

DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

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AID-DLC/P-733
June 17, 1968

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Nicaragua: Health Centers - Rural Mobile Health

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed \$2,200,000 to the Republic of Nicaragua to assist in financing the United States dollar and local currency costs of construction, equipment, materials and medicines for the Borrower's Health Centers - Rural Mobile Health Units Program.

Please advise us as early as possible but in no event later than close of business on Monday, June 24, 1968, if you have a basic policy issue arising out of this proposal.

Rachel C. Rogers
Assistant Secretary
Development Loan Committee

Attachments:

Summary and Recommendations
Project Analysis
ANNEXES I-VI

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TABLE OF CONTENTS

HEALTH CENTERS - RURAL MOB LE HEALTH PROJECT

SUMMARY AND RECOMMENDATION.....	1
SECTION I - The Borrower.....	1
A. Ministry of Health.....	1
B. Office of National Construction.....	3
SECTION II - History and Background.....	5
A. Origin.....	5
B. Background of PUMAR and Health Centers.....	5
C. Borrower Concurrence.....	6
D. Country Team Views.....	7
SECTION III - Description of the Project.....	8
A. Summary Description.....	8
B. Description of Operations.....	9
C. Detailed Description of Services of the Health Centers and PUMAR Units.....	15
D. Staffing Requirements.....	19
SECTION IV - Engineering Analysis - Health Center Construction	23
A. General.....	23
B. Execution of the Program.....	23
C. Maintenance.....	24
D. Cost Analysis.....	25
E. Technical Analysis.....	26
F. 611 Requirements.....	27
SECTION V - Economic and Social Analysis.	28
A. Brief Description of Nicaraguan Economy.....	28
B. Debt Service Capacity of Nicaragua.....	30
C. Balance of Payments Situation of Nicaragua.....	31
D. Characteristics of Health Sector.	33
E. Impact of Project on U.S. Economy.....	41

ANNEXES

I Legal Exhibits

1. Statutory Criteria
2. Draft Loan Authorization
3. Letter of Certification from USAID Director on 611 (e)
4. Obligatory Social Service Law

II MOH and CN Organization Exhibits

1. Bio-Data on Principal Officers
2. MOH Organization Chart
3. List of Projects of CN

III Engineer Exhibits

1. Resumé Health Center Types
2. Location of New Health Centers
3. Order of Construction of Health Centers
4. Maps Locations of Health Centers and PUMAR Circuits
5. Site Selection Criteria for Health Centers
6. Preliminary Plans for Health Centers
7. Area Estimated of the Health Center to be Built in Managua
8. Health Centers Construction Specifications
9. Cost Breakdown Details

IV. Financial Exhibits

1. Budget for Health Sector - 1967
2. Ministry of Health Budget for Health Center PUMAR last five years

V PUMAR Health Center Past Program Evaluation

1. Community Development Project - PUMAR
2. Consultation Medical Services - PUMAR

VI Cost Estimate Exhibits

1. Detail Cost Breakdown PUMAR - Health Center
2. Equipment and Medicines List Health Center - PUMAR

NICARAGUA

HEALTH CENTERS - RURAL MOBILE HEALTH PROJECT

SUMMARY AND RECOMMENDATIONS

I. Borrower: The Borrower will be the Government of Nicaragua, with primary responsibility for execution of the project residing in the Ministry of Public Health. The National Construction Office, a dependency of the Ministry of Public Works, will be responsible for the construction aspects of the project.

II. Total Cost of the Project:

(in U. S. Dollars)

	<u>Dollar Costs</u>	<u>Local Costs</u>	<u>Total</u>	<u>%</u>
AID Loan	1,225,000	975,000	2,200,000	55
Nicaraguan Contrib.	_____	<u>1,800,000</u>	<u>1,800,000</u>	<u>45</u>
Total	1,225,000	2,775,000	4,000,000	100

In addition to these costs, the Government of Nicaragua (GON) will contribute approximately \$2,500,000 annually in order to operate and maintain this project after full loan disbursement.

III. Project Description: The project, during the three-year loan disbursement period, will consist of:

- A. The construction, staffing, equipping and providing basic medicines for 56 new health centers and the improving of the remaining existing health centers;

- B. The continuation and strengthening of the Rural Mobile Health Program (PUMAR) by providing necessary new vehicles, equipment and medicines; and
- C. The incorporation as an integral part of the project of newly graduated physicians and other university trained medical personnel under the Obligatory Social Service Law.

IV. Purpose

The purpose of this project is to bring medical services, preventive and curative, to a much larger percentage of the population of Nicaragua than is presently served, especially in rural areas. Presently, the Ministry of Health (MOH), the National Social Security Institute (INSS), the National Social Service and Assistance Board (JNAPS), and private clinics serve approximately 50% of the population. Most of their services, however, are directed toward the urban areas and the rural areas are especially deficient in basic health services. This project will involve the expansion of basic health facilities to cover areas with a total population of 1,500,000 by the end of the loan disbursement period; i. e., approximately 80% of the projected total population for 1971. Through this project, the country's health services will be able to achieve in three years the coverage that would otherwise take at least eight years to achieve.

Another important purpose of this project is to achieve better coordination and integration of health activities carried out by the various institutions named above. This will be accomplished by strengthening existing coordinating mechanisms and by implementing already existing legislation which provides for coordination of health activities at both the national and local levels.

V. Background

This project grew out of the successful experience of the PUMAR program, which the MOH has been carrying out for the past five years with AID grant assistance, and out of the desires of the MOH to expand its network of permanent health facilities. In mid-1967, MOH officials had discussions with USAID concerning the possibilities of such a project. Originally it was visualized that AID would support a project involving only the continuation of the PUMAR program. However, after

further analysis it was felt that an effective project would also have to take into account the need to establish and expand more permanent health facilities throughout the country. The GON 10-Year National Health Plan published in 1964 has as a goal the functioning of 128 health centers by 1974 (there were 60 in 1967). As a result, the MOH forwarded a loan application to USAID in January for a project of health centers and rural mobile health units.

VI. Project in USAID Program:

The project has high priority in the Mission's view since it will provide basic medical services to a large percentage of the total population, particularly in rural areas, and thus fits into our basic objectives of increasing agricultural productivity and improving conditions of rural life. In addition, its low per capita cost, its Title IX aspects of community self-help, its relation to family planning efforts, and the possibilities it offers toward achieving improved coordination and integration of national health activities, make it one of the single most effective health projects which A.I.D. can support.

The PUMAR portion of the project allows for continuation of the rural mobile health efforts in Nicaragua, which began based on a seven-year commitment made by President John F. Kennedy in 1962. in support of a Central American regional rural mobile health program.

VII. Alternate Sources of Financing: The Export-Import Bank, the Inter-American Development Bank and the International Bank for Reconstruction and Development have all stated that they are not interested in considering financing this proposal. In addition, because of the social overhead nature of this project and the concessional loan terms needed, it is not believed that any private sector investor would be interested.

VIII. Statutory Criteria: Certification from the Director of USAID/Nicaragua required under Section 611 E is attached hereto (Annex I Exhibit 1). All statutory criteria have been met.

IX. Views of Country Team: The Country Team supports this project as an important means of improving the health and living conditions of a large portion of the Nicaraguan population, particularly in the rural areas. It envisages the project as one of the activities in which Peace Corps personnel could effectively participate once a Peace Corps program is initiated.

X. Issues:

A.* Justification of Local Cost Financing

Approximately 44% of loan funds will be used for local cost financing. These monies will be used entirely in construction of health centers. The GON project contribution, which amounts to approximately 45% of total project costs and 65% of total local costs under the project, will be used for current expenditures. To meet these expenditures, the amount spent by the MOH for this specific project will have to be expanded by 14% in 1969, 40% in 1970 and 67% in 1971 over the amount budgeted for the same purpose in the 1968 budget. In addition, when the loan is fully disbursed the MOH will have to spend approximately \$2,500,000 annually to operate and maintain the project, which is an increase of approximately \$1,200,000 or 92% over the amounts spent for these programs in its 1968 budget. In view of heavy budgetary outlays for malaria and other priority programs in health and other fields, it would be extremely difficult for the MOH to expand its budget more rapidly than the foregoing within the general GON policy of attempting to hold down the National Budget expenditures on current account.

It should also be noted that the \$975,000 under this project is the only local procurement out of a total of \$21.8 million in new A.I.D. loans to Nicaragua being processed. The other \$20.82 million to be financed will be entirely for additional U.S. procurement.

B. Medicine Procurement

Approximately \$716,000 under the loan will be used to procure medicines for both the Health Centers and PUMAR. To facilitate project implementation these medicines should be in finished dosage and not be ingredients which require processing to produce the final form. Therefore, and since this is a project loan rather than a program loan, it is recommended that procurement of finished dosage medicine with loan funds be authorized as per M.O. 1454.3^{/1}.

The list of medicines to be procured is attached in Annex VI, Exhibit 2. This list might change slightly in quantities but is relatively firm as to components and total costs.

/1 - In the CAEC meeting for this loan of June 12, 1968, authorization for this type of medicine procurement with loan funds was granted.

XI. Recommendations: Authorization of a loan to the GON in an amount not to exceed U.S. \$2,200,000 subject to the following terms and conditions:

A. Interest and Terms of Repayment

The Borrower shall repay the loan to AID in U.S. dollars within forty (40) years including a grace period of not to exceed ten (10) years. The Borrower shall pay to AID in U.S. dollars on the disbursed balance of the loan interest of two (2) percent per annum during the grace period and two and a half (2 ½) percent per annum thereafter.

B. Other Terms and Conditions

1. The following shall be Conditions Precedent to the issuance of commitment documents or to first disbursement:
 - (a) A detailed plan of staffing requirements for this project and a description of how these requirements will be met during the loan disbursement period. This plan should include specific detail on the training of required para-medical personnel such as health educators, sanitary inspectors and auxiliary nurses.
 - (b) A promulgated implementation regulation governing the manner in which medical and para-medical personnel trained at the university level will fulfill their service under the Obligatory Social Service Law.
2. The following shall be a Condition Precedent to the construction of individual health centers: prior to initiating construction on any individual health center the Borrower shall furnish evidence in form and substance satisfactory to A.I.D., that all necessary legal rights to the land have been obtained.

3. United States dollars utilized from the loan to finance local costs shall be made available to the Borrower or its designee through the Special Letter of Credit procedures and shall be used only for procurement in the United States.
4. All Borrower procurement of goods and services (except marine insurance) financed by the loan for this project, shall have their source and origin in the United States or member countries of the Central American Common Market.
5. Pharmaceuticals to be financed under this loan may be in finished dosage form.
6. The loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

Project Committee:

Committee Chairman:	Eugene A. Fischer, USAID/Nicaragua
General Engineer:	Carl M. Forsberg, USAID/Nicaragua
Public Health Officer:	Louis Gardella, Jr., USAID/Nicaragua
Program Officer:	Dennis H. Morrissey, USAID/Nicaragua
Legal Counsel:	Kenneth Knoles, ROCAP

Reviewed and Approved by:

Embassy Deputy Chief of Mission:	M. R. Barnebey
Mission Director:	Edward W. Coy, USAID/Nicaragua
Assistant Mission Director:	Charles B. Johnson, USAID/Nicaragua
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Section I - The Borrower

The GON will be the Borrower with responsibilities for the administration and execution of the project residing in the MOH. The Office of National Construction (ONC), a division of the Ministry of Public Works, will be responsible for the construction portion of this project.

There follows a description of the MOH and the ONC.

A. Ministry of Health

1. History and Authority

The MOH was established by law in 1948. The principal functions of the MOH as outlined in the law are:

- a. The primary direction, organization and implementation of national health programs;
- b. Assistance in the area of environmental sanitation;
- c. The study and investigation of all matters concerning health improvement in Nicaragua;
- d. All matters related to licensing and ethics of the medical, dental, pharmaceutical and other health sector professions;
- e. Control of drug and food products;
- f. Immigration health control; and
- g. The general responsibility for the direction, organization and functioning of all health services, both public and private.

(The MOH is not responsible for the construction or maintenance of hospitals. However, it uses hospital facilities on a referral basis).

2. General Description of Programs

The MOH is one of the ten ministries under the Executive Branch of the GON. It relies on finances from the national budget for most of its operating expenditures but has received international loans for

some of its operating expenditures and for some of its projects requiring capital investments. Its primary programs at the moment are: control and eradication of malaria and intestinal parasites; control of communicable diseases; general environmental sanitation; food inspection; latrine construction and water supply systems; infant care; nutrition; family planning; school dental hygiene; pre and post natal care; public health laboratory facilities; food, drug and water control; rabies control; vital statistics; training of professional and para-medical personnel; registration and control of the medical profession; and health education. It is presently implementing a Malaria Eradication Program financed by an AID loan for \$2,020,000 (an add-on of \$1.8 million for this program has been requested), a family planning program financed with AID grant funds, and has just had approved by IDB a \$2,000,000 Rural Water Systems loan.

The MOH carries out its program through its central office and its facilities throughout the country. One of the primary purposes of this project is to increase the number of these facilities, presently inadequate, so as to give the MOH the basic facilities necessary to more effectively implement its programs on a national basis.

3. Organization and Management

The chief executives of the MOH are the Minister, Vice Minister and Director General of Health. In addition, at the technical and administrative level, the MOH is divided into five operating departments plus a Department of Health Planning and Evaluation, each headed by a professionally qualified director. These departments are: Promotion of Health, Protection of Health, Administration, General Technical Services and Recuperation of Health. General planning policy is made through the MOH's Technical Council of Public Health, which the Minister chairs and which is composed of all department heads.

Among the MOH staff there are 138 physicians, 69 graduate nurses and 475 para-medical personnel. The MOH also receives technical assistance for specific programs from such organizations as UNICEF and PAHO.

See Annex II, Exhibits 1 and 2 for an organizational chart of the MOH and bio-data on its principal officers.

4. Scope of Authority to Execute Project

This loan will be made to the GON which, with Congressional approval, has the right under the Nicaraguan Constitution to contract for external loans. The establishing and operating of health centers and PUMAR circuits is within the MOH's scope of authority.

An Obligatory Social Service Law, which will play an important part in the execution of this program, was recently enacted by the GON Congress. No other new legislation will be necessary for the implementation of this project.

B. Office of National Construction

1. General Background

The ONC was established in July, 1953, by executive order of the President as a part of the Ministry of Public Works. The principal responsibilities of the ONC are the construction, repair and maintenance of national public buildings.

2. Organization and Management

The ONC is headed by a director and an assistant director and has six operational departments: Engineering, Accounting, Purchasing; Transportation, Equipment and Warehousing. By law, the director of the ONC must be a civil engineer or an architect. Presently, the ONC numbers among its staff 6 engineers, 2 architects, and 5 semi-professional personnel.

3. Experience

During the fifteen years since it was established, the ONC has had extensive experience in the construction and maintenance of all types of public buildings. It has constructed by direct administration a number of elementary schools and health centers. (The design and

cost estimates used in this CAP are based on their experience with health center construction). Furthermore, it has designed and constructed larger public buildings such as secondary schools and has had supervisory responsibility for such large projects as the national airport terminal building, two penal institutions and the supreme court building. Presently, it is responsible for the administration and supervision of the engineering and construction aspects under a \$1.5 million AID loan for the construction of 684 primary school classrooms.

4. Scope of Authority

The ONC has the authority to execute its responsibilities under this project either through direct construction or through the supervision of construction of private companies.

Section II - History and Background

A. Origin

This project grew out of the successful experience of the PUMAR program, which the MOH has been carrying out for the past five years with AID grant assistance, and out of the desire of the MOH to expand its network of permanent health facilities, particularly in the rural areas. In mid-1967, MOH officials had discussions with USAID concerning the possibilities of such a project. Originally it was visualized that AID would support a project involving only the continuation of the PUMAR program. However, after further analysis, it was felt that an effective project would also have to take into account the need to establish and expand more permanent health facilities throughout the country. The GON 10-Year National Health Plan has as a goal the functioning of 128 health centers by 1974 (there were 60 in 1967). As a result, the MOH forwarded a loan application to USAID in January 1968 for a project of health centers and PUMAR units. This application included preliminary estimates of cost, program size and basic aims of a national program. The USAID sent an IRR to AID/W on February 2, 1968, and was authorized to proceed with Intensive Review by the Capital Assistance Executive Committee meeting on March 1, 1968. Since that time, the MOH and ONC personnel have reviewed their original estimates and presented more detailed information.

B. Background of PUMAR and Health Centers

1. Rural Mobile Health Centers

One objective of the Alliance for Progress is to bring adequate health services to the people of the rural areas of Latin America. In 1962, President John F. Kennedy proposed that a rural mobile health service program be developed in the five Central American countries and Panama. The President committed the U.S. Government to support this program for seven years.

On January 20, 1963, a Project was signed between the GON and USAID for a rural mobile health program in Nicaragua. There are at present 11 mobile health units in operation. The first was inaugurated in March 1963; the eleventh in June 1965. Approximately 400,000 consultations have been made and 370,000 vaccinations against various communicable

diseases have been given since the beginning of the program. The GON has absorbed on a gradual base all personnel and some administrative costs of the program. These costs account for roughly two-thirds of the total program cost.

Health Centers

Since its inception the MOH has carried out a health center program within the financial and manpower resources available to it. In 1967 there were 60 health centers, which is less than half of the goal set in the 10-Year Health Plan and an increase of 23 over the number existing in 1964. This slow expansion was primarily due to the fact that the MOH could not support sufficient outlays for both capital investment and operating expenses at the same time.

As part of the investigation work of this Intensive Review, the USAID Health Advisor visited and reviewed a similar program in El Salvador. The USAID also requested information concerning the Panama Mission's effort in this area. From the information received it was obvious that a successful program would have to focus on three major problems areas: (1) proper staffing of the health centers; (2) construction of the health centers by the most efficient method possible; and (3) a well coordinated plan to equip and provide medicines for the health centers and the PUMAR units. The Project Committee believes that reasonable solutions to these problems areas are presented in appropriate sections of this CAP.

C. Borrower Concurrence

The Project Committee has worked closely with a counterpart MOH-ONC committee during the Intensive Review. This CAP was based on information presented by the latter committee. The recommended Conditions Precedent, covenants and necessary contributions, as described in the CAP have been reviewed and found acceptable by MOH officials. A Condition Precedent to first disbursement under the loan will be that the GON will budget adequate funds for the project during the loan disbursement period. In addition, a covenant will be that the GON will provide adequate financial and human resources to operate and maintain the project during the life of the loan.

D. Country Team Views

The Country Team has reviewed this project and considers it fully consistent with its objectives in Nicaragua and recommends authorization of the proposed loan. The Country Team envisages that this project is one of the activities in which Peace Corps personnel could effectively participate once a Peace Corps program is initiated.

Section III - Description of the Project

A. Summary Description

This project will bring medical services, preventive and curative, to a much larger percentage of the population of Nicaragua than is presently served, especially in rural areas. Presently, the MOH, INSS, JNAPS, and private clinics serve approximately 50% of the population. Most of their services, however, are directed toward the urban areas and the rural areas are especially deficient in basic health services. This project will involve the expansion of basic health facilities to cover areas with a total population of 1,500,000 by the end of the loan disbursement period; i.e., approximately 80% of the projected total population for 1971. Through this project the country's health services will be able to achieve in three years a coverage that would otherwise take at least eight years to achieve. The project will consist specifically of:

1. The construction staffing, equipping and providing basic medicines for 56 new health centers and the improving of the remaining existing health centers.
2. The continuation and strengthening of the PUMAR program by providing necessary new vehicles, equipment and medicines; and
3. The incorporation as an integral part of the project of newly graduated physicians and other university trained personnel under the Obligatory Social Service Law.

Another important purpose of this project is to achieve better coordination and integration of health activities carried out by the various national health agencies. This aspect is treated in Section V.D.2.

Both the health center and PUMAR components of the project will be the basic implementing units of a broad range of MOH programs. They will be used to execute programs of environmental sanitation, mother-child health, immunization, control of communicable diseases, family planning, nutrition, health education and outpatient clinical services. Serious medical cases requiring inpatient care will be handled through the hospital and clinic facilities of the country. By providing these basic preventive and curative health services through the health centers and the PUMAR units, it is expected that the general level of health, particularly in the rural areas, will rise.

The health centers will function in urban and rural areas which justify the establishment of permanent health facilities to service the population center as well as the surrounding rural population. The long range objective is to place a permanent center in each of the 128 municipalities. Presently there exist 60 health centers and eleven PUMAR circuits. With the use of loan funds 56 new health centers buildings ranging in size from 120 sq.mts. to 1350 sq. mts. will be constructed, adequately equipped, and provided basic medicines. Of these, 21 will replace rented and inadequate centers presently in use and 35 will be constructed in areas where no health centers exist. Combined with the existing adequate permanent centers, this will give the MOH 95 basically equipped permanent health centers in areas with an approximate population of 1,200,000 (approximately 63% of the 1971 estimated total population).

The PUMAR units function in rural areas where no permanent health facilities exist and where the population density and long distances from larger urban centers do not economically merit the establishment of permanent health facilities. The program presently functions through 11 circuits serving 103 rural villages. Through the establishment of new health centers under the loan program some of the larger of these villages will be eliminated from the PUMAR circuits and other villages not presently served will be incorporated. By the end of the project implementation period 110 rural villages serving population areas of around 300,000 (approximately 16% of the 1971 estimated total population) will be served by PUMAR units. Thus, the health centers and PUMAR combined will by 1971 cover population areas of 1,500,000 people, or about 80% of the total population.

B. Description of Operations

1. PUMAR Program

With assistance of AID the GON inaugurated its PUMAR program in 1963. The country was divided into 11 rural districts which were felt to be most lacking in basic medical attention. PUMAR circuits were established in five of these areas on the Pacific

side of the country in 1963; an additional five were developed in 1964, primarily on the Atlantic Coast; and the 11th circuit was developed in 1965, also on the Atlantic side. Each circuit serves approximately 10 rural villages (of less than 2,500 persons each) and the surrounding area.

The circuits operate out of a permanent health center located in the Nicaraguan equivalent of a county seat. Space provided at the centers is used for both storage and office facilities. Each unit is composed of a staff of one doctor, one auxiliary nurse and a driver. In addition, generally one sanitary inspector is assigned for every two villages in the circuit. Each circuit has a fully equipped vehicle (jeep ambulance or motor boat) which is used to transport personnel and the necessary medicines, education materials and other items. The program has a central staff located at the MOH offices in Managua, composed of a director (physician), one graduate public health nurse, one health educator, two sanitary supervisors, one warehouseman/mechanic and one secretary. This central staff supervises and administers general program operations and gives specialized technical support where necessary. In total, there are 87 people working directly in this program.

The general program of work in a circuit can be roughly broken down into seven major categories: Outpatient consultation, family planning, environmental sanitation, vaccination against communicable diseases, nutrition, health education, and community development.

The doctor assigned to a circuit is the coordinator of all personnel and programs therein. The auxiliary nurse works directly with him and the sanitary inspectors reside permanently in one of the two villages in which they serve. Each mobile unit operates on an established daily itinerary. Each day, ^{the} doctor-auxiliary nurse team leaves the circuit center and goes to one of the circuit villages. Upon arriving at the village the team sets up operation in the small health post or other facility provided by the village. A member of the village community development committee and the sanitary inspector assigned to that village assist the doctor-auxiliary nurse team.

The patients are first screened by the auxiliary nurse and she administers treatment to those who do not need the consultation of the doctor. The sanitary inspector fills in the necessary consultation records on all patients that attend the clinic. The doctor then examines the patients and prescribes basic medical treatment and drugs. Patients who may require hospitalization will be referred to the nearest hospital and transported by the PUMAR vehicle. Vaccines against communicable diseases are administered by the whole team under the supervision of the doctor, and family planning and other information relating to basic health and hygiene practices is distributed. Patients who can pay are charged a small fee of \$2.00 (\$.28) per consultation, which may include medicines, which is collected by the community volunteer. Upon completion of the consultation visit the doctor receives the money that was collected in fees and deposits it in the local bank in a community account which can only be drawn upon by the president or secretary of the village community development committee.

The money from these fees is used in community development projects decided upon by the village committee. The same mobile unit may serve more than one health post in a given day but generally only one village is visited. At the end of the day the mobile unit returns to its base health center. The normal week of the team consists of five days of visiting villages, with the sixth day spent in preparing program reports, general record keeping and other administrative matters. In the span of a month each village is visited approximately twice.

Complementary to the visits of the doctor, the sanitary inspectors continuously work in their assigned villages on environmental sanitation and health education projects. They also administer drugs and vaccines previously prescribed by the doctor during his visits. Their work consists primarily, however, of the enforcement of general sanitation regulations, the implementation of community action programs, and basic health education. The inspector also refers patients to the base health center if professional medical attention is required during the absence of the doctor. The circuit doctor supervises the inspector's work and, where necessary, the central program staff lends assistance in specific projects.

Following is some quantified information concerning the PUMAR operations over the past five years:

- a. Over 400,000 visits and consultations
- b. 340,000 vaccines given against communicable diseases such as tuberculosis, polio, tetanus, typhoid, rabies, etc.
- c. 200,000 house visits by the sanitary inspectors
- d. More than 3700 latrines built
- e. 139 water systems built and/or expanded
- f. 30,000 education meetings held on a variety of health topics
- g. 3,000 community meetings held

See Annex V, exhibit 2, for more detail on services rendered by PUMAR in the past five years.

In addition, a corollary impact of the program has been the 600 community development projects that have been executed through the village community development committees using the funds collected through fees for medical consultations. Through these community development efforts, 184 permanent health posts and 61 schoolrooms have been built. See Annex V, exhibit 1, for a more detailed analysis of community development projects.

In summary, the PUMAR units perform the basic minimum services of the health centers in rural areas where permanent facilities cannot be economically justified.

2. Health Centers

Past efforts of the MOH in its health center program as well as plans for expanding the number of health centers and population coverage were discussed in Section III - A.

Priority areas have been carefully selected for the 56 new health centers to be constructed under this project. (See Annex III, exhibit 1, for map and list of location of health centers). The total population in the areas to be served by the target 95 health centers will surpass 1,200,000. The 95 health centers will give direct service to approximately 15% of the population through 675,000 consultations, visits, etc., annually. In addition, at least another 20% of the population in these areas will receive annually indirect services such as environmental sanitation and health education.

The health centers will be of varying sizes: Class I - 285 sq. meters; Class II - 145 sq. meters; Class III - 120 sq. meters; and the Special Centers, 1350 sq. meters. The Class I centers generally will have staffs of at least two doctors, a dentist, a public health nurse, 3 auxiliary nurses, 3 sanitary inspectors, a health educator, a laboratory technician, a secretary and a chauffeur. The Class II and III centers generally will have a doctor, an auxiliary nurse, a sanitary inspector, a laboratory technician and a health educator. Class II centers in some cases may have additional personnel. Staffing of Special Centers will be considerably larger. Each health center will be provided with basic equipment and medicines needed for outpatient care and the preventive health and education programs. The general work of the health centers can be broken down as follows:

a. Health promotion programs

1. Maternal-child health
2. School health
3. Mental health
4. Nutrition education
5. Family planning

b. Protection of Health

1. Environmental sanitation, potable water, sewage, control of food, etc.

2. Vaccination against smallpox, tetanus, diphtheria, tuberculosis, polio, etc.
3. Control of pharmaceutical products

c. Health Recuperation

1. Medical consultation
2. Venereal disease control
3. Tuberculosis control
4. Intestinal parasite control

d. General Technical Program

1. Health education
2. Laboratory services
3. Vital statistics .

In each health center the director-physician works half a day in general consultation and administration. The other half day is available for private practice. The graduate nurse and/or auxiliary nurses work a full day assisting the doctor and giving various minor medical attention at the out-patient clinics. In the health centers that have a dentist, he gives minimum dental service such as extractions and school dental education. The sanitary inspector assigned to the health center inspects the markets and houses, promotes water and sewage programs, and works in insect control and other activities related to environmental health. The laboratory technicians perform routine blood, urine and stool examinations and assist in preparing malaria slides (any specialized examinations are sent to the central laboratory services in the MOH and the central malaria service laboratory). The health educator supports all health programs with audio-visual materials, community talks and school health education programs. In addition to the work in the health center, the staff will also travel to surrounding areas in close proximity to give minimum services.

To get an idea of the scope of the programs conducted by the health centers, the following estimates on specific services to be rendered once the 95 centers are functioning have been made by the MOH:

- a. Vaccination programs will cover approximately 65% of the total population.
- b. Specific treatment for tuberculosis, venereal disease and parasites will cover approximately 70% of the total population.
- c. Other general protection, recuperation and promotion programs will reach approximately 20% of the total population.

In summary, the health centers will form a natural extension of the MOH services and will provide the buildings, equipment, materials and professional personnel needed to effectively implement the broad scope of programs of the MOH throughout Nicaragua.

