutions as these are considered public places. Often the local people may object to such arrangement. The SCL field supervisor in such circumstances consults with the local people and leader (imam) of the religious institution to assess the suitability of such arrangement.	No Action Required
	Community Access		
8.5	Where the client's project site contains cultural heritage or prevents access to previously accessible cultural heritage sites being used by, or that have been used by, Affected Communities within living memory for long-standing cultural purposes, the client will, based on consultations, allow continued access to the cultural site or will provide an alternative access route, subject to overriding health, safety, and security considerations.	SCL project operations are not likely to affect any cultural heritage directly. However, it may block access to religious institutions during praying hours. The SCL field supervisor in such circumstances consults with the local people and leader (imam) of the religious institution to assess whether an alternative location for HDD equipment and materials storage would be required.	No Action Required
	Removal of Replicable Cultural Heritage		
8.6	Where the client has encountered tangible cultural heritage that is replicable and not critical, the client will apply mitigation measures that favor avoidance.	SCL operation takes place in public land (most of the operation is underground) and there is no probability of directly intercepting a physical location of a cultural heritage. Therefore this provision is not relevant.	Not applicable

	OP 4.03 Performance Standard Requirements	Observations	Measures
	Removal of Non-Replicable Cultural Heritage		
8.7	The client will not remove any nonreplicable cultural heritage, unless certain conditions are met.	Same as above	Not applicable
	Critical Cultural Heritage		
8.9	The client should not remove, significantly alter, or damage critical cultural heritage.	Same as above	Not applicable
8.10	Legally protected cultural heritage areas are important for the protection and conservation of cultural heritage, and additional measures are needed for any projects that would be permitted under the applicable national law in these areas.	Same as above	Not applicable
Project's Use of Cultural Heritage			
8.11	Where a project proposes to use the cultural heritage, including knowledge, innovations, or practices of local communities for commercial purposes, the client will inform these communities of (i) their rights under national law; (ii) the scope and nature of the proposed commercial development; and (iii) the potential consequences of such development.	There is no scope for SCL to use the cultural heritage for any purpose.	Not applicable

CHAPTER 8

ENVIRONMENTAL AND SOCIAL ACTION PLAN (ESAP)

The ESAP is designed to address the gaps between the environmental social requirements as stated in PS 1-8 and that of the current practice of SCL. The ESAP describes feasible and practical corrective actions to be taken by SCL that will bring its operation in conformity with the OP4.03 Performance Standards, the responsible personnel within the SCL to carry out the actions as well as indicators and timeline of implementation of actions. The ESAP has been communicated with the top management of SCL and they have agreed to take the proposed actions within the stated timelines.

Table 8.1: Environmental and Social Action Plan of SCL with indicative actions, responsible parties, indicators and timelines

S. No	Corrective Action	Details	Responsibility	Indicator	Timeline
PS 1: Assessment and Management of Environmental and Social Risks and Impacts					
1	Integrate the Environmental and social due diligence into all stages of SCL operation from planning to implementation	This includes: - E&S screening and assessment to be carried out during planning - documentation of mitigation measures, monitoring and reporting to be an integrated part of the project auditing after implementation, modification of the auditing protocol if necessary to comply with the monitoring requirements. - Revision of the organizational structure (if necessary) for implementation with a designated focal point for E&S Compliance. - Establish a clear link between the field supervisors, EHS auditors with well-defined roles and hierarchy in	Planning, implementation and audit department of SCL	- Half-yearly E&S compliance reports submitted to senior management of SCL, PFIs and Bangladesh Bank - Assignment of a focal person for E&S monitoring and compliance	6 months

S. No	Corrective Action	Details	Responsibility	Indicator	Timeline
		monitoring and reporting. - Establish a system so that the senior management receive reviews on all aspects of the ESMS			
2	Engage external stakeholders during sub-project execution through meaningful consultations	SCL should develop and execute a stakeholder engagement framework under which site-specific or impact-specific stakeholder management plans could be developed.	Stakeholder engagement Department of SCL	Stakeholder engagement framework document, documentations of consultations submitted as a part of the monitoring reports	6 months
3	Training and capacity building on World Bank Performance Standards, Environmental and Social Management	SCL should arrange for training of the E&S focal point and his team on relevant national environmental regulations, World Bank Standards and guidelines, EIA compliance monitoring etc.	SCL MD/CEO	Allocation of budget for national or international training by SCL	6 months
4	Disclosure of project-related information in accessible locations	Display project operation risks in a concise format (in Bengali) along with the updated ESMS in SCL website. Disclosure of relevant project information helps stakeholders understand the risks, impacts and opportunities of the project.	E&S Focal person	ESMS and executive summary (Bengali) uploaded in SCL website	3 months
5	Documentation of consultations	SCL should document all field consultations, if carried out during work execution.	SCL field supervisor, Stakeholder engagement Department	Register system for consultations at the field level	6 months
6	Development of a documentation system for general grievance redress	SCL should implement and maintain a procedure for external communications that includes methods to (i) receive and register external	SCL field supervisor, E&S focal person to review	Register system for grievances at the field level	6 months

S. No	Corrective Action	Details	Responsibility	Indicator	Timeline
		communications from the public; (ii) screen and assess the issues raised and determine how to address them; (iii) provide, track, and document responses.			
7	Incorporation of specific environmental clauses in contract documents	SCL should consult the general environmental clause in the contractual obligations between the Contractor and SCL	SCL contract management team	General environmental management measures are incorporated in the Contract document	2 months
PS 2: Labor and Working Conditions					
8	Development of a documentation system for workers' grievance redress	Modify or update the existing GRM for workers to make it more transparent. This includes: - Informing the workers before start of work about the GRM and its redressal process - Maintaining a logsheet of issues raised and resolved with time-stamps and necessary details	SCL field supervisor will maintain , E&S focal person will review	Register system for grievances at the field level	6 months
9	Adopt the WBG EHS Guidelines for Telecommunication safety in the SCL HSS policy	Specific safety measures and monitoring protocols for fiber optic cable installation needs to be incorporated in the standard operation protocol (e.g. SCL HSS policy).	HR manager or E&S focal person to revise the policy, endorsed by the CEO/MD	WBG EHS Guidelines for Telecommunication safety formally endorsed by incorporating in the HSS policy.	6 months
PS 3:Resource Efficiency and Pollution Prevention					
10	Conduct environmental monitoring (impact monitoring and compliance monitoring) at work-sites	In order to ensure that the project activities are not adversely affecting the ambient environment, SCL or the third party conducts environmental monitoring in accordance with the	SCL management (allocation of budget) SCL field supervisor (conducting monitoring)	- Budget allocated for environmental monitoring. - Environmental Monitoring reports included in the quarterly reports	6 months

S. No	Corrective Action	Details	Responsibility	Indicator	Timeline
		Environmental Management Plan			
PS 4: Community Health, Safety, and Security					
11	Development of a checklist for hazardous materials management	Develop a checklist for inspection of general hazardous material management	SCL field supervisor	Checklist for general hazardous material safety incorporated in the EHS audit	3 months
12	Documentation of Immunization records of workers	If field supervisor observe any communicable disease in any worker then he will report it contractor for necessary steps	Contractor to Ensure proper treatment after receiving info from SCL field supervisor SCL field supervisor will maintain a register	Development of a database to store Health screening reports of workers	6 months
13	Revise the emergency response and preparedness plan to include representatives from local communities	SCL will collaborate with local government agencies, and local people, in their preparations to respond effectively to emergency situations.	E&S focal person to develop plan, SCL field supervisor to communicate with the local stakeholders regarding their role in emergency preparedness	Stakeholder Engagement Framework developed with this requirement	6 months

CHAPTER 9

DISCUSSION AND CONCLUSION

The proposed project by SCL will finance the laying operation of fiber optic cables along designated routes. The issues in this ESIA documents are given briefly in itemized form.

- **Categorization:** As per Environmental Conservation Rules 1997, deployment of fiber optic cables do not specifically fall into any of the categories (i.e. Red, Orange-A, Orange-B and Green). Based on experience of SCL from implementation of similar projects, it appears that deployment of underground lines is not likely to generate significant environmental/social impacts. Such projects would not require acquisition of private/public land, and would involve construction works along existing corridors of power lines or road networks. Given the limited nature of impacts, the proposed project may be defined as an "Orange B" category project. DoE has provided an Environmental Clearance Certificate to SCL provided that certain criteria should be followed during project implementation. Applying the risk screening procedure of ESPP of IPFF-II, the project can be categorized as a "Medium Risk" transaction.
- **Environmental impacts during Fiber optic cable laying:** Ecological impacts of most sub-projects would be limited to loss of trees/vegetation, and possible adverse impact on aquatic habitat located close to the project location. During execution of civil engineering projects, temporary **drainage congestion** often results from obstruction to natural flow of drainage water due to the storage of materials, piled up excavated material/ soil, and temporary embankments constructed to keep the work area dry. During construction, minor short-term **noise impacts** will be incurred. The traffic-related noise at the area of construction is also not expected to exceed the prevailing baseline noise levels. However, no long-term noise impacts are envisaged. **Impacts to air quality** associated with the proposed fiber optic cable installation are limited to temporary and incidental increases in particulate matter (fugitive dust) during construction. **Temporary traffic disruption** may cause increased motor vehicle exhaust. Construction equipment, which uses fossil fuel, will cause **a short-term increase in GHG emissions** into the air and potentially create additional dust. **Water pollution** may result from discharge of water containing eroded soil (high suspended solids), spills and leaks of oils into nearby water bodies (e.g., drain, pond, khal (canal), drain, river). The presence and existing use of water bodies surrounding the sub-project site would determine the level of impact. In some sub-projects, **construction debris** is likely to be generated from different sub-project activities.
- **Social impacts during Fiber optic cable laying:** Installation of underground / overhead fiber optic cable lines may cause temporary loss of income resulting from temporary disruption of commercial activities at structures/ entities (e.g., shops) and that of the squatters located very close to the fiber optic cable routes (e.g., on footpaths close to the optic fiber line alignment). The loss of income to the street side shops or squatters may be significant, moderate or minor depending on the extent of the work. Once it is determined

through the social screening that a sub-project will cause loss of income, a Social Management Plan (SMP) needs to be prepared. The detailed guideline for preparing a SMP is provided which describes procedures for participation and consultation, compensation entitlements, grievance redress mechanism and implementation arrangements for SMP. The other possible socio-economic impacts are traffic congestion, health and safety, impact on aesthetic and Visual Resources , impact on archaeological and historical sites and physical cultural resources (PCR). All these can be addressed using the EMP and Best Management Practices stated before.

- **Land Acquisition:** There is no land acquisition, as fiber optic cable will be laid on public land taking permission from relevant authorities.
- **Impacts on indigenous population:** Possible impact on indigenous population is also an important consideration. Although the project has taken the exclusion criteria to avoid any negative impact on the indigenous communities, if screening suggests that indigenous people may be affected, an IPP needs to be prepared. The guidelines on indigenous people management are presented in the ESIA.
- **Impacts during operation:** During operational phase, the possible impact of the sub-project activities on the biological environment would be insignificant. No impacts on physic-chemical parameters are anticipated during the operation phase of the project. In general, during the operation phase of the project human health and safety is anticipated to be improved by the project through the provision of improved broadband service to unserved or underserved communities, including direct connection to medical facilities or emergency services providers. It will facilitate several services which were thought to be not feasible in the past such as online and internet banking, distant learning facilities for educational institutions, resource sharing for libraries as well as other research institutions, telemedicine (remote provision of health services, connecting health facilities to specialty consultation services, providing remote assessment and diagnostic services). This will bring forth a long-term positive impact in the socioeconomic landscape of the metropolitan areas.
- **Cumulative Impacts:** The proposed fiber optic cable laying operation by SCL will not have any lasting adverse environmental impacts on the project area. Implementation of the proposed action would have a limited amount of, short-term, local impacts on flora and fauna, soils, noise level, water resources, air quality, visual and aesthetic resources and traffic movement. It is not expected, however, that any of the above effects would persist over an extended period beyond the installation phase of this project. Positive impacts include improved and cheaper access to Internet and telecommunication facilities, which may have direct and indirect positive impact on the education, health, business and industrial sectors, job creation etc. Past, present, and future uses of the project area include continued use of the city roads for utilities and traffic, khals and waterways for drainage and navigation and bridges for traffic. These types of activities would continue after the project is completed. Thus, the proposed project, in combination with past, present, and

future uses would not result in any long-term adverse cumulative effects on the project area.

- **Environmental Management Plan:** An environmental management plan and recommendations for Best Management Practices for fiber optic cable laying operation were developed. The EMP states the mitigation measures corresponding to specific adverse impacts during construction phase, along with assignment of responsibilities for their implementation. Apart from general monitoring of mitigation/enhancement measures, important environmental parameters to be monitored during the construction phase of the subprojects include noise level, water quality, drainage congestion etc. Therefore, a guideline for environmental monitoring, monitoring plan were developed and tentative cost of monitoring was suggested.
- **Public Participation and Community Concern:** Summit Communications Limited (SCL) has arranged a National Level Stakeholder Discussion Session on Environmental and Social Impact of optical fiber cable deployment with stakeholders such as BTRC, RHD, City Corporations, Mobile Operators, ISPs etc. Also, public consultations in the form of Key Informant Interviews (KIIs) were carried out for documenting the opinions and concerns of stakeholders regarding the proposed project, and for assessment of social and environmental impacts of project activities during construction or operation phases of this project. SCL recognizes that stakeholder consultation is an ongoing process while the fiber optic cable is being laid in different communities. Therefore, SCL has developed an engagement plan to delineate the approach to stakeholder engagement that is envisaged during project implementation. The framework firstly lays out how to identify the stakeholders who will be informed and consulted about the project, including individuals, groups, or communities. Then it discusses the procedures to be followed to arrange meetings or interviews with stakeholders.
- **Labor Management and Occupational Safety:** SCL has a well-developed labour management and occupational health and safety management system. The operation of SCL is governed by the Summit Group HR Policy 2017 which is based on Bangladesh labour law and rules. SCL also has an occupational health and safety policy. The occupational health and safety compliance is verified through regular system audits. There is an environmental and social focal person at SCL who oversees these activities.
- **Grievance Redress Mechanism:** SCL has a well-developed grievance redress mechanism. the SCL field supervisor oversees the response of Contractors. In case the Contractor is not able to solve the grievance, the SCL supervisor himself solves the problem at the sub-project level. The workers are free to register their grievances in SCL headquarters formally, the modality of which are through a 24-7 hotline, fax, email or letter. All grievances will be initially received by the Corporate Affairs Department of SCL. SCL would duly address their grievances within one month of the receipt of the complaint. After addressing the complainant's grievance, a written confirmation will be taken and finally the database will be compiled to the databank. GRC will not certainly prohibit the complainant's right to go to the court.
- **Compliance with PSs and Environmental and Social Action Plan:** An analysis has been carried out to identify the gaps in the existing Environmental and Social Management System of SCL with respect to the

eight World Bank Group Performance Standard Requirements pertaining to OP 4.03. An ESAP is designed to address the gaps between the environmental social requirements as stated in PS 1-8 and that of the current practice of SCL. The ESAP describes feasible and practical corrective actions to be taken by SCL that will bring its operation in conformity with the OP4.03 Performance Standards, the responsible personnel within the SCL to carry out the actions as well as indicators and timeline of implementation of actions. The ESAP has been communicated with the top management of SCL and they have agreed to take the proposed actions within the stated timelines.

- **Disclosure:** Executive Summary of ESIA is to be translated into Bangla (local language) and disclosed locally and the English versions disclosed in the SCL website. In addition, hard copies of these documents in English (including an executive summary in Bengali and English) will be made available in Headquarters and regional offices. Any public notices (or any other means of communication) posted ahead of the construction work at a certain location should also contain the information as to where the ESMF documents would be available.

Finally, with appropriate implementation of the ESMP and the ESAP proposed in the document, it will be sufficient to meet all requirements during construction and the operation phases of the SCL's activities, in accordance with WB OP4.03 (PSs) and applicable WBG guidelines and standards.

Bangladesh Bank (2018) Environmental and Social Risk Management: Environmental and Social Policies and Procedures. Investment Promotion and Financing Facility (IPFF), Bangladesh Bank, Bangladesh.

ECA (1995) Bangladesh Environment Conservation Act 1995. Department of Environment, Ministry of Environment, Forest and Climate Change, Government of the People's Republic of Bangladesh.

ECR (1997) Bangladesh Environment Conservation Rules 1997. Department of Environment, Ministry of Environment, Forest and Climate Change, Government of the People's Republic of Bangladesh.

WBG (2012) International Finance Corporation's Guidance Notes: Performance Standards on Environmental and Social Sustainability. International Finance Corporation (IFC), World Bank Group, Washington DC, USA.

WBG (2012) Performance Standards on Environmental and Social Sustainability. International Finance Corporation (IFC), World Bank Group, Washington DC, USA.

WBG (2007) Environmental, Health and Safety Guidelines. International Finance Corporation (IFC), World Bank Group, Washington DC, USA.

WBG (2007) Environmental, Health, and Safety Guidelines for Telecommunications. International Finance Corporation (IFC), World Bank Group, Washington DC, USA.

Environmental and Social Impact Assessment

Summit Communications Limited Nationwide Fiber Optic Network Project

Volume III: Annexes

Participatory Advanced Research and Development Foundation

May 2021

LIST OF ANNEXES

ANNEX I

OCCUPATIONAL HEALTH SAFETY AND SECURITY POLICY OF SCL

Having an own health and safety policy for an entity shows its commitment to adhere to basic labour and health standards prescribed by PS1 and PS2. A health and safety policy guides the activities of the company to formulate plans, programs and activities to uphold the basic requirements of the performance standards. This Annex presents the occupational health and safety policy adopted by SCL and is applicable to all employees, business partners, consultants, vendors and other individuals/institutions working on behalf of SCL and any of its subsidiary.

Health Safety & Security Policy of Summit Communications Limited (SCL)

Version	:	1.0
Prepared By	:	Humana Resources Department
Manual Owner	:	Head of Human Resource Department of SCL
Manual Approver	:	CEO & Managing Director
Effective Date	:	01 June 2018

1 General Policy

1.1 Scope:

The scope of this document is applicable for all employees, business partners, consultants, vendors and other individuals / institutions working for and or on behalf of Summit Communications Ltd. and any of its subsidiary.

1.2 Objective:

This Policy has been developed with the objective to guide and regulate the Health, Safety, Security and Environmental activities to be undertaken by Summit Communications Limited and any of its subsidiary:

- To have a general understanding for the employees to be aligned with HSSE regular aspects
- To provide the guidance to the employees for the implementation & integration of Health, Safety, Security and Environmental Management system as a part of the overall management of the organization.
- Continual improvement in HSSE activities for the prevention among employees of adverse effects on health caused by their working conditions
- Align and implement the requirements of HSSE related to business partners of SCL

1.3 Distribution and updating of Policy

Distribution and Storage of this Policy

This Policy will be distributed to all Directors, CXOs and Managers in all workstations of Summit Communications Limited.

Human Resources Department of SCL will introduce and manage a process, which will ensure that everyone will be able to have the latest edition and update to this document. All employees shall read and understand the contents of this Policy. For any clarification, any stakeholder will consult with HR Department of SCL and will distribute this document to all other relevant stakeholders. (Third Party or Business Partners).

Updating this Policy

This Policy as a whole or a part or a chapter or any clause/sub-section or any content shall be reviewed, amended and changed whenever it is required and needed as a part to keep the consistent with all other policies of SCL and/or Local Regulations.

In general this Policy will be reviewed and updated in every year or as per need.

1.4 Summit Communication Policy on Health, Safety, Security & Environment (HSSE)

Ensuring HSSE for all stakeholders, including compliance with the HSSE requirements pursuant to national laws and regulations, are the responsibility and duty of the employer. And it's the responsibility of every employee to be aware and compliant with the key principles of Health, Safety, and Security & Environmental (HSSE) Policy.

SCL HSSE policy has been adapted to conditions in SCL and Bangladesh labor practices with the following rationale:

- Ensure a safe working environment internally that will yield productivity and efficiency and maintain for a compliant working environment of the Business Partner who is directly working with SCL.
- Create awareness among the employees and other stakeholders to minimize occupational hazards, injuries and diseases.

<u>The company through its HSSE policy aims at:</u>

- *Compliance assurance:* SCL will comply with applicable laws and regulations related to HSSE and strive to maintain the same among their Business units and subsidiaries.
- *Continuous improvement:* Implement HSSE Process which strives for continual improvement on HSSE activities, internally as well as externally towards Business Associates/Partners.
- *Employee Safety & Security:* Ensuring the safety and security of all members of the organization by minimizing work-related hazards, injuries, accidents/incidents etc.
- *Working environment:* Ensuring a comprehensive working environment through monitoring and maintaining all Environmental, Physical, Biological, and Physiological factors at work, minimizing work related hazardous issues that may affect the employees' health and well-being.
- *Environmental Management:* Minimize the adverse impact of SCL operation upon the environment, comply with group and local requirements and seek higher standards through continuous improvement.

1.5 HSSE goals for SCL

They are to be reviewed yearly as a minimum

1.5.1 To have an overall control on occupational health, safety issues and to be equipped with appropriate mitigation plan as a control mechanism as required.
1.5.2 To establish HSSE goals for each year and continual improvement of the Operational Health Safety tasks and responsibilities.
1.5.3 To create awareness of HSSE throughout the company.
1.5.4 To reduce work related hazards, injury, and stress, expressed by a numerical figure, which shall be fixed each year.

1.6 HSSE Implementation and Monitoring

Implementation of HSSE in workplace is every one's responsibility.

It is very important that all concerned understand and comply with the HSSE policy and activities at the work place. Non-compliance of HSSE policy is clearly violation of policy and

merits disciplinary actions depending on the severity of the violation.

It is the responsibility of each line manager or supervisor to ensure that employees under the department/section implement and ensures HSSE principles and practices at the work place.

1.7 OHS&S Management System

Occupational Health & Safety in SCL shall be measurable, where practicable, and consistent with the HSSE Policy, including the commitments to the prevention of injury and ill health, to compliance with applicable group and local legal requirements.

HSSE management process is all about identification and implementation of improvements in the area of HSSE, through Management/Functional Unit's involvement and decisions.

2. Scope of activities and responsibilities under HSSE

HSSE activities shall look after the following things:

2.1: Health

In broader sense health of an employee is a big and important thing to deal with. SCL shall take the initiative of taking care of initial health care services, preventive measures for the employees.

First Aid Boxes:
At least 1 First aid box shall be supplied to each and every workplace. Moreover, all sub-stations, regional offices etc. shall be supplied with first aid boxes.

2.2 Communication Regarding HSSE Activities:

HR Department shall be the centre point of all communication regarding Health, Safety, Security and Environment. Information to and from the employees at different regional offices shall be carried out through the regional Employee sessions. This communication will also cover all external stakeholders and business partners as applicable.

2.3 HSSE Culture:

The Company and the Management is committed to create long-term value by embracing health and safety environment, (HSSE) opportunities and minimizing HSE risks.

3. Occupational Safety & its management

3.1 Travel Safety

3.1.1 When Destination is Ahead of You

- Always ensure that someone knows where you are and where you will be
- Avoid carrying large sums of cash.

3.1.2 When you are in the Tour/ Journey

- Prepare your journey routes before setting out.
- Lock your room before setting out
- Don't wear expensive clothing or jewelry

- Beware of pickpockets, especially in crowded stations, busy streets, or market places.
- If you are using a taxi, please note the Vehicle No. before getting up to the vehicle & send it to someone else (F&F/colleague/relative) through SMS

3.1.3 While Staying In the Hotel/Guest House

- Look for fire safety instructions in your hotel room. Familiarize yourself with escape routes upon arrival so you are prepared to find it in poor visibility
- Keep your hotel door locked at all times. Always sleep in locked and secured accommodations

3.1.4 When You Are In Public Transport

- Don't accept food and other offerings from unknown person.
- If the driver is acting in an unsafe manner or appears intoxicated, disembark at the next stop. Better to be late than in an accident in a remote area

3.1.5 Chemical hazards:

- Fumes from combustion engines. Make sure that exhaust pipes have sufficient length to discard fumes away from humans.
- Gas and liquid in air- conditioners and fridges. Check documentation on equipment. Fill in precautions.

3.1.6 Avoid being robbed and/ or attacked

- Keep your personal belongings such as jewelry, watches, mobile phones etc...concealed in public.
- Do not take out lot of cash in public.
- Avoid traveling alone at night.

3.2 Safety Awareness/Training

Safety begins with awareness and taking appropriate measures both by employees and management. HR department organizes periodical trainings and awareness programs on safety issues for the SCL employees.

3.3 Accident & Return to Work:

3.3.1 Accident Management Process

Definition of Accident

Accident is an unplanned event results in mishap (personal injury or property damage). Accidents are the result of the failure of people, equipment, materials or environment to react as expected. All accidents have consequences or outcomes.

Accident Reporting Process

- Accident reporting is mandatory for all the employees. Immediately after any accident/ incident the victim or concerned person should inform HR Department either directly or through his/her supervisor.

Accident Investigation

- All fatal and some serious injury base accident will investigate by HR. It is required to find out the root cause of the accident and based on that HR will formulate remedial measures.

Conclusion:

A safe and healthy place is essential for a better life and good working condition. By raising necessary awareness and taking urgent action we will be able to achieve our goal of making the workplaces healthier, safer and happier places to work.

The main principle of SCL HSSE policy is that injury, discomfort in the job and work related diseases, can be prevented. This can be achieved through systematic work, awareness of dangers and common sense.

----------X----------

DoE is the environmental regulatory agency responsible for providing environmental clearance (if required) for a project. This letter is an Environmental Clearance Certificate provided by DoE to SCL stating that subjected to certain terms and conditions.

Government of the People's Republic of Bangladesh
Department of Environment
Head Office, E-16 Agargaon
Dhaka-1207, Bangladesh
www.doe.gov.bd

Memo No: 22.02.0000.018.72.088.20.05 Date: 12/01/2021

Subject: **Environmental Clearance for Expansion of Nationwide Optical Fiber Network 1184km (underground) and 9589km (overhead) by Summit Communications Limited (SCL).**

Ref : Your application dated 20/12/2020.

With reference to your above application, the Department of Environment (DoE) hereby approves Environmental Impact Assessment (EIA) report and accords Environmental Clearance to the Expansion of Nationwide Optical Fiber Network 1184km (underground) and 9589km (overhead) by Summit Communications Limited (SCL) subject to fulfilling the following terms and conditions

1. The activity under this project shall not result in the loss of containment of any materials that would affect health or will have damaging impact on the environment or natural resources.
2. Proper and adequate sanitation facilities shall be ensured in labor camps throughout the proposed Transmission Network construction program.
3. No solid waste can be burnt in the project area. An environment friendly solid waste management should be in place during whole period of the project in the field.
4. Proper and adequate on-site precautionary measures and safety measures shall be ensured so that no habitat of any flora and fauna would be demolished or destructed.
5. All the required mitigation measures suggested in the EIA report along with the emergency response plan are to be strictly implemented and kept operative/ functioning on a continuous basis.
6. To reduce dust, spraying of water over the earthen materials should be carried out from time to time.
7. Resettlement plan should be properly implemented and people shall be adequately compensated.
8. After the construction work, top soil should be properly restored. No wetland should be filled up.
9. Construction material should be properly disposed off after the construction work is over.
10. At the time of commissioning of the Transmission line and other facilities utmost precautionary measures should be taken to reduce the possibility of accident.
11. The Environmental Management Plan (EMP) included in the EIA Report shall strictly be implemented and kept functioning on a continuous basis.
12. In case of any emergency, the following information shall immediately be reported to Headquarter of the Department of Environment (DoE) simultaneously
    a) Nature of incident (fire, accident, collision etc.)

1/3

b) Personnel affected (injured, missing, fatalities, etc.)
c) Emergency support available and its location (standby transport, medical facilities, etc.)
d) Weather conditions
e) Current operations (abandoning the site, fire fighting, etc.)

13. All pollution incidents shall be reported immediately to the nearby Office of the Department of Environment.

14. Full and adequate utilization of the techniques for mitigation of pollution and environmental damage as well as that for treatment of wastes shall be ensured.

15. Summit Communications Limited (SCL) shall submit a detail work plan with time schedule of development activities at least 7(seven) days ahead of the work commences in the field to Headquarter of the Department of Environment (DoE).

16. On completion of the Transmission Network and other construction, the project authority shall hand-over and leave the land to the actual land-owner in a replenished condition in terms of fertility and topography.

17. Comprehensive Environmental Performance report shall be submitted on a monthly basis to the DoE Headquarter including actual intervention and the rehabilitation, mitigation and treatment options adopted at the project site.

18. All parameters of effluent and gaseous emission shall be within the limits in the Environment Conservation Rules (ECR), 1997. In case of non-coverage of ECR 1997 the World Bank Environment, Health and Safety Guideline shall be adhered to.

19. The project authorities must strictly comply with the rules and regulations with regards to handling and disposal of Hazardous waste in accordance with the Hazardous Waste and Ship-breaking Waste Management Rules, 2011.

20. The overall noise levels shall conform to the Standard prescribed under the Noise Pollution (Control) Rules, 2006.

21. There shall be specific format for Environment Monitoring. Environmental Monitoring Reports shall be made available to DoE Head Quarter on a monthly basis during the whole period of the project.

22. Rehabilitation of human settlement or compensation for any sort of activity which will incur damage or loss of public or private property or any natural resources shall be addressed as per Government of Bangladesh rules and regulations;

23. No activity of cutting/razing/dressing of hill or hilly land is endorsed under this clearance without due permission/clearance of the concerned authority of the Government of Bangladesh.

24. Appropriate permission would be required to obtain from the forest department in favor of cutting/felling of any plant/tree/sapling forested by any individual or government before doing such type of activity.

25. Summit Communications Limited (SCL) shall extend active cooperation to DoE officials to facilitate their visit to the site as and when necessary.

26. This clearance is valid for one year from the date of issuance and the project authority shall apply for renewal to the Head Office of DoE with a copy to the divisional/Regional/Metropolitan offices of DoE concerned at least 30 days ahead of expiry.

27. Violation of any of the above mentioned conditions shall render this Environmental Clearance as void and legal action will be taken as per Bangladesh Environmental Conservation Act, 1995 and Environmental Conservation Rules, 1997.

28. This Environmental Clearance Certificate has been issued with the approval of the appropriate authority.

12.01.2021

(Masud Iqbal Md. Shameem)
Director (Environmental Clearance)
Phone # 8181673

Chief Financial Officer
Summit Communications Limited (SCL)
18, Kawran Bazar C/A, Dhaka.

Copy Forwarded to :

1) PS to Secretary, Ministry of Environment, Forest and Climate Change, Bangladesh Secretariat, Dhaka.
2) Director, Department of Environment, Dhaka/ Chattogram Metropolitan/ Regional/ Rajshahi/ Khulna/ Barishal/ Sylhet/ Rangpur Divisional Office, Dhaka/ Chattogram/ Bogura/ Khulna/ Barishal/ Sylhet/ Rangpur.
3) Assistant Director, Office of the Director General, Department of Environment, Head Office, Dhaka.

ANNEX III

FORM 1: SUB-PROJECT DESCRIPTION: OPTICAL FIBER LINE

Before execution of each sub-project (work package), the relevant information regarding the work package needs to be documented. This form has been designed to document relevant information regarding the work package and is to be completed by Summit Communication Ltd. During Planning (site selection) of fiber optic cable laying. The information conveyed through this form also presents the baseline description of the work package site.

General Description of the Sub-project

Subproject Name and Location: .....

Name of Ward: ..... **Name of the Upazilla/Area:** .....

(1) Work Package Particulars :

(a) Type of Link **:** □ Underground □ Overhead □ Both

(b) Total Length (km) **:** _____Underground
_____Overhead

(c) Start/ End Point :

(d) Number of Control Stations to be Constructed :

(e) Number of Handholes to be Constructed :

(f) Mode of Operation for Underground :

□ Cut and Fill □ HDD □Both

(2) Local SCL office/ PGCB Substation :

(3) Layout of proposed Fiber optic Line :
(attach layout map)

(4) Does the work package involve :

(a) Railway crossing	□ Yes	□ No
(b) Road crossing	□ Yes	□ No
(c) Stream/River crossing	□ Yes	□ No
(d) Bridge Crossing	□ Yes	□ No

(5) Land ownership and permissions:

(a) Will land acquisition be used? □ Yes □ No

(b) Names of the govt. agencies owning the land :

(c) Area of land to be used (acre) :

(attach a copy of the agency's permission to use their land)

(6) Baseline Environment :

- General Characteristics of route of optical fiber link: (along local road or highway/ through paddy or crop field/ through human settlement) *specify*

- Type of area (Industrial/ commercial/ residential/ forest/ wetland/ other) *specify*
- Brief Information on human settlement, industrial/commercial establishments, water body, flora, fauna, historical or culturally important sites, ecologically sensitive areas, traffic

(7) Summary of public consultation (if any) during survey for route selection:

(8) Changes in alignment (if any) made due to existing field conditions: (if the survey team made any changes to the alignment from the shortest possible route due to presence of shops, buildings or other structures, community feedback)

(9) Schedule of implementation :

(a) Sub-project duration (months) :
(b) Tentative start date :
(c) Tentative completion date :

Prepared by: (Name, designation, mobile number, signature, date)

Reviewed by: (Name, designation, mobile number, signature, date)

ANNEX IV

FORM 2: ENVIRONMENTAL /SOCIAL SCREENING: OPTICAL FIBER LINE

The first step of environmental assessment is to perform baseline environmental and social screening. The actual location of the link will be finalized during implementation and the features of the project site are documented in Form 1. This form is designed to convey environmental and social risk features of the proposed site so that site-specific management plan can be designed. This should be filled up and documented by SCL during implementation phase of the project.

(1) Potential Environmental Impact During Construction Phase Checklist

Sl	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (low/moderate/high)*
(a)	**Ecological impacts:**				
1	Is the construction being carried out in an ecologically sensitive area?				
2	Will the topsoil and vegetation be cleared as a result of the construction?				*Please mention how many trees will be cut*
3	Is there natural and critical habitat in the area of interventions?				*If natural and critical habitat are present in the area, ecological experts need to be hired for ecological risk assessment.*
(b)	**Physico-chemical impacts:**				
4	Will dust and vibration-generating equipment be used?				*(mention what kind of equipment be used)*
5	Will the excavation/ trenching works and movement of vehicles generate air pollution?				*(specify the method of air pollution)*
6	Will noise pollution be occurred during the operation?				
7	Will fuel and/or hazardous goods be used in construction activities?				
8	Will fuel and/or hazardous substances be stored at the construction site?				
9	Is there a possibility of discharging liquid effluent from the construction site?				
10	Is earthwork (earth excavation, backfilling, stockpiling of excavated soil) involved in construction activities?				

Sl	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (low/moderate/high)*
11	Is there a possibility of water stagnation at the construction site?				
12	Will the construction involve road blocking?				
(c)	**Socio-economic Impacts**				
13	Is the project area densely populated?				
14	Will there be any pedestrian and safety related issue?				*(Mention the type of measures that will be adopted, i.e. Traffic safety signs, protection fence with warnings)*
15	Is significant movement of vehicles involved during construction activities?				*(Mention the type of measures that will be adopted, i.e. Traffic safety signs, protection fence with warnings, working at nighttime)*
16	Is there a safe source of drinking water and adequate sanitation facilities available for the workers at or near the construction site?				*(mention the location of the facilities)*
17	Will the workers be provided Personal Protective Equipment (PPE), devices and clothing and be ensured those are used?				(Provision of PPE such as helmets, boots and face masks for the workers; Provision of first aid box with basic items.)
18	Have the workers been trained on the use of safety gears and emergency measures?				
19	Is there a risk to safety and human health to people other than workers?				*(Mention the type of measures that will be adopted, i.e. Traffic safety signs, protection fence with warnings)*
20	Will any archaeological and historical Structure be affected?				
21	Will any structure(s)/ entity(s) (e.g., shops) be temporarily affected during sub-project activity?				*(mention the numbers of structure(s)/ entity(s))*
22	Will any squatter(s) be temporarily displaced during sub-project activity?				*(mention the numbers of squatter(s))*
23	Will any mobile vendor(s) be affected potentially?				*(mention the numbers of mobile vendor(s))*

Sl	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (low/moderate/high)*
24	Will the subproject affect the way of life adversely and restrict access to common property resources of any indigenous people?				

** Prepare a site-specific Environmental Management Plan (EMP) if environmental impacts are assessed to be High or Moderate*

*** Attach an Indigenous People's Plan (IPP) if impact is Significant or Moderate*

Potential Environmental Impact during Operational Phase: No significant adverse impact anticipated that cannot be addressed by routine O&M activities, and no such impacts are expected that could potentially affect nature of subsequent ESA.

Prepared by: (Name, designation, mobile number, signature, date)

Reviewed by: (Name, designation, mobile number, signature, date)

ANNEX V

FORM 3: SITE-SPECIFIC EMP AND MONITORING PROTOCOL

This template is for developing site-specific EMP and monitoring protocol. After performing the E&S screening (Form 2) it would be evident which risks would be relevant pertaining to the specific work package and using this template and the guidance provided in Chapter 4, site specific EMP and monitoring protocol can be designed.

Activities Associated with low to moderate environmental impacts	Suggested mitigation measures/ BMPs	Mitigation Measures Adopted by the Contractor/SCL	Monitoring of mitigation measures	Frequency of monitoring during period of activities	Name of the person conducting the monitoring
(From screening checklists in Annex IV)	*(From Chapter 4 and Annex IX)*	*(Mention which mitigation measure the contractor has adopted)*	*(Describe the method of monitoring)*	*(Once/week, once/month etc. depending on the activities)*	*(Typically will be performed by the field supervisor at the subproject level)*
Example: Noise pollution from HDD, concreting work, mobilization of vehicles and equipment	Contractor/ SCL shall use noise suppressors and mufflers in heavy construction equipment., Avoid using of construction equipment producing excessive noise during school hours and also at night, Avoid prolonged exposure to noise (produced by equipment) by workers/give protective gears, Regulate use of horns and avoiding use of hydraulic horns in project vehicles.	Contractor has avoided using of construction equipment producing excessive noise during school hours and also at night.	Noise level meter, GPS	Spot checking, frequency to be determined by SCL	Mr. X

Bangladesh has long cultural history right from 3rd century BC onwards. Enormous major and minor historical records are scattered in different parts of the country. The features of these antiquities have separated values and identities. During implementation of large-scale infrastructural development work/s an archaeologist needs to be typically present to rescue or recover any cultural resources present at the site. SCL fiber optic cable installation project will require earth excavation in certain locations and may require intervention from archaeological experts. This Annex provide a guidance on archaeological impact assessment.

To reduce the possibility of damaging archaeological objects, in case they are found while undertaking excavation works for optical fiber line installation, an authorized archaeological unit or at least an archaeologist should be asked to monitor the site periodically. The tasks are as follows:

Tasks:

(i) Conduct archaeological impact assessment for development projects.

(ii) Execute sampling excavation and assess the significance of the materials found, propose mitigation measures to safeguard buried archaeology or erected/surface remains and suggest future research activity.

(iii) Assess risks to these archaeological materials by the proposed infrastructure and suggest changes to the infrastructural works.

(iv) Identify suitable mitigation measures and prepare environmental management plan.

Investigation

Archaeological impact assessment in the project area and its vicinity to identify impacted sites/remains in relation to the infrastructural work proposed. A team of experts needs to conduct an extensive study and survey at the sub-project areas. The objective of this survey will also be to develop proposal of appropriate mitigation measures to be undertaken to safeguard the buried or surface archaeology. The other objective is to suggest for changes, if any, to the proposed infrastructure works which could better assure the safeguarding of archaeological materials of cultural and historical significance and also suggest for future archaeological research and excavation of the buried archaeology. The team can adopt three different methods for this purpose:

a. Examination of available cartographic and other photographic records.

b. Review of available literature, reports of archaeological researches and explorations conducted at project areas.

c. Combing the city block-by-block or lane by lane through site inspection to unveil the historical facts.

d. On-site interaction with local people and to investigate clues if any in their traditions and legends.

ANNEX VII

IMPACT SCREENING AND ASSESSMENT GUIDELINE FOR PHYSICAL CULTURAL RESOURCES (PCR)

As stated in the World Bank PCR Safeguard Policy Guidebook, The PCR policy applies to projects having any one or more of the following three features:

(i) Projects involving significant excavations, demolition, movement of earth, flooding or other major environmental changes

(ii) Projects located within or in the vicinity of a recognized PCR conservation area or heritage site

(iii) Projects designed to support the management or conservation of PCR

The sub-projects under the proposed project will involve significant excavation works, and movement/storage of earth. The proposed routes of the fiber optic lines may have religious institutions (mosques, temples, Buddhist temples), few sites of archaeological importance, public libraries, cinema halls, community centers, which can be considered PCRs. However, the sub-project area of influence may or may not intersect these regions (since the sub-projects will mostly follow the roadway alignment and actual locations of most of them still undetermined). Therefore a generic impact assessment of Physical Cultural Resources is outlined in this Annex.

Guidance on Identification of PCR

In the context of the proposed project, the probable examples of PCR may be the following:

1. Human made: Religious buildings such as temples, mosques, churches, exemplary indigenous or vernacular architecture Buildings, or the remains of buildings of architectural or historic interest, historic or architecturally important townscapes Archaeological sites (unknown or known, excavated or unexcavated), Commemorative monuments

2. Natural: historic trees, natural landscapes of outstanding aesthetic quality

3. Combined man-made or natural: Sites used for religious or social functions such as weddings, funerals, or other traditional community activities (community centers), burial grounds, family graves, cultural landscapes

4. Movable: registered or unregistered artifacts in temples or mosques, paintings, statues of important historical figures, religious artifacts, cultural artifacts etc.

Assessment of probable impacts due to activities:
Below is a list of project activities or features under the context of the proposed project, which may commonly give rise to negative impacts on PCR, divided into two periods: construction phase and operational phase.

Construction phase:

1. Excavation, and construction:
    - Direct physical damage to natural, manmade and buried PCR on site

2. Construction traffic:
    - Vibration, soil, air and water pollution causing damage to natural or manmade PCR on site.
    - Noise pollution can interfere with the use and enjoyment of PCR such as tourist destinations, historic buildings, religious establishments and cemeteries.

3. Mobilization of heavy construction equipment:
    - Damage to natural or manmade PCR on site
    - Damaging buried PCR (archaeological) onsite, and damaging pipelines and drains serving built PCR in the vicinity.

4. Flooding and Inundation:
    - Submergence or destruction of human-made, natural or buried PCR.
    - Barrier to access of all types of PCR.
    - Raised water table can lead to damage to all types of PCR.
    - Damage to aesthetics of scenic landscapes.

Operation phase:

1. Induced development:
    - Induced development leading to increased wear and damage, sacrilege of sacred sites, theft and vandalism of movable and breakable PCR, and damage to the aesthetics of scenic landscapes and townscapes.

2. Urban development:
    - Changes in demography or settlement patterns leading to decay of inner cities and abandonment and neglect of older residential areas containing built PCR such as vernacular architecture.

    - Developments which are out-of-character with their surroundings diminishing the aesthetic value of the townscape, decline in property values and ultimately, neglect of built PCR in the area.

    - Damage to the aesthetics of scenic landscapes and townscapes.

Guidelines for ToR for the PCR Component:

In case of a sub-project, which is not expected to have any impacts on PCR, it may be sufficient to include procedures for chance finds (Annex VIII). Where there may be a likely impact on PCR due to activities carried out under any of the sub-projects, the ToR may be tailor-made to the specific requirements. The ToR is expected to include potential major PCR issues, the likely impacts on PCR, the PCR impact areas, which will set boundaries for collecting the PCR baseline data along with any specialized PCR knowledge or skills required. In projects such as the proposed project, since the subproject locations are not yet determined, it will not be possible at this stage to identify the PCR impact areas and the type of PCR data that should be collected. In such cases, the ToR should require the EA team to establish these parameters at the beginning of the assignment, and propose provisions for identifying and managing PCR during project implementation. The EA report for the corresponding sub-projects should be modified accordingly to incorporate the issues related to PCR in those cases. The investigations and findings with respect to PCR should form an integrated part of the EA report since OP 4.11 does not call for a separate report. Therefore the ToR for consultants for the generic EA assessment of sub-projects would still be valid with a few additional assignments on behalf of the consultants with respect to PCR:

- Regulatory environment: (Identification of any regulations and guidelines which will govern the conduct of the assessment) This section should also list any relevant national acts or regulations pertaining to the safeguarding of PCR
- Background information: (description of the physico-chemical, ecological and socioeconomic environment) All registered and unregistered, movable or immovable PCRs in the sub-project areas need to be identified in this part preferably using visual identification, consulting with local people. The report should have descriptions and visual illustrations of the PCRs.
- Impact assessment: (the consultant will identify the likely biophysical and social impacts in sufficient detail to be able to design suitable mitigation measures). Impacts on all types of PCR should be considered, both natural and man-made, registered and unregistered, movable an immovable.
- Analysis of alternatives: (the consultant will include PCR aspects when considering alternative projects or project locations)
- Environmental Management Plan including institutional arrangement for implementation and monitoring: (The ToR should state that mitigating measures arising from PCR impacts should be agreed to by the concerned and affected parties before they are submitted as recommendations in the EMP.)
- Public Participation (The ToR should point out the importance of the consultative process for the physical cultural resources component)

Works could impact sites of social, sacred, religious, or heritage value. "Chance find" procedures would apply when those sites are identified during the design phase or during the actual construction period and the related activity will not be eligible for financing under the project. Cultural property includes monuments, structures, works of art, or sites of significant points of view, and are defined as sites and structures having archaeological, historical, architectural, or religious significance, and natural sites with cultural values. This includes cemeteries, graveyards and graves. This Annex describes the procedures to be followed in the event of a 'Chance Find' for cultural properties and describes the procedures for its management as per the World Bank Operational Manual for OP4.11.

