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Zila Roads Maintenance and Improvement Project

(USAID PROJECT NO. 388-0056)

PROGRESS REPORT

FOR THE MONTH OF AUGUST'84

By

Wilbur Smith and Associates

In association with

Bangladesh Consultants Ltd.

and

Public Administration Service

ZILA ROADS MAINTENANCE AND IMPROVEMENT PROJECT

USAID PROJECT NO. 388-0056

PROGRESS REPORT

August 1984

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ZILA ROADS MAINTENANCE AND IMPROVEMENT PROJECT
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PROGRESS REPORT

August 1984

1.0 GENERAL

Heavy rainfall and accompanying floods continued to hamper work progress in all three Districts during the month of August. Weaknesses in the maintenance and construction systems continued to be identified. One example was the dispatch of a project supervising engineer for temporary duty elsewhere without first arranging for a substitute supervisor. The result was an unexpected delay in project progress. However, these weak points in the system, once they are identified, can be corrected.

All three Districts report that an improvement in Contractor procedures has been noticed. This is a positive development. Another positive action was the mitigation of the contractor payment reimbursement bottleneck in Sylhet.

Work on material sampling and testing was able to proceed almost normally, in spite of the adverse weather. The tests reported from all three laboratories were mostly routine in nature.

Both the second-cycle in-country training program and the second AIT third-country training program were approved. It is estimated that about 125 technicians will participate in the second-cycle sessions. The number to be nominated to attend the second AIT course will be the same as last year - 15.

The additional improvements in reporting techniques planned for introduction in this report had to be delayed until next month. The preparation of the bar charts to show both scheduled and achieved progress for all segments of the ZRMI Project is taking more time than anticipated.

2.0 ORGANIZATION AND MANAGEMENT

No new developments to report.

3.0 MAINTENANCE SYSTEM AND SUPERVISION

3.1 General

The ZRMI Project maintenance work is being handled under the concept of a Pilot Maintenance Scheme initiated early in 1984, and which has a separate and independent component in each of the three Districts. The locations of the roads involved in the individual maintenance schemes are shown on the respective District maps as follows :

- o Exhibit I - Sylhet District
- o Exhibit II - Rangpur District
- o Exhibit III - Faridpur District

Photos of maintenance work in Rangpur District may be found in Appendix A.

In the July Monthly Report, it was mentioned that bar charts showing scheduled and achieved progress on the maintenance schemes would be included for all three Districts. Unfortunately, these charts have not yet been prepared by the Districts, so their inclusion will have to be delayed until the September report.

The unseasonable heavy rainfall and accompanying flooding conditions once again were obstacles to significant progress during this reporting period.

3.2 Sylhet District

3.2.1 - Hatimganj - Dhakadakshin Road (Earth Road)

Work on this road had been halted due to depletion of the revolving fund. However, arrangements were made to alleviate the bottleneck in the timely submission of payment vouchers and other documents for review by the Consultant and subsequent action for reimbursement by USAID. Following this positive development, work was initiated on this project.

3.2.2 Badarghat - Bariberbazar Road (Paved and Earth Road)

Aggregates, shingles, and peagravel have been stockpiled in preparation for the initiation of the maintenance work on the paved portion of the road.

3.3 Rangpur District

3.3.1 Rangpur - Mahiganj Road

Progress was slow on this project due to the combination of adverse weather and lack of foresight on the part of the Zila Parishad Office. (The SAE in charge of the project was dispatched to Dhaka to attend a training course and no arrangements were made for interim supervision). It is expected that the progress will improve when the supervising SAE returns to his post in the near future.

3.3.2 Rangpur - Badarganj Road

Last month it was reported that the estimated completion date for this project was August. However, no additional work was noted during this reporting period, so that total accomplishment still stands at 90 percent completion of shoulder improvement work.

3.4 Faridpur District

3.4.1 Rajbari - Baliakandi Road

Breaking of bricks for patching work was the only activity observed on this site during the reporting period. It was observed that the first-class bricks stockpiled at the site were not sufficient to complete the replacement of H.B.B. in the damaged areas. Arrangement for one or two additional fire pits would help to expedite the work.

3.4.2 Talma - Nagarkanda Road

Activity on this scheme was confined to patch work on the existing bituminous pavement. This operation was being performed without first cleaning the shingles. The brick abutments of one bridge on this road need immediate maintenance. Vegetation which has taken root should be removed. The erosion damage to the embankment that was reported last month was not repaired and now a portion of the pavement has suffered some damage. Such erosion damage should be repaired immediately, or it will

get progressively worse. Patching work, shoulder dressing, and brush cleaning has been completed from the start of the project to the grade level crossing.

4.0 PREPARATION OF TECHNICAL SPECIFICATIONS

4.1 Bridges

Work continues in the Dhaka office on the preparation of typical plan and superstructure and foundation sections for bridges of 40-ft span, or less. It is estimated that this work will be completed by mid-September.

5.0 TRAINING

5.1 General

5.1.1 By memo No. S-IV/2R-4/82/20g, dated 20/08/1984, the Local Government Division confirmed that the tour of duty of the Training Advisor had been extended for a period of six months.

5.1.2 As can be seen from Exhibit IV, the overall progress of the ZRMI Project Training Program as of the end of August 1984, was about 54 percent, compared to a scheduled progress of 56 percent.

5.2 On-The-Job Training

This is an on-going effort on the part of each District RE and the individual members of his staff. At the end of this reporting period, it is estimated that this activity is about 70 percent complete.

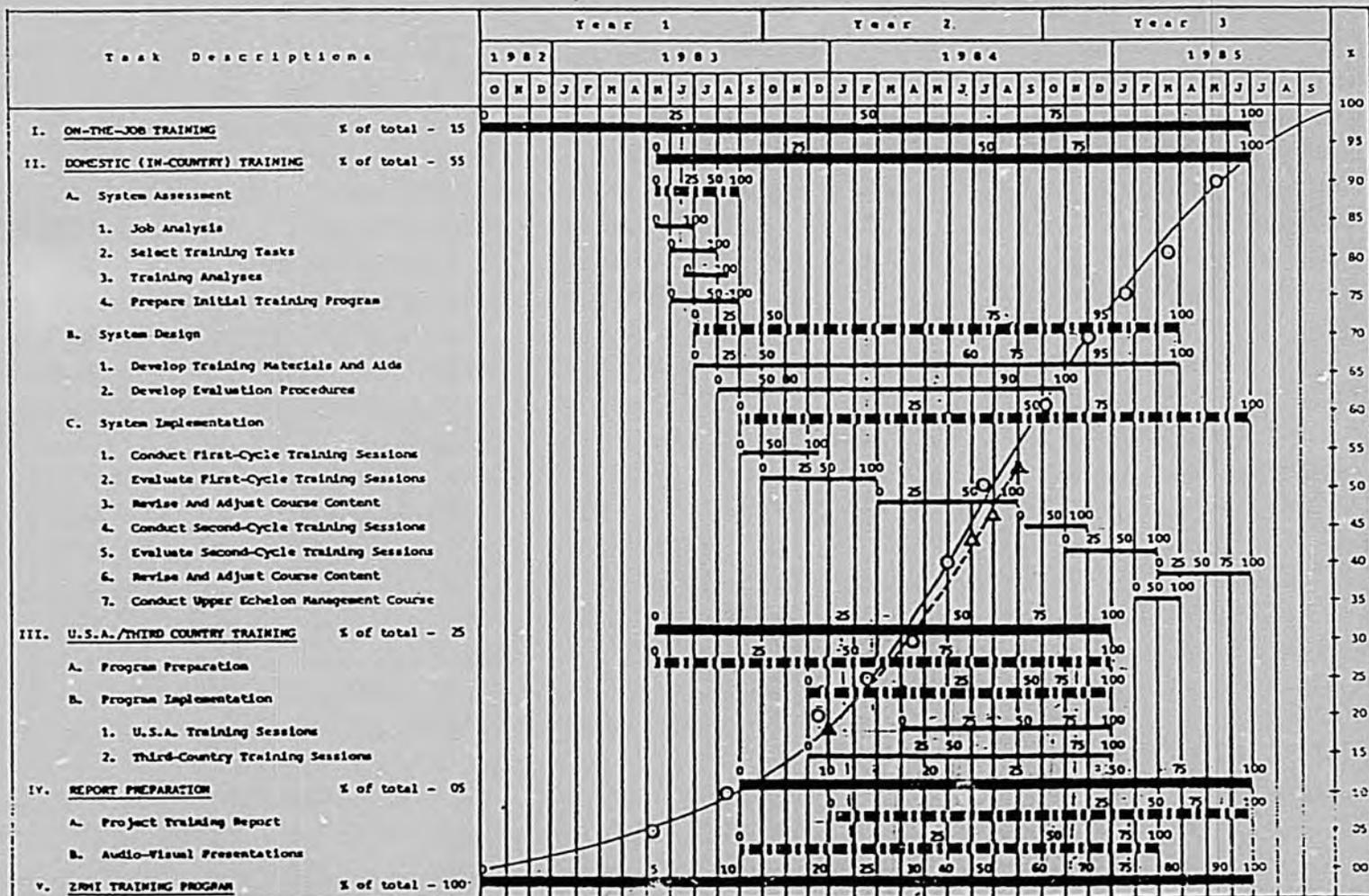
5.2.1 Material Sampling And Testing

The activities of the three District Soil Laboratories are summarized in tabular fashion in Appendix B.

5.2.2 The RE's continue to work closely with the XEN's and their staffs in the planning and programming of a viable maintenance system for rural roads. It is expected that this planning work will produce results in the 1984-1985 programs.

Exhibit IV

ZRMI PROJECT TRAINING PROGRAM SCHEDULE AND CURRENT STATUS



5.3 Domestic (In-Country) Training

5.3.1 System Assessment

This secondary activity is 100 percent complete.

5.3.2 System Design

This secondary activity is about 78 percent complete. No further activity of any consequence will take place until after the completion of the second-cycle sessions.

5.3.3 System Implementation

First-cycle Training Sessions - 100 percent complete

First-cycle Evaluations - 100 percent complete

Course Revision And Adjustment - 100 percent complete

Second-Cycle Training Sessions - By memo No. PM(ZRMIP)/T-3/84/312, dated 29-08-1984, the WPW confirmed that the second-cycle, in-country training program was approved.

