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CONSTRUCTION MONITORING & EVALUATION PROGRAM

STRENGTHENING & IMPROVEMENT OF PESHAWAR – TORKHAM ROAD (N-5), KHYBER AGENCY, FATA

CONTRACT NO. SOL-391-12-000038

MONTHLY PROGRESS REPORT # 05

APRIL 2013

M&E Consultants

AL-KASIB GROUP OF ENGINEERING SERVICES
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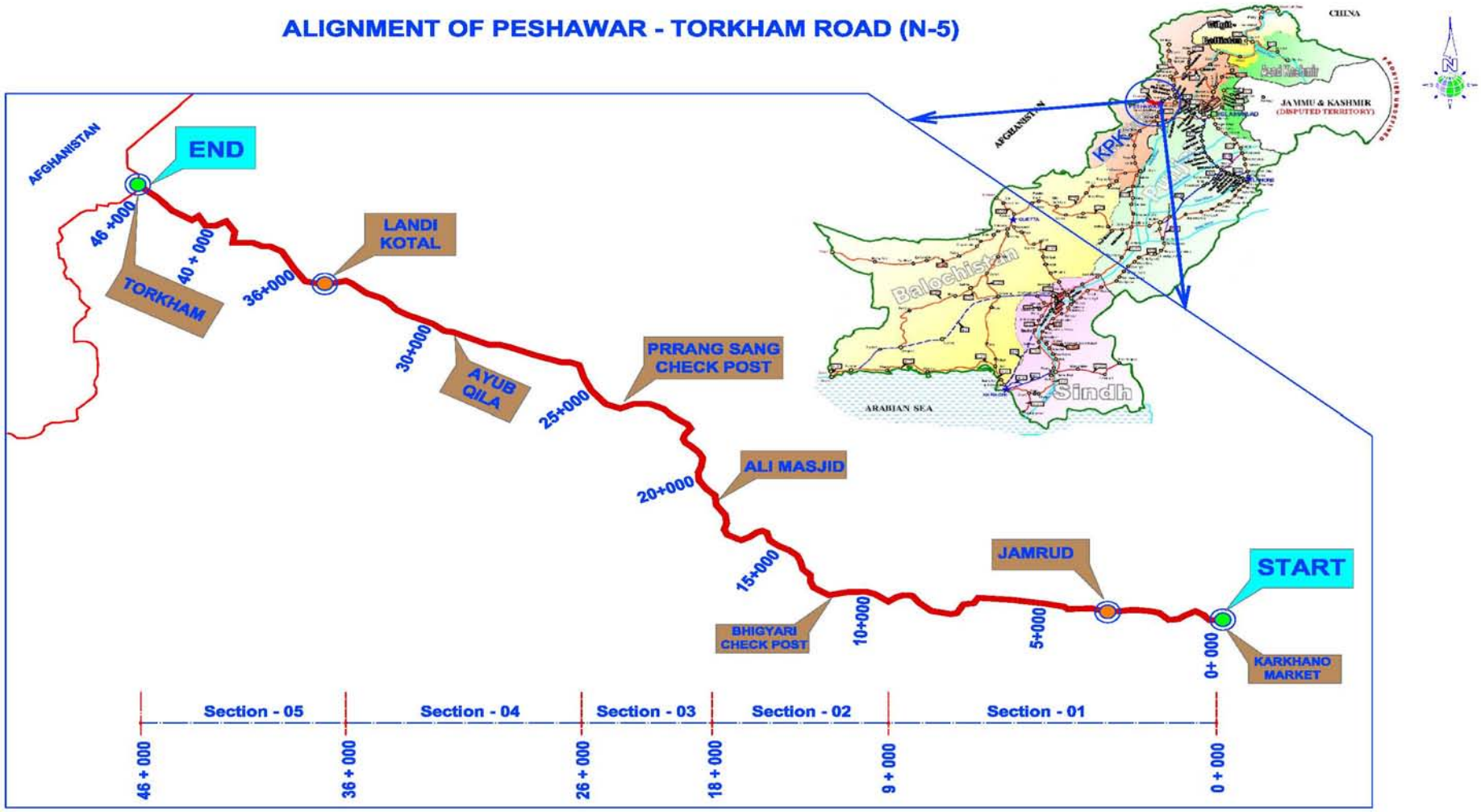
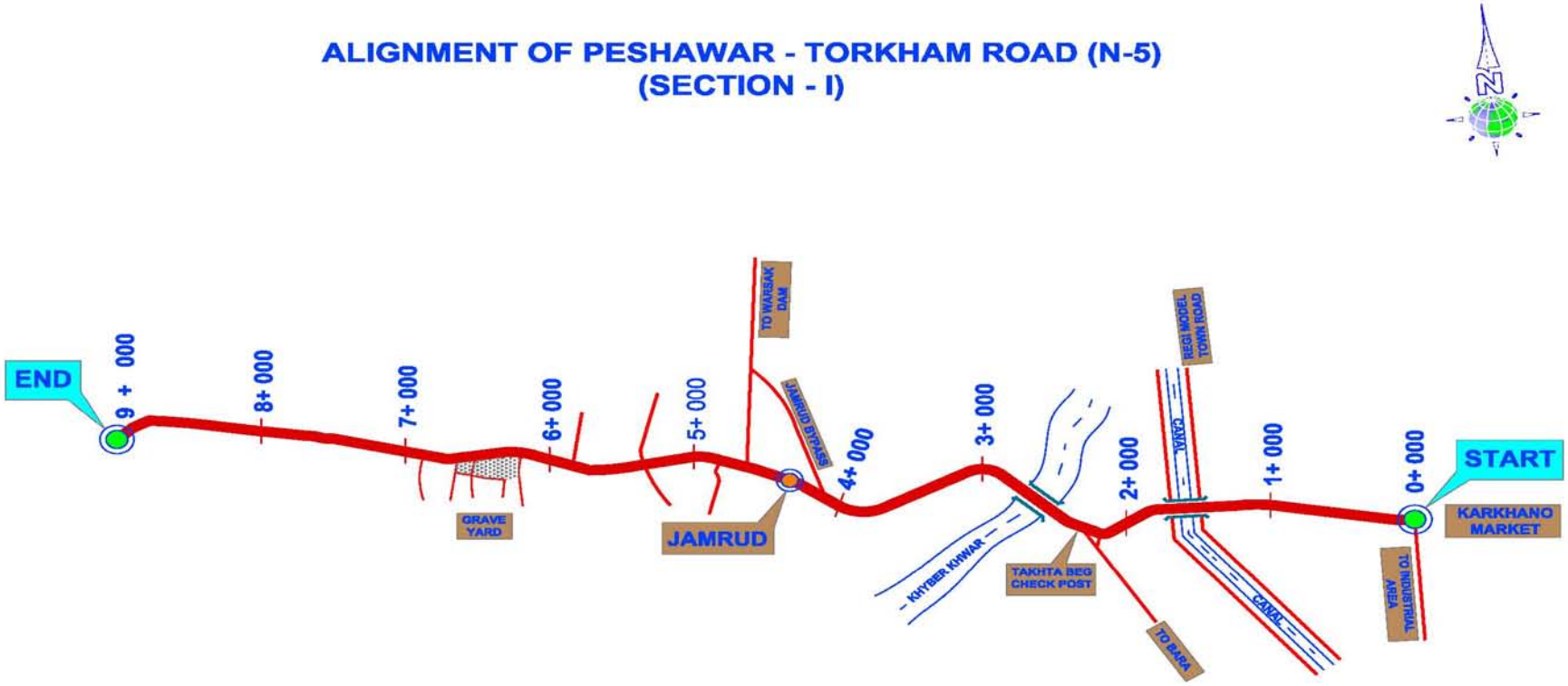
LOCATION MAP




ALIGNMENT OF PESHAWAR - TORKHAM ROAD (N-5)
(SECTION - I)
N
END
9 + 000
8+ 000
7+ 000
6+ 000
5+ 000
4+ 000
3+ 000
2+ 000
1+ 000
0+ 000
START
KARKHANO MARKET
TO WARSAK DAM
JAMRUD BYPASS
REGI MODEL TOWN ROAD
CANAL
GRAVE YARD
JAMRUD
KHYBER KHWAR
TAKHTA BEG CHECK POST
TO BARA
CANAL
TO INDUSTRIAL AREA

EXECUTIVE SUMMARY

Peshawar – Torkham road is part of the overall Contract that includes Construction Monitoring and Evaluation Services of 107 schools and 100-200 KM roads in Khyber Pakhtunkhwa Province. This road connects Pakistan with Afghanistan at Torkham border and serves an important role in the economic activities as well as in providing timely logistic support to the security agencies deployed in Khyber Agency. The project is funded with USAID grant and implemented by FATA Secretariat through FWO (Frontier Works Organization) as EPC (Engineer, Procure, and Construct) Contractor. FATA/FWO has retained the services of M/S NESPAK as the Project Consultants to design and supervise the construction work, while USAID has engaged M/S AGES as M&E Consultants to monitor and report on quality as well as progress of the project. The project is anticipated to be completed by December 31, 2014. For timely completion of the project, the 46 KM Peshawar – Torkham road has been divided in five sections, so that work on all sections is carried out simultaneously. However,until now the Contractor could hardly initiate work on section-II (KM 09 to KM 18) in addition to section - I (KM 00 to KM 09).

Construction activities at section - I (09 KM) of the project were initiated by FWO on October 15, 2012.Total progress of work by end of the last month (March 2013) was 5.83 %. The progress of work significantly increased during the reporting month that resulted in overall progress of 10.88 %. In addition, the contractor has started activities (Earth work, sub base preparation and traffic diversion) in Section – II of the Project, despite non-submission of requisite documents including design, drawings, PC-1, etc. for review/approval by the competent forum.

Major activities and accomplishments by the end of April 2013 can be summarized as below:

- M&E Consultants mobilized their Material Testing Laboratory
- Quality Control tests were conducted both by FWO and M&E Consultants
- Earthwork: 83.27 %
- Sub Base: 65.06 %
- Culverts: 74.62 %
- Retaining wall: 9.08 %
- Drainage and Erosion Works: 1.00 %
- Installation of Asphalt Plant
- Aggregate Base Course trial section successfully completed
- Technical staff of M&E Consultants including Environmental Compliance Officer regularly visited the site and documented their observations
- About 02 KM Traffic Diversion has been constructed in section-II.

PROJECT IMPEDIMENTS & RECOMMENDATIONS

S. No	Issues	Recommendations
1	**Non availability of Project documents:** This is an outstanding issue which has been reminded to FWO/NESPAK several times but received no serious response from their end so far. While a few documents are still awaited for section-I, there is none available for section-II. Work on section-II has been initiated w.e.f March 18, 2013 without having any design, drawings, BOQ/PC-1 etc. All these documents are necessary for effective monitoring of progress as well as quality of works.	Following documents should be immediately provided to M&E Consultants: **Section-I:** • Construction Schedule • Quality Control Plan • Revised / updated alignment and x-sections **Section-II:** • Design • Drawings • PC-1 / BOQ • Traffic Diversion Plan • Construction Schedule
2	**Coordination:** Although, coordination among FWO/NESPAK team and M&E Consultants team has significantly improved since the inception of project, there is still room for further improvement. It is also realized that information sharing among all stakeholders needs improvement. Further, the turnaround time for a response is not established yet and sometime it takes even months to get information or documents. This is really unacceptable for this type of project.	• Check requests should be shared with M&E Consultants well on-time • M&E Consultants should be timely informed before a critical activity (for example laying and compaction of concrete at site) • M&E Consultants should be timely informed in the events of construction activity (critical items in particular) planned during off hours or holidays. • Communication gap among all stakeholders should be minimized. • Reasonable time for response should be established; for

		example 48 hours for issuance of draft minutes.
3	**Progress of work** Although the pace of work is improving with time, it is still far behind the target. One of the reasons appears to be the slow progress on the design side. Construction of section-II is in progress even without any design and construction drawings. Another possible reason seems to be lack of sufficient resources, especially the skilled manpower.	In order to complete the project within the stipulated timeline, the FWO / NESPAK must enhance their resources and expedite their work on the planning, designing and construction of all sections of the project. NESPAK needs to develop a detailed design schedule that will be used to monitor and track design progress, critical design tasks, critical decision dates, and critical actions required by all stakeholders
4	**Quality of work** Poor quality of construction (materials & workmanship) can lead to re-work and disputes, which typically translate to additional costs and schedule delays. Standard engineering practice dictates that the Contractor should prepare and implement formal construction Quality Control (QC) plan. Despite a lapse of six months, the QC plan is yet to be finalized by FWO / NESPAK. Another concern with the construction quality is the lack of effective supervision of sub-contractor's work.	FWO / NESPAK should immediately establish and implement their QC plan, employ a QC officer as agreed in the fortnightly meeting with M&E Consultants, and enhance supervision of sub-contractor's works. FWO should also depute an environmental specialist who shall ensure compliance with the environmental protocols. Fortnightly meetings should be held between FWO, NESPAK and M&E Consultants to discuss quality of work and resolve any outstanding issues.