C. Detailed Description of Services of the Health Centers and PUMAR Units

The following is a more detailed description of the services which will be provided by the health centers and, in general, by the PUMAR units:

a. Health Promotion

This function is primarily oriented to the protection and care of the mother and child. This entails pre and post natal care through the mothers' clubs and clinics of the health centers. The mothers' train^{clubs} the expectant mothers in basic child hygiene and nutrition. Family planning and responsibility are also taught through the mothers' clubs to both the husband and wife. Professional personnel of the health centers continuously plan and teach these activities. The work in infant care involves basic nutrition education to insure that the child has an adequate diet and vaccination against specific child diseases.

Another important activity of the health centers is the school health program where the physician, nurse and dentist provide medical and dental examinations for all students. General health education programs are developed in each primary school with the assistance of the health center personnel. To assist in the implementation of these programs the professional personnel of the health centers train and supervise volunteer workers throughout the whole of areas served by the health centers.

b. Protection of Health

Within the MOH the malaria eradication program operates as a semi-autonomous function. However, this program coordinates its activity with the medical director of each health center. (See the CAP covering Loan 524-L-013, "Malaria Eradication", for detailed description of the malaria program). By 1972 the health centers and PUMAR will be responsible for surveillance activities of this program; i. e., it is expected that the initial attack phase of the malaria program will be completed by that time and that the full-time malaria program personnel will be phased out. The responsibility for diagnosis and treatment of malaria cases will then be the responsibility of the health centers and PUMAR units.

The control of communicable diseases is a principal function of the health centers. A nationwide vaccination program against smallpox, diphtheria, tetanus, whooping cough, polio, measles, typhus, and tuberculosis has been in effect for the past five years. The control of venereal disease is being implemented in the port and larger cities through the health center services. Treatment is provided gratis to those infected. Routine stool examination and treatment of intestinal parasites is routinely done by all health centers in the country.

The environmental sanitation program is implemented through inspection and regulatory methods. The main emphasis of this program is placed upon control of sewage and the provision of potable water to all communities of the country in order to lower the incidence of intestinal parasites.

c. General Technical Services

Each health center is responsible for the collection of health and other statistics related to the programs of the health centers. These statistics are sent on a monthly basis to the central MOH office for computation.

Laboratory facilities are provided at the Class I health centers. The laboratories make routine blood, urine and stool examinations and assist the malaria program in the collection of blood smears. Special laboratory examinations that are required are sent to the central laboratory in the MOH and the central malaria service laboratory.

The nursing section of the health center is responsible for family visits, organization and teaching at the mothers' clubs, training of personnel who will assist in the various health activities of the center and assisting the doctor at the outpatient clinic.

The health education section of the health center provides general support to the health programs of the center by providing necessary audio-visual aids, organizing health education meetings and in training volunteer health workers to assist in the health programs.

d. Family Planning

The population of Nicaragua is increasing at an estimated rate of 3.1% annually. Death rates have dropped from 1950 onward due to increased medical and public health programs. If the present rate of population growth continues, the population of Nicaragua will double within 23 years.

This rate of growth is adversely affecting the country's resources available for economic development. The inability of parents to adjust the number of children to available resources poses serious economic and social problems.

The MOH has the principal responsibility for the government's education and assistance program in family planning. INSS and JNAPS have expressed interest in cooperating with the MOH programs. INSS is carrying out an induced abortion study to determine the magnitude of the problems and its economic, social and medical implications.

An Office of Family Welfare has been established within the MOH. This office carries out a family planning education and clinical program through the established health centers and the PUMAR program. The program is now being implemented in the northern departments of Nicaragua and in Managua. This program will be expanded over the next five years to cover the whole of the country.

The family planning program has received assistance from AID and PAHO, which has provided short-term consultation services and financed training abroad. The Latin American Center for Demography (CELADE) has financed training at its center in Chile and will assist INSS in its induced abortion study. AID will continue to support the MOH family planning efforts through bilateral grant funding. This loan project will further the MOH family planning efforts through both the health centers and PUMAR components, but it does not include financing of specific family planning goods and materials. See Financial Analysis Section for AID financial grant assistance.

e. Community Development

Both portions of this program have important Title IX self-help components. PUMAR has been stimulating grass roots democratic action through community self-help programs since its beginning. Local community development committees have been organized and special community development funds have been established in each of the 103 villages where PUMAR units function. PUMAR circuit doctors and sanitary inspectors work with the local communities in developing projects and in administering the community development funds. These committees have completed more than 600 self-help projects during the five years of the program in both

health related and general community improvement projects. The projects included construction of small schools, installation of community water systems, construction of health posts and roads, etc. The projects have utilized community labor and economic contributions, monies from the local community development funds and loans from the special development fund of USAID. The monies generated from the small fee charged for consultations has totalled approximately \$70,000. (See Annex V, exhibit 1, for detailed list of PUMAR community development projects during the past five years.)

The health center portion of the program will also entail community participation. The communities will be expected to donate the land on which the new health centers will be built. They also will be expected to contribute both labor and some materials for landscaping around the health centers. Once the health centers are in operation, a small fee, similar to the PUMAR fee, will be charged to those patients who have the resources to pay. The monies generated will go into a community development fund for self-help projects such as in the PUMAR program. To facilitate both the acquiring of land and the execution of specific community development projects, community committees will be organized in the areas of the cities and towns served by the health centers.

The Project Committee believes that since the community development portion of the PUMAR program has been highly successful, community development will also be an important aspect of the health centers program.

D. Staffing Requirements

The program will require a total of 1,390 physicians and para-medical personnel by the end of 1971, broken down as follows:

	(cumulative)		
	<u>1969</u>	<u>1970</u>	<u>1971</u>
1. PUMAR			
a. Physicians	12	12	12
b. Auxiliary nurses	11	11	11
c. Sanitary inspectors	47	47	47
d. Health educators	1	1	1
e. Graduate nurses	1	1	1
2. HEALTH CENTERS			
a. Physicians	172	205	230
b. Dentists	28	32	33
c. Laboratory technicians	96	116	126
d. Auxiliary nurses	300	400	500
e. Sanitary inspectors	200	250	300
f. Health educators	32	37	38
g. Graduate nurses	85	90	91

The following is an estimation made by the MOH of the medical and para-medical personnel that will be trained in the next four years with both national and international resources.

	(Annual new graduates)				<u>Total</u>
	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	
Physicians	55	57	60	62	234
Graduate Nurses*	29	30	32	33	124
Auxiliary nurses *	200	100	100	100	500
Sanitary inspectors *	30	50	60	70	210
Laboratory Technicians	16	17	18	19	69
Dentists	8	10	10	10	38
Health educators	→	5	4	-	9

* These personnel will be trained by the MOH with the assistance of UNICEF. The MOH has successfully carried on this type of training for the past several years.

The following chart shows program needs in relation to existing and future personnel:

	Total Program Needs by end of CY1971	Personnel already working in MOH	Additional Personnel Needed	Newly Graduating Medical and Para-Medical Personnel	(3) ÷ (4)
Physicians	242	147	95	234	40%
Dentists	33	23	10	38	26%
Laboratory technicians	126	76	50	69	72%
Graduate nurses	92	61	31	124	25%
Auxiliary nurses	511	221	290	500	59%
Sanitary inspectors	347	174	173	210	82%
Health educators	39	33	6	9	66%

On April 4, 1968, the Nicaraguan Congress enacted an Obligatory Social Service Law (see Annex I, Exhibit 4 for a translation of the law). The National University with the approval of the MOH will prepare an implementing regulation for university trained health professionals such as physicians, dentists, medical technicians and nurses, which will require them to serve a minimum of six months in public health programs. It is expected that a high percentage of the graduating medical and para-medical personnel will fulfil their obligatory

service within this project.

Based on the present and future resources of the country and the utilization of newly trained professionals through the Obligatory Social Service Law, the Project Committee does not foresee any major problems in meeting the staffing requirements of the project.

Section IV - Engineering Analysis - Health Center Construction

A. General

This portion of the program will consist of the construction of 56 buildings in various sections of Nicaragua, to be carried out over a three-year period. Fifty four of the health centers will be located in outlying areas with the size of the buildings based on the population to be served. Two larger health centers will be located in Managua.

An idea of the population composition in the areas to be served by the 54 health centers to be constructed outside of Managua can be gotten from the following description of typical centers:

<u>Class</u>	<u>Location</u>	<u>P O P U L A T I O N</u>		
		<u>Total Area</u>	<u>Urban</u>	<u>Rural</u>
I	Matiguas, Matagalpa	28,087	1,444	26,643
II	Santa Teresa, Carazo	10,360	2,481	7,879
III	San Jose, Boaco	4,756	587	4,169

It should be noted therefore that although the health centers will be in "urban" areas (by Nicaraguan definition, which includes towns with populations as low as 130), they will generally be serving a far larger rural than urban population.

B. Execution of the Program

1. Preliminary Planning and Design

The ONC, in cooperation with the MOH, has developed standard plans for health centers of three different sizes. 22 centers of these types have been constructed during the past four years. These standard plans (see Annex III, Exhibit 6) will be used for Class I, II and III centers.

For the two Managua health centers the MOH and ONC have developed detailed space and functional requirements as a basis for cost estimates. (see Annex III, Exhibit 7).

2. Detailed Preparation and Planning

Bid and contract documents for Class I, II and III health centers will be prepared by the ONC.

A Nicaraguan architect-engineer firm will be contracted to prepare the plans, specifications, bid and contract documents for the two Managua health centers. This contract, estimated at approximately \$25,000, will be financed out of GON funds.

Design will be in accordance with the above-mentioned space and functional requirements.

3. Project Operations

a. Coordination and Supervision

The ONC will have over-all responsibility for coordination and direction of the construction phase of the project. Supervision and inspection of construction of those health centers to be built by contract will be by ONC. For the health centers to be built by force account, the architect-engineer firm mentioned in B, 2 above, will inspect construction.

b. Construction

The health centers will be built by private contractors insofar as possible. In the more remote locations where there are no private contractors and where it is assumed that outside contractors will have no interest in bidding, construction will be carried out by force account by ONC. The number of centers to be built by ONC has been estimated at 12 out of the total of 54 to be constructed outside of Managua. Grouping of the buildings for construction will be arranged so as to promote the widest possible competition from both large and small construction firms.

C. Maintenance

1. Health Centers

ONC is responsible for major repair and upkeep of health centers. This activity is funded from a line item of the GON budget specifically

for maintenance costs. Day-to-day maintenance is performed by the custodian of each health center, from general operating expenses of the center.

It has been observed that in general the maintenance of health centers is superior to that of any other public buildings.

PUMAR

2. During the five years that PUMAR has been in operation the maintenance and repairs of vehicles has been administered by USAID with funds provided by the MOH. The MOH has provided a total of US\$14,300 for maintenance and repair of vehicles for the PUMAR project over the past five years. USAID provides tires and spare parts for the vehicles to insure prompt and efficient program operation.

The procedure for the land units is to make minor repairs at the local center of operations using private garage services. If major repairs are required, the unit is brought to Managua where bids are obtained if the repair work is estimated to be US\$100 or more. The aquatic units are inspected and repaired at the local center. If major repairs are needed these units are brought to Managua.

A trained mechanic is assigned to the central office. He routinely inspects the units, recommends necessary repairs and solicits bids for major repairs.

The maintenance system for PUMAR has proved successful over the five years of operation. This system will continue to be used during the life of the loan. Some minimal spare parts procurement is included in the A.I.D. loan but basically all maintenance expenses will be covered by the MOH. No further grant assistance from A.I.D. is contemplated for spare parts.

D. Cost Analysis

The total cost of construction on the 56 health centers is estimated at \$999,580, exclusive of land and engineering costs. The health centers will be located on land now owned by the national and municipal governments. The value of the lots for the 56 centers is estimated at \$100,000.

Engineering and supervisory services are estimated at \$58,730, which will be a local currency cost and a part of the GON contribution.

Cost Summary in U.S. \$ Equivalent

T Y P E

	<u>I</u>	<u>II</u>	<u>III</u>	<u>Spec.</u>	<u>Totals</u>
Cost per center	24,020	11,500	8,915	156,215	
No. of centers	9	27	18	2	56
Totals--construction	216,180	310,500	160,470	312,430	999,580
Cost per sq. ft.	7.83	7.37	6.90	10.75	
Eng. & Supervision	8,650	12,420	6,420	31,240	58,730
Total--Construction, engineering and supervision					1,058,310

These estimates are based on recent construction costs of health centers and other buildings of similar specifications, adjusted to reflect normal inflation and contingencies. Detailed cost breakdown is shown in Annex III, Exhibit 8. Due to the simplicity of construction and the availability of local and CACM materials, dollar costs represent a very low component of the total, approximately five percent of the materials cost, or \$25,000.

E. Technical Analysis

1. Architect-Engineer Services

There are at least ten Nicaraguan firms considered to be capable of providing the required A-E services for this project. However, six of these firms perform both design and construction and are not expected to be interested in the technical services so as to be eligible for bidding on construction.

2. Administration, Management and Supervision

As described above, the ONC will have over-all administration and management responsibility. While not a large organization, it is

considered to be one of the most efficient and dedicated agencies within the GON. With the experience of this Office in the type and scope of construction proposed and method of cost accounting used, only normal USAID monitoring will be required.

3. Construction

All construction, except in the case of the few isolated areas where it is assumed that outside contractors will have no interest in bidding, will be by private firms selected on the basis of competitive bidding. Bids will be open to both United States and C.A.C.M. firms.

The number, capacity and capability of Nicaraguan construction firms is entirely adequate for this project. It is also possible that C.A.C.M. firms will be interested in bidding.

Materials required for the proposed construction program are readily available locally and within the C.A.C.M.

Skilled and common labor are currently available. There are no known or predicted abnormal demands which would alter this situation.

Construction and transportation equipment within Nicaragua are entirely adequate for the project.

For those health centers which from practical consideration must be constructed by force account, the ONC has demonstrated more than adequate performance and experience, and no more than normal USAID monitoring will be required. USAID is adequately staffed to provide such monitoring.

F. 611 Requirements

A review of the technical studies, plans and cost estimates indicates that the requirements of Section 611 (a) (1) & (c) have been met.

Section V - Economic and Social Analysis

A. Brief Description of Nicaraguan Economy

Nicaragua, with an area of 54,000 square miles, is the largest of the Central American countries. Its population, which is growing at the rate of about 3.1 percent annually, is estimated to be 1.8 million in mid-1968, giving a population density of 33 persons per square mile. The bulk of the population (and the largest part of economic activity) is located in the Pacific coastal region. Large areas of the country are very sparsely settled and are isolated during at least part of the year.

Although urbanization and industrialization are taking place rapidly, some 60 percent of the population is rural, and approximately 30 percent of gross domestic product is directly attributable to the agricultural sector, leading both commerce (20 percent) and industry (13 percent). Moreover, since a considerable part of industrial activity is devoted to the processing of agricultural products and much of commerce either consists of trade in agricultural commodities or in other goods sold in rural areas, the direct and indirect participation of the rural sector in the national product may actually approach or even exceed 50 percent.

During the 1960-1965 period, Nicaragua's real annual economic growth rate averaged 8 percent, the highest in Latin America. However, reduced cotton production, compounded by production or price problems for exports of lesser importance, slowed the growth rate to 3.1 percent in 1966 and 4.3 percent in 1967, resulting in a per capita gross domestic product (in current prices) of \$356. The outlook for 1968 is an increase in the range of 5 to 6 percent.

Total goods exports, which had been growing by an average of 18 percent during the 1960-1965 period, decreased 5 percent in 1966 and increased by less than 7 percent in 1967, reaching \$151.6 million or only barely above the 1965 level. The poor performance of traditional exports would have had an even more devastating effect on total foreign exchange earnings but for the success of diversification efforts. For instance, in 1967 exports of meat, seafood and bananas together equalled exports of coffee, which

ten years ago represented 40 percent of the country's total exports.

Credit restrictions were successful in reducing the rate of growth of imports from the 19 percent annual average during the 1960-1965 period to 14 percent in 1966 and 13.5 percent in 1967 (when imports totalled \$172.2 million) and in keeping the increase in consumer goods imports to 7 percent, but this was insufficient to keep the trade deficit from growing. This deficit, together with a slower rate of growth than anticipated in capital inflows, resulted in a deterioration of the international reserves position, as discussed in more detail in Section C below.

The GON has been able to finance a rapidly growing budget (expenditures in 1967 were double those in 1963) without resorting to inflationary means. Expenditures, particularly current expenditures, have been rising much more rapidly than revenues, however, and as a result, the deficit has grown from only \$1 million in 1965 to \$18.2 million in the 1968 budget (although there continues to be a surplus on current account). To help cover the deficit, it became necessary in 1966 and 1967 to draw down balances accumulated in previous years, and government deposits have now been reduced below the minimum level needed for prudent and efficient administration. The 1968 budget, at \$94.5 million, therefore, was slightly reduced below that for 1967, although it still remains substantially greater than actual 1967 expenditures. The bulk of budgetary increases in recent years has gone for education, health, and infrastructure development, which together account for half of the 1968 budget. The Ministry of Public Works remains the major recipient of central government funds, as it has for many years, while the Ministry of Education has advanced from third place in 1963 to second in 1968 and the Ministry of Health has moved from sixth to third. On the other hand, the Ministry of Defense, which includes expenditures for the postal and telecommunications systems and the police function, has dropped from second to fourth place, with only 11.1 percent of the total budget.

The economic boom of the first half of the 1960's was accompanied, with about a one year time lag, by a sustained increase in investment, which rose in constant price terms by an average of 16 percent a year from 1962 through 1966, continuing a year after the downturn in the economy began. As a result, investment grew from 14.5 percent of gross domestic product in 1962 to 19 percent in 1966. Virtually all of the increase came from the

private sector (including autonomous public agencies) which was willing to forego practically all increase in per capita consumption expenditures. Central investment expenditures, on the other hand, showed a sporadic performance, increasing only slightly over-all during the period and declining as a proportion of the gross domestic product. Preliminary figures for 1967 indicate that total investment was less than in 1966, with by far the greatest drop occurring in public investment, which fell to the 1962 level.

The period of rapid economic growth in the first half of the 1960's was also associated with an expansion of the money supply, fed by increases in bank credit to the private sector that jumped from 4.4 percent in 1961 to 27.4 percent in 1965. The central government accumulated cash surpluses during this period and the level of credit to autonomous public agencies declined. There was very little price inflation -- about 3 percent annually -- as increased buying power was translated into a higher level of imports. Beginning in 1966, the Central Bank took measures to restrict the growth of bank credit and to direct it into production areas, particularly agriculture and industry. These measures had little effect in 1966 when credit to the private sector increased by 24.2 percent; at the same time, total bank credit grew by 30 percent as central government deposits were drawn down and more credit was channelled through INFONAC and the National Bank under the "Immediate Action Plan for Production Development". The effects of the measures began to be felt in 1967, however, as the rate of expansion of credit to the private sector slowed to 13.7 percent and that of total bank credit to 19.7 percent. In connection with its IMF stand-by agreement, the GON has undertaken the obligation to implement a more restrictive credit policy in 1968, which it is believed will avoid further reductions in international reserves and at the same time permit an acceptable rate of expansion of the economy.

B. Debt Service Capacity of Nicaragua

The GON is not in arrears on the debt service of any foreign obligations and total foreign public debt remains small in relation to the country's GNP and foreign exchange earnings. At the end of 1967 outstanding foreign public debt of \$92.7 million amounted to 14.5 percent of the GNP, and only about 8.5 percent of foreign exchange receipts were required for service

of this debt. According to current projection, this debt service ratio should not increase appreciably in the foreseeable years ahead.

G. Balance of Payments Situation of Nicaragua

Foreign Exchange Reserves

Although gross foreign exchange reserves grew rapidly in the first half of the 1960's and increased slightly in 1966, this growth was significantly offset by an increase in short-term foreign obligations resulting from Central Bank policy requiring foreign financing of the cotton and coffee crops and cattle fattening. Consequently, the increase in net reserves in 1965 amounted to only \$800,000 (as compared to \$4.8 million in 1964) and in 1966 there was a drop of \$12.2 million, an amount nearly equal to the increase achieved over the three preceding years. In 1967, gross reserves dropped by \$33.6 million or by more than half. Despite the fact that a third of this amount represented repayment of an IMF stand-by and that short-term obligations decreased somewhat, net reserves were reduced to a negative amount.

(See table on following page)

International Reserves of Nicaragua as of December 31
(Millions of US\$)

	1960	1961	1962	1963	1964	1965	1966	1967
Gold and Foreign Exchange Holdings								
Central Bank	9.1	13.5	17.2	31.8	38.9	57.2	57.9	27.2
Commercial Banks	1.0	1.0	1.5	1.8	3.2	5.4	7.0	4.1
Total Gross Reserves	10.1	14.5	18.7	33.6	42.1	62.6	64.9	31.3
Short Term Obligations								
Central Bank	.1	.2	.2	.4	.7	1.0	2.1	1.9
Commercial Banks	1.5	.1	.1	3.0	5.6	25.0	40.3	38.5
Total	1.6	.3	.3	3.4	6.3	26.0	42.4	40.4
Net Reserves, exclu. IMF position	8.5	14.2	18.4	30.2	35.8	36.6	22.5	-9.1
Net Position with IMF	2.8	-1.7	-1.7	-7.7	-8.4	-8.4	-6.5	4.7
Net Reserves, inclu. IMF position	11.3	12.5	16.7	22.5	27.4	28.2	16.0	-4.4

The deterioration of the reserves position in the past two years was a result of adverse climatic and price conditions affecting agricultural exports, aggravated by a sizeable expansion of short-term external liabilities and combined with a continued high rate of increase of imports. Long-term capital inflow has continued to increase, although at a somewhat lesser rate than had been anticipated - particularly in 1967 - because of slow

disbursement on official loans.

Preliminary reports indicate that the 1967-68 cotton crop was the worst in several years, so that, despite higher cotton prices and a favorable outlook for other exports, little increase in total exports can be expected in 1968. The GON has undertaken the obligation of stricter enforcement of indirect measures to limit the expansion of imports, but in view of economic development needs and in the absence of direct import controls, imports are certain to continue to increase to some extent. Therefore, even though a sizeable increase in capital inflow is anticipated in 1968, no substantial improvement in reserves is likely this year.

D. Characteristics of Health Sector

1. Health Problems

Nicaragua has made an effort in recent years to improve health facilities and programs. However, they started from a low base and many of the quantitative improvements have been offset by rapid population growth. Thus, general conditions are far below U.S. standards and in many respects below the Latin American average as evidenced by the following table:

	<u>Nicaragua</u>	<u>L. A.</u>	<u>U. S.</u>
Life expectancy (years)	54	57	70
Infant mortality (per 1000 live birth)	52.9	75	25
Per Capita Caloric Intake	2190	2560	3090
Inhabitants/physician	2370	1800	690

Source: Regional Data Book and MOH - 1966.

The principal health problems as defined by the MOH are as follows:

- a. Prime causes of death are gastroenteritis, accidents, heart disease, pneumonia, and malaria; they accounted for an estimated 40% of total deaths in 1967.

- b. The high percentage of fetal and infant deaths (less than one year old) - almost 60% of the total deaths in 1967 were in this age group.
- c. The disease that is most prevalent - intestinal parasites; 90% of the population.
- d. The major use of hospital beds is for child birth and abortion cases.
- e. The major number of medical consultations are for respiratory diseases, infectious diseases and gastro-intestinal diseases.
- f. The ages in which people are more prone to be sick are between birth and five years of age.
- g. The ages in which people are more prone to be hospitalized are between twenty and thirty.
- h. The most frequent causes of accidental deaths are falls and automobile accidents.

A nutrition survey was conducted in Nicaragua during 1966 by the Institute of Nutrition of Central America and Panama (INCAP) in cooperation with the U.S. National Institutes of Health. Preliminary analysis did not show any manifestations of nutritional diseases such as beri beri, pellagra, scurvy or protein-caloric malnutrition. The team concluded that while adequate foods are available there is insufficient consumption of foods rich in Vitamin A and those which would provide an adequate level of protein and other essential nutrients. The two areas cited for immediate attention were the deficiencies in Vitamin A and iodine - the latter because of the high incidence of endemic goiter. They also pointed out that the other nutritional problems could become more serious if the present trends in population growth and food production continue.

The nutrition team's clinical investigations revealed a very high incidence of parasitism - principally *Ascaris*, *Uncinaria* and *Trichuris*. Nicaraguan sources estimate that approximately 90% of the population

is infected with parasites and the team's preliminary estimate was that 30% of those tested have amoebas. These findings, as well as the mortality distribution listed in the following table, attest to the low level of environmental sanitation in Nicaragua

Principal Causes of Death

<u>Causes</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>
	(Percentages)					
Gastrointestinal	11	12	12.3	10.8	10.7	6.4
Other diseases of infancy	10	9	8	9.1	10.8	9
Accidents	8	7	8.2	8.4	8.3	10.4
Malaria	4	3	3.3	3	2.8	4.2
Influenza & pneumonia	4	5	3.5	2.9	4.7	3.3
Typhoid & paratyphoid	4	3	3.1	2.8	2.0	1.4
Heart & circulatory diseases	5	4	5.3	5	4.8	6.8

Source: MOH and Central Bank

Under the above circumstances the availability of potable water and sewage facilities becomes a key factor in any analysis of the health situation in Nicaragua. Unfortunately, the pattern which emerges is mixed. While between 1965 and 1966 the percentage of urban inhabitants served with potable water increased from 44% to 54% (308 thousand to 346 thousand), the rural population served only increased from 1.2% (11,454) to 2.2% (23,266). To compound the problem, 68,000 of the new 89,000 urban inhabitants reached between 1965 and 1966 lived in Managua. Discounting the efforts of the Managua Water Authority which, with the assistance of an IDA loan, has now reached 200,000

of the 285,000 inhabitants of Managua, the combined efforts of other agencies have had little impact on the total deficit in available services.

2. Existing Health Facilities

The health facilities of the country are administered through the following institutions and agencies:

- a. Ministry of Public Health (MOH)
- b. National Social Service and Assistance Board and its local committees (JNAPS)
- c. Military Hospitals and Dispensaries
- d. National Institute of Social Security (INSS)
- e. Private Hospitals and Clinics
- f. Dispensaries of Private Industries

These institutions had the following resources as of 1967:

- a. 38 hospitals of which 24 were public and 14 private
- b. 4,410 beds in these hospitals
- c. 11 PUMAR Units functioning through 103 health posts.
- d. 60 Health Centers

A number of possible mechanisms exist for coordination of the activities and programs of the above named institutions. A National Public Health Committee was created by a law enacted April 24, 1964 and amended in December 1964. The purpose of the committee is to advise the MOH in carrying out its functions. The committee consists of the Minister, Vice Minister and Director General of the MOH, representatives of INSS, the Medical Association, and JNAPS, the

Dean of the Medical School, and a representative (physician) of the minority party. The same law also provides for Departmental Public Health Commissions at the local level for the purpose of insuring cooperation in the implementation of public health programs. These commissions consist of a local representative of MOH, as chairman, the departmental political chief, the mayor, a representative of the local Social Welfare Board, and a representative of the minority party. In addition, there is the Governing Council of the JNAPS and INSS which consists of a chairman appointed by the President (presently the President's wife); the Ministers of Labor and Health; the Director General of INSS; a representative of the Medical Association; two management representatives (for the commerce/industry and agriculture sectors), two representatives of labor (for both public and private employees); a representative of the minority party, and the Directors of Medical and Social Assistance of JNAPS. While the law which established and defined the functions of this Council does not assign it responsibilities for coordination and integration of public health activities, the Council, under its present chairman, is actively promoting such coordination and integration especially among the MOH, JNAPS, and INSS.

It must be pointed out that neither the National Public Health Committee nor the Departmental Commissions mentioned above are really operative. The fact that they already legally exist, however, will facilitate making them functional. In practice, it has been the Governing Council of JNAPS which has been taking the lead in matters of coordination and integration of public health activities.

Examples of integration of public health services that have taken place to date are the combined MOH-JNAPS-INSS tuberculosis program, the inter-ministerial committees in the fields of nutrition and family planning, and a number of combined hospital-health center facilities. Regarding the latter, the Governing Council of JNAPS-INSS is very much interested in coordinating closely with MOH in connection with the health centers to be built under this loan project.