The in-country training program can now proceed as planned.

Second-Cycle Evaluation - No significant activity until second-cycle sessions have been completed.

Course Revision And Adjustment - No significant activity until second-cycle sessions have been evaluated.

Upper Echelon Management Course - Scheduled to be presented during the first quarter of 1985.

5.4 U.S.A./Third-Country Training

5.4.1 Program Preparation

This phase is about 82 percent complete. By verbal agreement at a meeting held 27/08/84, the proposed second AIT training course was approved. No further action on the scope and venue of any subsequent USA training/observation sessions.

5.4.2 Program Implementation

First U.S.A Session - The first group of three high level officials have practically completed their study

tour and are scheduled to return to Dhaka early in September. First reports received from the WSA home office indicate that the course has been highly successful and that the participants are enthusiastic about the beneficial impact of the trip.

Second U.S.A Session - No decision has been made concerning the scope or venue of any training/observation trips to the U.S.A subsequent to the first.

First AIT Session - This segment is now 100 percent complete as far as the responsibilities of the Consultant are concerned. However, with the exception of the one participant report mentioned last month, no participant reports have been received.

Second AIT Session - The proposal for the second session, to be held 18 November to 09 December 1984, has been approved. The meeting of the Interview Committee to interview a total of 25 candidates has been set for 12 September. Fifteen candidates will be selected for attending the course.

5.5 Report Preparation

5.5.1 Project Training Report

This secondary activity is about 20 percent complete. However, no major progress is expected until after the end of 1984.

5.5.2 Audio-Visual Presentations

Slide/Cassette Preparation - Orders were placed in July for the materials required to continue work on this task. To date, the materials have not arrived, nor have we been advised of a shipping date.

Overhead Projector Transparencies - Materials required for completion of this work were also ordered in July, but as yet there is no firm indication of when they will be shipped.

0 CONSTRUCTION SYSTEM AND SUPERVISION

6.1 General

The progress on this element of the program, in all three Districts, continued to be hampered by the unseasonably heavy rainfall and floods. However, some work was accomplished. Photos of typical site situations in Rangpur and Faridpur Districts may be found in Appendix C.

Maps displaying the location of the individual projects in Sylhet, Rangpur, and Faridpur Districts are displayed in Exhibits I, II, and III, respectively.

Bar charts showing scheduled and achieved progress have not been included this month, but the RE's have been advised to supply such detail for inclusion in all subsequent reports.

6.2 Sylhet District

6.2.1 Atgram-Zakiganj Road

ZRMI/18/82-83 - Pavement

Carpeting work was completed during the month and final clean-up was started. However, the premature shifting of the roller to the Sylhet - Kamalbazar Road hampered achievement of scheduled progress. The Consultant will not certify payment for the first 700 m of boulder soling and pavement work which is sub-standard. No attempt has yet been made to correct unsatisfactory work in this area.

ZRMI/10/83-84 - Pavement

Lack of an adequate roller for use in compacting the existing cambered sub-grade is still hampering progress on this contract.

ZRMI/11/83-84 - Leveling Course

The lack of an adequate roller has also been an obstacle to progress on this contract. Activities during this reporting period were limited to stock-piling stones and the breaking of stones to form aggregates for W.B.M.

6.2.2 Dhakadakshin Beanibazar Road

ZRMI/24/82-83 - Earthwork and Pavement

The contractor's reluctance to repair shoulder and embankment erosion is in violation of the contract agreement. The manner in which the repair work was handled was most unsatisfactory. All damaged areas should be corrected in a satisfactory manner prior to the pavement operation.

ZRMI/6/83-84 - Earthwork and Pavement

Activities on this contract site consisted of leveling, cambering, and grading of the sub-grade. Shoulder widening should have been performed simultaneously with the other activities.

6.2.3 Fenchuganj - Chilachara Road

ZRMI/27/82-83 - Pavement

The XEN took the initiative to relieve the bottleneck on this project by procuring materials required for starting the pavement work. That work which had been accomplished to date was not up to standard and needs to be corrected before reimbursement is claimed.

ZRMI/23/82-83 - RCC Pipe Culverts

The contractor, newly assigned, has just undertaken site mobilization.

ZRMI/14/83-84 - Earthwork and Pavement

The only activities during the month were leveling and grading of the sub-grade. That work which has been accomplished must be corrected before the W.B.M. course is placed.

6.2.4 Shahbonder - Shamsherganj Road

ZRMI/17/82-83 - Pavement

The contractor's reluctance to follow instructions continued to be a problem on this project. Very weak

quality control, especially in the timing and manner of use of the road roller, was an obstacle to acceptable progress.

6.2.5 Tajpur - Syedpur Road

ZRMI/20/82-83 - RCC Pipe Culvert

The contractor has completed eight of eleven installations. Work on the remaining installations will be initiated as soon as the condition of the road permits transport of the RCC pipe to the sites.

ZRMI/13/83-84 - Box Culvert

Flooding of the site continues to delay progress on this project.

6.2.6 Nabiganj - Baniyachung Road

ZRMI/17/83-84 - Box Culvert

No progress because project site was still flooded.

6.2.7 Bahubal - Putijuri - Bijnaghat Road

ZRMI/1/83-84 - Pavement

No improvement noted in the unacceptable manner of scheduling work as reported in the July report.

ZRMI/2/83-84 - Box Culvert

Other than the construction of the bypass and the destruction of the old bridge, as reported previously, no progress was observed during this reporting period.

ZRMI/3/83-84 - Box Culverts (2 nos).

Concrete work on these units resulted in a structure with good outward appearance, but the compressive strength test on concrete cylinders reflects sub-standard quality of work. The contractor had been advised to increase the cement portion of the mix to obtain the desired strength. Construction work on these two culverts was completed during the month, leaving only approach work and channel cleaning to be accomplished.

ZRMI/4/83-84 - Box Culverts (2 nos)

This contract has been revised to substitute 2 nos. 1.5 m box culverts for 2 nos. 3.6 m box culverts. It is felt that the smaller structures will be adequate for this project. No change order reflecting this decision has yet been issued, although the contractor has started construction. If weather permits, these culverts should be completed by the end of September.

ZRMI/5/83-84 - Box Culvert

The construction of this culvert was completed during this reporting period, leaving only approach work and channel clearing remaining to be accomplished. The diversion around this culvert is precarious and subject to periodic flooding, which is a hazard to local traffic. The contractor has stressed that lack of material might force him to halt all activity until the end of the monsoon season.

ZRMI/6/83-84 - Box Culvert

The contractor has started work at this site and is expecting to complete the work by the end of September.

ZRMI/7/83-84 - RCC Pipe Culverts (13 nos)

Three pipe culvert installations have been completed, including the construction of head walls. Excavation of the inlet and outlet channels, which is included as part of the contract for each culvert, still remains to be done. Also backfill material must be placed to cover the RCC pipe from headwall to headwall and compacted to a minimum depth of 30 cm.

6.2.8

Sylhet - Kamal Bazar RoadZRMI/14/82-83 - Pavement

The vibratory roller was transferred from Atgram project to this work site during the month. This has accelerated the progress of the carpeting work.

6.3 Rangpur District1982-1983 Schemes6.3.1 Gaibandha - Kamarjani Road - H.B.B

The H.B.B work for all four groups (A,B,C, and D) has been completed since April. However, heavy rainfall and resultant flooding have severely damaged the earth shoulders. These damaged portions will have to be repaired as quickly as receding flood waters permit.

6.3.2 Mirganj - Jaladhaka Road - Bituminous PavementGroups A, B, And C

For these three groups, the bituminous carpeting is complete. For Group D, the work is only about 35 percent complete. No activity observed at the latter site during this reporting period.

6.3.3 Chatra - Khalashpir Road - Bituminous Pavement

No progress to report on this project.

6.3.4 Kamdia - Ghoraghat Road - H.B.BGroup A, C, And D

Except for Group B, all other groups have completed the H.B.B Group B has completed only about 700 lin. ft. of H.B.B.

6.3.5 Rajarhat - Ullaghata Road - H.B.B.

Poor condition of the approach road still prevents access to this project site.

1983-1984 Schemes6.3.6 Gaibandha - Kamarjani Road - Bituminous Pavement

The lack of an adequate roller is still hampering progress on this site. The only activity to report this month is the breaking of bricks to aggregate size

6.3.7 Mirganj - Jaldhaka Road - Bituminous Pavement

Groups A And C-1

No new contractor has been appointed for either project following the cancelation of the original work orders.

Group B

This contractor has removed and replaced materials for the portion declared to be unacceptable by the Consultant. Work progress is still very slow.

Group C-2

The first layer of W.B.M. course has been laid on about 1,400 lin. ft., but some inferior quality material should be removed and replaced prior to compaction.

Group D

This contractor has spread Khoa on about 300 lin. ft. but the material is of sub-standard quality and should be replaced immediately.

