

IN-1126-741
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Site Selection Feasibility Study for
the Ecuador Graduate Management Program

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January 31, 1986

REI No. ROD/LAC-85-002

Table of Contents

Executive Summary	1
Introduction	3
I. Site Preparation	4
II. Computer Facilities	17
III. Furniture and Equipment	30
IV. Library Acquisitions	34
V. Budget Summary	37
Appendix I Details of the IBM Recommended Configuration	38
Appendix II Com-Tec Services Proposal for Computer Hardware	48

Executive Summary

This study examines the requirements and costs for preparing a site for the Ecuadorean Graduate Management Program. Refurbishing an existing structure is considered more feasible than building from the ground up, primarily because of time constraints. Existing structures of 1,000 to 1,200 square meters can be found although available structures of this size are not plentiful. A budget of \$165,000 is proposed to build walls, put in ceilings and floors, construct air conditioning ductwork, and make the site suitable for a graduate management program.

Computer capability is essential for instructional and research functions, and an IBM configuration of personal computers is recommended, tied together with an IBM System 36 file server. This system provides high capability at low cost and requires minimal maintenance and supervision. Such a system would cost \$166,000, would require only one computer specialist, and support personnel would be available in the host country.

Total furnishings and equipment for the 1,000 to 1,200 square meter site would cost \$189,475. This amount includes all requirements, including office furnishings, classroom furnishings, library equipment, basic kitchen needs for a snack-type lunch, and transportation vehicles.

The library will require time to build, but a goal of 10,000 volumes should be reached by the end of the first five years of operations. An initial outlay of \$80,000 should get

the basic indices, at least 1,000 basic volumes, and the back volumes of periodicals. This is followed by acquisitions of 1,000 volumes per year during the five year period, which will build an adequate library, assuming donations of 4000 volumes during this period.

The total cost of site preparation, equipment, furnishings, computers, and initial library acquisitions, as outlined above, will be \$601,223. Approximately ten months will be necessary to locate the site, refurbish it, acquire and install the furniture and equipment, and get the computer system up and running.

INTRODUCTION

This study describes the evaluations and recommendations related to locating, refurbishing, and equipping a suitable site for The Ecuadorean Graduate Management Program.

Separate subsections are provided for the detail and the justification underlying the individual proposals concerning the site. These sections include:

- I. Site Preparation
- II. Computer facilities
- III. Furniture and Equipment
- IV. Library Acquisitions
- V. Budget Summary

I. Site Preparation

Construction of a new structure as a part of this proposal is not considered feasible due to US AID requirements and the additional time required. Therefore, this proposal is based upon the selection of an existing structure and its rehabilitation into a facility suitable for a graduate management school.

However, the Fundacion Privada Ecuatoriana at the time of preparation of this proposal was considering the construction of a "bare-walls" structure, utilizing its own funds and its own land. Should this plan to construct a facility proceed during the time that this proposal is being reviewed by US AID, a project paper is being prepared, and an implementation contract is being awarded, then there is a possibility that a structure owned by The Fundacion rather than by a private leasor would be available.

The availability of such a basic structure from The Fundacion would in no way alter the provisions included in this proposal. Interior construction such as walls, floors, air conditioning and ceilings would be required in the rehabilitation of either a private or a Fundacion-owned structure. Similarly, lease costs of approximately equal amounts would be paid under either arrangement. This section of the study details the evaluation of potential temporary sites carried out by the study team, its recommendations for

the site, and a site preparation cost estimate. These topics are covered with the following headings:

1. Site Selection Criteria
2. Possible Site 1
3. Possible Site 2
4. Possible Site 3
5. Refurbishing Costs

1. Site Selection Criteria

Our basic criteria for selecting a site included the considerations of size, security, and location.

Space i. Provide a minimum of two classrooms, one sufficiently large to seat our proposed maximum student body of 75, and a smaller one for special classes, seminars, or staff meetings.

ii. Provide a separate office for each administrator and each faculty member.

iii. Provide sufficient space for all support functions, e.g., library, registrar, secretaries, accounting, and computer facilities.

Security i. Provide physical security of persons while in route to or from the school and while inside the building.

ii. Provide security for automobiles or other vehicles used for transportation to the school.

iii. Protect the property and equipment of the school during times when no classes are in session.

Location i. Be sufficiently close to the central part of the city to minimize transportation.

ii. Be at a location that has adequate public transportation.

iii. Be in a location conducive to a quality educational institution.

iv. Have suitable parking facilities for approximately 100 cars.

The city of Guayaquil has few existing facilities which are large enough to house the proposed school, and ascertaining whether sufficient space in an acceptable building could be found in or sufficiently close to the city was given early priority. The initial planning premises were formulated on the basis of a minimum of 600 square meters for the original temporary site. The 600 square meters of minimum space would provide for only the absolutely essential activities, such as the following:

6 small offices for professors(10 sq.m. each)	60 sq.m.
2 larger administrator's offices(15 sq.m. each)	30
1 large classroom, capacity 70 students	200
1 small classroom, capacity 30 students	100
1 secretarial work area	30
1 library area	30
1 computer area	30
1 registrar, admissions office area	30
2 bathrooms	15
hallways, etc.	75

TOTAL

600 sq.m.

Restricting the organization to only these facilities would leave much to be desired, and this configuration was considered acceptable only as a last resort and on an extremely short-term basis. Double this amount of space, or 1,200 square meters, was considered the size most feasible for the type of school being proposed. However, for the initial search the 600 square meter size was considered a minimally acceptable beginning point. Our goal of 1,200 square meters, if available, would provide a third classroom and increased capacity in the other two rooms, more adequate library and computer space, some area for student lounges or study areas, work areas for research assistants and case writers, and at least one additional office for translators or visiting faculty.