The distribution of medical and para-medical personnel in the institutions mentioned above in 1967 is as follows:

<u>Institutions</u>	<u>Doctors</u>	<u>Nurses</u>	<u>Dentists</u>	<u>Auxiliary Nurses</u>	<u>Hospital Beds</u>
JNAPS	370	142	11	859	2,357
Private	63	47	6	139	529
National Guard	30	11	6	69	156
Red Cross	3	1	-	2	-
INSS	261	96	27	348	468
Ministry of Health	147	61	23	221	—
TOTAL	<u>874</u>	<u>358</u>	<u>73</u>	<u>1,638</u>	<u>4,410</u>
Rate per 10,000 inhabitants	4.8	2.0	0.4	9.1	24.5
Rate per 10,000 inhabitants recommended by WHO	13.0	3.5		17.5	

Source: MOH and Central Bank

Comparing the present numbers of professionals with WHO recommended standards, Nicaragua has deficits of the following magnitudes: doctors - 1,336; nurses - 237; auxiliary nurses - 1,337; and, hospital beds - 7,000. These deficits will not be overcome with the present training of medical personnel in Nicaragua and abroad. However, a better distribution of such professionals through the establishment of more facilities, particularly in rural areas, will make the situation less critical. PAHO estimates that approximately 50% of the Nicaraguan population had some form of medical facilities available in 1967. Of this percentage the population that cannot be provided medical services ranges from only 10% in the major urban areas to over 70% in the rural areas. The

geographic distribution of health expenditures also reveals the wide disparity between urban and rural areas. For example, the per capita expenditure of JNAPS ranges from a high of \$7.70 in the Department of Managua (population 368,000) to a low of \$.28 in the Department of Madriz (population 55,000). The fact that facilities such as hospitals and health centers are concentrated in urban areas makes it difficult to provide basic medical services to the entire population. For the most part, available doctors practice in the major cities. In the Department of Madriz, for example, there is one doctor to serve the 55,000 inhabitants.

To lay the basis for improving the general level of health in Nicaragua, MOH and other health agencies, with the technical assistance of PAHO, developed a Ten-Year National Health Plan in 1964. This plan has the following basic goals:

1. To decrease the death rate, especially in infants and young children, through programs of preventive medicine
2. To decrease the birth rate
3. To eradicate malaria, smallpox and poliomyelitis
4. To reduce to the minimum the cases of infectious diseases controllable by vaccines
5. To decrease the rate of abortion
6. To improve the general medical attention for the entire population

To implement these goals the GON has the following action programs:

1. Training programs; preparation of medical, para-medical and auxiliary personnel
2. Programs of investigations; chemical, biological laboratories, epidemiological surveys, etc.
3. Programs of investment in basic infrastructure ; construction of hospitals, health centers, etc., and better equipping of present

facilities

4. Programs of basic preventive medicine, family planning, vaccination, etc.
5. Programs of environmental health; water supplies, sanitation, nutrition, etc.

Funds assigned to the health sector in 1967 totalled \$20.6 million which represents an expenditure of \$11.34 per capita - an increase of \$4.61 per capita over the 1963 figure. Details regarding expenditures made by the various health agencies follow:

<u>Institution</u>	<u>Health Expenditures (US\$000)</u>					
	<u>1963</u>		<u>1966</u>		<u>1967</u>	
	<u>Amount</u>	<u>Per Capita</u>	<u>Amount</u>	<u>Per Capita</u>	<u>Amount</u>	<u>Per Capita</u>
Total	<u>10,340</u>	<u>6.73</u>	<u>14,045</u>	<u>8.10</u>	<u>20,578</u>	<u>11.34</u>
Govt.	3,100	2.02	4,053	2.34	5,954	3.28
INSS	3,740	2.44	5,500	3.17	9,245	5.12
JNAPS	3,500	2.27	4,492	2.59	5,318	2.94

This project provides for construction of health centers and the continuation of the PUMAR program rather than the construction of hospitals primarily because of the considerably higher expenses involved in the construction and operation of hospitals. It is estimated that the cost of constructing a system of 16 departmental hospitals in Nicaragua would be around \$16 million, which is four times the total cost of this project. In addition, an estimated \$8 million annually would be required to operate the hospitals. The per capita cost for operating such hospitals would be many times higher than the estimated \$3.50 per consultation for health centers and \$2.70 per consultation for PUMAR. The alternative of constructing hospitals, furthermore, would fail to meet the immediate needs in the health sector and would not permit providing basic preventive and curative public health services and education.

On strictly economic grounds the national loss in labor productivity is much greater from widespread debilitating illnesses than from the fewer number of serious cases demanding more complex hospital facilities.

E. Impact of Project on U.S. Economy

The proposed project is likely to have a favorable effect on the U.S. economy. To begin with, a short-term direct effect will be the importation from the U.S. of \$1,225,000 of medical equipment, vehicles and medicines. In the longer term it is expected that the project will generate increased U.S. imports of medical equipment and vehicles both in replacement parts and new equipment. Similarly, there should be an increase in purchase of medicines from the U.S. based on MOH use of U.S. medicines provided during the three-year disbursement period of this project.

Section VI - Financial Analysis

A. Total Cost of the Project

The total cost of the project is estimated at \$4,000,000 of which \$1,225,000 or approximately 30% are foreign exchange costs and \$2,775,000 or approximately 70% are local costs. The AID loan of \$2,200,000 represents 55% of the total cost of the project during the implementation period and will finance all of the dollar procurement and 35% of the local costs. The GON contribution equals \$1,800,000 or 45% of the total project costs during the loan disbursement period, and will be used entirely for local currency expenditures. All of the GON contributions have been calculated as amounts above the present budgetary expenditures for these programs. The cost estimates for the project were based on data available from the existing programs; the PUMAR estimates were based on AID experience with the MOH over the past 5 years and the health center estimates on MOH and ONC figures for past expenditures as checked by USAID technicians. The following charts give the project cost breakdown for AID and the GON.

AID LOAN
(In U. S. Dollars)

<u>Project Items</u>	<u>U.S.\$</u>	<u>Local</u>	<u>Total</u>
1. Health Centers			
a. Construction	25,000	975,000	1,000,000
b. Engineering Services		*	
c. Vehicles & Equipment	408,000		408,000
d. Medicines	236,000		236,000
e. Personnel		*	
f. Operating Expenses & Maintenance		*	
Sub-Total	669,000	975,000	1,644,000

(Table continued)

Project Items	<u>U.S. \$</u>	<u>Local</u>	<u>Total</u>
II. Rural Mobile Health			
a. Medicines	480,000		480,000
b. Vehicles & Equipment	76,000	*	76,000
c. Personnel			
d. Operating Expenses & Maintenance		*	
Sub-total	556,000		556,000
TOTAL	\$ 1,225,000	975,000	2,200,000

Chart on following page gives breakdown of GON contribution.

As can be seen, loan funds will be used for capital investment and medicine expenditures ** and the GON will contribute: (a) all of the local currency costs for operations both during and after loan disbursement, and (b) approximately \$58,000 for engineering services during the loan disbursement period (see Section IV. D.). The local communities will also contribute all land needed for construction of the health centers. This land has been calculated to have a value of \$100,000 for the 56 new centers. The total Nicaraguan contribution during loan disbursement is therefore estimated at \$1,800,000 broken down as follows:

- a) Additional cost of operating and maintaining the health centers and PUMAR during the loan disbursement period \$ 1,642,000
- b) Engineering Services 58,000 and
- c) Value of contributed land for the new health centers 100,000

In addition to the GON contribution of \$1,642,000 during the loan disbursement period, the GON will contribute at least \$1,168,000 annually more than their present expenditures, for these programs after full loan disbursement to

* Please note that no local currency will be provided for personnel, operating expenses or local engineering services out of the AID Loan. These are entirely a GON responsibility.

** The medicine procurement with loan funds shall be of pharmaceuticals in finished dosage form and not of ingredients which require processing to produce the final form. Therefore, authorization to procure finished dosage form medicines with loan funds, as per M.O. 1454.3, will be necessary. The provision of medicines by UNICEF has been explored but they have not been providing such medicines in the past nor does the MOH believe that they will be interested in doing so.

GON CONTRIBUTION

	Present Expenditures (1968)	(U . S . \$) Estimated 1969 Expenditures	Estimated 1970 Expenditures	Estimated 1971 Expenditures	Annual Expenditures Necessary to Maintain & Operate Program from 1972 Onward
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I. Health Centers

a) Personnel	€ 6,554,740 US\$ 936,330	€ 6,600,000 US\$ 942,857	€ 8,510,000 US\$ 1,215,714	€ 9,610,000 US\$ 1,372,857	€9,610,000 US\$ 1,372,857
b) Rent	€ 152,296 US\$ 21,756	€ 113,422 US\$ 16,203	€ 38,874 US\$ 5,553	---	---
c) Medicines	€ 1,358,988* US\$ 194,141	€ 695,000 US\$ 199,857	€ 939,000 US\$ 134,143	€ 1,113,000 US\$ 159,000	€1,661,800 US\$ 237,400
d) Operations and maintenance	€ 56,000 US\$ 8,000	€ 1,766,800 US\$ 252,400	€ 2,183,400 US\$ 311,914	€ 3,497,200 US\$ 499,600	€3,497,200 US\$ 499,600
e) Equipment and vehicles	---	€ 320,000 US\$ 45,715	€ 420,000 US\$ 60,000	€ 237,000 US\$ 33,857	€ 140,000 US\$ 20,000
SUB-TOTAL	€ 8,122,024 US\$ 1,160,289	€ 9,175,222 US\$ 1,310,746	€ 11,671,274 US\$ 1,667,732	€ 14,220,200 US\$ 2,031,457	€14,909,000 US\$ 2,129,857

II. Rural Mobile Health

a) Personnel	€ 1,249,200 US\$ 178,457	€ 1,249,200 US\$ 178,457	€ 1,249,200 US\$ 178,457	€ 1,249,200 US\$ 178,457	€ 1,249,200 US\$ 178,457
b) Medicines	---	€ 53,900 US\$ 7,700	€ 53,900 US\$ 7,700	€ 53,900 US\$ 7,700	€ 1,173,900 US\$ 163,700
c) Operations and maintenance	€ 60,000 US\$ 8,572	€ 273,000 US\$ 39,000	€ 273,000 US\$ 39,000	€ 273,000 US\$ 39,000	€ 273,000 US\$ 39,000
d) Equipment & vehicles	---	---	---	---	€ 105,000 US\$ 15,000
SUB-TOTAL	€ 1,309,200 US\$ 187,029	€ 1,575,100 US\$ 225,015	€ 1,575,100 US\$ 225,015	€ 1,575,100 US\$ 225,015	€2,738,100 US\$ 391,157
TOTAL	€ 9,431,224 US\$ 1,347,317	€ 10,750,322 US\$ 1,535,760	€ 13,246,374 US\$ 1,892,339	€ 15,795,300 US\$ 2,256,471	€17,647,100 US\$ 2,521,014

* Includes special emergency polio vaccination program.

III. Increases over 1968 Budget (% Increase)

US\$188,443 (14%)	US\$545,022 (39.69%)	US\$909,154 (66%)	US\$1,173,697 (86.7%)
(1969-71 increases total \$1,642,000)			

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continue to maintain and operate the program. The communities served both by PUMAR and health centers will also implement community development projects as a result of this project whose value, based on PUMAR's past experience, could exceed \$100,000 over the three year period. These costs have not been calculated as part of project costs.

See Annex VI, exhibits 1 and 2, for detailed breakdown of program cost calculation.

B. Past and Future AID Support Through Grant Assistance

In accordance with Project Agreements entered into since 1963, the PUMAR program has been supported by AID grant assistance totalling \$987, ~~807~~, and contributions from the GON (MOH) totaling the equivalent of \$1,016,266. Under a Project Agreement signed in May 1968, AID has committed an additional \$43,100 to cover grant financing of the PUMAR program through November 1968 or until loan funds become available. After loan funds become available; i. e., upon loan agreement signature and meeting of conditions precedent, the U.S. contribution to PUMAR will be financed entirely with loan proceeds and grant assistance to this program will cease. Following the completion of the project financed with loan funds, the MOH will take over full financial responsibility for the program.

For the related area of family planning, AID and GON have already entered ^{into} a Project Agreement which will provide \$175,000 in grant assistance to finance equipment and materials. The health centers constructed and equipped under this loan will support and complement the family planning program. We expect that for several years to come AID support of the family planning program will continue to be grant financed.

C. Ministry of Health Budget

Over the past five years the MOH budget has had substantial increases both in real terms and as a percentage of the over-all national budget. The following chart shows these increases:

(millions of cordobas)

	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
National Budget	311.7	341.3	465.8	583.7	673.4	661.2

MOH Budget	20.1	21.3	38.8	45.1	61.2	77.4
Percentage of Nat. Budget	6.4%	6.3%	8.3%	7.7%	9.1%	11.7%
Percentage of Annual Increase from previous year		8%	78%	16%	35%	26%

It should be noted, however, that while the MOH has a relatively high percentage of total budget, almost 48% of the total in 1968 either was transferred by the MOH to INSS or was used to pay agreed GON contributions for health programs being carried on in Nicaragua with the assistance of international and regional health agencies. Discounting these transfers, the actual MOH funds increased from U.S. \$ 1.16 million in 1963 to US\$ 5.64 million in 1968.

Of the total 1968 MOH budget after transfers, health centers and PUMAR accounted for \$1,347,317. This project will entail budgetary increases of \$188,443, or 14%, for 1969; \$545,022, or 40%, for 1970; and \$909,154, or 67%, for 1971, over the amounts allocated to these programs in 1968. In addition, upon completion of construction, the annual budgets of the MOH will be increased by at least \$1,168,697, or 21% more than total budget (after deducting transfers), in 1968; an expense which will continue indefinitely but which was not considered a part of project costs.

Assurance has been received from the Minister of Health that the GON will provide the necessary funds to maintain and operate the project both during and after the loan disbursement period.

D. Loan Terms

This project will entail a substantial increase in the GON expenditures for health not only during the project implementation period but throughout the period of the loan. Based on this large increase in the MOH budgets and the fact that this is a social overhead type of project, the Project Committee recommends most concessional loan terms of 40 years amortization, with a 10-year grace period, 2% interest during the grace period and 2½% thereafter.

E. Implementation Plan

The following is the estimated loan implementation schedule:

FY 1968	Loan Authorization	June 1968
FY 1969	Agreement signed and Implementation Letters issued	August 1968
FY 1969	Conditions Precedent met	October 1968
FY 1969	First Disbursement made	December 1968
FY 1972	Loan fully disbursed	August 1971

Project funds should be disbursed as follows:

	(In U. S. Dollars)			
	FY 1969	FY 1970	FY 1971	FY 1972
AID	534,000	721,000	746,000	269,000
	CY 1969	CY 1970	CY 1971	
GON	188,443	545,022	909,154	

The Project Committee anticipates no extraordinary problems in negotiating or meeting Conditions Precedent. Virtually all of the recommendations in the CAP have been discussed with the borrower and no major objections have been raised.

In order for the program to begin as rapidly as possible, it is important that bids and proposals for materials and services required be requested and received as soon as possible. It is therefore suggested that AID assist the MOH in advertising these requests for proposals and bids as soon as the loan is authorized. Furthermore, so as to most effectively coordinate the various parts of the project; i. e., the construction of the health centers, procurement, personnel training and recruitment, etc., the Project

Committee recommends that a Condition Precedent to the first disbursement be the preparation by the MOH of a critical path or other appropriate analysis for program implementation which relates construction, procurement, and personnel actions and their timing. The engineering staff of the ONC has the capability to assist the MOH in the preparation of such an analysis.

SECTION VII - ISSUES

The following questions have been considered but are not considered to be issues:

A. PUMAR Units Compared with Alternative Methods of Providing Similar Services

Alternative means of providing similar health services in rural areas have been explored but because of low population density of the rural villages served and long distances from other population centers, it is not deemed economically feasible to supply such services except through rural mobile health units. Each PUMAR circuit will cover population areas of approximately 27,000 people spread out in villages about 20 miles distant from each other. The cost per consultation in the PUMAR program will be approximately \$2.70. This is less than the \$3.50 cost per consultation under the health center program (health centers, of course, will provide more service per consultation). If health centers were to be established in the areas covered by the PUMAR units, the per consultation cost would probably be at least double that estimated for PUMAR. Experience has shown, at least in Nicaragua, that this type of program has a legitimate place in providing health services to rural populaces.

B. Benefit Cost Analysis

The project Committee found it impossible to calculate a meaningful benefit cost analysis for the project. This was primarily due to the lack of statistics concerning the loss of time and life from the common debilitating diseases which this project will help to prevent or cure. It is probable, however, that the benefits accruing to the population served by this project, in terms of increasing labor productivity by reducing time lost due to debilitating diseases, will be many times greater than the cost of the project.

C. Institutional Base

The MOH has been successfully carrying on the PUMAR program for five years and has gradually assumed all personnel costs which were previously financed by AID. The MOH has also operated a health center program for many years and has effectively administered such programs as malaria,

tuberculosis, nutrition and sanitation. The National Water and Sewerage Agency was transferred to the MOH a year ago and reorganized. The Project Committee believes, based on this experience and the expressed intent of the MOH to operate and maintain this project both during and after loan disbursement, that the necessary institutional base exists in the MOH. In addition, it can be expected that the necessary manpower to operate and maintain the project will be obtained by the MOH. With respect to construction capabilities, the ONC has clearly demonstrated over the years and through a wide variety of projects the professional, technical and supervisory capacity to carry out its responsibilities under this project.

A.I.D. 1240-2 (11-67)

June 17, 1968

CHECKLIST OF STATUTORY CRITERIA

(Alliance for Progress)

In the right-hand margin, summarize for each item the information or conclusion requested. As necessary, reference the section(s) of the Capital Assistance Paper, or other clearly identified and available document, in which the matter is further discussed. This form may be made a part of the Capital Assistance Paper.

The following abbreviations are used:

FAA - Foreign Assistance Act of 1961, as amended by the Foreign Assistance Act of 1967.

App.- Foreign Assistance and Related Agencies Appropriations Act, 1968.

COUNTRY PERFORMANCE

Progress Towards Country Goals

1. FAA §.208; §.251(b)(1); §.251(b)(5); 1. §.251(b)(6). *Extent to which country is:*
 - a. *Making appropriate efforts to increase food production and improve means for food storage and distribution.*
 - b. *Creating a favorable climate for foreign and domestic private enterprise and investment.*
 - c. *Increasing the public's role in the developmental process.*
- a. Nicaragua has given high priority and is making a concerted effort to increase food production and improve means for food storage and distribution. This is evidenced by the GON silo program, partially financed by an EX-IM Bank loan; by the extensive rural credit program of the National Bank and by the new effort to give land title to the small farmer which was begun about a year ago.
- b. Nicaragua has taken numerous steps to improve its climate for private investment as evidenced by its participation in the A. I. D. Investment and Extended Risk Guarantee Programs. The general government-private sector relationship is favorable.
- c. The public's role in the development process has been considerable in Nicaragua and the GON is actively attempting to stimulate further participation therein through private sector development in both agriculture and industry.

- d. *Allocating expenditures to development rather than to unnecessary military purposes or intervention in other free countries' affairs.*
- e. *Willing to contribute funds to the project or program.*
- f. *Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangement, and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.*
- g. *Adhering to the principles of the Act of Bogota and Charter of Punta del Este.*
- h. *Responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.*
2. *FAA §.251(b). Information and conclusion on country's efforts to repatriate capital invested in other countries by its own citizens.*
- d. The GON expenditures for development have increased more rapidly than military expenditures in the past several years, and the Nicaraguan government has stated that one of its basic policies is to allocate 60% of its annual budget to development activities rather than the present 40%. Furthermore, of its present military expenditures approximately 35% are for rural and urban police activities essential for creating the stability necessary for development. Nicaragua is not intervening militarily in other free countries' affairs.
- e. The GON's contribution to the project will be sizeable both during and after loan disbursement. ^{Based on performance} In other AID supported projects it can be assumed that the necessary funds will be forthcoming. A condition precedent in the loan agreement will be assurance that the necessary funds will be forthcoming.
- f. Nicaragua is evidencing progress toward achieving these goals. See Program Memorandum of 1967 for detail.
- g. Nicaragua is adhering to the principles of the Act of Bogota and the Charter of Punta del Este. See Program Memorandum of 1967 for detail.
- h. Nicaragua is responding to the vital economic, political, and social concerns of its people, and is demonstrating a clear determination to take effective self-help measures as demonstrated by such programs as tax reform, agrarian reform, rural credit, a government family planning program, etc.
2. Through the provision of political stability, economic growth and a favorable climate for private investment Nicaragua is making efforts to repatriate capital invested in other countries by its citizens.

Relations With U. S. and Other Nations

3. FAA §.620(c). *If assistance to a government, existence of indebtedness to a U. S. citizen for goods or services furnished or ordered where such citizen has exhausted available legal remedies, debt is not denied or contested by such government or indebtedness arises under an unconditional government guaranty.* 3. Such situation is not known to exist at this time.
4. FAA §.620(d). *If assistance for any productive enterprise which will compete in the U. S. with U. S. enterprise, existence of agreement by the recipient country to prevent export to the U. S. of more than 20% of the enterprise's annual production during the life of the loan.* 4. No productive enterprise which will compete with U.S. private enterprise in the U.S. is being financed by this project.
5. FAA §.620(e)(1). *If assistance to a government, extent to which it (including government agencies or subdivisions) has taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U. S. citizens or entities beneficially owned by them without taking steps to discharge its obligations.* 5. The actions mentioned herein are not known to have been taken by Nicaragua.
6. FAA §.620(j). *Information whether the country permits, or fails to take adequate measures to prevent, the damage or destruction, by mob action, of U. S. property.* 6. Such actions have not been permitted and adequate measures have been taken to prevent them.

6. FAA §.620(l). *Consideration which has been given to denying assistance to a government which after December 31, 1966, has failed to institute the investment guaranty program for the specific risks of inconvertibility and expropriation or confiscation.*
7. The Investment Guaranty Program has been in effect in Nicaragua since 1958. In May, 1966, the GON officially extended the Nicaraguan participation to also include the specific risks of inconvertibility and expropriation or confiscation.
8. FAA §.620(o). *If country has seized, or imposed any penalty or sanction against, any U. S. fishing vessel on account of its fishing activities in international waters, consideration which has been given to denying assistance.*
8. These measures have not been known to have been taken by Nicaragua.
9. FAA §.620(q). *Existence of default under any FAA loan to the country.*
9. Nicaragua is not in default under any Foreign Assistance Act Loans.
10. FAA §.620(t). *Prohibition on aid if country has severed diplomatic relations with U. S., unless agreements have been negotiated after resumption of relations.*
10. Nicaragua has not severed diplomatic relations with U. S.
11. FAA §.620(u). *Status of the country on delinquent U. N. obligations.*
11. The GON is not known to be delinquent on any of its U. N. obligations.
12. FAA §.209. *Information about multilateral assistance being furnished to the country.*
12. Multilateral assistance is being furnished to Nicaragua through CABEL, the IDB, the IBRD and the United Nations.

13. FAA §.620(a); App. § 107(a) and (b). 13. The GON has taken steps to prevent ships or aircraft under its registry from engaging in Cuba trade. Indications are that the GON will continue to comply with this Section.
- Compliance with prohibitions against assistance to Cuba and any country (a) which furnishes assistance to Cuba or failed to take appropriate steps to prevent ships or aircraft under its registry from carrying equipment, materials, or supplies from or to Cuba; or (b) which sells, furnishes, or permits any ships under its registry to carry items of primary strategic significance, or items of economic assistance, to Cuba.*
14. FAA §.620(b). 14. The Secretary of State has determined that Nicaragua is not controlled by any Communist movement.
- If assistance to a government, existence of determination it is not controlled by the international Communist movement.*
15. FAA §.620(i). 15. Nicaragua has not participated nor, according to the information available, does it intent to participate in any such conference.
- Information on representation of the country at any international conference when that representation includes the planning of activities involving insurrection or subversion against the U. S. or countries receiving U. S. assistance.*
16. FAA §.620(n); App. 107(b) and 116. 16. Based on information available, there is no indication of traffic or trade between Nicaragua and North Viet-Nam.
- Compliance with prohibition against assistance to countries which traffic or permit trafficking with North Viet-Nam.*

Military Expenditures

17. FAA §.620(i). 17. The President has not determined that the GON is engaged in or preparing for aggressive military efforts.
- Existence of determination that the country is engaging in or preparing for aggressive military efforts.*

18. FAA §.620(e). *Information and conclusion whether country is devoting unnecessary percentage of budget for military purposes and using foreign exchange for military equipment.*
19. App. §.119. *Information on reduction in assistance by amounts spent by country for the purchase of sophisticated military equipment.*
18. The GON spent approximately 11% of its budget in 1967 for what AID terms military expenditures. However, of this amount approximately 35% was for rural and urban police forces. Thus it can be concluded that the country is not devoting an unnecessary percentage of its budget for military purposes. Furthermore, most of its military expenditures are for salary and current costs with a relatively small foreign exchange expenditure for equipment.
19. The GON has not purchased sophisticated military equipment.

CONDITIONS OF THE LOAN

General Soundness

20. FAA §.201(d). *Information and conclusion on legality (under laws of country and U. S.) and reasonableness of lending and relending terms of the loan.*
20. Lending and relending terms are consistent with United States and Nicaraguan laws and are considered reasonable.
21. FAA §.251(b)(2); §.251(e). *Information and conclusion on activity's economic and technical soundness, including information on availability of an application together with assurances to indicate that funds will be used in an economically and technically sound manner.*
21. An application has been received and the activity has been studied and planned by the GON. Past experience with the GON and review of the plans for the project provide sufficient assurance that funds will be used in an economically and technically sound manner.
22. FAA §.251(b). *Information and conclusion on capacity of the country to repay the loan, including reasonableness of repayment prospects.*
22. The GON is not in arrears on other international obligations and foreign public debt remains small in relation to the country's GNP and foreign exchange earnings. Therefore there are good prospects of repayment.

23. FAA §.611(a)(1). Information and conclusion on availability of engineering, financial, and other plans necessary to carry out the assistance and of a reasonably firm estimate of the cost to the U. S. of the assistance.
23. Preliminary engineering plans, specifications and cost estimates and detailed financial projections have been prepared and were the basis of the data in this paper.
24. FAA §.611(a)(2). If legislative action is required within recipient country, basis for reasonable anticipation such action will be completed in time to permit orderly accomplishment of purposes of loan.
24. Additional legislation is not required in order to execute this project as planned.
25. FAA §.611(e). Compliance with requirement that Mission Director certify, with respect to projects estimated to cost over \$1 million, as to the country's capability effectively to maintain and utilize the project.
25. Certification from the Director of USAID/Nicaragua is attached(Annex I, Exhibit 3) Signature of the Loan Authorization will constitute AID/W approval of that certification.
26. FAA §.251(b). Information and conclusion on availability of financing from other free-world sources, including private sources within the United States.
26. Notification of non-interest have been received from the IDB, IBRD, and the EX-IM and it has been concluded that because of the concessional terms required by the project no private sources within the United States would be interested.

Loan's Relationship to Achievement of Country and Regional Goals

27. FAA §.207; §.251(a). Extent to which assistance reflects appropriate emphasis on:
- a. Encouraging development of democratic economic, political, and social institutions.
- a. The self-help and community development aspects of this project will encourage the development of democratic grass-roots institutions.

- b. *Self-help in meeting the country's food needs.* b. Since an important part of this project is concentrated on raising the standard of health in the rural sector, there should be some indirect effects in increasing food production.
- c. *Improving availability of trained manpower in the country.* c. The "Obligatory Social Service Law" and Ministry of Health training aspects of this project will increase the availability of trained manpower in the country.
- d. *Programs designed to meet the country's health needs.* d. This project's purpose is to raise the standard and availability of health services to the general Nicaraguan population.
- e. *Other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and voluntary agencies; transportation and communication; planning and public administration; urban development; and modernization of existing laws.* e. This project will have positive effects on the modernization of existing laws, on the use of voluntary personnel, on planning and public administration and on socio-economic development in general.
28. *FAA §. 251(b)(3). Information and conclusion on activity's relationship to and consistency with other development activities, and its contribution to realizable long-range objectives.* 28. This activity is an integral part of the USAID and GON Health programs and is aimed at raising the standard of living in the urban and rural areas and the development of the health sector.
29. *FAA §. 251(b)(7). Information and conclusion on whether or not the activity to be financed will contribute to the achievement of self-sustaining growth.* 29. Through assisting in the development and improvement of the health sector the activity to be financed will contribute to the achievement of self sustaining growth.

30. FAA §.281(a). *Extent to which the loan will contribute to the objective of assuring maximum participation in the task of economic development on the part of the people of the country, through the encouragement of democratic private and local governmental institutions.*
30. The loan project will encourage maximum participation of community and local government institutions.
31. FAA §.281(b). *Extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civic education and training in governmental skills.*
31. The project is a direct response to a need and desire of the people of Nicaragua for a better standard of living, and utilizes the country's intellectual resources to encourage institutional and civic development.
32. FAA §.601(a). *Information and conclusions whether loan will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.*
32. The project will contribute favorably to each of these goals with the exception of (c) savings and loan associations and (f) labor unions, which are not applicable to this sector of the population in Nicaragua.
33. FAA §.619. *Compliance with requirement that assistance to newly independent countries be furnished through multilateral organizations or plans to maximum extent appropriate.*
33. Nicaragua is not a newly independent country.

