Bi-Annual Environmental Monitoring Report
(E-35, Hassanabdal – Havelian Expressway, Package – III)

January – June 2016

PAK: National Trade Corridor Highway Investment Program (NTCHIP) Tranche – III

Prepared by National Highways Authority for the Asian Development Bank.

NOTES

(i) The fiscal year (FY) of the Government of the Islamic Republic of Pakistan and its agencies ends on 30 June.

(ii) In this report, "$" refers to US dollars.

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Asian Development Bank

Bi-annual Environmental Monitoring Report

CONSTRUCTION OF HASSANABDAL-HAVELIAN SECTION E-35

Package III - ICB E-35: SARAI SALEH TO SIMLAILA (Km 39+611 to Km 58+711)

January-June 2016

Islamic Republic of Pakistan

Financed by: Asian Development Bank and Government of the Pakistan

Project Number: 3197-PAK

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LIMAK-JV-ZKB

Reviewed by: National Highway Authority, Head Quarter Islamabad

For: **National Highway Authority HQ Islamabad**

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1. INTRODUCTION:

This **Bi-annual Environmental Monitoring Report** of Project "Construction of Hassanabdal (Burhan)-Havelian (Samlaila) Motorway is Section of E-35, Package III (Km 39+611 to 58 + 711). **This Bi-EPR report from Jan- June-2016** provides the overall implementation of Environmental Safeguards including ADB Environmental Policies, EIA, EMP/SSEMP (approved in May 2016 of package III and Environmental NOC received from EPA). SSEMP and subcomponents of SSEMP such as Borrow areas Management, Temporary Traffic Management under Item 607 of Contract, Solid Waste Management, Instrumental Monitoring of Environmental Parameters and Contractual Provisions in reporting period.

Package III of the project was supervised and monitored by the Engineer's Representative including Environmental Specialist. Environmental Specialists of Consultant, contractor and NHA were mostly available on site. NHA Environment Team including Director, Assistant Directors Environment NHA Head Quarter and ADB have regularly visited project site every month. Contractor overall status of EMP implementation is improved due to these monitoring visits and guidance provided by ADB, NHA and SC, s Environmental Specialist.

Several meetings were held during reporting period. On 30th April 2016, meeting was held by ADB in Country office Islamabad regarding work progress, environmental, health and safety safeguards, traffic management and overall project management. During meeting discussion and status of physical, financial progress and problems associated with each packages were evaluated and next follow up meetings and sites visits were carried out .ADB mission visited Package III section on 10-03-2016, 29-03-2016.

On 29th April 2016, ABD has issued letter regarding approval of conversion of 4 lanes expressway to 6 lanes motorway. All Contractors, Consultant and NHA were called for a meeting on 30th April 2016 regarding this matter. Variation Orders and Rates and work progress all were discussed in detail. Final date of project completion is 11th December 2017. In meeting all contractors were asked to improve overall implementation of Health, Safety and Environmental aspects on project.

During these meetings main emphasis was given to ADB Environmental Safeguards, Mitigation Measures of Site Specific EMP and Contractual Provision (Clauses) such as 4.18-Protection of Environment, 4.8-Safety Procedures, 6.4-Labour Laws, 6.5- Working Hours, 6.6-Facilities for Staff and Labors, 6.7-Health and Safety, 6.6- Facilities for Staff and Labours, 6.15-Measures against Insect and

Pest Nuisance, & 6.21-Child Labours and Specifications SP Item 706-Temporary Traffic Control Management.

During in the reporting period, environmental conditions of the project area remained satisfactory because LIMAK –JV-ZKB has tried to minimize the impacts of construction activities on the environment. The dust suppression is being done by sprinkling water on service road, active working sites for embankment construction, Sub base, base construction and other construction activities. Solid waste is being collected by TMA Haripur and disposed off in Municipal Solid waste disposal sites. The waste water is being collected and treated by using septic tanks/soakage pits at the base camp. Drainage system for rain water accumulated in the base camp has been improved to a greater extent. Safety engineering controls & administrative controls are being implemented at site through JSAs. From 07 June 2016 duty hours were reduced due to the holy month of Ramadan from 0530 hrs to 1300 hrs to reduce the work load.

LIMAK-ZKB- Package-III has carried out analytical environmental monitoring/testing of environmental parameters mandatory in EIA and got approved SSEMP in May 2016. Results of Environmental testing/monitoring are attached with the report for review and information of NHA, ABD and EPA's.

Additionally services of a domestic firm experienced in social and community development is also being procured as a Social Safeguards Management Consultant (SSMC). The main objective of engaging the SSMC is to support NHA and its field offices in capacity development, preparation and implementation of safeguards documents including internal monitoring and reporting. The Consultant will also verify and update baseline information, maintain an MIS system and develop relevant tools, protocols and systems which may be easily transferable for use by NHA in safeguards management.

NHA expects both consultants SSMC and the design review and Supervisory Consultant to coordinate between each other for efficient project management of E-35-P-III.

1.1 Project Background

The existing Hassanabdal – Mansehra Road is an important part of the entire communication network of Khyber Pukhtunkhwa and Northern Areas which links with Azad Jammu & Kashmir, Kaghan Valley and China via "Karakoram Highway (KKH)". Existing Hassanabdal - Mansehra Road is a three-lane single carriageway road with a width of 10.5 meters. Heavy traffic load has been observed on this

road since last ten years. To support sustained growth and increase competitiveness, Government of Pakistan (GOP) has taken a strategic approach to the transportation and has launched a major initiative to improve the trade and transport logistics chain in KPK and Punjab. National Highway Authority (NHA) planned to construct Hassanabdal - Mansehra Expressway (E-35) as a part of "National Trade Corridor (NTC)" Project. The proposed project is financed by the "Asian Development Bank (ADB)" and Government of Pakistan.

Package-III :19.5 Km (Sarai Saleh -Havelian)

This Express Highway project is entitled as "Hassanabdal – Havelian section of E-35" is a new highway alignment which starts from Burhan Interchange of Islamabad-Peshawar Motorway (M-1) and finally alignment is ended at Havelian near Hazara University of Hazara Campus. This Project will connect and facilitate three districts namely Attack, Haripur and Abbottabad. It curves away to North West of existing N-35 passing near Shin Gali and Jabbar and then curves back passing near Kuldarra, Chhaprian & Kalu Pind and finally crosses existing N-35 at Jarikas. From here, it again curves away to North-East of existing N-35 crossing Hattar and Khanpur Roads at Kot Najeebullah and Chichian respectively. Finally, the alignment ends at Havelian near Hazara University, Havelian Campus. Total length of the E-35 Phase-1 alignment (Hassanabdal - Havelian Section) is 59.0 Km with total Right of Way (ROW) of 80m for first 2 Packages and 60m ROW for Package III.

Currently all packages have been commenced for construction. Express Highway (E-35) the construction of Express Highway E35 Burhan to Havelian is a Project under the "Pakistan National Trade Corridor Highway Investment Program–Tranche 2 (Hassanabdal–Havelian Section)" of the Government of Pakistan sponsored/ funded by the Asian Development Bank (ADB). The National Highway Authority is the Client of the Project and the key responsible Government Department.

1.2 Project Description and Scope of Work and Conversion from 4 lanes to 6 lanes

Initially this Express Highway project was entitled as "Hassanabdal – Havelian section of E-35" was a new highway alignment which starts from Burhan Interchange of Islamabad-Peshawar Motorway (M-1) and finally alignment is ended at Havelian near Hazara University Campus. On 29th April 2016, ADB has issued approval of 6 lanes motorway. Right of way of project will be identical and 6 lanes will be constructed. This Project will connect and facilitate three districts namely Attack, Haripur and Abbottabad. It curves away to north-west of existing N-

35 passing near Shin Gali and Jabbar and then curves back passing near Kuldarra, Chhaprian & Kalu Pind and finally crosses existing N-35 at Jarikas. From here, it again curves away to north-east of existing N-35 crossing Hattar and Khanpur Roads at kot Najeebullah and Chichian respectively. Finally, the alignment ends at Havelian near Hazara University, Havelian Campus. Total length of the E-35 alignment (Hassanabdal - Havelian Section) is 59.0 Km with total Right of Way (ROW) of 80m to Package I & II (39.5Km) while 60m for remaining 19.5 Km (Package III). The design speed of the Motorway M35 is 110 Km/hr. The new motorway is intended to provide a safe, quick and more efficient passage to KKH/ Northern areas and China via KKH.

This project (59.0 km) is envisaged to be implemented in three packages presented as follows;

Package-I: 20.3 Km (Burhan - Jarikas)

Package-II : 19.2 Km (Jarikas-Sarai Saleh)

Package-III: 19.5 Km(Sarai Saleh-Havelian)

1.2.1 Package III:

Package-III comprises the construction of 6 lane carriage way from Sarai Saleh to Simlaila. The carriage way will be facilitated with inner shoulders with 1.00 M and outer sides 2.5 M width.

There are two interchanges included scope of work of package III to be constructed by contractor in total length of 20.02 Km from Sarai Saleh to Simlaila. These are Shah Maqsood Interchange at Km 4+618 and Havelian Interchange at Km 18+200.

There are total 6 lanes of main carriage way with internal and outer shoulders width of 3 lanes is 10.5 M on each side.

There are about 13 bridges, 30 box culverts. 27 pipe culverts and 02 flyovers (Km 000+000), (Km18+200) and 08 underpasses.

Formation of embankment, clearing and grubbing of 20.02 Km, removal of surplus material and filling of depression, removal of un-suitable materials ROW and disposal into proper approved site(Km 08+100(500)L/S).

Retaining walls, stone pitching, slope protection measures and guards railing are included in scope of work of package III. Earth work, removal of unsuitable materials from 60M ROW and borrowing of suitable materials.

Contractor will put the following sub grades, Sub Grade course, Aggregate base course, asphaltic base course and finally asphaltic wearing course. Road furniture including marking, installation of traffic board's etc.

1.3 Construction Supervision

The Supervision Consultant while supervising construction works will make all necessary arrangements for quality control and implementation of the works. The task of the Consultant will include but not be limited to:

- Give Notice to contractor to commence works.
- Assure submission and advise NHA on the adequacy of the Contractors' insurance policies, performance bonds, and advance payment guarantees.
- Review and approve the Contractor's work programs and progress schedules ensuring that the Contractors have incorporated/followed the most effective and expeditious methodology of carrying out the works.
- Provide advance advice to NHA concerning the Schedule of handing over of sites, and possible delays due to lack of possession with a view to assure that the Contractors are given Possession of Site in accordance with the agreed work programs.
- Assess construction equipment, plant and machinery requirements, and Contractors' equipment.
- Assure the receipt of and maintain as permanent records of all warranties.
- Check and approve the contractors' Working Drawings, Method Statements and Temporary Works proposals.
- Carry out any subsequent design changes, and expeditiously issue supplementary drawings, site instructions, variation orders and day work orders.
- Review and approve the traffic management and safety plan.
- Check the Contractors setting out including staking the right-of-way limits, centerline, and grade and confirm permanent monuments in the construction area.
- Inspect quarries and borrow pits, and crushing plants, and order tests of materials and approve the sources of materials.
- Monitor the Contractors' laboratory testing, evaluate the Portland cement concrete and bituminous mixture designs.
- Assure quality of the works during construction, continuously inspect the soils and materials; construction operations and the works with regard to workmanship and approve or disapprove and certify the works.
- Give notice to the Contractors of any defects and deficiencies, and issue instructions for the removal and substitution of the improper works.

- Attend and make measurement and computation of quantities of the completed works.
- Undertake project performance monitoring and evaluation.
- Monitor and appraise progress of the works.
- Issue monthly-consolidated progress reports on a format.
- Check the Contractor's periodic statement of the estimated value of work.
- Issue the interim certificates to NHA for payment to the Contractors.
- Assist with interpretation of the Contract Documents, explain and or reconcile any ambiguities and or discrepancies in the Contract Documents.
- Advice NHA on need for effective liaison with local authorities, police, landowners, utility owners, the public and other organizations.
- Carry out the duties related to environmental mitigation.
- HIV/AIDs and Human Trafficking. Monitor that the contractors comply and carry out required actions as provided in the respective contract documents.
- Jointly inspect with NHA the completed civil works, and assist in formal taking over and review and approve or prepare "as built" drawings.
- Inspect the completed works periodically during the defect liability period.
- Establish a comprehensive system of maintaining site records.

1.4 Progress of Environmental Safeguards on package III

As per EMP, environmental parameters are quality of water, air and noise levels; Monitoring was carried out on 2nd April, 2016 by Limak-JV-ZKB under the supervision of lead supervision consultant. Consultations were carried out with project affected persons and sensitive receptors regarding environmental aspects of project and impacts due to construction activities. Mostly problem of dust emissions was highlighted by PAPs.

Limak-JV-ZKB ensures regular water sprinkling twice a day or whenever required suppressing the dust particulate matters. Pursuant to requirement of Project Contract document clause 4.18, Consultancy ToR of Engineer, and EIA requirement the Site Specific Environmental Management Plan has been prepared with the intention of fulfilling the requirements of the environmental clearance conditions of the Package-III: as part of National Trade Corridor (NTC) Projects from the Asian Development Bank. Final SSEMP of package- III has been submitted to NHA and Asian Development Bank and is approved. Final and approved Site Specific Environmental Management Plan (SSEMPs) of package-III is under implementation.

