Government of Pakistan
Ministry of Communications
(Communications Division)
NATIONAL HIGHWAY AUTHORITY

ENVIRONMENTAL MANAGEMENT FRAMEWORK (EMF)

Highways Rehabilitation Project
Earthquake Damaged Roads

Highway Rehabilitation Project
ENVIRONMENTAL MANAGEMENT FRAMEWORK
28 December 2005

I. Background

The earthquake of October 8, 2005 badly damaged three national highways, namely N-15, N-35, and S-2 that link the rest of Pakistan to the disaster areas. The earthquake-damaged national highways are strategic roads of national importance. N-35 (popularly known as the Karakoram Highway) links the Northern Areas (NA) of Pakistan with rest of the country and is the overland trade route to China. S-2 links Muzaffarabad, the capital of Azad Jammu & Kashmir (AJ&K) with rest of Pakistan. And, N-15 provides basic access to a number of towns and villages along the Kaghan/Naran valleys that are also among the top summer tourism attractions in Pakistan. The earthquake also very badly damaged a highway in AJ&K called Jhelum Valley Road that links Muzaffarabad with Chakothi.

There is an urgent need to rehabilitate the three national highways and the Jhelum valley road to ensure unhindered 24 hours and 7 days (24/7) movement of earthquake assistance and to restore normalcy of economic activities. Without rehabilitation of these highways, heavy goods transport will not be able to access some parts of the earthquake hit areas that will adversely affect relief/reconstruction operations and restoration of normal trade and economic activity between these areas and the rest of Pakistan, and leave millions of people substantially cut-off. The World Bank has agreed to finance the reconstruction and rehabilitation of the following reaches of these four earthquake damaged roads by restructuring its on-going Highways Rehabilitation Project:

a. 65 km of National Highway N-15 between Basian-Balakot-Mahindri-Naran.
b. 45 km of National Highway N-35 between Battal-Batgram-Thakot.
c. 15 km of National Highway S-2 between Kohala-Muzaffarabad.
d. 55 km of Jhelum Valley Road between Muzaffarabad-Chakothi.

II. Description of Civil Works

Civil works for reconstruction and rehabilitation would involve removal of landslides, rock cutting, formation of sub grade, patching and/or removal – where required – of existing bituminous and aggregate layer(s), placement of aggregate layers (if needed) and asphalt concrete base/surfacing courses. The works would also include localized realignment and slope stabilization measures including retaining walls, gabions etc., reconstruction/repair of hydraulic structures (bridges, culverts, causeways), drainage improvements and safety improvements including widening to 7.3 meters where required, construction of up to 2.5 meter wide hard shoulders, construction of lay-byes, parapet walls, guardrail, road marking and road furniture. The works also include the construction of a bridge over River Kunhar, about 6 Km short of Balakot and realignment along left bank to bypass Balakot city.

III. Environmental Management Framework (EMF)

The proposed new component has been classified as Category "B" for the purposes of OP 4.01, similar to the original project. The purpose of this framework is to facilitate Pakistan National Highway Authority (NHA) in its proposed operations due diligence, and integration of environmental concerns and mitigation measures in the design of earthquake damaged roads to ensure consistent treatment and management of environmental issues. EMF also helps in identifying likely environmental impacts of the proposed highway projects and required documentation for the preparation of these projects. EMF is also consistent with the overall safeguards framework developed by the Bank and adopted for the Earthquake Reconstruction Project and for other Emergency Operations, and obligatory national regulatory requirements enacted through PEPA 1997 and Review of IEE/EIA Regulations 2000. NHA will also ensure compliance with NEQS 2000, Antiquity Act 1975, LGO 2001, and other national/provincial laws which are applicable while executing the emergency works.
A Resettlement Policy Framework (RPF) for the ongoing project already exists. NHA will apply EMF and RPF on the earthquake damaged roads to ensure compliance with the Bank’s environmental and social safeguards requirement.

IV. Objectives

EMF provides general policies, guidelines, codes of practice and procedures to be integrated into the implementation of the World Bank-supported emergency road reconstruction operations. This Framework is developed for compliance with the World Bank’s safeguard policies to ensure that activities under the proposed reconstruction operations will address the following issues:

- Protect human health;
- Prevent/Minimize environmental degradation as a result of either individual subprojects or their cumulative effects; and
- Enhance positive environmental and social outcomes.