34. FAA §.251(h): *Information and conclusion on whether the activity is consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress in its review of national development activities.*
35. FAA §.251(g). *Information and conclusion on use of loan to assist in promoting the cooperative movement in Latin America.*
36. FAA §.209; §.251(b)(8). *Information and conclusion whether assistance will encourage regional development programs, and contribute to the economic and political integration of Latin America.*
34. This activity is consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress in its review of national development activities.
35. This loan will indirectly assist in the development of the cooperative movement because of the self-help component of the program which should stimulate some cooperative organization.
36. The improvements which are expected to result from this project should have a favorable impact on the economic and political integration of Latin America.

Loan's Effect on U. S. and A.I.D. Program

37. FAA §.251(b)(4); §.102. *Information and conclusion on possible effects on U. S. economy, with special reference to areas of substantial labor surplus, and extent to which U. S. commodities and assistance are furnished in a manner consistent with improving the U. S. balance of payments position.*
38. FAA §.601(b). *Information and conclusion on how the loan will encourage U. S. private trade and investment abroad and how it will encourage private U. S. participation in foreign assistance programs (including use of private trade channels and the services of U. S. private enterprise).*
37. This loan project will have a favorable impact on the U. S. economy in that 32% of the goods and materials financed thereunder will be from the U. S., and will be in addition to regular purchases in past years.
38. The portion of loan funds used for the procurement of U. S. goods and materials will encourage U. S. private trade in Nicaragua.

39. FAA §.601(d). *If a capital project, compliance with the Congressional policy that engineering and professional services of U. S. firms and their affiliates are to be used in connection with capital projects to the maximum extent consistent with the national interest.*
39. There will be no financing of engineering or professional services with loan funds.
40. FAA §.602. *Information and conclusion whether loan will permit U. S. small business to participate equitably in the furnishing of goods and services financed by it.*
40. AID's regulations governing small business notification for commodity procurement will be complied with where applicable.
41. FAA §.620(h). *Compliance with regulations and procedures adopted to ensure against use of assistance in a manner which, contrary to the best interests of the U. S., promotes or assists the foreign aid projects or activities of the Communist-Bloc countries.*
41. Assistance provided by this loan will not be used in a manner which promotes or assists foreign aid projects or activities of the Communist-Bloc countries.
42. FAA §.621. *Information and conclusion on how the loan in providing technical assistance will utilize to the fullest extent practicable goods and professional and other services from private enterprise on a contract basis. If the facilities of other Federal agencies will be utilized, information and conclusion on whether they are particularly suitable, are not competitive with private enterprise, and can be made available without undue interference with domestic programs.*
42. There will be no technical assistance financed with loan funds.

43. FAA §.252(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources.
43. Almost 100% of loan funds will go to private enterprises either through materials and good procurement or through construction contracts.

Loan's Compliance with Specific Requirements

44. FAA §.608(a). Information on measures to be taken to utilize U. S. Government excess personal property in lieu of the procurement of new items.
44. U. S. Government excess property will be procured when possible. It is contemplated however, that because of the nature of the project and the use of private contractors for its execution that little excess property will be procured.
45. FAA §.604(a); App. §.108. Compliance with restriction of commodity procurement to U. S. except as otherwise determined by the President and subject to statutory reporting requirements.
45. Commodity procurement under the loan shall be from the U. S. and will be so specified in the loan agreement.
46. FAA §.604(b). Compliance with bulk commodity procurement restriction to prices no higher than the market price prevailing in the U. S. at time of purchase.
46. No bulk commodity purchases are contemplated under the loan.
47. FAA §.604(d). Compliance with requirement that marine insurance be placed in the U. S. on commodities financed by the loan if the host country discriminates against U. S. companies.
47. This regulation will be complied with. The loan agreement will contain a clause so specifying.

48. FAA §.604(e). *Compliance with requirement that funds not be used for procurement of any agricultural commodity or product thereof outside the U. S. when the domestic price of such commodity is less than parity.*
48. No agricultural commodities or products will be procured with this loan.
49. FAA §.611(b); App. §.101. *If water or water-related land resource construction project or program, information and conclusion on benefit-cost computation.*
49. Not applicable.
50. FAA §.611(c). *Compliance with requirement that contracts for construction be let on competitive basis to maximum extent practicable.*
50. Contracts for construction will be let on a competitive basis, to the maximum extent practicable.
51. FAA §.620(f); App. §.109. *Compliance with prohibitions against assistance to any Communist country.*
51. Assistance provided by this loan will not be furnished to any Communist country.
52. FAA §.620(g). *Compliance with prohibition against use of assistance to compensate owners for expropriated or nationalized property.*
52. Assistance provided by this loan will not be used to compensate owners for expropriate or nationalized property and the loan agreement shall so specify.

53. FAA §.612(b); §.636(h). Steps that have been taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and that foreign currencies owned by the U. S. are utilized to meet the cost of contractual and other services.
54. App. §.102. Compliance with requirement that payments in excess of \$25,000 for architectural and engineering services on any one project be reported to the Congress.
55. App. §.104. Compliance with bar against funds to pay pensions, etc., for military personnel.
56. App. §.106. If country attempts to create distinctions because of their race or religion among Americans in granting personal or commercial access or other rights otherwise available to U. S. citizens generally, application which will be made in negotiations of contrary principles as expressed by the Congress.
57. App. §.111. Compliance with requirements for security clearance of personnel.
58. App. §.112. Compliance with requirement for approval of contractors and contract terms for capital projects.
53. The GON will contribute 65% of the local currency costs during loan disbursement and 100% after loan disbursement to operate and maintain the project. There are no U. S. owned foreign currencies available for the project.
54. This section will be complied with.
55. No loan funds will be used to pay pensions, etc., for military personnel and the loan agreement shall so specify.
56. Nicaragua is not known to make distinctions of the nature indicated, to the best of our knowledge.
57. This section will be complied with.
58. The Loan Agreement will assure compliance with this Section.

59. App. §.114. *Compliance with bar against use of funds to pay U.N. assessments, etc.*
59. Loan funds will not be used to make payments of any kind to the U. S.
60. App. §.115. *Compliance with regulations on employment of U. S. and local personnel for funds obligated after April 30, 1964 (Regulation 7).*
60. This section will be complied with.
61. FAA §.636(i). *Prohibition on financing non-U. S.-manufactured motor vehicles.*
61. Loan funds will not be used to finance non-U. S. manufactured motor vehicles and the loan agreement shall so specify.
62. App. §.401. *Compliance with bar against use of funds for publicity or propaganda purposes within U. S. not authorized by the Congress.*
62. Loan funds will not be used for publicity or propaganda purposes within U. S.
63. FAA §.620(k). *If construction of productive enterprise where aggregate value of assistance to be furnished by U. S. will exceed \$100 million, identification of statutory authority.*
63. Not applicable.

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AID-DLC/P-733/A Draft

ANNEX I, Page 16 of 22
Exhibit 2, Page 1 of 3

DRAFT CAPITAL ASSISTANCE LOAN AUTHORIZATION

Provided from: Alliance for Progress
NICARAGUA: Health Centers--Rural Mobile Health

Pursuant to the authority vested in the Deputy U.S. Coordinator, Alliance for Progress by the Foreign Assistance Act of 1961, as amended, and the delegation of authority issued thereunder, I hereby authorize the establishment of a loan pursuant to Part I, Chapter 2, Title VI, Alliance for Progress, of said Act, to the Republic of Nicaragua ("Borrower") of not to exceed two million and two hundred thousand United States dollars (\$2,200,000) to assist in financing the United States dollar and local currency costs of construction, equipment, materials and medicines for the Borrower's Health Centers--Rural Mobile Health Units Program. This loan shall be subject to the following terms and conditions.

A. Interest and Rate of Repayment

The Borrower shall repay the loan to the Agency for International Development ("A.I.D.") in United States dollars within (40) years from the first disbursement under the loan, including a grace period not to exceed ten (10) years. The Borrower shall pay interest to A.I.D. in United States dollars on the disbursed balance of the loan of two (2) percent per annum during the grace period and two and one-half (2-1/2) percent per annum thereafter.

B. Other Terms and Conditions

- (1) Prior to the first disbursement or the issuance of the first commitment documents under the Loan Agreement the Borrower shall furnish A.I.D., in form and substance satisfactory to A.I.D.;

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- a. A detailed plan of staffing requirements for this project and a description of how these requirements will be met during the loan disbursement period. This plan should include specific detail on the training of required para-medical personnel such as health educators, sanitary inspectors and auxiliary nurses.
 - b. An implementation regulation governing the manner in which medical and para-medical personnel trained at the university level will fulfil their service under the Obligatory Social Service Law of Nicaragua.
- (2) Prior to initiating construction on any individual health center the Borrower shall furnish evidence in form and substance satisfactory to A.I.D., that all necessary legal rights to the land have been obtained.
 - (3) The Borrower shall covenant to provide the financial and human resources necessary to continue to maintain and operate the project after the loan disbursement period; and shall covenant to consult periodically with representatives of A.I.D., or such persons as A.I.D. may nominate, concerning the continuance of the project, during at least the first five years ^{after} the last disbursement under the loan.
 - (4) Equipment, materials and services (except shipping and marine insurance) financed under the loan shall have their origin in and be procured from the United States or Member Countries of the Central American Common Market. Shipping financed under the loan shall be procured from the United States, and marine insurance financed under the loan shall be placed in the United States with a company authorized to do marine insurance business in any state of the United States.
 - (5) Pharmaceuticals to be financed under this loan may be in finished dosage form.

- (6) The loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

Deputy U.S. Coordinator

Date

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ANNEX I , Page 19 of 22
Exhibit 3, Page 1 of 1

CERTIFICATION PURSUANT TO SECTION 611 (e) OF THE
FOREIGN ASSISTANCE ACT OF 1961, AS AMENDED

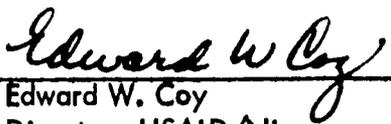
I, Edward W. Coy, the principal officer of the Agency for International Development in Nicaragua, having taken into consideration, among other things, the maintenance and utilization of projects in Nicaragua previously financed or assisted by the United States, do hereby certify that in my judgement Nicaragua has the technical and human resource capabilities to effectively maintain and utilize the Capital Assistance Project, "Health Centers - Rural Mobile Health".

I base this certification in part on the evidence of successful utilization and maintenance of projects already completed such as the Rio Tuma Hydro-electric Project, the First Highway Construction Program, the First School Construction Program and the Las Mercedes Airport, all of which were partially financed by A.I.D.

In the field of public health, which is the subject of this loan, the Ministry concerned has long been cooperating with the U.S. government in a successful, grant-funded Rural Mobile Health Program. The Ministry of Health has also been working successfully with representatives of the United States Public Health Service and the Pan American Health Organization in a program of Malaria Eradication, financed in part with an A.I.D. Loan.

The planning for the subject loan was carried out jointly by Representatives of the Government of Nicaragua and by personnel assigned to USAID/Nicaragua. During this planning the representatives of the Government of Nicaragua, particularly of the Ministry of Health, were made fully aware of their on-going responsibility.

The Government of Nicaragua can be expected to provide the financial, technical and human resources required to maintain and utilize the Health Centers and Rural Mobile Health program financed under this loan.



Edward W. Coy
Director, USAID/Nicaragua

29th May, 1968

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LAW THAT CREATES THE COMPULSORY
SOCIAL SERVICE

The President of the Republic

CONSIDERING:

That it is necessary to bring to all sectors of the Nicaraguan population the services of all newly graduating professionals from medium or high-level schools, through the establishment of a COMPULSORY SOCIAL SERVICE;

CONSIDERING:

That the Compulsory Social Service will give to the graduating students, before they complete their professional career, a better knowledge of the national reality, stimulating their love for the mother land and their social sensibility; and that it will afford them the opportunity to repay with their services to the Nicaraguan people the efforts made by the nation to their formation through the payment of medical taxes and other contributions that help maintain the Centers of Learning;

CONSIDERING

That the National Autonomous University of Nicaragua, our highest center of professional studies, having been consulted about the matter, gave its opinion enthusiastically endorsing the idea and favoring the creation of the Compulsory Social Service considering it as being necessary for the integral development of the country;

THEREFORE:

In conformity with the above considerations and the exercise of the faculty to legislate bestowed upon him by the Legislative Power as per Decree No. 1438 of March 15, 1968, based on the provisions of Articles 150 and 191, par. 9 of the Constitution;

DECREES:

Art. 1.- A Compulsory Social Service is hereby created, that will bind all graduating professionals of intermediate and high level schools, aspiring to a professional degree granted by the State, to give their services.

Art. 2.- The Social Service will consist of work done in the respective field of specialization leading to a degree, work which will be performed at enterprises or services run by public or private agencies, and remunerated according to the respective Regulations that will be elaborated for each professional group.

Art. 3.- The Social Service will be performed for a minimum of ^{months} ~~six~~ a maximum of one year.

Art. 4.- The professional schools of intermediate and higher learning will establish the rules and by-laws that will govern the manner in which their graduating students will lend their social services, with the approval of the Minister of State who has immediate relation to the respective professional group. In case of doubt, the Ministry of Government will be called upon to approve such rules and regulations.

Art. 5.- The Ministry of Government will see to it that this Law and its rules, regulations and by-laws are duly complied with and enforced, and will give to the interested party an affidavit stating that he has fulfilled its obligations under this Law.

Art. 6.- This Law and its rules and regulations will be applied progressively to all professions, and will be initiated with the most urgent ones for the socio-economic development of the different regions of the country, starting with the school year 1968-69.

Be it published, Presidential House, Managua, D. N., April 3, 1968. - A. Somoza

D.- The Minister of Public Education, Ramiro Sacasa Guerrero.

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AID-DC/P-733

ANNEX II Page 1 of 7

Exhibit 1, Page 1 of 3

BIOGRAPHIC INFORMATION ON PRINCIPAL MOH AND CN OFFICERS

A. Ministry of Health

1. Dr. Francisco Urcuyo Maliaño, Minister.

Born: July 30, 1915 - **Education:** Medicine, National Autonomous University of Mexico, 1944 - **Positions Held:** Physician in two hospitals in Costa Rica (1945-1955). President Board of Social Welfare, Pto. Limon, Costa Rica (1948). Honorary positions: President Executive Committee PAHO, 1962; Member, Board of Directors of National Social Security Institute, 1962/3 & 1967. Public positions held: Vice Minister of Health, 1961; Minister of Health, 1962; Ambassador in Guatemala, 1963-1966; Vice President of the Republic of Nicaragua, 1967-1971; Minister of Health since 1967.

2. Dr. Carlos H. Canales Altamirano, Director General of Health.

Born: April 7, 1927 - **Education:** Medicine, National Autonomous University of Nicaragua, 1953; **Master in Rural Health**, University of Puerto Rico, 1957; studies in Mexico and El Salvador on Rural Welfare and Sanitation and on rabbies in Guatemala.- **Positions Held:** Director Health Centers, 1954-1955; Inspector General of Health 1956; Director Local Services 1959; Director General of Health 1964.

3. Dr. Orontes Aviles, Director of Planning.

Born: August 12, 1918 - **Education:** University of Granada, Nicaragua, Medicine, 1946; Master of Public Health, University of Chile, 1958; Bio-statistician, University of Chile, 1959; Codifier - Death causes, Caracas, Venezuela, 1961; Health Planner, CEPAL, Chile, 1962. - **Positions Held:** Vice President Technical Council of Ministry of Public Health (1951); Physician of several insurance companies 1949-1959; Official Mayor of Ministry of Public Health from 1934-1959; Director of Administrative Services of Ministry of Public Health from 1960-1964.

4. Dr. Armando Arce Paiz, Director Health Development.

Born: December 25, 1921 - **Education:** Medicine, Central University of Managua, 1949; Tropical Medicine, Brazil 1952; Surgery practice, Brazil 1952; Sanitation Demonstration & Nutritional Survey, El Salvador; PAHO Scholarship Public Health, Sao Paulo, Brazil; PAHO Scholarship Nutrition and Public Health, Guatemala, 1961. - **Positions Held:** Chief Nutritional Division of Ministry;

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ANNEX II, Page 2 of 7
Exhibit 1, Page 2 of 3

Director Health Development, 1967; Secretary of National Nutrition Committee.

5. Dr. Miguel Sequeira Alvarado, Director Health Protection.

Born: July 17, 1912 - Education: Medicine, University of Granada, 1937; Master of Public Health, University of Puerto Rico, 1962; Epidemiology, University of Puerto Rico, 1962. - Positions Held: Director ONACT Program in Rfo Coco region, Nicaragua, 1962-1964.

6. Dr. Gustavo Tellez Lacayo, Director of Administration

Born: June 7, 1907 - Education: Medicine, National Autonomous University of Nicaragua, 1936; Public Administration, ESAPAC, Costa Rica, 1954. - Positions Held: Several positions within Ministry of Public Health from 1947-1959; Director of Technical Administrative Services since 1959.

7. Dr. Jose Antonio Canton Beer, Director Health Recuperation

Born: July 1, 1928 - Education: Medicine, National Autonomous University of Nicaragua, 1958; Master of Public Health, Johns Hopkins University, Baltimore, Md., 1962; short studies undertaken at Health, Education and Welfare Department, Washington, D.C. (Public Health Administrator), 1962; at Communicable Disease Center in Atlanta, Ga., 1962; Seminar at Michigan State University, 1962; Seminar on Administration in Community Development at AID Washington, D.C. and in Mexico, 1965. - Positions Held: Assistant Director, Thaeler Memorial Hospital in Bilwaskama, Rio Coco, Nicaragua. 1959; Director Health Centers in Waspan, 1956-1962; Director Rio Coco Project, 1962-1963; Director General of PUMAR, 1962-1966. Director General of PUMAR and Director Health Recuperation since 1966.

B. Construcciones Nacionales

1. Ing. Jorge Hayn Vogl, Director.

Born: August 17, 1928 - Education: Civil Engineering, National Autonomous University of Nicaragua; M.S. University of Florida, U.S.A. Positions Held: Chief, Engineering Section of CN from 1954-1958; Director of CN since 1959.

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2. **Ing. Orlando Urroz Manfut, Chief Engineer and Assistant Director.**

Born: July 24, 1928 - **Education:** Civil Engineering, National Autonomous University of Nicaragua; postgraduate studies in Housing at National University of Colombia (CINVA) - **Positions Held:** CN Engineer, 1953-1956; Engineer, Municipal Services, 1956-1960; Chief Engineer and Assistant Director since 1960.

3. **Arq. Ronald Vaca Martínez, Sub-Director.**

Born: August 11, 1932 - **Education:** Architecture, University of Chile. **Positions Held:** Urban designer, 1959-1967. Sub-Director of CN since 1967.

4. **Ing. Julio C. Mendieta M., Engineer of CN.**

Born: April 12, 1926 - **Education:** Civil Engineering, National Autonomous University of Nicaragua; postgraduate studies in Sanitary Engineering at University of Chile. **Positions Held:** Engineer at CN since 1953.

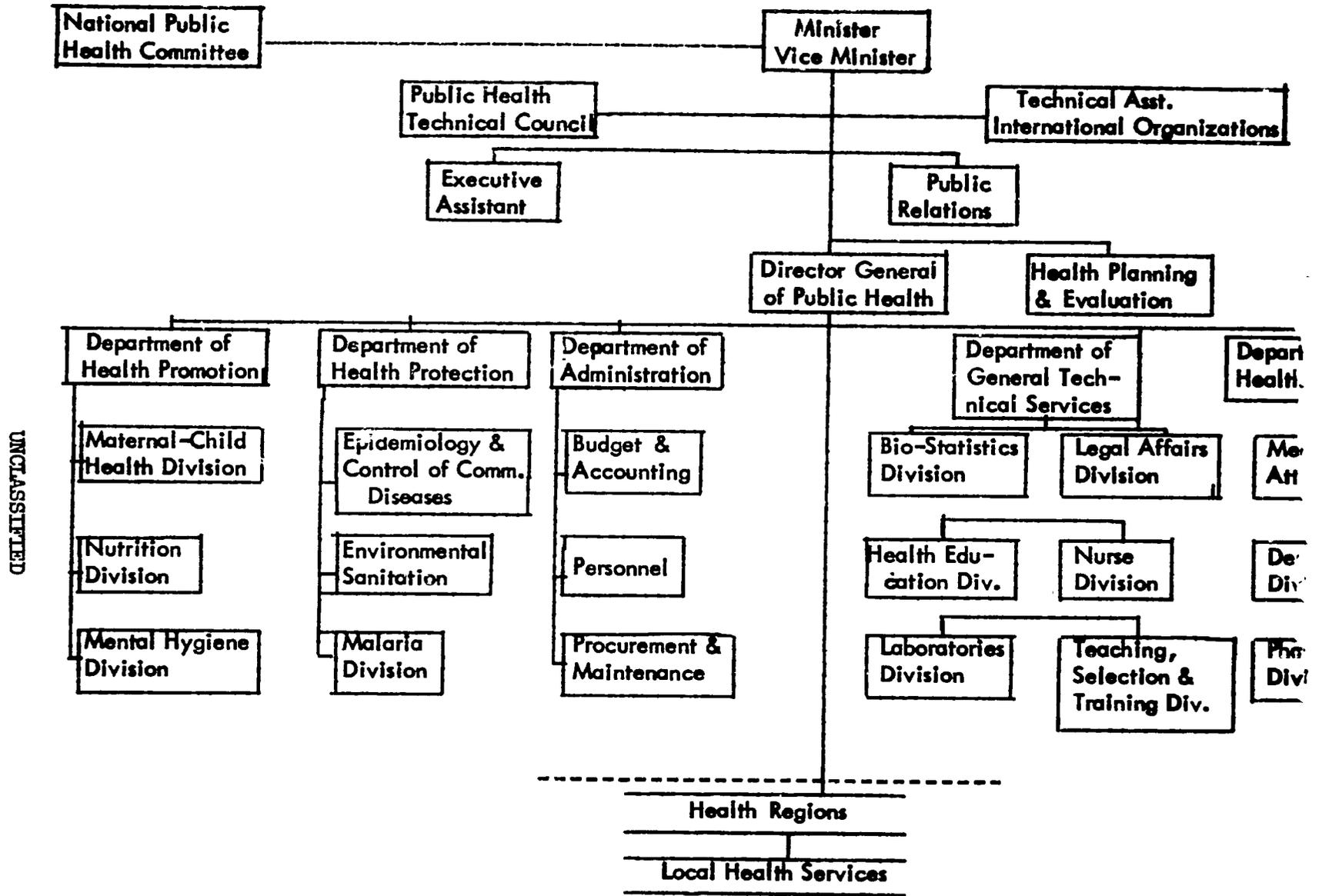
5. **Arq. Fernando Lacayo Argüello, CN Architect.**

Born: September 3, 1927 - **Education:** Architecture, National Autonomous University of Mexico - **Positions Held:** Architect, Office of City Planning and Development, Managua, 1960-1961; CN Architect since 1961.

6. **Reynaldo Tünnemann P., Administrator of CN.**

Born: May 11, 1930 - **Education:** Authorized Public Accountant, Institute of Commercial Sciences; Managua. - **Positions Held:** Chief, Costs and Budgets of CN, 1954-1967. CN Administrator since 1967.

ORGANOGRAM OF THE MINISTRY OF PUBLIC HEALTH



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**BUILDING CONSTRUCTION OF THE
 NATIONAL CONSTRUCTION OFFICE OF THE
 MINISTRY OF PUBLIC WORKS**

Fiscal Year	Educational Buildings	Health Centers	Others
1966	Las Peñitas - Boaco	San Francisco del Norte - Chinandega	Hospital de Jinotega*
	Las Pilas - Leon	Limay*	Hospital de Granada*
	Belén - Boaco		
	Tola - (ampliación)		
	Belén - Rivas (ampliación)		
	Barrio España - Jinotega		
	El Realejo		
	Nandaime		
	Tiptapa (A.I.D.)*		
	Reparto Adela - Granada (A.I.D.)*		
	Barrio Somoza - Rivas (A.I.D.)*		
	Plaza Moncada - Rivas (A.I.D.)*		
	Bo. La Pluebla - Rivas (A.I.D.)*		
	Rubén Darfo - Estelí (A.I.D.)*		
	Bertha Briones - Estelí (A.I.D.)*		
Chichigalpa Sur - (A.I.D.)*			
Chichigalpa Norte (A.I.D.)*			
Corinto - (A.I.D.)*			
Works in progress			
1967	Inst. Juan José Rodríguez - Jinotega	Nandaime	Club de Artesanos - León
	Centro Escolar de Somoto	San Marcos	Edif. Gubernamental Diriomo
	Padre Misieri - Granada	Diriamba	Torre Reloj Público - Somoto
	Las Isletas - Granada	León	Aeropuerto Int. Las Mercedes

Fiscal Year	Educational Buildings	Health Centers	Others
1967	Inst. Nac. de Nueva Segovia Ocotal	La Trinidad	Hospital de Jinotega
	Inst. Nac. El Viejo (ampliación)		Insp. Sanidad Vegetal Peñas Blancas
	Ciudad Darío (ampliación)		
1966	La Trinidad	Santo Tomás	Centro Penal de Rehabilitación Social de Tipitapa
	Inst. Benjamín Zeledón - Jinotega	El Viejo	
	Colonia Tendero - Managua	Cárdenas	Edif. Oficinas Gubernamentales de León
	Ciudad Darío	Masatepe	Parque Municipal Ciudad Darío
	Centro Escolar de Diriamba	Potosí	
	Inst. Rosendo López - Rivas	La Paz Centro	
	Inst. Nac. de Chinandega	Cinco Pinos	
	Panamericana-Managua (ampliación)		
	Inst. Nac. El Viejo (ampliación)		
	Tola - Rivas		
1965	Dolores - Carazo	Ciudad Rama	Insp. de Sanidad Vegetal en el Espino.
	Santa Teresa - Carazo	Moyogalpa	
	Santo Tomás - Chontales	Camoapa	
	Inst. Nacional El Viejo	El Sauce	
	Nindirí - Masaya		
	Casa del Cártero - Managua		
	El Coyolar - León		
	Colonia Nicarao - Managua		
Zaragoza - León			

Fiscal Year	Educational Buildings	Health Centers	Other
1964	Panamericana - Managua Barrio San Luis - Managua Guadalupe - León San Felipe - León Pueblo Nuevo - Estelí El Jicaró - N. Segovia	Ciudad Darío San Rafael del Norte Condega San Carlos Belén	
1963	Centro Escolar de Estelí Inst. Nac. Eliseo Picado - Matagalpa Comalapa La Libertad Inst. Nac. Cristóbal Colón - Bluefields (ampliación) San Felipe - León	Nagarote	Hospicio Zacarías Guerra Hospital de Masaya (ampliación) Cárcel de Mujeres Granada

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R E S U M E

	TYPE I	TYPE II	TYPE III	TYPE SPECIAL	TOTAL
REGION I	5	15	10	2	32
REGION II	3	4	3	-	10
REGION III	1	8	5	-	14
TOTAL	9	27	18	2	56

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NEW HEALTH CENTERS

<u>REGION I.-</u>	<u>TYPE</u>	<u>REGION I.-</u>	<u>TYPE</u>
<u>BOACO</u>		<u>MASAYA</u>	
1.- San José de los Remates	III	21.- Monimbo	I
2.- San Lorenzo	II	22.- Catarina	III
3.- Santa Lucía	III	23.- Niquinohomo	II
4.- Teustepe	II	24.- Tisma	III
		25.- La Concepción	II
<u>CARAZO</u>		<u>RIO SAN JUAN</u>	
5.- Santa Teresa	II	26.- Morrito	III
6.- La Conquista	III	27.- San Miguelito	III
<u>CHONTALES</u>		<u>RIVAS</u>	
7.- La Libertad	II	28.- Altagracia	II
8.- Acoyapa	II		
9.- San Pedro de Lévago	II	<u>ZELAYA</u>	
10.- Santo Domingo	II	29.- Puerto Cabezas	I
11.- Villa Somoza	II	30.- Com Island	III
		31.- Bluefields	I
		32.- Waspam	I
<u>GRANADA</u>		<u>TOTAL REGION I.-</u>	
12.- Granada #1	I	TYPE :.....	I : 5
13.- Diria	II	TYPE.....	II : 15
14.- Diriomo	II	TYPE.....	III : 10
		SPECIAL.....	: 2
			<u>32</u>
<u>MANAGUA</u>			
15.- East Zone Managua	SP.		
16.- West Zone Managua	SP.		
17.- Tipitapa	II		
18.- Mateare	III		
19.- San Rafael del Sur	II		
20.- San Francisco del Camicero	III		

REGION II.-

TYPE

CHINANDEGA

1.- Realejo	III
2.- Somotillo	I
3.- Posoltega	II
4.- Santo Tomás	III
5.- Villanueva	II

LEON

6.- Subtiaba	I
7.- Larreinaga (Malpaisillo)	I
8.- Santa Rosa	III
9.- Telica	II
10.- Achuapa	II

TOTAL REGION II.-

TYPE.....	I	:	3
TYPE.....	II	:	4
TYPE.....	III	:	3
SPECIAL.....		:	0
			<hr/> 10

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REGION III.-

TYPE

ESTELI

- 1.- Condega
- 2.- Pueblo Nuevo

II
II

JINOTEGA

- 3.- Yalí
- 4.- La Concordia

III
II

MADRIZ

- 5.- Palacagüina
- 6.- San José de Cusmapa
- 7.- San Juan del Río Coco

III
III
III

MATAGALPA

- 8.- Matiguas
- 9.- Esquipulas
- 10.- San Isidro
- 11.- Sábaco

I
II
II
II

NUEVA SEGOVIA

- 12.- Murra
- 13.- San Fernando
- 14.- Santa María

II
II
III

TOTAL REGION III.-

TYPE.....	I	:	1
TYPE.....	II	:	8
TYPE.....	III	:	5
SPECIAL.....		:	0
			<u>14</u>

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PLAN OF CO. CONSTRUCTION OF THE HEALTH CENTERS

We consider in order of priority as the first goal, the construction of those buildings where the health centers are rented and total 19, listed as follows:

<u>Department</u>	<u>Local Service</u>	<u>Type</u>
CARAZO	Santa Teresa	II
CHONTALES	Santo Domingo	II
	La Libertad	II
GRANADA	Granada #1	I
	Dirid	II
MANAGUA	Oriental Zone	Special
	Western Zone	Special
	Tipitapa	II
	Mateare	III
	San Rafael del Sur	II
MASAYA	Monimbó	I
MIVAS	Altagracia	II
ZELAYA	Puerto Cabezas	I
	Corn Island	III
CHINANDEGA	Realejo	III
LEON	Subtlava	I
ESRELI	Condega	II
	Pueblo Nuevo	II
ENOTESA	Yalí	III

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Second priority will be to construct the health centers that are old and in bad condition, listed as follows:

<u>Department</u>	<u>Local Service</u>	<u>Type</u>
Chinandega	Somotillo	I
MATAGALPA	Matiguás	I
ZELAYA	Bluefields	I
	Waspan	I

3. This priority is to construct health centers at the "Cabeceras Municipales" where no health services do exist and which are 33, listed as follows:

<u>Department</u>	<u>Local Service</u>	<u>Type</u>
BOACO	San José	III
	San Lorenzo	II
	Santa Lucía	III
	Teustepe	II
CARAZO	La Conquista	III
CHONTALES	Acoyapa	II
	San Pedro de Lóvago	II
GRANADA	Díriomo	II
MANAGUA	San Francisco Carnicero	III
MASAYA	Catarina	III
	Niquinohomo	II
	Tisma	III
	La Concepción	II

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SAN JUAN	Morrito	III
	San Miguelito	III
CHINANDEGA	Posoltega	II
	Santo Tomás	III
	Villanueva	II
LEON	Larreynaga (Malpaisillo)	I
	Santa Rosa	III
	Telica	II
	Achuapa	II
JINOTEGA	La Concordia	II
MADRIZ	Palacaguina	III
	San José de Cusmapa	III
	San Juan del Río Coco	III
MATAGALPA	Sébaco	II
	San Isidro	II
	Esquipulas	II
Nueva Segovia	San Fernando	II
	Santa María	III
	Murra	II

OBSERVATIONS:

1. In the city of Managua where seven Health Centers are actually functioning, three of them will be eliminated in the eastern part of the city and three in the western part, two special health centers will have to be built for each respective zone, leaving only the Central Health Center functioning as Regional Type.