Environmental Trainings have been delivered on site by Contractor and the Consultant. Good EHS practices are followed by Project Implementers. Tool Box Talks, Fire Control practices, First aid facilities uses, use of good quality of PPEs are in practice. Use of wood as Fuel has been totally controlled on site as well as in the base camp. Only LPG is used for cooking and heating purposes (See Annexure 3 Photo (22).

From April-June 2016, the main focus was to ensure cooling facilities provided to residents at the base camp. Water coolers and room air coolers were provided at camp site. Air conditioners are provided for the offices.

- Daily HSE tool box talks (TBT) are in practice.
- First Aid Facilities and Workers Welfare facilities are improved. However, regular monitoring and capacity building is required.
- Dispensary is established at base camp and an experienced Paramedic staff is employed to cope with any emergency.
- Tagging and Labeling is done at stores/sites.
- Site specific Traffic Management Plans are generated and implemented at sites. Appropriate signage boards are installed at various sites to control smooth flow of traffic and to avoid occurrence of accidental incidents (See Annexure 4, SSTMP's).

1.5 Summary of Environmental, Health and Safety plans of E35 Project

Sr. No	Names and Type of Plans	Package III
1.	Site Specific EMP	Submitted and Approved.
2.	Base Camp Layout Plan	Submitted and approved.
3.	Batching Plant Layout Plan (New locations)	Locations for Concrete Batching Plants are approved at km 4+800 and km 8+974
4.	Asphalt Plant Layout plan (km 8+974)	Plan submitted to NHA for approval.
5.	Solid Waste Management Plan	Covered in SSEMP
6.	Liquid Waste Management Plan	Covered in SSEMP
7.	Base Camp Drainage Layout Plan	Covered in SSEMP
8.	Borrow Area Management Plan	Covered in SSEMP

9.	General Traffic Management Plan	Covered in SSEMP but diversion plans to be submitted

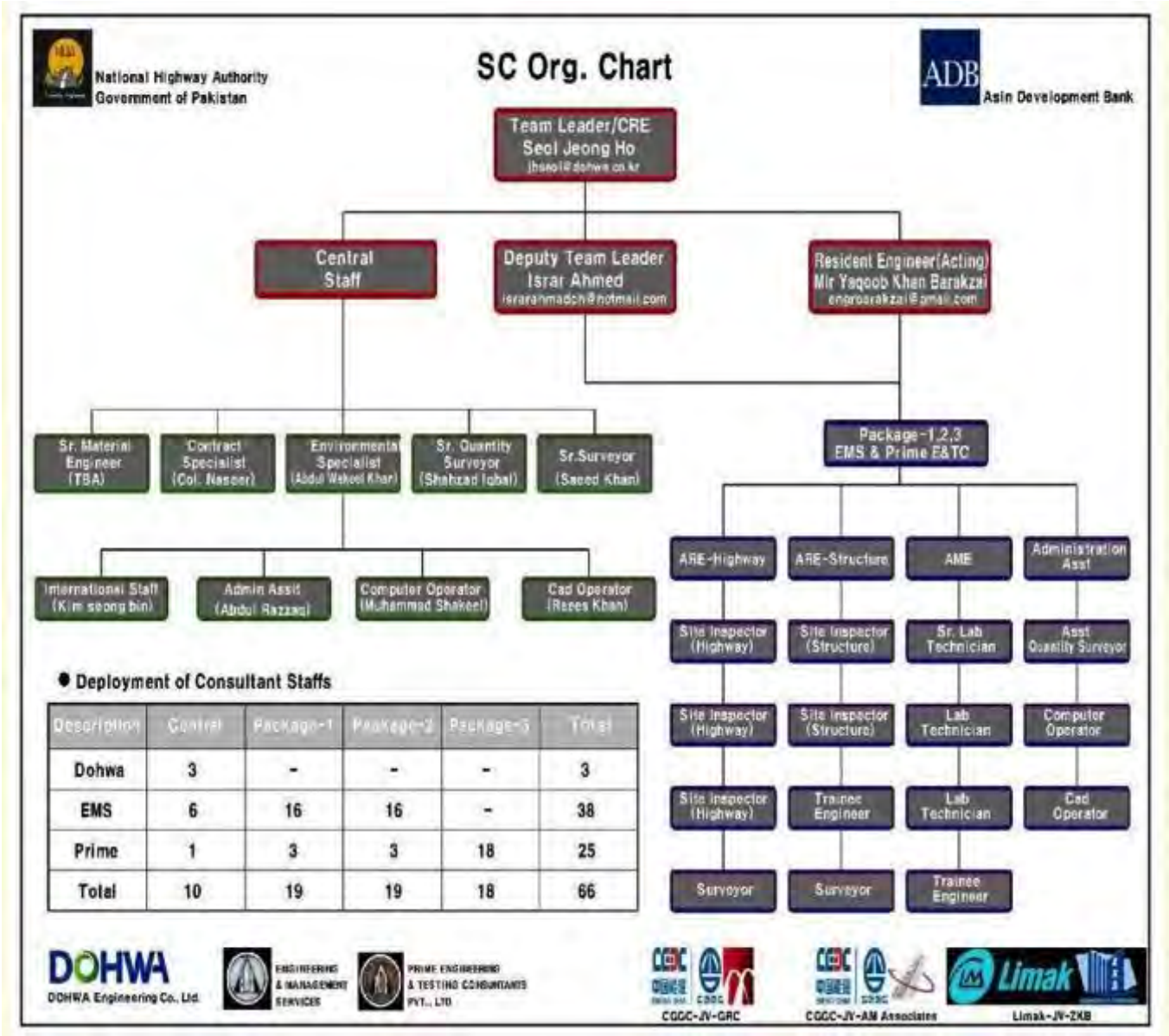
.

1.6 Project Supervision Consultants and Contractor

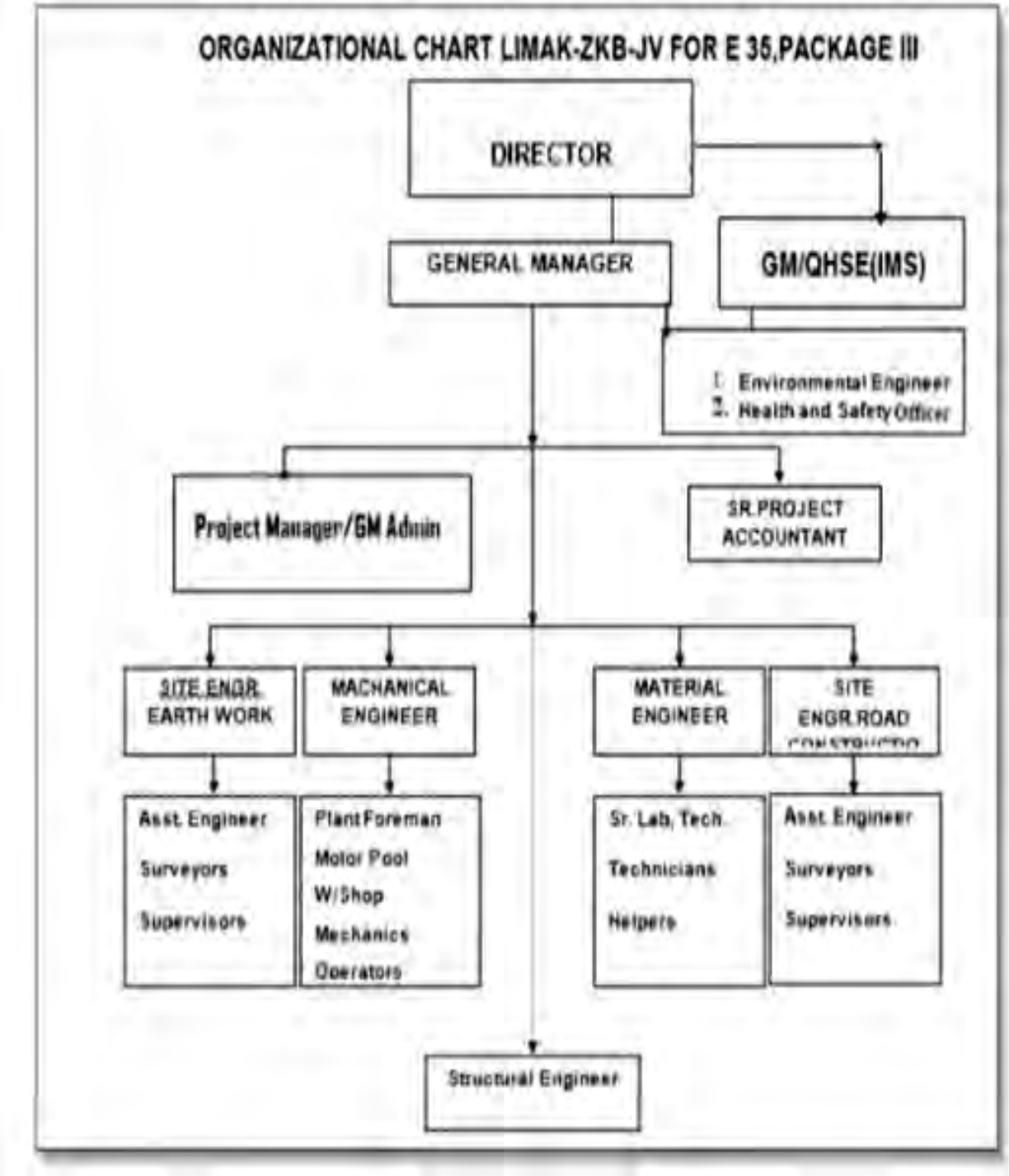
The Lead Design Review & Construction Supervision Consultant is M/s DOHWA Engineering Co. Ltd in association with M/s Engineering & Management Services (Pvt) Ltd., Pakistan, and M/s Prime Engineering & Testing Consultants (Pvt) Ltd.

The Project's Construction Contractor for Package 3 is LIMAK from Turkey in association with local (National) contractor M/s ZKB Construction. The Engineer had issued commencement letter to contractor for construction work. Contractor for Package-III is mobilized on 14th December 2015

1.7 Organizational Chart of Consultant staff



1.7.1Organization chart of contractor



1.8 Grievance Reporting and Resolution

The Grievance Redressal Committees (GRCs) on package-III has continually consulted the local residents all the month, and during their regular site inspections, to inquire about their problems and issues arising from the construction activities. The Committee is composed of the Environmental Specialist of Contractor, Admin manager of Contractor, Environmental Specialist of Supervision Consultant, Highway or Structure Engineers, Project Manager of Contractor and Environment Cell (AD Environment) of NHA, Deputy Director of NHA and Local Community members. A complaint register has been established for documenting the complaints at base camp km3+500 Environmental specialists is the keeper. This register is checked and updated for necessary mitigation actions.

1.8.1 Grievance Redressal Cell/Committee (GRC) local members

Name	RD/Location	Contact Number
Mr. Younas	48+700	0300-5608027
Mr. Yameen Khan	40+200	0314-5295293
Mr. Malik Naveed	Sarai Saleh (Donalia Stop)	0321-9961307
Mr. Zahid Rehman	Donalia Stop	0300-5341494

1.9 Environmental Impact Assessment (EIA) and Environmental Approval from EPA

As per requirement of ADB Environmental Safeguard Policy Statement June 2009 and Pakistan Environmental Protection Act (PEPA) 1997 and IEE and EIA Regulation 2000, NHA has carried out Environmental Impact Assessment (EIA) and got approval from ADB and Environmental Protection Agency (EPA). NHA has issued the Environmental NOC/Approval, received from EPA for E-35 and Package 3 to the Engineer. The Engineer's Environmental Specialist has carefully reviewed this Environmental Approval and accordingly advising the Contractor for Compliance. There were twelve conditions/terms/actions issued with approval for project proponent to implement and follow-up during the construction and operational phase of the project. Details of terms and conditions are as follows;

Environmental Terms/Conditions of NOC of Project issued by EPA	Status of Compliance
The proponent will adopt all precautionary and mitigation measures identified in EIA Report as well as any unanticipated impacts during the construction and operational phase of project.	EIA approved for project is broadly followed on project by project implementers. Site Specific EMP are prepared, approved and under implementation on all three packages of project. Main theme of overall environmental safeguards is to protect all workers from any hazardous and ensure sustainable development.
The Proponent must submit bi-annual monitoring compliance report to EPA for review.	Since Project start, the Engineer has prepared and submitted 2 Biannual Environmental Monitoring reports to NHA and NHA onward submitted to EPA KP.
Land acquisition and resettlement plan must be submitted to this Agency before starting the physical work.	Land Acquisition and Resettlement Plan of Package 3 is submitted to NHA and forwarded to EPA for their information and record. LARP of packageIII is under implementation.
Afforestation plan must be provided to this Agency before the physical work is started on the site.	Afforestation plan will be finalized with NHA next year as during construction period plantation or preparing platform/area for plantation will be affected due to work progress.
Proper retaining and breast wall should be constructed where needed.	This requirement is already included in scope of work of project. Retaining and breast walls will be constructed.
Camp site must be located at least 500 meters away from the residential area.	The Base Camp is not 500m away from the local residential area. It is around 200m to 300m away from the residential area.
Regular sprinkling of water for the control of dust pollution during the construction phase must be maintained.	There are several water sprinklers on project for water sprinkling on project carriage way and other access and approach roads. Dust pollution issue is resolved to maximum level.
Proper culverts must be constructed for the rainy water.	Sufficient culverts (box & pipe) are included in scope of work and maximum culverts are completed and open for use.
Number of affected business, houses, trees, agricultural land/crops and their compensation plan must be provided to the Agency before starting the physical work.	The requirements of Environmental NOC issued by EPA. LARP has been sent to EPA. **(Task Completed)**
Non-technical jobs must be provided to the local people in the area.	Already complied with requirements of Environmental approval (about 50% labors and some technical staff are from local project area.
Preference should be given to the local people in technical jobs	Contractor has appointed some technical staff from local community.