THE PROJECT

1.1 BACKGROUND:

The Federally Administered Tribal Area (FATA) Secretariat of the Government of Pakistan (GoP) under the Quick Impact Projects (QIPs) in the Khyber Agency has inked an agreement with USAID for financial assistance in the form of a Grant for Strengthening and Improvement of 46 KM existing two-lane, two-way carriageway from Peshawar to Torkham (N – 5). The Project will support the GoP in improving accessibility to the remotely located areas of Khyber agency and enhance logistic support to law enforcing agencies, besides assisting trade between Pakistan and Afghanistan. The Sponsoring agency for the Peshawar Torkham Road Project is FATA secretariat, headed by Additional Chief Secretary FATA. The Executing agency is Frontier Works Organization (FWO).

Table: 1

Civil Works Package Features					
Feature	Section – I	Section – II	Section – III	Section – IV	Section – V
Physical Limits	Peshawar to Torkham				
Kilometers	0+00 to 9+00	9+00 to 18+00	18+00 to 26+00	26+00 to 36+00	36 to 46
Black Top	Total 12.3 meter - 7.3 meter carriageway and 2.5 meter shoulder on either side				
Donor Agency	USAID				
Completion Period	807 Days				
Contract Forms	Conditions of Contract for EPC (Engineer, Procure, Construct)/Turnkey Projects (FIDIC Conditions of Contract – 1999)				

1.2 DESCRIPTION:

The project involves widening, strengthening and improvement of the existing two lane carriageway, including construction of new cross drainage structures, bridges and earth retaining structures. At a first stage, the FATA Secretariat has undertaken to contract section – I of the project from KM: 0 +000 To KM: 9 + 000. The length of each package varies between 08 and 10KM.

Being an EPC form of contract, FWO is fully responsible for design and construction of the project in conformity with the NHA's specifications and standard engineering practices. AGES Consultants has been awarded the Construction Monitoring and Evaluation Services including Quality Assurance and Environmental Monitoring of the project on behalf of the USAID Pakistan Mission.

1.3 M&E SERVICES:

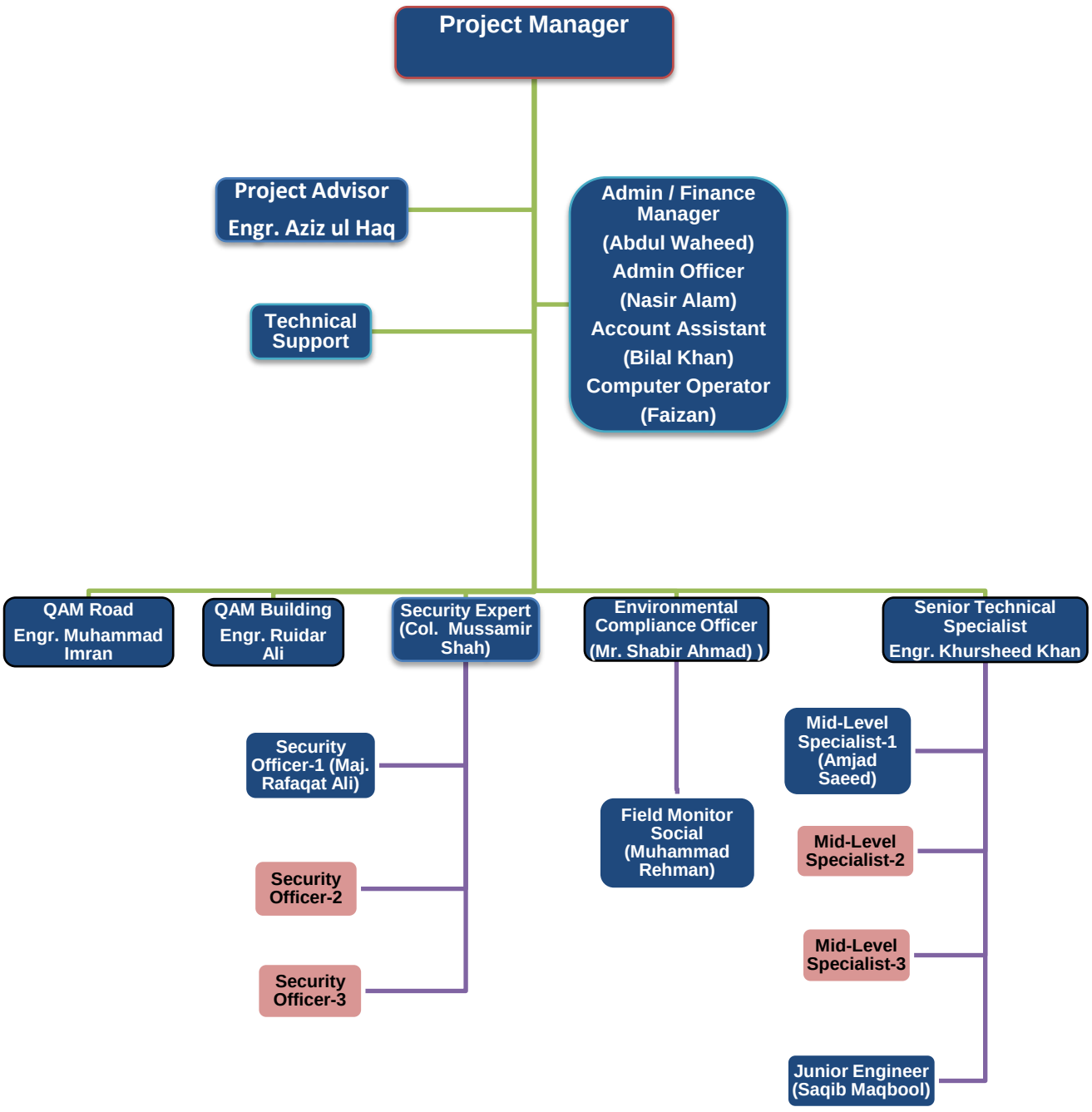
The Contract between USAID and AGES Consultants (called herein as M&E Consultants) for M&E services on the project was signed on September 30, 2012 following submission of proposal in response to RFP issued by USAID Contracting Officer. Mobilization of staff started on October 01, 2012.

1.4 M&E SERVICES OBJECTIVES:

M&E Services for the Peshawar – Torkham Road are meant to:

- Ensure compliance with designs, drawings, and technical specifications
- Establish a high standard quality assurance system
- Monitoring and reporting the progress of work, including identification of the project impediments hampering the baseline schedule and recommend solutions in order to keep the project on track.
- Certification of Milestones payments

1.5 ORGANIZATION CHARTFOR CMEP OFFICE, PESHAWAR

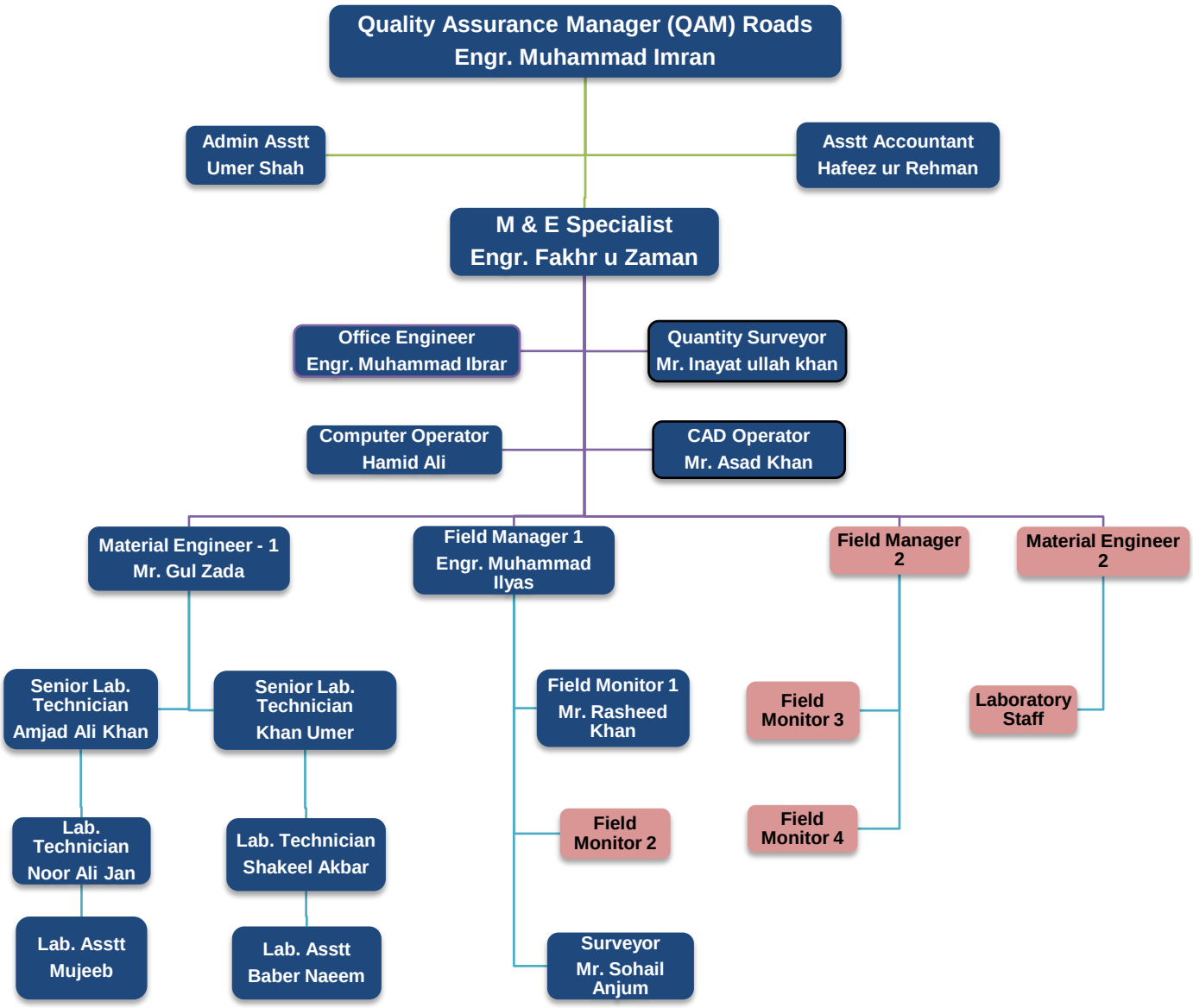


LEGEND:

Mobilized

To be mobilized with expansion of work

1.6 ORGANIZATION CHART FOR ROAD COMPONENT OF CMEP PROJECT



LEGEND:

Mobilized

To be mobilized with expansion of work

ROAD SECTION - I

2.1 INTRODUCTION

Location

The project road (Section I) starts from karkhano market, an outskirt of Peshawar city & ends up just east of Begyarri Check Post. Majority of project road length traverses through densely populated, built-up area.

RoadInventory

Thepaved portion of the existingtwolane road is 6.0m to 7.0m widebituminoussurfacewith1.0m to 2.0m wide untreated shouldersoneitherside. The projectroad (Section – I)passes throughplainterrain.

ExistingPavementCondition

Thevisualconditionof existingpavement reveals signs of distress all along the whole stretchofthe section – I; with less than5% ofroadisin a faircondition. Defectslike rutting,pavement disintegration, poor surface drainage and potholes supplemented by substandard geometry of the road can beobservedcommonlyalongtheentiresection.

Bridges

Thereis01No. newly constructed Major Bridge at CH: KM: 2 + 200 in section – I.Piles of this bridge are exposed due to continuous scouring and warrant detailed assessment followed by appropriate treatment along with minor repair works like Guard Rails, Flood Protection treatment, etc.

Culverts

The Existing cross drainage structures are either completely chocked or have lost their hydraulic capacity significantly. As per PC-1 of Section – I of the project, 14 No's of new Culverts will be constructed while 02 No's existing Culverts are to be rehabilitated appropriately. Similarly construction of 02 No's additional culverts have been included in the construction program as per site requirements. More-over 15 No's of service ducts as a pipe culvert are also being constructed as per demand of local community.