Procedures for Chance Find:

(1) In the event of finding of properties of cultural value during construction, the following procedures for identification, protection from theft, and treatment of discovered artifacts should be followed and included in standard bidding document.

(a) Stop the construction activities in the area of the chance find;

(b) Delineate the discovered site or area;

(c) Secure the site to prevent any damage or loss of removable objects.

(d) Notify the supervisory Engineer who in turn will notify the responsible local authorities;

(e) Responsible local authorities and the relevant Ministry would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures.

(f) Decisions on how to handle the finding shall be taken by the responsible authorities and the relevant Ministry. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance), conservation, restoration and salvage.

(g) Implementation of the authority decision concerning the management of the finding shall be communicated in writing by the relevant Ministry.

(h) Construction work could resume only after permission is given from the responsible local authorities and the relevant Ministry concerning safeguard of the heritage.

(2) These procedures must be referred to as standard provisions in construction contracts. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered.

(3) Relevant findings will be recorded in World Bank Supervision Reports and Implementation Completion Reports will assess the overall effectiveness of the project's cultural property mitigation, management, and activities, as appropriate.

ANNEX IX

BEST MANAGEMENT PRACTICES (BMPS) FOR FIBER OPTIC CABLE INSTALLATION

The Best Management Practices (BMPs) are guidelines to reduce or eliminate environment risk due to various activities associated with the construction and installation of Fiber Optic Cable Lines of SCL. This Annex describes BMPs related to i) protection of flora and fauna, ii) excavation, backfilling and topsoil restoration and re-vegetation, iii) reuse of excavated soil, iv) protection of sensitive locations, v) HDD operation, vi) Cable lying by bridge-crossing, vii) pole construction, viii) installation of control station for fiber optic line, ix) Waste Management, x) Public Health and Safety, xi) Natural Habitats, xii) Air Pollution Control and xiii) general maintenance and erosion control.

Best Management Practices (BMPs) related to the protection of flora and fauna:

1. Where stream crossings would include excavation or other activities that would result in suspended sediment, disturbance or modification of stream banks and beds, and/or removal of native riparian vegetation, measures will be employed to avoid or reduce the effect of these impacts.

2. Where the potential for suspended solids resuspension exists, monitoring for elevated turbidity levels will be planned, with contingencies in place to avoid elevated levels of suspended sediment that could result in adverse effect to sensitive aquatic species and other fish-bearing streams.

3. Removal of mature native riparian vegetation will be avoided, where avoidance is not possible, as few trees as possible will be removed to support the construction.

4. Where placement of cable or other infrastructure would result in removal of tree nests for migratory birds, surveys for all species of concern will be performed, and survey findings will be applied to include protective timing measures or other protections that ensure compliance with related local laws and guidelines.

5. Removal of trees needs to be avoided where such activities would result in mortality of eggs or nestlings or the abandonment of eggs and nestlings of birds

6. If sensitive plant species are found in the planning area while project activities are occurring, an ecologist would be consulted as to measures required to protect the species and its essential habitat. Also restrictions should be imposed on noise-generating activities and application of artificial lighting that disturbs sensitive species. If threatened or endangered species are affected due to project activities, appropriate measures should be taken for their rescue and relocation.

7. Tree felling, if unavoidable, shall be done only after compensatory plantation of at least three saplings for every tree cut is done.

8. The species shall be identified in consultation with officials of forest department/local community, giving due importance to local flora. It is recommended to plant mixed species in case of both avenue or cluster plantation.

9. The plantation strategy shall suggest the planting of fruit bearing trees and other suitable trees.

10. During the operational phase regular trimming of trees along the route of aerial installation of fiber optic cable line may become essential to prevent accidents due to over-growth onto the power lines. However, his activity should be conducted with minimal damage to the existing vegetation.

11. The project proponents would take up the planting of fruit bearing and other suitable trees, on both sides of the roads or other infrastructure development projects location from their own funds.

BMPs related to excavation, backfilling and topsoil restoration and re-vegetation:

12. Topsoil lift material would be replaced as the surface soil layer during backfilling. Excess subsoil, substrate, and/or large rock materials that cannot be buried in the excavated trench (trenching method) would be removed from the site.

13. Some compacting of backfill soil materials would be required while when closing trenched portions of the fiber optic line so as to eliminate excess soil settling. Backfilled sites should be mounded slightly at the completion of backfilling to accommodate for a reasonable amount of settling. Backfilling and compaction must be complete in all areas within 50 yards of road drainage culverts or natural channels before crews leave the job site for an extended period (weekend, holiday, etc.).

14. Restoration of topsoil will be required where soil is disturbed by project activities. The goal is to provide long-term soil cover and reduce the risk of weed infestation. Native plant materials are the first choice in re-vegetation, but non-native, non-invasive plant species may also be used. Prompt re-vegetation is critical to restoration of backfilled areas. Installation of native rather than imported plants will increase vegetation viability, avoid immediate or long-term irrigation needs, and promote rapid ground cover. Plant diversity also will create useful wildlife habitat and more opportunities for future activities or site reuse.

15. If grass seed is not established within two years of initial seeding then reseed as necessary.

16. The topsoil salvaging provision applies to all areas along the proposed fiber line installation route where one or more of the following conditions exist: 1) trenching would be used for cable installation, 2) the fiber optic line would be buried in a borrow ditch or along other drainage features, 3) any areas where the fiber optic

line passes through mature stands of conifers or deciduous trees, i.e.: areas obviously lacking previous disturbance. Topsoil salvaging would not be required in any areas where the soil surface is characterized as rubbly, extremely stony, or extremely bouldery based on the size and amount of rock fragments on the surface. Topsoil salvaging would also not be required in areas that are severely infested by noxious weeds or cheatgrass.

17. Drainage congestion may result from possible obstruction to natural flow of drainage water due to the storage of materials, digging/back-filling of water fiber optic line trenches. Therefore, care should be taken to avoid any drainage congestion during these activities.

BMPs related to reuse of excavated soil

18. Reusing excavated soil can be done from construction activities, where appropriate, to support similar construction development activities. This limits the need to import soil from natural or virgin sources. It also reduces the environmental impacts and costs associated with taking excess soils to commercial fill or landfill sites. All soils imported to a site for reuse should be of a quality appropriate for anticipated future land uses and to prevent adverse effects. Municipalities are encouraged to consider these soil reuse options in their procurement practices, and when issuing approvals or permits that include soil management and importation

BMPs related to protection of sensitive locations

19. At boundaries of sensitive areas (places of historical or archaeological importance), their buffers, and other areas stake or wire fences may be used to protect them from any harmful effects due to project activities. The fences will also assist in controlling vehicle access to and on these areas.

BMPs related to HDD operation

20. Directional Drilling equipment will be located outside of stream buffers - typically 20 feet or more from stream shore.

21. During directional boring operations the following mitigation measures may be adopted if seeping occurs:

(A) Containment and cleanup equipment will be present for use at the site, as needed

(B) If boring under stream crossings, a qualified hydrological monitor will be present at all bore sites to monitor construction activities for prompt detection of any releases.

(C) Releases will be immediately controlled and the drilling fluid will be contained and removed

(D) A remediation plan will be developed based on the site-specific conditions.

22. Upon completion of a directional bore, all slurry will be removed from the construction site and deposited at an approved site.

BMPs related to Cable lying by bridge-crossing

23. Safety netting will be installed under aerial and bridge attachment installations over water bodies to avoid equipment, tools, or workers from falling into the water body.

BMPs related to pole construction (Aerial installation of fiber optic cable line)

24. Erection of poles/towers for installation aerial fiber optic cable lines of the SCL involves:

i. Informing the local community about the installation schedule;
ii. Marking and clearance of the designated locations for installation/replacement of poles.

25. Pole Erection Activities by SCL.

- Informing the community and local city/village councils about the likely schedule of erection;
- After obtaining the consent of the community SCL shall be responsible to stake out the designated locations.

26. Pole Erection Activities by the Contractor

- The contractor shall submit the schedules and methods of operations for various items during the Pole erection operations to the SCL for approval.
- The clearance of sites shall involve the removal of all materials such as trees, bushes, shrubs, stumps, roots, grass, weeds, part of topsoil and rubbish. Towards this end, the Contractor shall adopt the following measures:
  - To minimize the adverse impact on flora and vegetation, only ground cover/shrubs that impinge directly on the permanent works shall be removed.
  - In locations where erosion or sedimentation is likely to be a problem, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion and sedimentation control features can follow immediately, if the project conditions permit.
  - The disposal of wastes shall be in accordance with the provisions of BMPs related to Waste Management.
- All regulatory clearances shall be obtained before actual start of work. River Crossing Towers are very high electric towers specially designed to cross large rivers. Tower construction for river crossing will require proper protective measures against bank collapse. Sheet-Piling or Shore protection measures should be ensured while laying the foundation of the tower near the river bank or in the river bed. Pre-cast piles should be driven in with extreme care so as to expose the workers to the least possible danger.
- Foundation should be checked for damages or uneven settlement following construction.
- Proper safety measures should be ensured prior to River crossing jobs.

- The work plans should be submitted by the contractor/engineer prior to commencement of the erection work. The work plan should provide detailed steps of foundation works in the river. River traffic movement should not be obstructed to any stage.
- Proper protective measures should be adopted to prevent or minimize river water pollution.

BMPs related to installation of control station for fiber optic line

27. The clearance of site shall involve the removal of all materials such as trees, bushes, shrubs, stumps, roots, grass, weeds, part of topsoil and rubbish. Towards this end, the Contractor shall adopt the following measures:

- To minimize the adverse impact on flora and vegetation, only ground cover/shrubs that impinge directly on the permanent works shall be removed.
- In locations where erosion or sedimentation is likely to be a problem, clearing and grubbing operations should be so scheduled and performed that grading operations and permanent erosion and sedimentation control features can follow immediately, if the project conditions permit.
- The disposal of wastes shall be in accordance with the provisions of BMPs related to Waste Management.
- All regulatory clearances shall be obtained before actual start of work.

BMPs related to Waste Management

28. Construction Stage:

- The contractor shall either re-use or dispose the waste generated during construction depending upon the nature of waste.
- The contractor shall dispose of wastes that could not be re-used safely.
- SCL shall review the waste management practices adopted by the Contractor during the progress of construction.

29. Post-construction Stage

- In case of disposal of wastes on private land, certificate of Completion of Reclamation is to be obtained by the Contractor from the landowner that "the land is restored to his satisfaction".

BMPs related to Public Health and Safety

30. Pre-construction Phase

- In order to incorporate public health and safety concerns, SCL and the Contractor shall disseminate the following information to the community:
  i. Location of project activities,
  ii. Borrow areas,
  iii. Extent of work
  iv. Time of construction
  v. Involvement of local labors in the road construction

vi. Health issues - exposure to dust, communicable diseases etc.

31. Construction Phase

- The Contractor shall schedule the construction activities taking into consideration factors such as:
  i. Sowing of crops
  ii. Harvesting
  iii. Local hindrances such as festivals, etc.
  iv. Availability of labor during particular periods
- Proper safety/warning signs are to be installed by the contractor to inform the public of potential health and safety hazard situations during the construction phase in the vicinity of the project.
- SCL shall carry out periodic inspections in order to ensure that all the measures are being undertaken as per this BMP.

32. Post-construction Phase

The construction site shall be cleaned of all debris, scrap materials and machinery on completion of construction for the safety of public and users. During operation phase (especially during regular maintenance) following issues should be addressed for overhead fiber optic cable lines:

- Regular patrolling along the overhead fiber optic cable lines to identify the need for regular and immediate maintenance operation.
- Inspection immediately after a major storm/rainfall event
- Regular cutting and trimming of trees around fiber optic cable lines.

BMPs related to Natural Habitats

33. General

- This code of practice envisages measures to be undertaken during implementation of the said projects by the SCL near natural habitats. These measures shall be undertaken in addition to the measures laid down in the other BMPs.
- As per the World Bank OP 4.04, the conservation of natural habitats, like other measures that protect and enhance the environment, is essential for long-term sustainable development. A precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development has been adopted for the project.

34. Pre-construction Phase

Contractor in consultation with forest ranger or any other concerned authority shall prepare a schedule of construction within the natural habitat. Due consideration shall be given to the time of migration, time of crossing, breeding habits and any other special phenomena taking place in the area for the concerned flora or fauna.

35. Construction Phase

- Collection of any kind of construction material from within the natural habitat shall be strictly prohibited.

- Disposal of construction waste within the natural habitat shall be strictly prohibited.

36. Post-construction Phase
- The infrastructure development projects near the natural habitat shall be declared as a silence zone.
- Compensatory tree plantation within the project area shall be done.

BMPs related to Air Pollution Control

37. Field generation of contaminated or uncontaminated dust and mobilization of volatile organic compounds can be reduced by new and traditional BMPs such as:
- Covering excavated areas with biodegradable fabric that also can control erosion and serve as a substrate for favorable ecosystems, or with synthetic material that can be reused for other onsite or offsite purposes
- Spraying water in vulnerable areas, in conjunction with water conservation and runoff management techniques
- Securing and covering material in open trucks while hauling excavated material, and reusing the covers
- Revegetating excavated areas as quickly as possible
- Limiting onsite vehicle speeds to 10 miles per hour BMPs related to safety during fueling operations and cleaning of spills

38. Fueling of equipment is not to be done in close proximity to sensitive aquifers designated wetlands, wetland buffers, or other waters of the State.

39. The presence and constant observation/monitoring of the driver/operator at the fuel transfer location at all times will be implemented. Fueling will be located at least 25 feet from the nearest storm drain or covering the storm drain to ensure no inflow of spilled or leaked fuel.

40. The local fire department contact names and numbers will be on-site in case of any spill entering the surface or ground waters or in the event of fire.

41. Petroleum products will be stored in tightly sealed containers which are clearly marked.

42. All onsite vehicles will be checked for leaks and receive regular preventive maintenance to reduce the chance of leakage.

43. Manufacturer-recommended methods, materials, and equipment for spill cleanup will be available on site, and personnel will be made aware of the procedures and the location of the information and cleanup supplies.

44. All spills will be cleaned up immediately after discovery. Personnel will wear appropriate protective clothing to prevent contact with hazardous substances.

BMPs related to general maintenance and erosion control

45. When water or sediments are removed from vaults, inspect for the presence of oil or sheen. If oil or sheen is present, the liquid will be pumped out and disposed of properly via the sanitary sewer or directly at a wastewater plant.

46. Storm drain inlets will be protected to prevent coarse sediment from entering drainage systems prior to permanent stabilization of the disturbed areas. It may be necessary to build a temporary dike, use a block and gravel filter around the inlet using standard concrete blocks and gravel. Other methods recommended are gravel and wire mesh filters, catch basin filters, curb inlet protection with wooden weir, block and gravel curb inlet protection, or curb and gutter sediment barrier.

47. All construction and maintenance activities would be conducted in a manner that would minimize disturbance to drainage channels, and stream banks.

ANNEX X

IFC/WORLD BANK GROUP OCCUPATIONAL HEALTH AND SAFETY GUIDELINES FOR FIBER OPTIC CABLE INSTALLATION

Installation of fiber optic cable itself involves specific risks and requires mitigation measures. This annex describes the various risks associated with fiber optic cable installation and suggested mitigation or safety measures to be undertaken by SCL. This is based on IFC/World Bank Group (2007) Environmental, Health and Safety Guidelines for Telecommunications.

Workers involved in fiber optic cable installation or repair may be at risk of permanent eye damage due to exposure to laser light during cable connection and inspection activities. When extending a cable or mounting a cable connector, a microscope is typically attached to the end of the fiber optic cable allowing the worker to inspect the cable end and prepare the thin glass fibers for extension or connection assembly. Workers may also be exposed to minute or microscopic glass fiber shards that can penetrate human tissue through skin or eyes, or by ingestion or inhalation. Optical fiber installation activities may also pose a risk of fire due to the presence of flammable materials in high-powered laser installation areas.

Recommendations to prevent, minimize, and control injuries related to fiber optic cables installation and maintenance include:

- Worker training on specific hazards associated with laser lights, including the various classes of low and high power laser lights, and fiber management;
- Preparation and implementation of laser light safety and fiber management procedures which include:
    - Switching off laser lights prior to work initiation, when feasible
    - Use of laser safety glasses during live optical fiber systems installation
    - Prohibition of intentionally looking into the laser of fiber end or pointing it at another person
    - Restricting access to the work area, placing warning signs and labeling of areas with potential for exposure to laser radiation, and providing adequate background
    - Lighting to account for loss of visibility with the use of protective eyewear
    - Inspecting the work area for the presence of flammable materials prior to the installation of high-powered laser lights

- Implementation of a medical surveillance program with initial and periodic eye examinations;

- Avoiding exposure to fibers through use of protective clothing and separation of work and eating areas.

Reference: *IFC and World Bank Group (2007) Environmental, Health and Safety Guidelines for Telecommunications. Available at the following link: http://www.ifc.org/wps/wcm/connect/0985310048855454b254f26a6515bb18/Final%2B-%2BTelecommunications.pdf?MOD=AJPERES&id=1323152343828*

ANNEX XI

FORM 4: PROJECT IMPLEMENTATION RECORD

This form should be filled up and documented by SCL during implementation phase of the project when the work package is on-going or near completion. This takes into account the current status of mitigation measures and monitoring activities adopted in the field for a specific work package. This can be done in association with the internal audit activities of work packages and can be documented to submit in the form of periodic monitoring reports to IPFFII cell of Bangladesh Bank.

Subproject Name and Location: .....

Name of Ward: ..... **Name of the Upazilla/Area:** .....

Work Package Particulars :

(a) Type of Line : □ Underground □ Overhead □ Both

(b) Total Length (km) : _____**Underground** _____**Overhead**

(c) Start/ End Point :

(d) Number of Control Stations to be constructed :

(e) Number of Handholes to be Constructed :

(f) Mode of Operation for Underground :

□ Cut and Fill □ HDD □ Both

(g) Mode of Operation for Overhead :

□ Existing BREB Poles Numbers_____

□ New Poles to be Constructed Numbers_____

1) Local SCL office/ PGCB Substation :

2) Layout of proposed Fiber optic Line :
(attach layout map)

3) Land ownership and permissions:
(d) Names of the govt. agencies owning the land:
(e) Area of land to be used (acre) :
(*attach a copy of the agency's permission to use their land*)

4) Estimated cost of sub-project : ..... (Mil. BDT)

5) Schedule of implementation :
a) Sub-project duration (months) :
b) Start date :
c) Completion date :

6) Number of structures/ entities (e.g., shops) temporarily affected during sub-project activity:

7) Number of squatters temporarily displaced during sub-project activity:

8) Environmental Monitoring Checklist for Routine Site Inspection

	Sl no	Environmental issues to be Monitored	Compliance Status		
			FC	PC	NC
Conditions at Subproject Site					
A.	**General**				
	1.	Employment Record keeping arrangement			
	2.	Legal working hours approval			
	3.	Provision for monthly meeting for inspection of site activities			
B.	**Health and Sanitation**				
	Public Health				
	1.	Emergency medical facilities and First Aid Box at Field Office and work sites			
	2.	Safe water supply arrangements			
	3.	Waste disposal arrangement at camp and work sites			
	Occupational Health				
	1.	First-Aid Box and safety management plan availability at work sites			
	2.	Provision of personal protection equipments (PPEs) and working clothing to workers			
	3.	Protection fence at HDD work site			
	4.	Handling of cement and other hazardous materials by workers			
	5.	Traffic safety at work sites			
	6.	Working hour and vacation days maintained			
C.	**Labour Welfare**				
	1.	Workers' complains taken care of by the site engineer			
	2.	Provision of leaves (national and emergency)			
	3.	Arrangement for settlement of conflicts amongst the workers			
	4.	Children below 15 years and pregnant women are not employed			
D.	**Environmental Pollution**				
	Dust and emission control				
	1.	Proper storage of construction materials			
	2.	Excavated material properly covered			
	3.	Construction vehicles and HDD equipment maintained properly to reduce emission			

	Sl no	Environmental issues to be Monitored	Compliance Status		
			FC	PC	NC
	Noise Pollution				
	1.	Movement of vehicles and operation of HDD fixed at desired hours			
	2.	Noise control measures at sensitive sites			
	Water Pollution				
	1.	Wastes, slurry, cement, and junks not disposed in water			
	2.	Spills from fuel tanks are properly disposed			
	3	Pits, holes and ditches dug during implementation are filled after completion of work			
	Land Pollution				
	1.	Arrangement adequate to check pollution of soil by noxious chemicals, and cement spillage			
	2.	Arrangement for restoration of original site conditions (e.g. roads to pliable condition)			
E.	**Environmental documents at Field Office**				
	1.	Field Office possesses all Environmental Documents relevant to proposed scheme implementation and contract documents			
	2.	All accidents at work sites recorded and reported to the project management unit			
F.	**Emergency**				
	1.	Emergency contact numbers (police, fire station, nearest hospital) available at the site during work			
	2.	Portable fire extinguishers available at the site			

Note: FC = fully complied, PC = partly complied and NC = not complied

9) Any unforeseen impacts (damage to existing infrastructures such as water supply and sewerage lines, gas line, telephone line, electric cable line, optic fiber line etc.)? If so, how the compensation was provided? (Show documentation of compensation)

10) Were any buried PCR found during construction phase of the project? If so, what protocols were adopted as per Annex VIII?

11) Which parameters were monitored during Construction phase? (attach any monitoring reports)

12) Community's opinion regarding the environmental impacts of the subproject implementation

Significant□ Moderate□ Insignificant□

13) Grievance/Complaints Redress

i) No. of complaints/grievances on environmental issues in the sub-project:
Received: ……. Resolved: …….
Sent to higher bodies: ……

ii) Three of the most important complaints were:
a) .....
b) .....
c) .....

Prepared by: (Name, designation, mobile number, signature, date)

Reviewed by: (Name, designation, mobile number, signature, date)

Installation of underground / overhead fiber optic cable lines may cause temporary loss of income resulting from temporary disruption of commercial activities at structures/ entities (e.g., shops) and that of the squatters located very close to the fiber optic cable routes (e.g., on footpaths close to the optic fiber line alignment). The loss of income to the street side shops or squatters may be significant, moderate or minor depending on the extent of the work. Once it is determined through the social screening that a sub-project will cause loss of income, a Social Management Plan (SMP) needs to be prepared. This Annex provides a guidance on how the SMP may be designed.

SMPs are designed to ensure that impacts arising from loss of income and assets are mitigated, managed and compensated. The SMP focuses on people affected by restriction of access, loss of assets and define a strategy for formalizing arrangements and responsibilities for mitigating impacts caused due to these losses. The detailed guideline for preparing a SMP is given in the following sections:

Temporary Resettlement Issues

Temporary resettlement issues are expected to arise where subprojects require use of the occupied land for construction purpose for a short time period and where sub-project activities induce temporary displacement of people (i.e. road side squatters) or loss of income (e.g. in road side shops, felling of grown up trees etc.). If the number of project affected person (PAP) is less than 200, an abbreviated resettlement plan (ARP) should be carried out instead of a full scale resettlement plan.

Impact Mitigation Principles

Where physical activities affect persons/economic activities on public lands, SCL will adhere to the following principles to avoid/minimize adverse impacts and adopt appropriate mitigation measures:

- As a first step toward mitigating adverse impacts, SCL will always try to avoid adversely affecting persons/businesses that are socioeconomically vulnerable.
- Where adverse impacts are absolutely unavoidable, the SCL will ensure that the affected persons / businesses are economically rehabilitated with measures acceptable to them.
- Where temporary displacement of public land users is unavoidable, SCLwill assist the affected persons/businesses to relocate on available public lands in the vicinity to ensure that they remain operational and do not lose income.

Eligibility for Compensation/Assistance

The persons/businesses affected directly and indirectly by the physical activities under a subproject are eligible for compensation and assistance. The most likely eligible groups are:

- Squatters: Persons/households who do not have legal rights to the affected lands, but use them for residential and livelihood purposes constructing structures on the lands. “Squatters” are persons who occupy/possess an asset without legal title. Squatters will not be entitled for compensation for lands but the structures and assets developed on it. They will be entitled for temporary relocation and livelihood restoration assistance in addition to compensation for structures following the entitlement matrix.

- Encroachers: Persons/households who do not have legal rights to the affected lands attached to their own titled land, but encroach them for other productive purpose with or without any construction. “Encroachers” are those owners of land adjacent to public property, who have illegally extended their land holdings or structures into public land. Like the squatters, the encroachers will not be entitled for compensation for lands but the structures and assets developed on it. They will be entitled for temporary relocation and livelihood restoration assistance in addition to compensation for structures following the entitlement matrix.

- Market traders: Affected shop owners and operators displaced or closed temporarily due to undertaking of sub-project works. Compensation will be transition allowance for the permanent loss of business, incomes & wages equivalent to the loss of income/wages for a period of 3 months for each affected members. In case of temporary relocation and temporary loss of business incomes, compensation will be wages equivalent to closure period OR alternative business site for continued income stream.

Compensation/Assistance Principles

Depending on an affected person’s preference, SCL may consider using both financial and material forms of compensation and assistance. SCL will ensure delivery of the agreed compensation/assistance in a timely and transparent manner. Compensation for the affected assets and income will be according to the following principles:

- Current market prices of trees that are to be felled (owners will retain ownership of un-felled trees).
- Other acceptable in-kind compensation.
- Compensation in cash will be made in public.

Consultation

Consultations will be inclusive of all stakeholders and used as a two- way communication strategy to provide information about the project and solicit support and agreements on the mitigations proposed. In addition to general consultation about the benefits and feasibility of specific physical activity, SCL will make certain that the users of the required lands (with and without legal rights) are consulted very early in the subproject preparation process. Consultations will focus on the issue of land availability and the conditions under which they could be used for subprojects.

In cases where the would-be affected persons are indigenous or women, SCL will arrange culturally appropriate or separate consultations. SCLwill prepare consultations minutes, indicating dates, venues, compensation issues discussed, and the details of the agreements reached. The affected persons will be provided with copies of the minutes signed by the affected persons and the SCL. Copies of all such signed minutes will be kept by SCL and will be made available for review by SCL to the World Bank.

Preparation of Subproject SMP

The SCL will carry out Inventory of Losses (IoL) and census of affected persons and establish cut-off date for recognition of entities for compensation and assistance. Temporary or permanent displacement of traders for project works will be included in the census. The end date IoL/Census will be cut-off date for recognizing losses for resettlement assistance. The SCL and the occupants will jointly determine the replacement costs of business based on the most recent installations made in the same or adjacent localities, in view of the land type, productive quality and accessibility. Current prices of other assets, such as building materials, trees, etc. will be in accord with those in the local markets. The SCL will review the rates and approve through council resolution. A typical SMP will contain information, on the number of people with socio-economic profile & loss of income, details of the impacts/ losses, the alternatives considered to minimize displacement, review of the application of legal and policy framework, mitigation measures and an entitlement matrix, detailed budget, time schedule, arrangement for implementation and monitoring and evaluation. The SMP preparation process will seek active participation of the communities including the SCL. SCL will document the impacts and affected persons, mitigation measures agreed with them, and verifiable evidence that the agreed measures have been implemented.

Implementation of SMP

SCL will forward the subproject SMP (where required) for review and approval from IPFF-II/World Bank. The SMP has to be reviewed and cleared before allowing implementation on site. SCL upon approval from the Bank and the IPFF-II will implement the SMP with assistance from the consultants and the SCL staff. Individual payment plan will be prepared for each affected persons and mitigation plans including replacement of affected physical structures by the SCL will be also be documented as a reference for future tracking.

Suggested Methods for Market Price Surveys

In line with the proposed compensation principles, SCL assisted by the consultants, will conduct market price surveys to determine the replacement costs of replaceable assets and market prices of irreplaceable assets by using the methods suggested below:

- Built Structures: Replacement costs will be based on the current prices of various building materials, labor and other cost items in the local markets. The costs of building materials, such as bricks, cement, steel, sand, bamboo, timber, GI sheet, roofing materials etc, and labor will be based on survey of current prices of different types of materials with five or so

dealers/manufacturers in the local markets.The replacement cost of the house/structure will be based on the lowest quoted price for each type of material, plus their carrying costs to the sites.

- The current costs of labor with different skills will be determined by interviewing local contractors, assigned Upazilla engineers, or local construction workers.

- Replacement costs of any other items will be determined based on the current prices of materials, labor, etc. As and when required, SCLwill seek technical assistance of Upazilla engineers and the project consultants for estimates of materials and labor for particular structures.

- Trees & Other Irreplaceable Assets: Current market price of trees will be determined based on (a) Net Present Value or (b) Current age, life span, productivity and current market price of output. Market prices of different varieties of trees will be determined by surveying the prevailing prices paid by five or so timber and fuel-wood traders in the local markets. The compensation for trees will be fixed at the highest prices offered by a trader. Compensation for all other irreplaceable assets (if any) will also be based on survey of their prevailing prices with dealers/traders in the local markets.

- Fruits and Other Crops: Compensation will be fixed at the harvest prices of the fruits and other crops. Harvest prices of different varieties of fruits and crops will be collected from a sample of 7-10 dealers in the local markets. The compensation for each type of fruit and crop will be fixed at the highest price offered by trader.

Compensation and Entitlement Matrices

Matrix No.	**Type of Loss**	**Application**	**Entitled Person**	**Compensation**
M – 1	Loss of business / income or employment due to temporary displacement or temporary removal of structures	Temporary loss of business/ incomes/ employment	Affected individuals (titled/non-titled)	In case of temporary relocation and temporary loss of business incomes, compensation will be wages equivalent to closure period OR Alternative business site (usually within a few feet) for continued income stream. All temporarily removed structures and losses will have to be at replacement value.

Matrix No.	Type of Loss	Application	Entitled Person	Compensation
M – 2	Trees on affected lands	Trees lost	Owner of affected trees(titled/non-titled)	Compensation in cash calculated on the basis of type, age and productive value of affected trees.
M –3	Loss of public infrastructure	Infrastructure (electric water supply, sewerage &telephone lines; public health center; public water tanks)	Relevant agencies.	Compensation in cash at replacement cost to respective agencies or restoration of affected assets.
M –4	Unforeseen Losses	As identified	As identified	Appropriate mitigation measures as determined to meet the objectives of this policy framework

Outline of SMP

Project Background	Brief introduction about the project, description of project interventions and areas of jurisdiction of SCL description of project components causing resettlement, scope of resettlement, an account of the alternatives considered to avoid and/or minimize the adverse impacts
Census and Socioeconomic Surveys	Identify all categories of PAP and their vulnerability, identify all categories of impacts (loss of property and assets, loss of livelihood; impacts on groups and communities, impact on physical cultural resources) An account of impacts by gender and vulnerability due to project and the special assistance that is to be provided
Participation and Consultation	An account of the disclosure of SMF and consultations with the project affected people about the mitigation measures and implementation procedure;
Legal and policy framework	Analysis of the legal framework for compensation, applicable legal and administrative procedures, gaps between local laws and the Bank's resettlement policy, and the mechanisms to bridge such gaps;
Compensation Entitlements	Description of compensation and other assistance that will be provided according to the principles and guidelines adopted in this SMF;
Grievance redress mechanism	Describe specific arrangement and procedure for receiving and resolution of complaints and grievances from the PAP and their community
Social Management Budget	Budget with breakdowns by loss categories and the number of persons entitled to compensation/assistance, Fund flow and disbursement procedures

Implementation Arrangement	Institutional arrangement and management of preparation and implementation of compensation activities, grievance resolution, and implementation time schedule
Monitoring and Evaluation	Describe monitoring arrangement involving PMU and SCLand mechanism for independent review and evaluation as well as reporting

The general sub-project areas in Chittagong and Sylhet division may have small concentration of indigenous inhabitants. The project has taken the exclusion criteria to avoid any negative impact on the indigenous communities due to undertaking of the project in those areas. The project rather, intends to extend the benefits towards their welfare. The guidelines on indigenous people management, presented in this Annex, will apply where sub-projects will be proposed in areas inhabited by indigenous peoples.

Objectives of the Indigenous Peoples Plan

Depending on the presence of indigenous peoples (IP) in the subproject areas, divisional SCL will prepare their subprojects with the following strategic objectives:

- Select subproject interventions and determine their scopes to avoid impacts on tribal peoples.
- Ensure free, prior and informed consultation with the indigenous peoples where subproject identifies indigenous peoples among the beneficiaries.
- Ensure project benefits are accessible to the indigenous community living in the subproject area.
- Ensure indigenous peoples participation in the entire process of identification, planning, and implementation of subprojects.
- Wherever possible, adopt measures to reinforce and promote any available opportunities for socioeconomic development of the indigenous communities.

Identifying the Indigenous Peoples

Although the indigenous peoples in Bangladesh are well recognized locally, SCLwill examine the following characteristics to make formal identification:

- Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- Collective attachment to geographically distinct habitats or ancestral territories in the subproject area and to the natural resources in these habitats and territories;
- Customary cultural, economic, social or political institutions that are separate from those of the dominant society and culture; and

- Indigenous language, often different from the official language of the country or region.

IP Consultation Strategy

In order to hold free, prior and informed consultations, SCL will provide IPs with all information related to the subproject interventions, need for lands, and intended benefits, including those on potential adverse impacts. SCLwill ensure that their local representatives include indigenous representatives in wards with presence of indigenous peoples. To facilitate consultations SCL will,

- Prepare a time-table for IP consultations leading to selection, design and implementation of the subprojects, and consult them in manners so that they can express their views and preferences freely.

- In addition to the communities in general, consult IP organizations, community elders/leaders and others with adequate gender and generational representation; and civil society organizations like NGOs and groups knowledgeable of TP issues.

- In addition to the choice of alternative subproject design and locations, consultations will concentrate on the adverse impacts, if any, perceived ways to avoid those impacts, as well as exploring additional development activities that could be promoted under the subproject. This will provide the inputs necessary to prepare and implement a ITPP for a subproject in an area inhabited tribal peoples. SCLwill keep minutes of these consultation meetings and make them available for review by the World Bank and other interested groups and persons.

Preparation of an IPP

In order to prepare an IPP, the following steps will be taken:

- Social screening to establish the presence of tribes in the subproject area or have collective attachment to the subproject area

- Detailed social assessment establish a socioeconomic baseline data on the indigenous people in the subproject area

- Review laws and policy guidelines applicable to the indigenous communities

- Demonstrate measures to avoid negative impacts to the indigenous people

- Identify areas for improvement of indigenous settlement and extending benefits of the subproject to them

- Disclose the ITPP locally and in Bank Info shop before award of project works contract.

Outline of Indigenous People's Plan

Baseline and IP Profile	Baseline data, including analysis of cultural characteristics, social structure and economic activities, land tenure, customary rights to common property resources, relationship with the local mainstream peoples, occupation, language skills, costumes, etc.
Participation Strategy	Process and timing of consultation and the participants such as IP community leaders, elders, community based IP organizations, NGOs, individuals, generational representatives, feedback
Subproject benefits and enhancement areas	Identify subproject benefits to the IP communities and the areas where the benefits can be enhanced
Enhancement measures and activities	Identify IP preferences and priorities, develop enhancement measures agreed with the communities
Implementation Arrangements	Describe responsibilities for implementation of the enhancement measures including SCL, IP communities, consultants with time schedule, costing and sources of financing
Monitoring and evaluation	Design monitoring and evaluation plan involving the IP communities, the consultants and the SCL

PS2 sets requirements of labour and working conditions that need to be established for SCL. This Annex is a detailed assessment of labour issues associated with SCL operation and key labour management procedures that has been adopted by the company. The items described in the annex are i) overview of the current labour use (project worker numbers and types) ii) potential labour risks, iii) labour management policies and procedures, iv) grievance redress mechanism and v) labour contract terms and conditions.

OVERVIEW OF LABOR USE ON THE PROJECT

Number of Project Workers: Field work (fiber optic cable laying) is carried out by contracted workers and the total number is variable and it depends on the current number of work packages running in parallel. In each work package for field work, approximately 20 workers take part in HDD operation.

Characteristics of Project Workers: SCL has two different types of workforce: (1) contracted workforce (termed 'Vendors', 'Suppliers' or 'Contractors') who undertakes the fiber optic cable laying operation in the field; (2) own workforce who primarily have a supervisory and management role.
All the workers in the field (contracted) are above the age of 18 composed of mainly male local workers. Due to the nature and timing of the work in the field, women do not seek such employment. Women are employed in the head office of SCL undertaking managerial, supervisory or administrative roles.

Timing of Labor Requirements: The work to be carried out in the field require specific skill sets (HDD operation, fiber optic cable installation). Specific training is provided by SCL to workers and supervisors before undertaking field operations. In densely populated areas (cities, municipalities, growth centers), work is done overnight while in other areas work takes place during daytime.

Contracted Workers: SCL hires workers through a Contractor (SCL terms it 'Vendor') by means of a Contract agreement. (see the sample contract document attached with this assessment)

Migrant Workers: No migrant workers (domestic and international) are expected to work in fiber optic cable laying operation by SCL. Local workforce has sufficient skills to carry out the operation.

ASSESSMENT OF KEY POTENTIAL LABOR RISKS

Project activities:

- Construction of ancillary facilities ("hand holes" for cable splicing) and control stations (point of connectivity (PoC)) to house the drop points from PGCB towers.
- Pulling and splicing of the communications cable through the conduit and any necessary final restoration and cleanup operations.
- Pit cutting for the purpose of HDD operation and hand hole construction.
- Application of horizontal directional boring to carry out the underground fiber optic cable laying operation for installation of HDPE ducts.

Key Labor Risks:

- Working at heights (fiber optic laying along bridges), use of heavy machinery (HDD equipment), handling of hazardous materials (diesel fuel)
- Possible accidents or emergencies
- General understanding and implementation of occupational health and safety requirements
- Health and safety requirement with respect to fiber optic cable installation (e.g. laser use)

BRIEF OVERVIEW OF LABOR LEGISLATION: TERMS AND CONDITIONS, Occupational Health and safety

The applicable national legislations and World Bank Guidelines related to labour management are

- Bangladesh Labour Law 2013
- Bangladesh National Building Code
- Public Procurement Rules
- WBG General EHS Guidelines
- WBG Guidelines for Telecommunication Safety

Besides these, the ILO conventions and its obligations would be applicable. A description of these regulations and guidelines is provided in Annex XV.

RESPONSIBLE STAFF

There are no employee's association in SCL therefore there is no scope for collective bargaining. SCL provides reasonable working conditions to its employees in terms of benefits, wages, provident fund and gratuity, overtime compensation, leaves etc. and also in line with National Labour Law 2013.

For contracted workforce, SCL supervises the field activities to ensure reasonable working conditions are established for workers as per contract with 'Vendors'. There

is also no scope for collective bargaining or worker associations, because 'Vendors' employ labour on a daily basis.

No migrant workers are hired directly by SCL or their contracted work force. SCL strictly ensures that their 'Vendors' do not employ any Displaced Rohingya Population (DRPs) as their workforce in their work near those regions. Many Contractors in the region consider them as cheap workforce and try to exploit their conditions for profit.

All the workforce are Bangladesh citizens and free to work without any duress. There is no scope for employing forced labour (e.g. convicted criminals, trafficked persons) in such work in Bangladesh.

POLICIES AND PROCEDURES

The contracted 'Vendors' are legitimate enterprises and have been working with SCL for some time. While some Vendors have their own compliance mechanism and ESMS, most 'Vendors' do not have them. In such instances, SCL applies its own ESMS as per the different provisions of PS2. SCL applies certain measures for managing and monitoring the performance of Vendors. These are:

- Withholding payment or not issuing Work Completion Certificate (WCC) if site not fully restored to pre-work condition, PPE (safety equipment) usage or site housekeeping non-compliance etc.

- Blacklisting certain contractors or not renewing licenses for contracts not willing to oblige safeguard issues

- Reprimand or penalty etc

- Rewarding contractors for compliance issues (SCL organizes annual contractors meeting/summit where they give away awards to best-performing contractors)

Compliance policies are stated in the Supplier Management Guidelines (Effective 1st Jan, 2018)

The contract between SCL and the Vendor addresses requirements related to Child labour, EHS at working hours, wages, overtime, benefits, child labour, health and safety of employees (see below a sample contract document) which are in line with PS2

AGE OF EMPLOYMENT

On principle, as stated in the contract with the Vendor, SCL strongly support ILO Declaration on Fundamental Principles and Rights at work (1998) and does not tolerate any form of Child labour. SCL fully supports Government's National Child Labour Elimination Policy 2010 and Vendors are contractually obligated not to employ any worker having an age<15 years. Despite this contractual obligation, contractors or SCL does not hire anybody <18 years. The nature and technicality of

the work demands that the workers have a certain experience which is typically not found in workers at a young age. Age is verified using national ID card.

TERMS AND CONDITIONS

SCL follows the Bangladesh Labor Law 2013 (amended 2016) in hiring their own workforce. They have a specific Human Resources (HR) policy which states their rights, hours of work and overtime, compensation and benefits.

In case of contracted workforce, the terms and conditions pertinent to Labour Law 2013 are reflected in the contract. A sample contract between SCL and a 'Vendor' is provided in this assessment. It states what the obligations of the Vendor would be if he hires a worker. The Vendor hires day-labourers in a daily basis in order to undertake the assigned work. There is usually no written contract between the Vendor and the day-labourers which is typical in Bangladesh. Day-labourers are usually illiterate and having a contract with them will not have a meaningful effect. However, SCL undertakes supervision whether the rights and responsibilities of workers are protected as per contract.

Due to the nature of the work in the field, only men make themselves available for work under the 'Vendor'. SCL prohibits hiring disadvantaged groups (e.g. DRPs) as cheap labours and monitors this very strictly. There is no difference in wage rate based on age and ethnicity. The wage rate varies depending on the experience of the workers and the work location. SCL supervisors randomly check (through interviewing workers hired by Vendors) whether or not they are paid timely and as per their agreed daily wage rate.

GRIEVANCE MECHANISM

Bangladesh Labour Law 2013 (amended 2016) recognizes workers' organizations and collective bargaining. Although SCL does not discourage associations and collective bargaining, no such associations have been formed yet (or the requirement of such is yet to be realized). For contracted workforce, the labourers are hired by the 'Vendor' on a daily basis. Workers Association and collective bargaining is not practiced in such instances.

For SCL own employees there is a compliance helpline for any grievance and recording/addressing system of grievance.

For the contracted workforce, there is no scope for any collective agreement. However, at the field level, they have access to the SCL field supervisor. The supervisor informs the central SCL HR department and imposes the Vendors to take corrective action. However, there is no grievance recording/logging system. The workers are also not informed of the grievance redressal mechanism at the time of employment although the SCL supervisor has made himself accessible to complaints and he forwards it to an appropriate level of management. Since there is no logging system, it is not clear how much time usually takes for redressal. The Vendor himself does not have an established or fully disclosed grievance redress mechanism. Since

the contracted third party has no GRM, SCL extends its GRM. The GRM of SCL is described in Chapter 6.

COMMUNITY WORKERS and Primary supply workers

There are no community workers and primary supply workers in this project.

CONTRACTOR MANAGEMENT

The contracted 'Vendors' are legitimate enterprises and have been working with SCL for some time. The contract between SCL and the Vendor addresses requirements related to Child labour, EHS at working hours, wages, overtime, benefits, child labour, health and safety of employees (see below a sample contract document). The contractual provisions are already in place in the existing contract document. The relevant section of a typical contract document is shown below:

ANNEX 05

Supplier Conduct Principles (SCP)

Respect for the Basic Human Rights of Employees

We expect our suppliers to respect the basic human rights of employees as defined in the international conventions of the United Nations (UN), the International Labour Organization (ILO), the Organization for Economic Cooperation and Development (OECD) and the UN Global Compact Initiative. We fully support International Labour Organization's declaration of Elimination of forced labour, Ban on discrimination, Freedom of association and Right to collective negotiation and we expect that our suppliers abide by the same.

