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**LONG-TERM OBJECTIVES OF THE  
RURAL TRAILS AND ACCESS ROADS PROJECT  
IN JEOPARDY**

**USAID/HONDURAS PROJECT NO. 522-0164  
AUDIT REPORT NO. 1-522-85-7**

**FEBRUARY 27, 1985**

## EXECUTIVE SUMMARY

This report presents the results of our review of USAID/ Honduras' Rural Trails and Access Roads, Project (No. 522-0164). Its total \$28.5 million cost is being financed by AID (\$21.5 million) and the Government of Honduras (GOH - \$7.0 million). Our review was made to determine whether road construction and maintenance purposes were achieved in accordance with the Agency's authorization of this activity and the Project Agreement.

Over \$11 million in AID funds have been disbursed since inception of the project. Work proceeds on schedule and considerable progress has been made towards expanding the secondary roads network. Additionally, the reconstruction of a bridge over the Higuito River on the main North-South road to Guatemala and El Salvador has been successfully completed. However, improvements in the road maintenance program are needed: GOH efforts to foster community participation in road maintenance activities have been minimal; and roads completed over 3 years ago have received no visible maintenance with the result that they are becoming impassable in certain locations.

Two main problems currently impede secondary road maintenance. The local communities benefited by the roads have not been organized as planned into providing minor road maintenance so as to keep the roads and related drainage works cleared of debris, unwanted vegetation, rock and landslides, etc. The other problem lies with an apparent lack of equipment to maintain the secondary road network. Maintenance of the completed roads is the responsibility of the General Directorate of Maintenance (DGM) of the GOH Ministry of Communications, Public Works, and Transportation (SECOPT). If SECOPT does not take action to institute appropriate road maintenance soon, portions of the secondary road system may become obstacles to rather than facilitators of transportation and commerce.

Our review also disclosed that some road construction deficiencies are attributable to the fact that road construction standards were not always observed by construction supervisors.

The report includes three recommendations designed to correct the problems identified during our review.

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## **ACRONYMS**

<b>AID</b>	<b>Agency for International Development</b>
<b>DGC</b>	<b>General Directorate of Roads</b>
<b>DGM</b>	<b>General Directorate of Maintenance</b>
<b>FHA</b>	<b>U.S. Federal Highway Administration</b>
<b>GOH</b>	<b>Government of Honduras</b>
<b>IBRD</b>	<b>World Bank</b>
<b>PACD</b>	<b>Project Authorization Completion Date</b>
<b>USAID</b>	<b>U.S. Agency for International Development</b>

## BACKGROUND

The Western region of Honduras, consisting of the Departments of Lempira, Intibuca, La Paz, Ocotepeque, Copan, Santa Barbara, Cortes, Atlantida and Yoro contains 23 percent of the country's total population and is one of the poorer areas in Honduras. Over the past 20 years the GOH has carried out an extensive road building program throughout the country, with almost all principal highway work being carried out in this region.

The USAID's country strategy is to support integrated rural development in order to improve the standard of living of the Honduran people. An expanded network of all-weather rural trails and access roads will give farmers and other rural merchants an opportunity to participate in a broader marketing system. In addition, better roads will facilitate the delivery of more and better health and educational services to rural areas.

Within the last 10 years, USAID and the GOH have worked together on four feeder road projects designed to construct or upgrade over 2000 kilometers of rural trails and access roads. The Rural Trails and Access Roads Project (522-0164) started on March 31, 1980. It is being financed by AID Loan 522-T-035 for \$20,970,000 million and a grant for \$480,000. The total estimated cost of the project including the GOH's contribution is \$28.5 million. The original project completion date was March 31, 1983 now extended to March 31, 1987 because of expansion to over 1500 road kilometers. Originally, the goal was to construct/rehabilitate 860 road kilometers.

The project is an endeavor to assist the GOH in its efforts to provide social and technical services as well as the improvement of income for small rural families. The purposes of the project were to: (1) expand the network of all-weather rural trails and access roads in Honduras, (2) reconstruct a bridge over the Higuito River, and (3) increase the maintenance capability of the Directorate General of Maintenance (DGM) of the Ministry of Communications, Public Works and Transportation (SECOPT).