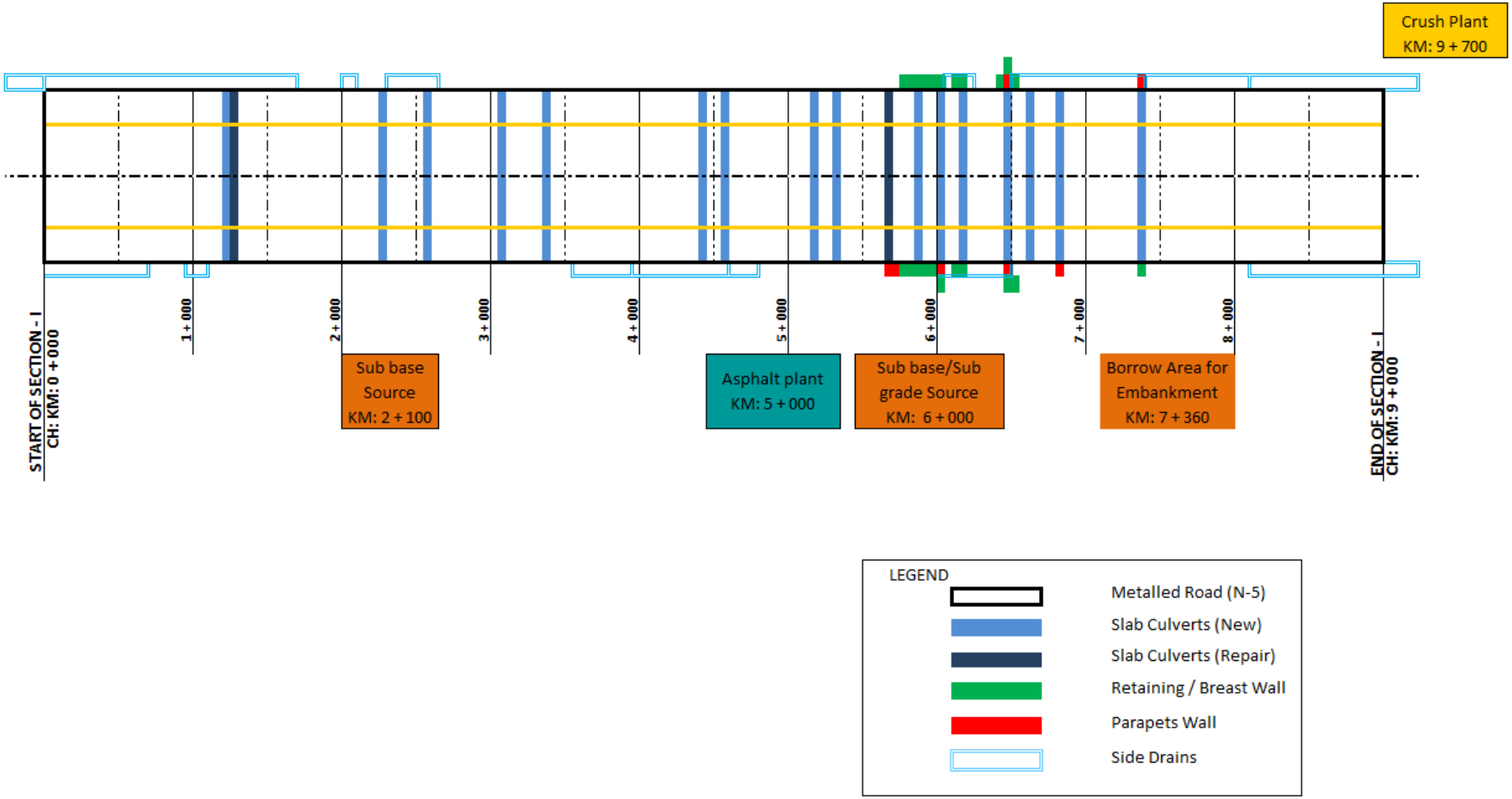
2.2 PROJECT DETAILS

1.	Name of Project	**Strengthening and Improvement of PeshawarTorkham Road (N-5) Khyber Agency FATA.**
2	Name of Package	**Section – I (CH: KM: 0+000 To CH: KM: 9+000)**
3.	Sponsoring Agency	**FATA Secretariat, Peshawar**
4.	Sponsoring Agency Representative	**Mr.RoshanMahsud, Project Director, PMU FATA**
5.	Donor Agency	**USAID PAKISTAN**
6.	Donor's Agency Representative	**Engr. FarhatBanori, USAID/COR**
7.	Executing Agency	**Frontier Works Organization**
8.	Executing Agency Representative	**Lt. Colonel Khurram**
9.	M&E Consultants	**AGES Consultants (Pvt) Ltd.**
10.	M&E Consultants Representative	**Project Manager**
11.	Project Cost (Section – I)	**Rs. 937.939 Million**
12.	Time for Completion	**807 Days**
13.	Mode of Construction Contract	**EPC (Engineer, Procure and Construct) Contract**
14.	Chronology	
	Signing of MoU (USAID–FATA–NHA)	**Sep 18, 2012**
	Signing of Contract (USAID – AGES)	**Sep 30, 2012**
	M&E Consultants Mobilization	**Oct 01, 2012**
	Approval of PC – 1	**Nov 20, 2012**
	Project Date of Commencement	**Oct 15, 2012**
	Project Date of Completion	**Dec 31, 2014**

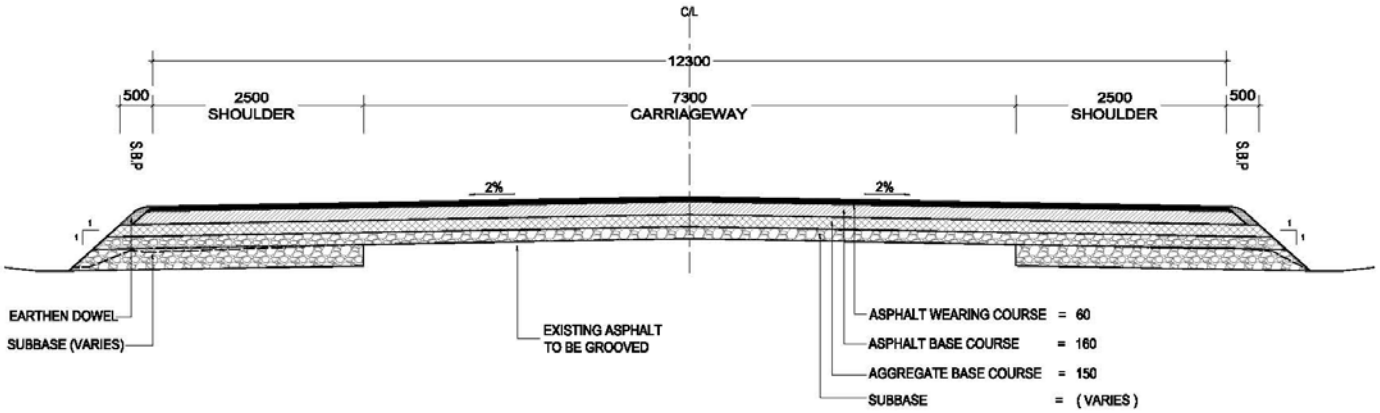
2.3 ENVIRONMENTAL COMPLIANCE

The environmental compliance officer of M&E consultants made two visits to the site during the month of April 2013, and compiled his observations in the form of Environmental Monitoring Reports. The first environmental monitoring reporthas already been submitted to USAID while the second report is attached with this document.