CRITICAL BENCHMARK

Our Suppliers undertake to:

- respect the personal dignity, privacy and rights of each individual
- comply with the maximum number of working hours laid down in the applicable laws
- pay off to all the employees their minimum legal wages applicable save as in exempted employees
- compensate for their overtime hours at the legally mandated premium rates
- pay all statutory benefits mandated by law, which include other benefits but not limited to pension benefits, annual leave, and holidays.

Prohibition of Child Labour

We strongly support ILO Declaration on Fundamental Principles and Rights at work (1998) and do not tolerate any kind of Child Labour in any form of employment. We also fully support Government's National Child Labour Elimination Policy 2010 and expect that our partners also comply with all the recommendations including initiative to eliminate Child Labour in any form. Our suppliers are not allowed to employ workers under the age of 15 years. As in exceptional cases only, we will accept a minimum age of 18 provided that work does not impede his/ her education.

CRITICAL BENCHMARK

Our Suppliers undertake-

- only to employ workers with a minimum age of 18 years
- to ensure that child labour is not being used for any hazardous work
- to comply with all applicable child labour laws, including those relating to minimum age limits, limitations on working hours, and prohibitions against certain types of work.

Health and Safety of Employees

Protecting the health and safety of employees in the workplace is a high priority for us. We expect suppliers to apply robust environment, maintain health and safety policies and practices in their operations. Suppliers should provide a safe and healthy work environment in accordance with the international and national standards, laws, rules and regulations. Suppliers should provide appropriate health and safety protection, information and training to their employees. We expect suppliers to minimize the impact of emergency events by proactively implementing business continuity plans and response procedures.

CRITICAL BENCHMARK

Our Suppliers undertake to-

- take responsibility for the health and safety of the employees
- control hazards and take the best reasonably possible precautionary measures against accidents and occupational diseases
- Comply with all local laws relating to health and safety in the workplace
- provide employees with a safe and healthy work environment
- provide health and safety training during employee orientation

Prohibition of Corruption and Bribery

Taking bribes is a crime, so is paying them Corruption increases deprivation and injustices.

We works against all forms of corruption and no contraventions will be tolerated. We demand to maintain the highest standard of ethics, integrity, and responsibility in our operations. Suppliers must not pay bribes or engage in corrupt practices to advance any interests associated with SCL Limited or its parents company. This includes directly or indirectly offering, promising to pay, or authorizing any kind of payment or provision of money or anything of value to the government officials, political parties, or candidates for political office for the purposes of influencing their acts or decisions.

CRITICAL BENCHMARK

Our Suppliers undertake to-

- refrain from offering or providing cash or noncash valuable gifts to any SCL employee to influence them to take or not to take a course of action or for any other improper purpose
- comply fully with all anti-bribery laws, including the Prevention of Corruption Act, 1947 and Prevention of Money Laundering Act, 2002 and Money Laundering Prohibition Regulations of 2008.
- only use subcontractors that do not violate ethical standards through bribes, kickbacks or other similar, improper or unlawful payments.

- never engage in illegal activities which include, all other improper works but not only limited to, money laundering or actions related to terrorism.

Environmental Protection

Through our management leadership and employee's commitments, we strive to conduct our operations in a manner that is safe for the environment and conserve natural resources. The objective of environmental protection is to improve the market opportunities and the regards in which our customers and the public hold us, by increasing the environmental compatibility and ecological efficiency of the products themselves as well as the production processes. This can only be achieved in partnership with our suppliers.

CRITICAL BENCHMARK

Suppliers must comply with all applicable environmental laws, regulations and standards such as requirements regarding chemical and waste management and disposal, recycling, industrial wastewater treatment and discharge, air emissions controls, environmental permits and environmental reporting.

Suppliers should strive to implement management systems to meet these requirements.

Confidential Information and Privacy

Information is our core business. We cannot compromise information about our customers, employees, operations, finances, and business plans. We may execute a non-disclosure agreement or enter into an agreement with confidentiality provisions with a supplier before providing access to confidential information, and we may also include a proprietary or confidential legend on confidential information.

CRITICAL BENCHMARK

- Suppliers are required to protect our confidential information in accordance with those agreements and proprietary/confidential legends.
- Any disclosure of our confidential information is prohibited. This includes inadvertent disclosures, which means that suppliers must not have discussions involving SCL's confidential information in public areas where discussions could be easily intercepted or overheard.
- Suppliers may use confidential information solely for the purposes for which it is provided under the agreement or in compliance with the confidential/proprietary legend, and must not make independent use of our data.

Laws, Rules and Regulations and other Legal Requirements

We expect that our suppliers will comply with all applicable laws and regulations in all locations where they conduct business.

CRITICAL BENCHMARK

Our Supplier Conduct Principles require that suppliers

- Know all applicable legal requirements.
- Track all legal and regulatory changes applicable to the supplier's business operations
- Review processes and procedures for compliance.

How do we verify your adherence to your declarations?

We expect that our supplier will take responsibility of self-assessment to ensure compliance. Nevertheless, we supply questionnaire with individual questions on all topic areas of the Code of Conduct to our suppliers and expect that suppliers will provide its own assessment within a specified period. We consider the reply to the questionnaire is the statement of adherence to the Conduct for Suppliers.

In exceptional circumstances, we may inspect and carry out quality audits in our supplier's premises following prior notification. In the event of deviations or malpractices, suppliers agree to implement remedial measures for improvement within a strict time frame.

In summary, we expect that our suppliers will comply with the followings to verify and audit the adherence to the declaration:

- answer enquiries regarding compliance within the requested time
- actively support the need for clarification
- demonstrate active co-operation and willingness to improve, should a potential risk arise
- make available supporting documentation and information when requested
- allow our external auditors access to premises and required documents
- make due responsible employees available for confidential interviews for audit/inspection

Contact

At SCL, we have a special process for handling complaints related to the circumstances which point to a violation of the Suppliers Code of Conduct. All complaints can be submitted both confidentially and anonymously. We investigate each and every complain and implement corrective measures whenever necessary. We assure confidentiality to the extent permitted by law and do not tolerate any kind of reprisal against complainants.

To assist our employees, partners/suppliers, external organizations, we operate a whistleblower hotline. In this way, our suppliers have given the option of reporting possible grievances confidentially and anonymously.

Ethics Office

Summit Centre,
18 Kawran Bazar, Commercial Area,
Dhaka 1215, Bangladesh

Contract and your obligations

The Code of Conduct for Suppliers forms the basis for our business relationships and the basic requirements placed on suppliers of goods and services to SCL concerning their responsibilities towards their stakeholders and the environment. This Code of Conduct is an integral component of our procurement contracts with our suppliers and imposes legal obligations on our suppliers to adhere to the principles of the Code of Conduct for Suppliers on signing the Corporate Responsibility clause in our procurement contracts.

The supplier's contractual obligation not only defines the supplier's general obligation to adhere to the principles and requirements of the Code of Conduct for Suppliers but also enables us to verify compliance with these principles and requirements. This also gives us the right, in the case of material breaches of the Code of Conduct for our Suppliers, to implement appropriate legal consequences, such as the right to terminate the contractual relationship or an order after a reasonable grace period set to cure the breach has expired without success.

The supplier declares to abide by the followings:

Respect for the Basic Human Rights of Employees

- to respect the personal dignity, privacy and rights of each individual employee
- to promote equal opportunity for and treatment of its employees irrespective of race, religion, skin colour, nationality, social background, sexual orientation, disabilities, sex or age
- to comply with the maximum number of working hours laid down in the applicable laws
- to pay all employees legal minimum wages applicable save as to exempted employees
- to compensate for overtime hours at the legally mandated premium rates
- to recognize, within legal remit, the right of free association of employees and to neither favour nor discriminate against members trade unions
- to pay all statutory benefits mandated by law, including but not limited to pension benefits, annual leave, and holidays

Prohibition of Corruption and Bribery

- refrain from offering or providing cash or noncash gifts to any SCL employee to influence them to take or not to take a course of action or for any other improper purposes
- never engage in illegal activities, including, but not limited to, money laundering or actions related to terrorism

Prohibition of Child Labour

- only to employ workers with a minimum age of 15
- to ensure child labour is not used for any hazardous work
- to comply with all applicable child labor laws, including those relating to minimum age limits, limitations of working hours , and prohibitions against certain types of work.

Health and Safety of Employees

- take responsibility for the health and safety of employees
- control hazards
- take the best reasonably possible precautionary measures against accidents and occupational diseases
- comply with all local laws regarding health and safety in the workplace
- provide employees with a safe and healthy work environment
- provide health and safety training during employee orientation

Environmental Protection

- to minimize environmental pollution including waste management, reducing energy usage and make continuous improvements in environmental protection
- to act in accordance with the applicable statutory and international standards regarding environmental protection

By agreeing to the Conduct, our suppliers also undertake to fulfill the following obligations

- Observe the Code of Conduct for Suppliers.
- Perform and self-assessments and reply to questionnaire
- Accept our right of termination in the event of a material breach
- Willing to submit documents or given access related to these Principles and allow for verification (e.g. audits and site visits) to assess performance

We hereby confirm and declare that failure to comply with these principles and requirements shall be considered as breach of parties' contractual relationship which will result to a breach of contract. So, that breach of contract may proceed to a termination of the agreement and/or Purchase Order.

Summit Corporation Limited

Human Resources Manual

2017

approved by BOD 30/04/17

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Introduction

This Policy document is designed to acquaint a member of the employees with SUMMIT CORPORATION LIMITED (SCL) and provide with information about working conditions, employee benefits, and some of the policies affecting one's employment. Each member should read, understand, and comply with all provisions of the HR Manual or Service Rules. It describes the responsibilities of an employee and outlines the programs developed by SUMMIT CORPORATION LIMITED (SCL) & its' subsidiaries to benefit employees. One of our objectives is to provide a work environment that is conducive to both personal and professional growth.

No HR Service Manual can anticipate every circumstance or question that may arise in the course of day-to-day operation and SUMMIT CORPORATION LIMITED (SCL) reserves the right to revise, supplement, or rescind any policy or portion of the HR Manual from time to time as it deems appropriate, in its sole and absolute discretion. The only exception to any changes is our employment-at-will policy permitting both parties to end our relationship for any reason at any time. Employees will, of course, be notified of such changes to the HR Manual as they occur.

These rules/HR Manual shall apply to all Probationary and Permanent/Full time/Regular Employees & in special cases Contractual appointments of the Company excluding Third Party Service staff.

Actions taken as well as orders and appointments made or proceeding commenced before the commencement of this Rules/HR Service Manual, shall, so far as they are not inconsistent with the provisions of this Rules/HR Manual, be, deemed to have been commenced under the corresponding provisions of this rules/HR Manual. If inconsistent, that should be regularized as per this rules/HR Manual.

PART I: General Information

1. Title

This manual is titled **SUMMIT CORPORATION LIMITED (SCL) Human Resources Manual 2017.**

2. Extent of Application

These rules shall apply to all Probationary and Permanent/Full Time/ Regular employees & contractual appointees (in mentioned cases), of the Company excluding Third Party provided staff.

3. Definitions

The following definitions shall apply in this policy document unless otherwise mentioned:

"Company" means SUMMIT CORPORATION LIMITED (SCL)& its' direct subsidiaries (SPL/SMPCL/SBIIPCL)
"Employee'' means any executive of the company entrusted with managerial responsibilities
''Employer'' means the Board of Directors of the company which inter-alia means the Chairman/ Managing Director / Director of the Company or any other executive if so authorized by the company in this behalf

"Management" means primarily the Board of Directors of the Company @ secondarily the Managing Director of the Company or his/her nominee.
"Administration" means those authorized by the company
''Pay'' means the amount drawn monthly
"HR" means Human Resources Department
''HR Manual" means Human Resources Manual effective 2017 as at Title.
"Managing Director" means the Managing Director of the Company.
''COO" means Chief Operating Officer
"Year" means Gregorian calendar year.
''HOO" means Head of The Operation. HOO reports to the MD, COO & Executive Committee
''HOD'' means Head of The Department. Departmental Heads are in charge of the Departments under a function irrespective of grade.

4. Corporate Governance Charter

The corporate governance philosophy of the company is aimed at assisting the top management in efficient conduct of its affairs as well as in meeting obligations to all the stakeholders and is guided by strong emphasis on transparency and integrity. It provides the company with strategic guidance as to how the objects are set and achieved, how risk is monitored and assessed and how the performance is maximized. The Registered Head Office or Corporate Office is located at Summit Centre, 18, Kawran Bazar C/A., Dhaka - 1213, Bangladesh.

5. Company Information

SUMMIT CORPORATION LIMITED (SUMMIT) is a limited company established in 1985, and is the investment arm of Summit Group, sponsoring different companies, ranging from shipping to power to communications.

The group sponsored the first independent 110 MW barge-mounted power plant KPCL in 1998 and since then has actively invested in other power generation projects totaling 1262 MW in operation, serving a major portion of the country's power needs. The group is recognized as a major infrastructure-industry company of Bangladesh employing over 2,000 people. Among its holdings, Summit Power Limited, Summit Alliance Port, Khulna Power Company Ltd., Summit Meghnaghat Power Company Ltd., & Summit Bibiyana II Power Company Ltd., are publicly listed. Of these publicly listed companies, Summit Power Limited (SPL) accounts for 317 MW, while Summit Meghnaghat & Summit Bibiyana supplies/poised to supply 337 MW & 341 MW of electricity respectively to Bangladesh Power Development Board (BPDB). It has power plants located in various parts of Bangladesh mainly in the suburban industrial areas where there is the greatest need for electricity.

6. Classification of Employees

- Trainee
- Probationer
- Permanent &
- Contractual/Consultant/Counsel/Intern

6.1 Trainee –A Trainee is one who is engaged to have training on the job s/he will be assigned as a Permanent Employee on completion of the set training.

6.2 Probationer – An Employee will be called a probationer if s/he is appointed to a permanent post and for the time being be called so, until successful completion of the probation period. Every employee employed in a permanent post has to undergo a probationer period before being confirmed as a permanent employee.

6.3 Permanent – An Employee will be called permanent if s/he is employed permanently, in a permanent capacity in any Company or completes her/his probation period satisfactorily.

6.4 Contractual (Consultant/ Counsel/ Intern): Consultants/ Counsels are appointed for a fixed period to perform in a certain assignment or to provide counsel on specific matters. In certain cases, contractual employment is advisable for providing employment to employees who have passed the age of retirement but are valuable assets to the company. A company pays benefits such as insurance, gratuity and provident funds, vacations and sick days to employees, while people employed on contractual basis generally do not receive such benefits. Their employment benefits are provided as mentioned in their contract letters. This category also covers 'interns' appointed for a very short term period (3-6 months) to perform certain tasks or for social compliance/obligations to educational institutions as a corporate citizen.

7. Human Resources Polices

Human Resources policies provide generalized guidance on the approach the company intends to adopt in managing its people and assures that decision will be consistent with and contributive to company objectives. This manual contains all compilations, amendments and references to new policies in practice at Summit and will be amended as new policies come into force to maintain consistency.

The policy manual is an important guide for management in decision-making that affects employees' terms, working conditions and development prospects. The manual truly belongs to the company as well as to the employees. The HR Manual will face review frequently as and when needed to determine if update is necessary. Subsidiaries may have additional policies/processes for smooth operation and to fulfill their work force demands.

8. Characteristics of this manual

The HR Manual has the following essential characteristics:

- Policies are fair, flexible, and realistic.
- Policies and procedures will be reviewed when there are major changes.
- HR policies are applicable for all employees of the company and do not include contractual employees and those employed through third party service providers.
- The policies are clearly stated so that employees can understand them. In addition, HR will make necessary policy interpretations to the employees.

PART II: Recruitment, Selection and Employment Conditions

9. Recruitment & Selection

9.1 Theme: SUMMIT CORPORATION LIMITED (SCL) wants to ensure a correct combination of skill and resources through hiring the right people in the right place. SCL believes that every vacancy will be filled on **"Best fit for the Job "**in order to achieve the company's goal. SCL is an equal opportunity employer and it does not discriminate people based on Birth, Race, Gender, Religion or Ethnicity, National Origin (as per Human Resources Policy 2016.01, Anti-Discrimination Policy).

The Recruitment & Selection Steps are:

9.2 Manpower/ Work force Planning

Manpower/ Work force planning forms an integral part of the company's overall plan and the actions required are as under:

- All Functional Heads will make their business units'/departmental work force planning annually.
- Work force planning duly approved by the Managing Director to be submitted to the Head of Human Resources for record and compilation.
- All necessary budget provisions should be made against work force planning in the annual Budgets.
- Functional Heads should make time Schedule (mentioning year and month) for recruitment of budgeted personnel

9.3 Recruitment

The company pays maximum attention and efforts in recruiting highly qualified employee for respective position who are willing to face challenges in achieving company's goals. SUMMIT CORPORATION LIMITED (SCL) is committed to recruit suitably qualified and experienced Bangladeshi citizens for all vacant positions.

- No one who is below 18 years of age is eligible for employment in the Company (as per HR Policy 2015.03, Policy on Non-Employment of Adolescent & Children at Work)
- Educational qualifications and other criteria for eligibility as set for a particular position will be mandatory as an employee of SCL.

- HR and the concerned HOD/HOO will maintain absolute confidentiality of the implementation of any part of the recruitment process.
- No query will be responded or no information will be provided regarding the status of any recruitment until the entire process is complete.

  Company will only recruit against a vacancy approved by the competent authority (as mentioned in the work force plans of respective departments) or replacement for a recent vacant position.
- For filling a new position or replacement or vacancy caused by resignation or retirement or termination or dismissal , Recruitment requisition should be raised by the concerned Departmental head in the prescribed Recruitment Requisition Form (see Appendix for form) with required information and forward it to Human Resources Department. Human Resources Department will submit it to the competent authority for his recommendation and then Head of HR shall send the form with his comments to the MD for approval before initiation of the recruitment process.
- Recruitment requisition for "Replacement'' should also be raised with sufficient justifications for replacement in the prescribed requisition form.
- In case suitable internal candidates are not available the following external sources shall be utilized :

  1. Advertisement
  2. Placement Agencies
  3. Application data Bank
  4. Referrals

Depending on the job requirement, CVs shall be scrutinized and a short list will be prepared for selection process.

9.4 Selection

Depending on the requirement one or more selection tools from amongst the following will be used –

- Written test, interview, assessment center, personality and behavioral test (as appropriate)
- Prior to hiring any staff either Permanent or temporary following check shall be conducted by HRD on the applicants:

- Employment history based on previous employments. HR Department shall make appropriate enquiries with past employers and to referees mentioned by the prospective employee before making any job offer.
- Such /periodic check shall be made if/when any employee is transferred / promoted to more sensitive positions and/or if situation warrants.

o Finally accepted candidates will be made a preliminary job offer by HR after successful referral checks are done and when accepted by the Candidate, the employment contract will be issued subject to final medical clearance on the standard set by the company. Copy of National ID, Educational Certificate, Experience letter, Pay slip from previous organization, Training Certificate and all kind of relevant documents shall also be obtained for record. Employment contract will include 6 months of probation period or shorter period subject to Head of HR and MD's approval. Salary will be fixed with existing employees of same grade/higher or lower based on decision of Management.

10. Appointment

After completing the selection process the HR Department will seek approval of the competent Authority for the appointment of management staff and non-management staff. The appointment letter will then be issued in favor of the selected candidate accordingly. The appointment letter must include the following information (see Appendix for sample format):

- ❑ Job title, Grade, and salary.
- ❑ Major job roles, Place of posting and designation.
- ❑ Reporting lines
- ❑ Name of section of department.
- ❑ Effective data of appointment.
- ❑ Probationary period, conditions of confirmation and notice period
- ❑ Benefits entitled for the position.

Orientation Program: A new joiner shall be introduced to all employees and to the Board of Directors of Summit Corporation Limited and top management of its' subsidiaries. Relevant briefings on HR rules/policies/practices will be provided on the orientation day (please see Appendix 05 for HR brief).

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11. Job Description

A role template and analysis of person's job specification provides the foundation for stipulating the job title and salary of the position. Person's job specification defines the education, training, experience, and competencies required by the jobholder (see Appendix).

- The appointing authority and the respective HOD/HOO shall ensure that each employee has an appropriate and up dated role template stating clearly the key accountabilities/responsibilities, job specification, skills and key dimensions of the job.
- Role Template will be prepared and provided to the employee when he/she is appointed, promoted, newly assigned or when deemed necessary.

12. Identity Cards & Bio Metric Attendance Register

All employees will be provided with Identity Cards. The validity of a card shall be for the employment period of an employee but necessary changes may be made as and when required. An employee must surrender his card upon separation of service from the company. A lost Identity Card has to be reported by the concerned employee within 24 hours of its loss to the HR Department also employee will submit a lost or replacement ID card form to HR Department and HR Department will inform about the loss of ID to Administration department for needful security check. Employee's distribution, retrieval and missing IDs record are maintained by register book. When any employee resigned, terminate, dismissed and discharged from his or her job, at that time ID must be deactivated from system for access. Daily attendance is registered through bio metric means (finger print recognition) and HR department shall make necessary arrangements for registering a new incumbent's finger prints in the system.

13. Probation and Confirmation

All staff must under-go the probationary period of employment of minimum 6 months at the end of which their performance shall be reviewed for confirmation. On Completion of probation period the supervisor (of the probationary employee) shall be required to fill in the confirmation appraisal form (see Appendix) for assessment before confirmation. On recommendation of the Departmental Head, concerned competent authority will approve this evaluation and HR will issue the confirmation letter.

If the performance is not satisfactory, the company may at its discretion extend the probationary period for further term up to 3 months. If at the end of extension, the performance of the staff is found to be unsatisfactory, the employment contact may be terminated. Concerned Functional Head, Head of HR and MD reserves the right to reduce the probation period of an employee or even can hire an employee without any probationary period.

Both the Employer and the Employee reserves the right to terminate the service with a notice period of one (01) month during the period of Probation.

14. Resignation & Termination

The employment of any permanent employee may at any time be terminated by either party giving 90 (ninety) days' notice in writing to the other. If SCL terminates the employment without giving 90 (ninety) days' notice, they shall pay to the departing employee 90 (ninety) days or 3 months gross pay in lieu of notice, except in the case when the employee is found guilty of any gross misconduct or of persistent unpunctuality or negligence of his or her duties. In case of disciplinary issues, the employer may terminate his/her employment under this agreement without notice or payment in lieu of notice. If the employee wants to resign /terminate the employment contract with immediate effect rather than implementing 90 (ninety) days' notice, the employee shall be liable to pay 3 months payment to the company in lieu of the notice period. Upon resignation, it shall be the absolute responsibility of the employee that s/he hands over his/her duties to the appropriate executive of the employer in order to receive a formal release order.

Exit Interview: Resigning employees will have to provide an Exit Interview with Head of HR before any decision is to be made regarding acceptance of his/her resignation notice. If need arises, Head of HR shall discuss the issue with Director Finance, Managing Director or Chairman based on the importance of the role (please see Exit Interview Form in appendix 06).

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15. Dismissal

15.1 Dismissal means termination of services of an employee / worker by the employer for misconduct (the steps detailed in Section 24 of the Bangladesh Labor Law 2006 shall be followed (in absence of any other laws for managerial and non-managerial staff). Also, see section on Disciplinary Actions.

15.2 The accused employee will be given a show-cause notice stating the allegations against him/her and will be given a reasonable time to reply. An inquiry will be conducted and the accused employee will be given opportunity to defend himself /herself.

If the allegation is proved the employee may be summarily dismissed without any notice. No end of service benefit (company's contribution in the Provident Fund, Gratuity and/or any other fund where the company has made a contribution for the staff) will be paid to the dismissed staff.

16.Discharge

Any worker may be discharged from the service on account of physical or mental incapacity or continued ill health certified by a registered physician. If any discharged worker completes at least one year continuous service, he will be paid by the employer compensation at the rate of 30 days gross salary/wages.

17. Retirement

``Retirement`` means stopping of work after an employee attains a particular age limit as per the law of Bangladesh, which is 65 years of age. However voluntary retirement of an employee after completion of twenty five (25) years continuous service shall also be deemed to be ``Retirement``.

18. Leave Benefits

The company will declare annual holidays at the beginning of each year. In addition to this, the employee can claim leave only when they are accrued, except the casual leave and sick leave. Willful and unauthorized absent from duty at any time during the service period or not reporting to duty after the expiry of an authorized leave shall constitute misconduct. The management may refuse leave , grant leave for a shorter period than applied for, revoke leave of any type and recall an employee before the expire of his leave considering the necessity of his presence for the business of the company . Leave form is attached (see Appendix 04).

The following types of paid leave are admissible to the employees:

Casual Leave	: 10 (Ten) days in a year with salary.
Sick Leave	: 14 (Fourteen) days in a year with salary.
Earned Leave	: 15 days for every 12 months after confirmation. On a pro-rata basis for those joining after Jan 01 of the current year.
Govt. Holidays	: According to Bangladesh Government declaration.
Parental Leave	: Paid 122 days or 16 weeks- occasion for female employees & 15 days for Male Employees

18.1 Explanations:

18.1.1 Casual Leave

Casual Leave (10 days in a calendar year) can be taken to meet emergencies or similar circumstances for a short period. For casual leave of more than 3 days, prior permission of the Administration will be required and more than 3 days continuous absent will be treated as EL. Casual leave can neither be carried forward nor is en-cashable.

18.1.2 Sick Leave

Sick leave (14 days in a calendar year) on a paid basis.

18.1.3 Earned Leave/ Annual Leave

An Employee is entitled for paid earned leave as follows:

- Accumulation & Encashment: Total annual/earned leave cannot in anyway be accumulated for more than 20 days. In any particular year, leave can be encased at 1.5 time of basic salary only if the management, due to exigency of company's business, does not accept the leave application.
- No accumulation if leave falls within government approved leave or regular weekly holidays. Any company/weekly holiday falling within the leave period shall not be included in the leave.
- Any company/weekly holiday falling at tandem with the leave period will be prefixed or suffixed to the leave and shall not be included in the leave.

18.1.4 Parental Leave (Maternity for Females & Paternity for Males)

Maternity leave of maximum 122 days or 16 weeks will be given on production of doctor's certificate for female employees. The incumbent has to submit joining report on resumption of duties after availing such leave. In case the employee is the father, to be availed 07 days from date of birth.

18.2 Other types (based on need/circumstances)

18.2.1 Accident Leave:

Employees who get injured by an accident occurred while on duty will be allowed Accident Leave with full pay for the period and become fit to join duties. If the accident is causes to partial or full disablement and the joining to the duties is uncertain, the management will decide on accident leave.

18.2.2 Leave Without Pay:

If an employee has used or availed all of his/her earned leave, then he/she may be approved leave without pay at the discretion of Management.

19. Working Hours & Office Attendance

Working hours of the company per week is 43 hours (Sun-Thursday & Friday-half day).

19.1 Office Timings & Attendance rules:

Office timings at Summit Corporation are as follows:

9.30am-5.30pm (Monday-Thursday) & 9.15am-12.15pm, Fridays only

However, the Management understands the day to day troubles of Dhaka's traffic situation and in addition to the previous circular dated Dec 31, 2014 (attached herewith) a 'Grace Time' approach is being introduced (for Sunday-Thursday only, not Fridays) to assist employees as well as penalties for non-adherence effective from Dec 01, 2015 as stated below:

- 9.30 am – 10.00 am (for Sunday to Thursday only): Anyone coming to office and registering their attendance through bio metric scan (finger print) shall not be adjudged late if entry is made by 10.00am.

However, for coming in late, the employee has to make up for the lost time (from 9.31am onwards by staying extra time in office till his/her daily quota of 8 hours is completed), other-wise they will be counted as late comer/early leaver and disciplinary actions will ensue such as deductions of leave balances for every three days of late/early leaving. This is also applicable for those who come on time or before 9.30am as staying till 5.30pm is a must for all. This 'new' provision is being extended to assist employees, not to abuse it further.

From 10.01am onwards, the late calculations will be as follows:

a. 10.01 am: Status will be 'Late', and will be followed by deduction of one (01) day of leave (casual and/or annual -if late days exceed 4 days in a month), for every three (03) days of late attendance or if no leave balance exists, warning, deduction from monthly salary depending on management approval/direction.

b. 10.31 am-beyond: Status will be 'Absent', and only a valid official reason or exceptional circumstances will lead to excusing such an absence, other than that, one (01) days leave will be deducted from leave balance (casual and/or annual) or one days' salary if there are no more available leave(s). HR will have to be informed in writing by respective supervisor on the reason the employee (his/her subordinate) could not make it by 10.30 am, otherwise, his/her status will be absent.

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20. Dress Code

Dress, grooming, and personal cleanliness standards contribute to the morale of all employees and affect the business image SUMMIT CORPORATION LIMITED (SCL) presents to customers and visitors.

During business hours or when representing SCL you are expected to present a clean, neat, and tasteful appearance. You should dress and groom yourself according to the requirements of your position and accepted social standards. This is particularly true if your job involves dealing with customers or visitors in person.

Your supervisor or department head is responsible for establishing a reasonable dress code appropriate to the job you perform. If your supervisor feels your personal appearance is inappropriate, you may be asked to leave the workplace until you are properly dressed or groomed. Under such circumstance, you will not be compensated for the time away from work. Consult your supervisor if you have questions as to what constitutes appropriate appearance.

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- Any company/weekly/mandatory government holiday falling in tandem with the leave period will be prefixed or suffixed to the leave and shall not be included in the leave.
- A joining report/email will have to be submitted to supervisor after availing the earned leave.

2) Casual Leave
   - In order to meet certain emergencies or needs for a short period at a time, employees may avail casual leave, not for more than 3 days at a time. This is allowable only through prior permission of the management and may be shortened keeping in mind the needs of the business.
   - Casual leave is 10 days/year and cannot be carried forward to the next calendar year.

3) Sick Leave/ Medical Leave
   - Sick leave can be availed for a maximum of 14 days at a stretch in a calendar year provided it is being recommended by a registered physician only.
   - Sick leave in excess of 14 (fourteen) days may be adjusted from casual and/or annual leave balances of the calendar year or as leave without pay (LWP) or otherwise decided by the management.

Procedure for Leave Application: Leave form: All leave applications shall be made by using a standard Leave Application Form.

C. Salary Disbursement & Festival Bonuses

We disburse our salaries on the last working day of the month. You are requested to contact Accounts and open a bank account with our scheduled employee banking concern as soon as possible. Festival Bonuses (Eid-Ul Fitr & Eid Ul Azha) are provided 10 days prior to the festival dates for all employees on the following manner:

a) **Less than 60 days: No Bonus**
b) **61 days to 90 days: 26% of Basic**
c) **91 days to 120 days: 60% of Basic**
d) **121 days to 178 days: 76% of Basic**
e) **180days and above: 100% of Basic**

D. Provident Fund & Gratuity:

Upon confirmation, you will automatically become a member of our Employee Provident Fund and an amount equalling to 10% of your basic pay shall be deducted per month and deposited to the 'Fund', where Summit will also make a similar contribution.

You will be entitled to Gratuity benefits starting from the date of your joining. The benefits accrue and you will be entitled to one basic per year of service once you have completed 05 (five) years of uninterrupted service with us. Gratuity payments however, are provided once the employee ceases to be with Summit (i.e. leaves the job).

Any further queries, please contact your supervisor or HR department at (hr@summit-centre.com) or call +88 02 9130845-52, Ext 231/ 222.

Part III: Employee Grading, Pay and Other Benefits

21. Employee's Grades

P0: Chairman/Vice Chairman/Managing Director/Other Board members in Executive function

P1: Top/Senior Management Levels (Paid MDs/Directors/Unit heads/Department Heads/Deputies/Assistants)

(a) P11- Managing Director/Deputy Managing Director /Executive Director/CEO (not Board members)

(b) P12- CFO/COO/Financial Controller/Senior General Manager/ General Manager /Chief Engineer

(c) P 13- Deputy General Manager

(d) P 12- Sr. Assistant General Manager (new- proposed)

(e) P15-Assistant General Manager (new- proposed)

P2: Mid Management Levels (Functional Managers/Job Group Leaders/those handling confidential information)

(a) P21- Senior Manager

(b) P22- Manager

(c) P23-Deputy Managers

i. Deputy Manager

ii. Asst. Deputy Manager (new- proposed)

P3: Junior Management Levels (Those with functional responsibilities/with future potential)

(a) P31- Sr. Assistant Manager (new- proposed)

(b) P32 Assistant managers

i. P321- Assistant Manager

ii. P322- Deputy Assistant Manager

iii. P323-Trainee Assistant Manager (for fresh post grads)

P4: Management Trainee Levels: For fresh graduates, will be under probation for 12 months

The company will follow the following principles while fixing salaries of the employees:

- The long- term economic competitiveness and potential of performance of the company.
- Participation in the performance of the company in the form of bonuses and incentives as well.
- Competitive pay in the labor market of Bangladesh regardless of gender, nationality, race or religion but commensurate with qualification and experience required for the post.
- Pay structure and revisions thereto will be at the discretion of the Management only.

22. Pay Structure and other benefits

Basic	: 62.5% of Gross
House Rent Allowance	: 40% of Basic pay
Conveyance Allowance	: 10% of Basic Pay
Medical Allowance	: 10% of Basic Pay
Special Allowance	: To be fixed by the company management
Company Car & Maintenance	:Primarily for P12 & Above, but Management can make exceptions based on need. Subsidiaries (SPL/SMPCL/SBIIPCL) may have their own car policies as per business need.
Mobile Phone	: As Per Corporate Mobile & Allowance Policy 2017
Other Allowances	: SCL and/or Subsidiaries which are manufacturing units may accommodate additional allowances for business need/ work cycles from time to time.

Existing employees of the company will be absorbed in the above pay scale as deem suitable by the company management. Employees can avail loans and other benefits through services provided by our Payroll bankers.

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23. Other Financial Benefits

23.1 Provident Fund Facilities

23.1.1. The Company has Recognized Employees' Provident Fund Facility in the name of ``Summit Corporation Limited– Employee Provident Fund`` and all the permanent/full time/regular employees are eligible to become member of this provident fund. The rate contribution currently is 10% of basic by both sides, i.e. employer and the employee. To be eligible for the company's contribution, at least 3 years of continuous service will be required.

23.1.2 A managing committee manages the Trust Fund with equal representation from the employer and the employees. They will formulate rules for the trust fund and will be authorized to invest the fund money for the benefit of the employees. For details, please see Summit Employee Provident Fund policies (separate for Summit Corporation Limited, Summit Power Limited, Summit Meghnaghat Power Company Limited and Summit Bibiyanall Power Company Limited).

23.2 Gratuity

To be eligible for entitlement to Gratuity, an employee must complete 5 years of service with the Company. Payment under the scheme will be made only on final separation, retirement, or death of an employee unless sacked by the management for gross misconduct like theft, fraud, or dishonesty in which case employee shall not be entitled to any gratuity claim.

Gratuity will be calculated based on one month's last drawn basic salary for every year of service put in with the Company. Employees presently serving with the company shall be entitled to the above gratuity from the date of their joining irrespective of the date of approval of the HR Manual and Gratuity Policy.

In the event of death of an employee in service, the beneficiary, or beneficiaries will get the money under the Gratuity Policy.

23.3 Personal Income tax

Employee will be responsible for his own income tax (except in cases where exceptions are allowed as per contract) on the basis of his monthly salary and bonus(es) paid by the company. However, income tax will be deducted at source prior to salary payment as per Income Tax Law. Those, whose income tax is borne by the company, however, will bear the income tax arising out of any special payment (rewards/other performance bonuses) like regular tax paying employees.

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23.4 Festival Bonus (as per Human Resources Policy 2015.01, Revised Festival Bonus Policy)

Employee of SUMMIT CORPORATION LIMITED (SCL) is entitled for receiving 2 (two) festival bonuses in a year. One bonus for "Eid-Ul-Fitr" and the other for "Eid-Ul-Azha" and each bonus amount is equivalent to one month's basic salary. All employees employed on a permanent basis at SIMCL, though endowments might differ based on service:

This will involve two categories of employees;

I) Permanent employees: All permanent & confirmed employees including those who have completed minimum 180 days (i.e. six months) of service shall be eligible for 2 (two) Festival Bonus(es) at the rate of 'one' basic of their respective monthly salary per festival.

II) Permanent but not yet confirmed in the service and those with service length less than 180 days: Those who have joined under full time permanent employment capacity but have not yet been confirmed in the service with SIMCL or have not completed 180 days (six months) on the day of the festival will receive their festival bonus in the following manner:

a) Less than 60 days: No Bonus
b) 61 days to 90 days: 25% of Basic
c) 91 days to 120 days: 50% of Basic
d) 121 days to 179 days: 75% of Basic

23.5 Performance Bonus

The Management may give performance bonus to individual employee based on performance of the company or individual performance after relevant income tax deductions. Such measures can be recommended after each year's Annual Performance Appraisal exercises.

24. Yearly Increment

Yearly increment will be provided on 1st day of January every year depending on their performance of the previous year. The employee, after his/her confirmation as permanent employee, has to be in service of the company for a minimum period of 10 months to be eligible for the yearly increment.

Unsatisfactory performers will not be entitled to any yearly increment.

Part IV: Job Growth & Career Planning

25. Promotion

Promotion policy is to retain the best available resource within the Company and to provide the employee with the opportunity to advance their career within the Company. It is expected that a promotion to new position with higher responsibility, higher pay, and status will boost employee morale and promote job satisfaction. Promotions are subject to vacancies available or based on business need.

Promotions are not made on the basis of seniority. Promotion decisions are made based on the skills, abilities, and performance of the employee, as well as genuine business need and may be authorized by Management at any time.

Usually, during Annual Performance Appraisal immediate Manager will recommend for the promotion, which will be reviewed and agreed by the Departmental Heads and concerned Functional Head, and approved by the Managing Director / Chairman.

Human Recourses Department will issue the promotion letter to the employee after the appraisal is complete and approved.

26. Yearly Performance Assessment

Performance assessment is an integral part for assessing employee performance against a given set of objectives decided between the employee and his/her supervisor. This exercise shall commence from January of a new year for assessment of performance for the previous year. Any confirmed employee with minimum service of 10 months shall be eligible for review in a prescribed format (see Appendix)

26.1 General Guidelines for All:

26.1.1 All concerned (both Appraisee and Appraiser) are advised to please fill up the Performance Appraisal Form (PAF_ from their own desktop using MS Word and limit their write up to within the original size and pages given.

26.1.2 Performance appraisal for this period will not be applicable for those employees who joined Summit after June 30 of the year in question. But they must set individuals' job/business objectives for the year of review, which is also to be completed by February 15, of the following year.

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26.1.3 Employees who were not eligible for appraisal last year but now applicable for this year will at first set their objectives **(if not done earlier or during the period of JD submission)** in consultation with their respective line managers and complete all other Parts as per the aforesaid Guidelines.

26.1.4 By the end of the performance review/feedback session with the Appraiser, the concerned employee should know on how he/she was evaluated, which aspects of his/her performance were commendable/which aspects of his/her performance need improvement and what has to be done by both (employee & manager) to improve performance, overcome work problems raised during the discussion and setting new job related objectives including his/her (employee) personal development plans for the next year.

26.1.5 As usual, the concerned appraisee will keep the completed duplicate copy (Pages 1-5) and the concerned line Manager will keep the completed triplicate copy (Pages 1 - 10) of PAF for information and records by maintaining a strict confidentiality.

26.1.6 If you have any question or require any clarification about PAFs you can consult the Performance Appraisal Guidelines (provided in Appendix) and/or contact the undersigned/your respective line Manager.

27. Training & Development

27. 1 Purpose & Steps

The main purpose of training is to develop a competent workforce, able to respond to the demands made upon them in carrying out their jobs. This can be achieved by:

- Ensure quality training is provided to equip the workforce with the necessary shills, knowledge, competencies, and attributes to perform their jobs effectively.
- Update employees with technological and operational changes and developments as well as health and safety issues at the workplace from time to time.
- A detailed training calendar to be maintained by HR and respective departments (on site).

27.2 Training Need Assessment

The identification of the training and development needs of individuals and groups of employees is vital to the success of the training and development policy. Data can also be gathered through the yearly performance assessment (please see section on Performance Appraisal).

28. Transfer and Change of Designation

The management may transfer any employee inside or outside the country in any sister organization of the company and may also change his/her designation, duties, and responsibilities at any time as and when deemed expedient by the management.

Part V: Employee Code of Conduct, Grievance Handling and Discipline

29. Employee Code of Conduct

29.1 Every employee shall conform to and abide by these rules and shall comply with and obey orders and directions of his / her superiors under whose supervisions or control he/she is placed. Observance of rules and regulations as enforced from time to time is a primary condition of employment.

29.2 No employee shall directly or indirectly, engage himself, without prior written permission of the company management, in any business, trade or profession other than this employment and he shall faithfully and diligently perform the duties entrusted to him at all times.

29.3 Services of an employee shall be liable to be transferred to any office of the company located anywhere in Bangladesh at the discretion of the management of the company. An employee may be required to work in any department /section/unit as per decision of the management without adversely affecting his salaries and other service conditions.

29.4 An employee shall neither be absent from his duties nor leave the station without informing his departmental senior. The employee shall inform the company as soon as possible but not later than three days of his absent through any available means in case of sudden sickness or accident or any unavoidable reason. He must keep the company informed of his latest address.

29.5 Employees are to devote their whole working time and attention to the discharge of their duties, to keep secret all confidential information imparted to them and to surrender, on termination/discharge etc. of employment or otherwise, any possession relating to the company's business .

29.6 No employee shall take part in any activity in a manner contrary to the vision/ideas/instructions of the company.

29.7 No employee shall without prior permission of the Managing Director/Director contribute to any press, radio, television, organization nor shall make public or publish any document , paper or information of the company which may come into his custody or possession. Detailed explanations are provided in the Corporate Communications Policy.

29.8 No employee shall sign any business contract or document making any financial commitment on behalf of the company unless he is specially authorized to do so.

29.9 No consideration or perquisite may be offered, solicited or accepted by any employee in the course of his duties without the knowledge of the company Management. No, employee shall, during his

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employment or after his termination, disclose to any person any information relating to the company or its clients or any trade secrets, which have come to his knowledge during the course of his/her service in the Company except when compelled to do so by a Court of Law.

29.10 Smoking is not permitted in the office premises except in specified designated places.

29.11 Consumption of any product or substance that unnaturally effects the behavior of employees both mentally and physically is strictly forbidden during office hours and while performing office related responsibilities.

29.12 Employees are responsible to keep their working place clean and tidy in order to maintain a good working environment. Personal Cleanliness is pre-requisite for acceptable service behavior of an employee.

29.13 Employees should attend office and work related responsibilities maintain professional standards and appropriate work clothing. Casual dressing is strongly discouraged except for Fridays.

30. Employee grievance handling process

Employee may have dissatisfaction or complaint for many reasons. Such reasons may include disciplining, job posting, a personal request that was denied, promotions, compensation, increments, level of working conditions etc. Whenever dissatisfaction or feeling of injustices is brought to the notice of management, it is treated as grievance and will be given a full hearing by the competent authority to give impartial decision on the complaint lodged to solve the problem.

Any individual employee, who has a grievance in respect of anything connected with his employment in the Company, shall observe the following procedure for right of his grievance.

30.1 He/she will inform it in writing or verbally to his/her immediate manager within five working days of the occurrence. The manager should be ready and available to give the employee a fair hearing within next five days of the receipt of the grievance. The manager will try to solve the problem in consultation with his/her immediate manager or senior personnel of the management.

30.2 In the event the problems remain unresolved, the employee will have the right to appeal it to the Departmental Head in writing with a copy to Human Resources Department within three working days after receipt of the manager's reply.

30.3 Departmental Head will enquire into the matter and give the employee an opportunity of being heard and will communicate the decision with the employee in writing within five days of receipt of the grievance.

30.4 In case the employee is still not satisfied, he/she will submit the grievance to Managing Director through HR of the Company directly. Managing Director will then make a thorough investigation on facts and will give fair hearing to the employee. The decision will be communicated to the employee within fifteen days which shall be final and binding.

31. Disciplinary Action

31.1 Causes of Disciplinary Actions

Generally disciplinary actions in are taken for two reasons:

a) Conduct/poor job performances that have significant adverse effect on an employee's work. Absenteeism, insubordination, and negligence are examples that can lead to disciplinary action.

b) Misconduct/actions that indicate poor citizenship. Examples include fraud, theft or dishonesty in connection with Company business or property.