NOT APPROVED

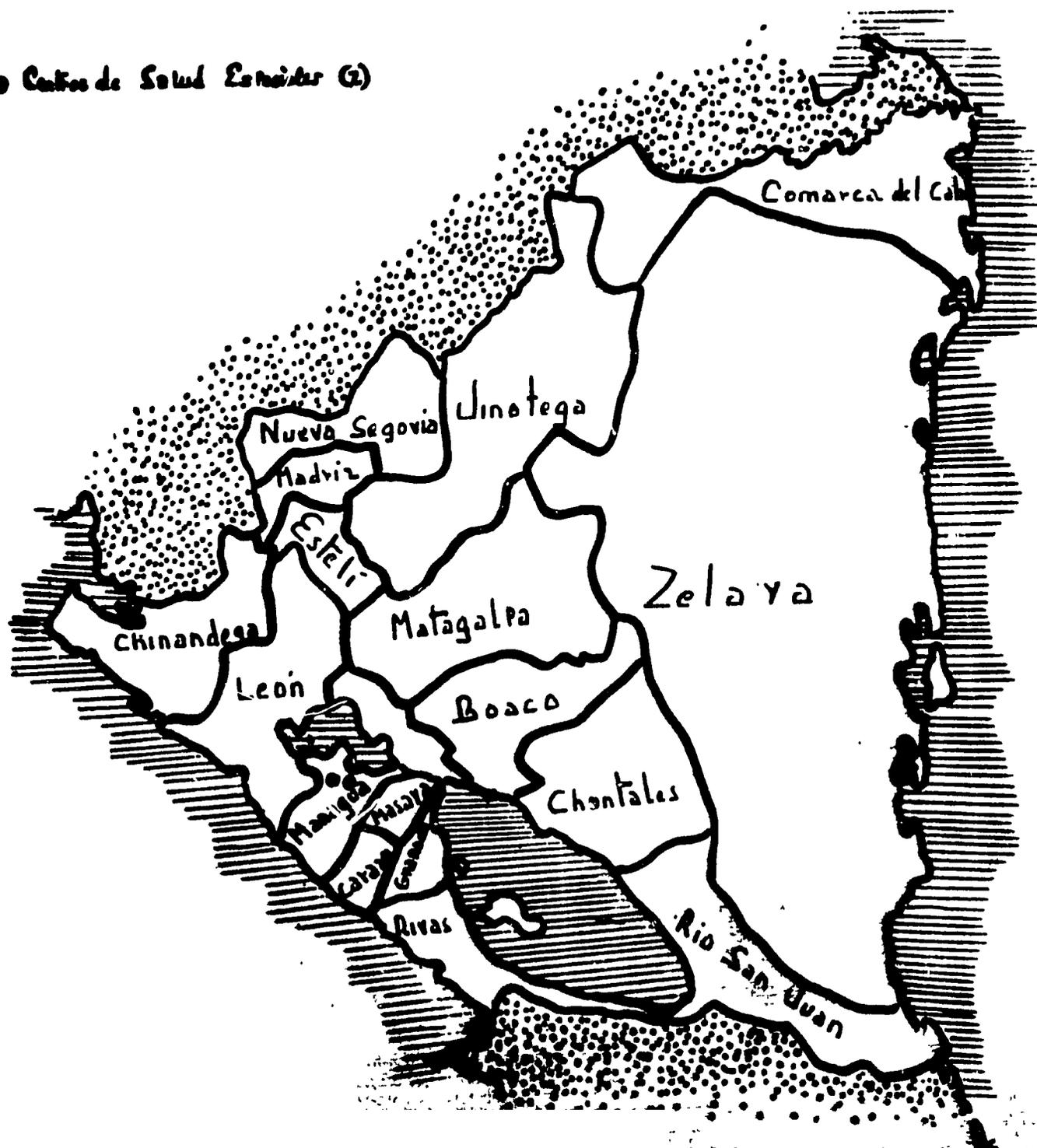
2. Of the seven Health Centers budgeted to be constructed in 1968 three of them are functioning as follows: Chichigalpa, San Juan del Sur y Limay.

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REPUBLICA DE NICARAGUA

DIVISION POLITICA

● Centros de Salud Exister (2)



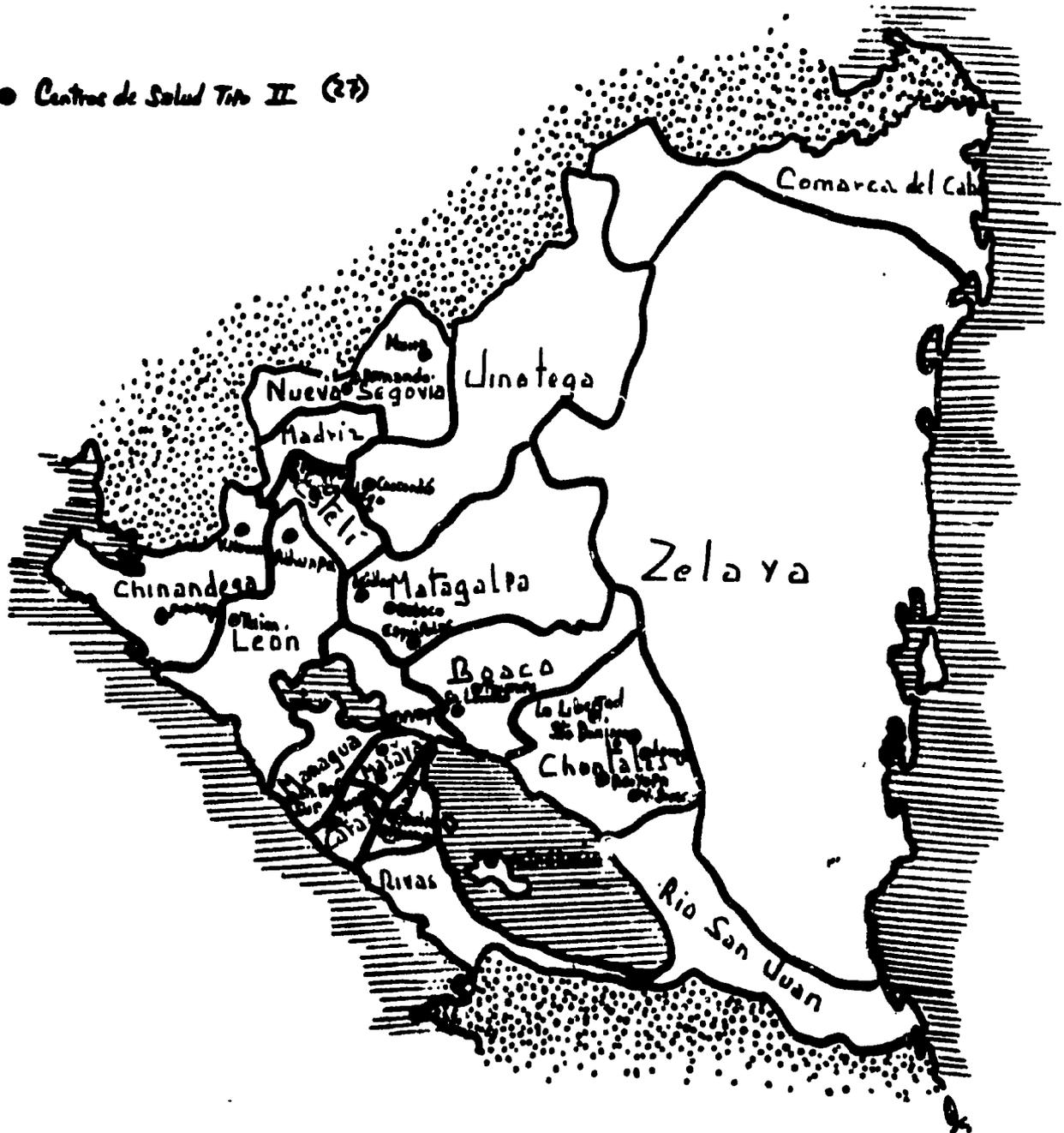
DIVISION POLITICA

● Catedral de San Juan I (9)



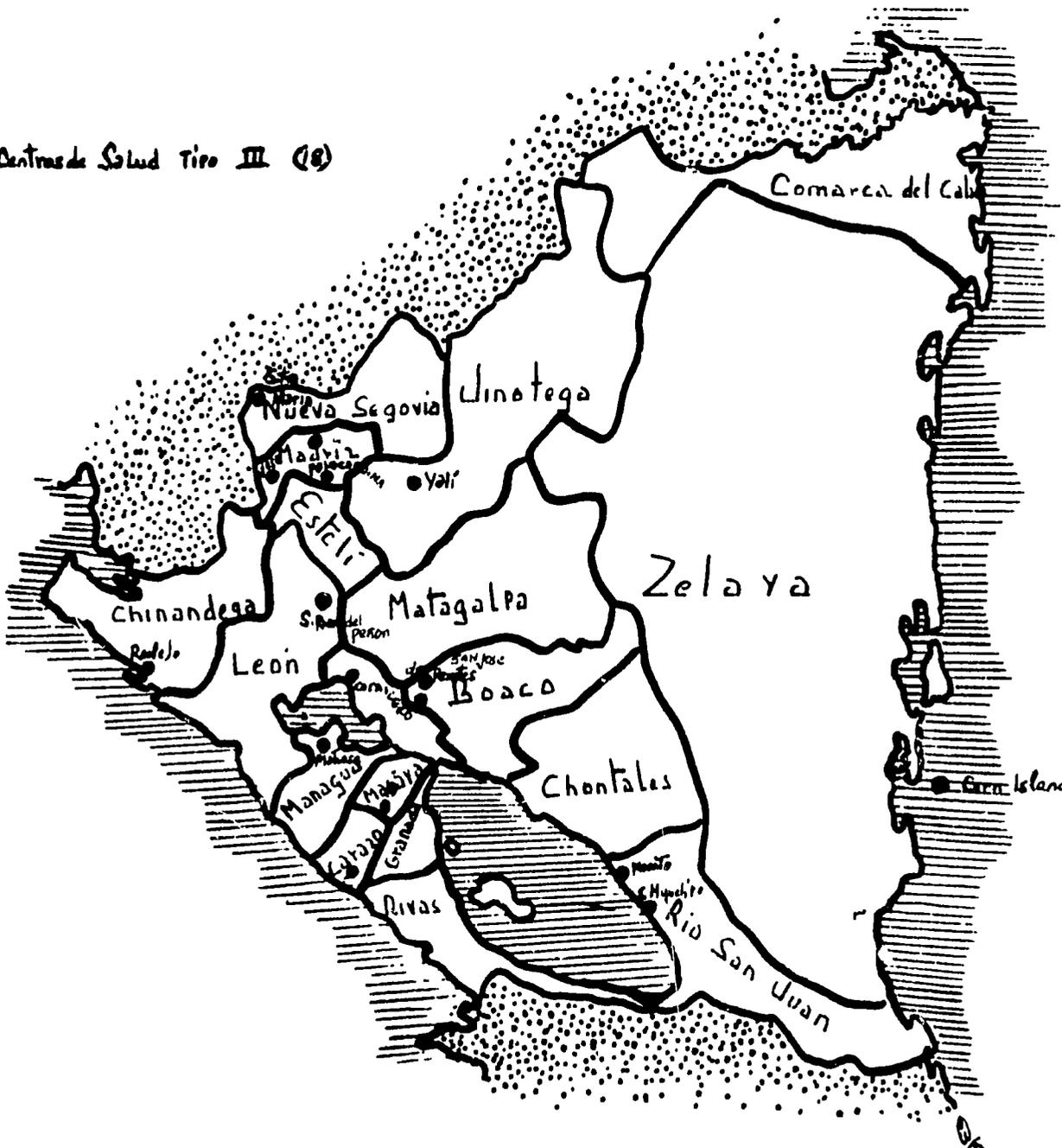
MAPA N° 2
REPUBLICA DE NICARAGUA
DIVISION POLITICA

● Centros de Salud Tipo II (27)



MAPA N° 2
REPUBLICA DE NICARAGUA
DIVISION POLITICA

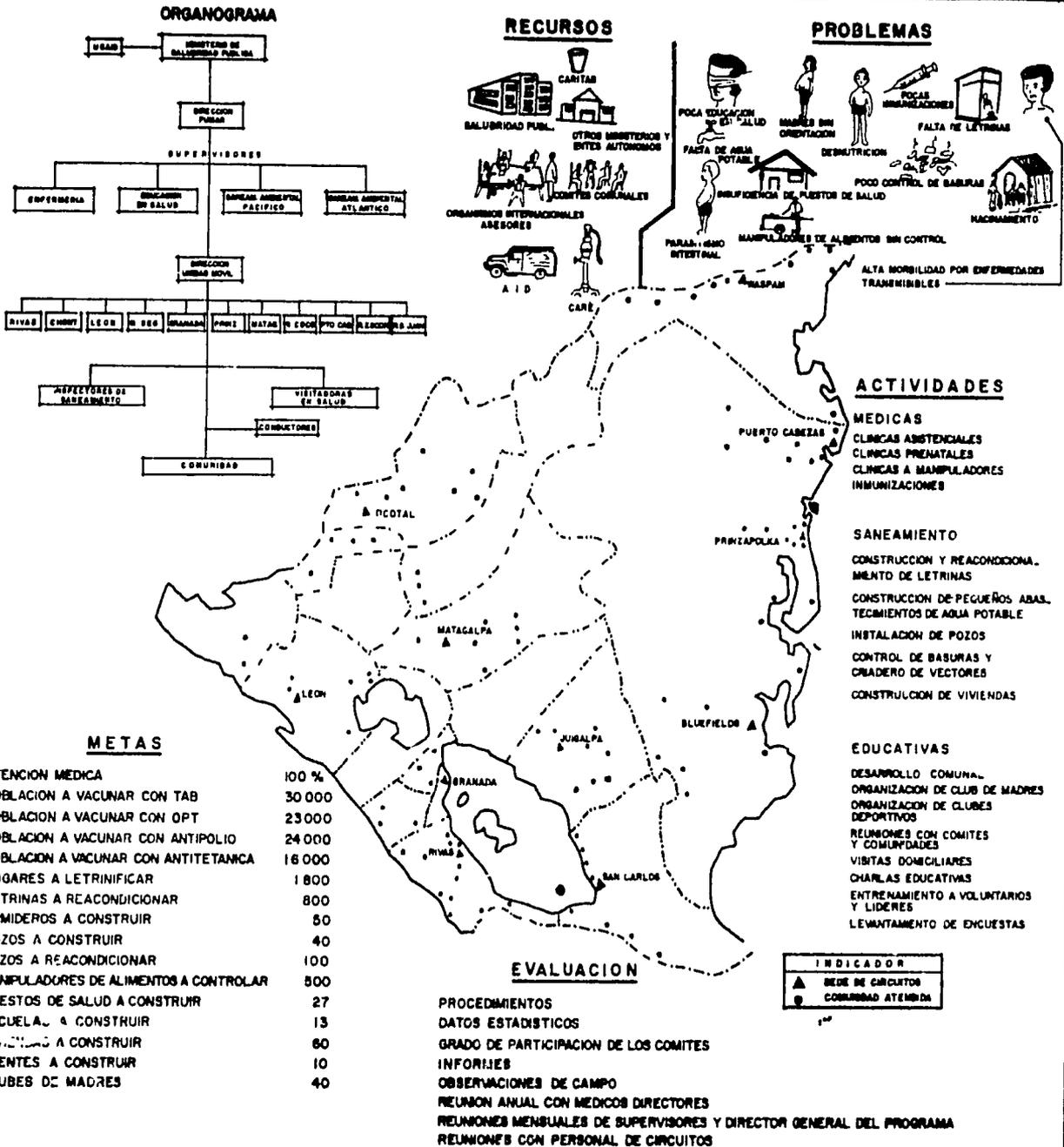
● Centros de Salud Tipo III (8)



AÑO RUBEN DARIO

PROGRAMA DE UNIDADES MOVILES PARA AREAS RURALES-PUMAR

PLAN DE TRABAJO PARA 1967



POBLACION BENEFICIADA POR EL PROGRAMA: 300.000

**BUDGET AND TOTAL
EXPENDITURE FOR PAST 5 YEARS**

P U M A R		Health Centers
CON tribution	AID Contribution	
0,000	\$ 175,740	\$ 672,600
1,428	\$ 225,000	\$ 896,214
3,038	\$ 221,000	\$ 916,731
3,400	\$ 126,457	\$ 972,145
7,600	\$ 118,300	\$ 1,018,529
7,600	\$ 47,600	\$ 1,160,289

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ANNEX IV, Page 2 of 2
Exhibit 2, Page 1 of 1

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ANNEX III, Page 14 of 25
Exhibit 5, Page 1 of 1

CRITERIA FOR SITE SELECTION OF THE HEALTH CENTERS

- I. The lots for the Health Centers should have the following characteristics:**
 - a. Located in or at the edge of the town it would serve, within easy reach for the users of the center and for the transportation of materials.**
 - b. Adequate in size in order to have an appropriate orientation of the building for climatic conditions, and easy entrance.**
 - 1. For the Centers of the Type I the minimum area required will be 1200 sq. m., with a minimum dimension of 30 m.**
 - 2. For the Centers Type II and Type III the minimum area will be 600 sq. m. with a minimum dimension of 18 m.**
 - c. The lot should not have a slope greater than 3% on its larger dimension. In general it should be reasonably level so as to avoid excessive earthwork.**
 - d. It should have adequate drainage for storm water.**
 - e. The resistance of the soil should be in accordance with the type of structure to be built.**

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**HEALTH
MENT PROJECTS**

1965	1966	1967
35	43	32
41	32	27
16	13	6
2	—	4
2	—	
43	41	55
38	129	128

IFIED

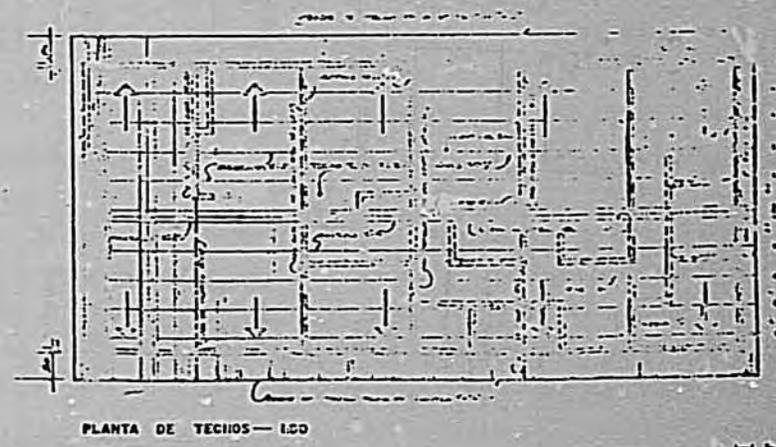
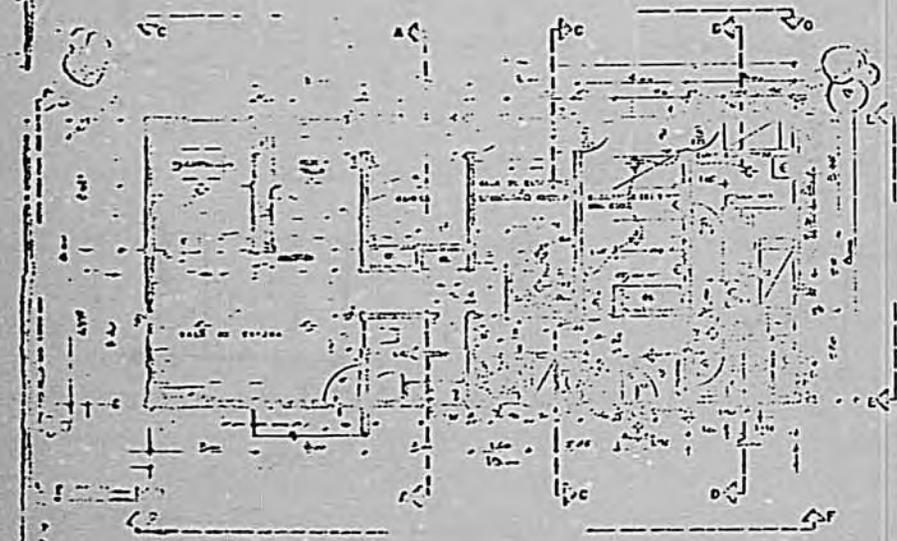
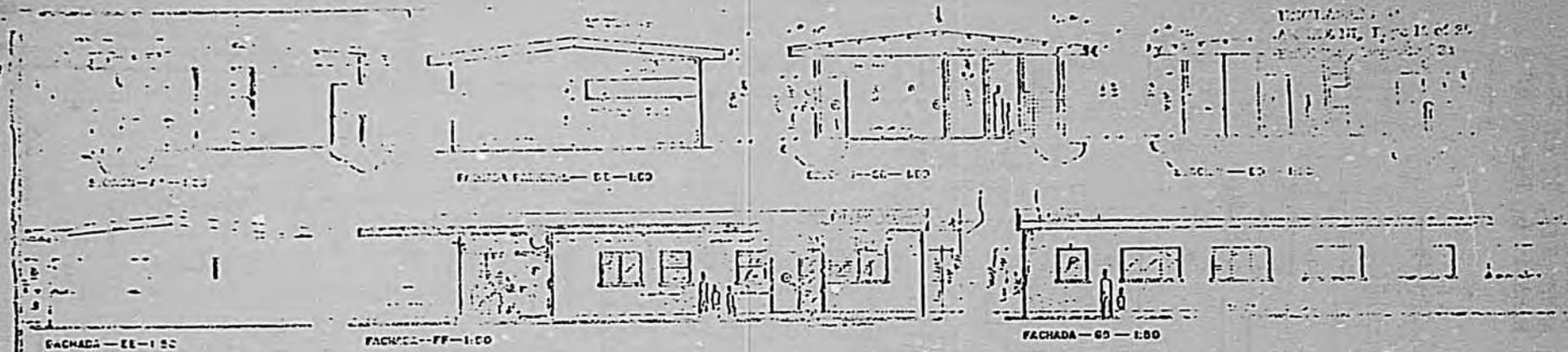
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AID-MIC/P-733
ANNEX V, Page 1 of 2
Exhibit 1, Page 1 of 1

MOBILE HEALTH OPERATIONS

	1966	1967	TOTALS
	90,664	74,133	380,550
	105,085	184,885	373,444
	6,463	3,977	25,220
	42,867	50,884	169,322
	961	1,005	3,519

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ANNEX V, Page 2 of 2
Exhibit 2, Page 1 of 1



UBICACION SANITARIA TIPO II

PLANTA AMPLIADA
 ESCALA 1/2000
 DISEÑADA POR MANUEL GARCIA
 Y MANUEL PEREZ LEON
 EN EL AÑO 1930

MINISTERIO DE FOMENTO

DETAILED COST BREAKDOWN FOR HEALTH CENTERS

A. Construction of New Health Centers

1969 20 Centers
 1970 20 Centers
 1971 16 Centers

Type I	9	\$ 24,020 ea.	\$ 216,180
Type II	27	11,500 ea.	310,000
Type III	18	8,915 ea.	160,470
Specials	<u>2</u>	156,215 ea.	<u>312,430</u>
Total	56		Total U.S.\$999,580

B. Equipment Imported from the U.S.

Type I	9	\$ 7,142 ea.	\$ 64,285
Type II	17		

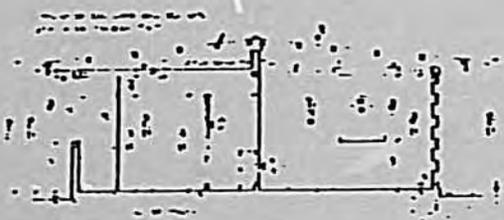
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ANNEX III, Page 17 of 25
Exhibit 6, Page 3 of 3