V. General Principles

Recognizing the emergency nature of the reconstruction of earthquake damaged roads and the related need for providing immediate assistance, while at the same time ensuring due diligence in managing potential environmental risks, the EMF is based on the following principles:

- Since the civil works involve rehabilitation of the earthquake damaged roads, there will be a lot of earthwork to remove landslides and stabilize slopes, along with reconstruction of retaining walls and restoration of road pavements and drainage structures. Thus, most of the ‘design’ work will be carried out on the ground with assistance of the contractor who will be clearing the way for the design consultants to follow. In view of the above-described emergency circumstances, NHA shall carry out rapid environmental and social impact assessments (EIA and SA) to identify and mitigate adverse environmental/social impacts, number of affected persons and property/assets that would be eligible for compensation, any safeguards that may get triggered, and provide a monitoring and supervision strategy through elaborate environmental management plan.

- NHA will prepare Environmental Management Plan (EMP) and Resettlement Plan (RP) and shall make these public during implementation of civil works. Consultation and disclosure requirements will be simplified to meet the special needs of this emergency project. EMF/EMP/RP will be disclosed in Urdu and English at the regional offices, the Ministry of Environment and the Environmental Protection Agencies of AJK and NWFP, in Islamabad, Muzaffarabad, Peshawar and at the World Bank InfoShop. EMP will also be presented to the Pakistan Environmental Protection Agency and respective EPAs in NWFP and the AJK for obtaining NoC as required under the national law.

- NHA will consult the stakeholders at least twice: (a) shortly after the environmental screening and prior to finalization of the terms of reference for the Environmental Impact Assessment (EIA); and (b) once a draft EIA report is prepared. Consultations with local communities or beneficiaries will be conducted to elicit the views of the male and female population. For the initial consultation, the NHA will provide a summary of the proposed project’s objectives, description, and potential impacts. During the final consultations NHA will provide these groups with a summary of the EIA report’s conclusions.
Employment opportunities within the projects will be available on an equal basis to all, on the basis of professional competence, irrespective of gender or ethnic or religious group.

VI Guidelines for Preparation of Environmental Management Plan

Environmental management plan (EMP) shall be prepared according to the Bank's Operational Manual, Operational Policies, OP 4.01 – Annex C, which enlists following essential components of an EMP report.

1.0 Mitigation

The Mitigation Program to achieve maximum avoidance of adverse impacts in the Earthquake Emergency Road Reconstruction Program is summarized by Exhibit 1 which provides a matrix of potential impacts and contractual provisions organized by construction activity (earth moving, concrete mixing, etc.). To expedite the process and the urgently needed emergency actions, environmental provisions for incorporation in contracts is annexed as Attachment A. Besides EMP will also be part of the conditions of contract.

2.0 Monitoring

NHA will ensure two types of monitoring during the execution of the emergency road reconstruction program. (i) Compliance Monitoring – to ensure that proposed measures in the EMP are adhered to, and (ii) Effects Monitoring - to establish baseline values for environmental parameters such as air quality, water quality and noise levels. Given the circumstances of the project, independent environmental monitoring consultant already engaged for the ongoing project shall be asked to conduct the monitoring program on the earthquake damaged roads.

3.0 Grievance Redressal Mechanism

NHA shall carry on its practices of registering and addressing complaints by the communities on HRP to its proposed reconstruction program of earthquake damaged roads. NHA shall also maintain and execute the Reporting frequency to address the public complaints, public consultations held during the month, and monitoring report on EMP compliance and effects monitoring.

4.0 Institutional Arrangements

Some incremental field staff will be needed to implement the additional component. The General Manager (NHIP) of the ongoing project will also function as the GM of the emergency works and will be responsible for overall coordination, and internal/external processing of all approvals. He will be assisted by a Project Coordinator (PC) in the field who will be responsible for general administration, management of environmental & social safeguards, and timely land acquisition and relocation of various utility services. The PC, in turn, will supervise a team of Deputy Project Coordinators (DPC) assigned to individual contracts. A regional AD Environment will assist the DPCs. These positions may be filled on a “task force” basis with staff seconded from elsewhere within NHA. M/s SMEC will act as the ‘Engineer’ in accordance with the FIDIC stipulations; and will be responsible for design, environmental and social assessments; and contract administration and construction supervision of all works carried out by the contractor including supervision of EMP.

The GM will be assisted by the Director Environment, NHIP as well as Director Land/ social/ environment/afforestation to ensure compliance with the requirements of the EMP.
5.0 Specific Implementation Responsibilities

Activities at each stage in the road reconstruction process are foreseen as follows.