31.2 Approaches to Disciplinary Actions

SUMMIT CORPORATION LIMITED (SCL) follows two possible approaches in connection with disciplining the employees. They are:

- Progressive discipline
- Positive discipline

a) Progressive Discipline (Negative Approach)

Progressive discipline starts from minor actions to severe actions depending on the nature of offenses. This usually begins from warning steps and as the longer the undesirable behavior persist subsequent punishment severity increases.

There are series of management interventions under this approach. The interventions give an employee the opportunities and time to correct undesirable behavior being separated immediately.

Progressive discipline systems have 4 steps. If the offense is minor, it may start from the first step. If the offense is serious in nature then such misconduct can result in the elimination of several steps and sometimes even begin at the last step that is immediate separation. Examples of gross misconduct are: disorderly behavior, falsifying employment records.

Progressive discipline procedures have the following steps:

1. Verbal warning

2. Written warning
3. Suspension
4. Immediate separation

b) Positive Discipline (Positive Approach)

Positive approach can be viewed as a constructive activity. This is designed to encourage the employee to act in a positive manner on the job. The objectives of such disciplining are two-fold:

- Retain valuable employee in the Company,
- Change the employee's behavior in the future

These are not easy job and a **manager's understanding, patience, and counseling skills are now required.** By changing employees' behavior both the employee and the Company will be benefited.

Positive approach facilitates development of willing adherence to rules and regulations. Employee adheres because they have understanding belief and support. Positive discipline takes the form of positive support, reinforcement of improved behavior, and if needed, punishment may be applied for improper behavior. Positive discipline is a procedure that encourages employees to monitor their own behaviors and assume responsibility for the consequences of their actions.

Which approach will be followed in a particular case depends on the situation, degree of misconduct and in such case management decision is the final.

31.3 Principles of Disciplining

The following principles will be taken into consideration while undertaking disciplinary action:

- A *fair hearing* when people have been accused of rule violation: when someone has been accused of having violated an existing rule and regulation, he/she wants an opportunity to have his/her side heard and to be given fair consideration.
- Disciplinary action will be *taken in private.*
- Disciplinary action will be applied by the *immediate supervisor.*
- *Promptness* is important in taking disciplinary action-If punishment is delayed too long, the relationship between the penalty and the offensive act becomes hazy. The penalty not only loses its positive effect on behavior but also seems to stimulate greater resentment.
- *Consistency* in the administration of disciplinary action is highly essential.
- An immediate supervisor will *not* be disciplined *in the presence* of his/her own *subordinate.*

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After the disciplinary action has been taken, the manager should attempt to assume a normal attitude towards the employee.

31.4 Misconduct

Any conduct that is deemed to be inconsistent or incompatible would constitute an act of misconduct. An employee may be dismissed without prior notice or pay in lieu thereof or any compensation if he/she is convicted for an offense by a Court of Law or if he/she is found guilty of serious misconduct by the management.

An employee, if found guilty of misconduct, may be given proper warning, stoppage of yearly increment, removal from service and, in extreme case, dismissal from service. Misconduct may be of minor or major types. Which type of misconduct merits what type of disciplinary action is the discretion of the management. The following acts and omissions shall be treated as misconduct (as per guidelines under Bangladesh Labor Law 2006):

- Willful insubordination or disobedience to any lawful or reasonable order of a superior.
- Theft, fraud, dishonesty in connection with the Company's business or property.
- Taking bribes or any illegal gratification in connection with his/her employment under the Company. (details are covered under our Anti-Bribery & Corruption Policy)
- Absence from duty without permission/information or habitual absence without leave or absence without leave for more than ten days.
- Habitual absence, late attendance, habitual negligence of Work & improper dressing.
- Habitual breach of any government law or rule or regulations or of the Company.
- Riotous or disorderly behavior in the Company offices.
- Unauthorized use of Company's property.
- Falsifying, tampering with, damaging or causing loss of Company's official records.
- Causing intentional damage to or loss of Company's goods or property.
- Undignified, rude or indifferent dealing with any customer or fellow employee or any act subversive of discipline. (details are covered under Human Resources Policy 2016.02, Anti- Harassment and Abuse at Work)
- Divulging secret of the company.
- Misuse or misappropriation of company fund.

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31.5 Disciplinary Actions Procedures

In line with the provisions contained in Bangladesh Employment of Labor no order for discharge or dismissal of an employee shall be made unless-

a. the allegation against him/her are recorded in writing
b. he/she is given a copy thereof and not less than 7 days' time to explain
c. he/she is given personal hearing if such a prayer is made

and

d. the employer or the manager approves of such order.

An employee charged for misconduct may be suspended pending enquiry into the charges against him/her and unless the matter is pending before the court, the period of such suspension shall not exceed sixty days.

There are six sequential stages that explain the above-mentioned four criteria:

31.5.1 Issuance of Show Cause Notice

Once a written allegation against an employee stating the offense is received, the authority reviews the merit of the offence and, if the offence is established, issues a charge sheet, which is also known as show cause notice, to the alleged employee.

The show cause notice must be issued by a person who has the punishing authority (Manager, Head of Department, Organization Head/HR) in which the following aspects must be present-

- specific date, time and place of the incident
- necessary particulars of the misconduct
- quoting of the relevant section of the relevant Act/Law
- the accused is asked why disciplinary action will not be taken against him/her and he/she is given a minimum of 7 days' time to explain/respond
- mentioning that action will be taken ex-parte if the accused does not respond

31.5.2 Consideration of the Explanation

The accused employee may or may not submit his/her explanation. If he/she admits the guilt, and asked for mercy, management may take minor actions like warning, suspension, etc. against him/her without enquiry. However, formal enquiry is advisable when any of the situations arises:

- the accused does not admits the offense or admits the offense under pressure. The detail of the investigation are maintained to justify the allegation before the Court, in the event the aggrieved employee seeks protection of Law. The accused does no explain/respond
- the company is not satisfied with the explanation given in response to the show cause notice

31.5.3 Enquiry Notice

This notice must be issued to the accused to enable him/her to defend his/her case adequately, which may be issued by enquiry officer or by the management/HR at least one week in advance of the enquiry. The notice of enquiry must specify:

- date, time, place of enquiry
- the name(s) of the enquiry officer(s)/ committee/ board members
- indication that in absence of the accused in the proceedings, decision will be made ex-parte
- asking to bring any witness in support of his side

31.5.4 Actual Holding of the Enquiry

The purposes of enquiry is:

- to give the accused an opportunity to defend
- to follow the principles of natural justice
- to reveal others involved in an offense
- to allow and satisfy legal requirement; and
- to award punishment to the accused.

31.5.5 Persons will be present in the enquiry

- the accused
- board members, within (and outside-if any)
- witness, management side, if any
- witness, accused side if any
- management representative, if any
- observer of the accused side if any

The accused can express in writing his/her reservation about any of the board members. If found reasonable, the authority will change that board member.

31.5.6 The roles of the inquiry committee members are:

- To investigate a complaint or charge
- To gather facts as much as possible
- To verify facts and to ensure that they are facts not rumors
- To determine who are the material witness for the company management
- To obtain statements from the witness and to check the validity of any facts that may arise
- To study the scene of the incident, if necessary
- Should be thorough in his/her work without being offensive
- Avoid biasness in conducting the investigation

31.5.7 Proceedings

The enquiry officer reads out the charges against the accused and explains the charges and asks the accused whether he understands the allegation. In case the accused admits the guilt, no need to question the witness, but if he/she does not, proceedings will begin.

The inquiry board members determine strategy of questioning before the inquiry begins. Questions should be specific in nature and be testified by evidence, documents as much possible. Actual inquiry proceedings largely depend on the availability of evidence.

The inquiry proceedings are initiated in the following manner-

- asking the both sides to produce their witnesses
- their statement to be recorded
- cross-examine and recording
- to ensure signature and date in all pages of the inquiry proceedings by the witness, cross-examinees, board members, and the accused.

31.5.8 Submission of Reports

On completion of the enquiry, the enquiry board has to submit a written report to the management with their findings. Every finding has to be supported by reasoning. The board shall not recommend rather will conclude whether the accused is guilty of the charges or not and whether allegation is proved or not.

31.5.9 Communication about the Decision

The management at this stage informs the accused about the decision in writing. If the accused is found guilty, he/she may be dismissed, discharge, suspended or given less severe punishment upon approval of Managing Director/Management. If he/she is not found guilty, he/she will be exonerated from the charges. For the sake of equity and justice, it is desirable that the board should be open minded, without bias and should treat all parties equally and courteously and come to a decision in an objective manner supported by evidence on record.

31.5.10 Disciplinary steps:

a. Verbal Warning

Verbal warning is issued when an employee's performance or conduct is below the acceptable standards of performance or conduct. Supervisor shall analyze the seriousness or merit of the misconduct. If the misconduct is minor and it is the employee's first offense, then a Verbal Warning should be given.

The employee concerned is called by head of the department in presence of supervisor, and will be given an opportunity to explain the written details of the complaint. If the explanation seems to be acceptable, no action is taken.

However, if explanation is not accepted, then employees will be warned verbally informing him/her about the improvements targets in connection with standard performance, conduct and the timeframe within which the employee must improve significantly. The discussion points will be noted down and be kept in file for certain period. If the employee is not satisfied with the Verbal Warning, he/she may appeal against the disciplinary action taken according to grievance handling procedures of this manual.

b. Written Warning

A formal written warning is issued under the following circumstance

i) the situation does not improve

ii) the employee repeats instances of minor offenses within 3 month following verbal warning

iii) the employee makes serious offenses in the first time

It is the policy of SUMMIT CORPORATION LIMITED (SCL)to give accused employee of being heard or explain his/her side. Before taking warning decision, the written details of the complaint will be informed to the employee and he/she will be asked to explain his/her side. If he/she explanation is accepted to the management, no action will be taken, however, if explanation is unsatisfactory, the Head of the department will issue first warning letter to the employee.

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The warning letter will indicate the exact nature of offense, the date of occurrence of the offense, concert improvement targets within a specified time frame. Such letter will also indicate that for repetition of similar offense, serious actions will be taken against him/her.

The employee will accept a warning letter and sign with date in the space provided in the letter. A copy of the warning letter is copied to employee's personal file .

If the employee is not satisfied with the first warning, he/she may appeal against the disciplinary action taken according to grievance handling procedures of this manual.

In case the employee repeats the same offenses, employee will be issued second warning letter. The same procedures be followed in case of issuance of second warning letter.

For repetition of third serious offense the employee will be issued third and final warning letter. For fourth offenses the employee will be issued show cause letter or be separated from the service.

c. Suspension:

In the following situations an employee may be suspended by the company:

- Whenever a charge of misconduct is brought against an employee. However, depending on the severity of the alleged misconduct the accused employee may be suspended pending enquiry into the charges against him/her, but in no circumstances the period of suspension will not be more than 60 days unless the matter is pending before any court.
- Whenever the employee is found guilty of misconduct but not dismissed in consideration of extenuating circumstance, may be suspended as a measure of punishment without any salary for a period of not more than seven days.
- In the event an employee has been on unauthorized leave for a period of ten calendar days and more and fails to explain to the satisfaction of the Company the reason of his/her failure to return at the expiry of the leave, the Company may on consideration of extenuating circumstances may suspend him/her as a measure of punishment **without any salary** for a period of not more than seven days.

The Suspension order will take effect immediately on delivery to the employee. A suspended employee cannot perform any of the official duty nor can sign any official documents. However, upon written authorization from the competent authority, a suspended employee can attend to the office and performs limited duty as per instruction given. The suspended employee without prior approval cannot leave his/her duty station.

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During the period of suspension the suspended employee will receive half of basic salary. However, if he/she is proved not guilty of the charges, then he/she would have been deemed on duty and the unpaid basic salary will be given for the period of his/her suspension.

32. Security Inspections

SUMMIT CORPORATION LIMITED (SCL) wishes to maintain a work environment that is free of illegal drugs, alcohol, firearms, explosives, or other improper materials. To this end, SCL prohibits the possession, transfer, or use of such materials on its premises and requires the cooperation of all employees in administering this policy.

Desks, lockers, and other storage devices may be provided for the convenience of employees but, remains the sole property of SCL Accordingly, they, as well as any articles found within them, can be inspected by any agent or representative of SCL at any time, either with or without prior notice.

Part VI: Policy Implementation and Amendments

This Policy will come in force immediately.

33. Amendment of the Service Rules

The Managing Director in consultation with the company Board shall have the right to change, amend, modify, alter, resend or delete any or all the rules regulations contained herein or make such new rules as may appear to him to be expedient for efficiently carrying on the business of the Company at any time.

34. Amendment Timelines

First Published Date: Year 2003

This Amendment/ Approval Date: April 30 2017

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The proposed Nationwide Fiber Optic Network Project will be implemented in compliance with applicable environmental and telecommunication laws and regulations. Bangladesh has a wide range of laws and regulations related to environmental protection, natural resources conservation as well as social issues, which are mostly cross-sectorial and would be applicable to the proposed project. Also the World Bank Operating Principles 4.03 needs to be adhered to for the purpose of the implementation of this project. This section gives an overview of major national environmental, social and telecommunication laws, policies and regulations, WB Performance Standards, international treaties and conventions that are relevant to the activities supported by the proposed project.

NATIONAL ENVIRONMENTAL POLICIES, LAWS AND REGULATIONS

National Environmental Policy 2018

The concept of environmental protection through national efforts was first recognized and declared in Bangladesh with the adoption of the Environment Policy, 1992 and the Environment Action Plan, 1992. The environmental policy has been revised in 2018. The major objectives of Environmental policy are to i) maintain ecological balance and overall development through protection and improvement of the environment; ii) protect country against natural disaster; iii) identify and regulate activities, which pollute and degrade the environment; iv) ensure environmentally sound development in all sectors; v) ensure sustainable, long term and environmentally sound base of natural resources; and vi) actively remain associate with all international environmental initiatives to the maximum possible extent.

Bangladesh Environmental Conservation Act (ECA), 1995 amended 2002

This umbrella Act includes laws for conservation of the environment, improvement of environmental standards, and control and mitigation of environmental pollution. It is currently the main legislative framework document relating to environmental protection in Bangladesh, which repealed the earlier Environment Pollution Control ordinance of 1977.

The main provisions of the Act can be summarized as:

- Declaration of ecologically critical areas, and restrictions on the operations and processes, which can be carried or cannot be initiated in the ecologically critical area;
- Regulation in respect of vehicles emitting smoke harmful for the environment.
- Environmental Clearance;

- Regulation of industries and other development activities with regards to discharge permits;
- Promulgation of standards for quality of air, water, noises and soils for different areas for different purposes;
- Promulgation of standard limits for discharging and emitting waste; and
- Formulation and declaration of environmental guidelines;

The first sets of rules to implement the provisions of the Act were promulgated in 1997 (see below: "Environmental Conservation Rules 1997"). The Department of Environment (DoE) implements the Act. A Director General (DG) heads DoE. The DG has complete control over the DoE and the main power of DG, as given in the Act, may be outlined as follows:

- Identification of different types and causes of environmental degradation and pollution;
- Instigating investigation and research regarding environmental conservation, development and pollution.
- Power to close down the activities considered harmful to human life or the environment.
- Power to declare an area affected by pollution as an Ecologically Critical Area. Under the Act, operators of industries/projects must inform the Director General of any pollution incident. In the event of an accidental pollution, the Director General may take control of an operation and the respective operator is bound to help. The operator is responsible for the costs incurred and possible payments for compensation.

The Act was amended in 2006 (SRO No. 175-Act/2006 dated August 29, 2006) on collection and recycling of used/non-functional batteries for conservation of environment, improving environmental standard and control and prevention of environmental pollution. According to this amendment, no recycling of battery will be permitted without environmental clearance of DOE. This also restricted the improper disposal of used batteries or any parts of used battery in open place, water bodies, waste bins etc. All used batteries must be sent to the DOE approved battery recycling entity at earliest convenience. No financial transaction was allowed for used/non-functional batteries. However, the act was amended on same issue again in 2008 (SRO No. 29-Act/2008 dated February 11, 2008) to allow financial transaction on mutually agreed fixed cost.

Environment Conservation Rules (ECR) 1997 amended 2003

These are the first set of rules, promulgated under the Environment Conservation Act 1995. Among other things, these rules set (i) the National Environmental Quality Standards for ambient air, various types of water, industrial effluent, emission, noise, vehicular exhaust etc., (ii) requirement for and procedures to obtain Environmental Clearance, and (iii) requirements for IEE/EIA according to categories of industrial and other development interventions.

However, the rules provide the Director General a discretionary authority to grant '*Environmental Clearance*' to an applicant, exempting the requirement of site/location clearance, provided the DG considers it to be appropriate.

Presently, "EIA Guidelines for Industries" published by the Department of Environment and the "Environment Conservation Rules 1997"are the formal documents providing guidance for conducting Environmental Assessment. Any proponent planning to set up or operate an industrial project is required to obtain an "*Environmental Clearance Certificate*" from the Department of Environment (DoE), under the Environment Conservation Act 1995 amended in 2002.

The first step of obtaining *Environmental Clearance* for the project the proponent is to apply for it in prescribed form, together with a covering letter, to the Director/Deputy Director of respective DoE divisional offices. The application should include a project feasibility study report, the EIA report, *No Objection Certificate* (NOC) of the local authority; Mitigation Plan for minimizing potential environmental impacts; and appropriate amount of fees in 'treasury chalan' (in the present case the amount is BDT 50,000). The DOE authority reserves the right to request additional information, supporting documents, or other additional materials for the proposed project. Under the conditions specified in the Environment Conservation Rules-1997, the DoE divisional authority must issue environmental site clearance certificates within 60 working days from the date of submitting the application, or the refusal letter with appropriate reasons for such refusal. The clearance issued remains valid for a one-year period and is required to be renewed 30 days prior to its expiry date.

Environment Conservation Rules-1997 ensures the right of any aggrieved party to appeal against the notice order or decision to the appellate authority. The appeal should be made to the appellate authority with clear justification and the attested copy of the specific notice, order, or decision of the respective DoE office against, which the appeal is to be made. Prescribed fee is to be paid through treasury Chalan of BDT 50,000 and the relevant papers for the appeal must be placed.

Rule 7 of Environment Conservation Rules (ECR) has classified the projects into following four categories based on their site conditions and the impacts on the environment; (a) Green, (b) Orange A, (c) Orange B and (d) Red. Various industries and projects falling under each category have been listed in schedule 1 of ECR 1997. According to the Rules, Environmental Clearance Certificate is issued to all existing and proposed industrial units and projects, falling in the Green Category without undergoing EIA. However, for category Orange A and B and for Red projects, require location clearance certificate and followed by issuing of Environmental Clearance upon the satisfactory submission of the required documents. Green listed industries are considered relatively pollution-free, and therefore do not require *site clearance*

from the DoE. On the other hand, Red listed industries are those that can cause 'significant adverse' environmental impacts and are, therefore, required to submit an EIA report. These industrial projects may obtain an initial *Site Clearance* on the basis of an IEE based on the DoE's prescribed format, and subsequently submit an EIA report for obtaining *Environmental Clearance*.

The ECR 1997 was amended in 2005 to incorporate new standards for ambient air quality and a variety of emissions.

National Land-use Policy, 2001

The Government of Bangladesh has adopted national Land use Policy, 2001. The salient features of the policy objectives relevant to the proposed are as follows:

- To prevent the current tendency of gradual and consistent decrease of cultivable land for the production of food to meet the demand of expanding population;
- To ensure that land use is in harmony with natural environment;
- To use land resources in the best possible way and to play supplementary role in controlling the consistent increase in the number of land less people towards the elimination of poverty and the increase of employment;
- To protect natural forest areas, prevent river erosion and destruction of hills;
- To prevent land pollution; and
- To ensure the minimal use of land for construction of both government and nongovernment buildings.

Environment Court Act, 2000

The aim and objective of the Act is to materialize the Environmental Conservation Act, 1995 through judicial activities. This Act established Environmental Courts (one or more in every division), set the jurisdiction of the courts, and outlined the procedure of activities and power of the courts, right of entry for judicial inspection and for appeal as well as the constitution of AppealCourt.

Bangladesh Labor Act, 2006

This Act pertains to the occupational rights and safety of factory workers and the provision of a comfortable work environment and reasonable working conditions. In the Chapter VI of this law safety precaution regarding explosive or inflammable dust/ gas, protection of eyes, protection against fire, works with cranes and other lifting machinery, lifting of excessive weights are described. And in Chapter VIII, provision of safety measures like appliances of first aid, maintenance of safety record book, rooms for children, housing facilities, medical care, group insurance etc. are illustrated.

Bangladesh National Building Code

The basic purpose of this code is to establish minimum standards for design, construction, and quality of materials, use and occupancy, location and maintenance of all buildings within Bangladesh in order to safeguard, within achievable limits, life, limb, health, property and public welfare. The installation and use of certain equipment, services and appurtenances related, connected or attached to such buildings are also regulated herein to achieve the same purpose.

Part-7, Chapter-3 of the Code has clarified the issue of safety of workmen during construction and with relation to this, set out the details about the different safety tools of specified standard. In relation with the health hazards of the workers during construction, this chapter describes the nature of the different health hazards that normally occur in the site during construction and at the same time specifies the specific measures to be taken to prevent such health hazards. According to this chapter, exhaust ventilation, use of protective devices, medical checkups etc. are the measures to be taken by the particular employer to ensure a healthy workplace for the workers.

Section 1.4.1 of chapter-1, part-7 of the BNBC, states the general duties of the employer to the public as well as workers. According to this section, "All equipment and safeguards required for the construction work such as temporary stair, ladder, ramp, scaffold, hoist, run way, barricade, chute, lift etc. shall be substantially constructed and erected so as not to create any unsafe situation for the workmen using them or the workmen and general public passing under, on or near them".

Part-7, Chapter -1 of the Bangladesh National Building Code (BNBC) clearly sets out the constructional responsibilities according to which the relevant authority of a particular construction site shall adopt some precautionary measures to ensure the safety of the workmen. According to section 1.2.1 of chapter 1 of part 7, "in a construction or demolition work, the terms of contract between the owner and the contractor and between a consultant and the owner shall be clearly defined and put in writing. These however will not absolve the owner from any of his responsibilities under the various provisions of this Code and other applicable regulations and bye-laws. The terms of contract between the owner and the contractor will determine the responsibilities and liabilities of either party in the concerned matters, within the provisions of the relevant Acts and Codes (e.g.) the Employers' Liability Act, 1938, the Factories Act 1965, the Fatal Accident Act, 1955 and Workmen's Compensation Act 1923". (After the introduction of the Bangladesh Labor Act, 2006, these Acts have been repealed).

To prevent workers falling from heights, the Code in section 3.7.1 to 3.7.6 of chapter 3 of part 7 sets out the detailed requirements on the formation and use of scaffolding.

Constitution of Bangladesh

Article 24 of the constitution of Bangladesh says that the state shall adopt measures for the protection against disfigurement, damage or removal of all monuments, objects or places of special artistic or historic importance or interest.

Antiquities Act, 1968

This Act provides the modes of protection and preservation of things, which are part of our national history and heritage. Article 24 states that if the Government is of the opinion that for the purpose of protecting or preserving any immovable antiquity it is necessary so to do, it may, by notification in the official Gazette, prohibit or restrict, within such area as may be specified therein, mining, quarrying, excavating, blasting and other operations of a like nature, or the movement of heavy vehicles, except under and in accordance with the terms of a license granted and rules, if any, made in this behalf.

Water Act, 2013

The Water Act 2013 has been promulgated with an aim to preserve and protect water resources as well as to exert control on water use in Bangladesh. Through different provisions under this Act, restrictions have been imposed in attempting to alter the natural flow in water by landfilling and other activities. The other issues that are addressed in this Act involve protection of potable water sources and management, provision for declaration of water stress areas, provision for declaration of flood control zone and its management, restrictions on storing natural water in artificial or natural reservoirs, restriction on abstraction of total water from any water source, water pollution control etc. Any violation of compliance or protection order will result in an offence, which would be punishable in various degrees including fines, compensation and imprisonment.

The Bangladesh Telecommunication (Revised) Act, 2010

Previously known as The Bangladesh Telecommunication (Revised) Act, 2006 and The Bangladesh Telecommunication Act 2001, this act provides provisions for the establishment of an independent Commission (Bangladesh Telecommunication Regulatory Commission) for the purpose of development and efficient regulation of telecommunication system and telecommunication services in Bangladesh and for the transfer of the powers and functions of the Ministry of Post and telecommunication to the Commission and matters ancillary. The broad objectives of the Commission include encouraging the orderly development of a telecommunication system to enhance and strengthen the social and economic welfare of Bangladesh.

The Commission have exclusive authority to issue license for activities like establishing or operating a telecommunication system in Bangladesh or undertaking any construction work of such system, providing telecommunication service in Bangladesh or to any place outside of Bangladesh, undertaking any construction work for providing internet service or install or operate any apparatus for such service. The Commission may specify in the license any condition consistent with this Act and regulations and, to suit the requirements of a particular situation, it may also specify additional conditions. Under this act a licensee may be given the obligations with regard to conservation of environment in accordance with prevalent laws or may be obligated to compensate any person or organization for the damage caused by cables or installations laid as a part of the license agreement.

According to this act an operator (a person licensed for establishing or operating a telecommunication system or providing telecommunication service or operating a system which is the combination of more than one of those facilities) shall have right to install any apparatus, thing or facility on, above or over any land for the purpose of establishing a telecommunication system or for providing telecommunication service. Within this purview of this right, an employee or representative of the operator authorized in writing in this behalf may: (a) by giving reasonable notice, enter any land at any time, and put up any post or pillar for the purpose of holding or supporting any telecommunication apparatus; (b) fasten or attach a bracket or other device to a tree standing on the land; (c) cut down any tree or branch of a tree which is causing or is likely to cause injury to, or which impedes or is likely to impede

the workability of, such apparatus, thing, facility or device; and (d) take any other necessary step or action under this Act for the purpose of installing, constructing, examining, repairing, changing, removing or increasing the workability of such apparatus, thing, facility or device. An operator shall ordinarily exercise his right of way on the land owned or possessed by the Government or a local authority or statutory body, but may, if necessary, exercise this right on any other land also; the Government agency or the local authority or the statutory body shall not ordinarily obstruct the exercise of the right of way. In exercising this right, the operator shall not enter or do anything in a graveyard or crematorium or a sacred place, unless such entry is necessary for the purpose of saving life or property or security of that area. Such entry can only be allowed through consent of the person in charge of the area or through obtaining written permission of the Commission. The operator shall not enter a public or private land without the consent of the authority or owner or occupier of the land and shall not acquire any other right only because of his right of way. In exercising the right of way, the operator shall keep the damage caused to the land and environment at the minimum level and shall be bound to pay compensation to the affected person, authority or body for the damage caused as a result of such exercise.

Guidelines for Infrastructure Sharing (Amended), 2011

The guideline provides an approach to ensure optimum utilization of telecommunication resources and infrastructure, to minimize the operational cost, to achieve higher economies of scale, to promote healthy competition by reducing the entry cost for new entrant and to reduce the wastage of land route to develop telecommunication network and infrastructure. The Commission has the right and authority to change, amend, vary or revoke any part of these guidelines and also to incorporate new terms and conditions necessary for the interest of national security, or public interest, or any other reason whatsoever.

The objectives of the guidelines are as follows:

- To maximize the use of network facilities including but not limited to base station sites, towers, in-house wiring, local-loops etc. to enhance sharing and reduce duplication of investment for network facilities. The term "Infrastructure Sharing" for the purposes of these guidelines refers to the passive infrastructure (which means non-electronic infrastructure & facility which includes sharing of physical sites, buildings, shelters, towers/masts, electric power supply and battery backup, grounding/earthing, air conditioning, security arrangement, poles, ducts, trenches, right of way, in-house wiring, sub-loop (wire/cable) and local-loop (wire/cable)).
- To promote the availability of wide range of cost effective and competitive telecommunication networks throughout Bangladesh by ensuring optimum utilization of telecommunication resources.
- To minimize the environmental effect, to ensure minimum occupation of land space and maximizing the utilization of existing infrastructure and installations.
- To ensure optimum utilization of the operators' capital expenditure on supporting infrastructure, therefore facilitating the whole sector.

These guidelines are applicable for sharing of passive infrastructure amongst all telecommunication operators having license from the Commission within their respective licensing zone/area. The operators shall share its passive infrastructure with other operators on a non-discriminatory "first come, first serve" basis and they shall enter into bilateral agreement for such sharing through mutual agreement based on the directives issued or to be issued by the Commission. Operators (except the Nationwide Telecommunication Transmission Network's Licensee) will not be permitted to build optical/wired backbone transmission network, if such networks of NTTN operators are already available there. Telecom operators may jointly develop, built, maintain and operate optical/wired backbone transmission network with the approval of the Commission if NTTN operators fail to provide them with transmission network facility fulfilling the requirement of the telecom operators. The telecom operators may sell/lease the excess capacity/core/fiber of the transmission network to NTTN operators. All operators shall publish and monthly update detailed information of passive infrastructure available for sharing with other operators in their websites.

National Broadband Policy, 2009

The National Broadband Policy is intended to be a statement of the philosophy, objectives, strategies and the methodology to ensure the proliferation of affordable Internet access through superior networks and efficient services for the Bangladeshi consumers. The policy stipulates key deliverables addressing broad vision of the Government and outlining pertinent modalities to materialize the vision quickly and cost-effectively. The term 'Broadband' may be defined as an 'always on' data/internet connection that ensures a minimum bandwidth of 128 kbps subject to its revision as and when necessary. The policy promotes use of existing facilities as an implementation means to facilitate the broadband services, appropriate measures will be taken to ensure maximum utilization of existing networks and to encourage the introduction of new technologies e.g. FTTx, WiMax, WiFi. In case of sharing of resources, there may be provisions for existing resources of Power Development Board (PDB), Power Grid Company of Bangladesh (PGCB), Bangladesh Railway (BR) or Bangladesh Rural Electrification Board (BREB) or any other organization for broadband connectivity in the country.

National Information and Communication Technology (ICT) Policy, 2002

Information Communication Technology (ICT) encompasses the broad fields of data/information processing, transmission and communications by means of computer and telecommunication techniques and these modern tools are being increasingly used for organizational/personal information processing in all sectors of economy and society. The ICT policy presents the policy guidelines for the development of the ICT sector in Bangladesh. The policy statement includes a specific section related to the importance of ICT in mitigating environmental issues and disseminating information on environmental problems and their causes in order to create awareness about environment among the common people.

The Policy encourages information system for making a complete inventory of existing flora & fauna of Bangladesh, their habitats and other natural communities whose existence has been endangered. Use of GIS and other ICT-based systems are

promoted for planning at the national level, for agricultural crops estimation, conservation of nature while accommodating compatible land use to maintain the ecological balance. The Policy also promotes use of Information and Communication Technology to help solve the most pressing problems of environment in the urban areas like toxic emissions from vehicles, industries and other sources.

Regulatory and Licensing Guidelines for Nationwide Telecommunication Transmission Network (NTTN), 2008 (Draft)

The Bangladesh Telecommunication Regulatory Commission is empowered to issue licenses for the operation and provision of telecommunication services, and to determine the eligibility criteria and other general terms and conditions of Licenses. Having given due consideration to the principles of transparency, fairness, nondiscrimination and all other relevant principles, the Commission decided to issue Guidelines on Licensing Procedure of Nationwide Telecommunication Transmission Network License envisaged in the Licensing (Procedure) Regulations, 2004.

These Guidelines are intended to provide an overview of the licensing and regulatory framework for Applicant(s) seeking to obtain License under these guidelines to develop, build, maintain and operate Nationwide Telecommunication Transmission Network (NTTN) in Bangladesh. No person or business entity shall be allowed to develop, build, operate and maintain NTTN without a valid License issued by the Commission. The overall objectives of the NTTN reflect the Government's intent to create Nationwide Telecommunication Transmission Networks with a view to separating Transmission Network Services and Access Network Services in future.

The Licensee(s) is authorized to develop, build, operate and maintain NTTN to provide nationwide telecommunication transmission network services to the ANS Operators, Licensed Telecommunication Operators and to other authorized users. NTTN licensees are permitted to use cable, optical fiber and any other wire based technologies to provide NTTN service. Shall there be any necessity to deploy wireless/laser and other new technology based network to provide NTTN service, the licensee(s) must take prior permission from the Commission before deployment of such network in the country. NTTN Licensee shall have the obligation to develop, build, operate and maintain the NTTN minimum up to Upazilla Headquarters throughout the country as per the rollout obligation. Network must have Nodal Points for connection up to Upazilla Headquarters.

Prior to any installation or maintenance work on the systems, the licensee(s) shall obtain all necessary permissions from the relevant authorities or Governmental departments for works on land owned or controlled by any Government or local authority or statutory body and from the relevant owner or occupier for works on any private land. The Licensee(s) shall undertake and complete all installation and maintenance work diligently observing the need for public safety in compliance with local laws and regulations. If third party owned property is affected as a result of the installation and/or maintenance work, the Licensee(s) shall seek the applicable third party's consent prior to displacing or hindering with telecommunication lines, gas or water pipes, drains or sewers, or tubes, casings, ducts, wires or cables or other third party property or equipment. The Licensee(s) shall be solely liable for any losses,

damages, claims, costs or expenses caused, arising from or in connection with any installation and/or maintenance work in public and private areas.

Roll out obligation is applicable to the NTTN Licensee(s) who shall obtain license under these guidelines and such obligation period shall be counted from 180 days after the issuance of license. The licensee(s) shall have to provide NTTN connectivity covering up to 5%, 10%, 20%, 30%, 40%, and 100% Upazilla Headquarters within 1st, 2nd, 3rd, 4th, 5th, and 10th year of issuance of license, respectively, provided other conditions of the guidelines remains the same.

NATIONAL SOCIAL POLICIES, LAWS AND REGULATIONS

There is no national policy in Bangladesh governing social effects of infrastructure development projects on the project area communities. However, the Constitution of Bangladesh provides some rights to the affected persons, communities and groups those are not upheld in the Ordinance II of 1982. The active instruments under the legislative and regulatory framework in Bangladesh are discussed below:

Constitution of Bangladesh

The fundamental rights under the Constitution indicate the general guidelines for a policy on resettlement/rehabilitation of citizens adversely affected (whatever be the mechanism) due to any activity of the State. Article 40 of the constitution states categorically that every citizen has the right to practice any lawful occupation which implies that anything impeding such right (a) should not be done or (b) there should be supplementary measures to make good the losses incurred by the citizen. Resettlement and rehabilitation of adversely affected people due to infrastructure projects very clearly falls within this requirement for supplementary measures. However, as per Article 42, sub-clause 2, no law with provision of compensation for acquisition of land can be challenged in a court on the ground that such compensation has been inadequate.

Constitutional Right of the Tribal People

The Constitution of Bangladesh does not mention the existence of the cultural and ethnic minorities in Bangladesh. The only protective provision for the ethnic minorities that the policy makers often refer to is Article 28 (4) which states that: Nothing shall prevent the state from making special provision in favor of women and children or for the advancement of any backward section of the citizens. The above provision is an ambiguous one and it does not define who or what constitutes "backward". However, the Government recognizes existence of “tribal peoples” and the need for special attention and in general tribal people are essentially viewed as backward, poor and socio-economically & culturally inferior. Towards this end a special program was initiated in 1996-97 by the Prime Minister’s Secretariat aimed at improving the socio-economic situation of the indigenous people of Bangladesh, resident outside the Chittagong Hill Tracts.

The Chittagong Hill Tracts Regulation 1900

The Chittagong Hill Tracts Regulation, 1900 (Regulation I of 1900) is the regulatory framework for State sovereignty over the traditional rights of the tribal peoples living in the Chittagong Hill Tracts (CHTs) region. They are governed through Revenue

Circle Chiefs who are local revenue collectors vide an amalnama (authorization by the Government). The Deputy Commissioner and the Commissioner from the Central Government reserve the authority to settle land to the hill-men or non-hill residents or lease out land (non-transferable) for rubber plantation or establishing industries in the CHTs. The regulation provides the right to possessing cultivable land up to 5 acres by hill men or non-hill residents. The headman is responsible for the conservation of the resources of his mouza through exercising his authority to (i) prohibit the removal of forest produces by residents of respective mouzas other than for their domestic purposes or by non-residents for any purpose, (ii) exclude any area or areas in his mouzas from the jhuming (shifting cultivation), (iii) prevent new comers from cutting jhums in his mouza, and (iv) prevent a person from grazing cattle in his mouza.

The CHT Regional Council Act, 1998

The National Parliament of Bangladesh in 24 May 1998 passed the Peace Accord 1997 as the "Chittagong Hill Tracts Regional Council Act, 1998 (Act 12 of 1998). In addition to re-establishing peace, the Accord recognized the ethnic people's right to land, culture, language, and religion. The Accord set out detailed provisions for strengthening the system of self-governance in the CHT, and redressing the most urgent land-related problems including resolution of land disputes by a commission on land, the transfer of authority for land administration to the hill district councils (HDCs), the cancellation of lease granted to non-residents during the conflict period, the distribution of land to ethnic or "tribal" villages, and the strengthening of customary land rights. Under this Act, no lands, hills and forests within the control and jurisdiction of the HDCs shall be acquired or transferred by the government without consultation and consent of the Regional Council. No law will be executed in the region which is not developed and enacted in consultation and agreement with the tribal peoples in CHT. A ministry on CHT Affairs was established by appointing a Minister from among the tribal communities of hill districts. An Advisory Council from the CHT region assists this ministry.

INSTITUTIONAL ARRANGEMENTS AT NATIONAL AND SUB-NATIONAL LEVELS

As outlined in the National Environment Policy (1992) and National Forest Policy (1994), the Ministry of Environment and Forests (MoEF) acts as the guide and custodian for the conservation and development of the environment and, in the pursuit of that goal, to ensure through appropriate laws and regulations that natural resources, including land, air, water and forests, are exploited and managed in an environmentally sustainable manner. The Department of Environment (DoE), formed in 1989 with a mandate for environmental management later formalized under the Environment Conservation Act, 1995 (ECA'95), acts as the technical arm of the Ministry and is responsible for environmental planning, management, monitoring and enforcement. A Director General heads the DoE, with Divisional offices in Dhaka, Chittagong, Bogra, Khulna, Barisal and Sylhet. The Environment Conservation Rules (1997) provide the Director General a discretionary authority to grant 'Environmental

Clearance' to an applicant, exempting the requirement of site/location clearance, provided the DG considers it to be appropriate.

The mandate of the Department has expanded over time, evolving from an exclusive focus on pollution control to include natural resources and environmental management, now covering:

- monitoring environmental quality;
- promoting environmental awareness through public information programs;
- controlling and monitoring industrial pollution;
- reviewing environmental impact assessments and managing the environmental clearance process; and,
- establishing regulations and guidelines for activities affecting the environment

Thus, the GoB has well-defined legal/regulatory systems for safeguarding environment issues through the Ministry of Environment and Forest in the policy level and the Department of Environment in the implementation level. Although the environmental legal framework is relatively modern and is in an advanced state in connection with the environmental assessment, the main limitations are in the capabilities of the regulatory agencies to enforce and promulgate these legal tools. The existing resources (manpower, technical tools etc.) of regulatory agencies are deemed largely inadequate to monitor compliance with existing rules.

The environmental management system in Bangladesh constitutes an extremely centralized and partially de-concentrated model of environmental management. At the divisional level, there is a Divisional Environmental Advisory Committee headed by the Divisional Commissioner with representation from various government agencies. The DoE does not have any representation below this level. An important gap in existing formal rules (the Constitution and other laws) is that the divisions, districts, upazillas, unions do not have a clearly defined role to play in environmental management. Lack of an appropriate mandate and institutional arrangements below the divisional level is a key factor contributing to difficulties in implementing environmental policies and regulations.

WORLD BANK ENVIRONMENTAL AND SOCIAL SAFEGUARD POLICIES

WBG/IFC Performance Standards

The WBG Performance Standards is an international regulatory framework in respect of environmental and social sustainability focused on environmental and social management; labour and working conditions; workplace health & safety; community health, safety and security; land acquisition and involuntary resettlement; relations with indigenous communities, biodiversity and natural resources conservation and; preservation of cultural heritage. The performance standards are designed to help manage and improve a business' environmental and social performance through a risk and outcomes based approach. The standards are non-binding to independent organisations but are mandatory for such organisations that seek any form of project funding/lending through financial institutions that are allegiant to the requirements of IFC and the World Bank. SCL as a result of its lending obligations will be required

to comply with key requirements of the IFC Performance Standards. The Eight Performance Standards are the following:

- Performance Standard 1 (ASSESSMENT AND MANAGEMENT OF ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS): Underscores the importance of identifying E&S risks and impacts, and managing E&S performance throughout the life of a project.
- Performance Standard 2 (LABOR AND WORKING CONDITIONS): Recognizes that the pursuit of economic growth through employment creation and income generation should be balanced with protection of basic rights for workers
- Performance Standard 3 (RESOURCE EFFICIENCY AND POLLUTION PREVENTION): Recognizes that increased industrial activity and urbanization often generate higher levels of air, water and land pollution, and that there are efficiency opportunities.
- Performance Standard 4 (COMMUNITY HEALTH, SAFETY AND SECURITY): Recognizes projects can bring benefits to communities, but can also increase potential exposure to risks from incidents, structural failures, and hazardous materials.
- Performance Standard 5 (LAND ACQUISITION AND INVOLUNTARY RESETTLEMENT): Applies to physical or economic displacement resulting from land transactions such as expropriation or negotiated settlements.
- Performance Standard 6 (BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES): Promotes the protection of biodiversity and the sustainable management and use of natural resources.
- Performance Standard 7 (INDIGENOUS PEOPLES): Aims to ensure that the development process fosters full respect for Indigenous Peoples.
- Performance Standard 8 (CULTURAL HERITAGE): Aims to protect cultural heritage from adverse impacts of project activities and support its preservation.

WBG Environmental, Health and Safety Guidelines

The Environmental, Health and Safety (EHS) Guidelines of the International Finance Corporation (IFC), 2008 generic and sector specific performance levels and mitigation measures for management of environmental impacts, community health and safety, occupational health and safety, and emissions that are considered to be achievable in new facilities at reasonable costs using existing technologies.

The EHS requires a number of steps to be followed for effective management of environmental, health, and safety (EHS). These are, (i) identifying EHS project hazards and associated risks as early as possible in the facility development or project cycle; (ii) involving EHS professionals, who have the experience, competence, and training necessary to assess and manage EHS impacts and risks, and carry out specialized environmental management functions; (iii) understanding and analysing whether the project will generate significant quantities of emissions or effluents, or involve hazardous materials or processes potential consequences to workers, communities or the environment if hazards are not adequately managed; (iv) prioritizing risk management strategies; (v) eliminating the cause of the hazard at its source; (vi) incorporating engineering and management controls to reduce or minimize the possibility and magnitude of undesired consequences; (vii) preparing workers and nearby communities to respond to accidents; and (viii) improving EHS performance through a combination of ongoing monitoring of facility performance and effective accountability.

World Bank Group Occupational Health and Safety Guidelines for Fiber Optic Cable Installation

Workers involved in fiber optic cable installation or repair may be at risk of permanent eye damage due to exposure to laser light during cable connection and inspection activities. Workers may also be exposed to minute or microscopic glass fiber shards that can penetrate human tissue through skin or eyes, or by ingestion or inhalation. Optical fiber installation activities may also pose a risk of fire due to the presence of flammable materials in high-powered laser installation areas. The guidelines provide recommendations to prevent, minimize, and control injuries related to fiber optic cables installation and maintenance.

World Bank Policy on Access to Information

In addition to the safeguard policies, the Access to Information Policy also relates to safeguards. To promote transparency and facilitate accountability, Bank Access to Information Policy supports decision making by the Borrower and Bank by allowing the public access to information on environmental and social aspects of projects in an accessible place and understandable form and language to key stakeholders. The Bank ensures that relevant project-related environmental and social safeguard documents, including the procedures prepared for projects involving subprojects, are disclosed in a timely manner before project appraisal formally begins. The policy requires disclosure in both English and Local language and must meet the World Bank standards.

World Bank Guidance on Limited Environmental Assessment (LEA)

An LEA is required for subprojects considered likely to have some environmental and social impacts that need to be reviewed by a specialist (World Bank, 2013). The subprojects to be implemented under the proposed 'Nationwide Fiber Optic Cable Installation' project by SCL will be suitable for LEA. An LEA screening form specific to the subproject type, and mitigation measures will be incorporated at the design stage. For subprojects requiring an LEA, it will be important to monitor the work, both during construction and operation, to ensure that mitigation measures are implemented and that no unforeseen negative impacts are occurring. Technical planning guidance, and design and construction aids have been developed across a number of programs and have been proven to assist in this process.

INTERNATIONAL TREATIES AND CONVENTIONS

Bangladesh is a party to a number of international environmental convention, treaties and agreements. The international treaties and conventions relevant to the project signed, ratified and in the process of ratification by Bangladesh are detailed in the following Table.