6.3.8 Chatra - Khalashpir - Bhendabari Road - Bituminous Pavement

Groups A, B, C, D, And E

Despite the adverse weather conditions, the working contractors have accelerated their efforts to utilize all available materials stockpiled at the job sites. Groups A, B, and C have respectively completed 900, 1300, and 800 lin. ft. of W.B.M. work, the quality of which has improved considerably. No work was done by Groups D and E during the month except for some small amount of Khoa preparation. The contractors will not proceed with further work because the transportation of bricks to their sites has proved to be costly, and they will not be reimbursed under the terms of the present contracts. The Chairman, Zila Parishad, has advised to call for new tenders for the

EXHIBIT-V

PROPOSED '84 - '85 CONSTRUCTION PROGRAM

RANGPUR DISTRICT

<u>Sl.No.</u>	<u>Name of Schemes</u>	<u>Type of work</u>	<u>Length</u>	<u>Estimated cost</u>	<u>Remarks</u>
1.	Barodarga to Bhendabari Road (1st mile)	Re-Construction KGC Bridge	10'-0"	1,70,000.00	
2.	Barodarga to Bhendabari Road (2nd mile, near East of Gurjiparahat)	Re-construction RCC Box Culvert	8'-0"	1,20,000.00	
3.	Barodarga to Bhendabari Road(2nd mile)near West of Gurjiparahat)	Re-construction of RCC Slab.	13'-5"	55,000.00	
4.	Barodarga to Bhendabari Road (end of 2nd mile)	Re- construction of RCC Ring Culvert.	1 x 50" dia	40,000.00	
5.	Barodarga to Bhendabari Road (at Sharifpur).	Re-construction of RCC bridge.	1 x 30'-0"	3,50,000.00	
6.	Barodarga to Bhendabari road (on last portion)	Improvement of road by khoa consolidation and bituminous carpeting.	9940'-0"	33,80,000.00	
<u>Gaibandha</u>					
7.	Bamondanga to Sundar-ganj road (at Sonatola)	Re-construction of RCC bridge	10'-0"	1,70,000.00	
8.	Bamondanga to Sundarganj road (at Dariapur)	Construction of RCC bridge	10'-0"	1,70,000.00	
9.	Gaibandha-Naldanga Road(under Hatkhola U.P)	Re-construction of RCC Bridge	20'-0"	3,00,000.00	
10.	Gaibandha-Naldanga road(under Hatkhola U.P)	Re-construction of RCC bridge	20'-0"	3,00,000.00	

<u>Sl.No.</u>	<u>Name of Schemes</u>	<u>Type of work</u>	<u>Length</u>	<u>Estimated cost</u>	<u>Remark</u>
11.	Gaibandha to Kamarjani road (upward from Rly. Bridge)	Re-construction of RCC bridge	30'-0"	3,50,000.00	
12.	Gaibandha to Saghata road (in place of a damaged culvert at 3rd mile).	Re-construction of RCC bridge	15'-0"	1,90,000.00	
13	Ghoraghat to Kamdia road (starting after 10250' from Kamdia)	Construction of bituminous Carpeting.	5300'-0"	17,30,000.00	
14.	Gaibandha to Kamarjani Road (last portion of existing HBB)	Construction of bituminous carpeting.	3600'-0"	9,35,000.00	
15.	Ghoraghat-Kamdia road (starting from Kamdia Bazar)	Construction of bituminous carpeting.	10250'-0"	26,00,000.00	
<u>Lalmonirhat</u>					
16.	Chaparhat to Kaliganj road (at 1st mile)	Re-construction of RCC bridge.	10'-0"	1,70,000.00	
<u>Nilphamari</u>					
17.	Mirganj-Jaldhaka Road (last portion).	Improvement of road by khoa consolidation and bituminous carpeting over existing HBB.	6600'-0"	17,60,000.00	
<u>Kurigram</u>					
18.	Rajarhat-Ullaghata Road (at Pangahat).	Re-construction of RCC bridge.	30'-0"	3,50,000.00	
19.	Rajarhat-Ullaghata road (at Baddayar Bazar).	Re-construction of RCC bridge	30'-0"	3,50,000.00	
20.	Rajarhat-Ullaghata road.	Re-construction of 70 rft. RCC well foundation bridge.	70'-0"	13,00,000.00	

<u>Sl.No.</u>	<u>Name of Schemes</u>	<u>Type of work:</u>	<u>Length</u>	<u>Estimated cost</u>	<u>Remarks</u>
	<u>Maintenance Schemes:</u>				
21.	Gaibandha-Barodarga via Sadullahpur		2880'-0"	3,10,000.00	
22.	Rangpur-Sundarganj via Chowdhurani.			4,00,000.00	
23.	Nilphamari-Tengomari Road (Nilphamari Bazar portion).			3,00,000.00	
				<u>1,58,00,000.00</u>	

(One crore fifty eight lacs only)

remaining work, but the Consultant is of the opinion that this will be very time consuming. The contractors have already been granted a completion time extension to 30 September 1984.

6.3.9 Kamdia - Ghoraghat Road - H.B.B

Groups B And C

These groups have completed 800 and 1800 lin. ft., respectively. Progress rate on these two projects is improving.

6.4 Faridpur District

6.4.1 Badarpur - Saltha Road

ZRMI 53/82-83

The overall condition of the road pavement and shoulder improvement was found to be satisfactory, except for some erosion damage near the end of Group C. To avoid pavement damage, this should be corrected immediately.

6.4.2 Modukhali - Baliakandi Road

Group A, B, And C

Group A and B have completed their carpeting work. Widening of the H.B.B. near sharp curves was in progress. The Group C contractor started excavation for side drains following completion of pavement construction. This should have been done simultaneously with the pavement operation.

The fire pits have not been backfilled and compacted. The shoulders should also be dressed to proper camber throughout the full length of the road.

Group E

The laying of pre-mix and seal coat continued during this month. The Consultant has suggested that the seal coat be applied soon after the laying and rolling of the pre-mix; otherwise, foreign materials may get mixed in the seal coat and diminish its performance.

Group F, G, H, I, And J

The contractors have been stockpiling stone chips on the shoulders of ~~the~~ road in preparation for starting their work.

7.0 PROCUREMENT OF EQUIPMENT

7.1 Local Procurement

No new developments to report.

7.2 International Procurement

No new developments to report.

8.0 PERSONNEL

8.1 General

The current status of all personnel (WSA/BCL/PAS) is shown in Tabular form in Appendix D.

9.0 PROBLEMS AND PROPOSED SOLUTIONS

9.1 General

9.2 Organization And Management

9.3 Maintenance System And Supervision

9.4 Preparation of Technical Specifications

9.5 Training

9.6 Construction System And Supervision

9.7 Procurement of Equipment

9.8 Personnel

9.9 Miscellaneous

10.0 MISCELLANEOUS

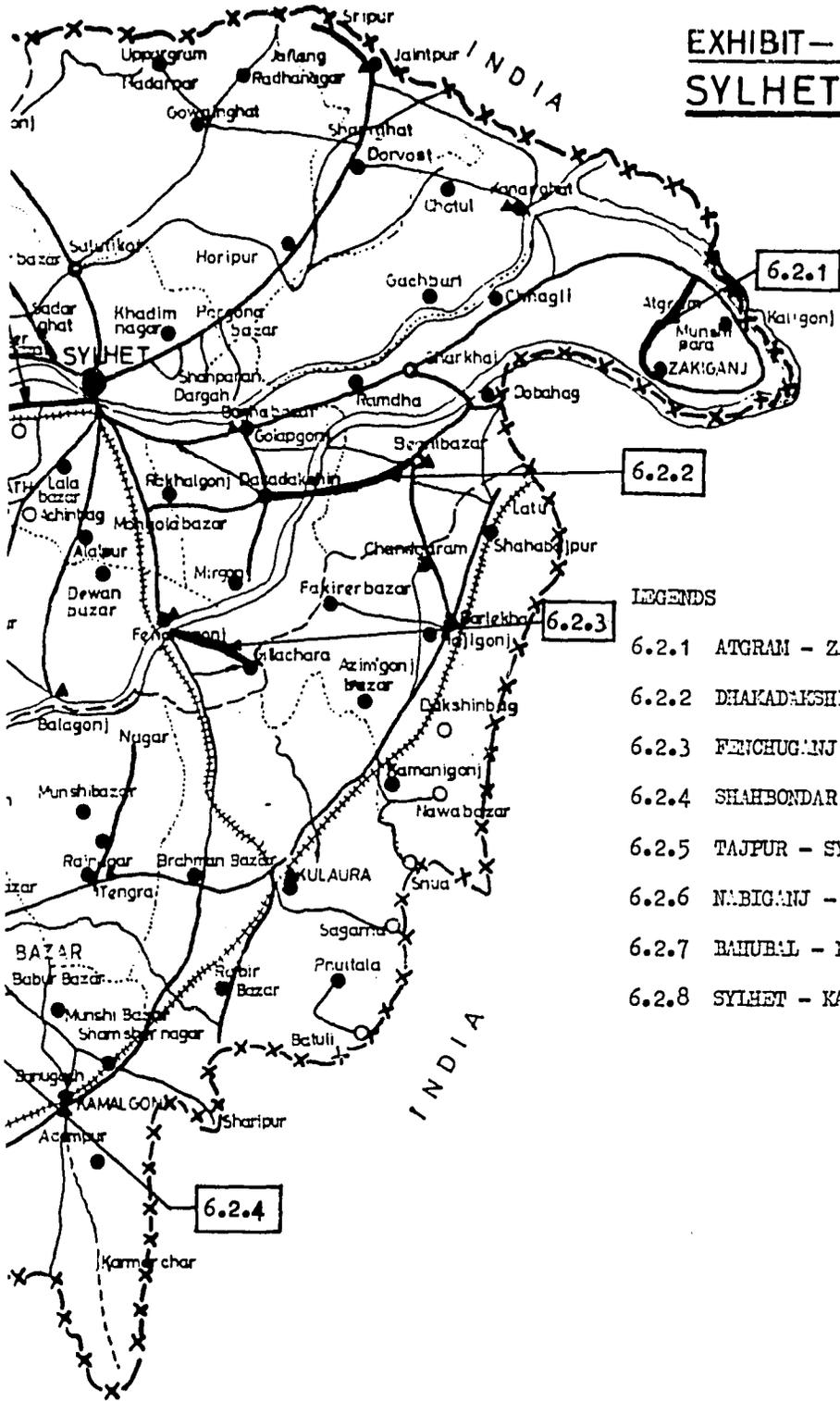
10.1 Monthly Financial Statement

The Monthly Financial Statement to be included in
September Report).

A handwritten signature in cursive script, reading "Fred L. Barnes". The signature is written in dark ink and is positioned above the typed name.