The project is managed by an implementation unit, a dependency of the General Directorate of Roads (DGC). The amended project agreement provides that the DGM will include in its maintenance plan, and be responsible for all roads and trails completed and accepted by the DGC. The DGC coordinates all the operations within SECOPT, and in collaboration with USAID, supervises regional units and contractors. The DGM is in charge of road maintenance which is guaranteed by a government commitment to provide the required funds.

As of September 30, 1984, 877.10 kilometers of rural trails and access roads had been completed. Another 191 kilometers were under construction and contracts had been awarded but not yet approved for construction of another 127 kilometers. Also, financed under the project was the rehabilitation of 44 units of road maintenance equipment to be used for maintaining secondary roads at a cost to AID of \$792,000.

## OBJECTIVES, SCOPE AND METHODOLOGY

The objectives of this audit were to determine whether road construction and maintenance goals were achieved in accordance with the Project Authorization and Agreement; to selectively review the project's internal controls; and to evaluate compliance with AID's regulations and policies.

Relying on USAID/Honduras and Latin America Bureau files, we reviewed: the project agreement, project paper, project identification document, implementation letters, quarterly reports from April 1983 to September 1984, an evaluation report of reconstruction of access roads and rural trails, and other background information on the project. We interviewed 117 Honduran nationals in 38 communities. We also interviewed SECOPT officials within the DGC and the DGM as well as USAID officials responsible for the project. We did not audit the local currency revolving fund established for this project. The revolving fund was the subject of a separate audit made by our office in November 1984 (No. 1-522-85-5).

We made this program result audit between October 16 and December 13, 1984; it covered project activities from March 31, 1980 to September 30, 1984. The total cost of the project (\$28.5 million) is being financed by AID (\$21.5 million) and the GOH (\$7.0 million). The GOH counterpart contributions have been timely made. There was no known prior audit coverage of this project.

We prepared several preliminary finding statements which were discussed at an exit conference with USAID/Honduras officials. Their comments at the exit conference, as well as additional comments cabled to our office in Washington, were incorporated into this report. SECOPT officials were not at the exit conference. The Mission generally agreed, with minor modifications and changes, with the findings, conclusions and recommendations contained in this report, and their comments and inputs were incorporated. Our review was made in accordance with the Comptroller General's Standards for Audit of Governmental Organizations, Programs, Activities, and Functions.

## AUDIT FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

### Building Program Is A Success

The rehabilitation or construction of low-cost rural trails and access roads is being successfully achieved within cost and schedule. It is estimated that this part of the project may be completed 15 months before its revised completion date of March 31, 1987. In addition, the reconstruction of the Higuito River bridge is 100 percent complete and all 44 pieces of road maintenance equipment have been rehabilitated.

In terms of physical goals, about 900 kilometers (60 percent) of roads have been rehabilitated or constructed as of September 30, 1984 and more than 300 kilometers (20 percent) are under construction.

The project's two main purposes were to (a) expand the network of all-weather rural trails and access roads, and (b) increase the number of kilometers of all-weather roads that are maintained by the GOH.

The purpose to expand the network of all-weather rural trails and access roads has been achieved because (1) sufficient contractors were available, (2) SECOPT has increased the number of engineers assigned to the implementing unit, and (3) the average period of construction contracts was reduced from nine to seven months. Also, the use of simpler road construction procedures (detailed plans and specifications were not prepared for the roads, SECOPT engineers did not test for compaction of the sub-base, etc.) has resulted in significant time and cost savings. Currently, project roads are built at a cost of \$15,000 per kilometer while roads being built by a World Bank project were estimated at \$80,000 per kilometer.

As a result, more road kilometers were built with existing funding, and more goods and services, in the form of improved transportation, health and educational services and technical assistance were being provided to the rural poor in the communities benefiting from the project roads.