Table: Project Relevant International Treaties and Conventions

Environment related International convention and Treaties	Status
International Plant Protection Convention (Rome, 1951.)	01.09.78 (ratified)
Plant Protection Agreement for the South East Asia and Pacific Region (as amended) (Rome, 1956.)	04.12.74 (accessed) (entry into force)
Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, 1971) ("Ramsar Convention").	20.04.92 (ratified)
Convention Concerning the Protection of the World Cultural and natural Heritage (Paris, 1972.)	03.08.83 (accepted)03.11.83 (ratified)
Convention on International Trade in Endangered Species of Wild Fauna and flora (Washington, 1973.) ("CITES Convention")	18.02.82 (ratified)
Vienna Convention for the Protection of the Ozone Layer (Vienna, 1985.)	02.08.90 (accessed) 31.10.90 (entry into force)
Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal 1987.)	02.08.90 31.10.90 (accessed) (entry into force)
London Amendment to the Montreal Protocol on substances that Deplete the Ozone Layer (London, 1990)	18.03.94 (accessed) 16.06.94 (entry into force)
Copenhagen Amendment to the Montreal protocol on Substances that Deplete the Ozone Layer, Copenhagen, 1992	27.11.2000 (accepted) 26.2.2001 (entry into force)
Montreal Amendment of the Montreal Protocol on Substances that Deplete the Ozone Layer, Montreal, 1997	27.7.2001 (Accepted) 26.10.2001 (Entry into force)
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel, 1989.)	01.04.93 (accessed)
United Nations Framework Convention on Climate Change, (New York, 1992.)	09.06.92 (signed) 15.04.94 (ratified)
Convention on Biological Diversity, (Rio De Janeiro, 1992.)	05.06.92 (signed) 03.05.94 (ratified)
International Convention to Combat Desertification, (Paris 1994.)	14.10.94 (signed) 26.01.1996 (ratification) 26.12.1996 (entry into force)

Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, (Geneva, 1976.)	03.10.79 (accessed) (entry into force)
Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 (New York, 1994.)	28.07.96 (signed)
Convention on persistent Organic Pollutants, Stockholm	23.5.2001 (signed) 12.03.2007 (ratified)
Kyoto protocol to the United Nations Framework Convention on Climate Change	21.8.2001 (accessed)
Bangladesh has ratified 35 ILO conventions of which 30 are in force, 2 Conventions have been denounced; 3 instruments abrogated; none has been ratified in the past 12 months. - ILO Convention 87 on Freedom of Association and Protection of the Right to Organize - ILO Convention 98 on the Right to Organize and Collective Bargaining - ILO Convention 29 on Forced Labor - ILO Convention 105 on the Abolition of Forced Labor - ILO Convention 138 on Minimum Age (of Employment) - ILO Convention 182 on the Worst Forms of Child Labor - ILO Convention 100 on Equal Remuneration - ILO Convention 111 on Discrimination (Employment and Occupation) - UN Convention on the Rights of the Child, Article 32.1 - UN Convention on the Protection of the Rights of all Migrant Workers and Members of their Families	Those are ratified on 22nd June 1972; 17 Apr 1979; 28 Jan 1998; 12 Mar 2001; 28 Apr 2014; 08-Jun-2017; 08-Jan-2019
Source: DOE	

Stakeholder engagement is an indispensable part of SCL operation as fiber optic cable will be installed in public land near human settlements or other workplaces. Since the details of the project location are not known and will be decided at a future date, the Stakeholder Engagement Plan is presented as a framework as to delineate the approach to stakeholder engagement that is envisaged.

STAKEHOLDER ENGAGEMENT FRAMEWORK

Project information

while undertaking the work the field supervisor should always have with him Brief description of the project, its purpose, and what decisions are currently under consideration on which public input is sought. In this regard, he should have with him previous E&S screening reports which contains information on sensitive locations, nearby communities and an account on activities that can impact the local stakeholders. He should have with him a nontechnical summary of, the potential social and environmental risks and impacts of the project. These documents will be useful for communicating with the stakeholders.

Identification of Stakeholders

Identify key stakeholders who will be informed and consulted about the project, including individuals, groups, or communities that:

- Are affected or likely to be affected by the project (project-affected parties); and
- May have an interest in the project (other interested parties).

Individuals, groups, local communities, and other stakeholders that may be directly and adversely affected by the project activities need to be identified. This includes people residing in the surrounding areas, passers-by using that particular road/footpath along which fiber optic cable is laid, nearby shopkeepers whose businesses are affected by project activities. Consultation should be done if fiber optic cable layout infringes on anyone's property rights. The head of nearby religious institutions need to be consulted with because the workers may be temporarily using the sanitation facilities within the mosques. Nearby educational institutions and hospitals also need to be consulted with to determine which working hours would be suitable for noise-generating activities (e.g. HDD operation)

Broader stakeholders who may be interested in the project because of its location, its proximity to natural or other resources, or because of the sector or parties involved in the project should also be identified. These may be local government officials (permit is required for them to initiate work), community leaders, and civil society organizations.

Stakeholders Engagement Program

- Stakeholder consultation should be done as early as possible, before execution of works.

- The specific modality of communication need to be decided. SCL operation at a particular link is temporary in nature, so most impacts to the community will also be short-term. Project related documents, E&S screening, non-technical summary should be available at the site and should be in an accessible location by the stakeholders.

- Communication with the communities can be done through formal or informal interviews but methods used may vary according to target audience. The indirect stakeholders such as the local government authorities may require documentation with the application. For communicating with local shopkeepers, heads of religious, educational institutions and healthcare facilities, informal interviews may be sufficient. Formal meetings can also be called inviting the stakeholders to opine on various aspects of the project. In case of meetings, the notice of the meetings should be circulated ahead of time mentioning when, where the meeting would be taking place.

- In each of these instances, stakeholders should be informed where they would get additional information on the project, if they are interested. The contact information for the project needs to be provided in full in the framework for people who have more questions or concerns. At least one set of interviews with all stakeholders should be done for each work package.

- The field supervisor of SCL for the particular work package will be responsible for conducting stakeholder engagement, documenting the consultations and append it to the project completion report. The documentation should delineate the comments received from the communities and how the project at that location addressed those comments. The names and contact numbers of the persons participating in the stakeholder consultation program should be documented.

Building resilience to climate and geophysical hazards is a vital step in the fight against poverty and for sustainable development. Screening for risks from these hazards improves the likelihood and longevity of a project's success. The project level **Climate and Disaster Risks Screening Tool** provides early stage due diligence on climate and disaster risks at the concept stage of project development. The tool uses an **exposure - sensitivity - adaptive capacity framework** to consider and characterize risks from climate and geophysical hazards, based on key components of a project and its broader development context. This Annex summarizes the results of the screening process for the development of **Summit Communications Limited Nationwide Fiber optic cable** Project under IPFF-II.

1. INTRODUCTION

The potential risks flagged in this report were identified through the four screening stages by connecting information on climate and geophysical hazards exposure with the user's subject matter expertise and understanding of the project components and sensitivity to rate the impacts. The tool does not provide detailed risk assessments, rather it flags risks to inform consultations, enhance dialogue with local and other experts, and define further analytical work at the project location. This early stage due diligence can be used to strengthen the consideration of climate and disaster considerations in key components of the project design, including the physical and non-physical aspects. The broader sectoral and development context conditions could help modulate the risks to the delivery of the outcome/service level. The results of the screening are presented below, with supporting narrative to guide their interpretation.

2. CLIMATE AND DISASTER RISK SCREENING RESULTS SUMMARY

2.1 Project Information Summary

Table 1 below provides key project information including the location and key project development objectives.

Table 1: Project Information

Project Information	
Title	Summit Communications Limited (SCL) Nationwide Fiber optic cable Project
Number	IPFF-II (Financial Intermediary) OP4.03 (Private sector Development)
Region	South Asia
Country	Bangladesh

Type of Assessment	ICT
Purpose of Screening	Climate change risk screening
Current Project Phase	Under construction and operation
Funding Source	World Bank
Keywords	Fiber Optic cable
Brief Description of Project	Fiber swap and capacity upgradation in different routes. At the implementation level of the project, company will undergo two basic types of activities: passive network development i.e. layout of optical fiber cable and active network development i.e. equipment installation for lighting up and connectivity.
Location	• Nationwide fiber optic cable installation (5100 km) • Fiber swap and capacity upgradation in the Rajshahi-Naogoan-Dinajpur route (300 km) • Existing fiber swap and increase core availability in the Comilla- CTG-Cox (600 km)
Sub Sectors	ICT
Outcome/ Service Delivery	Increased coverage of internet service nationwide

2.2 SUMMARY OF EXPOSURE TO CLIMATE AND GEOPHYSICAL HAZARDS

Table 2 presents a summary description of exposure to climate and geophysical hazards for the Historical/Current and Future time frames[1]. Exposure to climate hazards is evaluated in two time frames, because past records are not necessarily indicative of future conditions. The extent of the project is nationwide, therefore, the risks described are for the whole of Bangladesh in general.

The descriptions provide a summary of the key characteristics and some indication of the trends in exposure from each hazard, drawing on global, quality-controlled data sets from the Climate Change Knowledge Portal (CCKP). It is useful, for example to understand the temperature range and the rate of annual or decadal increase in a region; or precipitation patterns for historical and future time frames and seasonality shifts. Understanding the trends of hazards is important as they act individually and collectively on components/sub-sectors of the project. Because geophysical hazards (such as earthquakes, tsunamis, landslides, and volcano

[1] The Future time frame is based on changes projected to occur between the 1980-1999 average and a future average. This future average is most likely the 2040-2059 average (i.e., the default in the Climate Change Knowledge Portal - CCKP). Users can choose to select another time frame, or choose to use national/local data sets, but if so, this should be reflected in the notes section of the tool (and summarized in Annex 2). The CCKP draws on global, quality-controlled datasets and is continually updated as new data become available. In some cases, the CCKP is supplemented with other sources of information. For more detail on the data used in this step, please refer to the Data Annex. Climate Change Knowledge Portal (http://climateknowledgeportal.worldbank.org).

eruptions) do not have associated future projections, exposure for those hazards is assessed only in the Historical/Current time frame.

Table 2: Summary of Exposure to Climate and Geophysical Hazards

Hazard	Time Frame	Description of hazards for your location
Extreme Temperature	Current	Average monsoon-season maximum and minimum temperatures show an increasing trend annually at the rate of 0.05°C and 0.03°C, respectively An increasing trend of about 1°C in May and 0.5°C in November during the 14 year period from 1985 to 1998 has been observed
	Future	Projected to increase with greatest warming (Dec-Feb) 1.4°C by 2050 2.4°C by 2100
Extreme Precipitation and Flooding	Current	The erratic nature of rainfall and temperature has increased in Bangladesh. The project area is subject to River/Monsoon flooding. The Meghna River flows in close proximity to the project area.
	Future	As yet it is difficult to project rainfall changes for the Ganges River flood plain, with some models projecting wetter and others projecting drier conditions. However, Runoff, Time between rainy days and Peak 5-day rainfall intensity are expected to increase.
Drought	Current	Certain regions in the northwest where fiber optic cable will be deployed are vulnerable to climatic drought.
	Future	Agricultural drought is expected to increase due to the increase of the erratic nature of rainfall.
Sea Level Rise	Current	The rise is 6 to 9mm annually in the central coastal region, which covers Noakhali, Laxmipur and their adjacent districts while 11 to 20mm rise has been observed in the coastal areas of Chittagong and Cox's Bazaar. In another study by IWM, revaeled that the annual rate of increase of average water level at Khulna, Hironpoint and Khepupara is about 6mm, 8mm and 7mm respectively. Certain locations of the project could be in coastal regions where this risk persists
	Future	Sea level rise is projected for Bangladesh, although there is disagreement on what the degree of sea level will be- one study suggests an increase of 30100 cm by 2100, while the IPCC Third Assessment gives a global average range with a slightly lower values of 9 to 88 cm. While some the project area could be directly

Hazard	Time Frame	Description of hazards for your location
		affected by sea level rise, there could be indirect effects from migrant populations from coastal areas.
Storm Surge	Current	During the period 1960 to 2009, nineteen cyclones hit the coast of Bangladesh. Simulation result from these cyclonic events shows the eastern coast gets a chance of being inundated by 2-3 m. Some project activities could take place in the coastal area. So there is risk of the effects of storm surge.
	Future	Storm surge height is expected to increase, but estimates are highly uncertain. The frequency of tropical cyclones in the Bay of Bengal may increase and, according to the Intergovernmental Panel on Climate Change's Third Assessment Report, there is " evidence that the peak intensity may increase by 5% to 10% and precipitation rates may increase by 20% to 30%" (IPCC 2001). Cycloneinduced storm surges are likely to be exacerbated by a potential rise in sea level of over 27 cm by 2050. An increase of 10 to 20% in tropical cyclone intensities for a rise in sea-surface temperature of 2 to 4°C relative to the current threshold temperature is likewise projected in East Asia, South-East Asia and South Asia (KnutsonandTuleya, 2004, IPCC 2007).
Strong Winds	Current	Significant increasing trends in the cyclone frequency over the Bay of Bengal during November and May, which are main months for cyclone activity in the Bay of Bengal, have been observed.
	Future	The maximum wind speed from tropical cyclones is expected to increase, but estimates are highly uncertain. With higher sea surface temperature, 10% increase in maximum wind speed of cyclone is expected by 2100.
Earthquake	Current	Bangladesh is earthquake prone while varying degrees of hazard are prevalent in different areas. Since the location of the project is all over Bangladesh, this could be in any of the hazard regions I, II and III. However due to climate change, the frequency and magnitudes of earthquakes are not likely to be affected.
Tsunami	Current	Some project activities may be carried out in the coastal or Chittagong-coxsbazar-comilla regions. So the risk of tsunami is there.

Hazard	Time Frame	Description of hazards for your location		
Landslide	Current	Existing fiber swap and increase core availability will take place in the Comilla- CTG-Cox region. Chittagong region is prone to landslides.		
Insufficient Understanding	Not Exposed No Potential Impact No Risk	Slightly Exposed Low Potential Impact Low Risk	Moderately Exposed Moderate Potential Impact Moderate Risk	Highly Exposed High Potential Impact High Risk

2.3 SUMMARY OF OVERALL PROJECT RISK

Table 3 highlights the impact ratings on the project's component/subsectors, and the overall risk to the outcome/service level for both Historical/Current and Future time frames. The ratings are derived on the basis of the hazard information, subject matter expertise, contextual understanding of the project, and modulated on the basis of adaptive capacity and the larger development context of the water sector and country. The results indicate what components are most at risk. The actual ratings themselves, while instructive, should inform further consultations, dialogue, and future planning processes.

2.3.1 Results Summary - by Component / Subsector

Table 3 provides a characterization of risks due to climate and geophysical hazard on project subsectors/components for both Historical/Current and Future time frames. The results indicate where risks may exist within one or multiple components and where further work may be required to reduce or manage these climate and geophysical risks. An ongoing process of monitoring risks, refining climate and other information, and regular impact assessment may also be appropriate. The potential impact on the key components/subsectors due to exposure from hazards is modulated by the project's non-physical components (enabling and capacity building activities). The right kind of capacity building measures could increase preparedness and longer-term resilience and reduced the risks. An understanding of larger sector and development context with respect to key modulating factors helps to assess the climate risks in terms of adaptive capacity. In the case of SCL, the overall summary of risk is as follows:

- Physical components: **Impact from 'Low' to 'Moderate' in future**
- the Non-physical Components : **Slightly Reduces Impact**
- the Broader Development Context : **Slightly Increases Impact**
- Physical components: **Impact from 'Low' to 'Moderate' in future**
- Outcome/service delivery: **Impact from 'Low' to 'Moderate' in future**

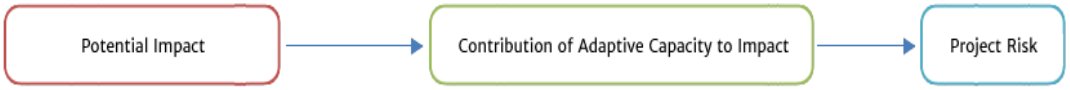


Table 3: Results Summary - by Component / Subsector

Sub-sector	Physical Components		Non-Physical Components		Development Context		Outcome / Service Delivery	
Time Frame	Current	Future	Current	Future	Current	Future	Current	Future
ICT			Long- term strategic planning Significantly Reduces Impact Maintenance and operations Slightly Reduces Impact Data gathering, monitoring, and information management systems Slightly Reduces Impact Overall Slightly Reduces Impact		Population growth and climate refugees Significantly Increases Impact Limited ICT access in Bangladesh and inadequacy in disaster preparedness Slightly increases Impact Gender inequity Slightly increases Impact Overall Slightly Increases Impact			

Impact on Project's Physical Infrastructure

This step provides an indication of the potential impacts of climate and geophysical hazards on the project's physical infrastructure and assets as currently designed under relevant subsectors. Climate and geophysical hazards are likely to impact several aspects of the infrastructure. Strong winds, tidal surge and waves could damage existing overhead cables. Any deficiencies in design and installation of the equipment can result in loss of function after an earthquake. Underground cables damage generally happened in poor soil conditions that caused liquefaction, lateral spreading and permanent deformation. Extreme temperatures and rainfall/flooding events are not likely to affect the operation of fiber optic cables. Considering these factors in physical infrastructures, in future the impact would be **from 'low' to 'moderate'**.

Non-physical components and broader development context

This step provides information on how the potential impact on key components/subsectors due to exposure from hazards is modulated by the project's soft components (enabling and capacity building activities) and broader development context (including sector context and other social, economic and political factors).

This step also takes into account particularly vulnerable groups including women, migrants and displaced populations.

For investments with long operational lifetimes, such as physical infrastructure, considering future climate variability and change is critical to avoid "locking in" designs and features that are only suited to current climate.

The project also includes capacity enhancement, emergency preparedness plan, awareness raising and evacuation drills involving local communities living in the vicinity of the project. The project will also include support to strengthen budgeting processes to account for additional maintenance costs to address increasing damages from hazards, and increase flexibility in management protocols to allow for adaptation to changing hazards. Strategic planning that considers how climate and geophysical hazards may affect key assets, system reliability, and demand may help improve long-term climate resilience. Several strategies such as keeping redundancies (re-routing options in case one particular route is damaged) can increase the flexibility in disaster situations. All physical infrastructures will be designed according to the Bangladesh National Building Code which considers wind and earthquake load in structural designs. This provides security against disasters such as earthquake and strong winds. SCL management will allocate budget for operations, maintenance and repairs of equipment and structural elements which might deteriorate as a result of extreme climate events. Combined, these features **may reduce the anticipated risk** from climate and geophysical hazards.

On the other hand huge population growth, probable migration of population from climate-affected areas will increase population density overall and may have adverse impact. Existing gender inequity in the Bangladesh may pose risks in responding to climate change effects. In the Bangladesh's ICT sector, there is a limited access to climate and disaster information monitoring networks. This, combined with a lack of emergency response systems in place to bring back connectivity to isolated communities and relief services in case of extreme weather events, **increases the risk** from climate and geophysical hazards.

Risks to Outcome/Service delivery of the project

This step provides an indication of the level of risk to the outcome/service delivery that the project is aiming to provide which is providing ICT access to people. The risk to the outcome/service delivery of your project is **Moderate**. This rating is derived from hazard information, subject matter expertise, contextual understanding of the project, and modulated on the basis of the project's soft components and broader development context.

3. NEXT STEPS

After understanding which of the project components is most at risk from climate change and other natural hazards on the basis of the screening, measures to avoid their impacts can be taken by:

- Enhancing the consideration of climate and disaster risks early in the design stage of the project.
- Using your risk screening analysis to inform follow-up feasibility studies and technical assessments.
- Encourage local stakeholder consultations and dialogues to enhance resilience measures and overall success of the project.

Table 4A provides some general guidance based on the risk ratings for the Outcome/Service Delivery, and Table 4B lists some climate risk management measures.

Table 4A: General Guidance Based on Risk Ratings for Outcome/Service Delivery

Insufficien Understanding	Gather more information to improve your understanding of climate and geophysical hazards and their relationship to your project.
No Risk	If you are confident that climate and geophysical hazards pose no risk to the project, continue with project development. However, keep in mind that this is a high-level risk screening at an early stage of project development. Therefore, you are encouraged to monitor the level of climate and geophysical risks to the project as it is developed and implemented.
Low Risk	If you are confident that climate and geophysical hazards pose low risk to the project, continue with project development. However, keep in mind that this is a high-level risk screening at an early stage of project development. Therefore, you are encouraged to monitor the level of climate and geophysical risks to the project as it is developed and implemented. You may also consider gathering additional information to increase your level of confidence in your rating.
Moderate Risk	For areas of Moderate Risk, you are encouraged to build on this screening through additional studies, consultation, and dialogue. This initial screening may be supplemented with a more detailed risk assessment to better understand the nature of the risk to the project.
High Risk	For areas of High Risk, you are strongly encouraged to conduct a more detailed risk assessment and to explore measures to manage or reduce those risks.

Table 4B: Types of Climate Risk Management Measures for typical ICT SECTOR Projects

Objective	Examples
Increase Robustness	• Strengthen the sector's physical assets or the connection between existent assets. This includes investments in flood barriers, cooling systems and more resistant infrastructure, among others. • Review the role of governments, regulators and current market structures in addressing climate risks in the ICT sector, including issues of ownership, and roles and responsibilities in achieving the sector's resilience. • Adopt measures aimed at strengthening ICT sector structures and organizations so that they are able to continue operating amidst the impact of climatic stress.
Promote Self-organization	• Foster collaborative mechanisms among sector stakeholders in order to address sectoral vulnerabilities at the regional, national and international levels.

	• Adopt measures to facilitate access to overt resources (financial resources, skills, and technical infrastructure), embedded/social resources (trust, motivation, knowledge) and relevant raw data required for the sector to self-organize in the face of climatic stressors. • Foster collaborative efforts among the major telecommunications providers aimed at building the business case for companies to address climate risks.
Promote Learning	• Support new research and knowledge on the linkages between ICT and climate change (including projections, direct and indirect climate risks throughout the ICT supply chain) to increase the sector's awareness and develop the skills required to implement adaptive actions. • Review evidence on the impact of past weather events on ICT infrastructure and service providers, drawing best practices and lessons learned. • Foster experimentation and novelty across the sector, to ensure innovative responses to adjust to new climatic conditions.
Increase redundancy	• Promote the availability of surplus/interchangeable processes, system interoperability, capacities and response pathways that allow for partial failure of the sectors" services while avoiding complete collapse. • Implement collaborative and multi-sector approaches to foster operational overlaps and multiple sources of support/expertise that can help fill the gaps in times of need, allowing the system to continue to function amidst climatic events. • Foster the functional overlap of contingency/emergency measures to ensure the continuation of ICT services and network operations under climatic stress.
Increase flexibility and diversity	• Improve the availability of adequate financial mechanisms for rapid access to savings, credit and climate-related insurance to respond to extreme climatic events. • Ensure swift access to information for short-term decision-making and support mobilization in the event of extreme climatic events, including mechanisms for ongoing collaboration with governments, local authorities and emergency-response institutions. • Strengthen the coordination of emergency response services between local authorities and ICT providers.
Foster collaboration at multiple scales	• Strengthen cross-sectoral and multilevel collaboration, including access to broader networks of support (e.g. governments, regulators, telecommunication providers, other market players), thus enabling access to resources that may not otherwise be available. • Provide mechanisms for ICT infrastructure and service providers to access assets (e.g. financial, human) at the regional, national or international levels, in order to cope with and recover from climatic disturbances. • Foster cross-government collaboration to explore interdependency issues.

Passive fiber is usually rugged and damage-resistant. In some cases, it can even be submerged and as long as the end faces remain mated, the damage can be minimal. However, disasters can occur each disaster will require a different response to repair, restore and refurnish the fiber networks. This Annex describes the emergency preparedness measures that need to be taken for effective operation of fiber optic cable network. Firstly the scenarios of damages and fiber optic cable outages are described. Afterwards the strategies of restoration during design, specific counter countermeasures for different disaster situations and safety and precautions during restoration after disaster or emergency situations are discussed.

Switching equipment, transport equipment, radio equipment, cable conveyance system, electric power equipment (rectifiers, AC/DC converters, and batteries), HVAC equipment, backup power generators, the cable entry and exit points and other supporting equipment such as computers, telephone sets, modems, alarm, tools and spares, etc. are some of the contents of a node. Any deficiencies in design and installation of the equipment can result in loss of function after an earthquake. With the constant functional upgrades and addition of equipment to a node, a mix of design and installation practices will occur. Identifying the weaknesses in the system and correcting them will ensure a more uniform performance.

Underground cables damage generally happened in poor soil conditions that caused liquefaction, lateral spreading and permanent deformation. Toppled poles that are used for the distribution network can sever cables. Cable routing that requires the cable to be co-located with a bridge or an overpass can be damaged when the bridge or the overpass is damaged.

Scenarios of damages and fiber optic cable outages

Some scenarios for cable damage that can cause outages:

- Underground cable damage from construction dig-ups or directional boring by utility service providers.
- Flooding in manholes, hand holes, or poorly sealed splice closures in monsoon.
- Aerial cable damage from shooting, animals, weather (ice or storms) and vandalism.
- Damage to utility poles in vehicle accidents affecting aerial cables.
- Cutting the wrong cable when removing older cables.

Strategies for effective restoration during design

Efficient fiber optic communication network restoration depends on rapidly finding the problem, knowing how to fix it, having the right parts and getting the job done quickly and efficiently. Like any type of emergency, planning ahead will minimize the problems encountered. Some strategies for effective restoration are the following:

- If possible, design a network with backup options. Many users run dual links, one transmitting data and one "hot back-up" ready to switch over in milliseconds. Electronics must be installed with duplicate links and all power must be backed up with batteries or fuel cells.
- Critical systems often add in geographic diversity, two links available running paths that are as widely separated as possible to ensure that if one suffers a failure due to damage to the fiber optic cable plant itself, the other can be switched in immediately. Even with backup, a failure requires immediate restoration, as one should never depend on a single link any longer than necessary.
- All cables should have spare fibers, especially since fiber is extremely inexpensive compared to installation or restoration costs. Fibers tend to get broken at the ends where terminated or inside splice closures during splicing or re-entry. Having spare fibers makes it easy to simply switch fibers to restore operation. Whenever possible, store extra cable in service loops that can be pulled together for splicing. This can save immense amounts of restoration time for cables installed indoors or pulled in conduit outdoors.
- From a network perspective, redundancy and diversity of both nodes and links shall be encouraged. Network redundancy with diversity is an excellent approach to deal with adverse situations in a disaster. Although it may not seem to be a good financial model, in fact the benefits of preparedness against disasters (earthquakes, floods, cyber attacks, etc.) will always be greater than the costs. The most cost effective mitigation effort, in terms of reducing equipment loss is sufficient anchorage for the equipment.
- Underground cables should be buried sufficiently deep (~1m/3 feet) that it is protected from casual digging and marker tapes that show up on cable locators buried above them. Bright colored conduits also help visibility. An up-to-date documentation on the network will be important to fix these problems.
- With more and better knowledge of seismic impact due to ground conditions on building structural and foundation designs, the telecommunications service providers shall be encouraged to evaluate the older buildings for their structural performance based on the information, and upgrade where necessary. This is of particular importance to cell sites that are located in commercial buildings, such as apartments, office buildings, that are not designed and built with the same importance factor as central offices.

- When cable slack is provided in routing cables, the chances of cable damage will be reduced. Strain relief of splices at a manhole or at entry and exit points to a building or on the aerial cable can reduce earthquake damage to a cable.

Specific countermeasures for different disaster situations

Some specific countermeasures that may be adopted during different disaster situations are the following:

Natural Disaster	**Countermeasures**
Earthquake	o Observe earthquake-resistant design standards and codes o Liquefaction countermeasures on handholes o Extendable joints for ducts and seismic simulations o Install vibration controlling or mitigating systems o Install structural health monitoring systems
Tsunami	o Ensure that emergency electrical power supply is available o Strengthen trunk line back up systems by sub-dividing physical network loops o Lay cables with ducts under riverbeds rather than installing cables along bridges near the mouths of rivers
Flood	o Restrict installation on potential flood zones o Install concrete structures at sites in which ground settlement may be expected due to heavy rains o Install waterproof cable channels and handholes o Seal the end of plastic tubes (at handholes or underground structure) with foam filler
Strong winds	o Observe design codes for strong winds in designing overhead poles o Install supports (wires, struts) in overhead structures. o Brace poles alternatively with steel wires when the expected wind speed exceeds 40 m/s o Use vibration dampers to protect the cables
Landslides	o Avoid landslide prone areas o Increase stability of slopes

Safety and precautions during restoration after disaster or emergency situations

Safety during emergency repair and restoration is a prime concern. The building, tower or manhole should be structurally sound, free of vermin and more-or-less dry. Electrical systems should be powered off. Backup batteries should be disconnected. The repairman need to be cautious for electrocution hazards, toxic hazards, and

leaking fuels (like improperly stored gasoline). It is recommended to use an LED flashlight, which provides strong, reliable lighting without sparks.

Whenever working in underground ducts and handholes, proper ventilation and supervision should be ensured.

The following disaster recovery tools should be used in case of emergency repairs:

- Portable lighting with extra batteries
- Replacement patch cords
- A low-power inspection scope, for inspecting the connector end faces. Be sure to include adapters for the most popular configurations of ports and jumpers
- Hand tools like strippers, cleavers, gloves, pliers and screwdrivers, because anything prepositioned will be lost, destroyed or covered in grime. Special tip: Avoid cheap tools because this is a time-sensitive situation, so don't cut corners.
- Labels. Assume the labels on the fiber bundles will be destroyed or unreadable. Bring sticky-stuff remover and a label-making machine.
- Visual fault locator and continuity tester, because if the fiber racks have been toppled or damaged the fibers may have been actually broken or crushed.
- Pre-saturated alcohol wipes in rugged plastic containers
- Nonflammable, optical-grade dusters to blow dry debris from surfaces
- Nonflammable contact cleaner sprays, to flush dry debris from surfaces
- Nonflammable, fast-drying, optical-grade fiber-optic cleaning fluids
- Painter's tape, to pick up glasss hards
- An optical time-domain reflectometer is essential to isolate where problems are.
- Optical-quality lint-free wipes, not the cheap ones packaged in a cardboard box
- Battery-powered light source for troubleshooting
- Drinking water

ANNEX XIX

ENVIRONMENTAL AND SOCIAL AUDIT OF SCL

Environmental and Social Audit can be defined as methodical process to verify and evaluate environment performance of an organization in terms of regulatory compliance and/or its own set of environmental and social goals, which go beyond the minimum legislative requirement, on a regular basis. Since SCL is already in operation, an audit has been done based on the current situation of the SCL and project site scenario following the assessment of the checklists listed below.

(a) Section 1 - Environmental Management Systems Audit Checklist

(b) Section 2 - Site Audit Checklist

It needs to be mentioned that a detailed ESMS system audit with respect to the provisions of PS1-8 has been carried out in Chapter 7 and the gaps have been identified. The ESCP has been framed based on those gaps. This section presents a sample audit based on field visits to sub-projects and can be considered a subset of the larger system level audit. This annex also presents pictorial evidence of health and safety compliance measures currently undertaken by SCL.

(a) Environmental Management Systems Audit

Sl.	Management	Issues	Yes/No	Comments
1	Management Issues	**a.** Are the environmental management responsibilities clearly assigned?	Yes	
		b. Is there an ESIA document available for the entity approved by the DOE?	N/A	DoE does not require SCL to submit an ESIA
		c. Does SCL have an ESMS?	Yes	
		d. Does your entity have a systematic documentation process by which the current environmental activities including trainings are recorded?	Yes	
		e. Does your entity have a budget for Environmental activities?	Yes	Mostly for OHS training
		f. Does your entity regularly produce environmental reports (6 monthly)?	No	Audit reports internally generated when sub-project

Sl.	Management	Issues	Yes/No	Comments
				work is completed. But no consolidated report prepared.
		g. Does your entity have a grievance redress system for the stakeholders?	Yes	
		h. Are the responsibilities of the Chief Executive of your entity in regard to the environment adequately documented and agreed with the relevant authorities?	Yes	
2	Training and awareness	**a.** Has your entity conducted a Training Needs Analysis (TNA) for environmental management including Ecological Sustainable Development issues?	Yes	Most training is related to OHS issues for contractors and supervisors
		b. Does your entity provide necessary training for the employees?	Yes	
		c. Does your entity assess the adequacy of resources and training of staff with designated responsibilities for environmental management and/or protection?	Yes	
		d. Are employees encouraged to take the initiative, submit suggestions for improvement, and to suggest actions or policies to reduce your entity's environmental impact?	Yes	
		e. Does the training include response to emergencies and drills, and working with external agencies such as fire brigade?	Yes	
3	Documentation	**a.** Has your entity established and maintained procedures for controlling all key documents?	No	Audit reports generated internally and not coordinated with the E&S focal person
		b. Are the procedures adequate so that the documents can be located, are at relevant locations essential to the	No	See above

Sl.	Management	Issues	Yes/No	Comments
		effective functioning of the EMS, are periodically reviewed and revised as necessary and approved for adequacy by those authorized to approve alterations to documentation?		
4	Monitoring and Measurement	**a.** Does your entity have procedures to regularly monitor and measure the significant operations and activities that can have a significant impact on the environment?	Yes	Screening mechanism is a part of the SCL ESMS
		b. Does your entity have systematic and documented procedures to evaluate compliance with relevant environmental legislation and regulations?	Yes	Screening mechanism is a part of the SCL ESMS

(b) Site audit

Sl.	Site Audit	Issues	Yes/No	Comments
1	Site Inspection (Walk-Around)	**a.** Is the site well organized and maintained in good condition?	**Yes**	
		b. Are quantities of chlorinated solvents (e.g. 1,1,1-trichloroethane) used on site and recorded?	**No**	**TCE not used**
		c. Are quantities of cylinders with toxic/flammable residuals held on site kept to a minimum?	**No**	**No cylinders used**
2	Resource use	**a.** Does your entity use energy such as electricity, oil, or gas? If yes, what is the usage rate per month?	**Yes**	**Diesel is used. Approx. 120L for each km of HDD operation**
		b. Does your entity use energy from any renewable energy source?	**No**	
		c. Does your entity use any chemicals in the manufacturing process?	**No**	
		d. Does your entity use water in the manufacturing	**No**	

Sl.	Site Audit	Issues	Yes/No	Comments
		process? If yes, what is the usage rate per month?		
		e. Does your entity have any water conservation practice guideline?	**No**	**Not relevant**
		f. Does your entity practice rain water harvesting program?	**No**	**Not relevant**
		g. Does your entity have any modification to the process to reduce wastewater generation?	**Yes**	**Standard Best management practices to mitigate turbid water generated from HDD operation**
		h. Does your entity have any tree plantation program?	**No**	**HDD operation does not require uprooting of trees**
3	*Air Emissions*	**a.** Are suspected, detected or declared to the administration pollution defined or analyzed with request for remediation?	**No**	**Emission from generators are not monitored**
		b. Are the conditions, processes, contamination acceptance level estimated or defined?	**No**	**Ambient air pollution monitoring not done**
		c. Are site processes and operations free of significant fugitive air emissions?	**Yes**	**HDD is a wet process. Significant resuspension does not occur during operation. However bare soil and construction materials are managed as per Best management practices.**
4	*Water Discharges*	**a.** Does the entity discharge any liquid waste?	**Yes**	
		b. If the site's discharge of liquid effluent to ground, surface water (including streams, rivers and lakes) meet DOE standard?	**No**	**It is observed that liquid effluent from HDD operation are directly discharged to the water bodies without prior settling.**
5	*Solid & Hazardous Waste*	**a.** Does your entity have an inventory of both hazardous and Non-hazardous waste?	**Yes**	**Accounting of diesel fuel is done**
		b. Does the site have details of where wastes are finally	**Yes**	**Plastic bags provided by SCL to dispose solid**

Sl.	Site Audit	Issues	Yes/No	Comments
		disposed of (including by-waste)?		**waste which are sent to designated dump sites.**
		c. Does the plant produce any hazardous waste?	**No**	
		d. Is the solid waste disposal carried out following the regulations?	**Yes**	**Permission taken from local authorities**
		e. Are approved waste haulers/disposal authorities or companies being used?	**Yes**	
6	*Storage*	**a.** Are containers storing hazardous materials in good condition?	**Yes**	
		b. Are containers storing hazardous materials labelled properly?	**No**	**Label was not found in containers of fuel during field visit**
		c. Are liquid hazardous materials stored on impervious surface?	**Yes**	
		d. Are liquid hazardous materials stored with secondary containment (capable of volume of the largest stored container prevailing regulations and guidance)?	**No**	**Secondary containment has not been found often during field visits**
		e. Are storage areas well maintained?	**No**	**Temporary storage is done in rented places.**
		f. Are storage areas clearly identified?	**No**	**Temporary storage areas are not identied with markings**
		g. Are storage areas protected from weather as necessary?	**Yes**	
		h. Does your entity keep regular inventory of stock entry and stock out items?	**No**	**Not relevant. Fuel purchased on need basis. There is no requirement for permanent storage areas. Stocktaking of total use is done.**
7	*Emergency planning and*	**a.** Are the site emergency procedures regularly reviewed and exercised?	**Yes**	

Sl.	Site Audit	Issues	Yes/No	Comments
	community relations	**b.** Is the chain of incident commander responsibility clearly defined?	**Yes**	
		Hazardous substances a. Is there a program to eliminate, or if not possible reduce the use of hazardous substances?	**No**	**Not relevant. There is no alternate to diesel for using in the generator.**
		b. Is there a list of the hazardous substances on site, plus information on handling, disposal, MSDS etc.	**No**	**Not relevant**
		c. Does your entity, routinely or in specific circumstances, track chemical use through materials accounting or some other method as distinct from, or in addition to, tracking environmental releases?	**No**	**Not relevant**
8	*Occupational Health and Safety*	a. Does your entity have guidelines/ documents for occupational health and safety practices?	**Yes**	
		b. Is there a program to eliminate, or if not possible reduce the hazardous work environment?	**Yes**	
		c. Are there any guidelines on preventive and protective measures against hazardous conditions for the workers?	**Yes**	
		d. Are there any documentations and reporting of occupational incidents, accidents, and diseases?	**Yes**	
		e. Are there any occupational incidents, accidents, and diseases?	**Yes**	**Minor injuries. Records are kept.**
		f. Is there any compensation program for occupational incidents including accidents and diseases?	**Yes**	

Sl.	Site Audit	Issues	Yes/No	Comments
9	*Other potential issues*	Will the site activity include/ involve any of the following potential issues and/or impacts?		
		1. Building rehabilitation **Not applicable**		
		•Site specific vehicular traffic		**Not applicable**
		•Increase in dust and noise from demolition and/or construction		**Not applicable**
		•Construction waste		**Not applicable**
		2. New construction		
		•Excavation impacts and soil erosion	**Yes**	
		•Increase sediment loads in receiving waters	**Yes**	
		•Site specific vehicular traffic	**Yes**	**Trucks conveying construction materials (for handhole construction), HDD equipment, fuel and fiber optic cables**
		•Increase in dust and noise from demolition and/or construction	**Yes**	
		•Construction waste	**Yes**	
		3. Acquisition of land **Not applicable**		
		•Encroachment on private property		**Not applicable**
		•Relocation of project affected persons		**Not applicable**
		•Involuntary resettlement		**Not applicable**
		•Impacts on livelihood incomes		**Not applicable**
		4. Hazardous or toxic materials		
		•Removal and disposal of toxic and/or hazardous demolition and/ or construction waste	**No**	
		•Storage of machine oils and lubricants	**Yes**	
		5. Impacts on forests and/or protected areas		

Sl.	Site Audit	Issues	Yes/No	Comments
		•Encroachment on designated forests, buffer and /or protected areas	**Yes**	**Screening is done before work as per the SCL ESMS**
		•Disturbance of locally protected animal habitat	**Yes**	**Screening is done before work as per the SCL ESMS**

PICTORIAL EVIDENCE OF HEALTH AND SAFETY COMPLIANCE OF SCL

Picture 1: The Personal Protective Equipment and safety gears provided by SCL to its Vendors and workers.

Picture 2: Workers wearing safety gears and PPE and conducting HDD operation during daytime at the roadside

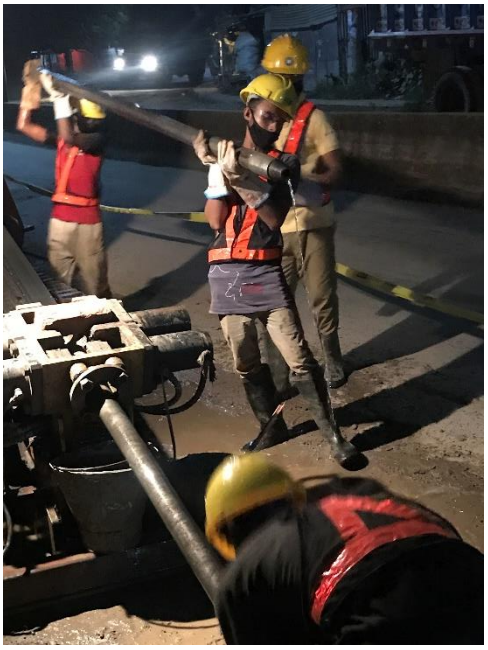
Picture 3: Road signage and precautionary notice placed during work with HDD

Picture 4: Fire drill demonstration for SCL employees and Vendors

Picture 5: Mandatory Health and Safety training conducted by SCL to technicians and field supervisors at SCL headquarters

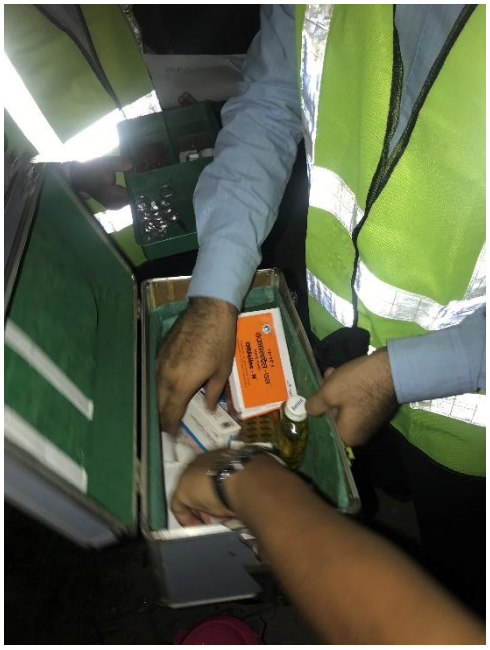
Picture 6: Health and Safety training conducted by SCL to Vendors/Contractors. Attending training session is mandatory for Vendors/Contractors if they are to undertake the assigned work of fiber optic cable laying.

Picture 7: HDD work going on during night-time at roadside. SCL ensures that the precautionary signs and tapes are visible at dark by providing adequate lighting.



Picture 8 and 9: HDD work being carried out at nighttime on the roadside. SCL ensures that proper protective gears and jackets are worn all the time during work. Adequate lighting is provided for work and the workers to be visible for others. Night-time is the preferred time for HDD work in dense traffic areas as there is less possibility for traffic disturbance.

Picture 10: Drinking water made available at the site by SCL during work hours. SCL provides jar water (vendored by a third party). Water quality of the jar water is tested periodically in ICDDRB Laboratories



Picture 11: SCL ensures that First Aid box is available at the site for emergency situations

Picture 12: HDD work requires approximately 5000 liters of water for each 200m drilling. Instead of using water from local water bodies, SCL vendors water from outside. Often local people object to using water from their ponds.

ANNEX XX

SCOPE OF SERVICES FOR ESIA (TERMS OF REFERENCE)

With a view to facilitating cheap and faster internet and ICT enabled services for the mass people, SUMMIT COMMUNICATIONS LIMITED (SCL) has approached to Investment Promotion and Financing Facility-II (IPFF-II) cell of Bangladesh Bank through Industrial and Infrastructure Development Finance Company (IIDFC) Ltd ("Arranger") and NDB Capital (Co-arranger) for syndication arrangement of term loan financing. The proposed project includes expansion of the network infrastructure, i.e. rollout of the fiber optic network in several locations across Bangladesh. As the project is to be partly financed by the IPPF-II project of Bangladesh Bank, which is funded by WB, the ESIA aims at achieving an acceptable level of compliance with applicable World Bank Group's Performance Standards under WB OP4.03 applicable to the IPFF-II project. SCL is desirous to hire a Consultant to carry out an Environmental and Social Impact Assessment (ESIA) at the preparation stage to ensure that the established/proposed infrastructure takes environmental concerns into account. The ESIA shall achieve the following objectives:

i. Identify and analyze upstream environmental issues that may affect the project and the sector.

ii. Establish the environmental and social baseline in the study area, and identify any significant environmental, social, health and safety issues (direct/indirect/induced/cumulative).

iii. Assess impacts of the project, and provide for measures to address the adverse impacts by the provision of the requisite avoidance, mitigation and compensation measures.

iv. Integrate the environmental issues in the project planning and design; and

v. Develop appropriate management plans for implementing, monitoring and reporting of the suggested environmental mitigation and enhancement measures.