**Planning & Design Phase.** The GM Environment/Social and Lands and staff will continue to be responsible for ensuring that the project designs and specifications adequately reflect the EMP. Specifically, the Director Environment will ensure compliance with environmental regulations and donor requirements. Due to the emergency nature of the work and the fact that it will concentrate on restoring damaged roads to operation ensure stakeholder participation in the planning/design stage will take the form of informal briefings describing the intended actions. Director Environment NHIP shall take the following responsibilities:

- Setting up systems for environmental management.
- Coordinating with regulatory agencies including EPAs, local NGOs, and community-based organizations (CBOs) that could assist the NHA in independent reviews of environmental and social compliance.
- Ensuring that the terms of reference for each project consultant adequately cover environmental and social issues and participate in short listing consultants where appropriate.
- Ensuring that the Contractors develop and carry out environmental implementation plans that are consistent with the EMP.
- Supervising environmental and social assessments, and providing substantial inputs and guidance.
- Having EIAs approved by the EPAs concerned.

**Pre-Construction Phase.** Where warranted, each regional DD/AD Social/Infrastructure and Land Management will supervise a Land Acquisition Collector (LAC) and lower staff in matters relating to land acquisition and management in their respective provinces. The DPC’s will be responsible for implementing the RPF and will be assisted by the AD Environment, and their team of field-based supervisors/inspectors. NHA’s HRP resettlement staff will ensure that the following activities are carried out transparently and according to acceptable standards:

- Identifying and verifying project-affected persons (PAPs) on the basis of specified documents;
- Identifying which public facilities and utilities need to be relocated, and whether in the case of water pumps, alternative sources of water are available;
- Identifying alternative resettlement sites for PAPs within the ROW;
- Carrying out a consultation and dissemination campaign with regard to compensation procedures, entitlement packages, and proposed alternative resettlement sites;
- Identifying any problems due to restricted access during construction and verifying whether ramps/diversions have been provided where required;
- Establishing a grievance redressal committee to ensure fairness and transparency during the resettlement process;
- Preparing a joint on-site inventory and valuation of the affected assets and incomes of individual PAPs;
• Preparing individual entitlement files;
• Preparing and approving compensation budgets;
• Ensuring an adequate notice period is given to PAPs before shifting;
• Providing shifting assistance to displaced squatters and to squatter-owners allowed to salvage their facilities
• Timing the lag between PAPs’ vacation of structures within the proposed construction and being resettled; and
• Identifying major issues of conflict between PAPs and the NHA/Contractors during implementation of resettlement activities.

Construction Phase. The GM NHIP Environment staff along with regional Environmental and Social staff will be responsible for the following:

• Liaising between project staff (essentially the Project Coordinator and the Deputy Project Coordinators assigned to the contracts) and the Supervision Consultant’s staff to monitor environmental compliance during construction.
• Supervising and providing technical support to project and operations staff to help ensure compliance with the EMP
• Assessing the environmental impact of highway construction.

Director Environment, NHIP with the assistance of DD environment will oversee the Project’s environmental implementation, training, reporting and monitoring and may commission periodic environmental audits. Each regional AD Environment will assist the Supervision Consultant in overseeing the supervision and reporting on the implementation of the EMP and assist in training field and regional staff. In the event that a particular project includes an afforestation program, a Forest Officer will be assigned to ensure that the Afforestation Contractor is developing adequate nursery stock of the type, quality, and maturity required to meet the afforestation requirements; preparing plantation schemes for different locations; and stockpiling materials, etc. The Forest Officer will report to the DPC concerned.

Operation Phase. The GM Environment/Social and Lands and staff will be responsible for the following:

• Coordinating with the operations staff working under the regional General Managers to monitor environmental compliance during highway operation.
• Advising on, and monitoring tree plantations along the highways
• Reporting on the progress of environmental compliance to the federal and provincial EPAs
• Assessing the long-term environmental impact of highway operation
• Sustaining a working partnership among the NHA, EPAs, provincial agriculture, forest and wildlife departments, NGOs/CBOs and other related public/private sector organizations.
• At the federal level, the DD Environment/Afforestation will maintain the environmental management system; ensure continued compliance with environmental regulations; prepare and deliver training programs to all NHA staff and Contractors’ staff and maintain close liaison with the project’s stakeholders.
6.0 Supervision Consultant

The current Supervision Consultant appointed by as the “Engineer/Project Manager” for the ongoing project will be responsible for:

- Supervising the Project’s Contractors and ensuring that all contractual obligations related to design and construction, as well as environmental and social compliance are met

- Ensuring that day-to-day construction activities are carried out in an environmentally sound and sustainable manner

- Coordination with provincial and local officials, community groups, government departments, etc. on environmental issues and obtaining the necessary clearances from the regulatory authorities.