Fred L. Barnes
Chief of Party

EXHIBIT - I SYLHET DISTRICT



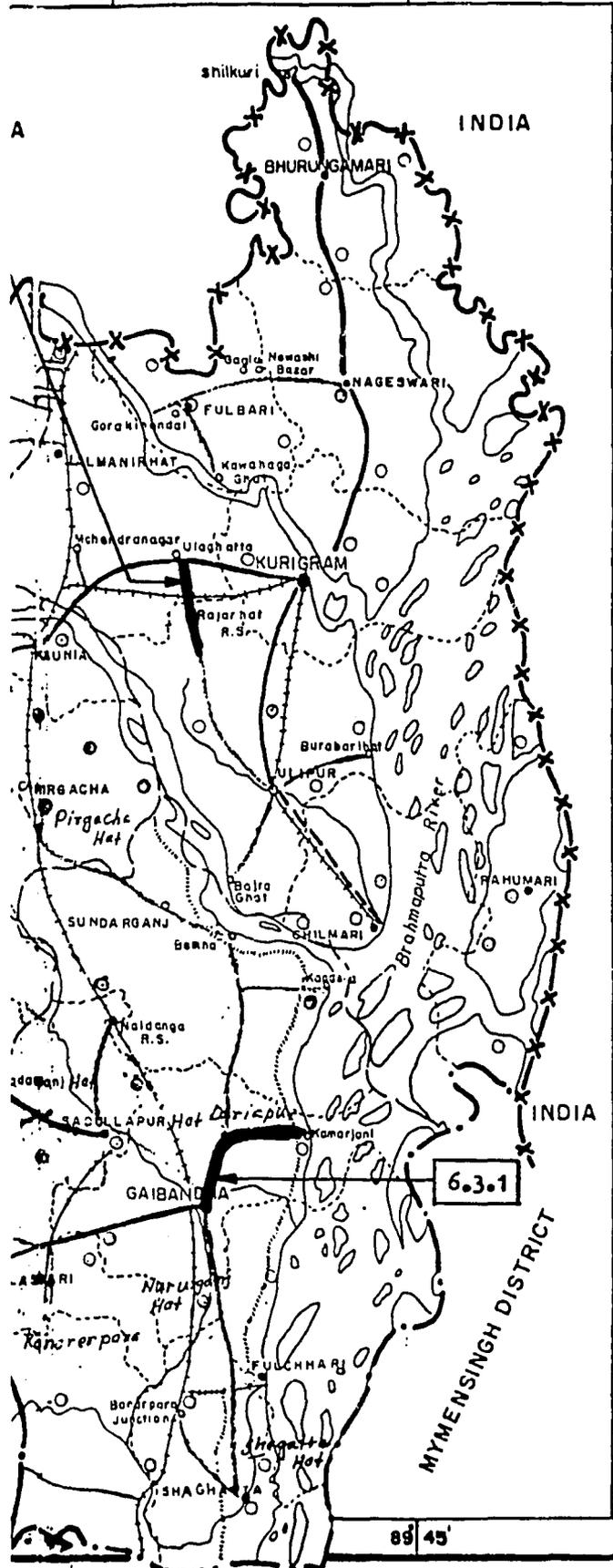
LEGENDS

- 6.2.1 ATGRAM - ZAKIGANJ ROAD
- 6.2.2 DHAKADAKSHIN - BEANTIBAZAR ROAD
- 6.2.3 FENCHUGANJ - GHILACHARA ROAD
- 6.2.4 SHAHBONDAR - SHAMSHERGANJ ROAD
- 6.2.5 TAJPUR - SYEDPUR - KHADIEMPUR ROAD
- 6.2.6 NALBIGANJ - BANLACHENG ROAD
- 6.2.7 BAHUBAL - PUTIJURI - BIJNAGHAT ROAD
- 6.2.8 SYLHET - KAMALBAZAR ROAD

Scale 1inch=8miles



EXHIBIT - II RANGPUR DISTRICT



26°
00'

LEGEND:

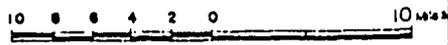
25°
45'

25°
30'

25°
15'

- 3.3.1 RANGPUR - MAHIGANG ROAD
- 3.3.2 RANGPUR - BADARGANJ ROAD
- 6.3.1 GAIBANDHA - KAMARJANI ROAD
- 6.3.2 MIRGANJ - JALDHAKA ROAD
- 6.3.3 CHATRA - KHALASHPIR - BHENDABARI ROAD
- 6.3.4 KAMDIA - GHORAGHAT ROAD
- 6.3.5 RAJARHAT - ULLAGHATA ROAD

Scale: 1 inch = 8 Miles (Approx)



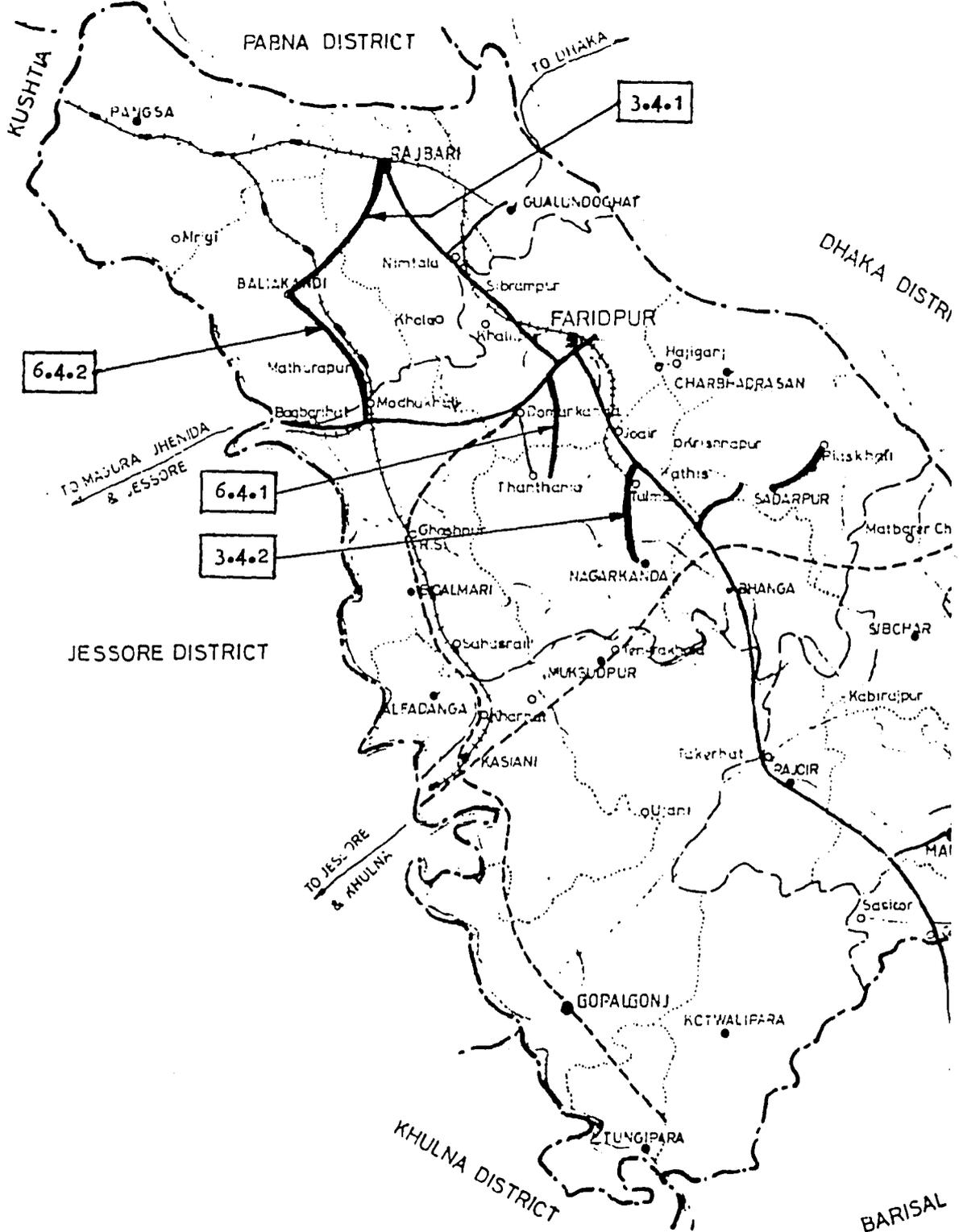
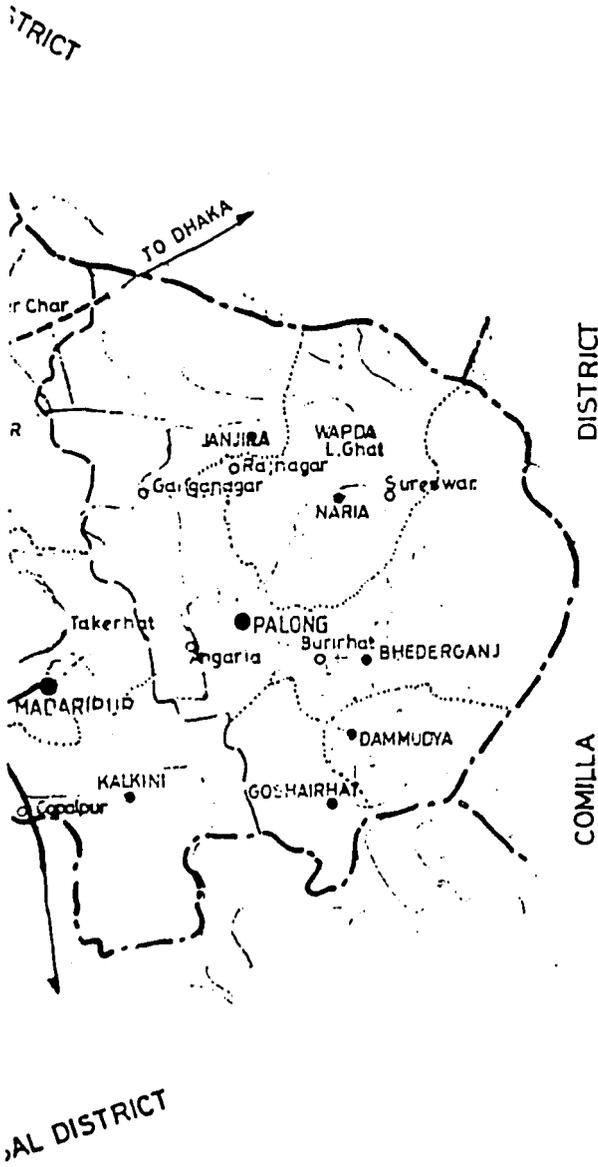


EXHIBIT - III
FARIDPUR DISTRICT



LEGENDS

- 3.4.1 RAJBARI - BALIAKANDI ROAD
- 3.4.2 TALMA - NAGARKANDA ROAD
- 6.4.1 BADARPUR - SALTHA ROAD
- 6.4.2 MADHUKHALI - BALIAKANDI ROAD

Scale : 1 Inch = 8 Miles.