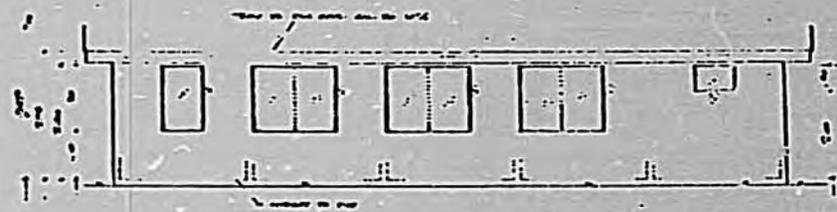
SECCION (A) - Esc. 1:50



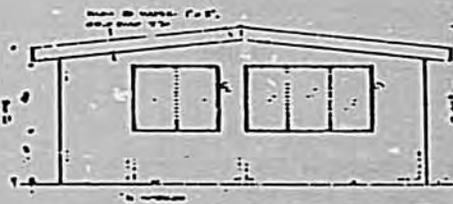
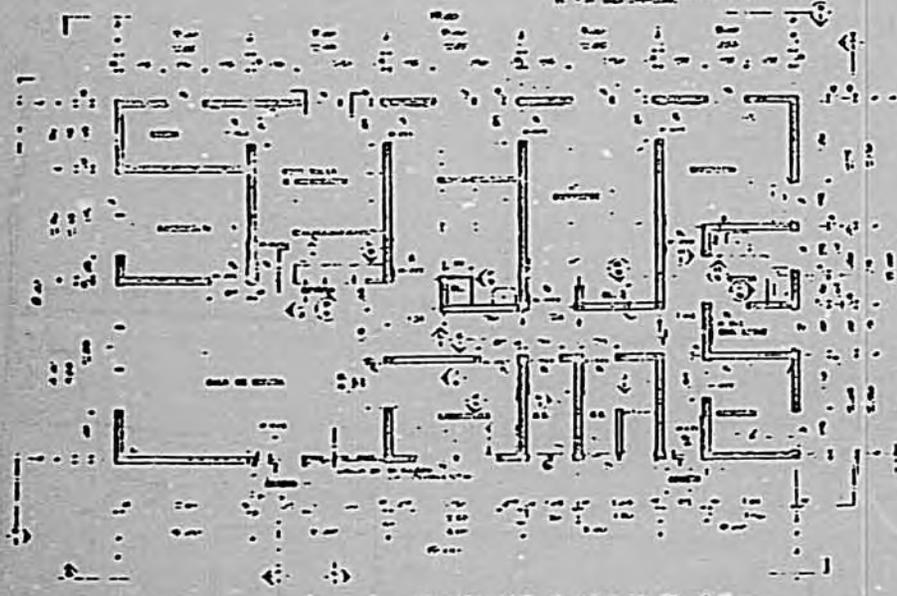
ELEVACION (C) - Esc. 1:50



SECCION (B) - Esc. 1:50



ELEVACION (D) - Esc. 1:50



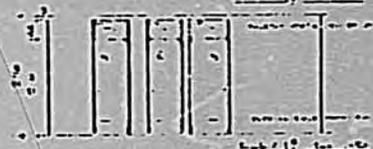
ELEVACION (E) - Esc. 1:50



ELEVACION (F) - Esc. 1:50



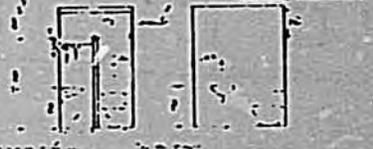
ELEVACION (G) - Esc. 1:50



ELEVACION (H) - Esc. 1:50



ELEVACION (I) - Esc. 1:50



ELEVACION (J) - Esc. 1:50

E. Ocean freight

30 vehicles US\$ 15,000

F. Type and number of centers to be built each year.

<u>Type</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>Total</u>
I	5	3	1	9
II	10	10	7	27
III	5	5	8	18
Specials	-	2	-	2
Total	20	20	16	56

G. Personnel cost accumulated per Center

Staff teams	1969	1970	1971	Total
-------------	------	------	------	-------

AREA ESTIMATE OF THE HEALTH CENTER
 TO BE BUILT IN MANAGUA

SPECIAL TYPE

1. ADMINISTRATION:

Director	. . . . .	10 m2
Secretary's Office	. . . . .	7 "
Warehouse	. . . . .	9 "
Admission room	. . . . .	15 "
Toilet room	. . . . .	3 "
Cleaning room	. . . . .	3 "
		<hr/>
Sub-total		47 m2

2. MATERNAL CHILD-HYGIENE, ODONTOLOGY AND FAMILY WELFARE

Nutritional recuperation room (30 children)	. . . . .	60 m2
Weight and height	. . . . .	15 "
Admission and control	. . . . .	8 "
3 Medical clinics	. . . . .	36 "
2 Examining rooms	. . . . .	28 "
Immunization room	. . . . .	15 "
2 Dental Consultation rooms	30 "
Dental X ray	4 "
Toilet and closet room	4 "
Waiting room	<u>48 "</u>
		<hr/>
Sub-total		248 m2

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Annex VI, Page 3 of 47

Exhibit 1, Page 3 of 3

I. (Continued)

<u>Type</u>	<u>Centers</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>Accumulated Total</u>
I	9	5	3	1	22 MR/year
II	27	10	10	7	57 MR/year
III	18	5	5	8	33 MR/year
Special	2	-	2	-	4 MR/year
	<u>56</u>				<u>116</u>

J. Accumulated cost for maintenance and repair per year.

<u>Years</u>	<u>Type</u>	<u>Cost per year</u>	<u>Total</u>
22 MR/year	I	4,286	94,292
57 MR/year	II	3,943	224,751
33 MR/year	III	3,428	113,130
4 MR/year	Special	8,571	34,284
			<u>472,457</u>

3. CONTROL OF TRANSMISSIBLE DISEASES

2 Medical consultation rooms	24 m2
Injection room	12 "
Admission and file room	12 "
Toilet room	9 "
Waiting room	48 "
Sub-total	<u>105 m2</u>

4. TUBERCULOSIS CONTROL

Medical consultation room	13 m2
X- Ray room with machine, toilet room and files	40 "
Admission room files and secretary's office	18 "
Waiting room for 30 persons	38 "
Toilet room	<u>8 "</u>
Sub-total	117 m2

5. LABORATORY

Parasitology, bacteriology, clinical examination room	30 m2
Special samples	7 "
Serology	9 "
Sterilization	<u>5 "</u>
Sub-total	51 m2

6. REGIONAL DIRECTION

Regional Direction	16 m2
Secretary's office	9 "

**MEDICINES AND MEDICAL EQUIPMENT REQUIREMENTS
FOR
MOBILE HEALTH RURAL PROGRAM - 1st Year**

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
1	1,052 bot.	Aspirin tablets, USP, 5 gr. 1000 per bottle.	1.00	1,052.00
2	1,110 bot.	Aspirin tablets, USP, 1 gr. 1000 per bottle (Squibb).	0.79	876.90
3	220 amp.	Adrestat (F) injection, each 5cc.of Adrestat (F) aqueous solution contains 5 mg.of adrenochrome semi-carbazone (as 130 mb. Calbazochrome salicylate); 5.0 mg. sodium menadiol dihydrogenate (Vitamin K analogue)	3.52	774.40

6. Continued

Statistics	.....	9 "
Files	.....	6 "
Supervisor's office (regional nurse, Health educators, sanitary supervisors)	.....	21 "
Planning Office (15 persons)	.....	40 "
Auditorium (120 persons with projection room)	.....	170 "
Toilet rooms	.....	<u>11</u> "
Sub-total		282 m2

7. ENVIRONMENTAL SANITATION

Sanitary Engineers Office	.....	12 m2
Chief Inspectors	.....	9 "
Inspectors room (20 inspectors)	.....	<u>38</u> "
Sub-total		59 m2

8. NURSING AND EDUCATION

Office for two nurses	.....	18 m2
Room for 20 auxiliary nurses	.....	38 "
Health educator's office	.....	12 "
Toilet room	.....	<u>6</u> "
Sub-total		74 m2

9. NUTRITIONAL DEPARTMENT

Nutritionist's office	12 m2
Secretary's office and files	<u>9</u> "
Sub-total		21 m2

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Annex VI, Page 5 of 47

Exhibit 2, Pag. 2

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
9	2,175 vials	Bezathine Penicillin G.USP injection each dose to combine 600,000 units of benzathine penicillin G. 300,000 units of potassium penicillin G. Dry powder in 5 dose vials to be reconstituted with water for injection. USP (Wyeth's patented product "Bicillin" All-Purpose).	2.95	6,416.25
10	45 jars	Butamben picrate ointment and nitromer-sol, 1-lb jars. (Abbott's "Butesin Picrate ointment with methapen or equal).	1.71	7,695.00
11	2,260 vials	Parenteral Vitamin B Complex, 10 cc. vial containing: Vitamin B1 (thiamine hydrochloride USP) 10 mg Vitamin B2 (Riboflavin USP) 0.33 mg	0.33	745.80

- 4 -

10. GENERAL SERVICES

Personnel and general toilet rooms	<u>26 m2</u>
Sub-total	26 m2

11. HALLS

Vestibule for the personnel and public	<u>318 m2</u>
Sub-total	318 m2

GENERAL TOTAL 1,348 m2

Managua, May 3, 1968

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Annex VI, Page 6 of 47

Exhibit 2 Pag. 3

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
16	5,263 bot.	Chloramphenicol Capsules, USP, 250 mg. 100 per bot. (Parke Davis & Co. "Chloromycetin" or equal).	4.10	21,578.30
17	15,310 bot.	Chloramphenicol Palmitate Oral Suspension, USP, 60 cc. bottle (Parke Davis & Co. "Chloromycetin" or equal).	0.92	14,085.20
18	284 box.	Chorpheniramine Maleate Injection USP 1 cc amps., 10 mg. per cc. 6 amps. per box. Schering's patented product "Chlortrimeton Maleate Injection".	1.80	511.20
19	40 bot.	Chlorpheniramine Maleate Tablets, USP, (4 mg) 1000 per bot. (Schering's patented product "Chlortrimeton Maleate").	9.90	396.00

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ANNEX _____

OUTLINE SPECIFICATIONS

I. General Design.

The design of the Health Centers will incorporate simplicity in construction and ease in maintenance to reduce to a minimum the costs of construction and maintenance.

The sanitary services will be designed in a way as to have adequate ventilation and to be of simple and strong construction in order to avoid damage. Where possible toilets and basins will be installed with running water and if this is not possible, latrines will be built. If the locality has a potable water system accessible to the Health Center, but no sewer system, a septic tank will be built. Adequate electric connections will be installed in all the Health Centers.

II. Wall Foundations.

The foundations of the walls will be of quarry stone 8" x 16" of the depth required by each particular lot.

III. Structure.

- | | |
|-------------------------|---|
| a. Footings | Will be of reinforced concrete in accordance with the design. |
| b. Seismic beam | Block beam of Ceramica Chiltepe with reinforced concrete - two reinforcing bars of 3/8" and supports of 1/4" at 0.25 m. |
| c. Columns | Reinforced concrete of 0.15 x 0.15 m. reinforced with four bars of 3/8" and supports of 1/4" at 0.15m. |
| d. Vertical connections | Concrete of 0.15 x 0.10 m. reinforced with 2 bars of 3/8" and supports of 1/4" at 0.20 m. |

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Annex VI, Page 7 of 47

Exhibit 2, Page 4

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
26	100 gals.	"Donnatal Elixir" or equal, Citrus Flavored, 1 gal. bottle. (Product of A.H. Robins Co., Inc.).	4.80	480.00
27	300 bot.	"Donnatal Tablets" or equal, White compressed, scored bot. of 1000 tablets. (Product of A.H. Robins Co., Inc.).	3.45	930.00
28	500 box.	Epinephrine solution, USP, 1:1000 1 cc. ampoules, 10 amp. per box. (Parke Davis "Adrenalin Chloride Solution, or equal").	0.95	475.00
29	15 bot.	Ergonovine Maleate Tablets, USP, 0.2 gm. 1000 per bottle.	26.19	392.85
30	3,000 bot.	Ferrous Sulfate, USP, Elixir, 50 cc. bot.	.476	1,428.00

- e. Lintels, sills, and crown beams Concrete of 0.15 x 0.15 m. with reinforcing in accordance with design.

IV. Walls.

The walls will be of 6" cement block, 5-1/2 clay brick, or blocks of Ceramica Chiltepe in accordance with the availability of resources of the zone. They will be finished with plaster, inside and outside.

V. Roofs.

The structure of the roofs will be pochote wood with 26 gage corrugated iron sheets.

VI. Ceilings.

The structure of the ceilings will be of pochote wood of 2" x 1½ with 3/16" cedar plywood.

VII. Floors.

The floors will be of gray cement tile of 0.25 x 0.25 m. set with white cement mix.

VIII. Windows and doors.

The windows will be jalousie type of aluminum and glass. The doors will be of pochote wood structure with 1/4" cedar plywood veneer. The frames of the doors will be of pochote 2" x 4". The locks will be WEISER brand or equal and hinges STANLEY or equal.

IX. Plumbing.

a. Water

The water lines will be of galvanized iron pipe of 3/4" and 1/2" dia. according to the design.

b. Sewer

Sewer lines will be made of concrete pipe of 6" and 4" dia. according to the design.

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Annex VI, Page 8 f 47

Exhibit 2, Page 5

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
35	265 bot.	Cole Pharmacal Co. Iodo-Niacin (Potassium Iodide 135 mg. and niacinamide hydroiodide 25 mg) 100 tablets per bot.	5.00	1,325.00
36	10,000 bot.	Multivitamin capsules with minerals. (Parke Davis "Abdol" or equal) 1000 per bot. Vitamin C (ascorbic acid) 50 mg. Vitamin B2 (G) (riboflavin) .. 2.5 mg. Vitamin B6 (pyridoxine hydrochloride). 0.5 mg. Vitamin B12 (crystalline) 1 mg Vitamin B1 (thiamine) mononitrate 2.5 mg. Nicotinamide (niacinamide) ... 20 mg. Vitamin A 5000 units (1.5 mg)	1.48	14,800.00

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**ANNEX III, Page 24 of 25
Exhibit 8, Page 3 of 3**

- c. Sanitary fixtures
The sanitary fixtures, toilets and basins will be INCESA brand, type or similar.

X. Electricity.

Rigid plastic conduit, with wire type TW of the gages in accordance with design will be used in all lines. The lighting fixtures will be porcelain or Bakelite receptacles.

XI. Paint.

The entire building will be painted with a sealer and two coats of paint.

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<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
41	1,150 tubes	Ophthalmic ointment containing 500 units of bacitracin, USP, and 5 mg. neomycin sulfate ointment USP. 1/8 ounce tubes with applicator tip (Walker's "Bacimycin" or equal).	0.35	402.50
42	180 bot.	Phenobarbital tablets, USP, 01 gm. (1-1/2 gr.) bot. of 1000.	1.60	288.00
43	1,600 bot.	Phenylephrine hydrochloride solution, 0.25% USP, in 1 oz. bottles (Winthrop's Neo-Synephrine - hydrochloride solution or equal.).	0.35	560.00
44	105 bot.	Procaine Hydrochloride 2% aqueous solution, USP, 30 cc. bottle.	0.38	39.90

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ANNEX III, Page 25 of 25

Exhibit 9, Page 1 of 1

TABLE _____

COST BREAKDOWN DETAILS
(in U.S.\$ Equivalent)

Average Construction Costs

<u>Item</u>	<u>Type</u>			
	<u>I</u>	<u>II</u>	<u>III</u>	Special
Materials, inc.				
transportation	12,010	5,750	4,460	78,110
Labor	7,205	3,450	2,675	46,865
Contingencies, inc.				
profit	4,805	2,300	1,780	31,240
TOTALS	24,020	11,500	8,915	156,215

Materials Breakdown

Average Percent of Materials Cost

<u>Item</u>	<u>% of Total</u>
Carpentry	20
Plumbing	7
Electrical	6
Brick and tile	41
Windows and hardware	13
Misc.	13
TOTAL'.....	100

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BUDGET FOR THE HEALTH SECTOR
REPUBLIC OF NICARAGUA
1967

BUDGETS	ANNUAL		
	USA. Dollars	Population Under Service	Per capita Dollars
NATIONAL TOTAL	96,212,435.42	1,803,143	53.35
HEALTH TOTAL	8,774,941.00	1,803,143	4.86
MINISTRY OF HEALTH	3,988,372.71	1,803,143	2.21
SOCIAL SECURITY MEDICAL ATTENTION	5,520,405.71	110,000	50.19
SOCIAL ASSISTANCE	1,634,909.28	1,803,143	0.91
GENERAL HOSPITAL "MANAGUA "	2,428,571.42	---	---
MILITARY HOSPITAL	597,449.14	---	---
NATIONAL HOUSING INSTITUTE ADMINISTRATION	875,714.28	1,803,143	0.49
NATIONAL WATER AND SEWAGE AUTHORITY	1,137,619.00	1,803,143	0.63
TOTAL	16,183,041.54	1,803,143	8.97

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AID-DC/P-733
ANNEX IV, Page 1 of 2
EXHIBIT 1, Page 1 of 1

**MINISTRY OF HEALTH BUDGET AND TOTAL
OPERATIONAL COSTS FOR PUMAR FOR PAST 5 YEARS**

Year	Total MOH Budget	MOH Budget after Transfers	PUMAR		Health Centers
			GON Contribution	AID Contribution	
1963	\$ 2,876,438	\$ 1,162,954	\$ 150,000	\$ 175,740	\$ 672,600
1964	\$ 3,102,668	\$ 1,586,367	\$ 161,428	\$ 225,000	\$ 896,214
1965	\$ 5,554,976	\$ 1,971,714	\$ 193,038	\$ 221,000	\$ 916,731
1966	\$ 6,456,959	\$ 2,821,371	\$ 178,400	\$ 126,457	\$ 972,145
1967	\$ 8,753,141	\$ 3,988,372	\$ 207,600	\$ 118,300	\$ 1,018,529
1968	\$11,067,737	\$ 5,624,620	\$ 207,600	\$ 47,600	\$ 1,160,289

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**RURAL MOBILE HEALTH
COMMUNITY DEVELOPMENT PROJECTS**

	1964	1965	1966	1967
Health Posts	26	35	43	32
Water Systems	33	41	32	27
Schools	15	16	13	6
Budges	3	2	--	4
Roads (miles)	6	2	--	
Others	50	43	41	59
TOTAL	128	138	129	128

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AID-DEC/P-733
ANNEX V, Page 1 of 2
Exhibit 1, Page 1 of 1

QUANTITATIVE INFORMATION OF RURAL MOBILE HEALTH OPERATIONS

	1964	1965	1966	1967	TOTALS
Medical Consultations	106,703	109,050	90,664	74,133	380,550
Vaccinations	28,574	54,900	105,085	184,885	373,444
Health Education meetings	5,761	9,019	6,463	3,977	25,220
House Sanitation visits	28,343	47,228	42,867	50,884	169,322
Latrines Constructed	604	949	961	1,005	3,519

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ANNEX V, Page 2 of 2
. Exhibit 2, Page 1 of 1

DETAILED COST BREAKDOWN FOR HEALTH CENTERS

A. Construction of New Health Centers

1969 20 Centers
 1970 20 Centers
 1971 16 Centers

Type I	9	\$ 24,020 ea.	\$ 216,180
Type II	27	11,500 ea.	310,000
Type III	18	8,915 ea.	160,470
Specials	<u>2</u>	156,215 ea.	<u>312,430</u>
Total	56		Total U.S.\$999,580

B. Equipment imported from the U.S.

Type I	9	\$ 7,142 ea.	\$ 64,285
Type II	27	4,285 ea.	115,714
Type III	18	3,571 ea.	64,285
Specials	<u>2</u>	21,428 ea.	<u>42,858</u>
Total	56		Total U.S.\$287,142

C. Local equipment

Type I	9	2,857	25,571
Type II	27	2,148	58,000
Type III	18	2,000	36,000
Specials	<u>2</u>	10,000	<u>20,000</u>
Total	56		Total U.S.\$139,571

D. Mobile equipment

30 jeep type vehicles at \$2,500 ea.

<u>Year</u>	<u>Number</u>	<u>Cost</u>	<u>Total</u>
1969	15	\$ 2,500	\$ 37,500
1970	15	2,500	<u>37,500</u>
	<u>30</u>		75,000

E. Ocean freight

30 vehicles US\$ 15,000

F. Type and number of centers to be built each year.

<u>Type</u>	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>Total</u>
I	5	3	1	9
II	10	10	7	27
III	5	5	8	18
Specials	-	2	-	2
Total	20	20	16	56

G. Personnel cost accumulated per Center

Staff teams	1969	1970	1971	Total
Type I	5	8	9	22
Type II	10	20	27	57
Type III	5	10	18	33
Special	-	2	2	4
Total	20	40	56	116

H. Cost of personnel

<u>Staff teams per year</u>	<u>Costs</u>	<u>Total</u>
Type I 22	\$ 18,572	\$ 408,584
Type II 57	12,857	732,849
Type III 33	10,714	353,578
Special 4	57,140	228,560
Total 116	99,283	US\$ 1,723,571

I. Accumulated cost for maintenance and repair of Centers

I. (Continued)

<u>Type</u>	<u>Centers</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>Accumulated Total</u>
I	9	5	3	1	22 MR/year
II	27	10	10	7	57 MR/year
III	18	5	5	8	33 MR/year
Special	2	-	2	-	4 MR/year
	<u>56</u>				<u>116</u>

J. Accumulated cost for maintenance and repair per year.

<u>Years</u>	<u>Type</u>	<u>Cost per year</u>	<u>Total</u>
22 MR/year	I	4,286	94,292
57 MR/year	II	3,943	224,751
33 MR/year	III	3,428	113,130
4 MR/year	Special	8,571	34,284
<u>116</u>			US\$ <u>466,457</u>

K. Accumulated cost of medicines (First possibility)

<u>Centers</u>	<u>Type</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>Accumulated Total</u>
9	I	5	3	1	22 M/year
27	II	10	10	7	57 M/year
18	III	5	5	8	33 M/year
2	Special	-	2	-	4 M/year
<u>56</u>					<u>116</u>

L. Accumulated cost of medicines year (First possibility)

<u>Years</u>	<u>Type</u>	<u>Cost per year</u>	<u>Total</u>
22 Med/year	I	3,428	75,406
57 Med/year	II	2,572	146,604
33 Med/year	III	1,714	56,562
4 Med/year	Special	6,857	27,428
<u>116</u>			US\$ <u>306,000</u>

**MEDICINES AND MEDICAL EQUIPMENT REQUIREMENTS
 FOR
 MOBILE HEALTH RURAL PROGRAM - 1st Year**

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
1	1,052 bot.	Aspirin tablets, USP, 5 gr. 1000 per bottle.	1.00	1,052.00
2	1,110 bot.	Aspirin tablets, USP, 1 gr. 1000 per bottle (Squibb).	0.79	876.90
3	220 amp.	Adrestat (F) injection, each 5cc. of Adrestat (F) aqueous solution contains 5 mg. of adrenochrome semi-carbazone (as 130 mg. Calbazochrome salicylate); 5.0 mg. sodium menadiol diphosphate (Vitamin K analogue) 50.0 mg. H Hesperidin; 100.0 mg. Vitamin C (Organon's "Adrestat (F)" or equal), 5 cc. ampoules, boxes of 50.	3.52	774.40
4	120 bot.	Sulfamethoxypyridazine Lederle Kynex, bot. of 500 tab. of 500 mg.	4.00	480.00
5	11,032 pts.	Alcohol, ethyl, USP, as 70% w/v solution, for rubbing and local antiinfective ("Lavacol") (Parke Davis).	0.19	2,096.08
6	50 bot.	Aluminum hydroxide gel tablets, USP, scored 0.6 gm. tablets 1000 per bot. (Wyeth's "Amphojel" or equal).	5.64	282.00
7	11,035 amp.	Dicyclomine hydrochloride ampoules of 2 cc. 20 mg. per 2 cc. amp. box of 100. (Merrell's "Bentyl" or equal).		12,138.50
8.	100 gal.	Benzalkonium Chloride, USP, aqueous solution 16% gallon bott. (Winthrop's "Zephiran" Chloride aqueous solution or equal).	2.75	275.00

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
9	2,175 vials	Bezathine Penicillin G. USP injection each dose to combine 600,000 units of benzathine penicillin G. 300,000 units of potassium penicillin G. Dry powder in 5 dose vials to be reconstituted with water for injection. USP (Wyeth's patented product "Bicillin" All-Purpose).	2.95	6,416.25
10	45 jars	Butamben picrate ointment and nitromer-sol, 1-lb jars. (Abbott's "Butesin Picrate ointment with methapen or equal).	1.71	7,695.00
11	2,260 vials	Parenteral Vitamin B Complex, 10 cc. vial containing: Vitamin B1 (thiamine hydrochloride USP) 10 mg Vitamin B2 (Riboflavin USP) 0.33 mg Nicotinamide (Niacinamide USP) 10 mg Pantothenic Acid (as sodium salt) 4 mg Vitamin B12 10 mcg (Parke Davis "Combex Parenteral" Steri-vial or equal).	0.33	745.80
12	10 box	Calcium Gluconate USP, ampoules of 0.50 gm (1,000 ampoules box) (Abbott #A3885 or equal).	163.30/M	1,633.00
13	1,915 bot.	Calcium Gluconate with Vit.D, Tablets. Bottles of 100 tablets (Eli Lilly and Co. No. 1595).	1.48	2,834.20
14	1,725 bot.	Calamine Lotion USP 1 gal. bottles (Parke Davis & Co. "Caladryl" Lotion or equal).	0.24	414.00
15	2,739 bot.	Chloramphenicol, USP, otic solution, 15 cc dropper bot. (Parke Davis & Co.) patented (Chloromycetin Otic).	0.98	2,684.22

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
16	5,263 bot.	Chloramphenicol Capsules, USP, 250 mg. 100 per bot. (Parke Davis & Co. "Chloromycetin" or equal).	4.10	21,578.30
17	15,310 bot.	Chloramphenicol Palmitate Oral Suspension, USP, 60 cc. bottle (Parke Davis & Co. "Chloromycetin" or equal).	0.92	14,085.20
18	284 box.	Chorpheniramine Maleate injection USP 1 cc amps., 10 mg. per cc. 6 amps. per box. Schering's patented product "Chlortrimeton Maleate Injection".	1.80	511.20
19	40 bot.	Chlorpheniramine Maleate Tablets. USP, (4 mg) 1000 per bot. (Schering's patented product "Chlortrimeton Maleate").	9.90	396.00
20	13,183 bot.	Diphenhydramine Hydrochloride, USP, 1 pt. bottle. (Parke Davis patented product "Benylin" Expectorant.).	0.60	7,909.80
21	2,197 bot.	Diphenhydramine Hydrochloride Elixir USP, 1 gal. bottle. (Parke Davis "Benadryl Elixir").	2.90	6,371.30
22	2,460 bot.	Dextrose Injection USP 5% in Distilled Water 500 cc (Abbott Lab.) Bottle #A4123, with intravenous set, Disposable Venopack with 20G needle, No. 4615.	0.94	2,312.40
23	200 bot.	Dextro Propoxyphene Hydrochloride capsules, 65 mg. 100 per bot. USP (Eli Lilly's patented product "Darvon Compound 65").	5.82	1,164.00
24	450 bot.	Diethylstilbestrol tablets USP, 5 mg. 100 per bottle.	0.62	279.00
25	450 bot.	Dihydroxyquin tablets, USP, 650 mg. 500 tablets per bot. (Searle's "Diodoquin" or equal).		2,740.50

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
26	100 gals.	'Donnatal Elixir" or equal, Citrus Flavored, 1 gal. bottle. (Product of A.H.Robins Co., Inc.).	4.80	480.00
27	300 bot.	"Donnatal Tablets" or equal, White compressed, scored bot. of 1000 tablets. (Product of A.H.Robins Co., Inc.).	3.45	930.00
28	500 box.	Epinephrine solution, USP, 1:1000 1 cc. ampoules, 10 amp. per box. (Parke Davis "Adrenalin Chloride Solution, or equal").	0.95	475.00
29	15 bot.	Ergonovine Maleate Tablets, USP, 0.2 gm. 1000 per bottle.	26.19	392.85
30	3,000 bot.	Ferrous Sulfate, USP, Elixir, 50 cc. bot. (Mead Johnson "Fer-in-sol" or equal).	.476	1,428.00
31	1,090 bot.	Winthrop's "Franol" or equal. Each tablet contains: Phenobarbital 8 mg. Benzylephedrine Hydrochloride 32 mg. Theophylline 130 mg 100 tablets per bottle.		2,790.40
32	100 bot.	Gitalin, 0.5 mg. tablets, 1000 per bottle. (White's "Gitaligin")!	6.75	675.00
33	325 bot.	Parke Davis Hepadesicol or equal 1000 capsules per bottle. To contain: DL-Methionine 150 mg. Choline Bitartrate 200 mg. Inositol 15 mg. Dessicated whole fresh bile (Desicol)..... 150 mg. Betaine 50 mg.	19.00	6,175.00
34	766 bot.	Parke Davis Hepa-Desicol or equal 100 capsules per bottle.	2.05	1,570.30