### Construction Standards Not Uniformly Observed

Secondary roads built under this project did not always conform to established construction standards. Non-observance of standards led to the building of varying quality roads. Construction deficiencies were later exacerbated by the effects of rainfall and accompanying water runoff, i.e., erosion, lack of adequate drainage in some areas, soluble composition, inadequate compaction of select borrow, varying road crowning angles and grades, width of ditches, the presence or non-presence of catch dams, variance in earth or rock cuts, etc. Project roads were to have been constructed to predetermined mutually agreeable and readily verifiable standards to ensure uniformity and quality of work performed. Annex M-1 through M-6 of the Project Paper upon which AID's

authorization of this activity was based describes the planned construction standards. Project Implementation Letter (PIL) No. 22 dated October 16, 1981 contains the procedures to meet those standards.

Non-observance of road construction standards is attributable to the fact that although the standards might have been available, they were not generally communicated to road construction supervisors. As a result, deficiencies occurred resulting in erosion, potholes, land and rock slides , etc., on a number of the roads.

AID officials responsible for the project maintained that formalized standards, as prescribed by the U.S. Federal Highway Administration (FHA), PIL #22, and Annex M-1 through M-6 of the Project Paper, were in fact applied to the rural trails and access roads under this project. In addition, AID officials contend that for the last two years they have been providing supplementary advise on road standards for more recently constructed roads to the Chief, AID Project Implementing Unit within SECOPT.

In our opinion, road construction standards were not always communicated effectively to the road construction engineers in charge, thus, the reason for varying construction quality on certain roads. For example, during our road inspection trip, we observed that the select borrow in some areas was too sandy, lacked the necessary large pebbles and had not been properly mixed before it was put down and compacted. Only limited amount of select borrow was observed along those stretches with a soluble clay-like base material predominating. In some cases, a spongy organic base, which tends to collapse very easily, was noted. In other areas where the road cuts seemed too vertical, we observed more land/rock slides than in others. We are not suggesting that all the deficiencies we observed were attributable to non-observance of construction standards; however, it is evident that some of the deficiencies could have been prevented if the supervising engineer had had access to the FHA road construction standards handbook, a copy of the project paper standards, or other information describing road construction standards to be applied. Our view is reinforced by a report entitled, "Evaluation of Reconstruction of Access Roads and Rural Trails", October 1983, 1/ which states in part, under Section 2.1.11 that,

"The Consultant is in agreement with AID engineers in that the results could be improved if the supervisors had construction drawings to allow them to study in more detail the characteristics of the Project, in order to execute it in a more technical manner and at a lower cost."

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1/ SEI, S.A.-C.C.E., S. de R.L. Consulting Engineers

Additionally, the report states that,

"The Consultant agrees with the U.S. AID engineers' criteria that some type of construction engineering drawings should be available for future projects at least preliminary drawings to provide contractors and supervisors with technical guides for preparing cost estimates, for understanding geometric and drainage characteristics on which development of the project is based; and at the same time for providing a framework of reference for probable field change."

In its cable response to our preliminary finding statements, the Mission stated that, "Two annual meetings have been held with all the engineers of the SECOPT Implementing Unit to discuss adequate construction standards and their importance to decreasing future maintenance problems." Hence, it seems clear that cognizant officials recognized the deficiencies resulting from non-observance of standards.

Both USAID and SECOPT officials have concluded that a need exists to create a road construction standards manual to make it easier for the construction engineers to do a better job by having a readily available source of reference. The manual should clearly define the design characteristics and construction specifications to be applied by construction engineers. USAID and SECOPT officials indicated that the completion of this manual was expected in March 1985. Although a step in the right direction, this manual should have been developed and issued to construction supervisors and engineers in charge of road construction at the inception of this project.

### Conclusion

Minimum road engineering design standards should have been developed and effectively communicated to construction and supervising engineers prior to the inception of this project. AID and GOH engineers strived to build or rebuild acceptable roads at the least possible cost. They knew how to build these roads but they did not always check whether road construction supervisors were observing appropriate road construction standards or if the standards were available to them. Finally, least cost construction standards may not turn out to be a good bargain if the cost of maintaining (assuming they are maintained at all) the roads increases because of such construction standards.