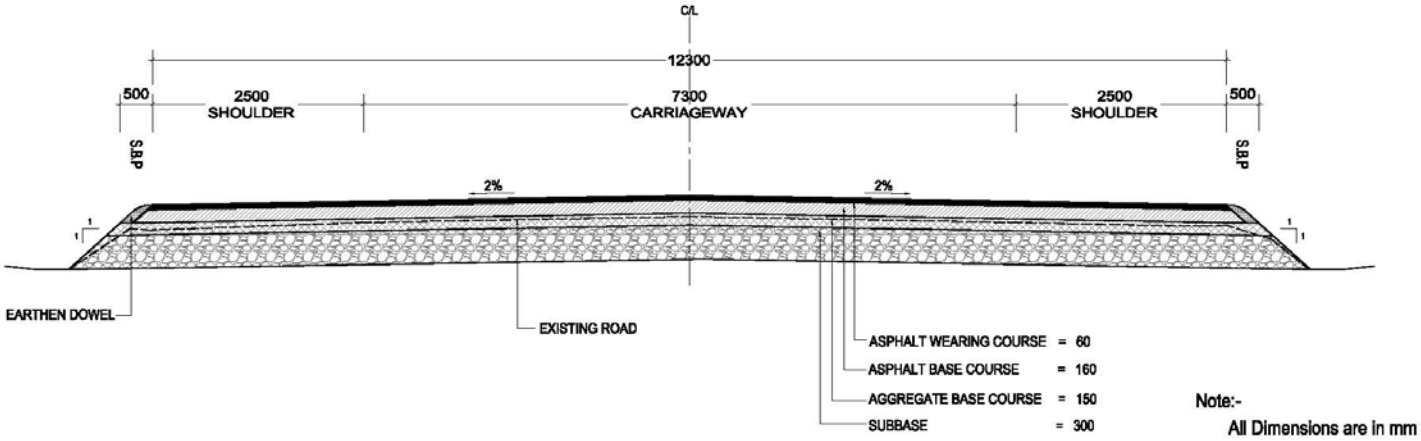
2.4 LINE SKETCH OF ALIGNMENT



2.5 TYPICAL CROSS SECTION OF ROAD



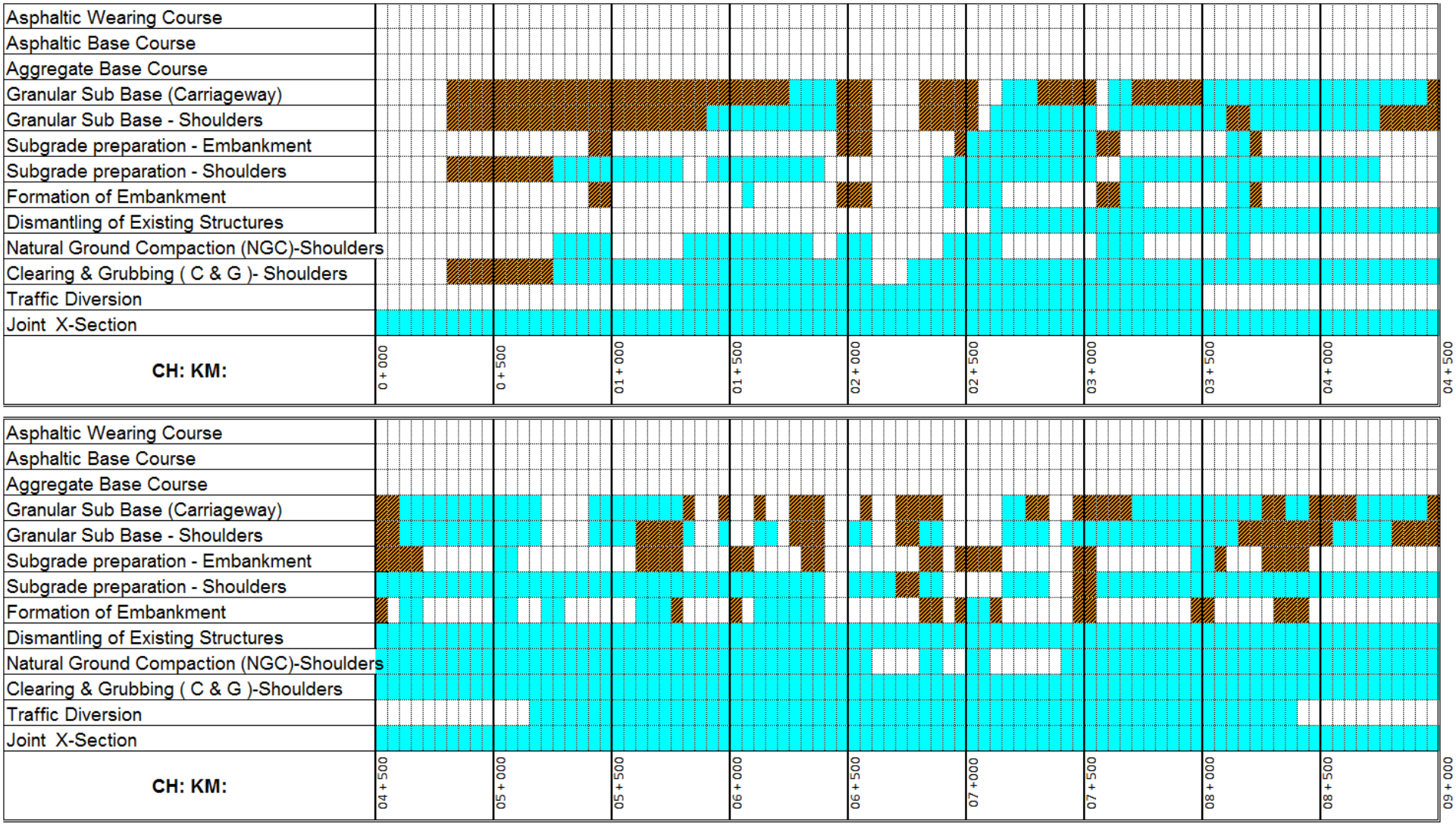
TYPICAL CROSS SECTION IN FILL



TYPICAL CROSS SECTION IN CUT

WORK IN PROGRESS

3.1 PAVEMENT CONSTRUCTION PHYSICAL PROGRESS STATUS AS ON APRIL 30, 2013



3.2 CULVERTS PHYSICAL PROGRESS STATUS AS ON APRIL 31, 2013

S. NO	CHAINAGE AS PER DRAWG: (KM)	CHAINAGE AS PER SITE (KM)	NO. OF SPAN	SIZE (Mx M)	LENGTH AS PER DRAWG: (M)	LENGTH AS PER SITE (M)	DEMOLISHED	SLAB CULVERTS						WING WALLS				Revised Size (M x M)
								Strl: Excavation	Lean Cont	Abt: Wall	Floor	Top. Slab	Rip Rap	Lean Cont:	Wall	Floor	Back Fill	
1	1+230		1	2 x 1.5	The proposed New Culvert Construction Deleted. The existing pipe culvert maintained under the roadway with extension on R.H.S													
1.a	-	1+940	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
2	2+290		1	2 x1.5														
2.a	-	2+611	1	2 x1.5		15.00 - 20º(Skew)	-	♦	♦	♦	♦	Δ		♦	♦		Δ	
2.b	-	3+081	1	2 x 1.5		15.00 - 20º(Skew)	-	♦	♦	♦	♦	♦		♦	♦		Δ	
3	3+400		1	2 x 1.5														
3.a	-	3+425	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
3.b	-	3+480	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
3.c	-	3+500	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
3.d	-	3+900	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
3.e	-	4+180	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
3.f	-	4+230	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
3.g	-	4+550	1	450 mm dia				♦	♦		♦	♦						Pipe Culvert
3.h	-	4+615	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
4	4+460	4+480	1	3 x 1.5	14.1	15.00 - 20º(Skew)	♦	♦	♦	♦	♦	♦					♦	

Legend:

Δ	In Progress
♦	Completed

S. NO	CHAINAGE AS PER DRAWG: (KM)	CHAINAGE AS PER SITE (KM)	NO. OF SPAN	SIZE (Mx M)	LENGTH AS PER DRAWG:(M)	LENGTH AS PER SITE (M)	DEMOLISHED	SLAB CULVERTS						WING WALLS				Revised Size (M x M)
								Strl: Excavation	LeanCont	Abt: Wall	Floor	Top. Slab	Rip Rap	LeanCont:	Wall	Floor	Back Fill	
5	4+590		1	3 x 1.5		-												
6	5+180	5+202	1	2 x 1.5	14.1	-	♦	♦	♦	♦	♦	Δ		♦	♦		Δ	
7	5+335	5+354	1	3 x 1.5		-	-	♦	♦	♦	Δ			♦	♦		Δ	
8	5+882	5+905	1	2 x 1.5	14.1	15.60 (Normal)	♦	♦	♦	♦	♦	♦		♦	♦		♦	2 x 1.5
9	6+027	6+050	3	3 x 1.5		-	♦	♦	♦	♦	Δ			♦	Δ		Δ	
10	6+167	6+191	2	3 x 1.5	14.1	14.40 (Normal)	♦	♦	♦	♦	♦	♦		♦	♦		♦	3 x 3
11	6+477	6+501	5	3 x 1.5	14.1	17.89 38º(Skew)	♦	♦	♦	♦				♦	♦		Δ	
12	6+625	6+648	1	2 x 1.5	14.1	14.10 (Normal)	♦	♦	♦	♦	♦	♦		♦	♦		♦	2 x 2
13	6+850	6+883	1	2 x 1.5	14.1	-	♦	♦	♦	♦	♦	♦		♦	♦		Δ	
14	7+360	7+384	2	3 x 1.5	14.1	18.14 39º(Skew)	♦	♦	♦	♦	Δ	Δ		♦	Δ		Δ	
14.a	-	8+000	1	450 mm dia	16.80	-		♦	♦		♦	♦						Pipe Culvert
14.b	-	8+250	1	450 mm dia	19.30	-		♦	♦		♦	♦						Pipe Culvert
14.c	-	8+400	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
14.d	-	8+450	1	450 mm dia		-		♦	♦		♦	♦						Pipe Culvert
14.e	-	8+700	1	450 mm dia		-		♦	♦		♦	Δ						Pipe Culvert
14.f	-	9+000	1	450 mm dia		-		♦	♦		♦	Δ						Pipe Culvert

Legend:

Δ	In Progress
♦	Completed

PROGRESS IN PERCENTAGE

4.1 SUMMERY: BILL OF QUANTITIES

MONTH: APRIL 2013

CONTRACT			WORK DONE UPTO PREVIOUS MONTH		WORK DONE THIS MONTH		WORK DONE UPTO DATE	
BILL NO	DESCRIPTION	AMOUNT (Rs.)	AMOUNT (Rs.)	PROGRESS %	AMOUNT (Rs.)	PROGRESS %	AMOUNT (Rs.)	PROGRESS %
1	EARTH WORK	4,396,321.49	3,271,186.29	74.41	389,620.68	8.86	3,660,806.97	83.27
2	SUB BASE AND BASE COURSE	417,440,419.46	26,293,714.05	6.30	24,131,848.12	5.78	50,425,562.17	12.08
3	SURFACE COURSES AND PAVEMENT	148,248,125.37	664,719.75	0.45	106,105.50	0.07	770,825.25	0.52
4a	STRUCTURES (RETAING WALL/BREAST WALL)	2,990,459.56	-	-	271,651.56	9.08	271,651.56	9.08
4b	STRUCTURES (CULVERTS)	34,156,831.05	13,528,043.67	39.61	11,959,804.66	35.01	25,487,848.33	74.62
5a	DRAINAGE & EROSION WORKS (ROAD SIDE DRAIN)	146,629,248.32	-	-	1,466,596.58	1.00	1,466,596.58	1.00
5b	ROAD PROTECTION WORKS	851,203.80	-	-	-	-	-	-
6	ANCILLARY WORKS	4,189,586.08	-	-	-	-	-	-
7	DIVERSION	9,000,000.00	1,055,000.00	11.72	527,500.00	5.86	1,582,500.00	17.58
8	RELOCATION OF UTILITIES	900,000.00	-	-	-	-	-	-
	Sub Total - Construction Cost	**768,802,195.13**	**44,812,663.77**	**5.83**	**38,853,127.10**	**5.05**	**83,665,790.87**	**10.88**
INDIRECT COST	Contingencies @ 0.5% of Total Construction Cost	3,844,010.98	224,063.32	5.83	194,265.64	5.05	418,328.95	10.88
	EPC Turnkey Cost	-	-	-	-	-	-	-
	- Design , Consultancy & Supervison 6%	46,128,131.71	2,688,759.83	5.83	2,331,187.63	5.05	5,019,947.45	10.88
	- Risk of Quantity Variation @7%	53,816,153.66	3,136,886.46	5.83	2,719,718.90	5.05	5,856,605.36	10.88
	- Market Fluctuation @ 4.5%	34,596,098.78	2,016,569.87	5.83	1,748,390.72	5.05	3,764,960.59	10.88
	Sub Total EPC Turnkey Cost	**138,384,395.12**	**8,066,279.48**	**5.83**	**6,993,562.88**	**5.05**	**15,059,842.36**	**10.88**
	Security /Hard Area @ 4%	**30,752,087.81**	1,792,506.55	5.83	1,554,125.08	5.05	3,346,631.63	10.88
	TOTAL PROJECT COST (SECTION-I)	**937,938,678.06**	**54,671,449.80**	**5.83**	**47,400,815.06**	**5.05**	**102,072,264.86**	**10.88**

4.2 BILL NO. 1 EARTH WORK

MONTH: APRIL 2013

CONTRACT						WORK DONE UPTO PREVIOUS MONTH			WORK DONE THIS MONTH			WORK DONE UPTO DATE		
ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Rs)	AMOUNT (Rs)	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %
101	Clearing & Grubbing	SM	29,876	23.15	691,730.98	49,131.25	691,730.98	100.00	-	-	-	49,131.25	691,730.98	100.00
104	Compacton of Natural Ground	SM	29,876	23.58	704,502.97	29,888.38	704,502.97	100.00	106.24	2,505.35	0.36	29,994.63	704,502.97	100.00
106a	Structure Excavation in Unsuitable Material	CM	3,762	299.079	1,125,135.20	-	-	-	1,302.74	389,620.68	34.63	1,302.74	389,620.68	34.63
106bii	Excavate unsuitable Medium Rock Material	CM	-	443.63	-	-	-	-	-	-	-	-	-	-
106biii	Excavate unsuitable Soft Rock Material	CM	-	341.73	-	-	-	-	-	-	-	-	-	-
106c	Structure Excavation in Surplus Common Material	CM	-	154.59	-	-	-	-	-	-	-	-	-	-
106dii	Excavate Surplus Medum rock Material	CM	-	418.80	-	-	-	-	-	-	-	-	-	-
107a	Structure Excavation in Common Material	CM	-	181.29	-	-	-	-	-	-	-	-	-	-
108a	Formation of Embankement From Road way Exavation in Common Material	CM	4,000.0	398.64	1,594,540.80	6,394.77	1,594,540.80	100.00	126.50	50,428.29	3.16	6,521.27	1,594,540.80	100.00
108bii	Formation of Embankement From Road way Exavation in medium rock Material	CM	-	542.46	-	-	-	-	-	-	-	-	-	_
108c	Formation of Embankement From Borrow excavation in Common Material	CM	-	241.39	-	-	-	-	-	-	-	-	-	_
108d	Formation of Embankement From Borrow excavation in Medium Material	CM	-	109.38	-	-	-	-	-	-	-	-	-	_
109a	Subgrade Prepartion in Earth Cut	SM	4,352	64.43	280,411.55	59,194.50	280,411.55	100.00	17,938.50	280,411.55	100.00	77,133.00	280,411.55	100.00
110	Improved Subgrade	CM	-	227.92	-	-	-	-	-	-	-	-	-	-
Total					**4,396,321.49**		**3,271,186.29**	**74.41**		**722,965.87**	**16.44**		**3,660,806.97**	**83.27**

4.3 BILL NO. 2 SUB BASE & BASE COURSE

MONTH: APRIL 2013

CONTRACT						WORK DONE UPTO PREVIOUS MONTH			WORK DONE THIS MONTH			WORK DONE UPTO DATE		
ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (RS)	AMOUNT (RS)	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %
201	Granular Sub Base	CM	45,569	1700.75	77,501,426.62	15,460.08	26,293,714.05	33.93	14,188.95	24,131,848.12	31.14	29649.03	50425562.17	65.06
202	Agregate Base Course	CM	22,868	2232.15	51,044,771.90	-	-	-	-	-	-	-	-	-
203a	Asphaltic Base Course Plant Mix (Class-A)	CM	17,805	16225.45	288,894,220.93	-	-	-	-	-	-	-	-	-
TOTAL					417,440,419.46	-	26,293,714.05	6.30	14,188.95	24,131,848.12	5.78		50,425,562.17	12.08

Note: Quantity of Aggregate Base Course includes 28 Nos. rural links upto 25m

4.4 BILL NO. 3 SURFACE COURSES AND PAVEMENT

CONTRACT						WORK DONE UPTO PREVIOUS MONTH			WORK DONE THIS MONTH			WORK DONE UPTO DATE		
ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (RS)	AMOUNT (RS)	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %
302a	Cut-Back Asphalt for Bitumunous Prime Coat	SM	126,444	84.34	10,663,932.92	-	-	-	-	-	-	-	-	-
303a	Cut-Back Asphalt for Bitumunous Tack Coat	SM	221,150	35.12	7,767,539.91	-	-	-	-	-	-	-	-	-
305b	Asphaltic Concrete for Wearing Course (Class "A")	CM	6,602	19500.05	128,739,352.55	-	-	-	-	-	-	-	-	-
NS	Grooving of existing asphalt layers at every 5M interval	SM	63,000	17.10	1,077,300.00	38,872.50	664,719.75	61.7	6,205.00	106,105.50	9.85	45077.50	770,825.25	71.55
	TOTAL				148,248,125.37	-	664,719.75	0.45		106,105.50	0.07		770,825.25	0.52

Note: Quantity of Prime Coat and Asphaltic Wearing Course includes 28 Nos. rural links upto 25m