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
35	265 bot.	Cole Pharmacal Co. Iodo-Niacin (Potassium Iodide 135 mg. and niacinamide hydroiodide 25 mg) 100 tablets per bot.	5.00	1,325.00
36	10,000 bot.	Multivitamin capsules with minerals. (Parke Davis "Abdol" or equal) 1000 per bot. Vitamin C (ascorbic acid) 50 mg. Vitamin B2 (G) (riboflavin) .. 2.5 mg. Vitamin B6 (pyridoxine hydrochloride). 0.5 mg. Vitamin B12 (crystalline) 1 mg Vitamin B1 (thiamine) mononitrate 2.5 mg. Nicotinamide (niacinamide) ... 20 mg. Vitamin A 5000 units (1.5 mg) Vitamin D 1000 units (25 mg) Calcium Pantothenate 2.5 mg. Folic Acid 0.1 mg. Iodine (as salt) 0.15 mg. Manganese (as salt) 1 mg. Potassium (as salt) 5 mg. Iron (as salt) 15 mg. Copper (as salt) 1 mg. Zinc (as salt) 0.5 mg. Magnesium (as salt) 1 mg. Calcium (as salt) 44 mg. Phosphorus (as salt) 34 mg.	1.48	14,800.00
37	1,150 bot.	Kaopectate with Neomycin (Upjohn's "Kaomycin" or equal) 1 pint bot.	3.75	4,312.50
38	553 box	Glycobiarsol Vaginal Suppositories .10 per box. (Winthrop's "Millibis" Vaginal suppositories or equal.	1.67	932.51
39	218 box	Mikethamide injection, N.F. 1 cc ampouls, 100 amp. per box (Ciba's "Coramine" or equal).	6.50	1,417.00
40	100 bot.	Quixalin "Squibb" Clorhixiquinolina 1000 tab. per bot.	36.00	3,600.00

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
41	1,150 tubes	Ophthalmic ointment containing 500 units of bacitracin, USP, and 5 mg. neomycin sulfate ointment USP. 1/8 ounce tubes with applicator tip (Walker's "Bacimycin" or equal).	0.35	402.50
42	180 bot.	Phenobarbital tablets, USP, 01 gm. (1-1/2 gr.) bot. of 1000.	1.60	288.00
43	1,600 bot.	Phenylephrine hydrochloride solution, 0.25% USP, in 1 oz. bottles (Winthrop's Neo-Synephrine - hydrochloride solution or equal.).	0.35	560.00
44	105 bot.	Procaine Hydrochloride 2% aqueous solution, USP, 30 cc. bottle.	0.38	39.90
45	350 vials	Sterile Progesterone, suspension, N.F. 25 mg. per cc vials of 10 cc.	1.27	698.50
46	3,185 gals.	Piperazine citrate syrup, USP, 100 mg. per cc. or Piperazine hexahydrate.	5.47	17,421.95
47	220 bot.	Quinacrine hydrochloride tablets, USP, 100 mg. 100 per bottle. (Winthrop's "Atabrine Hydrochloride" or equal).	1.56	343.20
48	55 box	Reserpine tablets, USP, 0.25 mg. 1000 bottle. (Ciba's patented product "Serpasil").	0.65	35.75
49	35 pkg.	Antivenin (Crotalidae) Polyvalent, equine origin, North and South American Antisnake bite, serum - Wyeth - combination package containing 1 vial to yield 1 dose; 10 cc of water for injection (w/preservative), in syringe; one sterile double-ended needle; one 1 cc vial normal horse serum, 1:10 (for test and desensitization); 1 applicator of iodine.	0.65	35.75

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
50	490 bot.	Ferrous Sulfate tablets USP, 5 gr. tab. 1000 per bottle. Sugar coated.	2.04	999.60
51	350 bot.	Chloroquine Phosphate tablets, USP, 250 mg. 1000 per bottle. (Winthrop's "Aralen" or equal).	4.15	1,452.50
52	80 bot.	Triamcinalone tablets 8 mg. 250 per bot. (Squibb's "Kanacort" or equal).	34.26	2,740.80
53	872 bot.	"Rubraton" Elixir or equal. Iron and B. complex vitamins, to supply: Iron 38 mg. Vitamin B1 1 mg. Vitamin B2 1 mg. Vitamin B6 0.5 mg. Niacinamide 5 mg. d-Panthenol 1.5 mg. Vitamin B12 4 mcg. In 1-gal bottles. Squibb's Rubraton or equal.	20.50	17,876.00
54	570 bot.	Sulfadiazine tablets, USP, 0.5 equivalent to 7.7 grains, 1000 tablets per bottle.	7.20	4,104.00
55	8 box	Surgical soap, 4 1/2 oz. cakes, 144 per box. (Arwood's "Gamophen" or equal Somerville, N.J.)	20.10	160.80
56	880 bot.	Thiamine Hydrochloride tablets, USP, 10 mg. bottle of 1000 tablets.	1.35	1,188.00
57	150 bot.	Thimerosal Tincture, N.F. 1:1000 Tincture, 1-pint bottle (Lilly's "Merthiolate" or equal).	1.13	169.50
58	860 tubes	Zinc Oxide Ointment, USP, 1 oz. tubes.	0.22	189.20
59	2,205 tubes	Zincundocate ointment, 1 oz. tubes WTS's product "Desenex" ointment or equal).	0.55	1,212.75

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
60	360 ea.	Thermometers, oral, centigrade AHSC #14628 or equal.	0.50	180.00
61	360 ea.	Thermometer, rectal centigrade AHSC	0.50	180.00
62	2,250.box	Applicator stick wood, box of 100	0.11	247.50
63	550 box	Tongue depressors, wood, box of 500	0.99	554.50
64	2,597 ea.	Syringes hypodermic 5 cc. (glass) 5 ML, case of 6 doz.	1.55	4,025.35
65	2,465 ea.	Syringes hypodermic 10 cc. (glass) # 10 ML, case of 6 doz.	2.30	5,669.50
66	115 doz.	Needles hypodermic No.256, 3/4" LNR regular bevel, pkg. of 6 doz.	1.78	204.70
67	100 doz.	Needles hypodermic No.196, 1 1/2" LNR regular bevel.	2.40	240.00
68	115 doz.	Needles hypodermic No.206, 1" LNR regular bevel, pkg. of 6 doz.	2.06	236.90
69	175 doz.	Adhesive tape USP, in rolls 1/2" x 10 yds.	2.64	462.00
70	447 box	Gauze Bandage USP, J & J Nu Wrap or equal (Box of 1 doz.) rolls 2" x 10 yds.	1.35	603.45
71	2,086 lbs.	Purified Cotton USP, in rolls, 1 lb. each, sterile.	0.90	1,877.40
72	50 doz.	Needles suture No.1 (AHS Cat.#42270, size 1 or equal).	1.40	70.00
73	7 doz.	Needles suture No.15 (AHS Cat. #42 270, size 10 or equal).	2.40	16.80
74	7 doz.	Needles suture No.15 (AHS Cat. #42 270, Size 16).	2.40	16.80

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
75	2,700 ea.	Dental anesthetic carpoules (50 per box) "Octocaine" or equal.	4.20	226.80
76	90 ea.	Scissors Bandage 5 1/2 AHSC #35700555 Stainless Steel.	3.50	315.00
77	50 ea.	Kerosene stove	6.95	347.50
78	50 ea.	Manometers aneroid.	5.00	250.00
79	15 ea.	Comb. Otoscope/Ophstalmoscope.	10.00	150.00
80	50 ea.	Thermos Jugs wide mouth (1 gln. size).	5.00	250.00
81	50 ea.	Flashlights.	2.50	125.00
82	2,000 ea.	Micostatin Ointment 15 gr. tubes.	1.00	2,000.00
83	50 ea.	Stethoscope.	3.00	150.00
84	12 ea.	Physicians bags.	6.00	72.00
Total Material				200,000.00
Freight and Handling charges				40,000.00
\$ 240,000.00				\$ 240,000.00

**MEDICINE AND MEDICAL EQUIPMENT REQUIREMENTS
 FOR
MOBILE HEALTH PROGRAM SECOND AND THIRD YEAR**

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
1.	1,052 bot.	Aspirin tablets, USP, 5 gr. 1000 per bottle.	1.00	1,052.00
2.	1,110 bot.	Aspirin tablets, USP, 1 gr. 1000 per bottle (Squibb).	0.79	876.90
3.	220 amp.	Adrestat (F) injection, each 5 cc. of Adrestat (F) aqueous solution contains 5 mg. of adrenochrome semi-carbazone (as 130 mb. Calbazochrome salicylate); 5.0 mg. sodium menadiol diphosphate (Vitamin K analogue) 50.0 mg. H Hesperidin; 100.0 mg. Vitamin C (Organon's "Adrestat (F)" or equal), 5 cc. ampoules, boxes of 50.	3.52	774.20
4.	120 bot.	Sulfamethoxypyridazine Lederle Kynex, Bot. of 500 tab. of 500 mg.	4.00	480.00
5.	11,022 pis.	Alcohol, ethyl, USP, as 70% w/v solution, for rubbing and local antiinfective ("Lavacol") (Parke Davis).	0.19	2,094.18
6.	50 bot.	Aluminum hydroxide gel. tablets, USP. scored 0.6 gm. tablets 1000 per bot. (Wyeth's "Amphojel" or equal).	5.64	282.00
7.	11,036 amp.	Dicyclomine hydrochloride ampoules of 2 cc. 20 mg. per 2 cc. amp. box of 100. (Merrell's "Bentyl" or equal).	1.10	12,139.60

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
8.	100 gal.	Benzalkonium Chloride, USP, aqueous solution 16% gallon bott. (Winthrop's "Zephiran" Chloride aqueous solution or equal).	2.75	275.00
9.	1,140 vials	Bezathine Penicillin G. USP injection each dose to combine 600,000 units of benzthine penicillin G. 300,000 units of potassium penicillin G. Dry Powder in 5 dose vials to be reconstituted with water for injection. USP (Wyeth's patented product " Bicillin" All-Purpose).	2.95	6,313.00
10.	46 jars.	Butamben picrate ointment and nitromer-sol, 1-lb. jars. (Abbott's "Butesin Picrate ointment with methapen or equal).	1.71	78.60
11.	2,260 vials	Parenteral Vitamin B. Complex, 10 cc vial containing: Vitamin B1 (thiamine hydrochloride USP) 10 mg. Vitamin B2(Riboflavin USP) 0.33 mg. Nicotinamide (niacinamide USP) 10 mg. Pantothenic Acid (as sodium salt) 4 mg. Vitamin B12 10 mcg. Parke Davis "Combex Parenteral" Steri-vial or equal).	0.33	745.80
12.	10 box.	Calcium Gluconate USP, ampoules of 0.50 gm. (1,000 ampoules box) (Abbott #A3885 or equal).	163.30/M	1,633.50
13.	1,916 bot.	Calcium Gluconate with Vit.D, Tablets. Bottles of 100 Tablets (Eli Lilly and Co. No.1595).	1.48	2,835.68
14.	1,726 bot.	Calamine Lotion USP 1 gal. bottles (Parke Davis & Co. "Caladryl" Lotion or equal).	0.24	214.24
15.	1,740 bot.	Chloramphenicol, USP, otic solution, 15 cc dropper bot. (Parke Davis & Co.) patented (Chloromycetin Otic).	0.98	2,685.20

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
16	5,264 bot.	Chloramphenicol Capsules, USP, 250 mg. 100 per bot. (Parke Davis & Co. "Chloromycetin" or equal).	4.10	21,592.40
17.	8,310 bot.	Chloramphenicol Palmitate Oral Suspension, USP, 60 cc bottle (Parke Davis & Co. "Chloromycetin" or equal).	0.92	14,085.20
18.	284 box	Chorpheniramine Maleate Injection USP, 1 cc amps., 10 mg. per cc. 6 amps. per box. Schering's patented product "Chlortrimeton Maleate Injection".	1.80	511.20
19.	40 bot.	Chlorpheniramine Maleate Tablets. USP, (4 mg) 1000 per bot. (Schering's patented product "Chlortrimeton Maleate").	9.90	396.00
20.	13,184 bot.	Diphenhydramine Hydrochloride, USP, 1 pt. bottle. (Parke Davis patented product "Benylin" Expectorant).	0.60	7,910.40
21.	2,196 bot.	Diphenhydramine Hydrochloride Elixir USP, 1 gal. bottle. (Parke Davis "Benadryl Elixir").	2.90	6,368.40
22.	2,460 bot.	Dextrose Injection USP 5% in Distilled Water 500 cc. (Abbott Lab.) Bottle #A4123 with Intravenous set, Disposable Venopack with 20 G needle, No.4615.	0.94	2,312.40
23.	200 bot.	Dextro Propoxyphene Hydrochloride capsules, 65 mg. 100 per bot. USP (Eli Lilly's patented product "Darvon Compound 65").	5.82	1,164.00
24.	450 bot.	Diethylstilbestrol tablets USP, 5 mg. 100 per bottle.	0.62	279.00
25.	450 bot.	Dihydroxyquin tablets, USP, 650 mg. 500 tablets per bot. (Searle's "Diodoquin" or equal).	6.09	2,740.50
26.	100 gals.	"Donnatal Elixir" or equal, Citrus Flavored, 1 gal. bottle. (Product of A.H.Robins Co.Inc.)	4.80	480.00

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
36.	10,000 bot.	Multivitamin capsules with minerals. (Parke Davis "Abdol" or equal) 1000 per bot. Vitamin C (ascorbic acid)..... 50 mg. Vitamin B2 (G) (riboflavin) 2.5 mg. Vitamin B6 (pyridoxine hydrochloride) 0.5 mg. Vitamin B12 (crystalline) 1 mg. Vitamin B1 (thiamine) mononitrate . 2.5 mg. Nicotinamide (niacinamide) 20 mg. Vitamin A .....5000 units (1.5 mg) Vitamin D .....1000 units (25 mg) Calcium Pantothenate 2.5 mg. Folic Acid 0.1 mg. Iodine (as salt) 0.15 mg. Manganese (as salt) 1 mg. Potassium (as salt) 5 mg. Iron (as salt)..... 15 mg. Copper (as salt)..... 1 mg. Zinc (as salt) 0.5 mg. Magnesium (as salt) 1 mg. Calcium (as salt) 44 mg. Phosphrus (as salt) 34 mg.	1.48	14,800.00
37	1,150 bot.	Kaopectate with Neomycin (Upjohn's "Kaomycin" or equal) 1 pint bot.	3.75	4,312.50
38	554 box	Glycobiarsol Vaginal Suppositories. 10 per box. (Winthrop's "Millibis" Vaginal suppositories or equal.	1.67	952.18
39	218 box	Nikethamide injection, N.F. 1cc ampouls, 100 amp. per box (Ciba's "Coramine" or equal).	6.50	1,417.00
40	100 box	Quixalin "Squibb" Clorhidroxiquinolina Bot. 1000 tab.	36.00	3,600.00
41	1,150 tubes	Ophthalmic ointment containing 500 units of bacitracin, USP, and 5 mg. neomycin sulfate ointment USP. 1/8 ounce tubes with applicator tip (Walker's "Bacimycin" or equal).	0.35	402.50

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
42	180 bot.	Phenobarbital tablets, USP, 0.1 gm. (1-1/2 gr.) bot. of 1000.	1.60	288.00
43	1,600 bot.	Phenylephrine hydrochloride solution, 0.25% USP, in 1 oz. bottles (Winthrop's NewoSynephrine - hydrochloride solution or equal).	0.35	560.00
44	106 bot.	Procaine Hydrochloride 2% aqueous solution, USP, 30 cc bottle.	0.38	40.28
45	550 vials.	Sterile Progesterone, suspension, N.F. 25 mg. per cc vials of 10 cc.	1.27	698.50
46	3,186 gals.	Piperazine cicrate syrup, USP, 100 mg. per cc. or piperazine -hexahydrate.	5.47	17,427.42
47	220 bot.	Quinacrine hydrochloride tablets, USP, 100 mg. 100 per bottle. (Winthrop's "Atabrine Hydrochloride" or equal).	1.56	343.20
48	56 box.	Reserpine tablets, USP, 0.25 mg. 1000 bottle. (Ciba's patented product "Serpasil").	0.65	36.40
49	36 pkg.	Antivenin (Crotalidae) Polyvalent, equine origin, North and South American Antisnake bite, serum - Wyeth - combination package containing 1 vial to yield 1 dose; 10 cc of water for injection (w/preservative), in syringe; one sterile double-ended needle; one 1 cc vial normal horse serum, 1:10 (for test and desensitization); 1 applicator of iodine.	6.46	232.56
50	490 bot.	Ferrous Sulfate tablets USP, 5 gr. tab. 1000 per bottle. Sugar coated.	2.04	999.60
51	350 bot.	Chloroquine Phosphate tablets, USP, 250 mg. 1000 per bottle. (Winthrop's "Aralen" or equal).	4.15	1,452.50
52	80 bot.	Triamcinalone tablets 8 mg. per bot. (Squibb's "Kanacort" or equal).	34.26	1,740.80

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
65	2,466 ea.	Syringes hypodermic 10 cc (glass) #10 ML, case of 6 doz.	2.30	5,671.80
66	116 doz.	Needles hypodermic No.256, 3/4" LNR regular bevel, pkg. of 6 doz.	1.78	206.48
67	100 doz.	Needles hypodermic No.196, 1 1/2" LNR regular bevel.	2.40	240.00
68	116 doz.	Needles hypodermic No.206, 1" LNR regular bevel, pkg. of 6 doz.	2.06	238.96
69	176 doz.	Adhesive tape USP, in rolls 1/2" x 10 yds.	2.64	464.64
70	448 box	Gauze Bandage USP, J & J Nu Wrab or equal (Box of 1 doz.) rolls 2" x 10 yds.	1.35	604.80
71	2,086 lbs.	Purified Cotton USP, in rolls, 1 lb. each, sterile.	0.90	1,877.40
72	50 doz.	Needles suture No.1 (AHS Cat. #42270, size 1 or equal).	1.40	70.00
73	4 doz.	Needles suture No.15 (AHS Cat. #42 270, size 10 or equal).	2.40	19.20
74	8 doz.	Needles suture No.15 (AHS Cat. #42 270, Size 16).	2.40	19.20
75	2,700 ea.	Dental anesthetic carpoules (50 per box) "Octocaine" or equal.	4.20	226.80
76	90 ea.	Scissors Bandage 5 1/2 AHSC #35700555 Stainless Steel.	3.50	315.00
77	50 ea.	Kerosene stove Sears Cat. #22K1210L or equal.	6.95	347.50
78	50 ea.	Manometers aneroid.	5.00	250.00

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
79	16	Comb. Oscope/Ophstalmoscope	10.00	160.00
80	50	Thermos Jugs wide mouth (1 gln. size).	5.00	250.00
81	50	Flashlights.	2.50	125.00
82	2,000	Micostatin Ointment 15 gr. tubes.	1.00	2,000.00
83	50	Stethoscope.	3.00	150.00
84	12	Physicians bags.	6.00	72.00
Total				200,000.00
Freight and handling				40,000.00
				<u>\$ 240,000.00</u>

VEHICLES AND PARTS FOR "PUMAR" - 1st year

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
1)	8	14131 Panel Delivery, Willys, 3-164 Converted to Ambulance, each,	\$ 3,657.15	\$ 29,257.20
2)	4	Evinrude 67 Sky Twin (with 6 gallon Cruis-a- Day Tank)33 H.P. 4500 R.P.M., each	528.00	2,112.00
3)	1	Chevrolet Truck Model KS-10704, Stepside Pick-up 4 wheel drive, each		2,378.75
4)	1	Biscayne Model 15369 - 6 cylinder, 4- door sedan, each		2,600.00
5)	4	16 Skipper Aluminum Boat with side Steering Assembly, each	339.50	1,358.00
6)	184	Tires 7-00-16, 6 ply, each	15.70	2,888.80
7)	186	Tubes 7-00-16, each	1.60	297.60
8)		Attached list of spare parts for Panel Delivery vehicles		<u>3,107.11</u>
Total Cost of Items.....				\$ 43,999.46
Freight and Handling charges				<u>8,000.00</u>
Total Cost				\$ <u>51,999.46</u>

PARTS FOR VOLVO ENGINE 110

<u>Item</u>	<u>Catalogue Number</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
1	875076	Set of Gaskets for complete overhaul	9 EA	21.10	189.00
2	806270	Impuls Damper	9 EA	23.78	214.02
3	11009	Ball Bearing	10 EA	2.82	28.20
4	418663	Protector Plate Ball Bearing	5 EA	0.13	0.65
5	418290	Intake Valve	19 EA	2.31	43.89
6	415268	Exhaust Valve	19 EA	6.87	130.53
7	418737	Valve Spring	38 EA	0.79	30.02
8	418280	Oil Pump, Complete	1 EA	30.47	30.47
9	806364	Fuel Pump, Complete	4 EA	16.89	67.56
10	870422	Distributor cap. complete	4 EA	2.62	10.48
11	870448	Generator, complete	2 EA	44.57	89.14
12	238830	Solenoid Switch, complete	6 EA	15.21	91.26
13	233863	Field Winding Coil - 1-4	3 EA	10.00	30.00
14	233679	Carbon Brush Set	9 EA	3.41	30.69
15	238824	Drive with pinion, complete	5 EA	12.11	60.55
16	76603	Bearing Bushing	9 EA	0.37	3.33
17	870423	Set Points	9 EA	1.63	14.67
18	806256	Pump couplings rubber	9 EA	2.43	21.87
19	SMC925	Aluminum 3 blades propellers	9 EA	31.00	279.00
20	238852	Condensador	9 EA	3.25	29.25
21	950805	Generator Belts	9 EA	1.76	15.84
22	804186	Below, Rubber Protection	9 EA	8.29	74.61
23	418432	Oil Filters	19 EA	3.51	66.69
24	813995	Sil Straner	7 EA	0.38	2.66
25	418415	Packing Gasket	4 EA	3.07	12.28
26	418859	Packing Gasket	4 EA	1.53	6.12
27	418256	Packing Gasket	4 EA	0.67	2.68
28	13569	Slang Rubber Hose	4 EA	4.38	17.52
29	951797	Slang Klamma Hose clamp	4 EA	0.76	3.04
30	275226	Ring Sets	4 EA	9.18	36.72
31	804690	Packing Gasket	4 EA	0.11	0.44
32	813002	O Ring	4 EA	0.31	1.24
33	804695	Seal Ring	9 EA	0.62	5.58
34	813959	Hose Clamp	9 EA	4.15	37.35
35	804471	Zinc Electrode	4 EA	3.99	15.96
36	418290	Intake Valve	38 EA	2.31	87.78
37	418262	Gasket Carter	4 EA	0.48	1.92
38	233678	Dist. Rotor	9 EA	0.58	5.22
39	10799	Brush Carbon	9 EA	0.23	2.07
40	238903	Distributor Complete	3 EA	26.48	79.44
					<u>\$ 1,869.74</u>

UNCLASSIFIED

ANNEX VI, Page 37 of 47

Exhibit 2, Page 34

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
134. Water distiller, simple form 1/2 gln. heated with combustible	60	70.00	4,200.00
135. Portable sterilizer- 14 x 15" pressure	60	80.00	4,800.00
136. Portable examining tables- 3 sections	60	150.00	9,000.00
137. Adult scale- 300 lbs.	60	70.00	<u>4,200.00</u>
TOTAL MEDICAL EQUIPMENT			194,873.00
Freight and Handling			<u>40,000.00</u>
			234,873.00

List of spare parts for Panel Delivery vehicles . List will be repeated for each year of this project.

<u>Item</u>	<u>Catalogue Number</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
1	A 824	Pin	9 EA	..27	\$ 2.43
2	A 825	Pin	9 EA	.23	2.61
3	A 6882	Kit Shim	9 EA	.90	8.10
4	52799	Bearing	18 EA	1.49	26.82
5	52800	Bearing	18 EA	.92	16.56
6	52940	Bearing	36 EA	1.33	47.88
7	52941	Bearing	36 EA	.73	26.28
8	52979	Bearing	18 EA	1.98	35.64
9	52980	Bearing	18 EA	1.23	22.14
10	94558	Brake Flu Qt.	9 EA	1.47	13.23
11	637426	Gasket	81 EA	.03	2.43
12	640959	Oil Seal	18 EA	.50	9.00
13	641723	Spring	18 EA	.10	1.80
14	643797	Shaft Tube	9 EA	4.05	36.45
15	645544	Hose-brake	18 EA	1.44	25.92
16	647801	Switch	9 EA	.60	5.40
17	648061	Kit Shim	3 EA	.45	1.35
18	649228	Shim	3 EA	.54	1.62
19	700002	Spring	18 EA	.03	.54
20	K 700003	Bearing	9 EA	2.19	19.71
21	800952	Hose-Brake	9 EA	1.44	12.96
22	802887	Retainer Axle	18 EA	.54	9.72
23	804004	HSG Shift	3 EA	21.45	64.35
24	805524	Shim	9 EA	.60	5.40
25	805654	Kit repair	9 EA	1.68	15.12
26	807155	Kit repair	18 EA	.84	15.12
27	816828	Blade	18 EA	.99	17.82
28	0901203	Bearing	9 EA	1.40	12.60
29	931477	Kit UJ	36 EA	3.00	108.00
30	909476	Kit U J	18 EA	3.30	59.40
31	910261	SH Absorber	18 EA	3.90	70.20
32	914179	SH Absorber	18 EA	3.90	70.20
33	914802	Retainer	18 EA	.68	12.24
34	914955	Pipe	9 EA	2.79	25.11
35	915664	Kit oil seal	18 EA	.90	16.20
36	916357	Switch circ.	9 EA	2.36	21.24

UNCLASSIFIED

ANNEX VI, Page 38 of 47

Exhibit 2, Page 35

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
7. Tweezers for cotton	54	4.32	233.00
8. Amalgam condenser	27	2.66	72.00
9. Sharp point explorer	216	1.88	410.00
10. Amalgam carrier	27	5.43	147.00
11. Matrix carrier	27	4.32	117.00
12. Burnishes	27	4.32	117.00
13. Dental syringes	90	6.45	580.00
14. Electric amalgamator	9	65.00	585.00
15. Cement spatula	1		

<u>Item</u>	<u>Catalogue Number</u>	<u>Description</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Price</u>
37	916361	Gear Pinion	3 EA	11.82	35.46
38	916462	Switch	9 EA	2.10	18.90
39	918246	Shoe lining	6 EA	6.90	41.40
40	919149	Muffler	9 EA	5.82	52.38
41	919286	Bearing	9 EA	.11	.99
42	919698	Kit Shim	3 EA	.45	1.35
43	919700	Kit Shim	3 EA	.36	1.08
44	954693	Flasher	9 EA	1.53	13.77
45	920535	Rod	9 EA	1.65	14.85
46	921317	Socket	9 EA	1.65	14.85
47	921937	Kit Slack Ad	9 EA	1.08	9.72
48	922607	Kit Rep Tran	9 EA	4.43	39.87
49	935758	Kit Rep Tran	9 EA	5.55	49.95
50	923130	Regulator	9 EA	3.39	30.51
51	923300	Set	9 EA	3.39	30.51
52	923391	Contact Set	18 EA	1.08	19.44
53	924214	Sealed beam	18 EA	1.65	29.70
54	925044	Generator	3 EA	26.51	79.53
55	925180	Oil Seal	18 EA	.53	9.54
56	925446	Cone Roller	36 EA	1.73	62.28
57	925447	Cup	36 EA	.88	31.68
58	925652	Brush Set	9 EA	.49	4.41
59	925665	Brush set	9 EA	1.08	9.72
60	926038	Gasket	9 EA	.06	.54
61	926044	Pumper water	9 EA	9.00	81.00
62	926091	Carburator	3 EA	24.00	72.00
63	926544	Kit Diff	3 EA	10.56	31.68
64	936406	Oil filter	36 EA	1.71	61.56
65	928667	Spring	9 EA	.24	2.16
66	928818	Plate driven	9 EA	16.17	145.53
67	928819	Plate	9 EA	16.50	148.50
68	928929	Pump oil	3 EA	15.60	46.80
69	928953	Hose-radiator(lower)	9 EA	.69	6.21
70	929097	Hose-fuel	9 EA	.54	4.86
71	936741	Spark plug	108 EA	.63	68.04
72	929992	Ballast	18 EA	1.00	18.00
73	929993	Coil Ignition	9 EA	4.46	40.14
74	930045	Belt fan	18 EA	.99	17.82
75	930129	Pump	9 EA	11.00	99.00
76	933616	Kit repair	9 EA	4.20	37.80
77	933618	Kit repair	18 EA	3.45	62.10

<u>Item</u>	<u>Catalogue Number</u>	<u>Description</u>	<u>Quantity</u>		<u>Unit Price</u>	<u>Total Price</u>
78	933617	Set gasket	18	EA	.90	16.20
79	930187	Gasket set	9	EA	7.86	70.74
80	930188	Gasket set	9	EA	5.28	47.52
81	930224	Kit wire	3	EA	3.30	9.90
82	930405	Motor strtg	3	EA	29.16	87.48
83	931210	Tension pad	9	EA	.69	6.21
84	931852	Distributor	9	EA	15.39	138.51
85	931660	Hose red-upper	9	EA	.72	6.48
86	931670	Drive bendix	9	EA	6.90	62.10
87	931674	Cap	9	EA	1.08	9.72
88	931676	Condenser	18	EA	.54	9.72
89	931678	Extension	9	EA	1.51	13.59
90	120125	Rotor	18	EA	.41	7.38
91	931680	Pin	18	EA	.03	.54
92	935801	Gasket set	9	EA	.30	2.70
93	932309	Kit rep pump	9	EA	1.15	10.35
94	928939	Radiator	2	EA	37.00	74.00
95	937185	Wheels	2	EA	9.26	18.52
96	931477	Universal Joints front	4	EA	3.00	12.00
97	120056	Srping center bolt	6	EA	.15	.90
98	910261	Shock Absorbers(front)	4	EA	3.90	15.60
99	914179	Shock Absorbers(rear)	4	EA	3.90	15.60
100	908121-1	Main spring leaves	8	EA	3.96	31.68
101	924918	Ignition switch	2	EA	2.37	4.74
102	914802	Retainers-front wheels	10	EA	.68	6.80
103	909476	Univ. joint-axle shaft	4	EA	3.30	13.20
					TO T AL	\$ 3,107.11