### Recommendation No. 1

USAID/Honduras in collaboration with SECOPT:

(a) ensure engineers in charge of road construction projects receive a copy of the standards manual and appropriate training on its use,

(b) verify that construction supervisors are observing construction standards as a part of regular AID and SECOPT project inspection visits.

### Regular Maintenance Is Not Being Performed

During a field trip in October 1984, we inspected over 400 kilometers of rural trails and access roads of the almost 900 kilometers completed. No significant maintenance by heavy equipment had been provided on project roads. Our observation was confirmed by 117 individuals interviewed along the roads inspected. Many maintenance problems such as large land or rock slides, erosion ditches were forming on the roads, select borrow material was being washed away, etc. were developing on these roads.

The trails and access roads completed under the project have not been adequately maintained. This can be attributed to two specific reasons: (1) the GOH apparently has placed more priority to the construction and maintenance of paved roads, maintenance of rural trails and access roads was not a priority; (2) road maintenance equipment was diverted from use on secondary roads for use on primary roads, the DGM did not have sufficient resources (personnel and equipment) to maintain all of its roads.

All of the roads we inspected were still passable with the possible exception of the road to Oromilaca where no vehicular traffic had used the road for 15 to 20 days prior to our visit. The longer maintenance is neglected on these roads, the more costly it will become and project benefits may be curtailed because of a decrease in vehicular traffic.

AID project officials indicated that the lack of personnel and equipment may have been resolved because, in a meeting held in October 1984, the DGM and the DGC stated that they were well organized with sufficient personnel and shops, and with the recent delivery of the equipment funded by the World Bank, they should be able to greatly improve the maintenance of all roads throughout Honduras, including the roads under this project.

The lack of heavy equipment usage to provide adequate maintenance to project roads was also noted by USAID engineers and by an evaluation of the project published in October 1983. In addition, USAID engineers did a survey of 16 access roads and trails (project and non-project) in February 1983 and found that nine of the access roads and trails needed maintenance. The USAID Mission concurs that maintenance on the roads rehabilitated under this project has not been adequate. The Mission also stated that, "A road condition survey was conducted in mid 1984 to determine the maintenance needs. The data obtained in this survey will be used to establish a formal maintenance plan."

### Conclusion

One of the two project purposes, "to increase the number of kilometers of all-weather roads that are maintained by the DGM", has not yet been

achieved. Project road maintenance to date has been minimal and conditions on a small percentage of road surfaces are deteriorating rapidly. The maintenance of the rural trails and access roads completed under this project is paramount for achieving the long-term objectives of the project. Soon they will become accessible only to four-wheel-drive motor vehicles, thus depriving the communities accessibility to markets, hospitals and the provision of more technical services and assistance.

#### Recommendation No. 2

USAID/Honduras obtain from SECOPT (until the PACD has been reached):

- (a) a maintenance plan for project roads including the performance of road condition surveys at least semiannually;
- (b) copies of regular, prioritized maintenance work schedules pertaining to project roads; and
- (c) periodic reports on completed AID project road maintenance work.

#### Community Participation In Road Maintenance Not Organized

Items of a routine minor maintenance nature have not been effectively addressed as envisioned in the Project Paper. Therefore, roadside ditches often have not been cleared out, vegetation has not been cut back, potholes have not been filled and tamped down and culverts have not been routinely cleaned.

The Project Paper envisioned a twofold approach to road maintenance. Heavy equipment would be used for items such as removing land and rock slides, and blading or recompacting the road surface. Items of a routine recurring nature such as filling potholes, clearing vegetation growing in ditches, etc., were intended to be accomplished through organized community participation in maintenance efforts. These efforts were to be managed by SECOPT, which was to supply training and tools for this endeavor.

Community participation activities have not occurred to date because of the lack of an effective community organization program. Quarterly visits by SECOPT officials were made for the purpose of inspecting the road and not for the purpose of motivating the community to participate in its maintenance. Communities have not been trained by SECOPT officials in the required procedures for keeping up the roads. Hand tools, which would have facilitated the minor maintenance process, have not been distributed.