APPENDIX A

PHOTOS OF MAINTENANCE ACTIVITIES
RANGPUR AND FARIDPUR DISTRICTS



RANGPUR DISTRICT
RANGPUR-MAHIGANJ ROAD

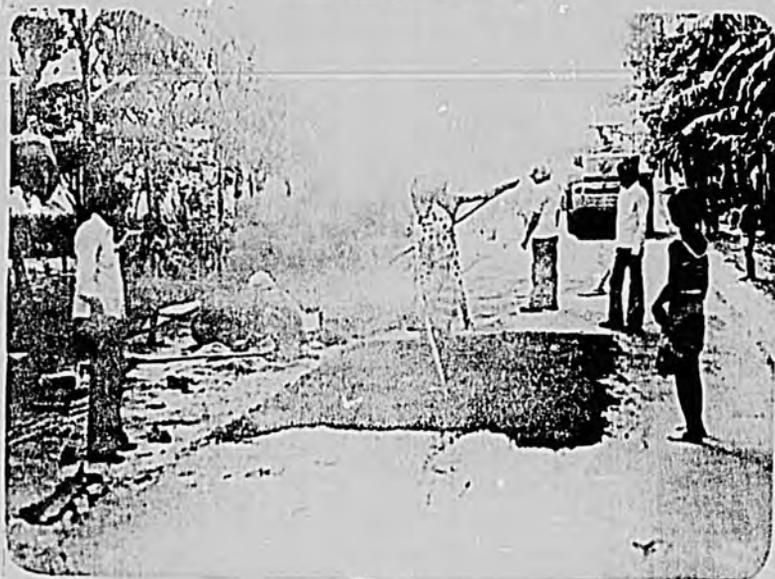


Fig-1

Bituminous premixed seal coating work underway. Due to traffic problems half portion of the road is being covered first.



Fig-2

Spreading of hot bitumen before laying seal coat. There is no other means to carry out this operation.

RANGPUR MAHIGANJ ROAD



Fig-3

Earth shoulder improvement, potholes repair and seal coating completed here. After heavy rains only minor shoulder rain out occurred. Sand & excess pea gravel are yet to be cleared from the shoulders.

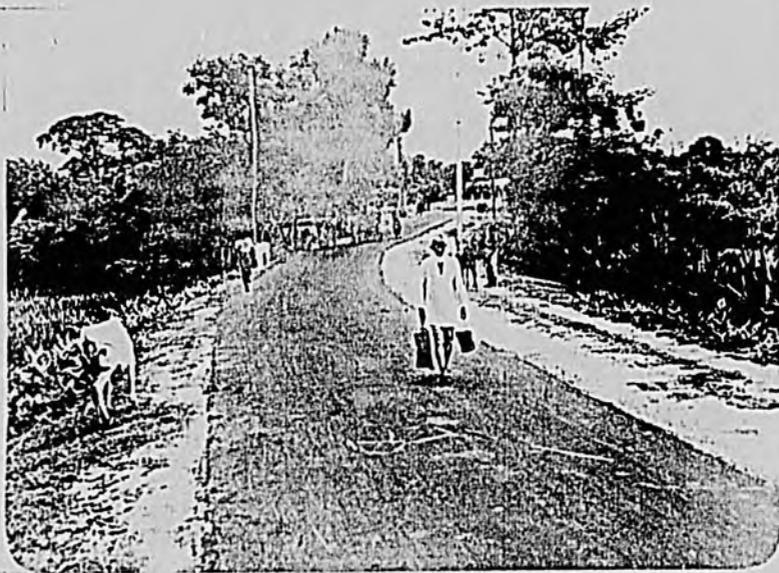


Fig-4

Another view of completed work of the road after 2 months heavy rain.

RANGPUR-MAHIGANJ ROAD



Fig-5

Executive Engineer on the job site, instructing his people to work as per requirement.



Fig-6

In July, 1984 potholes repair was completed here but not seal coating was done immediately. New potholes were then created by heavy traffic load during the rains.

RANGPUR-MAHISGANJ ROAD

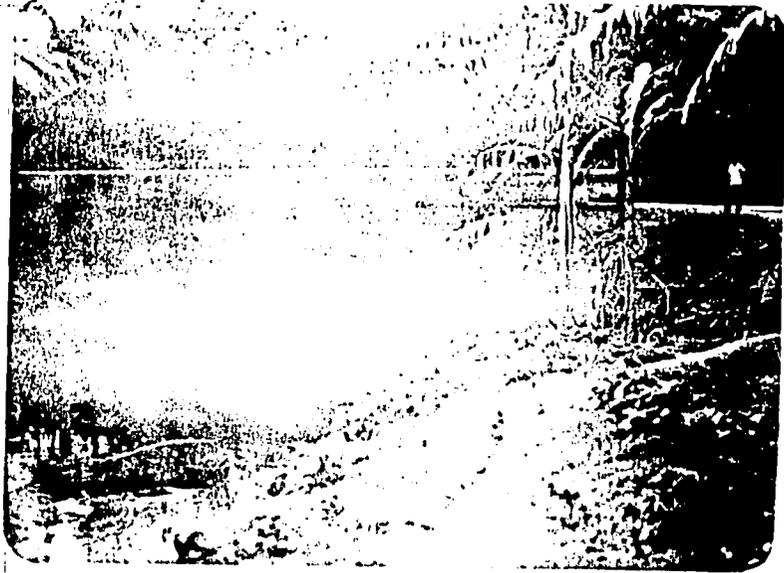


Fig-7

Right side approach shoulder of the bridge damaged by rain one month back. In spite of repeated suggestions, nobody took care of the repairing of this eroded portion.

RANGPUR-BADARGANJ ROAD



Fig-8

This approach was damaged at the west end of Nisbatganj Bridge shown to WPW personnel on 24 July, 1984. No repair was done to date.

RANGPUR-BADARGANJ ROAD

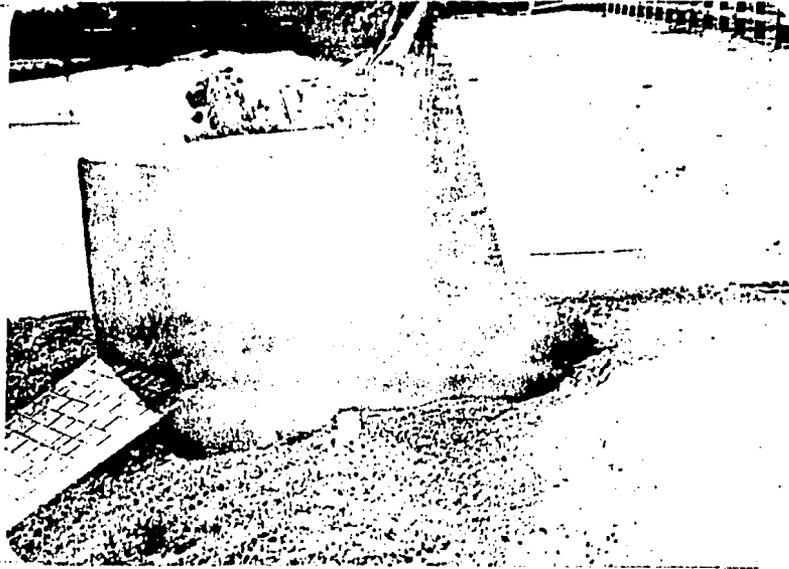


Fig-9

A new hole has been created by the rains at the back of the abutment and wing wall junction point at the east-end of above said bridge. Immediate repair of this hole is required.



Fig-10

This erosion of the shoulder has endangered the pavement of the road near the big ditch near Nesbetganj after cantonment area towards Badarganj.

FARIDPUR DISTRICT
RAJBARI - BULAKHNDI RO'D



Fig-11.

Spreading of Khoa for bituminous grouting
is in progress.



Fig-12.

Bituminous grouting is in progress.

RAJBARI - BALIAKANDI ROAD



Fig-13.

Heating of bitumen in Tar-Boiler is in progress.



Fig-14.

Spreading of brick chips for bituminous grouting is in progress.

RAJBARI - BALIAKANDI ROAD

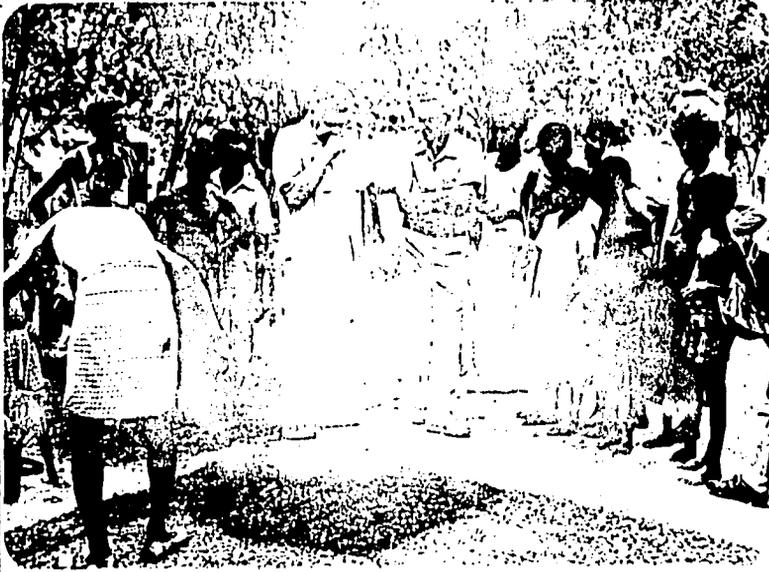


Fig-15.

Spreading of heated bitumen for penetration macadam is in progress.



Fig-16.

Bituminous grouting is in progress on damaged HBB surface.

RAJBARI - BALJAKANDI ROAD



Fig-17.

Maintenance work of H.B.B. penetration is in progress.