1.9.1 Project Data

Packages Details	Package 3
Length in KMs	19.500
Flyovers	02
Bridges	13
Underpass	6
Box Culverts	19 and pipe culverts 28.
General	6 Lane Fenced Expressway with 110 Km/hr speed design

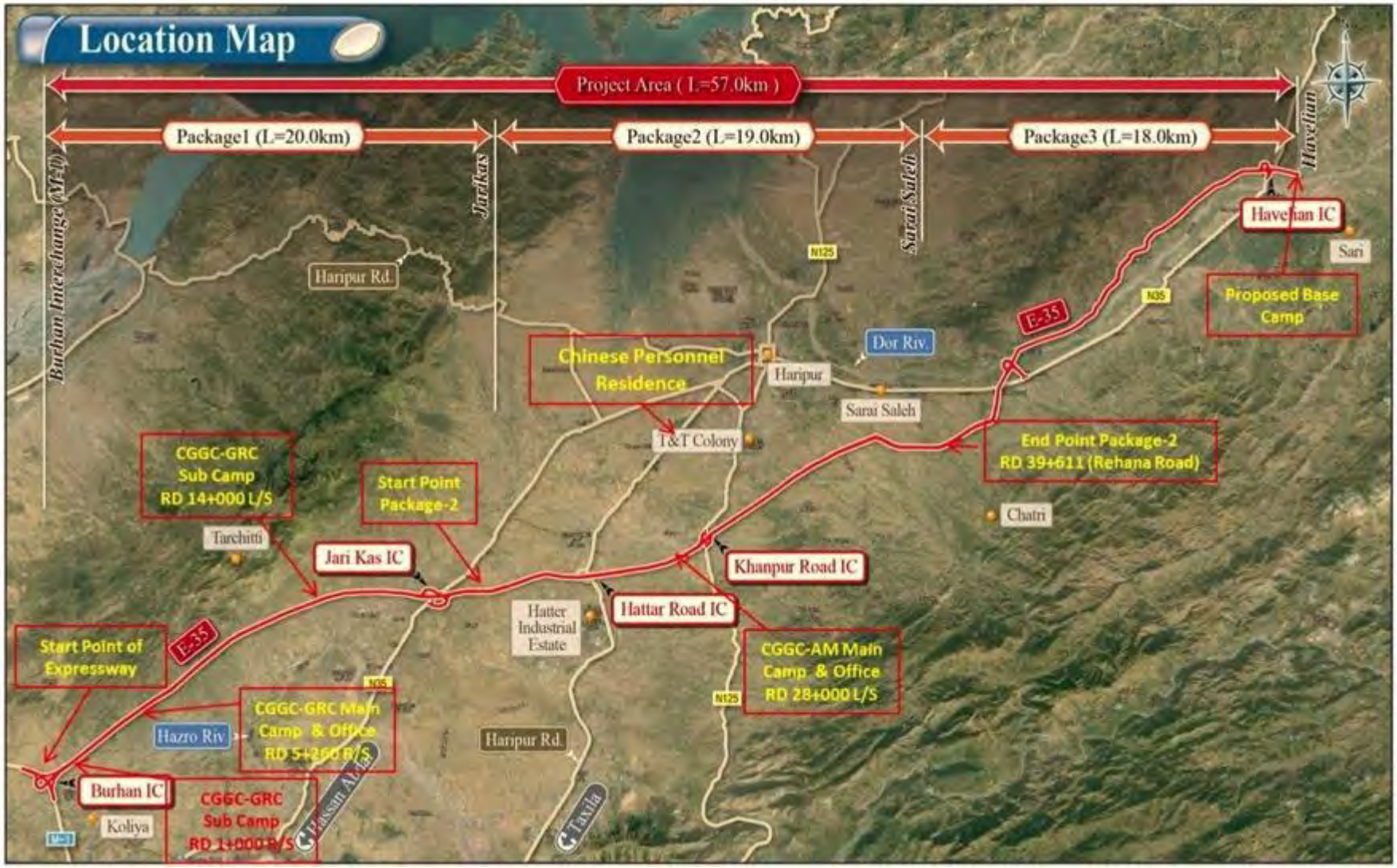
Employer's Representative	GM (E-35) NHA	
Engineer/Team Leader	Seol, Jeong-Ho	
Appointment of Engineer	1(9)/GM(E-35)/NHA/2015/05 dated 13th February 2015	
Consultant	**DOHWA ENGINEERING CO. LTD *in association with* EMS & PRIME ENGINEERING**	
Consultant's Mobilization Date	4th February 2015	
Design Review	Six (06) weeks from 4th February 2015 to 22nd March 2015	
Construction Contracts	**Contractor**	**Contract Price**
Package III	M.s LIMAK-ZKB Associates JVs	Rs. 8,188,128,880
Construction Contract Commencement Date	March 5,2015	Construction Contract Completion Date
Defect Liability Period	365 days	December 6,2017

2. PHYSICAL WORK PROGRESS OF CONSTRUCTION CONTRACTS

Construction activities were carried regularly and work on structures (underpasses, box culverts, wing walls, bridges pile cap, flyover and earth work) was in progress. The Contractor LIMAK –JV-ZKB has deployed Environmental Specialist and assistants for implementation of Environmental Safeguards. Contractor has provided sufficient health protection measures except PPEs and safety measures at height. A Dispensary has been established at camp site and an experienced paramedic staff has been employed to tackle any emergency. First aid box and facilities are provided to workers and staff at road site. Fire protection is ensured with provision of firefighting extinguishers at the base camp, batching and Asphalt plant. LPG is utilized in both kitchens at base camp.

On Package III, planned work progress was 21.12% while achieved work progress is 25.10%. Contractor is working on structures and embankment construction.

Physical Construction Work progress on Package 3 by end of June 2016 was 25% while planned work progress was 21.12%. This means work progress is good and satisfactory						
Schedule: Monthly	0.22%	2.18	3.9	4.25	5.05	5.46
Schedule: Cumulative	0.22%	2.40	6.3	10.6	15.6	21.1
Achieved: Monthly	1.02	3.4	2.6	5.22	6.23	6.59
Achieved: Cumulative	1.02	4.4	7.0	12.2	18.5	25.1
Lag/Lead	0.80	1.2	0.6	1.66	2.84	2.85



2.1. Project Location Map of Construction of Hassanabdal (Burhan)-Havelian (Samlaila) Expressway Section of E-35*Figure 1 Project Location Map*

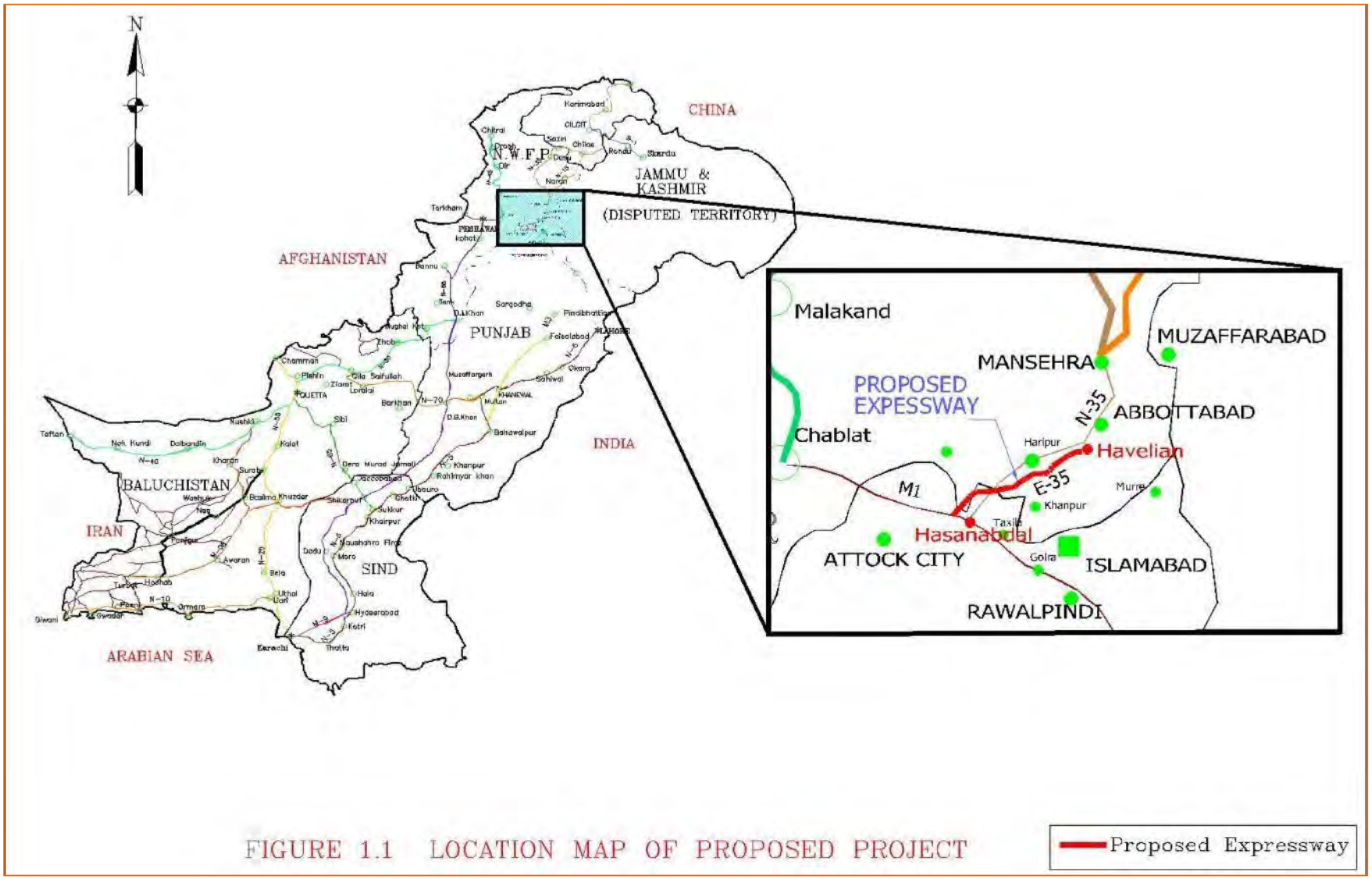


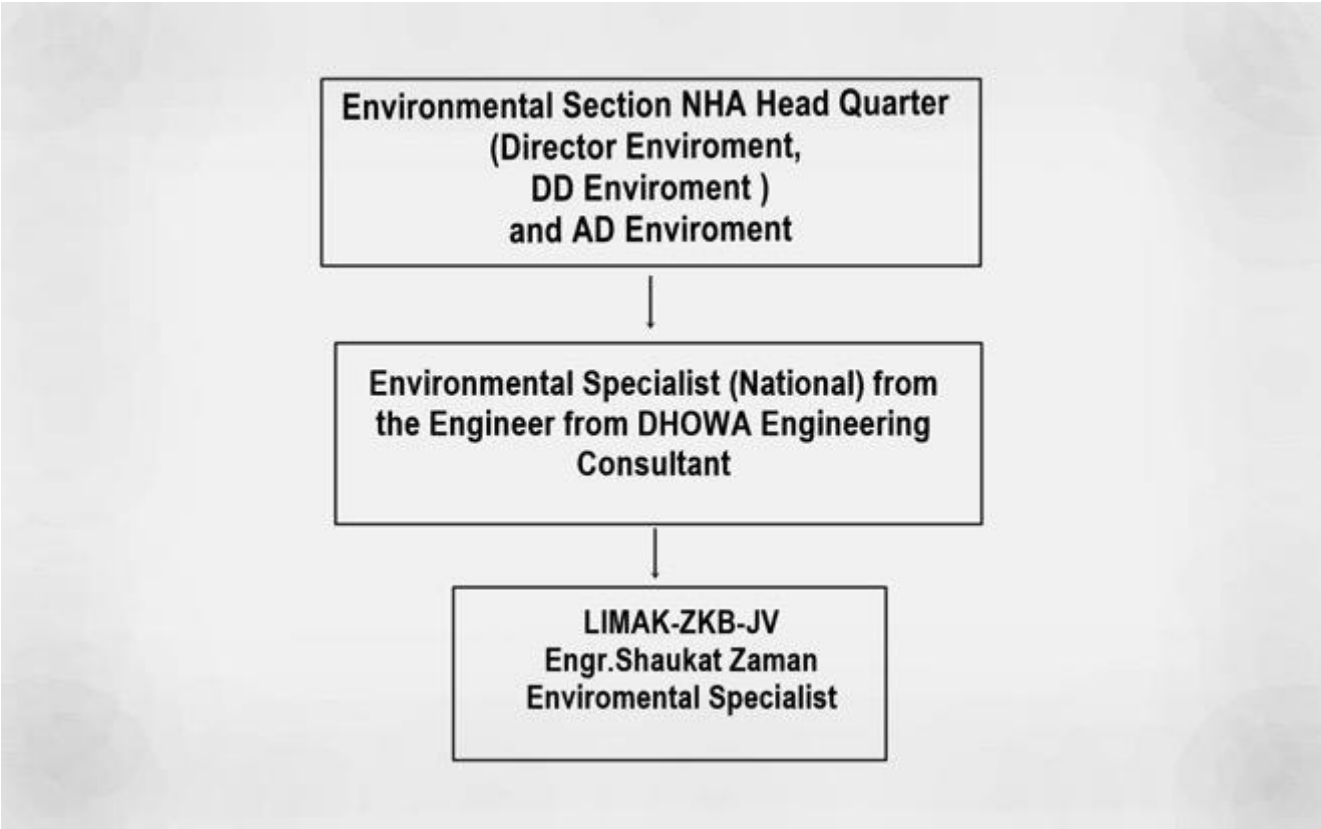
Figure 1.1 Location of Project on Country Map