USAID officials maintained that, "in the second amendment to the Project Agreement, the Mission eliminated the requirement for rural trails because SECOPT had not been able to obtain the necessary hand labor in

the western area of Honduras to construct the labor intensive trails as anticipated, therefore, hand labor maintenance for the roads completed under the project has not been required as no rural trails, as defined in the project documentation, have been constructed".

According to the Project Paper, the only difference between access roads and rural trails, is their width. The width for access roads is 5.50 meters and for rural trails is 4.00 meters. Almost all of the roads completed under the project were very low volume roads. Thus, the basic characteristics between an access road and a rural trail were very similar for this project. AID and SECOPT agreed to define trails only in terms of reduced design standards on roads that have a very low volume of traffic. Rehabilitation of both types of roads was completed using machinery because:

- local workforce was not sufficient — rural residents were more interested in harvesting their crops;
- it provided simpler and less costly administration;
- contractors were interested in maximizing profit;
- execution was more timely and efficient.

Routine minor maintenance of rural roads was to be a responsibility of those communities benefiting from the completed project roads. However, a strong promotional mechanism is needed to organize the rural communities into participating in any activity that would provide no monetary rewards for services rendered. Furthermore, the criteria used in the selection of roads to be rehabilitated/constructed was that of providing access to the rural communities, but without differentiating between the types of access (i.e., roads or rural trails). This was pointed out by an evaluation of the project published in October 1983. Therefore, we cannot agree with the argument that because secondary roads were built by heavy equipment, the concept of community participation for routine maintenance was thereby eliminated.

No distinction is made in the loan agreement between the access roads and rural trails. Quite the contrary, the loan agreement requires the DGC to organize the community labor forces for use during construction of the roads and for the DGM to use the labor force for maintenance once the construction of the roads was completed. We believe that Mission officials have recognized the need to involve the communities in providing minor maintenance to the project roads. For example, the USAID Project Manager is involved in a test promotional program to generate interest in community participation in the El Paraiso area, specifically, in the town of Danli. The program is to be tested in the Choluteca area also. If test results are successful, the program will be tried in other locations. We believe that this approach as originally envisioned in the Project Paper which, to our knowledge has not been amended to eliminate this key feature, is necessary to create a

commitment on the part of the benefited communities towards the roads. The consensus of the persons we interviewed in 38 communities was that they were willing to collaborate in road maintenance efforts but they needed tools and training on the various aspects of road repairs. We were advised that by law, the GOH cannot give away tools unless it was specifically stated in the Project Agreement or in the Grant. The Project Agreement states that, "since tools will be required for subsequent community maintenance, hand tools will be purchased with GOH funds to be used by contractors during reconstruction and hold in inventory by SECOPT thereafter for use by rural communities in the maintenance of the trails". Of \$10,000 programmed for training in the grant, none had been obligated or disbursed as of September 30, 1984.

### Conclusion

The lack of community organization and involvement in project roads precludes community pride in road conditions and diminishes any sense of responsibility for providing routine road maintenance. Communities were not organized into units which would have provided routine maintenance on completed project roads. Statements made to us indicated that members of these units would indeed have agreed to perform a minimum number of days of routine maintenance a year after the roads had been completed and turned over to the community. Hopefully, the fresh approach taken by AID officials to community participation activities in maintenance of the project roads will generate the necessary support to maintain these roads.

### Recommendation No. 3

USAID/Honduras, in collaboration with SECOPT in those situations in which both parties decide community participation in road maintenance is feasible and practical;

(a) establish within DGM a capability to undertake community organizing functions for the purpose of road maintenance;

(b) develop a model agreement for use between SECOPT and benefited communities setting forth the terms and conditions under which such road maintenance will be carried out; and

(c) begin organizing efforts along roads financed under project 522-0164.