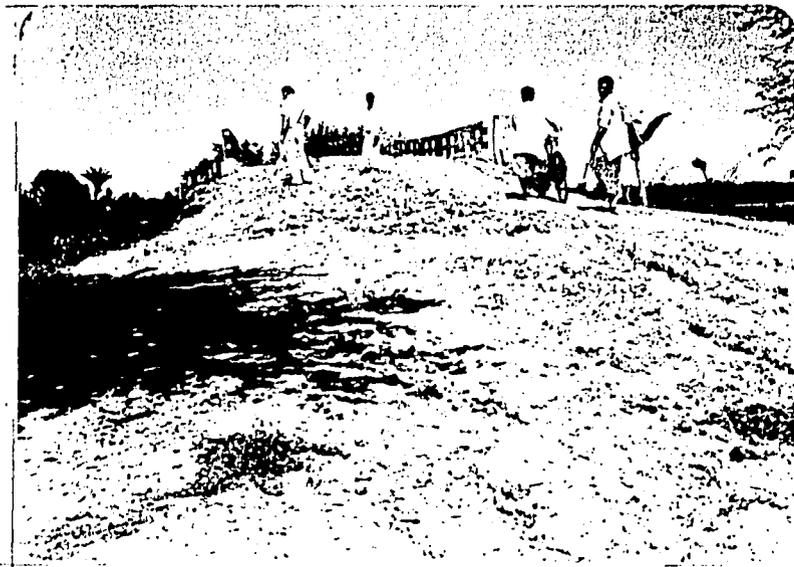


Fig-18.

Proposed approach (1984-85) of Horai Bridge being observed.

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RAJBARI - BALLAKANDI ROAD



Fig-19.

Existing condition of Horai Bridge approach
being observed.

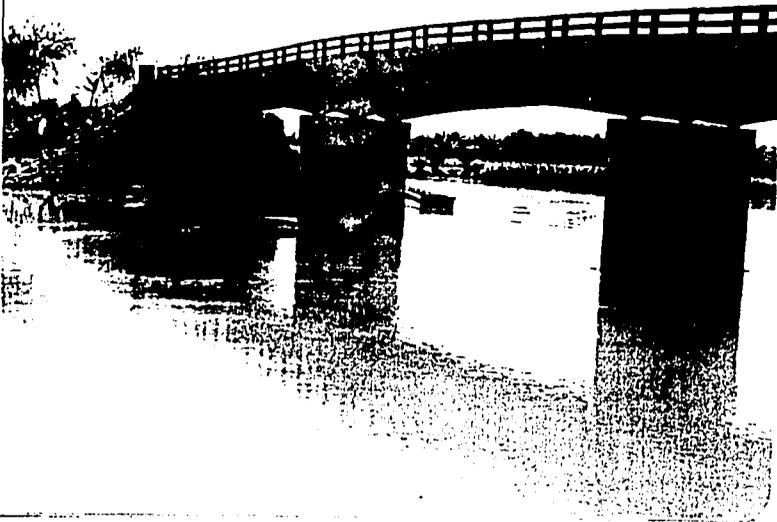


Fig-20.

Horai Bridge.

RAJBARI - BALIAKANDI ROAD



Fig-21.

Temporary arrangement has been done by the local people for cross drainage near Banibaha Bazar. A R.C.C. pipe culvert is needed.



Fig-22.

Replacement of H.B.B. at damaged portion being observed.

49

RAJBARI - BALAKANDI ROAD.



Fig-23.

Preparation of brick chips is in progress.



Fig-24.

Completed H.B.B. replacement section.

41

RAJBARI - BALIAKANDI ROAD.



Fig-25.

Cleaning of existing H.R.B. surface for bituminous grouting is in progress.



Fig-26.

Completed section.

42

TALMA - NAGARKANDA ROAD



Fig-27.

Bituminous patching work is in progress.

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APPENDIX B

LABORATORY ACTIVITIES

SYLHET, RANGPUR AND FARIDPUR DISTRICT

LABORATORY ACTIVITIES OF SYLHET DISTRICT FOR THE
MONTH OF AUGUST

Name of road and location from where materials collected.	Brick size.	Absorption capacity.	F.M.of sand/Pea gravels.	Water contents (%).	<u>Remarks.</u>
Fenchuganj- Gilachara Road, (1.65 km - 1.73 km towards Gilachara Bazar). - (20"-36" depth).	-	-	-	29.77%	Samples supplied by the XEN (WPW), Sylhet.
Fenchuganj- Gilachara Road, (ditto) - (24" depth).	-	-	-	29.10	-ditto-
Putijuri-Dahubal-Bijnaghat Road.	-	-	1.46	-	Sample tested for R.C.C. work.(100% sand).
Badaghat Road.(Pilot maintenance scheme).	-	-	1.87	-	Sample tested for maintenance work.(100% sand).

5

LABORATORY ACTIVITIES OF SYLHET DISTRICT FOR THE
MONTH OF AUGUST

Name of road/khal and location.	Test Result	Sieve /Hydro-meter analysis.			Atterberg limits.			Field density.		Compaction test.		% Compaction.		C.B.R. (%).		Remarks.
		Sand (%)	Silt (%)	Clay (%)	L.L. (%)	P.L. (%)	P.I. (%)	γ _d kg/m ³	W (%)	M.D.D. (kg/m ³)	O.M.C (%)	Modified.	Standard.	Unsoaked.	Soaked.	
Fenchuganj- Gilachara Road. (1200 m.from end of Paved road)- near Beani bazar. (0.075 to 0.225 m. depth).	Sp.Gr.= 2.56	70.0	28.5	1.5				1814.39	10.77	2039.56	11.04	89.0	-	11.0	-	Stabilized Road. This is the 4th sample collected from the sub-grade.
Fenchuganj- Gilachara Road. (2800 m.from end of Paved road)- (0.075 to 0.225 m. depth).	-	64.0	30.0	6.0				1799.48	19.86	2087.49	11.04	86.0	-	25.0	-	This is the 5th sample collected from the Sub-grade.

γ_d = Dry density.
 W = Water content.
 MDD = Max dry density.
 OMC = Optimum water content.

LABORATORY ACTIVITIES OF RANGPUR DISTRICT FOR THE MONTH OF AUGUST

Name of road and location from where materials collected.	Brick size.	Absorption capacity.	F.H. of sand/Pea gravels.	<u>R e m a r k s.</u>
Barodarga-Bhendabari-Group-B... ..	-	-	0.74	This material does not follow specification.
Barodarga-Bhendabari-Group-C... ..	-	-	0.71	-"-
Barodarga-Bhendabari-Group-B... ..	-	-	0.99	The material follows specification.
Barodarga-Bhendabari-Group-C... ..	-	-	1.05	-"-
Barodarga-Bhendabari Road.....	-	-	0.84	The material does not follow specification.
-do-	-	-	0.84	-"-
-do-	-	-	0.91	-"-
-do-	-	-	0.85	-"-
-do-	-	-	0.86	-"-

**LABORATORY ACTIVITIES OF RANGPUR DISTRICT FOR THE
MONTH OF AUGUST**

Name of road/khal and location.	Test Result	Sieve /Hydro-meter analysis.			Atterberg limits.			Field density.		Compaction test.		% Compaction.		C.B.R. (%)		Remarks.
		Sand (%)	Silt (%)	Clay (%)	L.L. (%)	P.L. (%)	P.I. (%)	γ _d kg/m ³	W (%)	M.D.D. (kg/m ³)	O.M.C (%)	Modified.	Standard.	Unsoaked.	Soaked.	
Barodarga-Ehendabari Road. Group-C, 1200' from the starting point.(6" depth).....	Sp.Gr= 2.69	21	73	6	30.52	17.06	13.46	1672.59	25.36	1909	16.5	-	87.62	-	9.17	
Barodarga-Bhendabari Road.Sharifpur in (1984-1985)- (1'-1½" depth).....	Sp.Gr= 2.72	15	69	16	31.5	18.69	12.81.	1772.67	15.25	1980	14.00	-	89.53	-	6.42	
Kandia-Ghoraghat Road, (Jalalpur)-(1984-1985). (1'-1½" depth).....	Sp.Gr= 2.70	25	58	17	30.40	19.37	11.03	1787.05	13.12	1931	13.40	-	92.08	-	-	
Rajarhat-Ullaghata Road,Pangahat.....	Sp.Gr= 2.73	84	16	-	-	-	-	-	-	-	-	-	-	-	-	These samples are sent by the Z.P. office. These samples are not sufficient for performing other test.
Rajarhat-Ullaghata Road, (Baddyer-bazar...	Sp.Gr= 2.68	36	62	2	-	-	-	-	-	-	-	-	-	-	-	

γ_d = Dry density.

W = Water content.

MDD = Max

CMC = Cr

LABORATORY ACTIVITIES OF FARIDPUR DISTRICT FOR THE
MONTH OF AUGUST

Name of road/khal and location.	Test Result	Sieve /Hydro-meter analysis.			Atterberg limits.			Field density.		Compaction test.		% Compaction.		C.B.R. (%)		Remarks.
		Sand (%)	Sil+ (%)	Clay (%)	L.L. (%)	P.L. (%)	P.I. (%)	γ_d kg/m ³	W (%)	M.D.D. (kg/m ³)	O.M.C (%)	Modified.	Standard.	Unsoaked.	Soaked.	
Rajbari-Baliakandi.	Sp.Gr. Gs=2.66.	14	73	13	-	-	-	-	-	1862.7	12.45	-	-	41.1	10.9	
Lab.Mixing sample.	Sp.Gr. Gs=2.62.	10	68	22	-	-	-	-	-	2074.3	13.9	-	-	43.45	-	

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γ_d = Dry density.
W = Water content.
MDD = Max dry density.
O.M.C = Optimum water content.

APPENDIX C

PHOTOS OF CONSTRUCTION ACTIVITIES
RANGPUR AND FARIDPUR DISTRICT

C - 1

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FARIDPUR DISTRICT

MADHUKHALI - BALIAHATI ROAD



Fig-1.

Completed bituminous carpeting Section (Group-A).



Fig-2.

Completed bituminous carpeting section (Group-C).

MADHUKHALI - BALTAKANDI ROAD



Fig-3.

Completed section of sharp curve widening with
H B B (Group-A).



Fig-4.

Sharp curve widening is in progress (Group-B).

MADHUKHALI - BALTAKANDI ROAD



Fig-5.

Heating and mixing of seal coat material area in progress. (Group-E).



Fig-6.

Temperature of bitumen being checked (Group-E).