SUPPLIES FOR RURAL MOBILE HEALTH PROGRAM, SECOND AND THIRD YEARS

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
1	2	14131 Panel Delivery 3-164 Converted to Ambulance, each	\$ 3,657.15	\$ 7,314.30
2	158	Tires 7-00-16, 6 ply, each	15.70	2,480.60
3	158	Tubes 7-00-16, each	1.60	252.80
4		Spare parts list for Panel Delivery (Station Wagon) vehicles model 6-230 (attached to		6,214.22
5		Attached spare parts list for Volvo Engine 110		<u>3,739.48</u>
		Total cost of items:		\$ 20,001.40
		Freight and handling charges:		4,000.00
				<u>\$ 24,001.40</u>

UNCLASSIFIED

ANNEX VI, Page 28 of 47

Exhibit 2, Page 25

VEHICLE, MEDICAL AND DENTAL EQUIPMENT
AND MATERIAL REQUIREMENTS
FOR HEALTH CENTERS

A. VEHICLES:

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u> \$	<u>TOTAL PRICE</u> \$
1. Jeep type vehicles, 4 wheel drive, including freight	30	2,500.00	75,000.00

B. MEDICAL EQUIPMENT:

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
1. Graduated measure-stainless steel- 1000 cc.	102	6.15	627.30
2. Emesis basin-stainless steel 16 oz.	177	2.40	424.80
3. Emesis basin-stainless steel 28 oz.	75	3.00	225.00
4. Catheter instrument tray 12 ¹ / ₄ " x 7 ³ / ₄ " x 2 ¹ / ₂ " with flat cover-stainless steel	75	10.70	802.50
5. Small sponge bowl-stainless steel- 20 oz.	117	2.40	280.80
6. Catheter instrument tray stainless steel- 6 oz.	150	4.25	637.50
7. Vollrath funnel-stainless steel- 2 ³ / ₈ oz.	75	2.25	170.00

UNCLASSIFIED

UNCLASSIFIED

ANNEX VI, Page 29 of 47

Exhibit 2, Page 26

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
8. Irrigator with handle-stainless steel- 1/2 liter	70	8.15	571.00
9. Cotton jars and covers- stainless steel- 1 liter	80	6.10	488.00
10. Graduated measure-stainless steel 500 cc	62	1.60	99.20
11. Instrument tray with cover- stainless steel- 19" x 13" x 1/4"	62	9.00	558.00
12. Plastic bathtub for babies- 26 liters	75	2.00	150.00
13. Hot water bag- 2 liters	75	2.60	205.40
14. Tracheal tube (rubber) #7	62boxes	3.60	223.20
15. Urinary tube (rubber) #12	124boxes	0.50	62.00
16. Urinary tube (rubber) #14	124boxes	0.50	62.00
17. Surgical Gloves-size #7- 7 1/2	50gross	59.00	2,950.00
18. Nipples	30gross	7.50	225.00
19. Ear and ulcer syringes (rubber) 3 oz.	62	0.65	40.30
20. Infant rectal syringe (rubber) 1 oz.	62	0.28	17.36
21. Rectal tube- (rubber) #11	150	0.50	75.00
22. Rectal tube- (rubber) #14	150	0.50	75.00
23. Rubber irrigation tube	150	0.50	75.00

UNCLASSIFIED

UNCLASSIFIED

ANNEX VI, Page 30 of 47

Exhibit 2, Page 27

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
24. Medicine droppers, curved point	744	0.10	74.40
25. Irrigation syringes- 2 oz.	79	0.65	52.00
26. Oral clinical thermometers centigrade scales	60dozen	6.15	369.00
27. Rectal clinical thermometers centigrade scales	60dozen	5.25	315.00
28. Glass vaginal tubes	79	1.00	79.00
29. Alcohol lamps- 2 oz.	70	1.00	70.00
30. Floor lamp	62	14.25	883.50
31. Flashlight- 2 batteries	186	1.00	186.00
32. Headlight- electric A.C. (frontal)	62	38.50	2,387.00
33. Nasal speculums	124	1.08	134.00
34. Nylon medicine cup- 1 oz.	282	1.25	352.50
35. Graduated measure glass 4 oz.	79	1.25	98.75
36. Air syringe for infants- 1 oz.	62	0.28	17.36
37. Nylon connecting tubes 5/16"	248	1.20	297.60
38. Snellen card to measure eye-sight	186	1.00	186.00
39. Percussion hammer	180	1.35	243.00

UNCLASSIFIED

UNCLASSIFIED

ANNEX VI, Page 31 of 47

Exhibit 2, Page 28

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
40. Spinal manometer- fluid water type	124	13.50	1,674.00
41. Otoscope-Ophthalmoscope sets	70	88.00	6,160.00
42. Pelvimeter	70	7.00	490.00
43. Mercurial manometer-standard	56	40.00	2,240.00
44. Pocket manometer	56	42.00	2,352.00
45. Accessories for #44 for infants	56	3.15	177.00
46. Laryngoscope	56	11.00	616.00
47. Stethoscopes, triple head	66	22.50	1,485.00
48. Centimeter- plastic and table cover	124	1.00	124.00
49. Uterine dilators	56	37.00	2,072.00
50. Uterine sound	56	3.30	185.00
51. Bandage forceps- 6"	66	8.85	584.10
52. Bandage forceps- 8"	66	8.85	584.10
53. Hemostatic forceps-straight 5 and 1/2"	200	5.55	1,110.00
54. Hemostatic forceps-straight 6 1/4"	200	5.85	1,170.00
55. Curved forceps 5"	186	6.00	1,116.00
56. Obstetrical forceps	124	7.60	942.40

UNCLASSIFIED

UNCLASSIFIED

ANNEX VI, Page 32 of 47

Exhibit 2, Page 29

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
57. Sponge forceps-straight 9"	124	6.00	992.00
58. Forceps for sterilizing 7 3/4"	124	6.25	775.00
59. Iris forceps with fine mouth tooth- 6"	186	2.10	390.60
60. Tongue seizing forceps- 6 1/2"	63	4.50	283.50
61. Hypodermic needle holder-6"	124	6.75	837.00
62. Standard surgical blade handle	124	2.40	296.00
63. Surgical blades- standard assorted	124gross	16.20	2,009.00
64. Uterine forcep	56	9.75	546.00
65. Uterine dilators set	56	32.25	1,806.00
66. Bistoury blades #11	124gross	12.00	1,488.00
67. Bistoury blades #12	124gross	11.00	1,364.00
68. Chemical mask-anesthesia adult size	57	6.50	370.50
69. Hypodermic needles #18 x 1 1/2"	124gross	2.67	331.00
70. Hypodermic needles #20 x 1 1/2"	124gross	2.67	331.00
71. Hypodermic needles #22 x 1 1/2"	124 gross	2.67	331.00

UNCLASSIFIED

UNCLASSIFIED

ANNEX VI, Page 33 of 47

Exhibit 2, Page 30

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
72. Hypodermic needles #24 x 1 1/2"	124gross	2.67	331.00
73. Hypodermic needles #25 x 1 1/2"	124gross	2.67	331.00
74. Hypodermic needles #26 x 1/2"	124gross	2.67	331.00
75. Regular surgeon's needle 3/8 circle	124gross	2.30	285.20
76. Regular surgeon's needle 1/2 circle	124gross	2.30	285.20
77. Mayo catgut needle 1/2 circle	100dozen	1.75	175.00
78. Straight abdominal needle triangular point	100dozen	1.75	175.00
79. Bandage scissors 7 1/2"	58	3.60	208.80
80. Episiotomy scissors 5 1/2"	58	7.80	452.40
81. Operation scissors, curved point	116	5.10	592.00
82. Operation scissors, sharp-pointed	116	5.10	592.00
83. Operation scissors, blunt point	116	6.60	766.00
84. Operation scissors-straight sharp-pointed, blunt point 5 1/2"	58	3.70	214.60

UNCLASSIFIED

UNCLASSIFIED
 ANNEX VI, Page 47 of 47
 Exhibit 2, Page 44

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
51	908 bot.	"Rubraton" Elixir. Iron and B Complex vitamins, to supply: Iron 38 mg. Vitamin B1 1 mg. Vitamin B2 1 mg. Vitamin B6 0.5 mg. Niacinamide 5 mg. d-Panthenol 1.5 mg. Vitamin B12 4 mcg. In 1-gal bottles. Squibb's Rubraton or equal.	20.50	18,614.00
52	593 bot.	Sulfadiazine tablets, USP, 0.5 equivalent to 7.7 grains, 1000 tablets per bot.	7.20	4,269.60
53	7 box	Surgical soap, 4 1/2 oz. cakes, 144 per box. (Arwood's "Gamophen" or equal	20.10	140.70

UNCLASSIFIED

ANNEX VI, Page 34 of 47

Exhibit 2, Page 31

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
85. Operation scissors, straight sharp-pointed- 5 1/2"	58	3.75	217.50
86. Vaginal speculum, large	124	6.15	762.60
87. Vaginal speculum, medium	124	6.15	762.60
88. Hypodermic syringes- 5cc	400dozen	14.20	5,680.00
89. Hypodermic syringes- 10cc	400dozen	16.75	6,700.00
90. Hypodermic syringes- 2cc	400dozen	11.50	4,600.00
91. Hypodermic syringes- 20cc	50dozen	28.95	1,447.50
92. Tuberculine syringe	180dozen	26.40	4,752.00
93. Instrument sterilizer- full heated, boiling type- 12-5/8" x 6 7/8" x 4"	60	100.00	6,000.00
94. Reverberator	62	35.00	2,170.00
95. Director and tongue tie	62	0.90	55.80
96. Infant scale	58	55.00	3,190.00
97. Binocular microscope	56	718.00	40,208.00
98. Gas or electric refrigerator	56	250.00	14,000.00
99. Thermos bottle- 1 gln.	275	5.00	1,375.00
100. Thermos bottle- 1 liter	275	1.25	343.75
101. Laboratory incubators	58	80.00	4,640.00
102. Baby incubator	50	240.00	12,000.00

UNCLASSIFIED

UNCLASSIFIED

ANNEX VI, Page 35 of 47

Exhibit 2, Page 32

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
103. Albuminometer	63	5.13	323.00
104. Laboratory Beaker- 150ml.	60	0.43	25.80
105. Laboratory Beaker- 250ml.	60	0.43	25.80
106. Glass dropper- 60ml.	372	0.20	74.40
107. Glass dropper- 30ml.	720	0.12	86.40
108. Test tube brush	186	0.40	74.40
109. Manual Centrifugal machine 4 tubes, 15ml.	54	45.00	2,430.00
110. Electrical centrifugal machine	2	189.00	378.00
111. Graduated centrifugal tubes 15ml.	232	1.76	408.00
112. Centrifugal tube- 15ml.	122	0.40	48.80
113. Clamps to hold testing tubes	372	0.30	112.00
114. PH wide range for testing paper form ph2 to ph10	62rolls	2.00	124.00
115. Testing tape paper-wide range ph2 to ph10	124rolls	0.20	25.00
116. Cover glass microslide 22 x 22mm	136boxes	2.00	272.00
117. Cylindric test tube-graduated 50ml.	124	3.00	372.00
118. Conical bottle Erlenmeyer- 50ml. narrow mouth	97	0.55	53.35

UNCLASSIFIED

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
119. Conical bottle Erlenmeyer 500ml. narrow mouth	97	0.68	66.00
120. Microslide forceps	97	2.00	194.00
121. Vollrath funnel (glass) 65mm.	97	1.00	97.00
122. Vollrath funnel (glass) 10mm.	97	0.75	72.75
123. Vertical glass jars for coloring	60	1.24	74.40
124. Alcohol burner with cover stainless steel- 4 oz.	60	1.00	60.00
125. Red pencils- wax	124dozen	0.24	30.00
126. Serologic pipette- 1ml. in 1/100 ml.	124	1.79	222.00
127. Serologic pipette- 10 ml. in 1/100 ml.	124	2.09	259.00
128. Microscope slides plain, 75 x 25 mm clinical (small boxes)	240	6.65	1,596.00
129. Holder for test tubes (wood) for 12 tubes	60	2.30	138.00
130. Test tubes 16 x 150 mm. with lips	240	0.50	120.00
131. Tripode- laboratory 3" iron	60	1.25	75.00
132. Urinometers	124	2.10	260.40
133. Warm air sterilizer 10" x 12" x 10" to heat with kerosene	60	15.00	900.00

UNCLASSIFIED

ANNEX VI, Page 37 of 47

Exhibit 2, Page 34

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
134. Water distiller, simple form 1/2 gal. heated with combustible	60	70.00	4,200.00
135. Portable sterilizer- 14 x 15" pressure	60	80.00	4,800.00
136. Portable examining tables- 3 sections	60	150.00	9,000.00
137. Adult scale- 300 lbs.	60	70.00	<u>4,200.00</u>
TOTAL MEDICAL EQUIPMENT			194,873.00
Freight and Handling			<u>40,000.00</u>
			234,873.00

C. DENTAL EQUIPMENT, INSTRUMENTS AND MATERIALS:

Dental Equipment and Instruments for Nine Type I Health Centers

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
1. Dental unit with lamp, chair and sterilizer with dry heat	9	3,200.00	28,800.00
2. Dental cabinet of local manu- facture	9	100.00	900.00
3. Receptacle for disposal of cotton, gauze, etc.	9	25.00	250.00
4. Forceps for dental extraction	144	14.75	2,124.00
5. Elevators for extraction	90	5.90	531.00
6. Dental mirrors with handle	216	2.66	575.00

UNCLASSIFIED

UNCLASSIFIED

ANNEX VI, Page 38 of 47

Exhibit 2, Page 35

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
7. Tweezers for cotton	54	4.32	233.00
8. Amalgam condenser	27	2.66	72.00
9. Sharp point explorer	216	1.88	410.00
10. Amalgam carrier	27	5.43	147.00
11. Matrix carrier	27	4.32	117.00
12. Burnishes	27	4.32	117.00
13. Dental syringes	90	6.45	580.00
14. Electric amalgamator	9	65.00	585.00
15. Cement spatula	45	3.00	135.00
16. Carbide burs for contrangle and hard piece	639	1.55	990.00

Dental Equipment and Instruments for the Two Special Type Health Centers

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
1. Dental equipment with chair, cabinet, lamp, compressor, airmotor, sterilizer, X ray	2	6,400.00	12,800.00
2. Forceps for dental extractions	32	14.75	472.00
3. Elevators for extraction	20	5.90	118.00
4. Dental mirror with handle	40	2.66	107.00
5. Sharp point explorer	40	1.88	75.00
6. Tweezers for cotton	12	4.32	52.00

UNCLASSIFIED

UNCLASSIFIED

ANNEX VI, Page 39 of 47

Exhibit 2, Page 36

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
7. Dental syringes	20	6.45	129.00
8. Amalgam condenser	12	2.66	32.00
9. Amalgam carrier	12	4.32	52.00
10. Matrix carrier	12	4.32	52.00
11. Burnishes	12	4.32	52.00
12. Electric amalgamator	2	65.00	130.00
13. Cement spatula	10	3.00	30.00
14. Carbide burs for contrangle and hard piece	96	1.55	149.00

Dental Material Requirements

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
1. 2 oz. bottles of Eugenol	120	1.40	168.00
2. 8 oz. bottles of Zinc Oxide	45	1.80	81.00
3. 1 pound Metallic Mercury	30	20.20	606.00
4. 1 pound Silver Alloy	60	60.00	3,600.00
5. Signal germicide concentrate	72boxes	6.35	457.00
6. Cotton rolls	30boxes	10.50	315.00
7. Gallon Floxo-Phospho solution	12	81.00	972.00
8. Dental anesthesia with Ephedrine	1800cans	2.55	4,590.00

UNCLASSIFIED

UNCLASSIFIED

ANNEX VI, Page 40 of 47

Exhibit 2, Page 37

<u>ITEM</u>	<u>QTY.</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
9. Dental anesthesia without Ephedrine	300cans	2.55	765.00
10. Dental X ray film	30boxes	55.00	<u>1,650.00</u>
	TOTAL DENTAL		64,020.00
	Freight and Handling		<u>13,000.00</u>
			77,020.00

UNCLASSIFIED

SPECIFICATIONS:

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
1	1,097 bot.	Aspirin tablets, USP, 5 gr. 1000 per bottle.	1.00	1,097.00
2	1,157 bot.	Aspirin tablets, USP, 1 gr. 1000 per bottle (Squibb).	0.79	914.03
3	201 amp.	Adrestat (F) injection, each 5cc. of Adrestat (F) aqueous solution contains 5 mg. of adrenochrome semi-carbazone (as 130 mb. Galbazochrome salicylate); 5.0 mg. sodium menadiol diphosphate (Vitamin K analogue) 50.0 mg. H. Hesperidin; 100.0 mg. Vitamin C (Organon's "Adrestat (F)" or equal), 5cc. ampoules, boxes of 50.	3.25	707.52
4	125 bot.	Sulfamethoxypyridazine Lederle Kynex, Bot. of 500 tab. of 500 mg.	4.00	500.00
5	50 bot.	Aluminum hydroxide gel tablets, USP, scored 0.6 gm. tablets 1000 per bot. (Wyeth's "Amphojel" or equal).	5.64	282.00
6	11,494 amp.	Dicyclomine hydrochloride ampoules of 2cc. 20 mg. per 2cc. amp. Box of 100 (Merrell's "Bentyl" or equal).	1.10	12,643.40
7	102 gal.	Benzalkonium Chloride, USP, aqueous solution 16% gallon bott. (Winthrop's "Zephiran" Chloride aqueous solution or equal).	2.75	280.50
8	2,227 vials	Bezathine Penicillin G. USP injection each dose to combine 600,000 units of benzathine penicillin G. 300,000 units of potassium penicillin G. Dry Power in 5 dose vials to be reconstituted with water for injection. USP (Wyeth's patented product "Bicillin" All-Purpose).	2.95	6,569.65

UNCLASSIFIED

ANNEX VI, Page 42 of 47
Exhibit 2, Page 39

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
9	48 jars	Butamben picrate ointment and nitromer- sol, 1-lb jars. (Abbott's "Butesin Picrate ointment with methapen or equal).	1.71	82.08
10	2,352 vials	Parenteral Vitamin B Complex, 10cc vial containing: Vitamin B1 (thiamine hydrochloride USP 10 mg. Vitamin B2 (Riboflavin USP) 0.33 mg. Nicotinamine (niacinamide USP) 10 mg. Pantothenic Acid (as sodium salt) 4 mg. Vitamin B12 10 mcg. (Parke Davis "Combex Parenteral" Steri- vial or equal).	0.33	776.16
11	12 box	Calcium Gluconate USP, ampoules of 0.50 gm. (1,000 ampoules box) (Abbott #A3885 or equal).	163.30	1,959.60
12	1,994 bot.	Calcium Gluconate with Vit. D, Tablets Bottles of 100 tablets (Eli Lilly and Co. No. 1595.	1.48	2,951.12
13	1,798 bot.	Calamine Lotion USP 1 gal. bottles (Parke Davis & Co. "Caladryl" Lotion or equal).	0.24	431.52
14	2,852 bot.	Chloramphenicol, USP, otic solution, 15cc dropper bot. (Parke Davis & Co.) patented (Chloromycetin Otic).	0.98	2,794.96
15	5,483 bot.	Chloramphenicol Capsules, USP, 250 mg. per bot. (Parke Davis & Co. "Chloro- mycetin" or equal).	4.10	22,480.30
16	15,948 bot.	Chloramphenicol Palmitate Oral Suspen- sion, USP, 60cc bottle (Parke Davis & Co. "Chloromycetin" or equal).	0.92	14,672.16

UNCLASSIFIED

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
17	294 box	Chlorpheniramine Maleate Injection USP, 1cc amps., 10 mg per cc 6 amps. per box. Schering's patented product "Chlortrimeton Maleate Injection".	1.80	529.20
18	41 bot.	Chlorpheniramine Maleate Tablets, USP (4mg) 1000 per bot. (Schering's patented product "Chlortrimeton Maleate").	9.90	405.90
19	13,691 bot.	Diphenhydramine Hydrochloride, USP, 1 pt. bottle. (Parke Davis patented product "Benylin" Expectorant).	0.60	8,214.60
20	2,286 bot.	Diphenhydramine Hydrochloride Elixir USP, 1 gal. bottle. (Parke Davis "Benadryl Elixir").	2.90	6,629.40
21	2,561 bot.	Dextrose Injection USP 5% in Distilled Water 500cc (Abbott Lab.) Bottle #A4123, with intravenous set, Disposable Venopack with 20G needle, No. 4615.	0.94	2,407.34
22	208 bot.	Dextro Propoxyphene Hydrochloride capsules, 65 mg. 100 per bot. USP (Eli Lilly's patented product "Darvon Compound 65").	5.82	1,210.56
23	468 bot.	Diethylstilbestrol tablets USP, 5 mg. 100 per bottle.	0.62	290.16
24	468 bot.	Dihydroxyquin tablets, USP, 650 mg. 500 tablets per bot. (Searle's "Diodoquin" or equal).	6.09	2,850.12
25	102 gals.	"Donnatal Elixir" or equal, Citrus Flavored, 1 gal. bottle. (Product of A.H. Robins Co., Inc.).	4.80	489.60
26	306 bot.	"Donnatal Tablets" or equal, White compressed, scored bot. of 1000 tablets. (Product of A.H. Robins Co., Inc.).	3.15	963.90

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
27	519 box	Epinephrine solution, USP, 1:1000 1cc ampoules, 10 amp. per box. (Parke Davis "Adrenalin Chloride Solution, or equal").	0.95	493.05
28	18 bot.	Ergonovine Maleate Tablets, USP, 0.2 gm. 1000 per bottle.	26.19	471.42
29	3,025 bot.	Ferrous Sulfate, USP, Elixir, 50cc bot. (Mead Johnson "Fer-in-sol" or equal).	0.476	1,439.90
30	1,134 bot.	Winthrop's "Franol" or equal. Each tablet contains 8 mg. phenobarbital, 32 mg. benzylephedrine hydrochloride and 130 mg. theophylline, 100 tablets per bottle.	2.56	2,903.04
31	104 bot.	Gitalin, 0.5 mg. tablets, 1000 per bot. (White's "Gitaligin").	6.25	702.00
32	416 bot.	Parke Davis Hepadesicol or equal 1000 capsules per bottle. To contain: DL-Methionine 150 mg. Choline Bitartrate 200 mg. Inositol 15 mg. Dessicated whole fresh bile (Desicol) 150 mg. Betaine 50 mg.	19.00	7,904.00
33	276 bot.	Cole Pharmacal Co. Iodo-Niacin (Potassium Iodide 135 mg. and niacinamide hydroiodide 25 mg) 100 tablets per bot.	5.00	1,380.00
34	10,583 bot.	Multivitamin capsules with minerals (Parke Davis "Abdol" or equal) 1000 per bot. Vitamin C (ascorbic acid) 50 mg. Vitamin B2 (G) (riboflavin) 2.5 mg. Vitamin B6 (pyridoxine hydrochloride) 0.5 mg. Vitamin B12 (crystalline) 1 mg.	1.48	15,662.84

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
34	Cont'd	Vitamin B1 (thiamine monitrate) 2.5 mg. Nicotinamide (niacinamide) 20 mg. Vitamin A - 5000units (1.5 mg) Vitamin D - 1000 units (25 mg) Calcium Pantothenate 2.5 mg. Folic Acid 0.1 mg. Iodine (as salt) 0.15 mg Manganese (as salt) 1 mg. Potassium (as salt) 5 mg. Iron (as salt) 15 mg. Copper (as salt) 1 mg. Zinc (as salt) 0.5 mg. Magnesium (as salt) 1 mg. Calcium (as salt) 44 mg. Phosphorus (as salt) 34 mg.		
35	1,799 bot.	Kaopectate with Neomycin (Upjohn's "Kaomycin" or equal) 1 pint bot.	3.75	6,746.25
36	582 box	Glycobiarsol Vaginal Suppositories 10 per box (Winthrop's "Millibis" Vaginal suppositories or equal.	1.67	971.94
37	215 box	Nikethamide Injection, N.F. 1cc ampouls 100 amp. per box (Ciba's "Coramine" or equal).	6.50	1,397.50
38	102 box	Norlestrin tablets, bot. of 100 (Parke Davis).	36.00	3,672.00
39	1,198 tubes	Ophthalmic ointment containing 500 units of bacitracin, USP, and 5 mg. neomycin sulfate ointment USP. 1/8 ounce tubes with applicator tip (Walker's "Bacimycin" or equal).	0.35	419.30
40	186 bot.	Phenobarbital tablets, USP, 0.1 gm. (1½ gr.) bot. of 1000.		

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
41	1,666 bot.	Phenylephrine hydrochloride solution, 0.25% USP, in 1 oz. bottles (Winthrop's Neo-synephrine - hydrochloride solution)	0.35	583.10
42	110 bot.	Procaine Hydrochloride 2% aqueous solution, USP, 30cc bottle.	0.38	41.80
43	576 vials	Sterile Progesterone, suspension, N.F. 25mg. per cc vials of 10cc.	1.27	731.52
44	4,025 gals.	Piperazine cicrate syrup, USP, 100 mg. per cc. or Piperazine hexahydrate.	5.47	22,016.75
45	227 bot.	Quinacrine hydrochloride tablets, USP, 100mg. 100 per bottle. (Winthrop's "Atabrine Hydrochloride" or equal).	1.56	354.12
46	58 box	Reserpine tablets, USP, 0.25 mg. 1000 bottle. (Ciba's patented product "Serpasil").	0.65	37.70
47	37 pkg.	Antivenin (Crotalidae) Polyvalent, equine origin, North and South American Antisnake bite, serum - Wyeth - combination package containing 1 vial to yield 1 dose; 10cc of water for injection (w/preservative), in syringe; one sterile double-ended needle; one 1cc vial normal horse serum, 1:10 (for test and desensitization); 1 applicator of Iodine.	6.46	239.02
48	509 bot.	Ferrous Sulfate tablets USP, 5gr. tab. 1000 per bottle. Sugar coated.	2.04	1,038.36
49	365 bot.	Chloroquine Phosphate tablets, USP, 250 mg. 1000 per bottle. (Winthrop's "Aralen" or equal).	4.15	1,514.75
50	83 bot.	Triamcinalone tablets 8mg. 250 per bot. (Squibb's "Kanacort" or equal).	34.26	2,843.58

<u>Item</u>	<u>Quantity</u>	<u>Description</u>	<u>Unit Price</u>	<u>Total Price</u>
51	908 bot.	"Rubraton" Elixir. Iron and B Complex vitamins, to supply: Iron 38 mg. Vitamin B1 1 mg. Vitamin B2 1 mg. Vitamin B6 0.5 mg. Niacinamide 5 mg. d-Panthenol 1.5 mg. Vitamin B12 4 mcg. In 1-gal bottles. Squibb's Rubraton or equal.	20.50	18,614.00
52	593 bot.	Sulfadiazine tablets, USP, 0.5 equivalent to 7.7 grains, 1000 tablets per bot.	7.20	4,269.60
53	7 box	Surgical soap, 4 1/2 oz. cakes, 144 per box. (Arwood's "Gamophen" or equal Somerville, N.J.)	20.10	140.70
54	916 bot.	Thiamine Hydrochloride tablets, USP, 10 mg. bottle of 1000 tablets.	1.35	1,236.60
55	157 bot.	Thimerosal Tincture, N.F. 1:1000 Tincture, 1-pint bottle (Lilly's "Merthiolate" or equal).	1.13	177.41
56	972 tubes	Zinc Oxide Ointment, USP, 1 oz. tubes	0.22	213.84
57	2,298 tubes	Zincundocate ointment, 1 oz. tubes WTS's product "Desenex" ointment or equal.)	0.55	1,263.90
58	2,342 ea.	Dental anesthetic carpoules (50 per box) "Octocaine" or equal.	4.20	9,838.50
59	2,083 tubes	Micostatn Ointment 15 gr.	1.00	<u>2,083.00</u>
			Total of Goods	\$ 204,831.87
			Freight charges	31,168.13
			Total	<u>\$ 236,000.00</u>