The ESIA studies and reporting requirements to be undertaken shall conform to the GoB regulations and the Bank guidelines. The scope of the services to be rendered by the Consultant to SCL are detailed hereunder:

PROJECT DESCRIPTION

The consultant shall include description of the project; covering geographical location, type of development envisaged, including a description of project activities. Also include current status of the project. SCL will make available all relevant documentation related to the project, on-going project operation status etc.

REVIEW OF RELEVENT POLICIES AND LEGISLATIONS

- Review current relevant policies, legislations, EIA procedures/practices for transmission line of the Government of Bangladesh (GoB) related to the

sustainable urban sector development and explain its implication to the established/proposed project.

- Review the relevant World Bank safeguard policies and explain its implication to the proposed project.

ENVIRONMENTAL AND SOCIAL RISK SCREENING, CATEGORIZATION AND ESIA SCOPING

- Consultants shall categorize the project as per National Laws/Rules and the Bangladesh Bank Environmental and Social Risk Framework. During such categorization, consideration shall be paid to: (i) location of project with respect to environmentally sensitive areas; and (ii) volume, nature and technology of construction.
- Based on result of the environmental screening exercise, consultants shall suggest the scope of Environmental and Social Impact Assessment to be undertaken. It shall include a listing of other environment issues that do not deserve a detailed examination in the project ESIA (covering, for example, induced impacts that may be outside the purview of the project) along with a justification.

PROJECT BASELINE AND ENVIORNMENTAL AND SOCIAL SCREENING

- The baseline information of the areas will be established where fiber optic cable layout operations will be carried out. All regionally or nationally recognized environmental resources and features within the project's influence area shall be clearly identified, and studied in relation to activities proposed under the project.
- The ESIA will outline the procedures of collecting baseline social and environmental information during the detail survey of the project subcomponents and how the baseline information would be presented. The information will mainly be on human settlement, land use, livelihoods and crops, physical, biological and socio-cultural environment obtained through primary survey as well as secondary information at representative and sensitive locations. A sample baseline survey report will be presented in the Annex based on field visit at a randomly selected location.
- The baseline information should also include provision for alternate analysis (alternate routes of fiber optic lines, alternate technology), climate and disaster risk screening and GHG assessment.

ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION MEASURES

- In accordance baseline data, the Consultant will identify the stages or elements of the various activities of the sub-projects those are sensitive on the environmental and social parameters, assess overall environment impact of the project – level of significance, extent irreversible vs. reversible etc., assess the social impacts of the projects, on among others- land use (land acquisitions if required), business income/livelihoods, displacement (physical, economical) of people, gender impacts, impacts on vulnerable groups, loss of community infrastructure, Environmental impact (air pollution, noise

pollution, water resources and water pollution, soil pollution), etc., assess whether the project will create additional liability i.e., the current environmental and social condition will be improved or worsened as a result of the established/proposed investments. A sample environmental and social impact assessment checklist will be provided in the Annex based on the baseline survey report at a randomly selected location.

- The consultant shall conduct a preliminary analysis of the nature, scale and magnitude of the impacts that the project is likely to cause on the environment, and classify the same using established methods. For the negative impacts identified, alternative mitigation/management options shall be examined, and the most appropriate strategy/technique should be suggested. The preliminary assessment should clearly identify aspects where the consultants shall also analyze indirect and cumulative impacts during all phases and activities of the project as well as no-project scenario. For the positive measures identified, alternative and preferred enhancement measures shall be proposed.
- The consultant shall identify feasible and cost-effective mitigation/compensation measures for each impact predicted to reduce potentially significant adverse environmental and social impacts to acceptable levels. The consultant shall specify relevant occupational health and safety directives associated with fiber optic cable installation.
- The consultant shall also specify monitoring requirements and cost of monitoring.

ENVIRONMENTAL SOCIAL MANAGEMENT SYSTEM, PROCEDURES

- Evaluate the institutional and staff capacity of SCL and carryout training needs assessment for environmental and social management.
- Provide guidelines for required staffing, resources and training for SCL's environmental and social staff.
- Describe the steps to be followed to ensure environmental and social considerations are properly addressed in final civil engineering design and estimation.

ENVIRONMENTAL AND SOCIAL ACTION PLAN

The consultant will analyze the gaps in the existing Environmental and Social Management System of SCL with respect to the eight World Bank Group Performance Standard Requirements pertaining to OP 4.03 and provide recommendations of closing the gap. A time-bound Environmental and Social Action/ Management Plan (including EHS, Community EHS, Fire safety, Traffic Safety, Emergency Response and Preparedness, Monitoring) will be prepared for endorsement by SCL.

STAKEHOLDER CONSULTATION AND DISCLOSURE

- Consultation with the stakeholders shall be used to improve the plan and design of the project rather than merely having project information dissemination sessions. The consultants shall carry out consultations with

Experts, concerned Government Agencies and other stakeholders to: (a) collect baseline information; (b) obtain a better understanding of the potential impacts; (c) appreciate the perspectives/concerns of the stakeholders; and (d) secure their active involvement during subsequent stages of the project.

- Consultations shall be preceded by a systematic stakeholder analysis, which would: (a) identify the individual or stakeholder groups relevant to the project and to environmental issues; (b) include expert opinion and inputs; (c) determine the nature and scope of consultation with each type of stakeholders; and (d) determine the tools to be used in contacting and consulting each type of stakeholder group. A systematic stakeholder engagement framework will be prepared for subsequent stages of project preparation as well as implementation and operation, as required.
- The consultants shall prepare a non-technical ESA summary report for public disclosure and will provide support to the project sponsor in meeting the disclosure requirements, which at the minimum shall meet the World Bank's policy on Public Disclosure.

NATIONAL LEVEL STAKEHOLDER DISCUSSION

Summit Communications Limited (SComm) has arranged a National Level Stakeholder Discussion Session on Environmental and Social Impact of optical fiber cable deployment on Tuesday, April 20, 2021 at 11:00 AM through online platform. The Schedule of meeting along with meeting link was published in in the website of the Company (http://www.summitcommunications.net/scl_news) inviting everyone to attend the meeting. Also the Company sent cordial invitation to mostly related stakeholders such as BTRC, RHD, City Corporations, Mobile Operators, ISPs and ESIA Consultant.

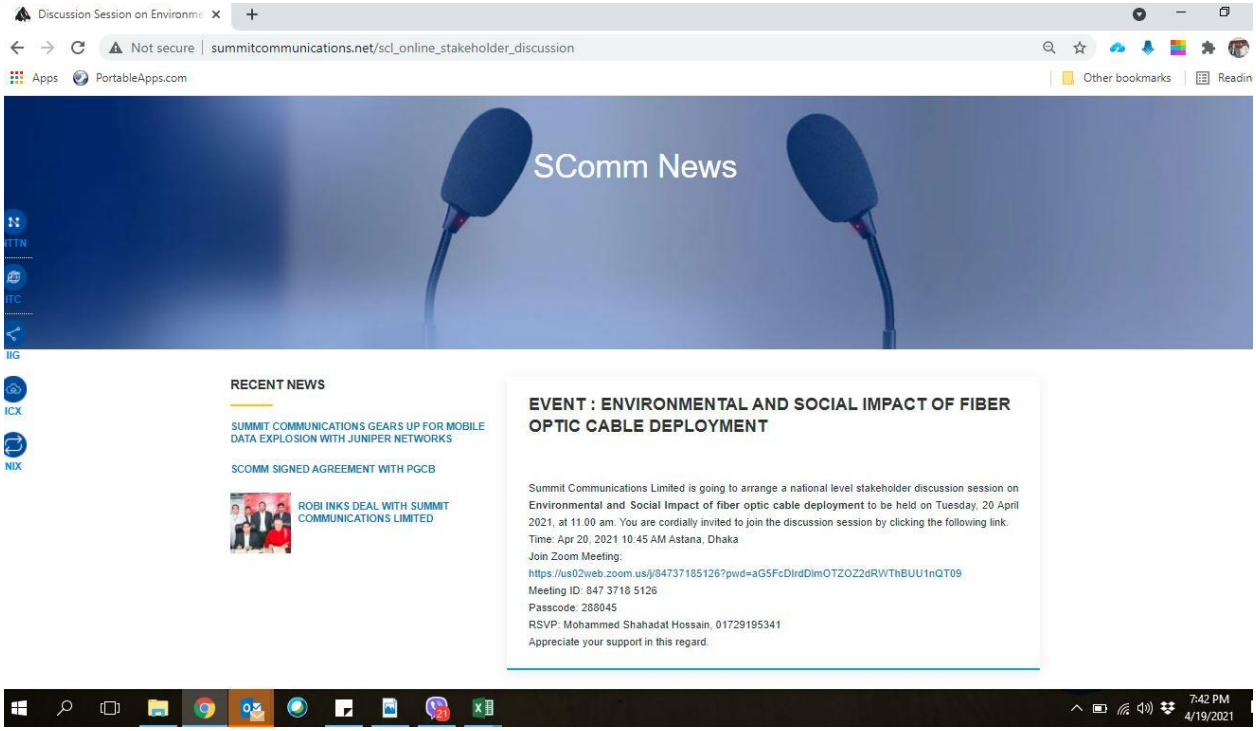


Figure: the event of the national stakeholder discussion (online zoom platform) was announced in the SCL website

Among others, the following major participants attended the meeting:

Sl no.	Name	Designation	Institution
1	Mr. Brig. Gen. Ehsanul Kabir	Director General	Bangladesh Telecommunication Regulatory Commission (BTRC)
2	Ms. Mahreen Ahsan	Deputy Director	BTRC
3	Mr. Shiblee Imteaz	Sr. AD	BTRC
4	Ms. Mst. Mahfoza Akter	Executive Engineer	Roads & Highway Department

5	Mr. Prem Dhan Rudra Pal	Executive Engineer	Dhaka South City Corporation
6	Mr. Md. Ashraf	Asst. Engineer	Dhaka North City Corporation
7	Dr. Tanvir Ahmed	Environmental Specialist	Bangladesh University of Engineering & Technology
8	Mr. Ariful Islam	Specialist	Robi Axiata Limited, Telecom Operator
9	Mr. Saidul Islam	Manager	One Sky Limited, Internet Service Provider
10	Mr. Tahinur Islam	Sr. Manager	Amber IT, Internet Service Provider
11	Mr. Neyamul Bashar	Asst. Manager	Digicon Tel Ltd., International Gateway Service Provider

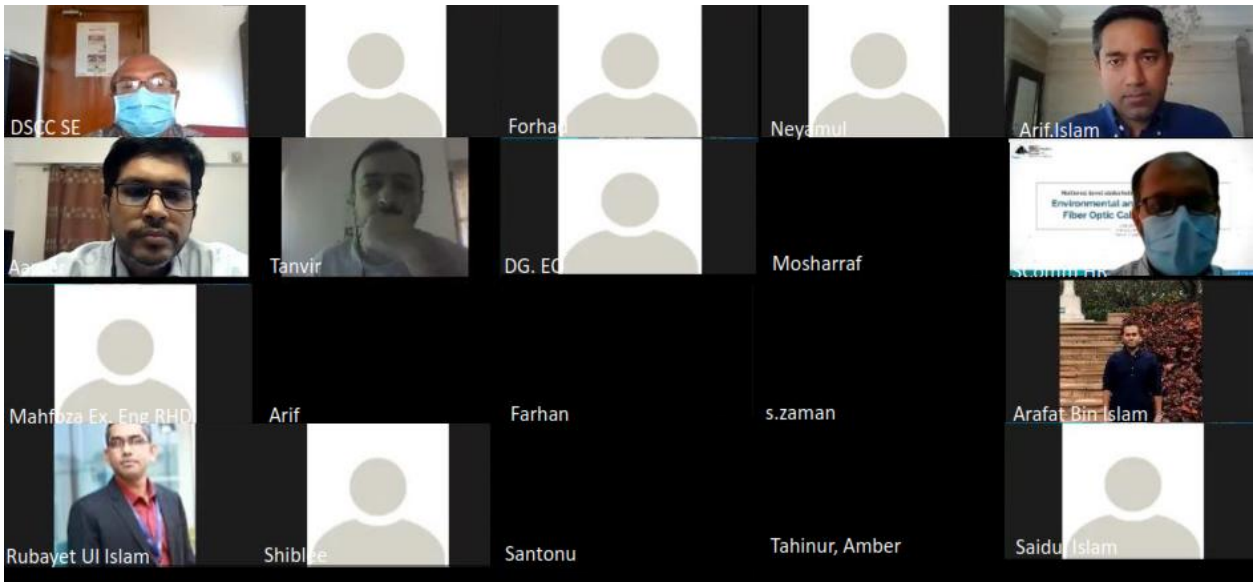


Figure: A screenshot of the online stakeholder discussion meeting

At the beginning of the meeting, Mr. Md. Forhad Hossain FCA, Chief Financial Officer of the Company introduced the participants present in the meeting and described the objective of the discussion session with the stakeholders. He mentioned that the session has been arranged with the stakeholders to discuss the impact of optical fiber deployment on Environment and Society as a whole and to seek their valuable suggestions, advices and feedback so that further improvements can made.

Then he invited Mr. Md. Arif Al Islam, Managing Director & CEO of the Company to deliver his welcome speech. Managing Director & CEO expressed his thanks and sincere gratitude to all the participants for attending the meeting amid national crisis of COVID-19. Describing the background of National Telecommunication Transmission Network (NTTN) licensing guidelines and challenges in early 2010, he informed that if all the telecom companies and Internet Service Providers (ISP)s would have built their own fiber optic network, it would lead to a major wastage of national resources due to duplication of investment. This would also lead to worsen visual aspect of urban areas by creating spider web of optical fiber cables. Expressing thanks to the Government of Bangladesh (GoB) to materialize the vision "Digital Bangladesh" through a common platform of ICT infrastructure where all the operators will ride on a single network and optimization of national resources will be ensured. Understanding the Environmental and Social aspect of the NTTN

operations, SComm has been using Horizontal Directional Drilling (HDD) method, being the most efficient, advanced and eco-friendly technology for deployment of optical fiber cable, from the beginning to develop a world class and most stable network. Besides the Company has taken initiative to train its staffs, vendors' staff and engages consultant for establishing environment, health and safety management related guidelines, action plans as per applicable laws, rules, regulations and practices. With pleasure he informed that till date SComm has not experienced any major incidents related to environment, health & safety. He also affirmed SComm's intention to seek advice, support, guidance and feedback from all stakeholders and concluded his speech with thanks to all participants.

After the welcome speech of Mr. Arif Al Islam, Managing Director and CEO of SComm, Brig. Gen. Ehsanul Kabir, DG, BTRC highly appreciated SComm management for arranging such a unique and very important discussion session. He told these sort of session provides a clear concept and visible information to all the stakeholders including the regulators like BTRC.

Afterwards Mr. Shahadat Hossain ACCA, Sr. Manager of SComm shared a detailed presentation on the activities carried out during optical fiber cable deployment which includes the following:

- Detailed survey for selection of route direction and collection of infrastructural blueprints from relevant authorities and conduct Environmental and Social Impact screening.
- Issuing notification to other utility service provider before commencement of fiber deployment.
- Obtaining permission from relevant authorities e.g. City Corporation, RHD.
- Mobilizing required equipment and materials at the site.
- Taking all the precautions for potential environmental and social risk management identified on survey.
- HDD operation and Hand Hole construction and Fiber installation.
- Restoration of excavated materials of site

Also he highlighted the activities which are considered and carried out for due diligence before and during fiber deployment:

- Assessment and management of environmental and Social Risk and impacts.
- Labor and working condition.
- Resource efficiency and Pollution prevention.
- Community health, safety and security.
- Land acquisition and involuntary resettlement.
- Biodiversity conservation and sustainable management of living natural resources.
- Impact on Indigenous people.
- Impact on Cultural heritage.

While describing the current and upcoming fiber optic expansion of SComm, he informed the participants about deployment of 1,184 KM (approx.) underground network and 9,589 KM overhead network in different location across the country. Also the company is focusing on catering the upcoming demand for 5G mobile service with eco-friendly HDD method and state-of-art technologies. He further mentioned that the above 8 performance standards of World Bank Group are being complied by SComm which covers the requirements of Department of Environment, GoB as well

as World Bank and other local and international financial institutions. After illustrating major project activities including permission from relevant authorities and precautions taken to avoid any unwanted hazards of fiber optic cable deployment and maintenance he concluded the presentation with thanks to all.

Moreover, a comprehensive presentation on how SComm is addressing the environmental and social impact issues in its fiber optic cable deployment and operational activities was given by the consultant of SComm. First of all he informed the participants that during construction phase SComm should comply with some regulatory requirements. He also informed that SComm has obtained clearance from Department of Environment, GoB and gone through the process and obtained the certifications with some terms and conditions to be complied with.

Later on he briefly mentioned major impacts of 8 nos. performance standard and their adoption/probable mitigation measures and informed that SComm is complying with World Bank group/IFC's performance standards due to their financing in the project. Considering all performance standards an Environmental & Social Impact Assessment (ESIA) report has been prepared. It was notified to the participants that other than performance standard no. 5 all the performance standard are applicable to the project.

Based on the impact of the project it was categorized MEDIUM RISK transaction according to Bangladesh Bank's Environmental Social Policies and Procedures. He also showed the planned areas of expansion projected to be financed through IPFF II. After describing the major impacts he also mentioned objective and scope of the assessment done. Major impacts during implementation stage includes drainage congestion, noise pollution, water pollution etc.

On the other hand, social impact includes traffic congestion, health and safety, employment and commercial activities, aesthetic and visual resources, impacts on archeological and historical sites and physical and cultural resources. With a matrix of impacts he showed that all the adverse impacts are mainly short term in nature and all the positive impact are very long term for upgradation of socio-economic life.

The consultant presented a process flow diagram of SComm covering route selection to implementation and how Environmental and Social Management System (ESMS) are in operation. It also covers environmental screening and adoption of mitigation measures based on impacts and measurements, training needs and audit. He also mentioned SComm has nominated EHS focal person and there is a provision to appoint consultant whenever required. He mentioned, SComm is complying with almost all the requirements of World Bank Group's performance standards.

From his review of SComm ESMS he mentioned that there is clearly defined responsibility, documentation and record keeping practice and SComm provides adequate training which also covers vendors and contractors, manages good housekeeping practices of materials. He also described some areas of improvements and recommendations.

At the end the consultant concluded that if SComm comply with all the recommendations suggested in ESMS that will uphold the image of SComm and will also enable them to promote it in international market. Wishing good luck and prosperity of SComm he ended his presentation with thanks to all the participants.

After the presentation by the consultant, session moderator Mr. Forhad Hossain FCA opened the floor for all the participants and invited any question/suggestion/advice for the activities and proposed expansion. The following feedback and advices were raised:

1. Ms. Mst. Mahfoza Akhter, Executive Engineer, Roads and Highway Department: With expression of her thanks to SComm for arrangement of the National Level Discussion session, she mentioned that the presentation on field operational activities as well as presentation on Environmental Health and Safety was very informative and helpful to understand the environmental and social aspect of optical fiber deployment. Further she informed that SComm is maintaining a MoU with Roads and Highway Department and SComm is in compliance. From her experience of work with SComm team she informed that performance of SComm is very satisfactory. She also advised SComm team to deploy fiber considering future expansion of roads and place permission request with necessary details along with the application for smooth and faster processing of the cable deployment activities.

   In reply to her feedback Mr. Forhad Hossain FCA informed that SComm will definitely follow her guidance.

2. Mst. Mahreen Ahsan, Deputy Director, Operations & Engineering Department of BTRC: With thanks for the arrangement of the session, Ms. Mahreen wanted to know, why presentation of SComm activities does not include the description of Tower Co. activities?

   In reply to her question Mr. Md. Forhad Hossain informed that Tower operation is awarded to Summit Towers Limited which is a separate legal entity under the umbrella of Summit Communications Limited. Hence it is not included in this presentation.

There being no other questions from the participants, Mr. Forhad Hossain FCA, CFO of Summit Communications Limited concluded the discussion session with thanks and gratitude to all the participants.

KEY INFORMANT INTERVIEWS

Public consultations in the form of Key Informant Interviews (KIIs) were carried out for documenting the opinions and concerns of stakeholders regarding the proposed project, and also for assessment of social and environmental impacts of project activities during construction or operation phases of this project. KIIs were carried out among several Internet Service Providers, government officials, members of the local government, roads and highways department whose comments highlighted several issues involving maintenance operations and long-term sustainability of the project. Most participants expressed their opinion regarding the proposed project, their involvement, suggestion etc based on similar type of project experience by them. Summary of these interviews is given below:

ICT DIVISION, MINISTRY OF POSTS TELECOMMUNICATIONS AND INFORMATION TECHNOLOGY

The ICT Division oversees the Info Sarkar Phase-III project which works with the NTTNs including SCL for nationwide fiber optic cable installation. The following person from ICT division was consulted over telephone:

Dr. Bikarna Kumar Ghosh
Project Director & Additional Secretary
Development of National ICT Infra-Network for Bangladesh Government Phase-III (Info Sarker Phase-3), Bangladesh Computer Council, ICT Tower, E-14/Ex Agargaon, Sher-e-Bangla Nagar, Dhaka-1207
Cell: 01716054317

The main issues discussed regarding the implementation of NTTN by SCL are as follows:

- Government of Bangladesh aims to connect all union parishads by 2030 with broadband internet and the effective laying out of fiber optic lines by NTTNs are vital towards achievement of this goal.

- Currently there are some implementation problems during laying of fiber optic cable by NTTNs (manpower, equipment mobilization in a timely manner) which has caused delays. SCL is not an exception to it. All should work towards achieving their respective goals in an efficient manner.

- Now almost 3800 unions have broadband connection and each union parishad has digital centres. Almost 10 lakh young people are directly or indirectly generating income through outsourcing. This number should be expanded and will only be possible if we achieve universal broadband coverage. There are some scattered internet services in the villages but generally they are not high-speed. Without high-speed internet at the remote level, the ICT industry in Bangladesh will not flourish to its desired level.

- There are almost 50 different organizations involved in the process of fiber optic cable installation. These include organizations for permitting and regulation (local government bodies, Roads and Highways Department, Local Government Engineering Department etc) as well as service sector (ISPs). Sometimes friction arises during implementation when the co-ordination between implementing agency (e.g. SCL) and permitting agencies are weak. This often causes unnecessary delays. The other organizations also need to be sensitized about the nature of works involved and the importance of the project.

- The cost of data at the village level is still very high compared to urban areas. This is because the transmission charge is high. The info Sarkar project aims to connect all union parishads with the upazilas by broadband internet. This will help in fixing a price, reducing the cost of data at the remote levels and improve service delivery. The expansion project of SCL is an important step in achieving this goal.

ROADS AND HIGHWAYS DEPARTMENT (RHD)

RHD is an important stakeholder in the implementation of the network expansion project by SCL because the fiber optic backbone uses the RHD land for underground laying if the line is along a national highway. In this case, permission has to be sought from RHD before the work commences. The following person of RHD was consulted:

Md. Amir Hossain
Sub-Assistant Engineer, Madaripur RHD,
Mobile No. 01711-107650

The main issues discussed regarding the implementation of NTTN by SCL are as follows:

- RHD grants permissions to install optical fiber cable along highways under certain conditions following due process in the stipulated time (usually 30 days from commencement of work)
- SCL should install fiber optic cable as per approved layout and drawing
- SCL should take precaution that the existing road structure is not damaged
- SCL should commence work in presence of RHD officials and should inform RHD after finishing the work for inspection.
- HDD is the preferred method for laying fiber optic cables as it causes less damage to the road surface.

INTERNET SERVICE PROVIDERS (ISP)

Representatives from three Internet Service providers were consulted

(1) Mr. Jakaria Chowdhury,
Manager, Innovative Online Limited (IOL),
Navana Johura Square (B12),
28 Kazi Nazrul Islam Avenue,
Banglamotor, Dhaka 1000, Bangladesh,

(2) Mr. Mainul Islam Anuz,
Senior Manager, BracNet Limited,
Navana Yusuf Infinity,
16 Mohakhali Commercial Area, Dhaka, Bangladesh, and

(3) Mr. Mijanur Rahman Mintu,
Assistant Vice-President, MetroNet-BD Limited,
Ahmed Tower (10th Floor),
Banani C/A, Dhaka, Bangladesh.

(a) (b)

(c) (d)

Figure: Key informant interview (KII) sessions:
(a) KII with Mr. Jakaria Chowdhury, Manager, Innovative Online Ltd,
(b) KII with Mr. Mainul Islam Anuz, Senior Manager, BracNet Ltd,
(c) & (d) Kii with Mr. Mijanur Rahman Mintu, Assistant Vice-President, MetroNet-BD Ltd.

The following issues came up during discussions:

- Informed about the expansion of SCL expansion of fiber optic cable lines.
- Overhead cable jam could be reduced by installation of underground cable.
- No visible negative impact observed by previous underground cable installation activities.
- Stealing of fiber optic cable has now reduced due to underground line installations.
- There are no central maps on underground utility lines or optic fiber lines by other authorities available. Therefore, during construction, it should be ensured that not to cut or damage to underground fiber optic lines and other utility lines installed by other authorities.
- Ensure low cost pricing of data.
- Government permission can delay the work; require prompt action for quick remedy on any issues.
- Local community will face temporary environmental effects; it requires quick work completion for minimizing the impact.

- Most multistoried buildings are not designed to integrate fiber optic line
- NTTN will help to reduce cost and maximize resource utilization.
- Internet service cost will be reduced that ultimately will benefit the customers.
- Dhaka office controls all activity of SCL, decentralization is required on their part for quick service.
- Quick response require from SCL side if problem arises in fiber line.
- Manpower and service should be professional for business expansion.

Environmental and Social Screening Checklist

The purpose of this checklist is to identify potential environment and social issues related to project development, construction and operation. This is a generalized checklist (non-exhaustive) format for infrastructure projects. The user/ project proponent may complete the format, which will be reviewed by environmental and social professionals retained by the financial institution to help determine project eligibility for financing and initial E&S risk rating.

(A) Project Background

	Name of Proposed Project	Nationwide Fiber Optic Cable Installation Project
	Location	Nationwide optical fiber network
	Project objective	To deploy the fiber optic backbone throughout the country for the development of Information and Communications Technology (ICT) infrastructure sector under the Nation-wide Telecommunication Transmission Network (NTTN) license.
	Capacity or size of the Project	• Nationwide optical fiber cable has been installed 47,000+ KM and is to be installed 10,771km. • Project Cost: BDT 14,583 Million as of June,2021 including IPFF II finance
	Proposed date of commencement of work	Not applicable as this is an ongoing concern
	Proposed construction period	Not applicable as network deployment and capacity expansion is a continuous process. However implementation schedule proposed for IPFF II finance coverage involves expansion activities during July,2019-Jun,2021
	Sector	Telecommunication Infrastructure Service
	Executing Agency	Summit Communications Limited

(B) Activities on E&S List of Excluded Activities?

Sl. No.	Screening Questions	Yes	No	Comments (In the case select "yes", provide detailed information)
1.	Is there a possibility of activities under the project that constitute excluded activities?		√	**None of the excluded activities will take place under the different components of the project**
2.	If yes, can they be eliminated through adequate application of the provisions of the World Bank Performance Standards?			**N/A as previous answer is No**

(C) International Waterways and Disputed Territories

Sl. No.	Screening Questions	Yes	No	Comments (In the case select "yes", provide detailed information).
1.	Is there a possibility of activities supported by the project that have impacts on international waterways?		√	**Project will not be located on or use water of international rivers**
2.	Is the project site located in disputed territory?		√	**No installations will be made on disputed land**

(D) Environmental and Social Screening of Sub-Project

["?" denotes 'not currently known']

Sl. No.	Screening Questions	Yes	No	Comments (In the case select "yes", provide detailed information)
	Potential Environmental Impacts			
3.	Will the renovation work disturb othercommercial/community/residential activities?	√		**There could be temporary impacts during construction. Will be addressed through an EMP.**
4.	Project's siting: Is the project site adjacent to or within any of the following sensitive receptors?			
	i. Cultural heritage site	√		**The fiber optic cables may potentially run through areas having cultural heritage (mosques, shrines, graves etc.). Access to these areas may be temporarily affected. Excavation of soil may potentially expose buried physical cultural resources.**
	ii.Natural habitats and/ or legally protected areas (wetlands, forests, estuary, buffer zones, nature reserves); if yes, is there possibility of a critical habitat present?	√		**Fiber optic cable laying operation may be carried out in areas having ecological and biological diversity and natural habitats may be encountered.** ***Critical habitat encounter is unlikely.***

	iii.Fragmentation of habitat of flora and fauna?		√	**There is no probability of fragmentation of flora and fauna**
	iv.Are rivers and reservoirs present in direct proximity to project site?	√		**Water pollution may result from discharge of water containing eroded soil (high suspended solids), spills and leaks of oils into nearby water bodies (e.g., drain, pond, canal, drain and river). The presence and existing use of water bodies surrounding the sub-project site would determine the level of impact.**
	v.Are canals and irrigation systems present in direct proximity to project site?	√		**Water pollution may result from discharge of water containing eroded soil (high suspended solids), spills and leaks of oils into nearby water bodies (e.g., drain, pond, canal, drain and river). The presence and existing use of water bodies surrounding the sub-project site would determine the level of impact.**
	vi. Is the proposed site located on agricultural land?		√	**Fiber optic cable will be laid along the right of way of existing road structures and not through agricultural land.**
5.	Will the project potentially cause:			
	i. Encroachment on historical/cultural areas		√	**Fiber optic cable will be laid underground. There is no encroachment.**
	ii. Impacts on natural resources that constitute livelihoods of community (e.g. water resources, fishing or hunting grounds)?		√	**Will be avoided.**
	iii.Disfiguration of landscape?		√	**Fiber optic cable will be laid underground. There is no permanent disfiguration of landscape.**

	iv. Change of surface water quality or water flows?	√		**Excavation will generate slurries and cause temporary increase in turbidity in surface water bodies. No probability of change in water flows.**
	v. Increase in waste generation?	√		**During construction, construction debris may be generated.**
	• Increase water turbidity due to run- off and erosion?	√		**Construction slurry may increase turbidity of water.**
	• Waste water from camping sites to be directly discharged to the surface water resources or not?		√	**There will be no camping site**
	• Construction waste directly discharged to the surface water?	√		**There may be risk of such activity. Will be addressed through an EMP.**
	Potential Community and Occupational Health and Safety Impacts			
6.	Will the project create major noise/vibration?	√		**HDD equipment may generate noise**
7.	Will it create dust problem around the sites?	√		**Construction activities (earth excavation, concreting, materials handling, vehicle movement) may generate dust**
8.	Will it temporarily stop the water supply and sanitation system?		√	**Project will use minimal water for construction. There is no requirement to stop water supply and sanitation system**
9.	Will any refrigeration/air conditioning units be removed/ disposed?		√	**There will be no air conditioning units installed.**
10	Will any liquid waste, or an item containing liquids (including oils), need to be transported off-site for reuse, recycle or disposal?		√	**No liquid waste will be generated from the project during operation which would require off-site treatment.**
11	Are explosive and hazardous chemicals used within the project?		√	**Required fuels are collected from nearest fuel pump No on site storages is used.**
12	Will equipment containing polychlorinated biphenyls (PCB's) be removed (i.e. transformers, capacitors, hydraulic and heat transfer systems, etc.)?		√	**Transformers, capacitors, hydraulic and heat transfer systems will not be used in the project**

13	In the past, there was any accident incurred due to landmines or explosive materials remaining from the war?		√	**There is no past experience under this company.**
14	Will project's construction cause disturbance to the transportation in the project's site?	√		**HDD activities will cause movement of vehicles to the worksite.**
15	Will building materials containing asbestos be removed/disposed?		√	**Project activities does not include demolition of existing or any facilities**
16	Will any building materials be removed/disposed that are coated with lead-based paint?		√	**Project activities does not include demolition of existing or any facilities**
17	Will any building materials be removed/disposed that contain lead, silver or chrome?		√	**Project activities does not include demolition of existing or any facilities**
18	Will batteries be removed/disposed (lead-acid or nickel-cadmium batteries from emergency lights and other battery-powered or battery-backup items?		√	**Batteries are not required**
19	Will mercury-containing devices (switches, gauges, thermostats) be removed/ disposed?		√	**Project activities does not include demolition of existing or any facilities**
20	Will an emergency generator set or other aboveground storage tank (AST) be installed or removed?		√	**No generator set will be installed at the site permanently. HDD will use generators only to run the equipment**
21	Will the workers be provided protective equipment, devices and clothing and be ensured those are used?	√		**Will be addressed in the EMP**
22	Will there be substantial migrant labour required? If so, what are the potential impacts on local communities?		√	**Some technical workforce will be required but not significant. The duration of a work at a particular site is small and there is minimal scope of interaction with local communities. There are no foreign workers.**
23	Is there any risk of disease dissemination from construction workers to the local peoples (and vice versa)?		√	**The accommodation of external workforce will be arranged by SCL. The duration of a work at a particular site is small**

				and there is minimal scope of interaction with local communities. There are no foreign workers.
24	Is there any potential for conflict between construction workers and local peoples (and vice versa)?		√	**The duration of a work at a particular site is small and there is minimal scope of interaction with local communities.**
	Potential Social Impacts			
25	Permanent land acquisition		√	**There is no permanent land acquisition.**
26	Temporary land acquisition		√	**No land acquisition or lease.**
27	Impacts on livelihoods/ economic displacement?		√	**There is no permanent land acquisition. Hence no economic displacement.**
28	Is there any household need to be relocated?		√	**There is no permanent land acquisition. Hence no relocation required.**
29	Would the resettlement site is environmentally and/or culturally sensitive?		√	**No resettlement**
30	Project's construction will cause any damage to the existing local roads system?	√		**HDD operation may cause temporary traffic congestion locally. Mitigation measures will be put in through EMP.**
31	Will soil excavation during project's construction cause soil erosion?	√		**It may expose land to erosion. Vegetation establishment will be ensured through EMP implementation**
32	Will project need to open new access roads?		√	**Existing roads will be used for mobilization of equipment**
33	Will project cause impact on air transportation?		√	**No such impact is envisaged as it does not include construction of tall structures.**

(E) List of Environmentally and Socially Sensitive Activities

Sl. No.	**Screening Questions**	**Yes**	**No**	**Comments** (In the case select "yes", provide detailed information)
	Potential Environmental Impacts			

1.	Activities involving large-scale physical and/or economic displacement resulting from land-related transactions defined in World Bank PS 5 (paragraph 5)		√	**There is no permanent land acquisition. So there is no physical and/or economic displacement**
2.	Activities in or near critical habitats and/ or legally protected areas?		√	***Critical habitat encounter is unlikely.***
3.	Activities involving adverse impact on tribal people and/or small ethnic communities?		√	**The fiber optic cables may potentially run through areas having population of indigenous people but there will be no adverse impacts.** **Project will not cause relocation of any people including the tribal people and ethnic communities.**
4.	Activities involving significant adverse impact on critical cultural heritage areas?		√	**Activities include small scale construction which is temporary in nature. So significant impact is not envisaged**

Environmental and Social Impact Assessment

Summit Communications Limited
Nationwide Fiber Optic Network Project

Volume IV: Limited Environmental Assessment

1) Madaripur (Gatakchor) to Angaria Bazar 23.8 km UG Fiber optic Line in Madaripur and Shariatpur

2) Benapole to Jamtola 17 km UG Fiber optic Line in Sharsha Upazila

Participatory Advanced Research and Development Foundation

May 2021

Limited Environmental Assessment

Summit Communications Limited

Madaripur (Gatakchor) to Angaria Bazar 23.8 km Underground Fiber optic Line in Madaripur and Shariatpur District

GENERAL DESCRIPTION OF THE SUB-PROJECT AND BASELINE INFORMATION

Subproject Name and Location: Madaripur (Gatakchor) to Angaria Bazar 23.8 km Underground Fiber optic Line in Madaripur and Shariatpur District

Name of the Upazilla/Area: Madaripur sadar Upazila & Shariatpur sadar Upazila & Madaripur to Shariatpur road

(1) Work Package Particulars :

(a) Type of Link **:** ■ Underground □ Overhead □ Both

(b) Total Length (km) **:** _____23.8_____Underground _____NA_____Overhead

(c) Start/ End Point **:** Ghotok char Bazar, Maderipur / Angaria Bazar Shariatpur

(d) Number of Control Stations to be Constructed **:** N/A

(e) Number of Handholes to be Constructed **:** 30

(f) Mode of Operation for Underground **:**

□ Cut and Fill ■ HDD □Both

(2) Local SCL office/ PGCB Substation **:** SCL Shariatpur Office

(3) Layout of proposed Fiber optic Line **:**
(attach layout map)

(4) Does the work package involve :

(a) Railway crossing	□ Yes	■ No
(b) Road crossing	■ Yes	□ No
(c) Stream/River crossing	□ Yes	■ No
(d) Bridge Crossing	■ Yes	□ No

(5) Land ownership and permissions:

(a) Will land acquisition be used? □ Yes ■ No

1. Names of the govt. agencies owning the land: Roads and Highways Department (Md. Amir Hossain, Sub-Assistant Engineer, Madaripur RHD, Mobile No. 01711-107650) , Madaripur Pouroshova (Md. Shaikh Abul Kalam, Executive Engineer, Madaripur Pouroshova, Mobile No. 01716-078853)

(b) Area of land to be used (acre) :

[Permission copy from Roads and Highways Department is attached]

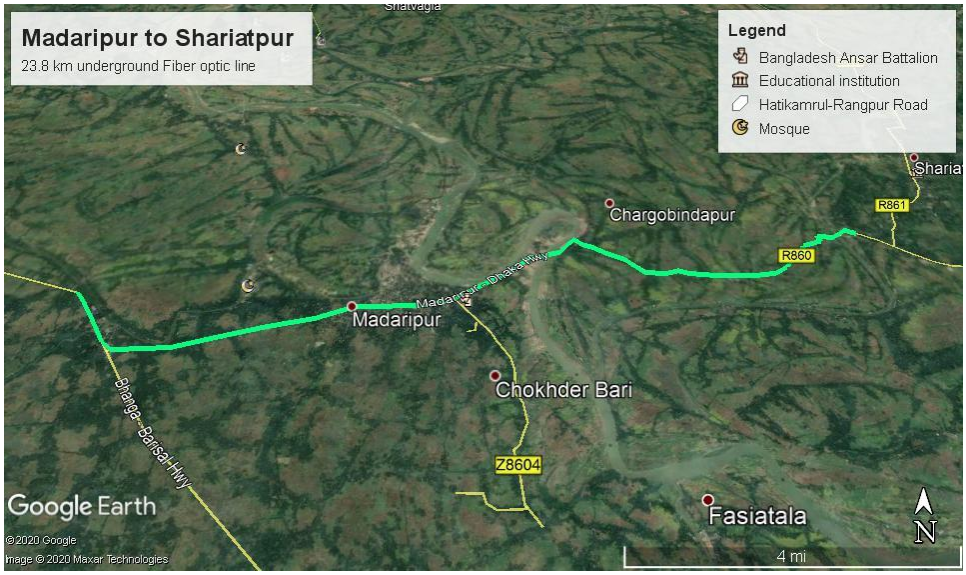


Figure 1: Route layout of Madaripur to Shariatpur 23.8km fiber optic line

(6) Baseline Environment :

- General Characteristics of route of optical fiber link : Along district to district road. The fiber optic cable includes Pouroshova utility area 5km, BL backbone 6km at Shariatpur RHD area.
- Type of area : Rural area with moderate level of urbanization
- Brief Information on human settlement: both multistoried buildings and semi pucca buildings exists near and within the upazila area. On highways it is generally paddy field. Along the route there are 4 schools, 5 Madrasas and 7 mosques.

(7) Summary of public consultation (if any) during survey for route selection:

The following individuals and organizations have been consulted with and approached to obtain permission:

- Madaripur Pourashava (their permission, demand note and bank draft attached). The permission states the terms and conditions for using their land.
- Roads and Highways Department (Executive Engineer): permission to use the land attached. The permission states the terms and conditions for using their land.

(8) Changes in alignment (if any) made due to existing field conditions: N/A

(9) Schedule of implementation :

(a) Sub-project duration (months) : 1.5
(b) Tentative start date :
(c) Tentative completion date :

মাদারীপুর পৌরসভা

জেলা ঃ মাদারীপুর।
ফোন ঃ ০৬৬১-৬১৮৮৪, পিএবিএক্স: ০৬৬১-৬২৬৯৯; ফ্যাক্স ঃ ০৬৬১-৬২২৪৪
ই-মেইল ঃ madaripur_pourashava@yahoo.com
ওয়েব ঃ www.madaripurmunicipality.org

স্মারক নং-মাঃপৌঃ/প্রকৌঃ/২০১৯-২০২০/20 তারিখ ঃ ০২/০১/২০২০ খ্রীঃ।

প্রাপক ঃ সিনিয়র ম্যানেজার
কর্পোরেট এন্ড রেগুল্যাটরী এ্যাফেয়ার্স
সামিট কমিউনিকেশন লি ঃ
১৮, কাওরান বাজার, ঢাকা-১২১৫।

বিষয় ঃ মাদারীপুর পুরাতন কোর্ট মোড় হতে লঞ্চ ঘাট কমিউনিটি সেন্টার পর্যন্ত ১২৬৫ মিঃ অপটিক্যাল ফাইবার স্থাপনের অনুমতি প্রসঙ্গে।

সূত্রঃ SCL/CRA/Pourashava/Permission/20191222/01-4695, Date: 22-12-2019

উপরোক্ত বিষয় ও সূত্রস্থ স্মারকের প্রেক্ষিতে আপনাকে জানানো যাচ্ছে যে, আপনার আবেদনের প্রেক্ষিতে মাদারীপুর পৌরসভার মাদারীপুর পুরাতন কোর্ট মোড় হতে লঞ্চ ঘাট কমিউনিটি সেন্টার পর্যন্ত ১২৬৫ মিঃ এর ১x১ x১ মিটার সাইজের ০৯ টি স্থানে রাস্তা কাটার ক্ষতিপূরন বাবদ ৬৭,০৬৬.০০ টাকা পৌরসভার তহবিলে জমা প্রদান সাপেক্ষে নিম্নবর্ণিত শর্তাবলীতে অপটিক্যাল ফাইবার স্থাপনের অনুমতি প্রদান করা হলো।

শর্তাবলীঃ-
১। অপটিক্যাল ফাইবার ক্যাবল স্থাপনের সময় পৌর প্রকৌশলীদের উপস্থিতিতে কাজ করতে হবে।
২। অপটিক্যাল ফাইবার ক্যাবল স্থাপনের সময় রাস্তার পার্শ্বের কোন স্থাপনার ক্ষতি হলে আপনার নিজ দায়িত্বে ও ব্যয়ে সময় পৌর প্রকৌশলীদের উপস্থিতিতে তাহা মেরামত করতে হবে।

(মোঃ খালিদ হোসেন ইয়াদ)
মেয়র
মাদারীপুর পৌরসভা
মাদারীপুর।

মাদারীপুর পৌরসভা কার্যালয়

জেলা ঃ মাদারীপুর।

ফোন ঃ ০৬৬১-৬১৮৪, সিটিমেয়র ০৬৬১-৬২৬৯৯; ফ্যাক্স ঃ ০৬৬১-৬২২৪৪
ই-মেইল ঃ madaripur_pourashava@yahoo.com
ওয়েব ঃ www.madaripurmunicipal.lytid.org

স্মারক নং-মাঃপৌঃ/প্রকৌঃ/২০১৯-২০২০/২৭৮ তারিখ ঃ ০৪/০৯/২০২০ খ্রীঃ।

প্রাপকঃ সিনিয়র ম্যানেজার
কর্পোরেট এন্ড রেগুল্যাটরী এ্যাফেয়ার্স
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১৮, কাওরান বাজার, ঢাকা-১২১৫

বিষয়ঃ মাদারীপুর পুরাতন কোর্ট মোড় হতে লঞ্চঘাট কমিউনিটি সেন্টার পর্যন্ত ১২৬৫মিঃ অপটিক্যাল ফাইবার স্থাপনের অনুমতি প্রসংগে ।

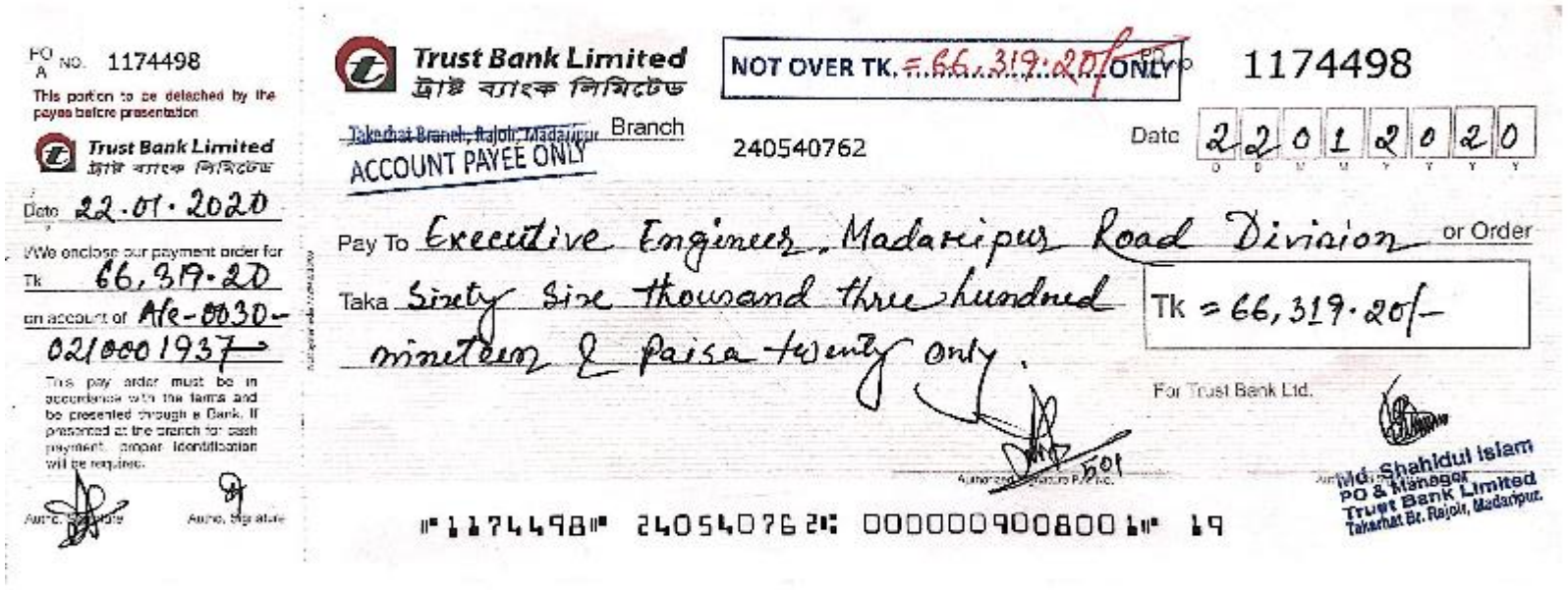
সূত্রঃ SCL/CRA/Pourashava/Permission/202003/03, date: 02/03/2020.