3. STATUS OF ENVIRONMENTAL MANAGEMENT

Institutional Arrangement and Organization Chart for Environmental Safeguards Implementation on Project E35 Phase-I

Institutional arrangement for proper implementation of Environmental Safeguards is important and necessary. National Highway Authority (NHA) and its Environment Unit had carried out EIA, prepared EMP and got approval from ADB and EPA in October 2013. EMP is incorporated in Contract of project E35 (package 3), signed and accepted by Contractor LIMAK and ZKB(JVs) for implementation including contractual provisions (Clauses) such as 4.18-Protection of Environments, 4.8-Safety Procedures, 6.4- Labour Law, 6.5- Working Hours, 6.6-Facilities for Staff and Labours, 6.7-Health and Safety, 6.6- Facilities for Staff and Labours, 6.15-Measures against Insect and Pest Nuisance, & 6.21- Child Labours and Specifications SP Item 706-Tamporary Traffic Control Management

- LIMAK in association with local Contractor M/s ZKB were mobilized on 14th December 2015 with official letter for commencement of work at site.
- As per requirement of approved EIA and EMP of project and Contract document contractor has appointed Environmental Specialist to implement, handle and manage environmental compliance. The Engineer and his representatives (Environmental Specialist) are supervising and monitoring the overall Physical and Environmental Performance of project contractor and responsible of overall contract implementation.


Environmental Section NHA Head Quarter
(Director Enviroment,
DD Enviroment)
and AD Enviroment
Environmental Specialist (National) from
the Engineer from DHOWA Engineering
Consultant
LIMAK-ZKB-JV
Engr.Shaukat Zaman
Enviromental Specialist

3.1 Tool Box Talks and Training Session on Project

Contractor and Consultant had jointly arranged different training sessions on site for labours and staff. Tool Box Talks/Meetings have been carried out by project Management and Environmental and HSE Team. (See Annexure-5)

3.1.1 Daily Tool Box Talks

Regular daily tool box talks are in practice by contractor's Environmental Specialist and Safety officer, both are involved in delivery of daily tool box talks for labours. Record is maintained and reflected in report. TBT are mostly given on housekeeping, use of PPEs, use of fuel, use of fire extinguishers, spill emergency, handling of electrical shock emergency, first aid, proper use of equipment's, awareness about health, safety and environmental issues, etc.

3.1.2 Details of Tool Box Talks/Site Lectures delivered

Sr. No	Date	Topic	Location KM	No of Attendants
1	02/05/2016	Welding Cutting & Grinding, Cable Management, Housekeeping, PPEs	1+200	12
2	04/05/2016	Welding Cutting & Grinding, Cable Management, Housekeeping, PPEs	2+500	10
3	15/05/2016	PPEs, Tools Handling, BBS	3+100	08
4	03/06/2016	Welding Cutting & Grinding, Cable Management, Housekeeping, PPEs	4+970	12
5	04/06/2016	PPEs, Tools Handling, BBS	05+300	04
6	20/06/2016	POL Spillage, BBS, Cable Management, PPEs	Camp Workshop	07
7	23/06/2016	POL Spillage, BBS, Cable Management, PPEs	05+500	10
8	25/06/2016	Steel rebars handling &Cutting, BBS, PPEs	03+500	20
9	28/06/2016	Steel rebars handling & Cutting, BBS, PPEs	03+500	15
10	29/06/2016	Working at height, tolls handling, PP's	000+900	25
11	30/06/2016	Fire emergency, Spill emergency, Workshop	Base Camp	25

3.1.3. Visits of Asian Development Bank (ADB) Missions:

ADB Mission along with NHA officials visited on10-03-2016 and 29-03-2016 for supervision and support regarding all technical, financial and environmental matters of the project and monitored work progress, discussed all about work progress including technical, financial, environmental and social aspects of the project.

4. Corrective Action Plan

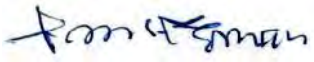
Corrective Action Plan (CAP) was handed over to contractor's environmental specialist through NHA for implementation as follows.

Description of issues	Mitigation measures to be taken and implemented	Responsibility	Deadlines	Status
Health & Safety of Labours	(PPEs) to workers at all sites	Contractor	5-5-2016	Done
	Dengue and Malaria control spray at camp and offices and residencies (monthly).			
	Provision of drinking water with rest area on site (at Active Construction site)	Contractor	10-5-2016	Done
Trench excavated at camp site behind steel yard area.	Closure of trench and construction of a drain with sufficient slope at base camp. Drain will be covered with slabs and fenced.	Contractor	3-06-2016	Done 50%
Walkways	Walkways at Base Camp and Office area and Mosque will be constructed.	Contractor	30-5-2016	In progress
Construction of Soakage pits	1. Soakage pit at Steel Yard area 2. Soakage pits at Workers accommodation 3. Soakage pit at kitchen and office area	Contractor	10-5-2016 Completed 20-5-2016	Completed

Use of LPG at all sites	Immediately remove fuel wood use and arrange LPG at all ovens and Kitchen	Contractor	5-5-2016	In Practice
Oil Spills and Workshop waste	Immediately remove/treat all spills and dispose waste of workshop at designated place. Use oil spills collection trays and do workshop at designated place only.	Contractor	5-5-2016	Done and In practice
Fixing of screen/fly control net	Fixing of screen/flies and mosquitoes control net/mesh at senior and junior mess and kitchen	Contractor	10-5-2016	Done
Provision of drainage at camp for rain water.	Contractor to construct surface drainage system at base camp and dispose water through pipeline into near local drainage system.	Contractor	15-5-2016	Work in progress.
Repair of roof of workers accommodati	Immediate repairing of roof of workers accommodation, mess, kitchen and senior residential block.	Contractor	25-5-2016	Pending
Construction of protection sheds	Contractor will construct shads made of G.I Sheets on oil and solid waste collection point.	Contractor	7-5-2016	Done
Protection Electrical Water Pumps/ motors	Provide protection to electrical water pumps/motors and cables laying in open steel yard from rain water and heat.	Contractor	27-5-2016	Done
Sound proofing of generator in front of	Provision of sound proofing of generator in front of Masque (Masjid).	Contractor	10-5-2016	Done
Fixing of door closers	Contractor will provide/fix door closers in kitchen. Store, junior mess, senior mess, for protection/control of insects and flies etc.	Contractor	12-5-2016	In progress
Room for training	Construction of room size18'×20' for training and meetings regarding Environmental matters.	Contractor	25-5-2016	Work in progress

Daily TBT	Contractor will do daily HSE TBT and maintain its record	Contractor	4-5-2016	In practice

(See annexure 3)

Shoukat Zaman 	**Abdul Wakeel Khan** 
Environmental Specialist	**Environmental Specialist**

5. Child Labor and Labor Law

Child Labor and Labor Law of Pakistani are incorporated in contract and under implementation on project. It is strictly and strongly instructed to contractors that as per contractual provision no labor with less than 18 years will be involved in construction work or hazardous work site. Child Labors were observed on site in previous reporting period. The Engineer has issued official letter for elimination of all such child labors. Now fully in compliance with Law.

6. Traffic Management (Item 706 & 712)

Traffic Management Plans are prepared, approved and implemented according to SSEMP requirements in collaboration with Supervision Consultant. These plans are documented for record purpose. Details of some of the SSTMP prepared and implemented is as follows;

Generally about 16 critical crossings including 07 intersections have been identified on Package III, from RD 000+000 to RD 10+200, out of which seven (07) crossings are critical, as mentioned below also some of the critical SSTMP are attached at Annex- 4.

1. Intersection of Rehana road and service road (RD 000+000-SSTMP-1).
2. Crossing at Bandi Sher khan road and service road (RD 2+162 SSTMP-2).
3. Intersection of road and service road (RD03+983,SSTMP-3).
4. Intersection of E-35 and N-35, Haripur-Abbottabad road (RD 03+650- railway crossing, SSTMP-4).
5. Intersection of E-35 and N-35,Haripur –Abbottabad road (RD 03+750-GT road, STMP-5)
6. Intersection of E-35 and N-35(Haripur –Abbottabad road (RD,06+904,SSTMP-6)
7. Intersection of Akhun Bandi and Gt road ,RD 08+050

6.1- General traffic route of E-35 for vehicle movement of LIMAK-JV-ZKB

For Traffic Management the contractor has installed different sign boards such as speed limit, speed control and warning boards etc.

Generally more than 60 sign boards have been installed during the reporting period; others are New Gersy barriers, warning tapes, red /yellow reflective tapes and red color steel drums pasted with reflective tapes at various locations for night vision.

Contractor has also placed various sign boards for guidance /instructions of company drivers Fabrication of further safety sign boards is underway.(SeeTraffic route of Limak-ZKB-Annex 4)

7. Borrow Areas use for embankment construction on Package-III

Contractor has completed most section of embankment construction and materials are borrowed from borrow areas. Material quality tests of about 05 borrow areas have been carried out by Material Engineers and other representatives including Consultants, Contractor

and NHA Officials. Suitable materials are utilized by contractor from these borrow areas currently only 03 borrow areas are operative , locations are RD 01+100 Left and Right side of ROW, 05+700 Left side of ROW and RD 08+900 Left side of ROW. Most of the borrow areas are located 500 meters away from the ROW. The contractor will restore all borrow areas as per SSEMP Plan after the completion of project. Agreements between borrow areas owners and the contractor has already been signed.

8. Health and Safety of Workers and Staff on Project

Health and Safety proper measures are mandatory section of contract. In reporting period there was no serious injury and no accident occurred. Contractor has provided first aid facilities at camp and six first aid kits are available at site with the site in charges. Contractor has provided Personal Protective Equipment (PPEs) to maximum labour at steel yard, labours on site at active construction sites. In reporting period more PPEs were purchased to overcome the problem of safety and health care.

First aid facilities have been improved at base camp but still ambulance is not provided full time as per requirement of contract clause 6.7. Pursuant to contract clause 6.7 Health and Safety, 4.8 Safety Procedures for active construction work and EMP Section 8 Environmental Management and Monitoring Plan (Health and Safety of workers at active construction site. The Engineer has advised contractor for ensuring safety of their labours and regular monitoring of PPEs.

Workers are working at height but till date there is no safety harness with workers. Contractor is advised for provision of safety measures to all workers working at height. Further Contractor is advised to ensure measures of controlling insects and pests and associated diseases with such as malarial and dengue etc. under contract clause 6.15 provision.

In reporting period contractor has maintained first aid facilities on project. Total 200 times labours and staff have taken first aid facilities.

9 . ENVIRONMENTAL PERFORMANCE:

i) Site Specific EMP (SSEMP)

SSEMP is re-submitted to NHA and ADB for final approval. Contractor has started implementation of SSEMP. Environmental Parameter monitoring and Grievance Redressal Cell and Register are included in key requirement of SSEMP. Contractor has done monitoring of Water quality, Air quality and Noise levels. Complaint Register is maintained at base camp.

ii) Relocation and Operation of Concrete Batching Plants

Concrete work on package III is in progress. There are now three batching plants on this package. Concrete batching plant at RD 4+850 is operational at moment. Concrete batching plant at RD 3+500 will be shifted to new location at Rd 8+974. Contractor will soon install one more concrete batching plant at 4+850.

iii) Relocation/Shifting of Grave from Right of Way

Some obstructions are observed in right of way. Electric Poles and Graveyards. There are two locations where graves are observed in ROW. NHA is informed about the issue. Shifting of electric poles will be required. Grave yards may be protected within Row. Electric poles will be shifted through WAPDA department.

iv) Contractor Construction Camp site

- Contractor has established camp site at RD 3+500. Contractor has constructed offices, main store, workers accommodations, workshop, and steel yard. Fire Extinguishers are provided at feasible locations. First Aid facilities are also provided at Camp site.