4.5 BILL NO.4a STRUCTURES (RETAINING WALL, RW2 TYPE)

MONTH: APRIL 2013

CONTRACT						WORK DONE UPTO PREVIOUS MONTH			WORK DONE THIS MONTH			WORK DONE UPTO DATE		
ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (RS)	AMOUNT (RS)	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %
107a	Structural Excavation in Common Material	CM	283	181.29	51,305.07	-	-	-	1,450.50	51,305.07	100.00	1,450.50	51,305.07	100.00
107e	Common Back fill	CM	96	116.64	11,197.44	-	-	-	-	-	-	-	-	-
401b	Concrete Class "B"	CM	11	5842.23	64,264.53	-	-	-	-	-	-	-	-	-
401f	Lean Concrete	CM	76	4120.90	313,188.40	-	-	-	26.10	107,555.49	34.34	26.13	107,555.49	34.34
411g	Roll pointing (Parapets over wall)	CM	130	168.01	21,841.30	-	-	-	-	-	-	-	-	-
411b	Stone Masonry Random with Mortar	CM	294	2450.42	720,423.48	-	-	-	-	-	-	-	-	-
412a	Stone Masonry Dressed Coursed With Mortar (Parapets over wall)	CM	24	2909.01	69,816.24	-	-	-	-	-	-	-	-	-
412a	Stone Masonry Dressed Coursed With Mortar (Parapets over Existing wall)	CM	108	2909.01	314,173.08	-	-	-	-	-	-	-	-	-
401b	Concrete Class "B" (Parapet over existing wall)	CM	14	5842.23	81,791.22	-	-	-	-	-	-	-	-	-
411g	Roll pointing (Parapets over Existing wall)	CM	600	168.01	100,806.00	-	-	-	-	-	-	-	-	-
	TOTAL				1,748,806.76		-	-	-	158,860.56	9.08	-	158,860.56	9.08

4.6 BILL NO.4b STRUCTURES (CULVERTS)

CONTRACT						WORK DONE UPTO PREVIOUS MONTH			WORK DONE THIS MONTH			WORK DONE UPTO DATE		
ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (Rs.)	AMOUNT (RS)	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %
NS	Widening and repair of existing Culverts at RD 1+290 & 5+692	No	2	821,155.68	1,642,311.36	-	-	-	-	-	-	-	-	-
NS	Construction of New Culverts (No. of Span x Span Width x Height)					-	-	-	-	-	-	-	-	-
	1 x 2 x 1.5	No	7	1,484,606.61	10,392,246.27	3.24	4,810,125.42	46.29	2.07	3,079,354.83	29.63	5.31	7,889,480.25	75.92
	1 x 3 x 1.5	No	3	1,941,952.95	5,825,858.85	1.20	2,330,343.54	40.00	0.10	194,195.30	3.33	1.30	2,524,538.84	43.33
	2 x 3 x 1.5	No	2	3,155,221.89	6,310,443.78	1.42	4,480,415.08	71.00	0.95	1,830,028.70	29.00	2.37	6,310,443.78	100.00
	3 x 3 x 1.5	No	1	4,206,699.18	4,206,699.18	-	-	-	0.71	2,984,113.86	70.94	0.71	2,984,113.86	70.94
	5 x 3 x 1.5	No	1	5,779,271.61	5,779,271.61	0.33	1,907,159.63	33.00	0.74	4,278,885.12	74.04	1.07	5,779,271.61	100.00
TOTAL					34,156,831.05		13,528,043.67	39.61	-	12,366,577.80	36.21	-	25,487,848.33	74.62

4.7 BILL NO. 5a DRAINAGE & EROSION WORKS (ROAD SIDE DRAINS)

CONTRACT						WORK DONE UPTO PREVIOUS MONTH			WORK DONE THIS MONTH			WORK DONE UPTO DATE		
ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (RS)	AMOUNT (RS)	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %
510	Dismentaling of Structure and Obstruction (Old Casue ways and Culvets)	CM		621.58										
	DRAIN TYPE D-1 COVERED (100 M)													
107a	Structural Excavation in Common Material	CM	87	310.01	26,970.51	-	-		265.65	26,970.51	100.00	265.65	26,970.51	100.00
401f	Lean Concrete (1500 PSI)	CM	11	7,046.74	77,514.13	-	-	-	15.55	77,514.13	100.00	15.55	77,514.13	100.00
401a1iii	Conc. Class A-1 in Slab	CM	95	13,676.51	1,299,268.60	-	-	-	-	-	-	-	-	-
410	Brick Work	CM	12	7,977.59	95,731.14	-	-	-	-	-	-	-	-	-
404b	Reinfor Steel	Ton	1.3	148,188.67	192,645.27	-	-	-	-	-	-	-	-	-
601dii	Recast Kerb along both sides of drain	Lm	200	1,422.22	284,444.82	-	-	-	-	-	-	-	-	-
NS	Tuff Pavers	Sm	128	1,710.00	218,880.00	-	-	-	-	-	-	-	-	-
	DRAIN TYPE D-1a UNCOVERED (473 M)													
107a	Structural Excavation in Common Material	CM	409	310.01	126,792.41	-	-	-	-	-	-	-	-	-
401f	Lean Concrete (1500 PSI)	CM	51	7,046.74	359,383.69	-	-	-	-	-	-	-	-	-
410	Brick Work	CM	426	7,977.59	3,398,455.30	-	-	-	-	-	-	-	-	-
	DRAIN TYPE D-2 COVERED (5200 M)													
107a	Structural Excavation in Common Material	CM	5538	310.01	1,716,812.67	-	-		1,381.54	428,286.33	24.95	1,381.54	428,286.33	24.95
401f	Lean Concrete (1500 PSI)	CM	694	7,046.74	4,890,436.87	-	-	-	85.65	603,553.20	12.34	85.65	603,553.20	12.34
401a1iii	Conc. Class A-1 in Slab	CM	881	13,676.51	12,049,006.72	-	-	-	-	-	-	-	-	-
410	Brick Work	CM	5382	7,977.59	42,935,414.14	-	-	-	41.40	330,272.42	0.77	41.40	330,272.42	0.77
404b	Reinfor Steel	Ton	87	148,188.67	12,892,414.15	-	-	-	-	-	-	-	-	-
601dii	Recast Kerb along both sides of drain	LM	10400	1,422.22	14,791,130.64	-	-	-	-	-	-	-	-	-
NS	Tuff Pavers	SM	8216	1,710.00	14,049,360.00	-	-	-	-	-	-	-	-	-
	DRAIN TYPE D-2a COVERED (2400 M)													
107a	Structural Excavation in Common Material	CM	2556	310.01	792,375.08	-	-		-	-	-	-	-	-
401f	Lean Concrete (1500 PSI)	CM	320	7,046.74	2,254,956.48	-	-	-	-	-	-	-	-	-
410	Brick Work	CM	2322	7,977.59	18,523,974.66	-	-	-	-	-	-	-	-	-
	DRAIN TYPE D-3 COVERED (1350)													
107a	Structural Excavation in Common Material	CM	2133	310.01	661,242.58	-	-		-	-	-	-	-	-
401f	Lean Concrete (1500 PSI)	CM	405	7,046.74	2,853,929.30	-	-	-	-	-	-	-	-	-
401f	Concrete Class "B"	CM	1215	9,990.21	12,138,109.16	-	-	-	-	-	-	-	-	-
TOTAL BILL No.5a					**146,629,248**					**1,466,596.58**	**1.00**		**1,466,596.58**	**1.00**

4.8 BILL NO.7 DIVERSIONS

MONTH: APRIL 2013

CONTRACT						WORK DONE UPTO PREVIOUS MONTH			WORK DONE THIS MONTH			WORK DONE UPTO DATE		
ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE (RS)	AMOUNT (RS)	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %	QUANTITY	AMOUNT (Rs.)	PROGRESS %
NS	Diversion for Traffic During Road Construction	KM	9	1,000,000	9,000,000	1.055	1,055,000	11.72	0.528	527,500	5.86	1.583	1,582,500	17.58
TOTAL					**9,000,000**		**1,055,000**	**11.72**		**527,500**	**5.86**		**1,582,500**	**17.58**

4.9 PHYSICAL AND FINANCIAL PROGRESS

General Details:

Date of Commencement :Oct 15, 2012
Date of Completion : Dec 31, 2014
Contractor :Frontier Works Organization (FWO)
M&E Consultants :AGES Consultant (Pvt) Ltd
Project Cost (Section-I) :Rs. 937.940 Million

Project length

Section – I :KM 0+000 to KM 9+000

Section / Bill No:		Items	Cost Breakup (Rs: Million)	Achieved progress %age		
				MAR-2013	APR-2013	Total To-Date
Section – I	01	Earth Works	4.396	74.41	8.86	83.27
	02	Sub Base Course	77.502	33.93	31.14	65.06
	02	Aggregate Base Courses	51.045			
	02	Asphaltic Base Course	288.894			
	03	Surface Course and Pavement	148.248	0.45	0.07	0.52
	04a	Structures (Retaining Walls & Breast Walls)	2.991		9.08	9.08
	04b	Structures (Culverts)	34.157	39.61	35.01	74.62
	05a	Drainage & Erosion Works	146.629		1.00	1.00
	05b	Road Protection	0.851			
	06	Ancillary Works	4.189			
	07&08	Detours/Miscellaneous works	9.900	11.72	5.86	17.58
	Total Construction Cost		**768.802**	**5.83**	**5.05**	**10.88**

Contract Duration (46 KM) : 807days
Time Elapsed up to30th April 2013 : 198 days
Time Elapsed %age : **(24.53%)**

WORK INFORMATION FOR APRIL 2013

5.1 HIGHWAY SECTION REPORT

1. Planning for the Month of April, 2013

i. Road way common excavation for both full width and widening portion of the road.
ii. Compaction of Natural Ground.
iii. Formation of embankment from road way/borrow excavation in common material.
iv. Sub grade preparation in earth cut.
v. Laying of Granular sub base.
vi. Laying of Aggregate Base course (Trial Section)
vii. Grooving in the existing asphalt Pavement at every 3 to 5 Meter interval.
viii. Diversion for traffic during road construction.
ix. Arrival of Asphalt Plant to the project site.
x. Arrangement of Crushed aggregate for Asphaltic base course.
xi. To execute construction activities on section-II (from KM: 9+000 to KM: 18+000).
xii. Preparing JMF (Job Mix formula) for Asphaltic base course.

2. Work Supervised in April, 2013

i. Roadway common excavation for a length of 0.90 KM for sub grade top was carried out both in widening portion and in full width of the road during April 2013.
ii. Embankment construction both in full and half width with a total length of 0.400 KM was constructed in the month of April 2013.
iii. Sub grade top preparation for a length of 1.915 KM has been executed in the month of April 2013 both in widening portion and in full width of the road.
iv. Granular Sub base laying with a length of 2.525 KM were executed both in widening portion and in full width of the road in April 2013.
v. Aggregate base course trial section-I was carried out from KM: 7+450 to 7+525, second trial section was from KM: 7+525 to KM: 7+700 and third Trial section was from KM: 4+925 to KM: 5+150, the first two attempts were not acceptable but the third attempt was declared successful.
vi. Road cutting in full width with a total length of 0.150 KM was carried out in April 2013.
vii. Grooving in the existing Asphalt Pavement was executed with a total length of 1.275 KM during the month of April 2013.
viii. Detour for traffic with a total length of 5.25 KM was operational during the month of April 2013 for section-I.
ix. Asphalt plant arrival/installation completed near KM: 5+200 in FWO camp during the month of April 2013.
x. Job mix formula (JMF) for Asphaltic base course has not been started yet due to non-availability of crushed aggregate and stone dust.

xi. Earth work activities and hill cutting were in progress on section-II from KM: 9+675 to KM: 11+200 during the month of April 2013

xii. Detour for traffic with a length of 1.45 KM was operational during the month of April 2013 for section-II.

3. Work Planned for May,2013

i. Common excavation in widening portion of the road from KM: 00+00 to KM: 00+350

ii. Compaction of Natural Ground for the first 350 Meters only.

iii. Formation of embankment from road way/borrow excavation in common material.

iv. Sub grade preparation in earth cut from KM: 00+00 to KM: 00+350.

v. Laying of Granular sub base for remaining portion of section-I and for section-II.

vi. Laying of Aggregate Base course for section-II.

vii. Asphaltic base course laying to be started in May 2013.

viii. Grooving in the existing asphalt Pavement at every 3 to 5 Meter interval from KM: 00+00 to KM: 00+350 only.

ix. Maintenance of Diversions for traffic during road construction.

x. Arrangement of crushed aggregate source for Asphaltic base course.

xi. Commissioning of Asphalt Plant and its production during May 2013.

xii. Preparing JMF (Job Mix formula) for Asphaltic base course.

xiii. To execute construction activities on section-II (from KM: 9+000 to KM: 16+000).