উপরোক্ত বিষয় ও সূত্রস্থ স্মারকের প্রেক্ষিতে আপনাকে জানানো যাচ্ছে যে, আপনার আবেদনের প্রেক্ষিতে মাদারীপুর পৌরসভার মাদারীপুর পুরাতন কোর্ট মোড় হতে লঞ্চঘাট কমিউনিটি সেন্টার পর্যন্ত ১২৬৫মিঃ এর ১X১X১ মিটার সাইজের ইতিপূর্বে ১৭টি স্থানে রাস্তা কাটার অনুমতি প্রদান করা হয় কিন্তু বাস্তবে কাজ করার সময় উক্ত ১৭ টি স্থানের সাইজ ০.৫০ মিটার বড় হওয়ায় উক্ত বর্ধিত সাইজের ও পুনরায় তাহার আবেদনের প্রেক্ষিতে আরও ০৭ টি স্থানে ১.৮০মিটার সাইজের রাস্তা কাটার ক্ষতিপূরণ বাবদ ১,১৫,৬৪৯.০০০০ টাকা পৌরসভার তহবিলে জমা প্রদান সাপেক্ষে নিম্নবর্ণিত শর্তাবলীতে অপটিক্যাল ফাইবার স্থাপনের অনুমতি প্রদান করা হলো।

শর্তাবলীঃ

১। অপটিক্যাল ফাইবার ক্যাবল স্থাপনের সময় পৌর প্রকৌশলীদের উপস্থিতিতে কাজ করতে হবে।
২। অপটিক্যাল ফাইবার ক্যাবল স্থাপনের সময় রাস্তার পার্শ্বের কোন স্থাপনার ক্ষতি হলে অপনার নিজ দায়িত্বে ও ব্যয়ে সময় পৌর প্রকৌশলীদের উপস্থিতিতে তাহা মেরামত করতে হবে।

০৫-০৯-2020
মেয়র
মাদারীপুর পৌরসভা
মাদারীপুর।



PO A NO. 1174498

This portion to be detached by the payee before presentation

Trust Bank Limited
ট্রাস্ট ব্যাংক লিমিটেড

Date 22.01.2020

I/We enclose our payment order for

Tk 66,319.20

on account of A/c-0030-0210001937

This pay order must be in accordance with the terms and be presented through a Bank. If presented at the branch for cash payment, proper identification will be required.

Auth. Signature

Auth. Signature

Trust Bank Limited
ট্রাস্ট ব্যাংক লিমিটেড

NOT OVER TK. =66,319.20/= ONLY

PO 1174498

Takerhat Branch, Rajoir, Madaripur Branch

240540762

Date 22012020
D D M M Y Y Y Y

ACCOUNT PAYEE ONLY

Pay To Executive Engineer, Madaripur Road Division or Order

Taka Sixty Six thousand three hundred nineteen & paisa twenty only.

Tk = 66,319.20/=

For Trust Bank Ltd.

501

Authorised Signature

Md. Shahidul Islam
PO & Manager
Trust Bank Limited
Takerhat Br. Rajoir, Madaripur.

⑈1174498⑈ 240540762⑆ 000000900800⑈ 19

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
নির্বাহী প্রকৌশলীর কার্যালয়, সওজ
সড়ক বিভাগ, মাদারীপুর।
ফোন ও ফ্যাক্স - (০৬৬১)-৬১২৬৬
ই-মেইলঃ eemrdrhd@gmail.com

স্মারক নং- ৭-২৬/ফা/২০২(৪) তারিখঃ ২৬/০১/২০২০ খ্রিঃ

বিষয়ঃ Installation of underground Optical Fiber Cable by HDD method in favour of Summit Communications Ltd. At 100th (p) km (Ghotokchar) to 103rd (p) km (Mostofapur Intersection) of Dhaka(Jatrabari)-Mawa-Bhanga-Barisal-Patuakhali National Highway road (N-8), 1st km (Mostofapur Intersection) to 14th (p) km (Mather Bazar More) of Sheikh Hasina Highway road (R-860) & 21st km (Silarchar High School More) to 37th km (p) (Mather Bazar More) of Panchar-Shibchar-Madaripur Regional Highway Road (R-862) under Madaripur Road Division during the year 2019-2020 কাজের জন্য সড়কের কাঁচা অংশে পিট খনন করিবার অনুমতি প্রদান প্রসঙ্গে।

সূত্রঃ ১। তত্ত্বাবধায়ক প্রকৌশলী, সওজ, এম. আই. এস. এন্ড এস্টেট সার্কেল, সড়ক ভবন, তেজগাঁও, ঢাকার স্মারক নং এলআর-ঢাকা-১০৬/১৪(১)৩১৪(২০) MIS তারিখঃ ২৯/১২/২০১৬ ইং।
২। তত্ত্বাবধায়ক প্রকৌশলী, সওজ, সড়ক সার্কেল, গোপালগঞ্জ এর স্মারক নং ১৬-৩/১৪৪ তারিখঃ ২০/০১/২০২০ ইং।
৩। Summit Communications Ltd. এর স্মারক নং SCL/CRA/ RHD/ Permission/ 20191222/01-4696 তারিখঃ ২২/১২/২০১৯ ইং।

উপর্যুক্ত বিষয়ের প্রেক্ষিতে জানানো যাচ্ছে যে, অনুমোদিত প্রাক্কলিত টাকা ৬৬,৩১৯.২০ (ছেষট্টি হাজার তিনশত উনিশ পয়সা দুই শুন্য) টাকা মাত্র ট্রাস্ট ব্যাংক লিঃ, টেবুনেহাট শাখা এর পে-অর্ডার নং ১১৭৪৪৯৮ তাং ২২/০১/২০২০ খ্রিঃ এর মাধ্যমে জমা প্রদান করায় নিম্নবর্ণিত শর্ত স্বাপেক্ষে উপরোক্ত সড়ক সমূহে পিট খনন তথা HDD পদ্ধতিতে অপটিক্যাল ফাইবার ক্যাবল স্থাপন করার অনুমতি প্রদান করা হইল। শর্ত সমূহ যথাযথভাবে পালিত না হইলে কাজের অনুমতি যে কোন সময় বাতিল করা হইবে এবং জমা দেওয়া টাকা কোনরূপ যোগ যোগ ব্যতিরেকেই বাজেয়াপ্ত করা হইবে।

নিম্নলিখিত শর্তাবলী মানিয়া চলিতে বাধ্য থাকিবেনঃ

-ঃ শর্তাবলী ঃ-

০১। অপটিক্যাল ফাইবার ক্যাবলস্ লাইন স্থাপন কাজটি অবশ্যই উপ-বিভাগীয় প্রকৌশলী, সওজ, সড়ক উপ-বিভাগ, মাদারীপুর এবং উপ-সহকারী প্রকৌশলী-১, সওজ, সড়ক উপ-বিভাগ, মাদারীপুর এর উপস্থিতিতে ও নির্দেশনা মোতাবেক Drawing এর নির্দেশিত স্থানে স্থাপন করতে হবে।

০২। ভবিষ্যতে সড়ক উন্নয়ন/প্রশস্ত করণের জন্য এই অপটিক্যাল ফাইবার ক্যাবলস্ লাইন স্থানান্তর করার প্রয়োজন হলে সামিট কমিউনিকেশনস্ লিঃ নিজ খরচে ও নিজ দায়িত্বে সওজ নির্ধারীত সময়ে স্থানান্তর/অপসারন করতে হবে। এ বিষয়ে কোন খরচ বা দায়-দায়িত্ব সড়ক ও জনপথ অধিদপ্তর বহন করবে না এবং সামিট কমিউনিকেশনস লিঃ কোন ওজর আপত্তি করতে পারবে না। অন্যথায় সওজ এর নির্মাণ কাজের কারণে উক্ত অপটিক্যাল ফাইবার যেন ক্ষতিগ্রস্থ হলে তার দায়-দায়িত্ব অত্র বিভাগ বহন করবে না এবং সংশ্লিষ্ট বিষয়ে আইনগত/আদালতের মাধ্যমে কোন কার্যক্রম গ্রহণ করা যাবে না।

০৩। অনুমোদিত ড্রইং অনুসারে ক্যাবল লাইন সড়ক বিটুমিনাস সার্ফেস/ভূমির উপরিতল হতে ন্যূনতম ৩.০০ মিঃ গভীরতায় এবং Right of Way এর সড়ক বাঁধ যাতে কোন অবস্থাতেই ক্ষতিগ্রস্থ না হয় সে বিষয়ে প্রয়োজনীয় সতর্কতা অবলম্বন পূর্বক শেষ প্রান্তে অভিজ্ঞ শ্রমিক দ্বারা ২০০-৩০০ মিটার দুরত্বে পিট খনন করে HDD পদ্ধতিতে কাজ করতে হবে। HDD কাজ করার পর যথাশীঘ্র ক্যাবলস্ লাইন স্থাপন সম্পন্ন করে অত্র বিভাগকে অবহিত করতে হবে।

০৪। যদি কোন ব্রীজের দৈর্ঘ্য ৩০মিটারের অধিক হয় তাহলে ব্রীজের রেলিং এর বাইরে দিয়ে অথবা ফুটপাতের নিচ দিয়ে অথবা ব্রীজের কর্নার দিয়ে DWC duct or U-Clump ব্যবহার করে অপটিকাল ফাইবার ক্যাবলটি ব্রীজের একপ্রান্ত হতে অপরপ্রান্তে অতিক্রম করতে হবে। এক্ষেত্রে পিট/হ্যান্ড হোল স্থাপন করার প্রয়োজন হলে ব্রীজের উভয় প্রান্তের শেষ অংশে স্থাপন করতে হবে।

০৫। সড়কের পাকা অংশ, হার্ড সোল্ডার, সফট সোল্ডার বা স্লোপে কোন অবস্থাতেই অপটিক্যাল ফাইবার ক্যাবল স্থাপন করতে হবে।

০৬। বর্ণিত কাজটি সম্পাদনের সময় ৩০ (ত্রিশ) দিন অর্থাৎ ০৫/০২/২০২০ খ্রিঃ তারিখ হতে ০৫/০৩/২০২০ খ্রিঃ তারিখ পর্যন্ত।

০৭। কোন অবস্থাতেই অনুমোদিত নকশার বাহিরে কাজ করানো যাবে না।

০৮। অনুমতি গ্রহিতা বা আবেদনকারী নিজ খরচে খননকৃত অংশ তাৎক্ষনিক মেরামত করে দিবেন।

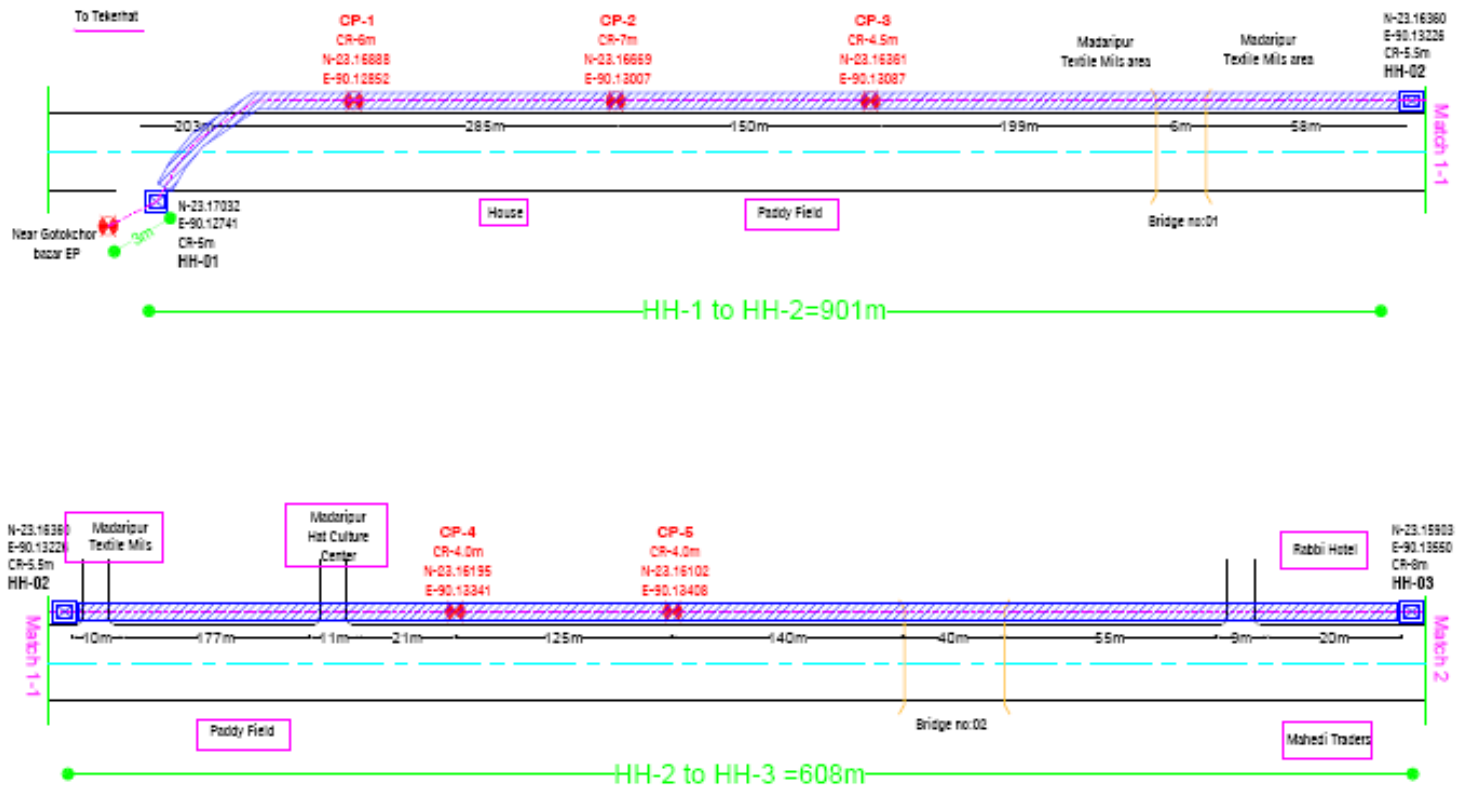
০৯। সংশ্লিষ্ট উপ-বিভাগী প্রকৌশলী ও উপ-সহাকারী প্রকৌশলীর সহতি সমন্বয়ের মাধ্যমে নকশা ও পরিমাপ এবং সরকারী শর্ত মোতাবেক তদারকি করার জন্য বলা হলো।

(মোঃ রফিকুল ইসলাম)
পরিচিতি নং ৬০১৯৫১
নির্বাহী প্রকৌশলী, সওজ
সড়ক বিভাগ, মাদারীপুর।

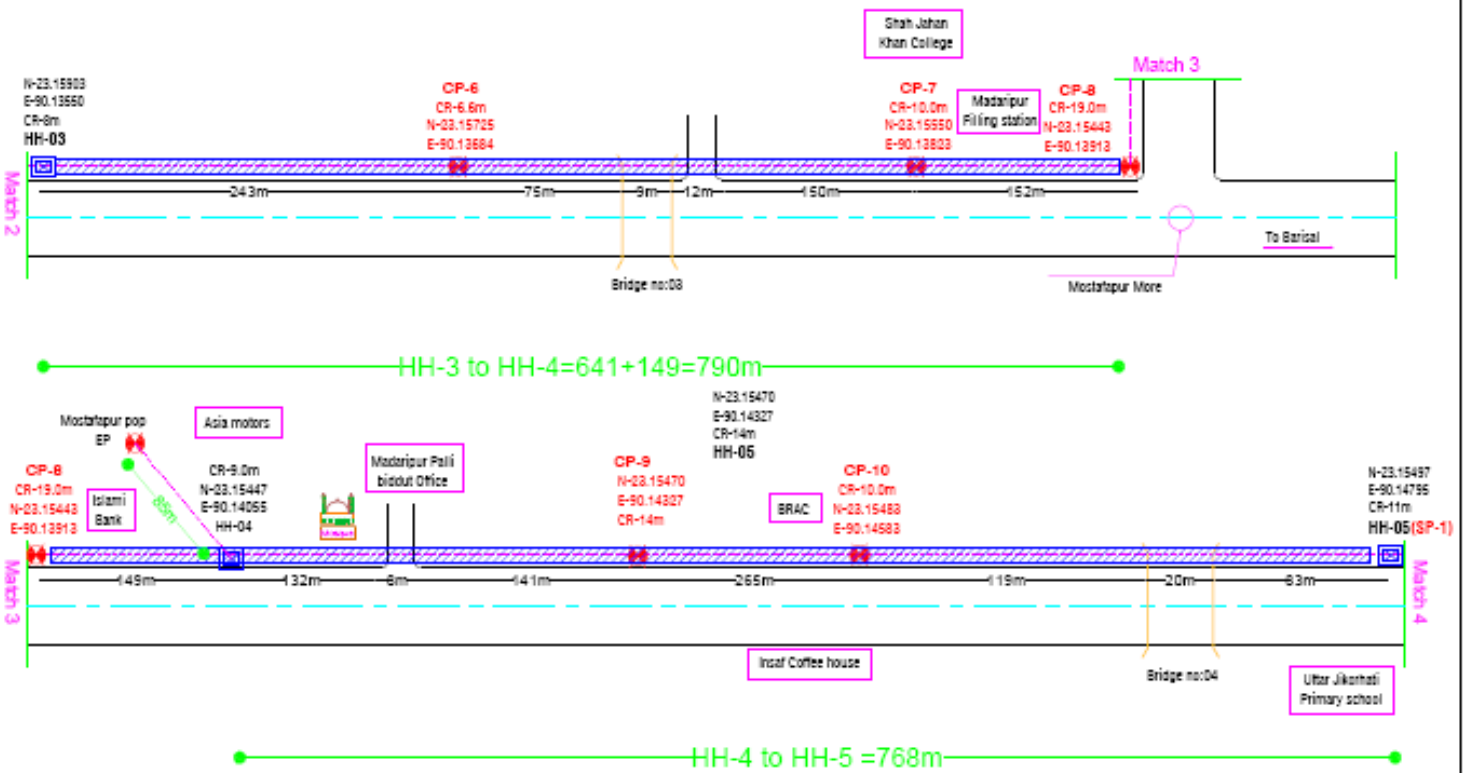
Route Name: Madaripur (Gatakchor) to Angaria Bazar EX HH

SUMMARY(AS SURVEY)

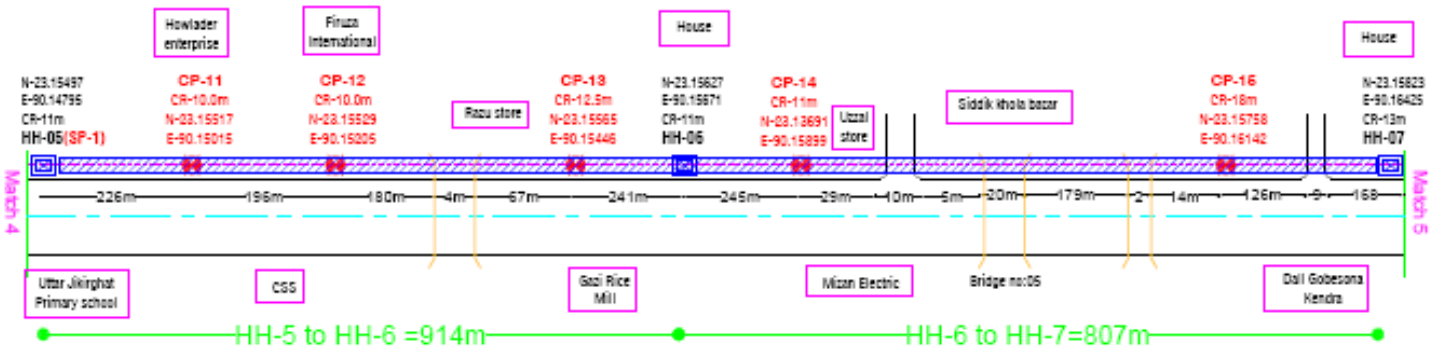
01. TOTAL LENGTH	= 23819m
02. NEW HAND HOLE	= 30 Nos
03. EX. HAND HOLE	= 01 Nos
04. TOTAL COUPLER POINT	= 79 Nos
05. TOTAL SPLICING POINT	= 07 Nos
06.TOTAL EP	= 06 Nos

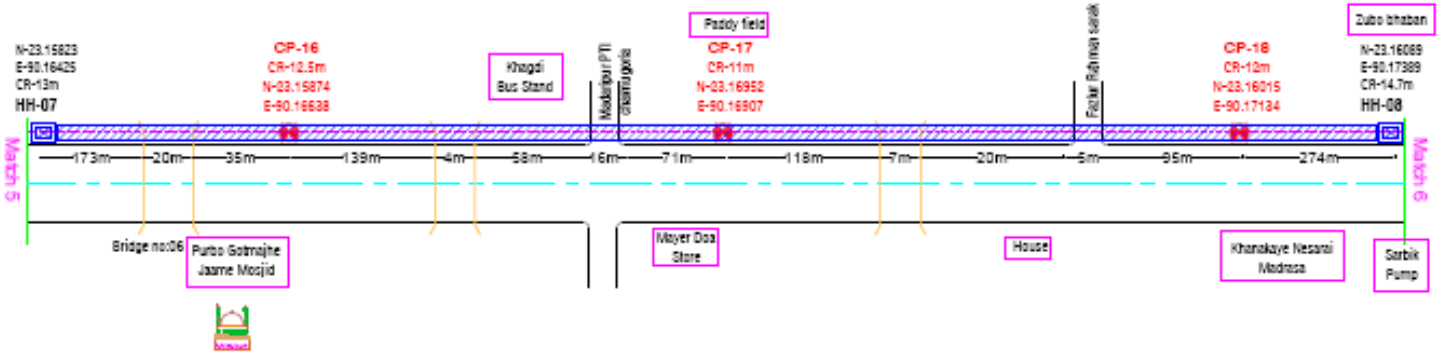


Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		.....	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		
		Computer Aided Design By Md. Mahbub [01847-654402] All length are in meter			

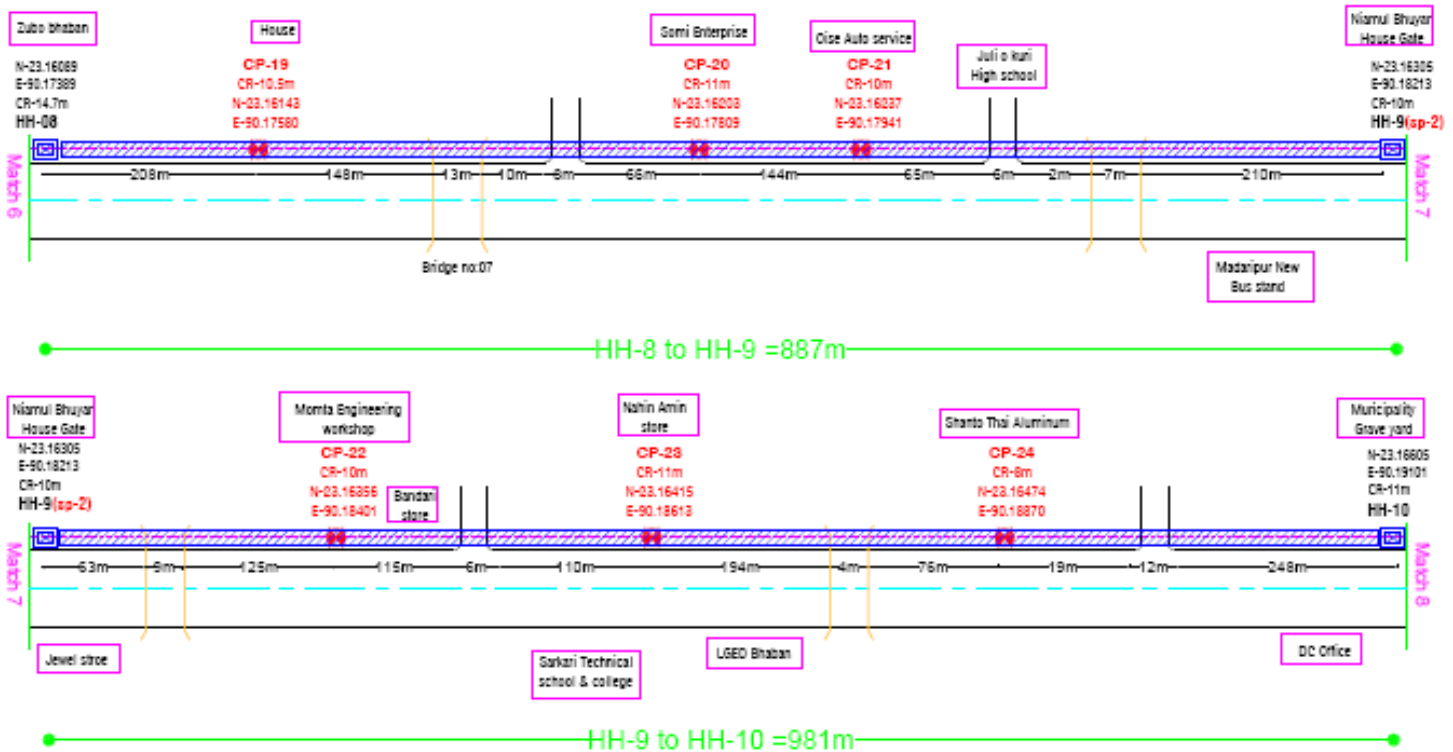


Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		.....	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		
		Computer Aided Design By Md. Mahbub [01847-854152]			
		All length are in meter			

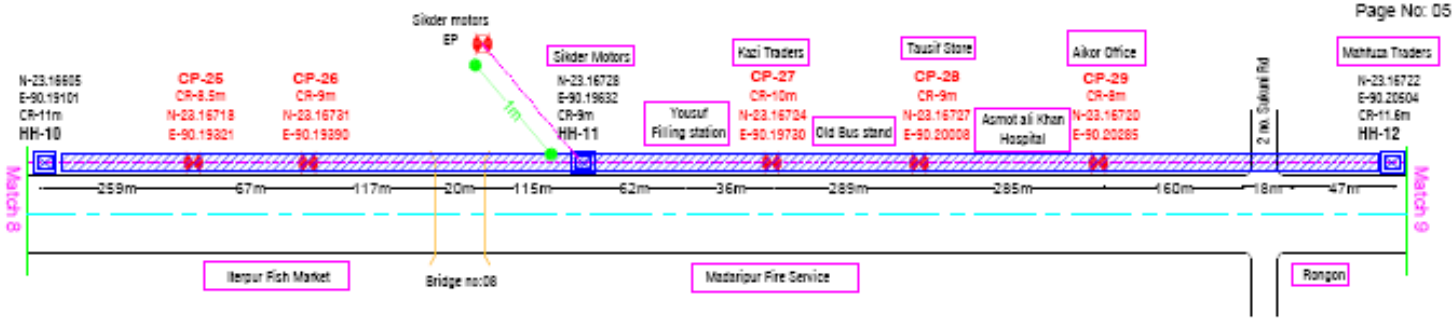


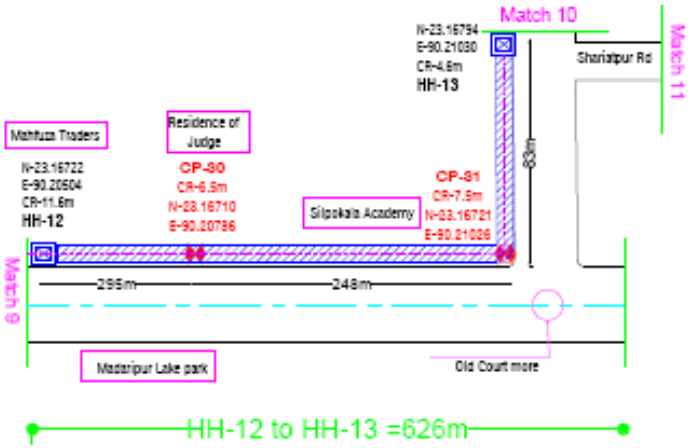


Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		Computer Aided Design By Md. Mahbub (01847-094162) All length are in meter	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		

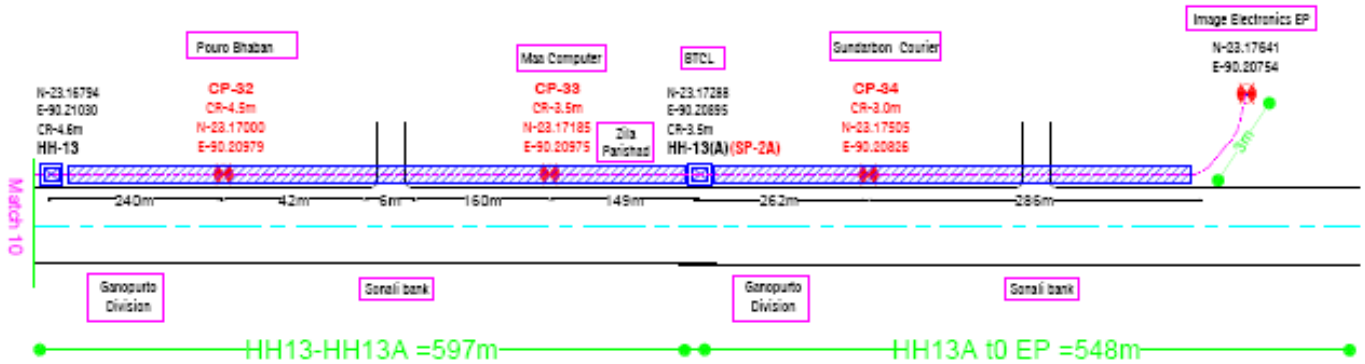


Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		Computer Aided Design By Md. Mahbub [01847-894152] All length are in meter	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		





Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		Computer Aided Design By Md. Mahbub [01847-094162] All length are in meter	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		


Pouro Bhaban
Mas Computer
BTCL
Sunderbon Courier
Image Electronics EP
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HH-13
CP-32
CR-4.5m
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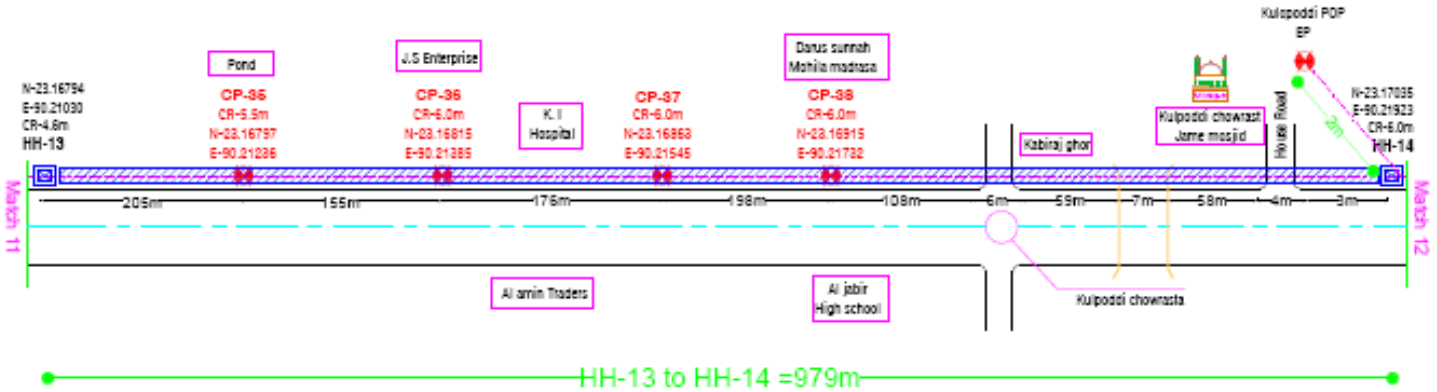
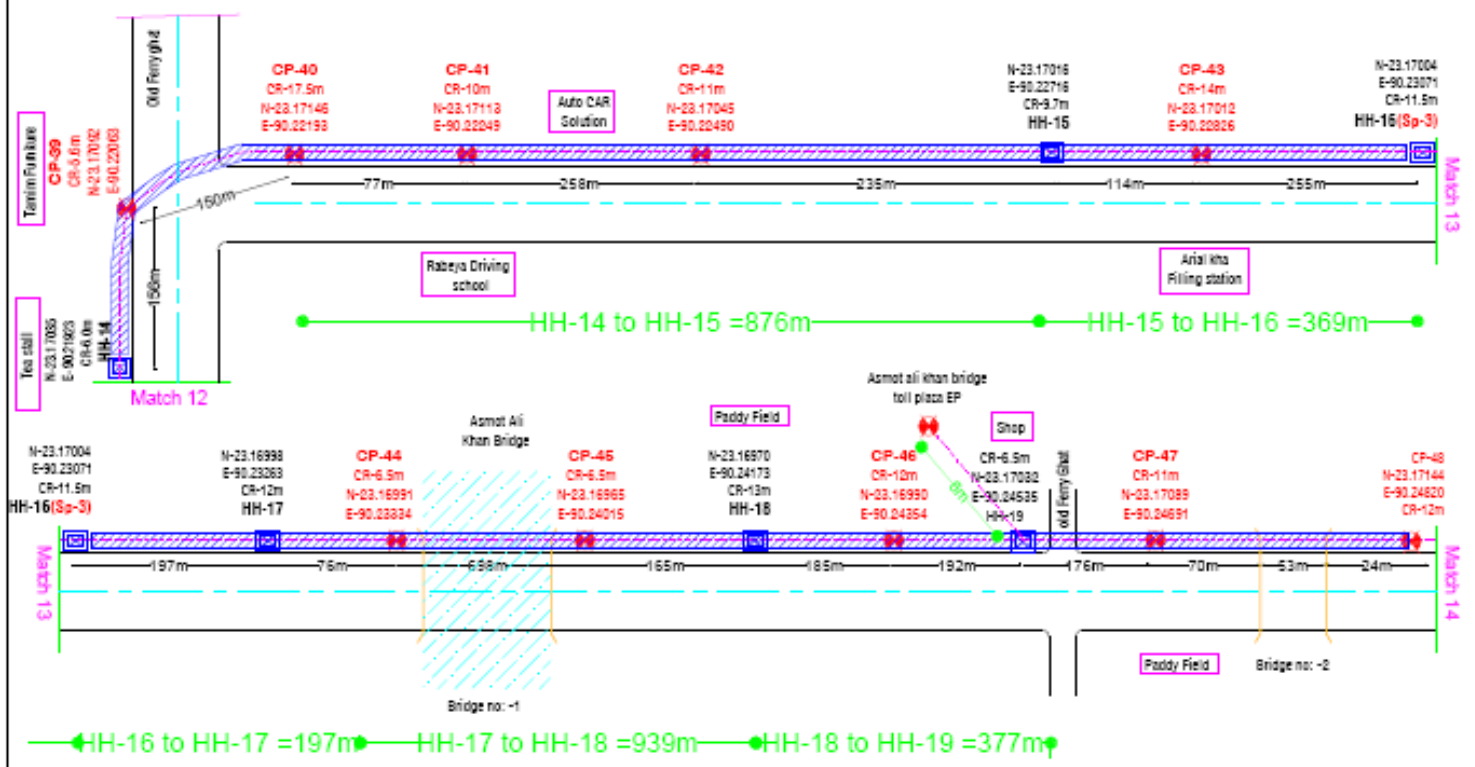
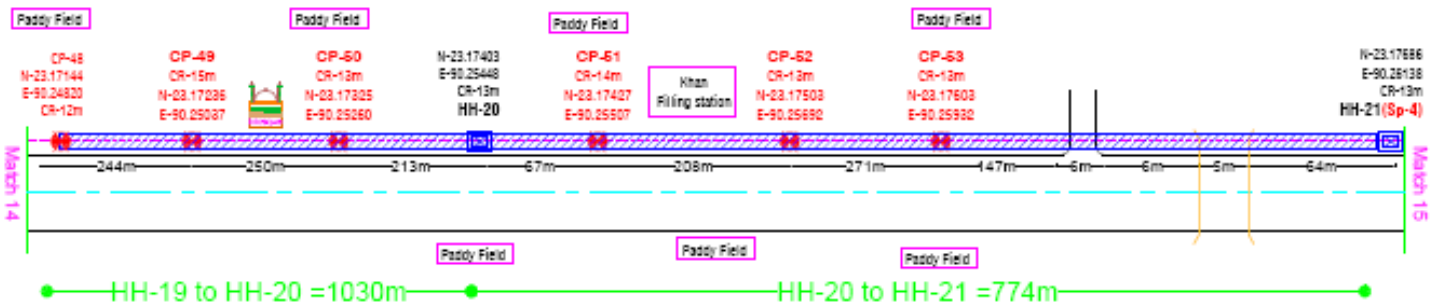
CP-33
CR-3.5m
N-23.17185
E-90.20975
Zila Parishad
N-23.17288
E-90.20895
CR-3.5m
HH-13(A)(SP-2A)
CP-34
CR-3.0m
N-23.17505
E-90.20826
3m
Match 10
240m
42m
6m
160m
149m
26.2m
285m
Ganopurto Division
Sonali bank
Ganopurto Division
Sonali bank
HH13-HH13A =597m
HH13A t0 EP =548m

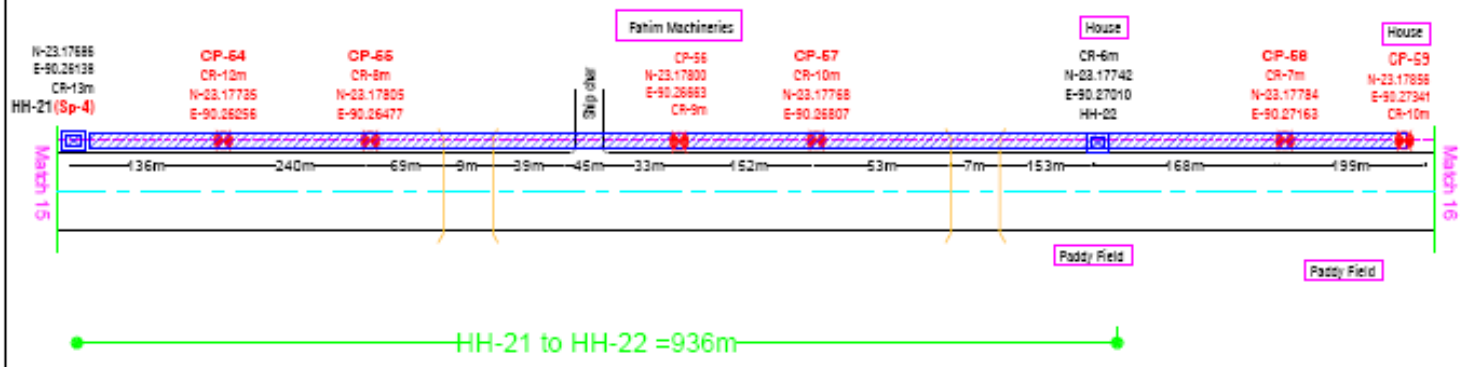


Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		Computer Aided Design By Md. Mahbub [21647-054162] All length are in meter	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		

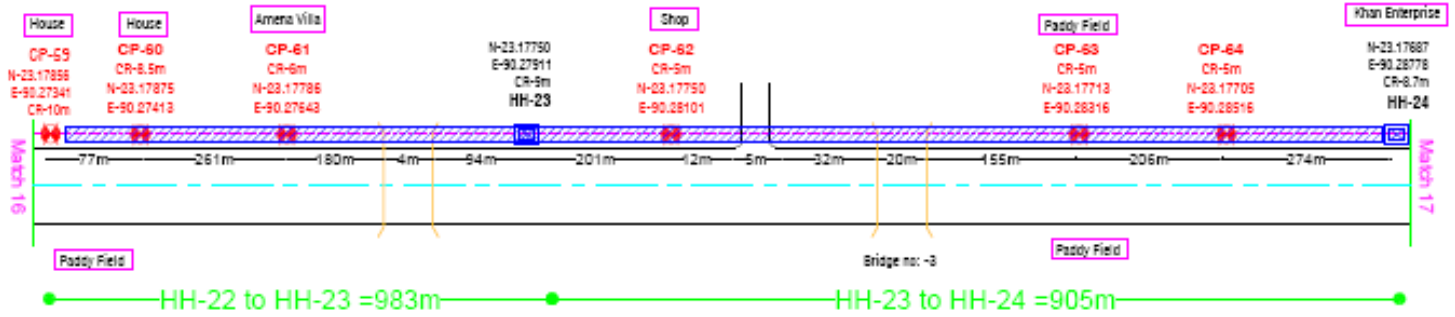


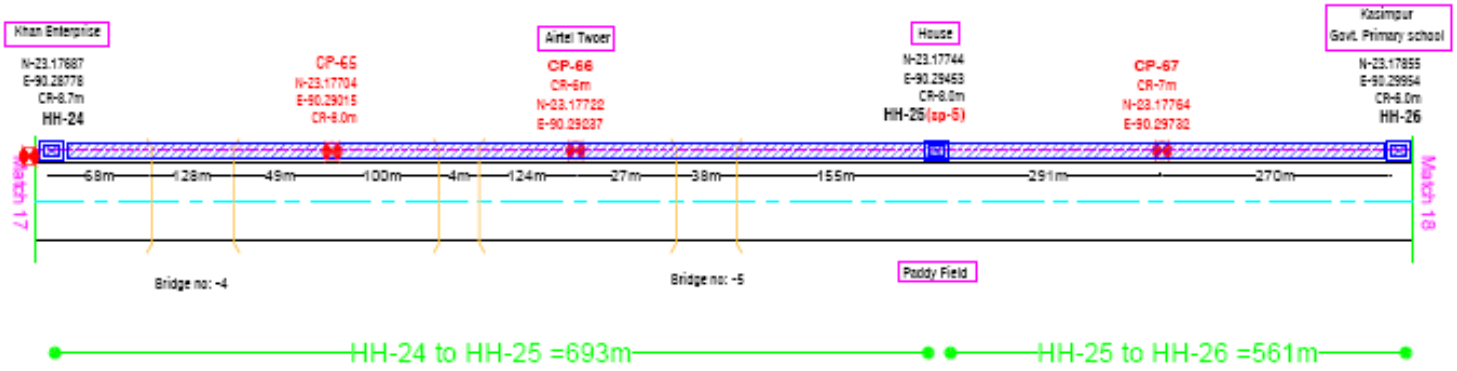
Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		Computer Aided Design By Md. Mainub [01847-894162] All length are in meter	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		