- Environmental Education and awareness about safety measures at steel yard, store area and concrete batching plants are done. Water quality,noise levels and air quality were checked at base camp during instrumental monitoring in April 2016.

- Contractor has established a dispensary as demand of first aid and health care is increased. Paramedical staff is fulltime available at base camp at dispensary. First aid medicines are provided in dispensary. Total 200 time dispensary is used by labours and staff in the reporting period.

- Medical Waste is collected in waste bin and after collection of all waste of one week, all are buried at proper place at base camp. All type of solid steel scraps from steel yard and work shop are collected in specifically marked bins and is shifted to scrap yard. Kitchen solid waste and office solid wastes are collected in similar manner and sent to solid waste collection point .Ultimately collected by TMA on weekly bases for final disposal at Government designated places. As far as the matter of collection of used oil is concerned it is being collected in fuel spill trays from the motor workshop and shifted to liquid waste collection point on daily basis where these are stored in drums properly covered with shed and ultimately sold out to oil dealer on quarterly basis or whenever required.

- Waste Water Generation and Treatment as per requirement of EIA and SSEMP is carried out at Base Camp. Contractor has constructed Septic Tanks and Soakage pit and retention small manholes system. As there is no local sewage disposal drainage and other facilities for disposal of waste water therefore waste water is properly treated with treatment septic tanks and pits.

- Camp is fenced and security check post is available at entrance. Currently about 270 Staff and workers are residing in this camp. Contractor is advised to build a recreation area for his labour and staff for good work quality. The kitchen and dining halls of senior staff and labour staff are properly protected from flies and mosquitoes and by providing steel gaze on windows. Dining /cooking staff is educated about fuel use, cleanliness, food washing and solid waste collection and control its generation. Emergency contact numbers and fire safety kits are provided at camp offices, fueling point, workshop main store etc. Mosque is also constructed in the base camp.

- For protection against breeding of mosquitoes, proper plan has been chalked out for drainage of rain water accumulated in the camp being located in depression.

- The windows of residential camps are fixed with steel gaze screens for protection against mosquitoes and spreading of malaria.
- Toilets are disinfected on weekly basis.
- There are four fire points in the main camp.
- Fire extinguishers are provided at the kitchen, work shop, fueling /fuel storage area
- The high sound of generator located near the mosque as detected by SGS lab during testing in April 2016 has been controlled to NEQS limits by providing sound insulation.
- Necessary fire protection training is given to camp staff and it is refilled from time to time. Fire drill is arranged on Quarterly basis.
- Ground water is used as drinking water. Water purifier has been installed to make the drinking water safer for drinking.
- Over all cleanliness condition of the base camp is found satisfactory.

V) Health and Safety Measures

Contractor has arranged sufficient first aid facilities for workers at base camp and at site. Paramedical staff is available at site with dispensary and first aid facilities. Record of first aid use is maintained at site. Environmental Specialists have checked it regularly.

10:Instrumental Monitoring of Environmental Parameters:

Instrumental monitoring of environmental parameters was carried out in April 2016 in supervision of Supervision Consultant's Environmental Specialist. Air quality parameters PM 2.5 and PM 10 were monitored at batching plants and at receptors areas. Noise levels and water quality were checked. PM 10 levels were high than permissible level only at concrete batching plant site (10 m away from plant). Water quality tests revealed that water is not fit for human consumption as biological contamination is detected. Contractor is instructed to provide water purifier with ultra violet treatment tube. Detail report of environmental testing is

attached with report is annex – 2

11. Environmental Screening of Batching Plant site

Environmental Screening of Proposed New location/Site for Installation of Concrete and Asphalt Batching Plants

1 : General Back Ground and Location View on Google Map:

Contractor has proposed new location for installation of Concrete Batching and Asphalt Batching Plants at RD 8+974 along with ROW of project E35 in village Akhoon Bandi. Total 40 Kanals land is leased by contractor for installation of both plants. Akhoon Bandi is a village of Haripur District in Khyber-Pakhtunkhwa, Pakistan, it is located at 34°2'0N 72°56'0E. Dor is major River of proposed site. Proposed area/site is 200m away from River Dor.

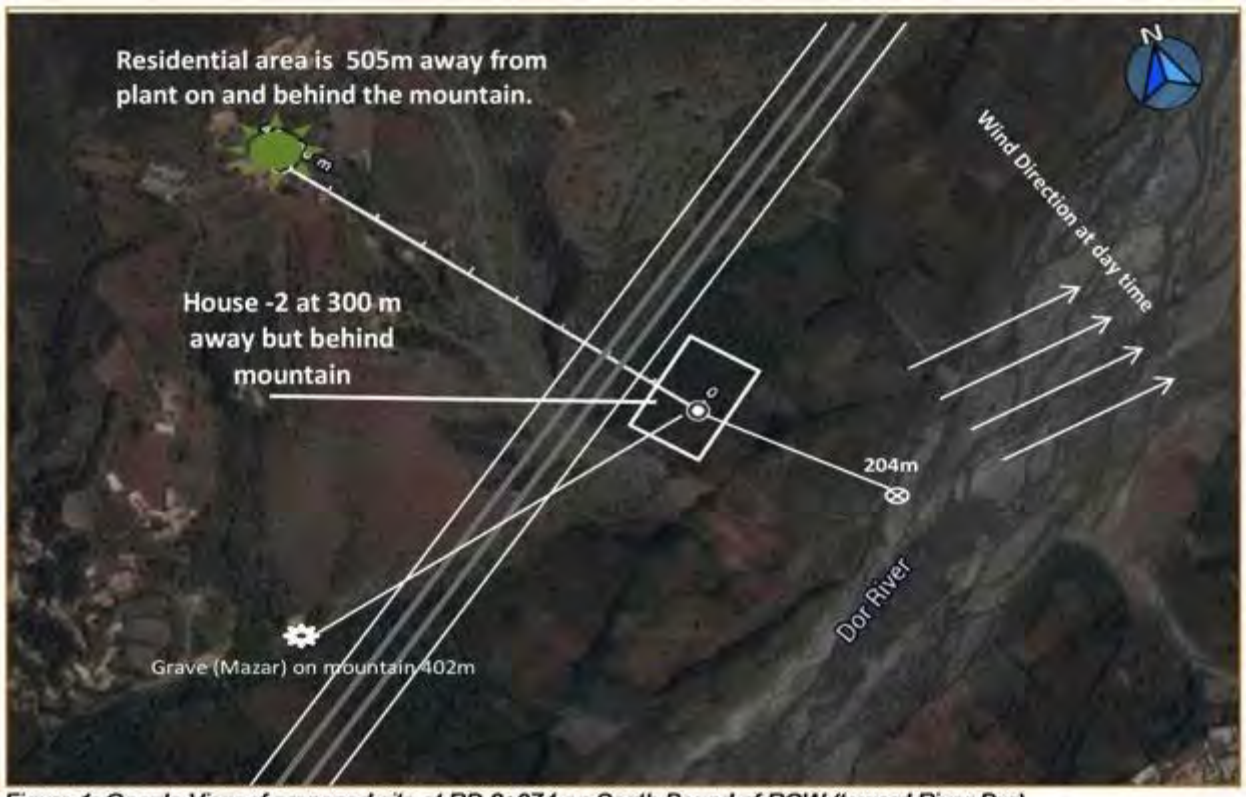


Figure 1: Google View of proposed site at RD 8+974 on South Bound of ROW (toward River Dor)

2: Status of surrounding Residential area, Sensitive Receptors and Wind Direction

Residential/Population is 300-505m away from proposed site on North side but behind the near mountains. There is no sensitive receptors (sensitive to noise and dust) within 1000m a distance. Populated area is at distance of 300-505m but all houses are behind the mountain and there will be no negative environmental and social impacts due to

installation and operation of plants. Normally wind direction is blowing from West to East at day time and East to West at night time. Surrounding land is agricultural and currently wheat is cultivated. Land leased by contractor has wheat crop and fruit trees (Guava) on it. Contractor has already compensated the land owner for crops and trees as mentioned in lease document submitted to the Engineer. Location is shown in figure2 given below:

Figure 2: Location view of Plant site

3 Table and Water Course

Water table is high at this area due to river. Water is available in 15 feet depth. There is a water course falling in proposed site. Water course is (channel) is flowing from East to West. Water of this water course fully is used for agricultural purpose. Protection of this water channel is mandatory for contractor. As per contractor plan this water course is falling in between concrete batching plant and asphalt plant facilities sites.

Water Course Dor.

Water Table is high due to River

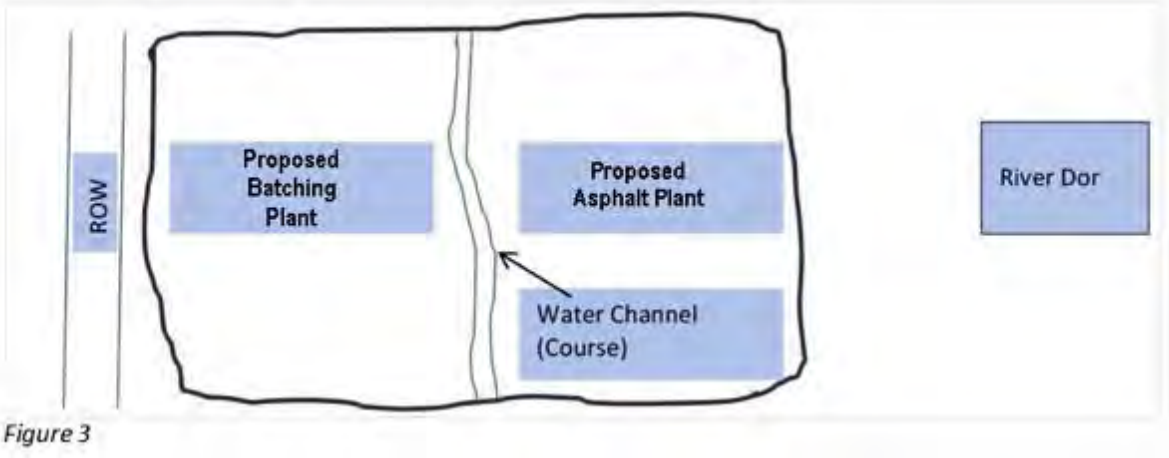


Figure 3

Figure 3

4: Access Routes to proposed site

Local access road of Akhoon Bandi is available for transportation of small LTV but there is a narrow bridge on River Dor therefore Contractor will use his own constructed services/approach road for supply of material.

5: Removal of fruit trees and Crops

Contractor has leased 40 Kanals land at Akhoon Bandi. About 35 fruit trees and 20 other smaller plants and wheat crops will be removed from site. Contractor has already paid compensation of all these trees and crop. Contractor can safe crop if they can only install concrete batching plant a plot- 2 proposed for concrete batching plant as shown on figure 3. In response of trees cutting, plantation of plants will be carried out after removal of concrete plant facility. Plantation plan will be on acceptance and decision of land owner but focus ratio will be 1:3.

6: Water Source

River Dor is located nearest water source but as per EMP stipulated with Contract, contractor cannot use water of river for construction and washing purpose. Contractor will use his own water bore source or water tankers.

7 Electricity

There is no electric supply line of WAPDA near proposed site. Contractor will use generator or they may be request to WAPDA for electricity supply at proposed site.

8: Waste Water disposal drainage/Sewage System at proposed area

Contractor will not dispose any effluents/waste water into river or water course. Proper septic tank and soakage pits will be constructed for propose treatment of all waste water.

9: Health Care Facilities

As there is no BHU or Hospital at proposed area in nearby locality therefore contractor will provide sufficient health care facilities at proposed site for staff and labours.

12: Possible Negative Environmental Impacts

The major environmental issues/impacts associated with installation and operation of asphalt and concrete batching plants are noise, air pollution in the form of dust, gaseous emission and odor, disposal of effluents and traffic implications. The different aspects, impacts and nuisances associated with asphalt productions are listed below.

Activity	**Aspects**	**Impacts/ Nuisances**
Installation and Establishment of Plants Site		
• Site Selection • Site preparation • Installation of plants facilities	• Generation of excavated soil, debris and construction wastes • Trees cutting, vegetation and crops clearing etc. • Use of heavy machinery • Use of local access roads.	-Dumping of waste and spoil into agricultural lands and contamination of water course and river water. -Noise, dust, mud and traffic impacts -Noise and visual impacts -Disturbances to surrounding community if contractor use local roads for supply of materials and equipment's. -Disturbance is water supply to nearby agricultural land. - Clearing of trees and

Operation Phase of Plants		
• Production of Concrete and asphalt	• Fine and coarse aggregate storage • Storage of sand and crush etc. • Storage of chemical (admixture) • Use of heavy machinery including loaders for the loading and unloading of aggregates and hot mix asphalt, concrete etc. • Combustion of diesel or gasoil for drying of aggregates and for maintaining bitumen at the required temperature • Spills of hydrocarbons, namely, HFO, Diesel, Bitumen, Lubricants and oil from Lorries or mechanical part of plant and storage tanks. • Any spills or waste arising from the process and waste or left over from trucks. • Used oil from maintenance and repairs of vehicles and machinery.	• Dust emissions • Noise and vibration • Mainly emission of SOx, Nox,CO, CO2 and PM10. • Odour • Risk of underground and surface water pollution at River and water table. • Dumping of waste and spoil into agricultural lands and contamination of water course and river water. • .Timber trees and bushes cutting by labours for cooking purpose from near mountain. • Use of river water for washing of vehicles and machines which will result water contamination. • Disturbance and disconnection of water supply into water course.