5.2 STRUCTURE SECTION REPORT

1. Planning for the Month of April, 2013

i. Structural excavation in common material.
ii. Compaction of Foundation bed.
iii. Lean concrete for culverts KM: 1+250, KM: 5+354.
iv. Class “B” concrete for culverts KM: 2+611, KM: 5+354, KM: 6+050, KM: 6+501, and KM: 7+384.
v. Class “A” concrete for top slab of culverts (KM: 2+611, KM: 3+081, KM: 5+202, KM: 5+354, KM: 6+050, KM: 6+191, KM: 6+501, KM: 6+883 and KM: 7+384).
vi. Stone masonry Random with mortar for culverts (KM: 2+611, KM: 3+081, KM: 5+354, KM: 6+050, KM: 6+501, and KM: 7+384)
vii. Granular backfill for culverts in progress.
viii. Stone pitching inside the culverts KM: 2+611, KM: 3+081, KM: 5+202, KM: 5+354, KM: 6+050, KM: 6+191, KM: 6+501, KM: 6+883 and KM: 7+384.
ix. RCC Parapet wall for culverts (parapet over RCC slab).
x. Widening and repair of existing culverts at KM: 1+290 and KM: 5+692.
xi. Construction of RCC pipe service ducts.

2. Work Supervised in April,2013

i. Checking of layout and dimensions of the structures.
ii. Concrete class “A” and class “B” batching, pouring and curing operations for culverts at KM: 2+611, KM: 3+081, KM: 5+202, KM: 5+353, KM: 6+050, KM: 6+501, KM: 6+648, KM: 6+883, KM: 7+384 was observed during the month of April-2013.
iii. Stone masonry for Abutment walls, wing walls and central pier for culverts KM: 2+611, KM: 3+081, KM: 5+202, KM: 5+353, KM: 6+050, KM: 6+501, KM: 6+648, KM: 6+883, KM: 7+384 was observed during the month of April-2013.
iv. Form work and Reinforcement for top slab and RCC bearing pad of the culvert were inspected for culverts KM: 2+611, KM: 3+081, KM: 6+191, KM: 6+648, KM: 6+883.
v. Granular Back filling of culverts KM: 2+611, KM: 3+081, KM: 4+480, KM: 5+202, KM: 5+353, KM: 5+905, KM: 6+050 KM: 6+191, KM: 6+501, KM: 6+648,KM: 6+883 and KM: 7+384.
vi. Stone pitching inside the culverts between Abutments was observed for the culverts KM: 2+611, KM: 3+081, KM: 5+202, KM: 6+191, KM: 6+501, KM: 6+883, and KM: 7+384.
vii. Roll pointing both inside and on u/s and d/s side of the culverts were observed at culvert KM: 2+611, KM: 3+081, KM: 5+905, KM: 6+648, KM: 6+883 and KM: 7+384.

viii. RCC Pipe service duct construction was observed at the following locations; KM: 1+940, KM: 3+500, KM: 8+400, KM: 8+450, KM: 8+700, KM: 9+00 during the month of April 2013.

ix. Brick masonry Drain construction was supervised during the month of April 2013 at following locations. KM: 5+ 560 to KM: 6+715 (LHS), KM: 6+600 to KM: 6+950 (LHS) and KM: 8+100 to KM: 8+175 LHS (brickwork in progress).

x. Retaining wall excavation was carried out during April 2013 at three locations i.e. KM: 6+465 to KM: 6+490 (RHS), KM: 6+517 to KM: 6+533 (RHS) and KM: 6+835 to KM: 6+875 (RHS).

3. Work Planned for May,2013

- ❖ Structures (Culverts)
- ❖ Retaining walls
- ❖ Drainage and Erosion Works (Road side Drains)

i. Structural excavation in common material.
ii. Compaction of Natural Ground.
iii. Lean concrete for Drain, retaining walls etc.
iv. Class “B” concrete for RCC Pipe service ducts.
v. Class “A 1” concrete for top slab of culverts (2+611, 5+202, 5+354, 6+050, 6+501, and 7+384)
vi. Stone masonry Random with mortar for Retaining walls.
vii. Granular backfill for culverts (2+611, 3+081, 5+202, 5+354, 6+050, 6+501, 6+883 and 7+384).
viii. Stone pitching inside the culverts (5+354, 6+050)
ix. Roll pointing for culverts at locations, culvert 4+480, 5+202, 5+354, 6+050, 6+191, 6+501, and 7+384.
x. RCC Parapet wall for culverts. (parapet over RCC slab)
xi. Widening and repair of existing culverts at KM: 1+290 and KM: 5+692.
xii. Construction of RCC pipe service ducts.
xiii. Culverts to be started in section-02 at some of the following proposed locations, KM: 10+025, 10+572, 10+614, 10+850 and KM: 10+965.

5.3 MATERIAL ENGINEER REPORT

1. Main Works Supervised this Month (April 2013).

i. Supervision of Aggregate Base Course, Sub base, Sub grade and Embankment at site.

ii. Identification of Sub Base Borrow for Section-II at KM: 11+200,

iii. Identification of Sources for Asphaltic Base Course and Wearing Course.

iv. Installation of Asphalt plant.

2. M&E Consultants Lab: Testing Activities

A. Sub base Material Quality Tests Report

S.No	Location	Description	Sieve Analysis							MDD (g/cc)	OMC %	L.A %	Sand Equivalent	CBR% at		Specific gravity	Plastic Index	Remarks
			2"	1"	3/8"	#4	#10	#40	#200					0.1"	0.2"			
1	7+600 - 7+800	Sub Base	100	80.4	58.3	44	31.6	17	10.9	2.324	5.2	21.9	-	-	-	2.709	4.9	Accepted
2	6+300 - 6+450		95.8	82.5	56.3	40.4	25.2	12.7	8.2	2.354	5.1		-	72	87	2.672	5	Accepted
3	11+200	Borrow Area	100	81.5	57.4	42.3	25.5	11.3	6.7	2.273	6.3	33.9	40.2	60	88	2.625	5.1	Accepted
Total Nos.of Tests			**3**							**3**	**1**	**1**						

B. Field Density Test Reports

S.No	Location	Description	Station	MMD (g/cc)	OMC (%)	Adj.MDD (g/cc)	M.C (%)	Achieved Compection	Required Compection	Remarks
1	4+950 - 5+150	Agg. Base Course	5+125	2.343	5.8	2.33	6.6	90.9	100	Not Accepted
3			1+110			2.323	6.5	91.1		
4			4+970			2.32	6	94.3		
5	4+950 - 5+150	Agg. Base Course	4+990	2.353	5.1	2.354	3.5	92.1	100	Not Accepted
6	1+725 - 1+775	Sub Base	1+745	2.324	5.1	2.326	4.2	98.1	98	Accepted
7	2+600	Backfill	2nd Abt	2.324	5.2	2.306	4.8	98.1	95	Accepted

C. Summary: Compression Test of Concrete Cylinders

Description	Casting date	Testing date	Age	Load in (KN)	Length (cm)	Dia (cm)	Area (cm^2)	Load in Kg	STRENGTH (Kg/cm^2)			Remarks
									Achieved	Average	Required	
Concrete Class "A" Culvert Top Slab	4/4/2013	11/4/2013	7 Days	220	30.48	15.24	182.4	22433	123.0	121.1	157.5	28 days test awaited
				213	30.48			21720	119.1			
				217	30.48			22127.5	121.3			
Concrete Class "A" Culvert Top Slab	11/4/2013	18/4/2013	7 Days	352	30.48	15.24	182.4	35893	196.8	202.4	157.5	
				366	30.48			37321	204.6			
				368	30.48			37525.0	205.7			
Concrete Class "A" of Culvert Pad Beam at	11/4/2013	18/4/2013	7 Days	352	30.48	15.24	182.4	35893	196.8	199.6	157.5	
				365	30.48			37219	204.1			
				354	30.48			36097.4	197.9			
Concrete Class "A" of Culvert Pad Beam at	15/4/2013	22/4/2013	7 Days	260	30.48	15.24	182.4	26512	145.4	151.9	157.5	28 days test awaited
				279	30.48			28450	156.0			
				276	30.48			28143.7	154.3			

D. Summary:Compression Test of Bricks

Specimen No.	Identification (Trade Mark)	Absorption (%) of Full Brick					Compressive Strength (Kg/cm^2)					
		Oven Dry Weight in (grams)	SSD Weight in (grams)	Weight of Water (grams)	Individual Absorption (%)	Average Absorption (%)	Dimension of Half Brick (cm)		Area (cm^2)	Load in (KN)	Achieved Strength (kg/cm^2)	Average Strength (kg/cm^2)
							Length	Width				
1	33	2844	3287	443	15.6	18.7	10.16	10.16	103.2256	294	290.4	272.7
2	33	2725	3317	592	21.7		10.67	10.16	108.4072	271	254.9	
3	3	2824	3414	590	20.9	20.2	10.67	10.16	108.4072	276	259.6	247.0
4	3	2802	3346	544	19.4		10.92	10.16	110.9472	255	234.4	
Required Absorption (%)						16.7	Required Strength (kg/cm^2)					140.8

E. Concrete Aggregates Quality Test Report

S.No	Location	Station (R.D.)	Description	Sieve Analysis													FM	L.A %	Sand Equivalent	Flakiness Index	Elongation Index	Remarks
				2″	1½″	1″	3/4″	1/2″	3/8″	#4	#8	#16	#30	#50	#100	#200						
1	Culvert Pad Beam	6+191	Aggregate	-	-	100	94.8	75.4	62.0	18.7	-	-	-	-	-	-	-	-	-	-	-	Not Accepted
2			Sand	-	-	-	-	-	100	99.2	97.9	90.9	69.8	43.6	11.2	3.7	1.9	-	-	-	-	Not Accepted
3	Culvert Slab	6+883	Aggregate	-	-	100	94.6	62.2	48.0	14.0	3.6	-	-	-	-	-	-	-	-	29.1	19.3	Not Accepted
4	Cuvert Slab	6+883	Aggregate	-	-	100	97.2	-	58.0	10.7	-	-	-	-	-	-	-	-	-	-	-	Accepted
5	Pad Beam	3+081	Aggregate	-	-	100	73.0	-	8.0	2.1	-	-	-	-	-	-	-	-	-	-	-	Not Accepted
6	Culvert Slab	6+191	Sand	-	-	-	-	-	99.5	96.6	85.6	68.2	52.2	30.0	5.6	2.0	2.6	-	-	-	-	Accepted
7	Culvert Slab	2+611	Aggregate	-	-	99.9	91.6	64.4	44.6	3.8	-	-	-	-	-	-	-	-	-	-	-	Accepted
8			Sand	-	-	-	-	-	100	99.4	97.9	91.6	70.7	33.0	6.9	2.9	2.0	-	-	-	-	Not Accepted

F. Main Works Planned for May 2013

i. Supervision of Sub base, Sub grade and Aggregate base course at site.

ii. Quality analysis of Aggregates for Asphaltic Base Course and Wearing Course.

iii. Preparation of Job Mix Formula for Asphaltic Base Course.

Comments of Material Engineer:

1. Contractor's Laboratory Staff

The contractor has a shortage of technical and skilled Laboratory staff. The contractor has to hire well experienced and skilled staff for their Base Laboratory. Similarly the Laboratory staff of NESPAK consultants is also not sufficient to supervise all the activities in the Laboratory as well as at the site.

2. Coarse and Fine Aggregates for Class "A1" Concrete

The contractor has no proper stock piling system for Coarse and Fine Aggregates as a result the uniformity of material is doubtful. M&E consultants repeatedly advised the contractor to establish a well graded and uniform stock pile of Coarse and Fine Aggregates for concrete.

3. Asphalt plant

The installation of Asphalt plant has been completed while the contractor is searching the Aggregates for Asphaltic Base Course and Wearing Course. It is also advised that the contractor should arrange a crush plant to start the production of Aggregates for Asphaltic Base Course and Wearing Course.