- Monitoring of the environmental aspects of projects during construction to ensure that the environmental requirements of the contract and the mitigation measures proposed in the EMP are implemented.

- Supervising contractors and preparing environmental input to the quarterly progress report.

- Developing guidelines and a code of good practice describing low-cost environmental measures that can be implemented in the road construction and maintenance programs.

- Developing and conducting environmental training activities for contractors and the supervision consultant staff.

- Coordinate with other World Bank funded transport projects where road upgrading is proposed (e.g. Natural Disaster Mitigation Project) so as to save money and create efficient investment.

- Ensure that asphalt plants, construction camps and other facilities are properly sited and installed in accordance with the contract.

- Determine the timing and exact locations of both baseline and routine air, noise and vibration, and water quality monitoring in accordance with the contract provisions (if any).

- Undertake critically important routine visual monitoring of construction, waste disposal and overall environmental management practices by the Contractors. Effective environmental management during construction will require frequent site visits and observation skills. Adequate staffing of NHA, in conjunction with the services provided by its CSC, will be essential.

- Devise solutions to environmental issues as they arise. Road construction projects inevitably give rise to problems of excessive dust, noise levels and other impacts that are in some instances unavoidable. Good construction supervision requires that every effort be made to minimize these impacts. A team approach is essential. Environmental issues are entwined with those of safety, traffic management and community relations. Circumstances will arise that will require creative solutions based on circumstances as they are encountered.

Training NHA shall ensure training for the NHA staff, contractor, and the design consultant through the provision of one, one day (basic training) and second, two days (advance training) covering environmental and social aspects of roads’ projects in general, and implementation requirements with emphasis on roles and responsibilities of NHA, Consultants and Contractor staff while executing EMP in particular.
EXHIBIT 1: MATRIX OF POTENTIAL PROJECT-RELATED IMPACTS AND MITIGATION

<table>
<thead>
<tr>
<th>Project and Project-Related Activities</th>
<th>Potential Impact On:</th>
<th>Mitigation Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Air Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soils</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Noise</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biological Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Economic Fisries</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PAPs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cultural Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ethnic Minorities</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public Health &amp; Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Social</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Planning/Pre-Construction Phase**

<table>
<thead>
<tr>
<th>Determination of Alignment</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>New alignments may be needed in some instances and will require determinations on a case-by-case basis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Acquisition</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Limited NHA acquisition impacting biological, economic, cultural or other social resources is anticipated. Unavoidable impacts to PAPs and ethnic minorities (if any) will be mitigated by pursuant to the provisions of the current HRP resettlement framework.</td>
</tr>
<tr>
<td>Incorporation of Traffic Safety Provisions in Project Design</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NHA-HRP standard specifications stipulate that the Project must meet recognized safety standards. The impacts of failing to do so are an operational impact, but are dependent on pre-construction decisions. See Contract Specifications. Clause X.50.</td>
</tr>
<tr>
<td>Consideration of Community Severance &amp; Related Issues.</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>The scale of the road improvements included in the NHA Earthquake response Program are likely to be such that community severance issues (e.g. those arising from grade-separated highways) are not at issue in this instance. Coordination with local officials recommended.</td>
</tr>
<tr>
<td>Determination of Authorized Quarries and Material Sources</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Although the impact of a failure to adequately foresee effects of road projects on locations of material sources such as quarries and borrow pits emerges in the construction period, these impacts can be largely avoided through contract specification. NHA will mitigate these potential impacts through the use of enforceable contract provisions to ensure avoidance. See the accompanying Contract Specifications.</td>
</tr>
<tr>
<td>Determination of Haul Routes</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Although the impact of a failure to adequately foresee effects of the transport of materials, particularly quarried materials and soils, emerges in the construction period, these impacts can be avoided through contract specification. NHA will mitigate these potential impacts through avoidance.</td>
</tr>
<tr>
<td>Determination and Avoidance of Sensitive Areas</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Although the limited nature of NHA’s Earthquake response road improvement and maintenance interventions limits the potential for adverse impacts, determination of sensitive areas in the design preparation process will mitigate impacts to vulnerable areas. Sensitive areas (e.g., national parks and wildlife reserves) in the earthquake affected area should be identified and mapped by NHA as soon as possible.</td>
</tr>
<tr>
<td>Application of Contract Provisions to Sub-Contractors</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Contract will be fully enforceable and explicitly apply to sub-contractors. See recommended contract provisions, Section X.1.</td>
</tr>
<tr>
<td>Orientation, Awareness, Health and Safety Programs for Workers</td>
<td>See recommended contract provisions, Section X.5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Construction Stage