FINANCIAL SUMMARY AS OF SEPTEMBER 30, 1984  
RURAL TRAILS AND ACCESS ROADS PROJECT  
PROJECT NO. 522-0164  
USAID/HONDURAS

<u>Input</u>	<u>Plan</u>		<u>GOH Contribution</u>	<u>Total</u>	<u>Disbursements</u>		<u>GOH Contribution</u>	<u>Total</u>
	<u>AID Grant</u>	<u>AID Loan</u>			<u>AID Grant</u>	<u>AID Loan</u>		
Construction	\$440,000	\$18,605,000	5,756,000*	\$24,801,000	\$198,786	\$10,167,843**	3,175,322	\$13,541,951
Maintenance		795,000	821,000	1,616,000		792,025**	90,257	\$2,282
Training	10,000			10,000				
Evaluation		150,000		150,000		72,866		72,866
Contingencies & Inflation	30,000	1,420,000	473,000	1,923,000				
<b>Total</b>	<b>\$480,000 <u>1/</u></b>	<b>\$20,970,000 <u>2/</u></b>	<b>7,050,000 <u>3/</u></b>	<b>\$28,500,000</b>	<b>\$198,786 <u>4/</u></b>	<b>11,032,734 <u>5/</u></b>	<b>3,265,579 <u>6/</u></b>	<b>\$14,497,099</b>

\* Converted to equivalent US\$ value of 2 L = \$1.00.

\*\* Rounded off to nearest whole dollar.

1/ Per Project Amendatory Agreement No. 4.

2/ Per Project Amendatory Agreement No. 4.

3/ Per Annex I Amplified Project Description.

4/ 41.4 percent of AID's grant commitment had been disbursed as of September 30, 1984. Total AID loan and grant expenditures as of September 30, 1984 were \$11,231,520 or 42.3 percent of total AID-financed project funds.

5/ 52.6 percent of AID's loan commitment had been disbursed as of September 30, 1984.

6/ GOH expenditures as of September 30, 1984 were \$3,265,579 or 46.3 percent of their total commitment of \$7,050,000.

COMPARISON OF GOALS TO ACHIEVEMENTS

<u>Project Name</u>	<u>Plan Length (Kms.)</u>	<u>Actual Length (Kms.)</u>	<u>Plan Start Date</u>	<u>Actual Start Date</u>	<u>Plan Completion Date</u>	<u>Actual Completion Date</u>	<u>Comments</u>
Caminos de Acceso y Vecinales de Marcala (La Paz Grupo II)	65.5	59.70	1/20/81	11/13/80	11/15/81	10/16/81	Completed 30 days ahead of scheduled due to shortened length
Camino de Acceso Marcala-La Esperanza (La Paz-Intibuca Grupo I)	36.0	36.0	1/28/81	12/01/80	07/26/81	06/05/81	Completed 51 days ahead of schedule
Camino de Acceso y Vecinales en la Zona de La Esperanza (Intibuca Grupo I)	63.0	62.0	12/17/80	11/21/80	10/12/81	09/18/81	Completed 55 days ahead of schedule
Camino de Acceso y Vecinales en la Zona de Guangologo (Intibuca Grupo III)	48.0	43.90	06/15/81	05/25/81	05/10/82	05/10/82	Completed by scheduled date, however, overall length was cut by 4.10 kms.
Camino de Acceso y Vecinales en la Zona de Gracias (Lempira Grupo I)	45.5	43.55	11/04/81	09/18/81	09/29/82	05/12/82	Completed 140 days ahead of schedule
Camino de Acceso y Vecinales en la Zona de Sensatl y La Union (Cotopaque y Copan Grupo I)	39.40	37.60	12/21/81	12/21/81	10/16/82	10/31/82	Completed 15 days behind schedule
Caminos de Acceso y Vecinales en la Zona de Dulce Nombre de Copan (Copan Grupo II y III)	61.60	51.50	12/21/81	12/21/81	11/15/82	12/15/82	Completed on schedule, however, length was shortened by almost 10 kms. Completion date was extended 30 days
Caminos de Acceso y Vecinales en la Zona de Quesalica (Copan Grupo IV)	28.5	25.52	11/22/82	11/22/82	09/17/83	06/24/83	Completed 85 days ahead of schedule
Caminos de Acceso en la Zona de San Nicolas (Copan Grupo V)	12.0	13.0	12/13/82	12/27/82	07/10/83	04/07/83	Completed 94 days ahead of schedule