5.4 WEATHER RECORD

Date	Temperature (ºC)		Humidity (%)		Weather Condition
	Maximum	Minimum	Maximum	Minimum	
01- April-13	27	19	78	50	Cloudy/Rainy day
02- April -13	27	15	77	42	Sunny
03- April -13	26	15	77	42	Sunny
04- April -13	28	16	78	32	Sunny
05- April -13	29	15	72	37	Sunny
06- April -13	30	17	77	31	Sunny
07- April -13	30	19	73	31	Sunny
08- April -13	31	20	78	35	Sunny
09- April -13	27	19	73	45	Sunny
10- April -13	27	18	83	51	Sunny
11- April -13	30	17	78	39	Sunny
12- April -13	32	18	77	33	Sunny
13- April -13	32	18	77	35	Sunny
14- April -13	33	19	78	35	Sunny
15- April -13	32	19	78	38	Sunny/Rainfall
16- April -13	29	17	82	42	Sunny
17- April -13	31	17	83	25	Sunny
18- April -13	32	18	77	33	Sunny
19- April -13	30	18	77	40	Sunny
20- April -13	25	19	78	54	Cloudy
21- April -13	30	16	82	40	Sunny
22- April -13	29	17	83	48	Sunny
23- April -13	27	119	73	51	Sunny
24- April -13	28	18	88	48	Cloudy /Rainy day
25- April -13	29	17	88	45	Cloudy
26- April -13	31	18	88	35	Cloudy /Rainy day
27- April -13	27	16	94	45	Sunny
28- April -13	32	16	78	33	Sunny
29- April -13	31	19	78	43	Sunny
30- April -13	31	17	82	33	Sunny

5.5 CONTRACTOR'S PLANT & EQUIPMENTS

Date	Loader	Back Hoe	Motor Grader	Dozer	Vibratory Roller	Dumper	Water Tanker	Tractor	Remarks
01- April-13	3	4	5	2	5	12	5		-
02- Apri -13	3	4	5	2	5	12	5		-
03- Apri-13	3	4	5	2	7	12	5		-
04- Apri-13	3	4	5	2	7	12	5		-
05- Apri -13	Holiday								-
06- Apri-13	3	4	5	1	7	12	5		-
07- Apri -13	3	4	5	1	7	12	5		-
08- Apri -13	-	2	3	1	2	3	1	1	-
09- Apri -13	-	2	3	1	2	3	1	1	-
10- Apri -13	3	4	5	1	7	12	5	-	-
11- Apri-13	3	4	5	1	7	12	5		-
12- Apri -13	Holiday								-
13- Apri -13	3	4	5	1	7	13	5		-
14- Apri -13	3	4	5	1	7	13	5		-
15- Apri -13	3	4	5	1	7	13	5		-
16- Apri -13	3	4	5	1	7	13	5		-
17- Apri -13	3	4	5	1	7	13	5		-
18- Apri -13	3	4	5	1	7	13	5		-
19- Apri -13	3	4	5	1	6	13	5		
20- Apri -13	3	4	5	1	7	13	5		-
21- Apri -13	3	4	5	1	7	13	5		-
22- Apri -13	3	4	5	1	7	13	5		-
23- Apri -13	3	4	5	1	7	13	5		-
24- Apri -13	3	4	5	1	7	13	5		-
25- Apri -13	3	4	5	1	7	13	5		-
26- Apri -13	Holiday								-
27- Apri -13	3	4	5	1	6	13	5		-
28- Apri -13	3	3	5	1	6	13	5		-
29- Apri -13	3	3	5	1	6	13	5		-
30- Apri -13	3	3	5	1	6	13	5		-

ANNEXURES

ENVIRONMENTAL COMPLIANCE MONITORING REPORT

ENVIRONMENTAL COMPLIANCE REPORT

1. Date of visit: 23rd April, 2013

2. Environmental Compliance Officer: **Shabir Ahmad Khan**

3. Field Monitor Social : **Muhammad Rahman**

4. Road Section under Construction: Section KM: 0+000 to KM: 9+000

5. Persons Consulted at Site:

i. MrImran, Forman FWO
ii. Mr. Muhammad Ali, Site Inspector NESPAK
iii. Mr. Sajjad, Site Inspector NESPAK
iv. Mr. Ahmad Din,Naik FWO

6. Work Position:

- Work Under way. [√]
- Work Stopped [ ]
- Work Completed [ ]

7. Quality of Environment Compliance:

- Good [ ]
- Satisfactory [ ]
- Poor [√]

8. Issues:

a) No road's traffic signs and speed checking sign boards for the safety of people.
b) No records of EHS (Environment, Health and Safety) plans.
c) Non availability of personal protective equipment.
d) No sprinkling of water on road's diversion and near the residential areas.
e) No measures for land leveling and refilling of quarry sites for sustainable use.
f) People demanded for construction of stairs and walkways under a couple of culverts to be used for road crossing.
g) Drainage problems at culvert's construction sites and quarry areas.
h) Non availability of Environment Specialist/ Expert on site from FWO / NESPAK side.
i) No Health and Safety arrangement at work sites.

Environmental Monitoring Check List for the Site

S. #	Activity	Mitigation Measures	Monitoring indicators	Observations
	Construction Phase			
1	**Use of heavy equipment**	a. Set protocols for vehicle Maintenance. b. Checking of fuel level deliveries and use. c. Checking pipes and joints for leaks. d. Tightening generator and fuel lines. e. Preventing over filling of main storage and vehicle tanks. f. Heavy equipment should not be parked under the tree to avoid soil compaction and damage to the roots of the trees.	Soil contaminations, stability and erosion	The Contractor staff and site supervisors maintain the machinery in proper condition. Heavy machinery is parked in fenced area near the main camp at Jamrud. As there is no vegetation/trees, therefore, no vegetation damage has occurred. Usually heavy machinery is used for carrying material from quarry area, therefore, advised FWO staff to follow the compacted routes. Contractor's Machinery normally gets its maintenance inside the camps. Advised to set protocols for vehicle maintenance and regular inspection may please be carried out by the H&S Inspector, as per required H & S plan.
2	**Flood protection**	a. Culverts should be provided to control flood damages and provision of safety of Embankments. b. Road protection work along the river side. c. Construction of retaining wall d. New causeways for the smooth flow of water during rainy seasons and flooding.	Road protection and Safety	Flood protection measures as part of road improvement have been started like culverts for smooth flow of water during rainy season, sewerage disposal and retaining walls etc. During site visit, it was noticed that no temporary arrangements have been made for disposal of flood and sewerage water nor any protection measures have been adopted for safety of other infrastructure like telephone cables etc. Therefore, we advised the FWO staff to protect the Public Infrastructures and also make sure to follow the Environmental health and safety protocols. **Please referto photo (1)**

3	**Handling and transportation of hazardous waste**	a. Prevent dumping of hazardous materials especially near villages and water bodies. b. Burn waste oil that is not readily reusable. c. Recyclable material should not contain heavy metals that are inflammable.Investigate and use less toxic alternative products. d. Prohibit use of waste oil as cooking oil.	Soil Contamination and Safety	No action is required at present stage.
4	**Handling of solid Waste**	a. Site manager would be responsible for the collection and disposal of solid waste. b. Training of site personnel in waste management and chemical waste handling procedures. c. Separation of chemical waste for special handling. d. Recording system for the amount of waste generated recycled and reused. e. Proper storage and site practices to minimize the potential for damage or contamination of construction materials. f. General refuse would be stored in enclosed bins to separate from construction materials g. A reputable waste collection firm should be engaged by the contractor to remove the general refuse from the site.	Toxicity, Soil Contamination and Pollution	No waste segregation observed at construction site. FWO should share their solid waste management plan. The construction materials in main store are generally stored in good condition. However the construction material at site is not stored/placed properly. The sub-Contractors also do not follow Environment, Health and Safety protocols. There is no arrangement for solid waste disposal at site. During the site visit, the solid waste dumping found at Km 3+725 along the road side, at 3+740 in front of education office Jamrud and at KM 6+050 empty cement bags were observed at culvert construction site. Although mixing of refuse with construction material was not found at site but at the same time no special bins or collector have been seen to collect refuse systematically. It has been advised especially to the subcontractors having contracts of culverts, to provide solid waste storage bin at their respective sites. No chemical waste has been observed in the project area. **(Please refer to photos # 2, 3)**
5	**Construction crews and camps**	a. Check accommodations for site crew and maintain it in good condition. b. Avoid as much clearing of vegetation as possible. c. Provide temporary sanitation on site such as pit latrines (assuring the water table is enough and	Surface and ground water pollution and conflicts with locals.	Both construction crews and camps are maintained in a best manner at army accommodation, where all required facilities like washrooms, kitchen, TV lounge, cafe shop etc. are available. These army camps have

		soil/geology of appropriate composition). d. Use local or regional labor. e. Screen potential crew members of HIV and tuberculosis. f. Provide education and enforce guidelines on contact with local residents. g. Set guidelines for prohibiting poaching and collection of plants. h. Provide adequate quantities and good quality food and cooking fuel. i. If the water is stored for drinking purpose water should meet the WHO standards and if it is used for construction purpose then it should be clearly demarcated. j. No domestic pets or livestock are allowed on the site.		been renovated by the FWO for labor camps. The quality of food provided is good. Other protocols given like hygienic water etc. are satisfactory. Sub-contractor and some workers are local inhabitants of the area. FWO staff is adequately educated to follow strict guidelines from their senior to interact with locals. Guidelines like the removal of vegetation etc. have not been followed by FWO contractor and sub-contractors. Domestic livestock can be seen at site but the camps are away and are protected from entrance of live stocks.
6	**Material handling use and storage**	a. Material should be appropriately secured to ensure safe passage b/w the destinations during transportation. Loads shall have proper cover to prevent spillage and contractor is responsible for any clean up resulting from failure. b. Materials from borrow site should be directly transported and deposited to the site where it has to be used. Stockpiles should be positioned and sloped to create less visual impact. No foreign materials generated or deposited should remain on the site after completion of the activity and the areas affected by stockpiling should be reinstated. c. Over spray of bitumen products outside the road surface and on the vegetation should be prevented. d. Concrete mixing on the ground shall not be allowed. e. Use wet gravel on site. f. Avoid falling the drainage water directly into the sensitive area.	Dust pollution	Material securing, load prevention of spillage and other visual impacts should be reduced as much as possible by appropriate measures. FWO staff has been advised to provide safe passage to dumpers which usually carry materials. No concrete batching plant was present nor any water storage observed at site. Loaded vehicles do not have proper cover to prevent spillage. The concrete mixing on the ground was not found at site. The contaminated water disposals are not appropriate. Generally the Sub Contractors do not follow the Material handling protocols at sites, especially at culvert construction sites.

		g. All runoff from batching plant should be strictly controlled and cement contaminated water should be collected, stored and disposed of at the designated site. h. Used empty cement bags should be collected and stored to deliver these to recycling plant. i. Contaminated water storage facilities should not be allowed to over flow and appropriate protection from rain should be implemented.		
7	**Materials extraction Quarrying , logging**	a. Identify the most environmentally sound source of materials that is within budget. b. Use materials from local road cuts first but only if it produces a suitable, durable aggregate for embankment fill, or surface stabilization materials. c. On removal of materials, the area should be restored and be treated with erosion control measures. d. Develop logging quarrying and borrowing plans and take into account accumulative effects. e. Take photos of site before initiating excavation, that restoration can match the original site characteristics as much as possible. f. Monitor adherence to plans and impacts of extraction and modify as necessary. g. Restore area so it is suitable for sustainable use after extraction is completed. h. Install drainage structures to direct water away from pits. i. Implement safety protocols to minimize risks from falling rock or debris, collapsing quarry walls or accidental falls from clefts. j. Discuss with local community the option of retaining walls pits as water collection ponds for cattle, crops or similar use.	Change in landscape & Creation of water ponds.	FWO officials are not sharing and providing their logging, quarrying and borrowing plans nor any relevant photos. At new quarry area near KM:02+000, no dangerous terrain observed during site visits so far. Apparently no risk of falling rocks or debris has been observed at this site (Quarry area). During site visit, it was observed that in previous quarry area near km 6+050, no rehabilitation work has been started with respect to quarry logging environmental protocols. It is required to level and refill adjacent previous quarry sites for sustainable use. It was also advised FWO staff to make drainage ways wherever applicable. But still no action has been taken in this regard. Moreover, the local inhabitants of the area should be consulted for better use of these quarry areas after completion. **(Please refer to photos # 04, 05)**