#### Project and Project-Related Activities

<table>
<thead>
<tr>
<th>Potential Impact On:</th>
<th>Mitigation Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarry Operations</td>
<td>Adverse impacts of quarrying operations can be avoided by requiring the use of only licensed and properly conducted quarrying operations. Emergency quarry sites may be necessary and will be identified with the participation of the NHA environment staff.</td>
<td>See requirements for the recommended contract provisions.</td>
</tr>
<tr>
<td>Construction Camps</td>
<td>Require camps to be located away from sensitive areas as approved by the CSC. Ensure optimal site arrangements and minimization of solid waste/faecal clitoriform contamination through the use of portable and pit latrines and other site facilities requiring the approval of the CSC prior to their development.</td>
<td>Special provision will be required</td>
</tr>
<tr>
<td>Slope stability, landslide protection</td>
<td>The slope stability and protection measures need to be adopted with an engineering solution to protect slopes by placing Mechanically stabilized, slopes, nailing and extensive vegetation cover through local species.</td>
<td>See training and orientation requirements, Recommended Contract Provisions.</td>
</tr>
<tr>
<td>In-Migration of Labor</td>
<td>Potential impacts of significant in-migration and social issues related thereto occur through the use of local labor. Require orientation programs to include STD awareness and related programs.</td>
<td></td>
</tr>
<tr>
<td>Resettlement-Compensation</td>
<td>The impacts of unavoidable resettlement and construction costs will be mitigated pursuant to the NHA RAP Policy Framework.</td>
<td>See recommended contract provisions, Section X.5.</td>
</tr>
<tr>
<td>Tree Loss Due to Widening</td>
<td>Tree lost will be replaced on a one-to-one basis. Asymmetrical widening will occur where practical to minimize the loss of roadside trees.</td>
<td>See design specifications.</td>
</tr>
<tr>
<td>Location of Asphalt at Plants and Staging Areas</td>
<td>Require asphalt plants and staging areas to be located away from sensitive areas as approved by the CSC. Ensure optimal site arrangements requiring the approval of the CSC prior to their development.</td>
<td>See recommended contract Section X.0.</td>
</tr>
<tr>
<td>Used Asphalt Disposal</td>
<td>All provisions included in the NHA HRP program in regard to asphalt disposal will be incorporated within the earthquake Response Program.</td>
<td></td>
</tr>
<tr>
<td>Disruption Due to Detours &amp; Delays</td>
<td>Require public notification of significant detours and potential traffic disruption. Require continuous operations allowing lane of traffic with flagmen to control traffic as warranted.</td>
<td>See recommended contract provisions, Section X.4.5.</td>
</tr>
</tbody>
</table>

*Note:* The table above lists potential impacts and mitigation actions for various activities during the construction stage of the project. The activities are categorized by project-related impacts, and each entry provides a brief description of the impact and the appropriate mitigation action to address it. The notes column provides additional information or references for further guidance.
VII. Disposal of Construction and Vehicle Waste

28. Debris generated due to the dismantling of the existing structures shall be suitably reused, to the extent feasible, in the proposed construction (e.g. as fill materials for embankments). The disposal of remaining debris shall be carried out only at sites identified and approved by the project engineer. The contractor should ensure that these sites (a) are not located within designated forest areas; (b) do not impact natural drainage courses; and (c) do not impact endangered/rare flora. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas.

29. In the event any debris or silt from the sites is deposited on adjacent land, the Contractor shall immediately remove such, debris or silt and restore the affected area to its original state to the satisfaction of the Supervisor/Engineer.

30. Bentonite slurry or similar debris generated from pile driving or other construction activities shall be disposed of to avoid overflow into the surface water bodies or form mud puddles in the area.

31. All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, where necessary, will be considered incidental to the work and should be planned and implemented by the contractor as approved and directed by the Engineer.

32. Vehicle/machinery and equipment operations, maintenance and refueling shall be carried out to avoid spillage of fuels and lubricants and ground contamination. An "oil interceptor" will be provided for wash down and refueling areas. Fuel storage shall be located in proper bunded areas.

33. All spills and collected petroleum products shall be disposed of in accordance with standard environmental procedures/guidelines. Fuel storage and refilling areas shall be located at least 300m from all cross drainage structures and important water bodies or as directed by the Engineer.

VIII. HIV/AIDS Education

34. The Contractor shall ensure that detection screening of sexually transmitted diseases, especially with regard to HIV/AIDS, amongst laborers is actually carried out and will submit a certificate of compliance to the Head Construction Engineer.