MADHUKHALI - BALIAKANDI ROAD

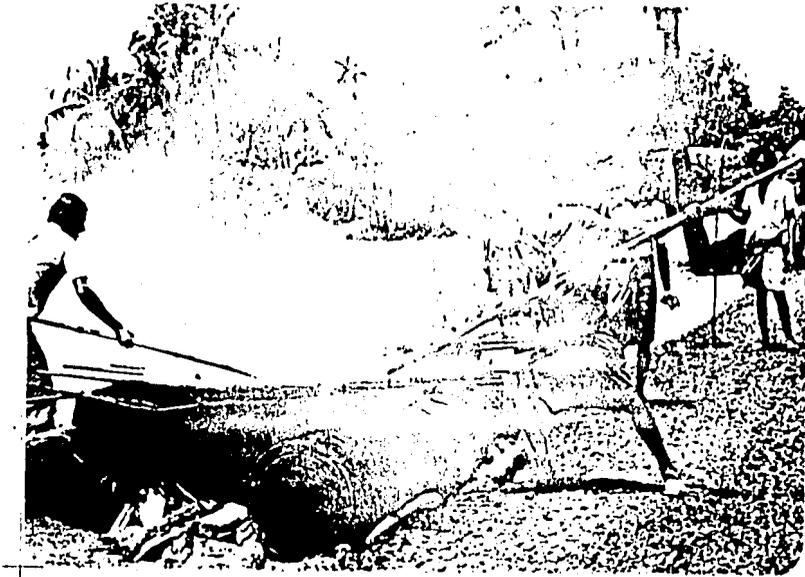


Fig-7.

Heating and mixing of pre-mix are in progress-
(Group-E).

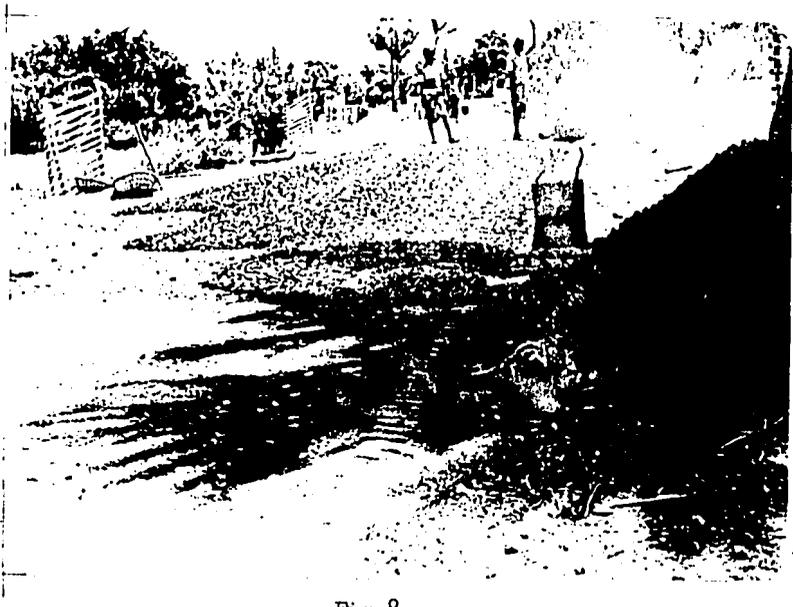


Fig-8.

Laying of bituminous pre-mix is in progress-
(Group-E).

HAT-KRISHNAJUR-SADARPUR-PAJHIALI ROAD



Fig-9.

Section of completed HBB pavement has been washed out.



Fig-10.

Section of completed HBB pavement has been washed out.

RANGPUR DISTRICT
GATBANDHA-MAMARTANI ROAD

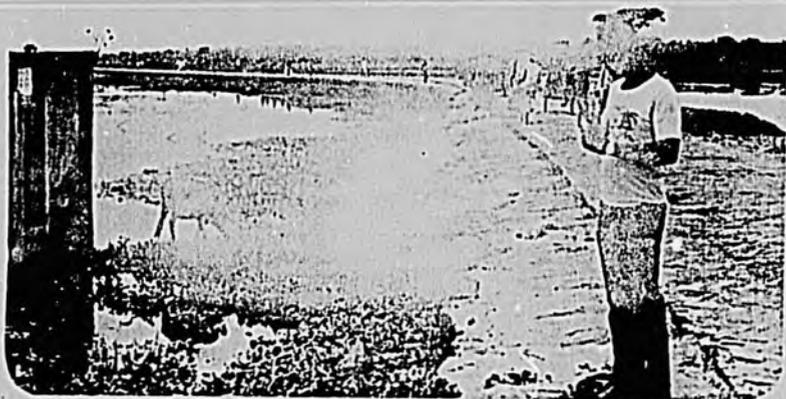


Fig-11

A view of a damaged earth shoulder in group A(old) after flood water level receded.

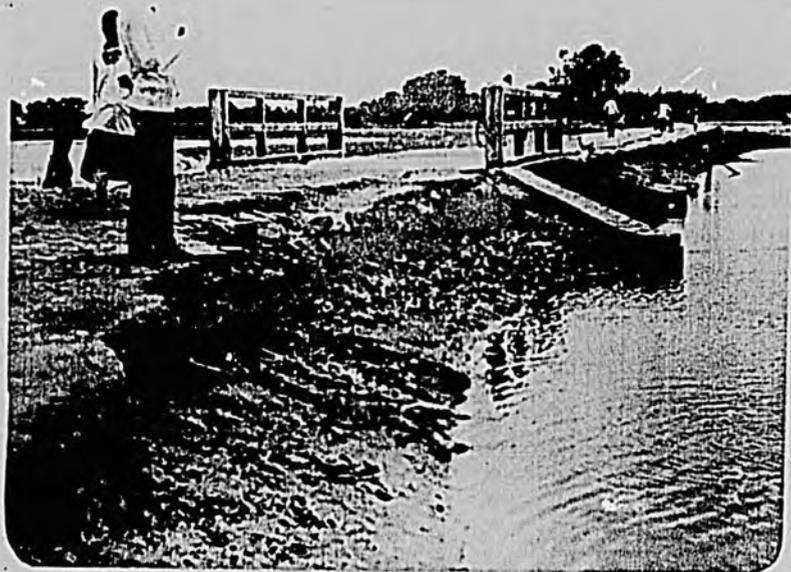


Fig-12

A view of a damaged culvert approach. Flood water caused this damage. We informed long before to XEN office for protective measure but no action was taken by any official.

GAIBANDHA-KAMARJANI ROAD



Fig-13

Shoulder condition of other approach of the same culvert as seen in Fig-12 above, after the water has receded.



Fig-14

A view of shoulder damage in group-C(old). This damage particularly in the flood water hit side.

GATEMUNDA-HAMARJANI ROAD

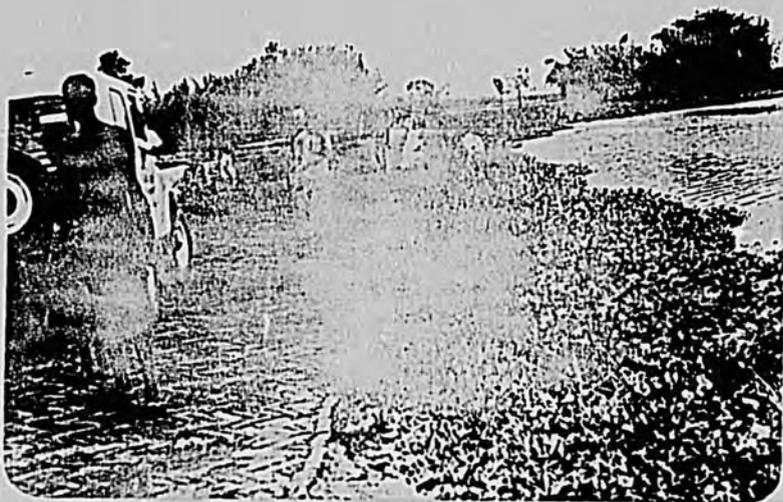


Fig-15

Local Chairman tried to protect this section of road in group C(old) by placing bamboo fencing. If this work was done by the XEN office at the beginning then a large portion could have been saved.



Fig-16

A view of flood hit side damage of earth shoulder in group D(old). A few bamboo Gabions are seen in this group only for protecting last year's planted trees.

MIRANJ-JALMIYA ROAD



Fig-17

Over-sized khoe spreaded in Group - C-2 ('83-'84)



Fig-18

Oversized khoe stacked beside the road. Poruous, lessburnt
khoe mixed together in this stack in group C-2.

MIRGANJ-JALDIYAKA ROAD

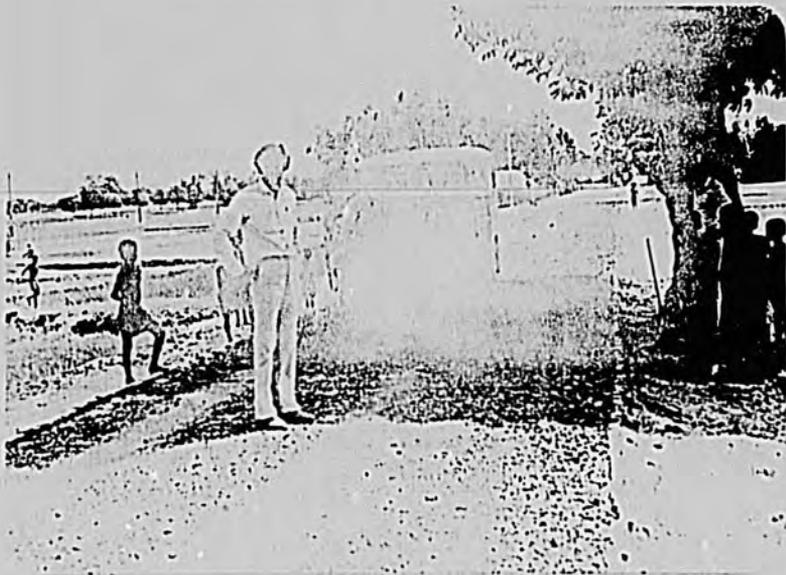


Fig-19

In group 'B' (New) rectification work done here but still some porous Jhama oversized picked should be taken out from this section of road before rolling.



Fig-20

Improvement work in group C-2 (83-84) is acceptable
as mixed with the good khoa. Also see
17 & 18.

BARODARGA-TEHENDABART ROAD



Fig-21

A view of a damaged brick arch culvert in Group B (83-84)
New R.C.C. ring culvert will be provided here by XEN office.