8	**Site clearing or leveling**	a. Minimize disturbance of native flora during construction. b. Minimize the amount of clearing of small areas for active work one at a time. c. Avoid use of herbicides. Any use should follow health and safety procedures to protect people and the environment. d. Herbicide should be used according to the manufacturer specifications e. Clear without destroying large plants and turf where possible and preserve for replanting in temporaries nurseries. f. Move earth and vegetation only during dry periods, Store top soil for re-spreading if vegetation must remove during wet periods; disturb ground only just before the actual construction. g. Use erosion control measures such as hay bales h. Re-vegetate the recovered plants and other appropriate local flora immediately after equipment is removed from site.	Loss of vegetation, soil erosion and stability, surface water pollution and occupational health of workers and community.	As the area is almost rugged and without vegetation, so there is no impact on vegetation at site. Moreover at present time, the excavation is continued at the shoulders of the existing road which is already cleared. The plantation along the whole Peshawar-Torkham road should be started with specific species identified according to the provision in Environment Management Plan. In this respect FWO should coordinate with forest department. There is no herbicides use at site and the soil conservation measures are also not required up to KM: 10+000 as the area is leveled and the soil consist of sand, silt and gravels which are more compacted.
9	**Excavation , cutting , and filling**	a. Cover Pile with plastic sheeting, prevent run off with hay bales, or use similar measures. b. Place fence around excavation. c. Investigate shallow over excavation and no excavation alternatives. d. Have construction crews and supervisors be alert for buried historic, religious, and cultural objects and provide them with procedures to follow if such objects are discovered. Provide incentives for recovery of objects and disincentives for their destruction. e. Ensure excavation is accompanied by well-engineered drainage. f. Don't fill the flow line of a watershed. Even in arid areas, occasional rains may create strong water flow in channels.	Soil erosion and stability and surface water contami*n*ation	The excavation is only done at the shoulders of the existing road in shallow depth of about 30cm. Others mitigation measures are either appropriate or not required. During site visit following irregularities were found which require proper attention to be removed. • At KM:3+200, drain Blockage near Petrol pump. • At KM: 3+725, stagnant water along the road side. • At KM: 4+100, during site visit open pipes, drain blockage and poor drainage were observed in Jamrud Bazar. • At KM: 5+630 and KM: 5+750, excavated material has been placed at graveyard from very long time. To avoid

		g. Use good engineering practices, for instance don't use soil alone. First lay a bed of rock and gravel. h. Balance the cuts and fills whenever possible to minimize the earth work movement. i. Water sprinkling should be carried out at the temporary access road and all the areas prone to dust pollution.		local conflict, advised FWO site Engineer time and again to shift the excavated material to some other suitable place. But till to-date no action has been taken.
10	**Traffic Control**	a. Efforts should be made to accommodate the traffic along the road as far as practically possible. b. Provision of sign boards directing the drivers about the diversions. c. Contractor staff should be trained and put on the duty to manage the traffic during the construction activates taking place along the road. d. Temporary by pass if possible should be avoided as involved clearing of land. e. Max allowable speed for heavy machinery on the site should not exceed 20 KM/hr. f. Conduct work that requires road closure at times when traffic volume is low	Health and Safety for the local population and workers.	As far as Traffic control is concerned, it can flow along the road or on the same road or at diversions. FWO has arranged diversions as well as existing Kacha tracks along the road for traffic management but no proper signboards at any location were observed during visit. Therefore, advised FWO officials to clearly mark all diversion by installing temporary sign boards (having reflective materials for night time visibility) for driver's guidance. Advised FWO staff for arrangement of water sprinkling diversions and residential areas. The contractor's staff at construction site also helps the people in traffic control. Heavy machinery speed limit sign boards were not observed on site but because of activities under way, heavy machinery cannot move faster. At the road, heavy vehicles like NATO containers are mostly found, which need speed check limit signboards. Similarly, others traffic arrangements are also required to take place immediately.
11	**Blasting**	a. Minimize blasting. b. Take safety precautions to protect workers and others from being injured by flying or falling rocks and avalanches and	Noise pollution and occupational safety	Currently, there is no excavation blasting, therefore, no action is required.

		c. Provide Person protection equipment to the workforce.		
12	**Dust**	a. Water spraying b. trucks should be covered with tarpaulins	Nuisance to the public, undermining the air quality and water contamination	Water sprinkling vehicle was found spraying water near TakhtaBaig at KM: 2+050, but overall water spraying at diversion sites and residential areas was not appropriate on the date of visit. Advised FWO staff for regular sprinkling of water at diversion roads and along all the Kacha tracks, especially at residential areas. During site visit dust pollution was observed at KM: 0+50, 5+600and 7+500. **Please refer to photos(12,13,14)**
13	**Borrow Areas**	These impacts are reversible through a diligent restoration process which must be put in place by the contractor.	Landscape rugged and interfere with the aesthetics of the area; pose danger to livestock and children; hold stagnant water and they take up agricultural land.	There were no activities at site regarding borrow area use. Moreover, barrow areas are still to be identified, if required.
14	**Damages of existing infrastructure**	a. Locate different infrastructure on opposite side of road b. Determine locations of water pipes, electricity pylons etc. and design scheme to avoid damages.	Facilities to the locals	The officials of PTCL and FWO were asked to take care of cables at the time of excavation at sites, especially at culverts. It was also advised to FWO/NESPAK personals that PTCL Department must be informed before starting excavation activities.
15	**Health & Safety of the workers**	a. Prepare and implement a site Health and Safety Plan. b. Exclude the public from site. c. Ensure that workers use Personal Protective Equipment d. Provide Health & Safety Training (including	Workers and the public are at risk from accidents on site	The contractor FWO generally follows Health and Safety requirements in the camps but does not keep H&S requirements at sites where construction works are being carried out. Therefore, advised FWO officials to prepare H&S plan and to follow H&S

		process of transmission of HIV/AIDS) for all personnel; e. Follow documented procedures for all site activities; f. Keep accident reports and records		protocols at site and also to prepare documentation records of accidents, illness and treatments etc. It is very necessary to provide H&S trainings to the workers and ensure personal protective equipment's to all the workers including the sub contractor's labors. The first aid box at site and ambulance may also be provided.
16	**Local Employment**	Contractor' should employ at least 50% of workforce from communities in vicinity of work site	Economic benefits of local people	Being an Army organization, the contractor FWO has regular employees. In case of subcontract/sublet of any small component to local contractor, local labor is hired.
17	**Others concerns like Resettlement etc.**	a. Resettlement if any b. Access roads or pedestrian of local peoples c. Infrastructure like telephone line, sewerage, water supply disturbance etc d. Social Conflict with locals	Social and Resettlement Management	The Peshawar Torkham road construction is continued on existing road corridor, therefore, no resettlement issue is involved. Infrastructure like access roads to local people, sewerage, telephone line etc. requires proper care and management. The Social problems observed during the visit are given below, which may kindly be address accordingly. - Main drain blockage due to construction activities at KM: 2+700 near Total Petrol Pump - Stagnant water in residential area along the road at KM: 3+725. - Solid waste dumping at KM: 3+740, in front of education office Jamrud. - In Jmrudbazaar at KM: 4+100 drain blockage and open water supply pipes. - Dumping excavated material in the graveyard at KM: 4+600 and KM: 5+750. To avoid social conflict, the excavated material must be shifted to some other suitable place. - Giving consideration to the demand of local peoples, stairs may kindly be constructed at both ends of the culvert at

				some places near residential areas, to provide safe under passage to school children for crossing the road.
	Operation and Maintenance of newly constructed road			
18	**Road maintenance**	a. Monitor and Maintain drainage structures and ditches including culverts. Clean out culverts and side channels. b. Fill mud holes and pot holes with good quality gravels, removed downed trees and limbs obscuring road ways. c. Use water from settling basin and retention ponds for road maintenance.	Road Maintenance	No segment of the road construction has been completed.
19	**Use and maintenance of equipment's**	Install concrete pads, drains and oil/water separators in areas where vehicles and equipment maintenance and fueling will occur regularly.	Water and soil pollution	NA
20	**Accidents of hazardous materials**	a. In case of spill, there should be a relevant department dealing with it. in accordance with emergency plan ; b. A road administration department should be established after the completion of the project which will administer the hazardous substances	Accidents cases	NA
21	**Vehicle management**	a. Vehicle with excessive noise should be prohibited to travel on the road. b. Public should be educated about the noise and the air pollution and how to keep the road clean.	Visual inspection	NA

PROJECT PHOTOGRAPHS

PAVEMENT STRUCTURE

Lat 33; 59; 55.1, Lon 71; 25; 9.2

KM: 0 + 350 To 0 + 450 **Half width sub base second layer grading/compaction completed**

Lat 33; 59; 58, Lon 71; 24; 46.4

KM: 1 + 000 To 1 + 200 **LHS Half width sub base top layer compaction is in progress**

Lat 34; 0; 4.4 Lon 71; 23; 54.4

KM: 2 + 475 To 2 + 600 Full width-Sub base top layer grading is in progress

KM: 6 + 500 Trench construction for channelization of traffic on Detour is in progress

KM: 6 + 800 Water spraying on Detour is in progress

Lat 34; 0; 12.9, Lon 71; 21; 23.6

KM: 6 + 550 To 6 + 625 (RHS Shoulder) Compaction of sub base 1st layer is in progress

Lat 34; 0; 15.7, Lon 71; 21; 2.7

KM: 6+975 To 7+125 **Full width grading of 3rd layer zone "B" is in progress**

CULVERTS

Lat 34; 0; 5.4, Lon 71; 23; 50.9
KM: 2 + 611 (Culvert) Preparation for Concreting of top slab is in progress

Lat 34; 0; 0, Lon 71; 23; 33.7
KM: 3 + 081 (Culvert) Inspection of top slab curing by M&E Consultants

Lat 34; 0; 8.7, Lon 71; 22; 44
KM: 4 + 480 (Culvert) Curing of top slab has been completed

Lat 34; 0; 6.3, Lon 71; 22; 15.7
KM: 5 + 202 (Culvert) Form work erection for bearing pad is in progress

Lat 34; 0; 8.12, Lon 71; 22; 10
KM: 5 + 354 (Culvert) Compaction of backfill material is in progress

Lat 34; 0; 7.9, Lon 71; 21; 49.2
KM: 5 + 905 (Culvert) Roll Pointing of stone masonry is in progress

Lat 34; 0; 8.0, Lon 71; 21; 44.0
KM: 6 + 050 (Culvert) Backfilling is in progress

Lat 34; 0; 10.8.96, Lon 71; 21; 38.05
KM: 6 + 191 (Culvert) Curing of top slab is in progress

Lat 34; 0; 10.876, Lon 71; 21; 25.325
KM: 6 + 501 (Culvert) Stone masonry construction of Abutments & Piers is in progress

Lat 34; 0; 11.441, Lon 71; 21; 20.862
KM: 6 + 648 (Culvert) Backfill compaction & Curing of top slab is in progress

Lat 34; 0; 13.295, Lon 71; 21; 11.898
KM: 6 + 883 (Culvert) Roll Pointing of wing wall is in progress

Lat 34; 0; 15.455, Lon 71; 20; 53.345
KM: 7 + 384 (Culvert) Form work erection for bearing pad is in progress

RETAINING WALLS

Lat 34; 0; 12.01, Lon 71; 21; 26.9

KM: 6 + 450 To 6 + 478 **(Retaining wall) Stone masonry construction is in progress**

Lat 34; 0; 11.5, Lon 71; 21; 26.2

KM: 6 + 517 To 6 + 533 **(Retaining wall) Form work erection for lean concrete is in progress**

Lat 34; 0; 13.8, Lon 71; 21; 13.7

KM: 6 + 835 To 6 + 875 (Retaining wall) Preparation of foundation bed is in progress

ROAD SIDE DRAINS

Lat 34; 0; 13.3, Lon 71; 21; 14.9
KM: 6 + 675 To 6 + 800 (Drain Type D2) Lean concrete is in progress

Lat 34; 0; 18.5, Lon 71; 20; 21.4
KM: 8 + 100 To 8 + 175 (Drain Type D2) Brick masonry construction is in progress

FIELD TESTING

Lat 34; 0; 11.441, Lon 71; 21; 20.862

KM: 1 + 745 Field Density Test of Sub base by M&E Consultants and FWO is in progress

Lat 34; 0; 11.441, Lon 71; 21; 20.862

KM: 6 + 648 Casting of class A1 concrete cylinders from top slab

Testing of Concrete cylinder in M&E Consultants Lab.

Brick compression test in M&E Consultants Lab:

PHOTOGRAPHS OF ENVIRONMENTAL COMPLIANCE MONITORING

(Photo#1) At KM: 6+191, the subcontractor labors are working atculvert construction site without personal protective measures

(Photo # 2) KM: 3+740 Dumping of solid waste in front of education office Jamrud.

(Photo # 3) KM: 6+050 irregular and scattered empty cement bags and construction material.

(Photos # 04) Quarry Area at KM: 6+050 still need proper leveling and refilling

(Photos # 05) Quarry Area at KM: 6+050 still needs proper leveling and refilling

(Photo # 06) Blockage of main drain at KM: 3+200 Near Petrol pump along the road

(Photo # 07) At KM: 3+725 stagnant water along the road side, due to improper drainage arrangement.

(Photos # 08) At KM: 4+100 Blockage of main drain, open water supply pipe and solid waste placement at mid of Jamrud Bazar.

(Photos # 09) At KM: 4+100 Blockage of main drain, open water supply pipe and solid waste placement at mid of Jamrud Bazar.

(Photo # 10) KM: 5+630 Dumping of excavated material in graveyard

(Photo # 11) At KM: 5 + 750 Dumping of excavated in graveyard

(Photo # 12) Dust pollution at Karkhano Bazaar near KM: 0+050, need regular sprinkling of water

(Photo # 13) Sprinkling of water on road near Takhta Baigat KM: 2+050.

(Photo # 14) Dust pollution at KM: 5+600 and standing water due to improper draining arrangements.