		• Soil contamination due to cemented water, bitumen contamination and oil spills etc. • Impacts of cemented water on near agricultural land.
• Delivery activities	• Movement of vehicles • Loading and unloading	• Traffic impacts like congestion, emissions of dust, traffic hindrance etc. • Noise disturbances occurred. • Dust emissions Produced or released. • Impacts on health of workers due to water quality, air pollution and noise levels.

13: RECOMMENDATION AND MITIGATION MEASURES

Supervision Consultant has evaluated the proposal of contractor and finally recommended that contractor will initially install concrete batching plant at proposed location with mitigation measures. On top priority contractor will protect water course with a U shape drain construction and this drain will be covered with slabs. Water of this water course will not be used for production or other any use at site. Contractor will maintain a good relation with surrounding land users.

(i) Noise Level and Mitigation measures

All electric motors shall be housed in soundproof enclosures to keep noise level within permissible limits as per NEQS. Noise level will be checked on regular basis. Proper and mandatory personal protective equipment's (PPEs) will be provided to all staff and workers to protect them from impacts of noise levels.

(ii) Air Emissions and Mitigation Measures

- All emissions from the concrete batching plant and asphalt plant and burners shall comply with the NEQS stack emissions standards applicable.
- The asphalt plant shall be equipped with a scrubber or an odour control device and regularly maintained so as not to cause odour nuisances.
- The pollution control equipment shall be equipped with bag filters or wet scrubbers in order to trap the PM emissions.
- Water sprinklers shall be deployed to sprinkle the water to minimize dust emissions especially on access routes.
- Materials transport will be ensured with use of tarpaulin/cover sheets.
- The working platform including the loading area shall be concreted and kept clean at all times.
- Proper and mandatory personal protective equipments (PPEs) will be provided to all staff and workers.

(iii) Water and Land Resources

- Contractor will not use river water or water of near water courses for construction or production of concrete, washing purposes etc.
- Waste water will be treated before disposal through septic tank and soakage pit.
- Contractor will not use local stream water for washing of vehicles and heavy machines.
- No private water source will be used at sites.
- Separate water Bore Hole will be arranged for Drinking and washing etc. purposes at plant site.
- Cements, Admixture, Bitumen and Lubricants and Fuel will be stored on impervious floor/platform to minimize impacts on water and soil with proper roofing, fencing and signs etc.
- Precautionary measures of all chemical at plant site will be ensured at site.
- Proper drainage/sewage will be provided at asphalt plant site to control water pollution due human excreta and domestic wastes.
- Water used for construction purpose should be clearly demarcated
- Contractors will be required to instruct and train their workforces in the correct storage and handling of materials and chemicals that can potentially cause soil contamination.

- Workshop/maintenance of machines and vehicles will be limited to commercial workshop.

(iv) Waste Disposal (Solid and wastewater)

- All wastewater shall be disposed to the satisfaction of the Municipality Wastewater Management and National Environmental Quality Standards for Municipal and liquid Industrial Effluents (32 parameters).
- Necessary bunded walls shall be provided around fuel and bitumen storage tanks to cater for any accidental spillage/leakage. A contingency plan shall be prepared and implemented to combat any case of accidental spillage of fuels.

  All hazardous wastes shall be collected and disposed of as per NEQS.
- Necessary measures shall be taken to prevent any hydrocarbon spills from Lorries and storage tanks to infiltrate and contaminate the underground and surface waters during construction and operation phase.
- Solid wastes including any sludge shall be collected and disposed off as per EIA. Dumping of any waste is not allowed in water source or in agricultural land.
- Any spills or left over of asphalt shall be recycled in the process or alternatively used in the maintenance of damaged roads/tracks and pot holes.
- Training of site personnel in waste management and chemical waste handling procedure;
- Recording system for the amount of waste generated, recycled and disposed;
- Proper storage and site practices to minimize the potential for damage or contamination of construction material;
- General refuse should be stored in enclosed bins to separate from construction material.

(v) Vehicular Movement

- The axle load of trucks entering and leaving the plant compound shall be in conformity with the Road Traffic Regulations.
- The movement of machinery will be restricted to the work corridor.
- Alternative route will be provided to the peoples of the area, if applicable.

(Vi) Worker's Health & Safety

- Personal Protective Equipments (PPEs) will be provided to all labours and Staff on site.
- Safe drinking water is to be provided at site to all workers.
- First Aid Box is to be provided at site.
- A Health & safety of the workers will be ensured by the contractor.
- Construction machinery will not be left unattended.

(Vii) Tree Cutting/Vegetation Clearing

- Trees cutting and use of fuel wood will be not allowed at site. Contractor will use LPG Cylinder for cooking.
- Diesel will be used for heating and melting bitumen.

(Viii) Emergency Response Preparedness

- Fire extinguishers, Fire alarm, sand buckets are to be provided at site.
- Workers should be trained in operation of above mentioned facilities.
- PPEs should be provided to all workers to minimize or avoid harmful impacts.

(IX) Site Restoration

The site shall be reinstated or restored at the end of the operation phase as per satisfaction of land owner

Attachments

ANNEXRE 1

Compliance Monitoring Checklists

Monthly Environmental Performance Monitoring Checklists

Date of Monitoring: _____

Package #_____

Time_____Weather_____.

Construction work activities in progress_____

_____

Project Manager _____ ☐

Environmental Specialist_____ ☐

HSE Staff available_____ ☐

Dispenser (Clinic)_____ ☐

Availability of Site Specific EMP and EIA in office of PM and Environmental Specialist

☐ Yes _____

Daily Tool Box Talk details/Record availability ☐ Yes ☐ No

How much/many labours are trained and aware about Environmental Safeguards in this month _____

Details of Tool Box Talks delivered in this month

Dates	No. of Participants	Venue	Topic

Personal Protective Equipments (PPEs)

How many labours and workers are observed in PPEs and what type of PPEs they have on work at site _____.

What type of improvement is required in next step on behalf of Contractor and Consultant _____

_____.

Construction Sites without PPEs provision _____

_____.

How many labours got mandatory PPEs and how record is maintained?

_____

_____

_____.

What are methodologies and policies for ensuring regular use of PPEs?

_____

_____?

How much PPEs are purchased in this month for staff and labours?

_____

_____.

First Aid Facilities details (Contractual Provision 6.7)

Dispensary on project site	Yes	No	Details of Dispenser
Dispenser (Nurse) at Clinic	Yes	No	
First Aid Facilities	Yes	No	
Ambulance	Yes	No	

Record of First Aid provision and injuries

How many time dispensary is used by labours/Workers in this month? _____

What type of treatment or aid is provided to labours/staff _____

_____

_____.

In how many sites, labours are working at height (more than 10feet) and what are protection and safety measures _____

S.No	Names	Designation /Employment Number	Construction Activities	Helm	Safety	High Visibility	Goggles and
1.							
2.							
3.							
4.							
5.							
6.							

Environmental Trainings till date delivered by contractor on site_____.

Details of Environmental Trainings

Training Dates	Venue	Participants	Details
Recommendation			

Workshop Area Management

How many workers/Mechanics are working at workshop? _____

Is Tool Box Talks about operation of workshop delivered to them? _____

Is there any Oil Spills out side of workshop area? _____

How many workshop oil trays are provided at workshop? _____

How many vehicles/machines are maintained in workshop? _____

How many fire extinguishers are provided at workshop? _____

What is arrangement of storage of waste or used lubricants? _____

_____

_____.

Is impervious floor/platform provided at workshop? _____

How much PPEs are provided to labours and mechanics at workshop?_____

_____

Fuel Storage Area at Base Camp

Fuel Storage area is well away from kitchen_____and there is_____water course in 50 m distance.

How fuel is stored?_____. How much fuel is stored this month?_____liters.

Fuel storage area is marked and fenced as per requirement of SSEMP? _____

_____.

What fire control measures are arranged_____.

Area of fuel storage area is provided with impervious floor/platform_____.

Is record maintained by fuel incharge_____.

Is ventilation provided at living rooms? _____

What is size of rooms at camp site (length × Width ×Height)_____

_____.

How many solid waste drums and waste bins are placed at camp site?_____.

Is Drinking water tested by Contractor as per SSEMP?_____

_____

How many toilets and washrooms are provided for labour at camp?

_____.

Are fire extinguishers provided at camp site at kitchen?_____.

How many cooks and helpers are working at camp site?

_____

What are arrangements for flies' control? (Control Spray)_____

_____.

Is Contractor provided dining hall for workers at camp? _____

What is arrangement for sitting at dining hall and what are arrangements of water supply for labours_____

_____.

Recommendations

_____

_____

_____

_____

Environmental Specialist of Contractor **Environmental Specialist of Consultant**

_____ _____

Annexure 2

Instrumental Monitoring Of Environmental Parameters

Client: **ZKB Engineering**

Our Ref.: EHS - LHR - 240 / 2016

2-Apr-16

Test Report No. 712568

Date of Intervention: **Saraie Saleh Harripur Abbotabad Roa**

22-Apr-16

Place of Intervention: **Generator # 01 (50KVA)**

Monitoring Point:

Time of Intervention: **12:45**

Load: **40%**

Fuel Type: **Diesel**

Parameters	Unit	Reading 01	Reading 02	Reading 03	Limits as per NEQs
CO_2	%	2.74	2.74	2.74	-
O_2	%	14.70	14.70	14.70	-
CO	mg/Nm^3	382.00	383.00	383.00	800
SO_2	mg/Nm^3	5.00	6.00	5.00	1700
NO_2	mg/Nm^3	22.00	23.00	23.00	-
NO	mg/Nm^3	294.00	295.00	294.00	-
NOx	mg/Nm^3	316.00	318.00	317.00	600
Smoke	R.M Scale	1.00			2
Particulate Matter	mg/Nm^3	39.00			300

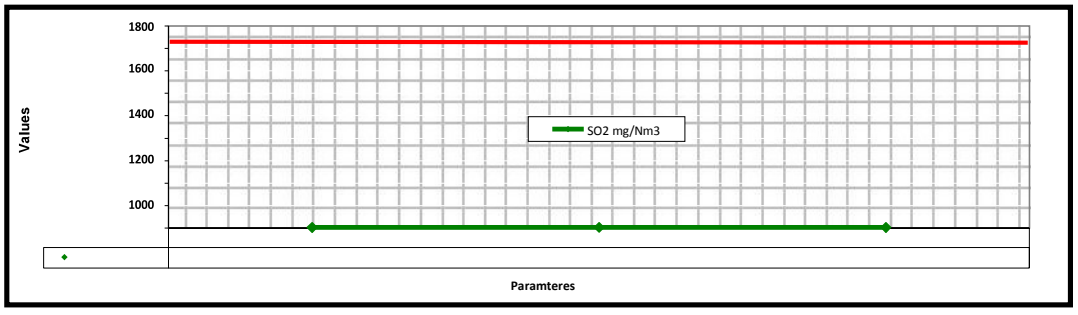
ND : Not Detected

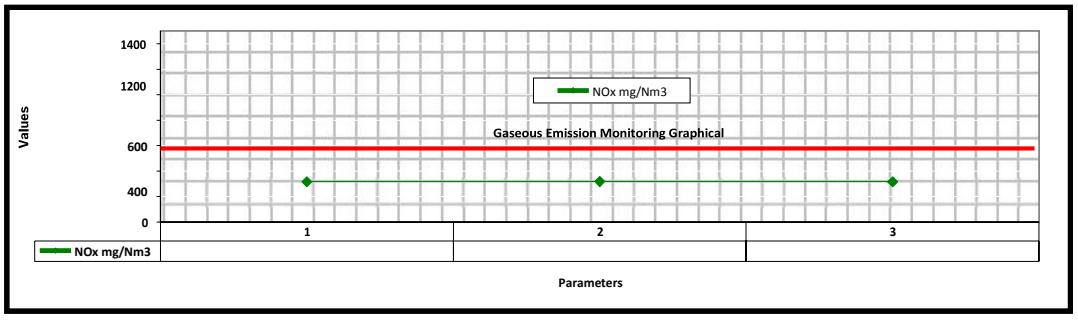
*Nox limits as per NEQS:

Gas Fired: 400

Oil Fired: 600

Coal fired: 1200



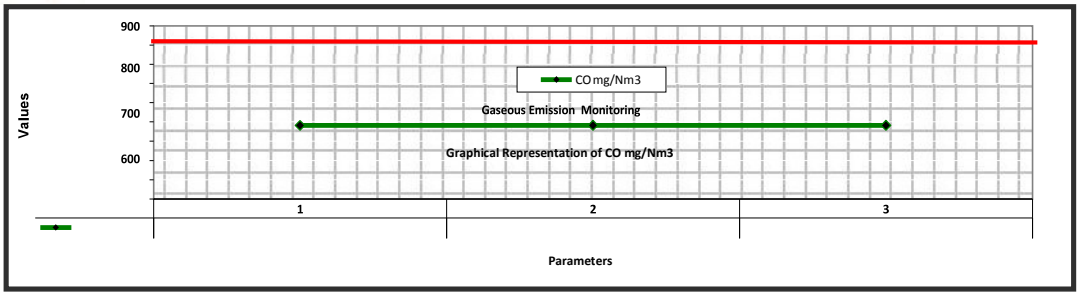


NEQS Limits :

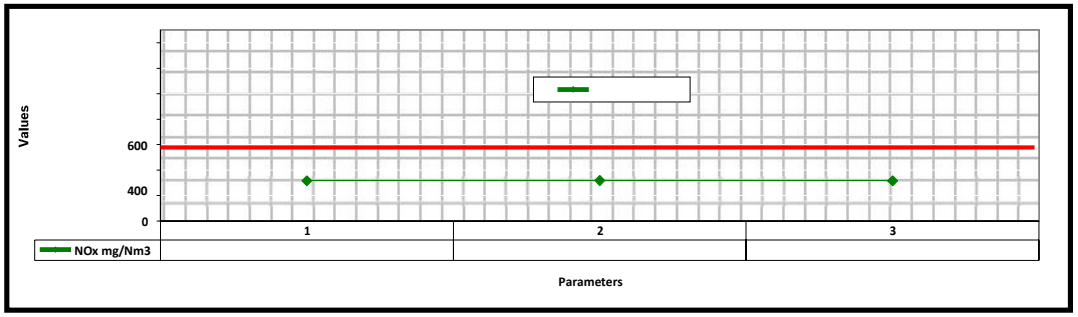
Actual Reading :

SGS PAKISTAN (PVT.) LTD.

E (QA) **SH**



	1	2	3
SO2 mg/Nm3	5.00	6.00	5.00



NEQS Limits :
Actual Reading :

SGS PAKISTAN (PVT.) LTD.

E (QA) **SH**

STACK EMISSION MONITORING

Client: ZKB Engineering

Our Ref.: EHS - LHR - 240 / 2016

Date of Intervention: 2-Apr-16

Test Report No. 712568

Place of Intervention: Saraie Saleh Harripur Abbotabad Roa

Monitoring Point: Generator # 02 (250KVA)

22-Apr-16

Time of Intervention: 13:00

Load: 40%

Fuel Type: Diesel

Parameters	Unit	Reading 01	Reading 02	Reading 03	Limits as per NEQs
CO_2	%	4.75	4.75	4.75	-
O_2	%	14.50	14.50	14.50	-
CO	mg/Nm^3	768.00	769.00	771.00	800
SO_2	mg/Nm^3	0.00	0.00	0.00	1700
NO_2	mg/Nm^3	45.00	46.00	46.00	-
NO	mg/Nm^3	718.00	717.00	718.00	-
NOx	mg/Nm^3	763.00	763.00	764.00	600
Smoke	R.M Scale	1.00			2
Particulate Matter	mg/Nm^3	49.00			300

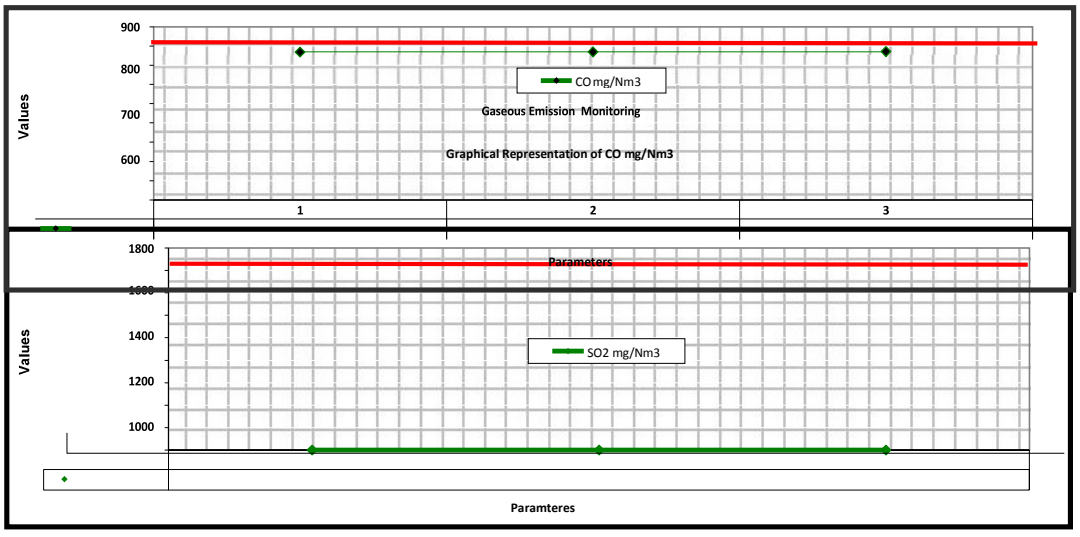
ND : Not Detected

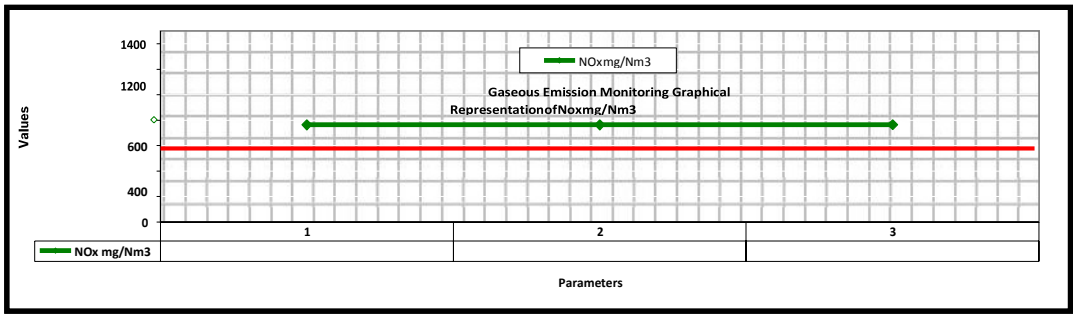
*Nox limits as per NEQS:

Gas Fired: 400

Oil Fired: 600

Coal fired: 1200





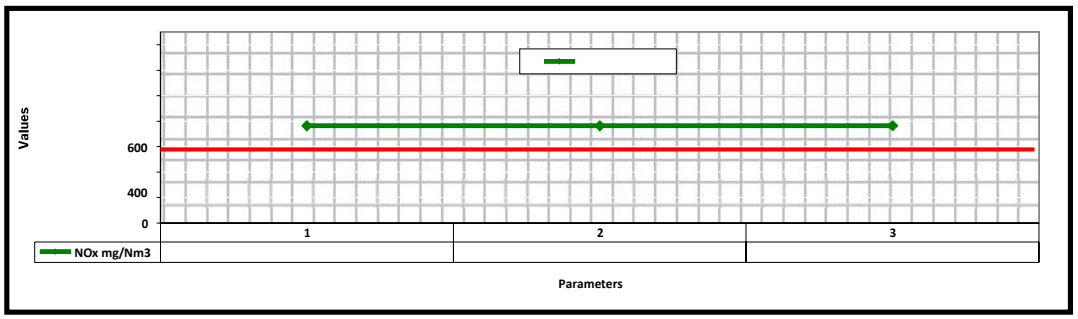
NEQS Limits :

Actual Reading :

SGS PAKISTAN (PVT.) LTD.

E (QA) **SH**

	0	1	2	3
SO2 mg/Nm3		0.00	0.00	0.00



NEQS Limits :
Actual Reading :

SGS PAKISTAN (PVT.) LTD.

E (QA) **SH**

NOISE LEVEL MONITORING

Our Ref.: EHS - LHR - 240 / 2016

Test Report No: 712568

22-Apr-16

Client: **ZKB Engineering**

Date of Intervention: **2-Apr-16**

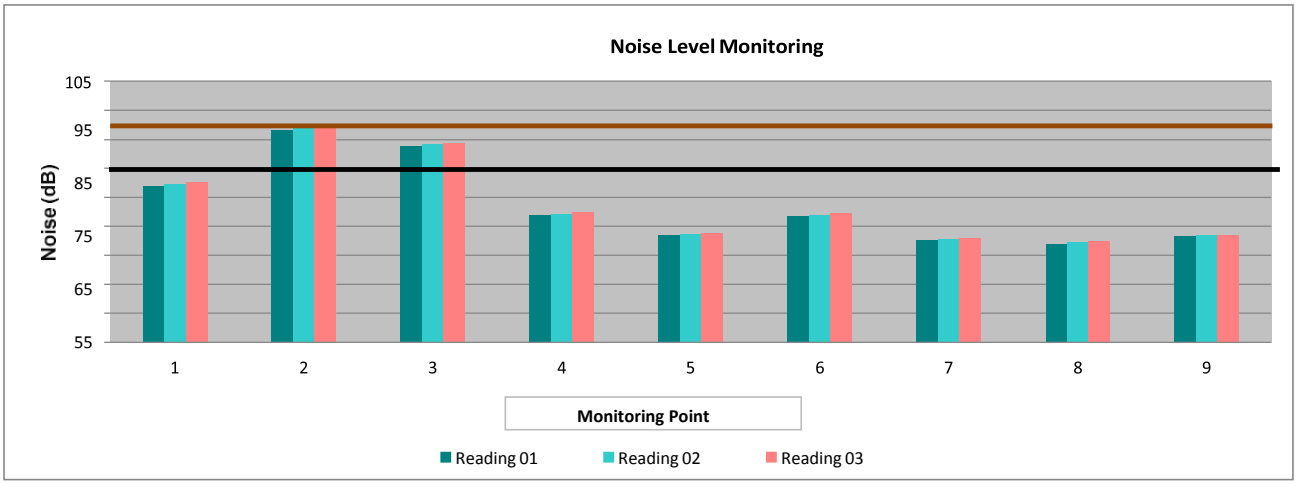
Place of Intervention: **Saraie Saleh Harripur Abbotabad Road**

Time Weighting: **F (Fast) Response**

Frequency Weighting: $L_{eq(A)}$

Sr. #	Monitoring Points	Reading 01	Reading 02	Reading 03
1	Behind Batching Plant Screen	69	69.5	70.1
2	Batching Plant Generator	88.1	88.7	88.9
3	Batching Plant	82.8	83.2	83.6
4	Road near Batching Plant (Outer Periphery)	58.9	59.2	59.8
5	Camp Outer Periphery Near Tube well	52	52.1	52.6
6	Camp Outer Periphery Cattle House	58.5	58.9	59.6
7	Camp Outer Periphery Adjucent Steel Yard (Near Community)	50.1	50.6	50.9
8	End of workshop (Outer Periphery)	49.1	49.6	49.9
9	Near Mosque	51.7	51.9	52.0

per OSHA; Standard Max Permissible Limit is 90 dB



As per NEQS; Standard Max Permissible Limit is 75 dB

OSHA Limits:

NEQS Limits:

SGS PAKISTAN (PVT) LTD.

Ambient Air Quality Monitoring (PM_{10})

Client : **ZKB Engineerings**

Monitoring Date : **April 02, 2016**

Place of Intervention : **Harrpur Abbotabad**

Sr. #	Sampling Points	Unit	Results	Limits as per NEQS
1.	Behind Batching Plant Screen	µg/m^3	59.2	150
2.	Material Loading Area of Batching (during Loading)	µg/m^3	309.7	150
3.	Road near Batching Plant (Outer Periphery)	µg/m^3	14.8	150
4.	Outer Periphery at the end of steel yard near community	µg/m^3	17.2	150
5.	Outer Periphery at the end of workshop	µg/m^3	18.8	150
6.	Near Mosque	µg/m^3	183.7	150

µg/m^3: micrograms per cubic meter

Annexure 3

Pictorial Views of the Project

PICTORIAL ViEW OF ENVIRONMENTAL COMPLIANCE

Photo 1 & 2: Grave yards falling in ROW are save without any land acquisition.

Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

Photo 12


Photo 13


Photo 14
Photo15

Photo 16

Photo 17

Photo 18

Photo 19

Photo 20

Photo 21

Photo 22

Photo 23

Photo 24


Photo 25

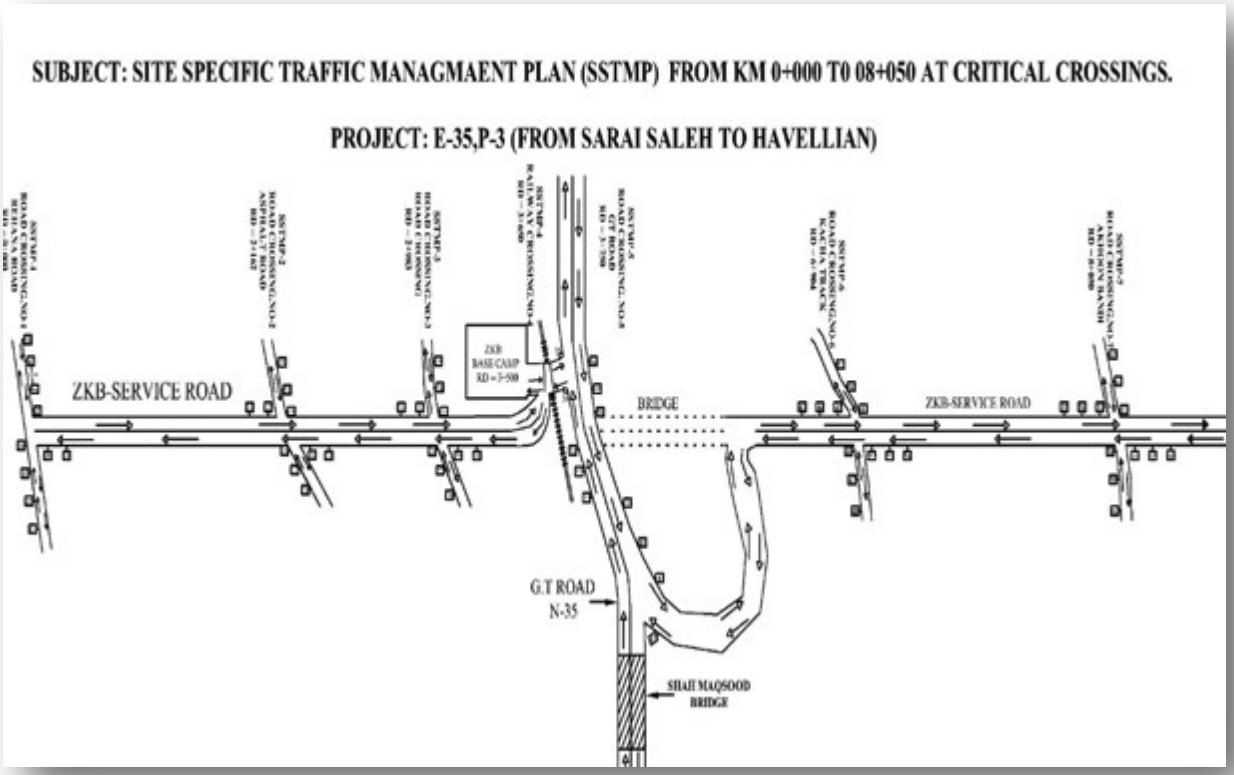
Photo 26

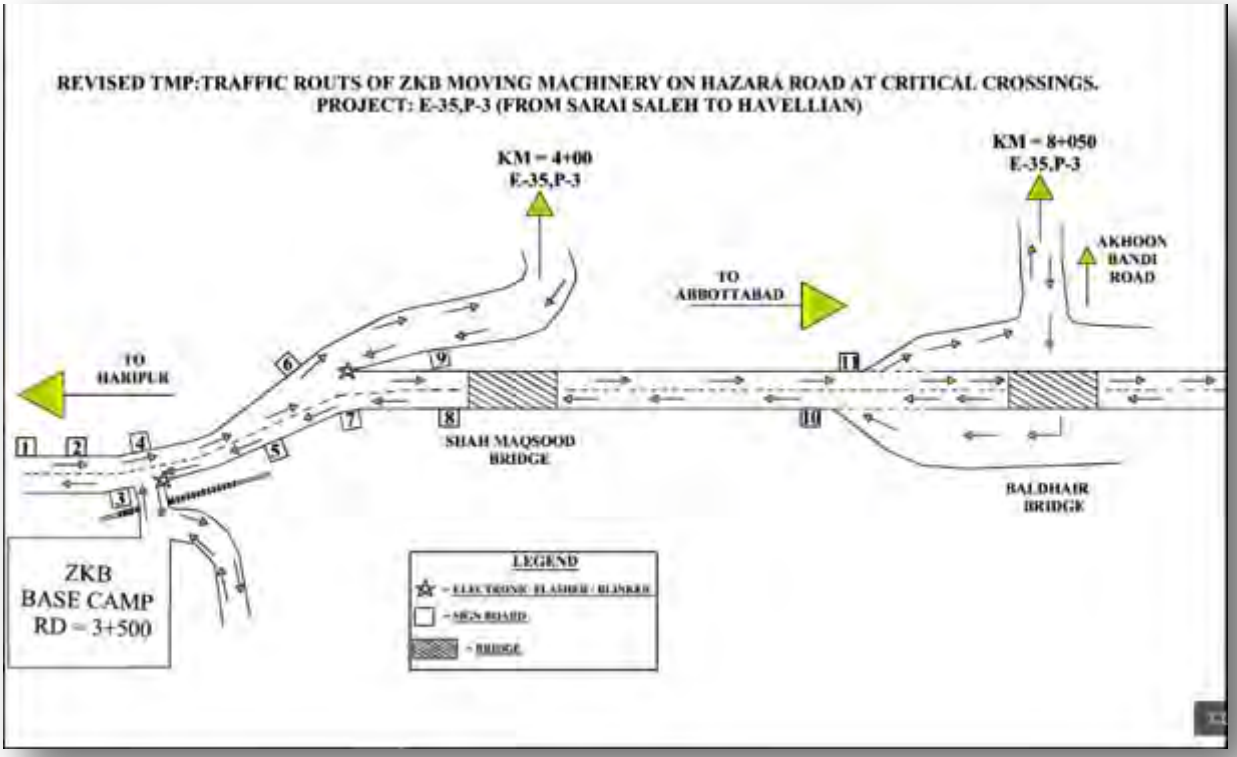

Photo 27

Photo 28

ANNEXURE 4

SITE SPECIFIC TRAFFIC MANAGEMENT PLANS

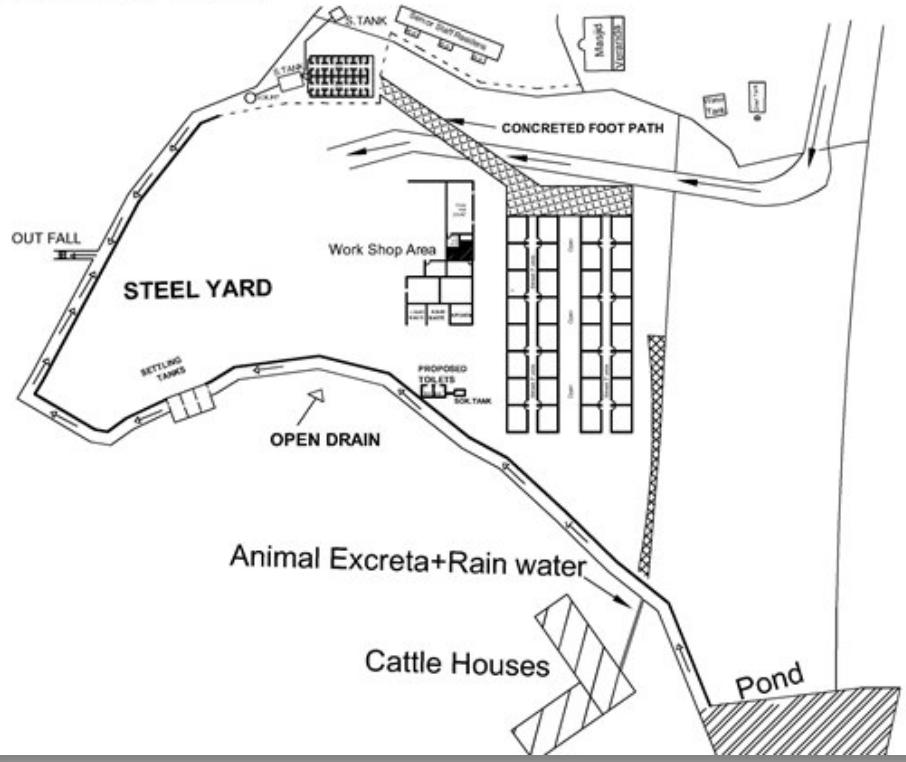




ANNEXUR 5

BASE CAMP LAYOUT SHOWING RAIN WATER DRAINAGE PLAN

Subject: Layout of base camp showing drainage of rain water mixed with waste of cattle house and concreted footpath to access to toilets.



ANNEXURE 6
ON SITE LECTURES

PROJECT: HASSANABDAL-HAVELIAN SECTION OF E-35 (P-3)

HSE TOOL BOX TALK RECORD

Topic : Snake bit

Date : 22-06-2016

Doscripitinn: use of vaccine if someone bitten by snake

Area: R.D = 6+00

SR. NO.	NAME OF WORKER / STAFF	DESIGNATION	SIGNATURE	ZKB SUB-CONTRACTOR	REMARKS
01	Mumtaz	Labour		Sub-contractor	
02	Iqbal	"		"	
03	Kamran	"		"	
04	Adnan	"		"	
05	Furqan	"		"	
06	Mushtaq	"		"	
07	Naheed	"		"	
08	Ahmed Ali	"		"	
09	Zaheer	"		"	
10	Sohail	"		"	

DELIVERED BY

SITE HSE SUPERVISOR

DOHWA ENGINEERING CO.,LTD.

Zahir khan & Brothers
Main Camp.Toot Mehra Near Donaliyan stop
E-mail: zkbe35@gmail.com

PROJECT: HASSANABDAL-HAVELIAN SECTION OF E-35 (P-3)

HSE TOOL BOX TALK RECORD

Topic: Transport Hazards

Date: 27-7-16

Description: Transport & risk controle

Area: Base Camp

SR. NO.	NAME OF WORKER / STAFF	DESIGNATION	SIGNATURE	ZKB SUB-CONTRACTOR	REMARKS
01	Adeel	Driver		Z.K.B	
02	Wali Mohammad	"		"	
03	Akram	"			
04	Khan Afsar	"		"	
05	Razzaq	"			
06	Toheed	"		"	
07	Liaqat	"		"	

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PROJECT: HASSANABDAL-HAVELIAN SECTION OF E-35 (P-3)

HSE TOOL BOX TALK RECORD

Topic: Electrical Safety

Date: 29-07-2016

Description: Safety measure for electrical Hazards

Area: 4+850

SR. NO	NAME OF WORKER / STAFF	DESIGNATION	SIGNATURE	ZKB SUB-CONTRACTOR	REMARKS
	Waseem	Labour		Z.K.B	
	Zubair	Plant operator		"	
	Waqar	Helper		"	
	Abdul malik	Labour		"	
	Saad	"		"	
	Shahzaib	"		"	
	Ajmal	Helper		"	
	Saifullah	Electrician		"	

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PROJECT: HASSANABDAL-HAVELIAN SECTION OF E-35 (P-3)

HSE TOOL BOX TALK RECORD

Topic: Fire Hazards Date: 25-07-2016

Description: Fire Safety & risk control Area: 4+925 (Sub base camp)

SR. NO.	NAME OF WORKER / STAFF	DESIGNATION	SIGNATURE	ZKB SUB-CONTRACTOR	REMARKS
01	Aesalan	Labour		Sub-contractor	
02	Shoaib	"		"	
03	Ethisham	"		"	
04	Atif	"		"	
05	Basit	"		"	
06	Iqbal	"		"	
07	Azhar	"		"	
		"		"	
				"	

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SITE HSE SUPERVISOR

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PROJECT: HASSANABDAL-HAVELIAN SECTION OF E-35 (P-3)

HSE TOOL BOX TALK RECORD

Topic: Mosquito

Date: 21-6-2016

Description: Controle & Preventions from Pathengers.

Area: R.D = 4+900

SR. NO.	NAME OF WORKER / STAFF	DESIGNATION	SIGNATURE	ZKB SUB-CONTRACTOR	REMARKS
01	Shoukat	Labour		Sub-Contractor	
02	Zahid	Survey Helper		Z-K-B	
03	Amjad	Surveyor		Z-K-B	
04	Zafar	Labour		Z-K-B	
05	Anwar	Operator		Z-K-B	
06	Raja Nasseed	Labour		"	
07	Jawad	"		"	
08	Waseem	"		"	
09	Arsalan	"		"	

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SITE HSE SUPERVISOR

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Zahir khan & Brothers
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E-mail: zkho36@gmail.com

PROJECT: HASSANABDAL-HAVELIAN SECTION OF E-35 (P-3)

HSE TOOL BOX TALK RECORD

Topic: Noise Pollutions Date: 23-06-2016

Discripition: Controle of Noise Area: R.D - 3+500

SR. NO.	NAME OF WORKER / STAFF	DESIGNATION	SIGNATURE	ZKB SUB-CONTRACTOR	REMARKS
01	Fasal	Labourer		Z.K.B	
02	Thomas	Helper		Z.K.B	
03	Asad	Operator		Z.K.B	
04	Akhter	Labour		Z.K.B	
05	Yousaf	"		"	
06	Ahsan	"		"	
07	Ishaq	"		"	
08	Saqib	"		"	
		"		"	

DELIVERED BY

SITE HSE SUPERVISOR

CHWA ENGINEERING CO.,LTD

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