COMPARISON OF GOALS TO ACHIEVEMENTS

<u>Project Name</u>	<u>Plan Length (Kms.)</u>	<u>Actual Length (Kms.)</u>	<u>Plan Start Date</u>	<u>Actual Start Date</u>	<u>Plan Completion Date</u>	<u>Actual Completion Date</u>	<u>Comments</u>
Camino de Acceso en la Zona de Florida (Copan Grupo VI)	25.0	25.5	10/01/82	07/16/82	07/27/83	12/30/82	Completed 209 days ahead of schedule
Camino de Acceso en la Zona de Pinalejo (Santa Barbara Grupo I)	19.70	20.04	11/25/82	11/25/82	08/21/83	06/30/83	Completed 52 days ahead of schedule
Camino de Acceso en la Zona de Pinalejo (Santa Barbara Grupo II)	17.30	21.24	09/14/82	09/21/82	05/11/83	03/31/83	Completed 41 days ahead of schedule
Camino de Acceso en la Zona de Azacualpa (Santa Barbara Grupo III)	14.20	13.60	11/10/82	11/13/82	06/07/83	05/05/83	Completed 33 days ahead of schedule
Camino de Acceso en la Zona de Sabanas (Santa Barbara Grupo V)	23.80	23.20	08/31/82	06/23/82	06/26/83	10/15/82	Completed 254 days ahead of schedule
Puente Sobre el Rio Arcliaca (Camino Gracias-La Campa)	20.24m	20.24m	09/28/81	09/28/81	04/25/82	04/15/82	Completed 10 days ahead of schedule
Puente Sobre el Rio Arcagual (Camino Gracias-La Campa)	20.24m	20.24m	09/28/81	09/28/81	04/25/82	04/12/82	Completed 13 days ahead of schedule
Puente Sobre el Rio Grande (Camino de Occidente-Sensenti)	44.68m	44.68m	09/28/81	08/24/81	04/24/82	04/19/82	Completed 6 days ahead of schedule
Puente Sobre el Rio Zapote (Camino Los Arroyos-La Union-El Corpus)	18.24m	18.74m	09/28/81	08/20/81	04/25/82	01/29/82	Completed 86 days ahead of schedule, 50 mts. added to provide better security
Puente Sobre el Rio Higuito	75.0m	75.0m	05/24/82	03/05/82	02/14/84	02/13/84	Completion time extended 332 days because of modifications to original design.

LIST OF RECOMMENDATIONS

Recommendation No. 1

USAID/Honduras in collaboration with SECOPT:

(a) ensure engineers in charge of road construction projects receive a copy of the standards manual and appropriate training on its use,

(b) verify that construction supervisors are observing construction standards as a part of regular AID and SECOPT project inspection visits.

Recommendation No. 2

USAID/Honduras obtain from SECOPT (until the PACD has been reached):

(a) a maintenance plan for project roads including the performance of road condition surveys at least semiannually;

(b) copies of regular, prioritized maintenance work schedules pertaining to project roads; and

(c) periodic reports on completed AID project road maintenance work.

Recommendation No. 3

USAID/Honduras, in collaboration with SECOPT in those situations in which both parties decide community participation in road maintenance is feasible and practical;

(a) establish within DGM a capability to undertake community organizing functions for the purpose of road maintenance;

(b) develop a model agreement for use between SECOPT and benefited communities setting forth the terms and conditions under which such road maintenance will be carried out; and

(c) begin organizing efforts along roads financed under project 522-0164.

**APPENDIX B**

**LIST OF REPORT RECIPIENTS**

	<b><u>Copies</u></b>
USAID/Honduras	5
AA/LAC	2
LAC/CAP	2
LAC/DR	1
LAC/CONT	1
LEG	1
PPC/CDIE	1
PPC/CDIE/DI	3
AA/M	2
M/FM/ASD	2
AA/XA	1
LAC/DR/EST	1
GC/LAC	1
EXRL	1
OPA	2
SAA/S & T	1