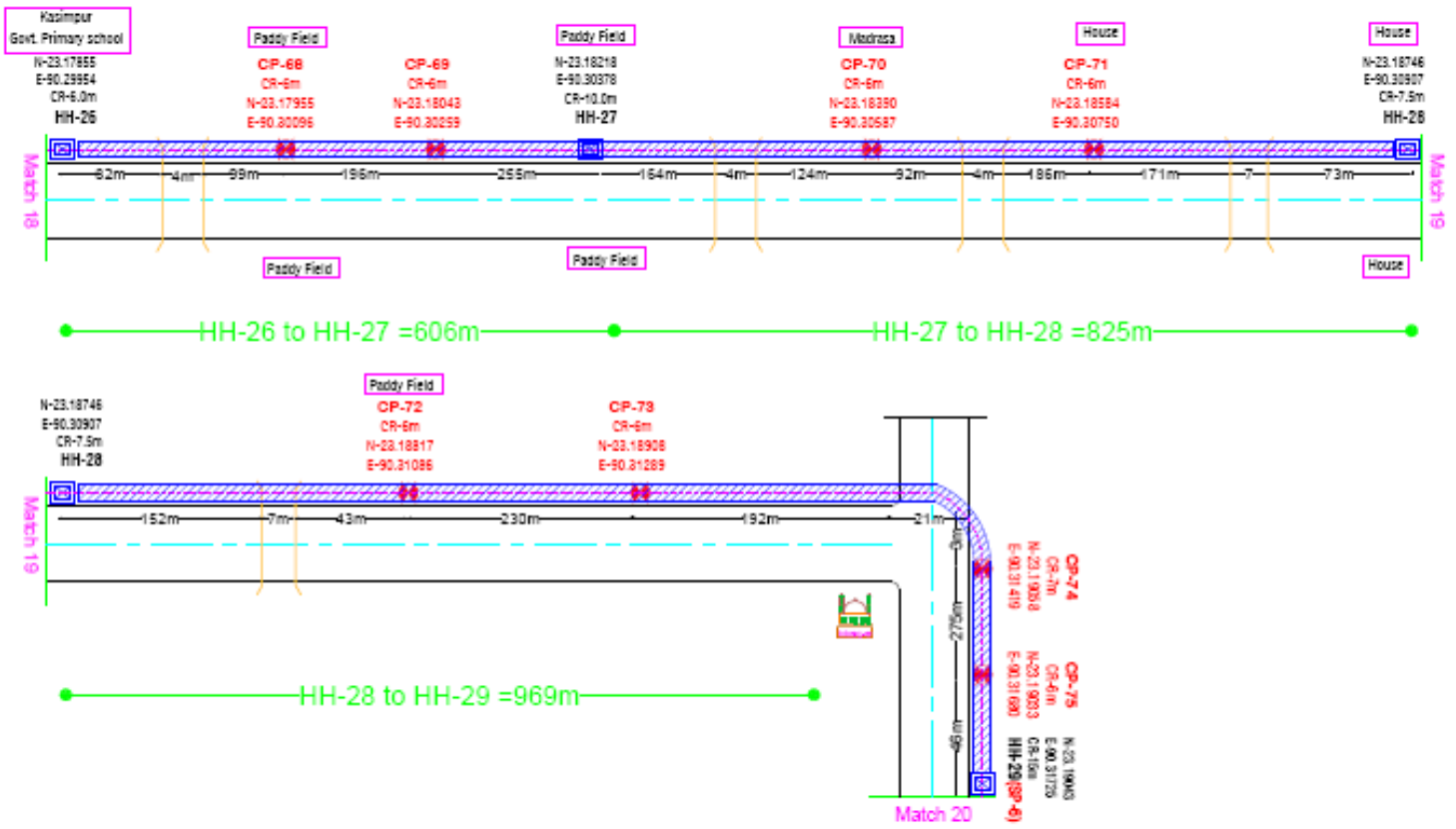


Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		Computer Aided Design By Md. Mahbub [01847-694162] All length are in meter	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		

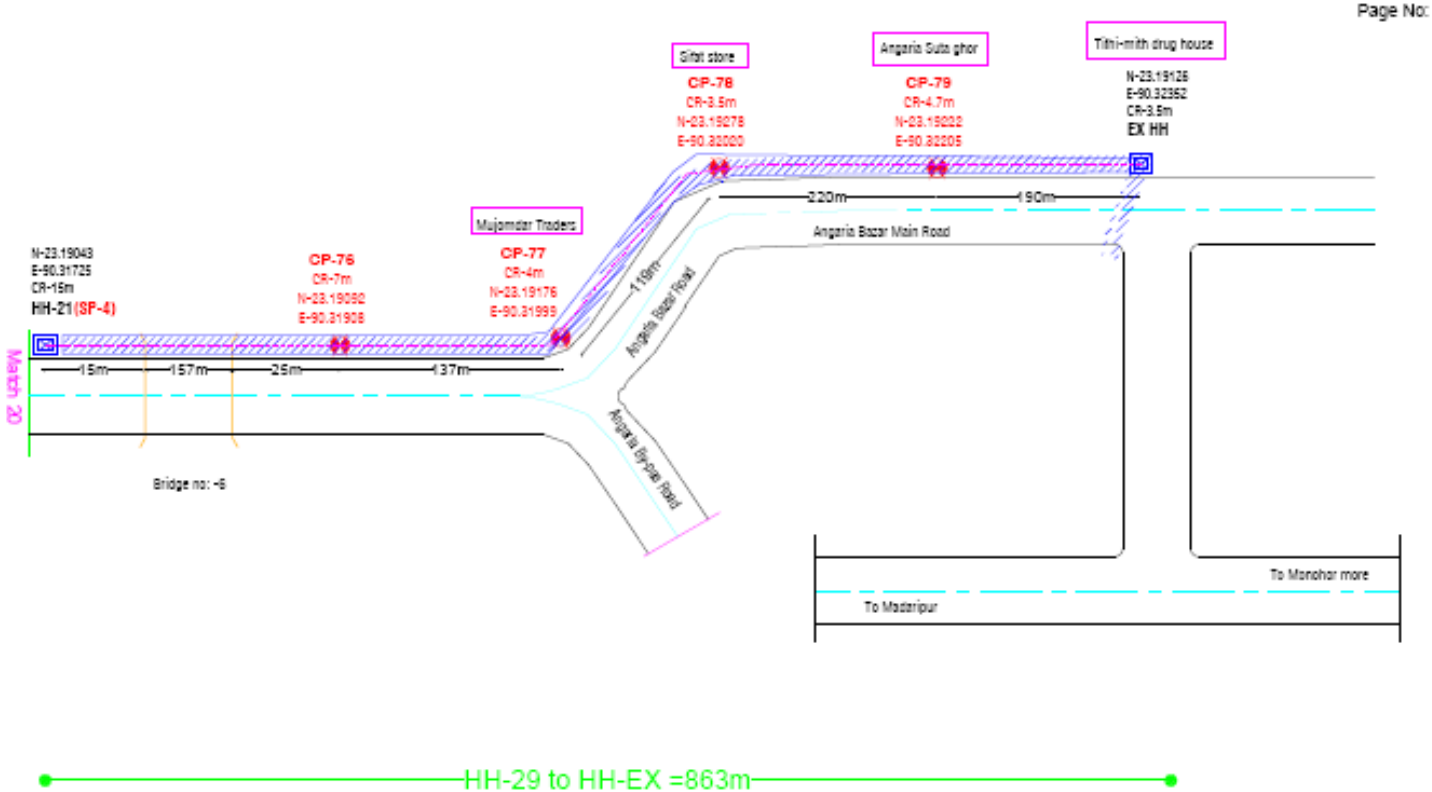




Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		Computer Aided Design By Md. Mahbub [01847-054152] All length are in meter	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		

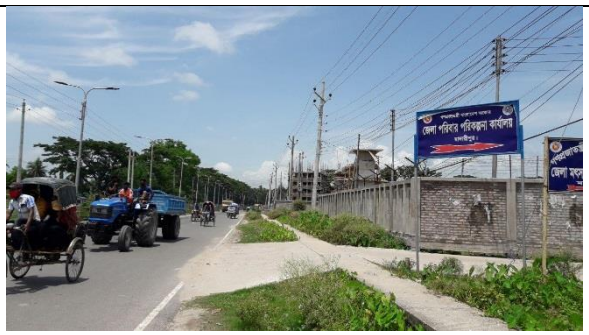


Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		Computer Aided Design By Md. Mahbub [01847-654162] All length are in meter	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		



HH-29 to HH-EX =863m

Summit		SURVEY	LEGEND:	VARIFIED BY :	APPROVED BY:
Summit Communications Limited		Computer Aided Design By Md. Mahbub [01847-594162] All length are in meter	01. New HAND HOLE 02. Ex. HAND HOLE 03. FIBER 04. HDD 05. Cupling Point		

	
Abul Hossain College Madaripur	Eter Pool Madaripur
	
Lake Park Madaripur	Madaripur to Shariatpur Highway
	
Mahisher Chor Madaripur	Mostofapur Boro Bridge Madaripur
	
Mother Bazar Madaripur	Near Kulopoddy Chowrasta Madaripur

	
Angaria Shariatpur	Kashipur Shariatpur
	
Khoajpur Bazar Shariatpur	Tekerhat Bazar Shariatpur

ENVIRONMENTAL AND SOCIAL SCREENING

(1) Potential Environmental Impact During Construction Phase Checklist

Sl	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (low/moderate/high)*
(a)	**Ecological impacts:**				
1	Is the construction being carried out in an ecologically sensitive area?		√		
2	Will the topsoil and vegetation be cleared as a result of the construction?		√		*No tree cuts will be required, planned position of hand holes shifted to nearest suitable position*
3	Is there natural and critical habitat in the area of interventions?		√		
(b)	**Physico-chemical impacts:**				
4	Will dust and vibration-generating equipment be used?	√			*HDD machine, Cable Blowing Machine, concrete mixing machine*
5	Will the excavation/ trenching works and movement of vehicles generate air pollution?		√		*Disel driven HDD machine, generator will be used. These machine will run for a temporary period only and not more than 8-10 hours per day in a project location. Impact: Moderate*
6	Will noise pollution be occurred during the operation?	√			*Due to operation of HDD machine and generator Impact: Moderate*
7	Will fuel and/or hazardous goods be used in construction activities?	√			*Impact: Low*
8	Will fuel and/or hazardous substances be stored at the construction site?	√			*For a temporary period only. Impact: Low*
9	Is there a possibility of discharging liquid effluent from the construction site?		√		
10	Is earthwork (earth excavation, backfilling, stockpiling of excavated soil) involved in construction activities?	√			*Impact: Moderate*
11	Is there a possibility of water stagnation at the construction site?	√			
12	Will the construction involve road blocking?	√			*During HDD works only Impact: Low*
(c)	**Socio-economic Impacts**				

Sl	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (low/moderate/high)*
13	Is the project area densely populated?		√		
14	Will there be any pedestrian and safety related issue?		√		*Traffic safety sign with marked temporary boundary/ protection fence Impact: Low*
15	Is significant movement of vehicles involved during construction activities?		√		*Temporary traffic will be engaged with signal lights and flag. Barricade will be gives where hand hole locations are close to roads. Work will be carried out on night.*
16	Is there a safe source of drinking water and adequate sanitation facilities available for the workers at or near the construction site?	√			*Sufficient quantity of Drinking water Jar will be carried by project team.*
17	Will the workers be provided Personal Protective Equipment (PPE), devices and clothing and be ensured those are used?	√			Provision of PPE such as helmets, boots and face masks for the workers; Provision of first aid box with basic items.
18	Have the workers been trained on the use of safety gears and emergency measures?	√			
19	Is there a risk to safety and human health to people other than workers?		√		*As mentioned above in 14*
20	Will any archaeological and historical Structure be affected?		√		
21	Will any structure(s)/ entity(s) (e.g., shops) be temporarily affected during sub-project activity?		√		
22	Will any squatter(s) be temporarily displaced during sub-project activity?		√		
23	Will any mobile vendor(s) be affected potentially?		√		*(one mobile operator backbone exist in shariatpur. Possibility of affect very remote, project team will obtain layout of backbone well before the inception of project commence.*

Sl	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (low/moderate/high)*
24	Will the subproject affect the way of life adversely and restrict access to common property resources of any indigenous people?		√		

Potential Environmental Impact during Operational Phase: No significant adverse impact anticipated that cannot be addressed by routine O&M activities, and no such impacts are expected that could potentially affect nature of subsequent ESA.

SITE-SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

Activities Associated with low to moderate environmental impacts	**Potential Impacts**	**Mitigation and Enhancement Measures**	**Monitoring of mitigation measures**	**Frequency of monitoring during period of activities**
Drilling by HDD machine, cable blowing, Concreting work for Hand Hole making, mobilization of vehicles and equipment	• Air Pollution due to fugitive construction dust, fossil fuel burning by construction equipment, HDD machine, generator Run, and soil and construction and other equipment on road side could increase traffic	• Ensure that all project vehicles are in good operating condition • Sprinkle and cover stockpiles of loose materials (e.g., fine aggregates for concreting work). • For concreting work, not using equipment such as stone crushers at site, which produce significant amount of particulate matter and dust • Establishment of minimally intrusive and well-designed traffic patterns for onsite construction activities • Limiting GHG emission by using modern construction equipment and by prohibiting excessive idling of equipment when not in use. · Regular maintenance of engines to minimise fossil fuel burning rate low. · Spray water on lifted soil and usage of plastic cover.	Visual observation, SPM, PM_{10} with GPS location, Only at selected critical locations downwind of site activities	Spot checking on random basis during construction phase

Activities Associated with low to moderate environmental impacts	**Potential Impacts**	**Mitigation and Enhancement Measures**	**Monitoring of mitigation measures**	**Frequency of monitoring during period of activities**
	• Water pollution by suspended solids as a result of soil erosion or by accidental fuel spills· Water pollution by accedential leakage of waterdrill of HDD	• Fuel will not be drained into the ground or allowed to drain into the nearest drainage canals.· Only required fuel stored at site on daily basis, ensure contract with nearest fuel pumps for timely delivery and availability of fuel on required basis.· Monitor water pressure and depth of drilling works.	Turbidity, Total Suspended Solids, One measurement from the nearest surface water body during cable laying operation byHDD	Spot checking during construction activities
	• Noise pollution	• Use of noise suppressors and mufflers in heavy construction equipment. • Avoid using of construction equipment producing excessive noise during school hours and also at night • Avoid prolonged exposure to noise (produced by equipment) by workers/ give protective gears • Regular and propoer maintenance of silencers of HDD machine and project vehicles. • Conduct HDD work on night hours • Regulate use of horns and avoiding use of hydraulic horns in project vehicles.	Equivalent Noise level (L_{eq}) with GPS location (at selected critical locations during HDD operation/ handhole construction)	Spot checking during construction activities

Activities Associated with low to moderate environmental impacts	**Potential Impacts**	**Mitigation and Enhancement Measures**	**Monitoring of mitigation measures**	**Frequency of monitoring during period of activities**
	• Disruption of local drainage	• Provide adequate diversion channel, if required• Provide facilities for pumping of congested water, if needed • Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the wet season.	Visual observation of mitigation measures	Weekly and as directed by the Project team leader
	• Traffic congestion during roadside work	• Schedule deliveries of material/ equipment during non-school hours and after regular working hours • Employ a minimally intrusive and well-designed traffic patterns for onsite activities • Depute flagman for traffic control • Arrange for signal light at night	Visual observation of mitigation measures (digital photographs)	Daily
	• Health and safety of workers, risk to pedestrian movement	• Clean bill of health a condition for employment • Provide the workers with personal protective equipments for protection against dust and noise • Contractors and workers should wear high visibility safety apparel while working in public right of way. • Signposts and directional signs should be provided at appropriate locations for pedestrians and	Visual observation of mitigation measures & obtain written commitment from contractor for health and safety measures taken	During start of project and as directed by the Project team leader

Activities Associated with low to moderate environmental impacts	**Potential Impacts**	**Mitigation and Enhancement Measures**	**Monitoring of mitigation measures**	**Frequency of monitoring during period of activities**
		traffic at construction site. • Safety drill and training on regular basis, conducting refresher session after a regular interval. • Ensuring regular health checkup before deployment of labour/project employees. Inclusion for provision of health and safety for contractor workforce		
		• Contractor/SCL should develop an occupational health and safety plan		
	• Obstruction or interference with other utility infrastructures	• During design and permitting process of the project, efforts should be made to coordinate and minimize disruptions	Coordinate with other utility service providers	
	• Various injuries related to fiber optic cable handling (exposure to laser, microscopic fiber optic shards), fire hazard	• Follow the fiber optic cable safety protocols as stated in WBG guidelines for environmental, health and safety for telecommunications	Routine checkup	as directed by the Project team leader
Installation of fiber optic cables	• Noise and air pollution, worker health and safety, disruption of local drainage	• As applicable, adopt similar noise and air pollution mitigation measures, measures to prevent drainage congestion and ensuring worker health and safety stated above	Noise and air monitoring protocol stated above	stated above

Activities Associated with low to moderate environmental impacts	**Potential Impacts**	**Mitigation and Enhancement Measures**	**Monitoring of mitigation measures**	**Frequency of monitoring during period of activities**
Drilling by HDD machine, cable blowing, Concreting work for Hand Hole making, mobilization of vehicles and equipment	• Water pollution due to sediment suspension (increase in suspended solids) or washing away of slurry to the water bodies	• Ensuring that no seepage occurs through the borehole. In case of seepage, the procedures outlined in the BMP should be followed.• After completion of the borehole, all slurry should be removed from the construction site and disposed in an approved site.	Evidence of mitigation measures through visual observation (digital photographs)	After completion of work

Limited Environmental Assessment

Summit Communications Limited

Benapole to Jamtola 17 km Underground Fiber optic Line in Sharsha Upazila

GENERAL DESCRIPTION OF THE SUB-PROJECT AND BASELINE INFORMATION

Subproject Name and Location: Benapole to Jamtola, Sharsha

Name of Ward: **Name of the Upazilla/Area:** Jamtola, Sharsha Upazila & Benapole, Sharsha Upazila & Benapole (Coto Achra) to Jamtola road

(1) Work Package Particulars :

(a) Type of Link **:** ■ Underground □ Overhead □ Both

(b) Total Length (km) **:** _____17_____Underground
_____N/A_____Overhead

(c) Start/ End Point **:** Jamtola Bazar, Sharsha / Benapole Barak House (Coto Achra Bypass), Jashore

(d) Number of Control Stations to be Constructed **:** N/A

(e) Number of Handholes to be Constructed **:** 19

(f) Mode of Operation for Underground **:**

□ Cut and Fill ■ HDD □Both

(2) Local SCL office/ PGCB Substation **:** SCL Jessore Office

(3) Layout of proposed Fiber optic Line **:**
(attach layout map)

(4) Does the work package involve :

(a) Railway crossing	■ Yes	□ No
(b) Road crossing	■ Yes	□ No
(c) Stream/River crossing	□ Yes	■ No
(d) Bridge Crossing	■ Yes	□ No

(5) Land ownership and permissions:

(a) Will land acquisition be used? □ Yes ■ No

1. Names of the govt. agencies owning the land:

(b) Area of land to be used (acre) : Pouroshova, LGED, R&H

(permission processing in progress)

(6) Baseline Environment :

- General Characteristics of route of optical fiber link : Pouroshova utility area 3.1km, 12km at Jashore LGED area, 278m at Jashore RHD area,

- Type of area : Rural area with moderate level urbanization
- Brief Information on human settlement: Semi pucca buildings, tiny sheds, huts exists near and within the upazila area. On highways it is paddy field and low lands.

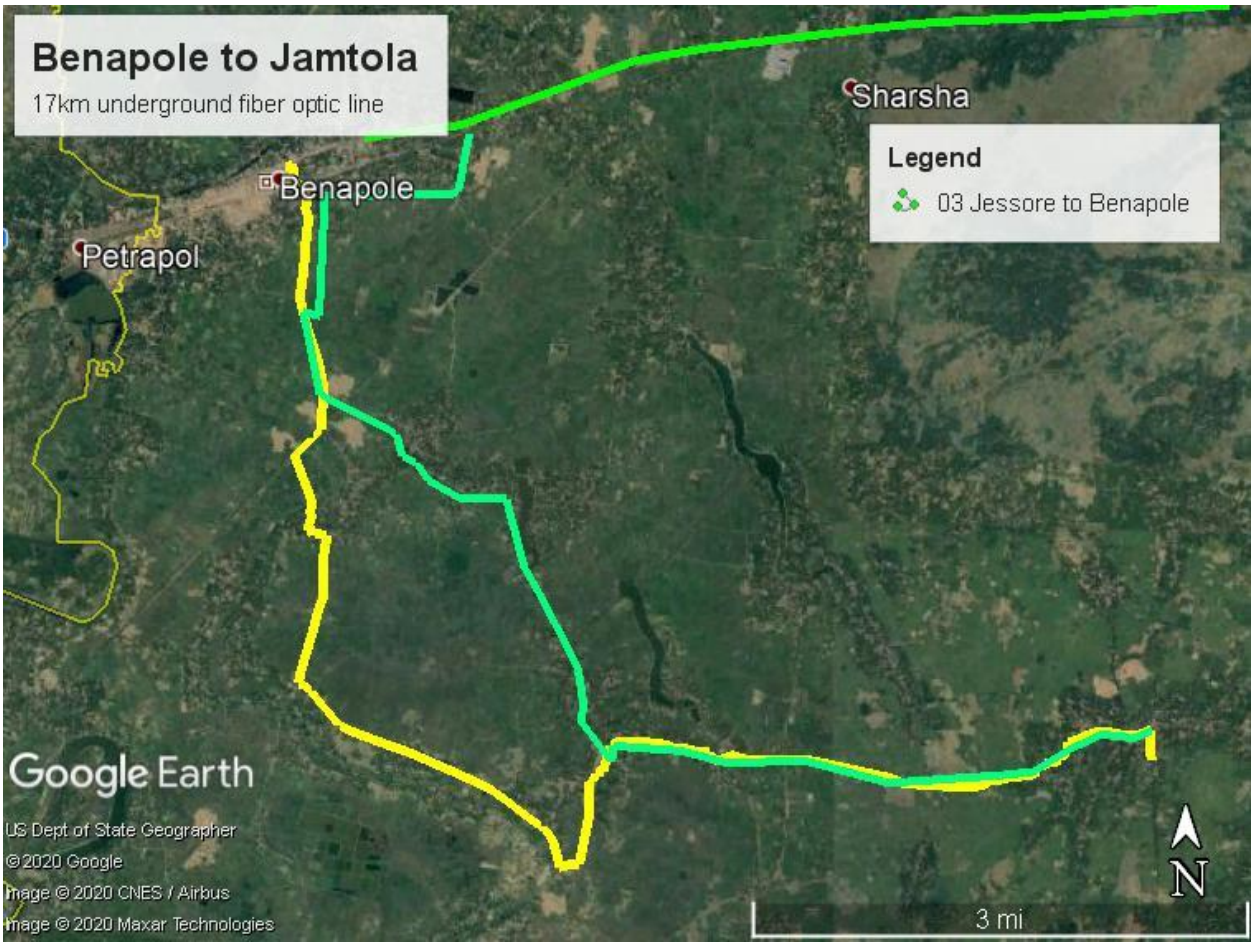


Figure: Layout of Benapole to Jamtola 17 km fiber optic line

(7) Summary of public consultation (if any) during survey for route selection:
School=1 nos, Madrasah=0 nos, Mosque =3 nos

(8) Changes in alignment (if any) made due to existing field conditions: N/A

(9) Schedule of implementation :

(a) Sub-project duration (months) : 1.25
(b) Tentative start date :
(c) Tentative completion date :

Link Name : Benapole 3rd Path

Route Name: Jamtola Bazar Ex.HH-09 To Benapole Choto Achra Ex.HH-05

SUMMARY

01. TOTAL LENGTH	= 16234m
02. TOTAL LGED	= 15306m
03. TOTAL RHD	= 278m
04. TOTAL Pourashava	= 650m
05. TOTAL New HAND HOLE	= 19 Nos
06. TOTAL Ex.HAND HOLE	= 02 Nos
07. TOTAL EP	= 01 Nos

Summit Communications Limited

Working for tomorrow

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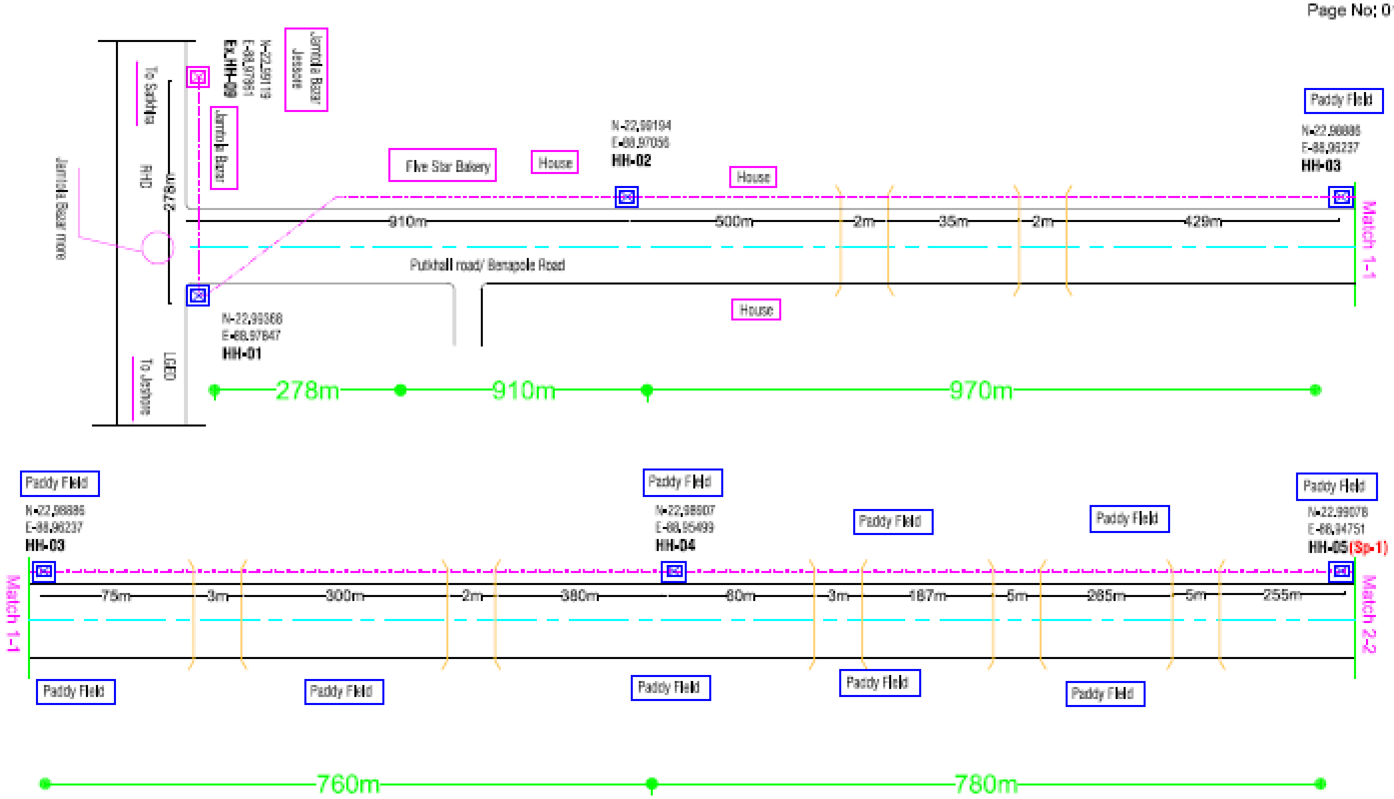
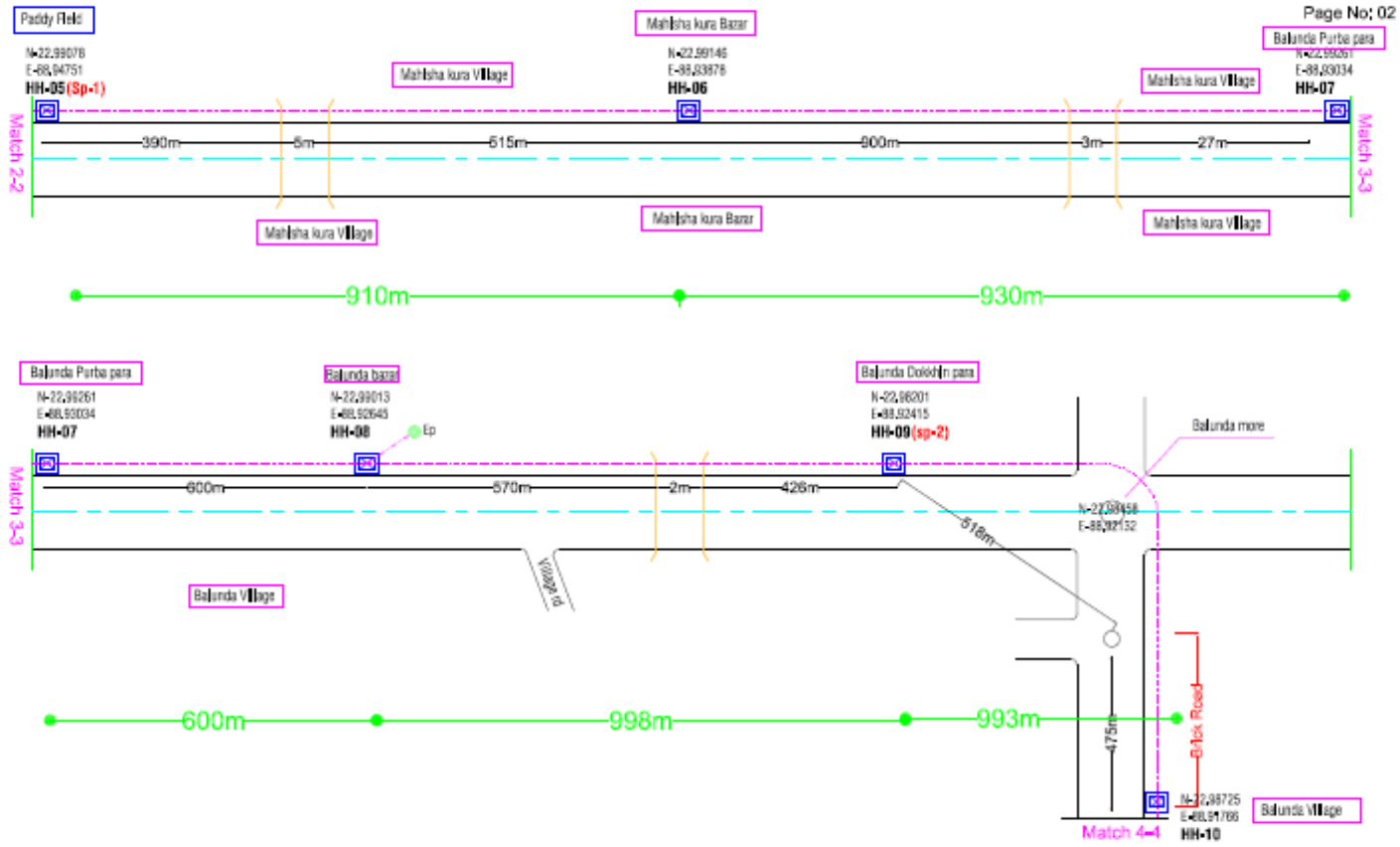


Summit	Surveyed By	Legend	Checked By	Varified By :	Approved By:
Summit Communications Limited	Md. Mizanur Rahman Computer Aided Design By Md. Harun-Ar-Rashid (01847-187777) Date: 30.08.2020, All length are in meter	Hand Hole, Ex. Hand Hole, Fiber, Kilometer Post, Mosque, Tower, E/P		Md. Shamsuzzaman	



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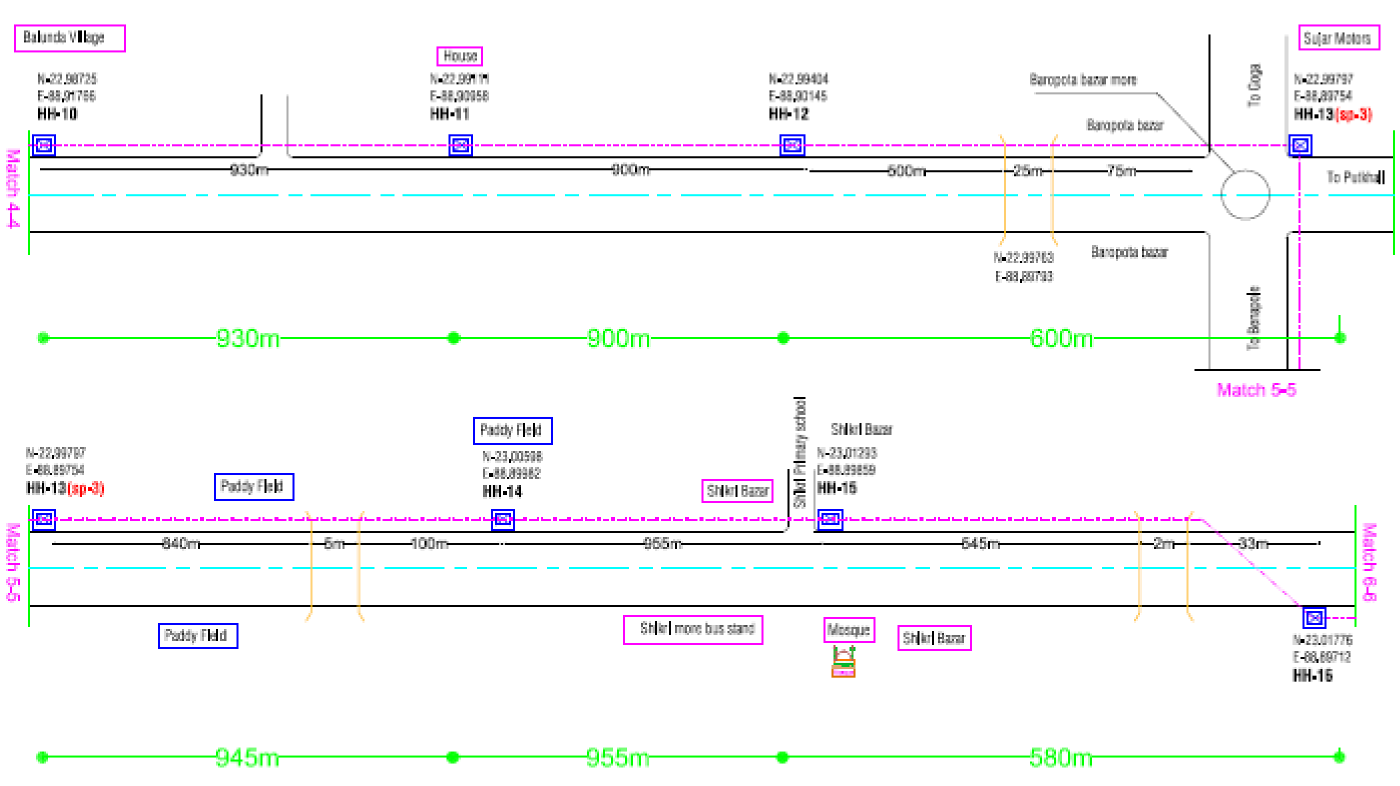
Summit Communications Limited	Md. Mizanur Rahman Computer Aided Design By Md. Hasanur Rashid (01847-187777) Date: 30/04/2020. All length are in meter	Hand Hole Ex. Hand Hole Fiber Kilometer Post Mosque Tower E/P		Md. Shamsuzzaman	



Summit	Surveyed By	Legend	Checked By	Varified By :	Approved By:
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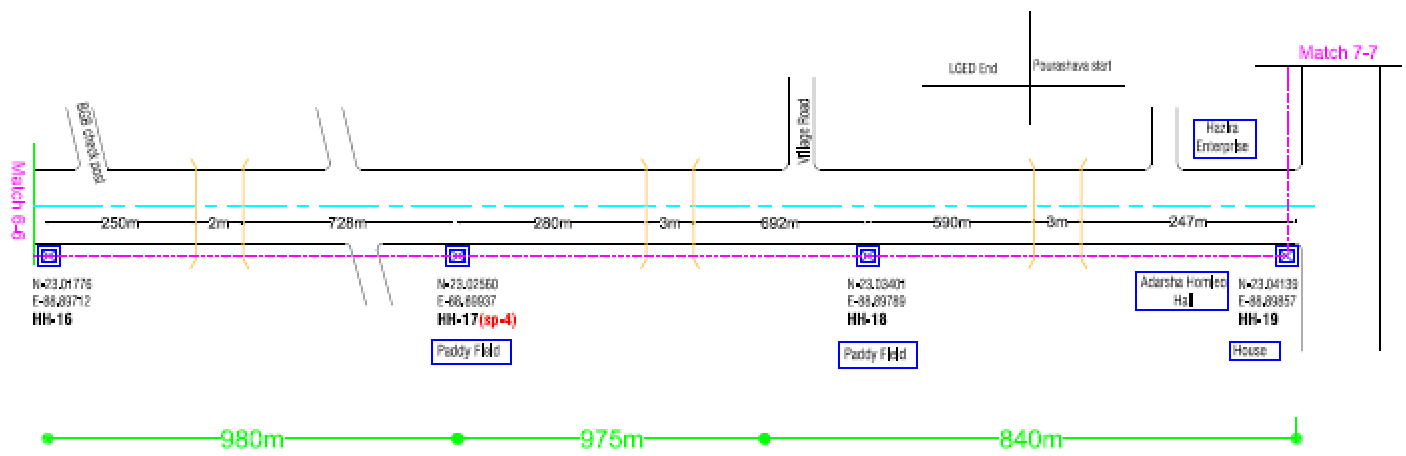
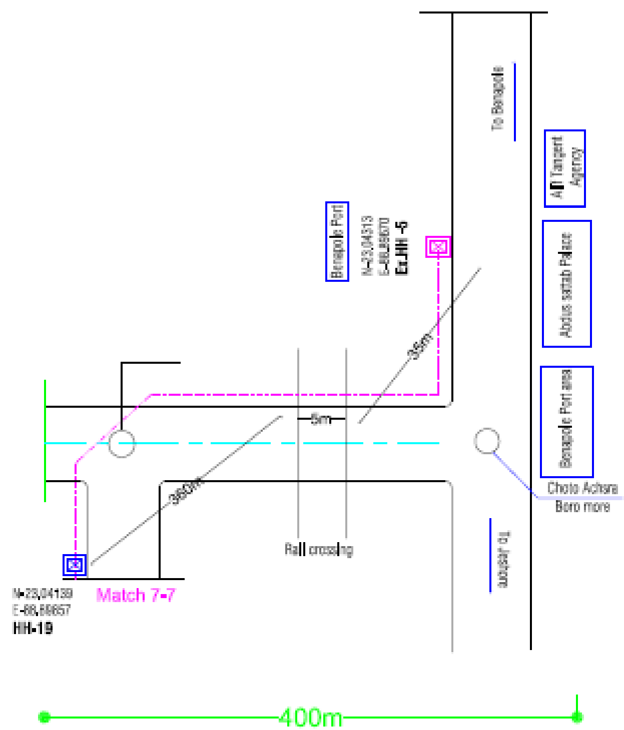


Summit	Surveyed By	Legend	Checked By	Varified By :	Approved By:
Summit Communications Limited Working for America	Md. Mizanur Rahman Computer Aided Design By Md. Harun-Ar-Rashid [01847-187777] Date: 30,08,2020. All length are in meter	Hand Hole Ex. Hand Hole Fiber Kilometer Post Mosque Tower E/P		Md. Shamsuzzaman	

Page No: 05



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BALUNDA MORE, SHARSHA	**BALUNDA ROAD SHARSHA**
	
BAROPATA BAZAR MORE	**BALUNDA UTTORPARA**
	
JAMTOLA BALUNDA ROAD	**CHHOTO ACHRA BYPASS MORE BENAPOLE**
	
JAMTOLA MORE, SHARSHA	**MOHISHAKURA EIDGAH BALUNDA**

ENVIRONMENTAL AND SOCIAL SCREENING

(1) Potential Environmental Impact During Construction Phase Checklist

Sl	Screening Questions	Yes	No	Not Aware	Remarks/ Possible Negative Impact and assessment (low/moderate/high)*
(a) Ecological impacts:					
1	Is the construction being carried out in an ecologically sensitive area?		√		
2	Will the topsoil and vegetation be cleared as a result of the construction?		√		*No tree cuts will be required, planned position of hand holes shifted to nearest suitable position*
3	Is there natural and critical habitat in the area of interventions?		√		
(b) Physico-chemical impacts:					
4	Will dust and vibration-generating equipment be used?	√			*HDD machine, Cable Blowing Machine, concrete mixing machine*
5	Will the excavation/ trenching works and movement of vehicles generate air pollution?		√		*Disel driven HDD machine, generator will be used. These machine will run for a temporary period only and not more than 8-10 hours per day in a project location. Impact: Moderate*
6	Will noise pollution be occurred during the operation?	√			*Due to operation of HDD machine and generator Impact: Moderate*
7	Will fuel and/or hazardous goods be used in construction activities?	√			*Impact: Low*
8	Will fuel and/or hazardous substances be stored at the construction site?	√			*For a temporary period only. Impact: Low*
9	Is there a possibility of discharging liquid effluent from the construction site?		√		
10	Is earthwork (earth excavation, backfilling, stockpiling of excavated soil) involved in construction activities?	√			*Impact: Moderate*
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12	Will the construction involve road blocking?	√			*During HDD works only Impact: Low*
(c) Socio-economic Impacts					

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14	Will there be any pedestrian and safety related issue?		√		*Traffic safety sign with marked temporary boundary/ protection fence Impact: Low*
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17	Will the workers be provided Personal Protective Equipment (PPE), devices and clothing and be ensured those are used?	√			Provision of PPE such as helmets, boots and face masks for the workers; Provision of first aid box with basic items.
18	Have the workers been trained on the use of safety gears and emergency measures?	√			
19	Is there a risk to safety and human health to people other than workers?		√		*As mentioned above in 14*
20	Will any archaeological and historical Structure be affected?		√		
21	Will any structure(s)/ entity(s) (e.g., shops) be temporarily affected during sub-project activity?		√		
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24	Will the subproject affect the way of life adversely and restrict access to common property resources of any indigenous people?		√		

Potential Environmental Impact during Operational Phase: No significant adverse impact anticipated that cannot be addressed by routine O&M activities, and no such impacts are expected that could potentially affect nature of subsequent ESA.

SITE-SPECIFIC ENVIRONMENTAL MANAGEMENT PLAN

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Activities Associated with low to moderate environmental impacts	**Potential Impacts**	**Mitigation and Enhancement Measures**	**Monitoring of mitigation measures**	**Frequency of monitoring during period of activities**
	• Disruption of local drainage	• Provide adequate diversion channel, if required• Provide facilities for pumping of congested water, if needed • Ensure adequate monitoring of drainage effects, especially if construction works are carried out during the wet season.	Visual observation of mitigation measures	Weekly and as directed by the Project team leader
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	• Health and safety of workers, risk to pedestrian movement	• Clean bill of health a condition for employment • Provide the workers with personal protective equipments for protection against dust and noise • Contractors and workers should wear high visibility safety apparel while working in public right of way. • Signposts and directional signs should be provided at appropriate locations for pedestrians and	Visual observation of mitigation measures & obtain written commitment from contractor for health and safety measures taken	During start of project and as directed by the Project team leader

Activities Associated with low to moderate environmental impacts	**Potential Impacts**	**Mitigation and Enhancement Measures**	**Monitoring of mitigation measures**	**Frequency of monitoring during period of activities**
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		• Contractor/SCL should develop an occupational health and safety plan		
	• Obstruction or interference with other utility infrastructures	• During design and permitting process of the project, efforts should be made to coordinate and minimize disruptions	Coordinate with other utility service providers	
	• Various injuries related to fiber optic cable handling (exposure to laser, microscopic fiber optic shards), fire hazard	• Follow the fiber optic cable safety protocols as stated in WBG guidelines for environmental, health and safety for telecommunications	Routine checkup	as directed by the Project team leader
Installation of fiber optic cables	• Noise and air pollution, worker health and safety, disruption of local drainage	• As applicable, adopt similar noise and air pollution mitigation measures, measures to prevent drainage congestion and ensuring worker health and safety stated above	Noise and air monitoring protocol stated above	stated above

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