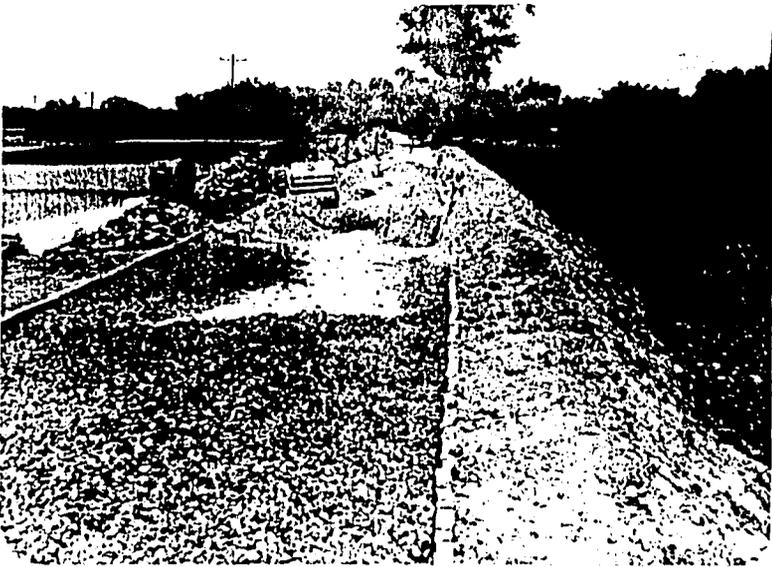


Fig-22

All materials present in the site but no work is proceeding
in group - B (83-84)

BORADARGA-BHENDABARI ROAD

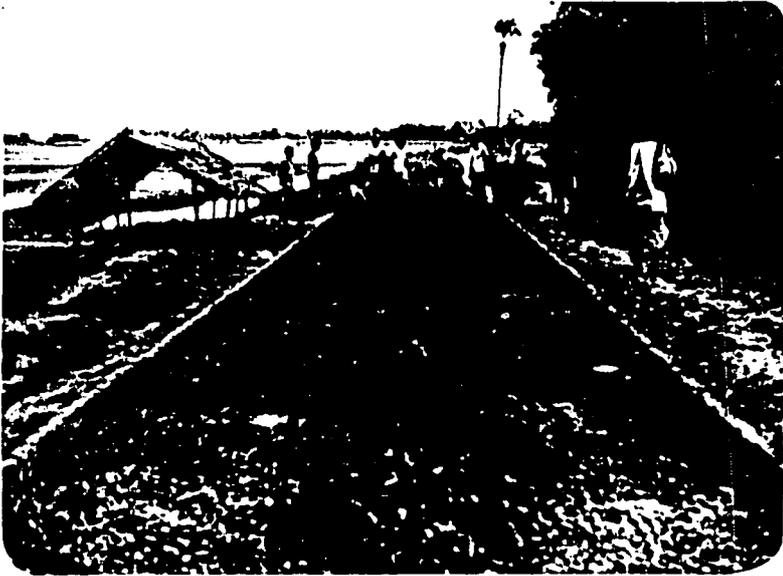


Fig-23

In group C(83-84), oversized khoa breaking going on before rolling was allowed.

KAMDIA-GHORAGHAT ROAD



Fig-24

This is a view of inferior quality bricks being used for soling in a particular section of road in group (83-84).

LALMONIRHAT-MOGHOLHAT ROAD



Fig-25

A view of a WPW selected ring culvert site at Changerdola. Water is supposed to flow from the right to the left side in the picture but no further drainage facility is available on the left side of the road.



Fig-26

R.C.C pipe was not placed in position and is not available at the site, but wing walls were erected before that which is not acceptable. This figure is detail of the wing shown in figure-26 above.

Appendix D - CURRENT STATUS OF PERSONNEL.

Sheet 1 of 2.

Title.	Name.	Status.	Comments.
D H A K A OFFICE.			
Chief of Party.	Fred L. Barnes.	On duty, 01/08-31/08.	-
Training Advisor.	Gifford E. Rogor.	On duty, 01/08-31/08.	-
Associate COP.	K.M. Huque.	On duty, 01/08-31/08.	Total 08 working days.
Soil/Materials Lab., Training Specialist.	N. Majid.	On duty, 01/08-31/08.	Total 16 working days.
Structural Engineer.	M.A. Aziz.	On duty, 01/08-31/08.	Total 12 working days.
Hydrologist.	Reza Ali.	On duty, 01/08-31/08.	Total 04 working days.
Project Engineer/ Training Coordinator.	A.H.N. Abdullah.	On duty, 01-08-31/08.	-
Office Engineer.	G.S.N. Habibur Rahman.	On duty, 01/08-31/08.	-
Asst. Design Engineer.	A. Rashid.	On duty, 01/08-31/08.	-
Laboratory Engineer.	S. Arefin.	On duty, 01/08-31/08.	-
Draftsman.	Mizarur Rahman.	On duty, 26/08-31/08.	Reported for duty on 26/08.
Draftsman.	Nazimuddin Ahmed.	On duty, 01/08-31/08.	-
Administrative Asst.	Md. Harun.	On duty, 01/08-31/08.	-
Accountant.	AKM.A. Taher.	On duty, 01/08-31/08.	-
Secretary.	Fahmida Chowdhury.	On duty, 01/08-31/08.	-
Typist.	Andre Sarker.	On duty, 01/08-31/08.	-
Driver.	E. Hossain.	On duty, 01/08-31/08.	-
Driver.	F. Rahman.	On duty, 01/08-31/08.	-
Messenger.	A. Majid.	On duty, 01/08-31/08.	-
Guard.	S.A. Khalifa.	On duty, 01/08-31/08.	-
Guard.	A. Rashid.	On duty, 01/08-31/08.	-
Caretaker.	Mokfaruddin Skr.	On duty, 01/08-31/08.	-
Cleaner.	Anwara.	On duty, 01/08-31/08.	-
Gardener.	N. Zaman.	On duty, 01/08-31/08.	-
F A R I D P U R.			
Resident Engineer.	N. Ziegler.	On duty, 01/08-31/08.	-
Asst. Resident Engineer.	AKM.R. Habib.	On duty, 01/08-31/08.	-
Asst. Engineer.	AZM. Amirul Islam.	On duty, 01/08-31/08.	-
Inventry Engineer.	Shah A. Nawaz.	On duty, 01/08-31/08.	-
Laboratory Technician.	Mizarur Rahman.	On duty, 01/08-31/08.	-
Surveyor.	Tajul Islam.	On duty, 01/08-31/08.	-
Sub-Asst. Engineer.	S. Afrad.	On duty, 01/08-31/08.	-
Sub-Asst. Engineer.	M. Rahman.	On duty, 01/08-31/08.	-
Office Manager/ Accountant.	AKM. Kamaluddin.	On duty, 01/08-31/08.	-
Secretary/Typist.	R.F. Khalifa.	On duty, 01/08-31/08.	-
Driver.	B.A. Nollah.	On duty, 01/08-31/08.	-
Driver.	N. Ali.	On duty, 01/08-31/08.	-
Messenger.	S. Alam.	On duty, 01/08-31/08.	-
Gardener.	J.K. Shil.	On duty, 01/08-31/08.	-
Guard.	N. Khan.	On duty, 01/08-31/08.	-
Guard.	I. Ali.	On duty, 01/08-31/08.	-

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Appendix - CURRENT STATUS OF PERSONNEL.

Sheet 2 of 2.

Title.	Name.	Status.	Comments.
RAWOPUR.			
Resident Engineer.	R.Andres Tavel.	On duty,01/08-31/08.	-
Assistant Resident Engineer.	S.A.Ahmed.	On duty,01/08-31/08.	-
Asst. Engineer.	M.A.Samad.	On duty,01/08-31/08.	-
Inventory Engineer.	Amirul Islam.	On duty,01/08-31/08.	-
Sub-Asst. Engineer.	N.K.Das.	On duty,01/08-31/08.	-
Sub-Asst. Engineer.	AMM.Kabiruddin.	On duty,01/08-31/08.	-
Sub-Asst. Engineer.	Alauddin.	On duty,01/08-31/08.	-
Laboratory Technician.	B.Hossain.	On duty,01/08-31/08.	-
Surveyor.	J.Abedin.	On duty,01/08-31/08.	-
Office Manager/ Accountant.	A.H.Majumdar.	On duty,01/08-31/08.	-
Typist.	R.Kabir.	On duty,01/08-31/08.	-
Messenger.	AFMM.Haque.	On duty,01/08-31/08.	-
Driver.	Maulubur Rahman.	On duty,01/08-31/08.	-
Guard.	A.Rahman.	On duty,01/08-31/08.	-
Guard.	M.Hossain.	On duty,01/08-31/08.	-
Caretaker.	G.C.Das.	On duty,01/08-31/08.	-
Cleaner.	Rashida Begum.	On duty,01/08-31/08.	-
SYLHET.			
Resident Engineer.	Alex E.Wilson.	On duty,01/08-31/08.	-
Asst.Resident Engineer.	K.M.Hasan.	On duty,01/08-31/08.	-
Sub-Asst.Engineer.	N.Nabi.	On duty,01/08-31/08.	-
Sub-Asst.Engineer.	K.S.Ahmed.	On duty,01/08-31/08.	-
Surveyor.	Amirul Karim.	On duty,01/08-31/08.	-
Surveyor.	Abu Musa Mia.	On duty,01/08-31/08.	-
Laboratory Technician.	N.M.Siddique.	On duty,01/08-31/08.	-
Laboratory Technician.	Anjadul Haque.	On duty,01/08-31/08.	-
Draftsman.	M.Giasuddin.	On duty,01/08-31/08.	-
Office Manager/ Accountant.	Amirul Haque.	On duty,01/08-31/08.	-
Typist.	AKM.Mimir Ahmed.	On duty,01/08-31/08.	-
Driver.	Fakrul Islam.	On duty,01/08-31/08.	-
Messenger.	Elias Ali.	On duty,01/08-31/08.	-
Guard.	A.A.Jamadar.	On duty,01/08-31/08.	-
Guard.	S.Alan.	On duty,01/08-31/08.	Reported for duty on 01/08.
Cleaner/Gardener/ Caretaker.	Ahmed Miah.	On duty,01/08-31/08.	-

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