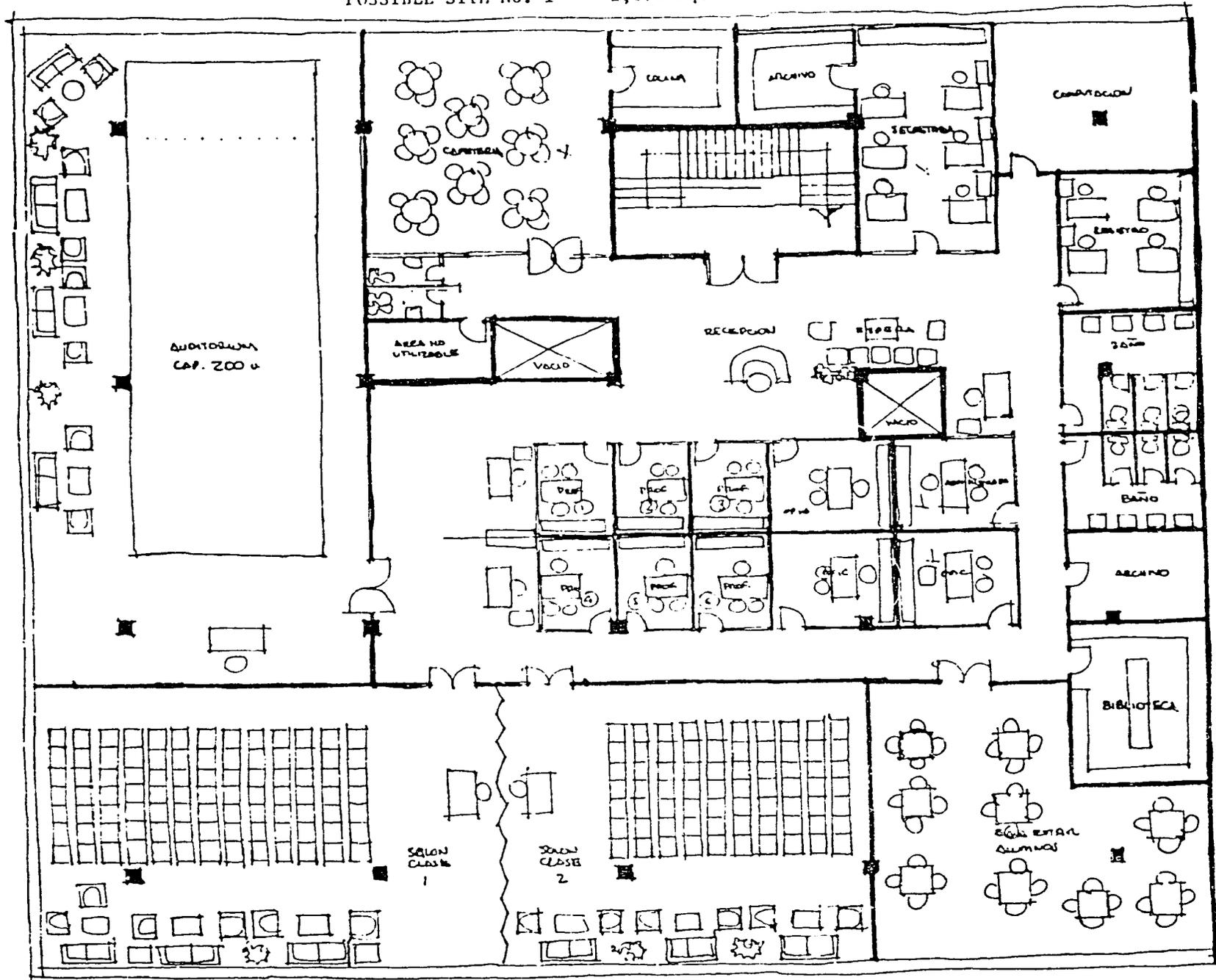
A local Guayaquil architect was employed as a consultant, and three possible sites were identified between the 600 and 1,200 square meter range. Since the initial search at least one additional site has been identified and by the time the implementation stage begins others may be found. The three described herein were all in excess of our minimum requirement, being 1,092, 864, and 669 square meters, respectively. Although each had its advantages and disadvantages, the three were considered minimally acceptable and cost estimates to refurbish the three areas were determined.

2. POSSIBLE SITE 1

The largest and most acceptable site from the standpoint of size contained 1,092 square meters (see Illustration #1) and is located on the second floor of a two-story building recently constructed. The area is unfinished, without ceilings, floor coverings, or interior walls, and the future client-tenant is to establish the layout and complete the work. The building is located some one and one-half miles from the center of town on a major highway. However, the building is some 200 yards off the highway, behind another building, and access is somewhat complicated. There is a shopping center some 500 yards away, and a small cafeteria is located within the building but can serve no more than 25 persons at one time. Parking is available for over 100 cars in a secure and paved parking area. The building has air conditioning, but the ductwork has not been installed, again awaiting the future tenant's layout specifications. The building itself is divided into four separate areas, each with a separate entrance and stairway for each area. The site available for the Graduate Management Program is one of these four separate areas. The existing tenants in the other three occupied quarters are well-known companies. A relatively long-term contract approaching five years would be necessary to secure this facility.

POSSIBLE SITE NO. 1

1,092 Sq. Meters

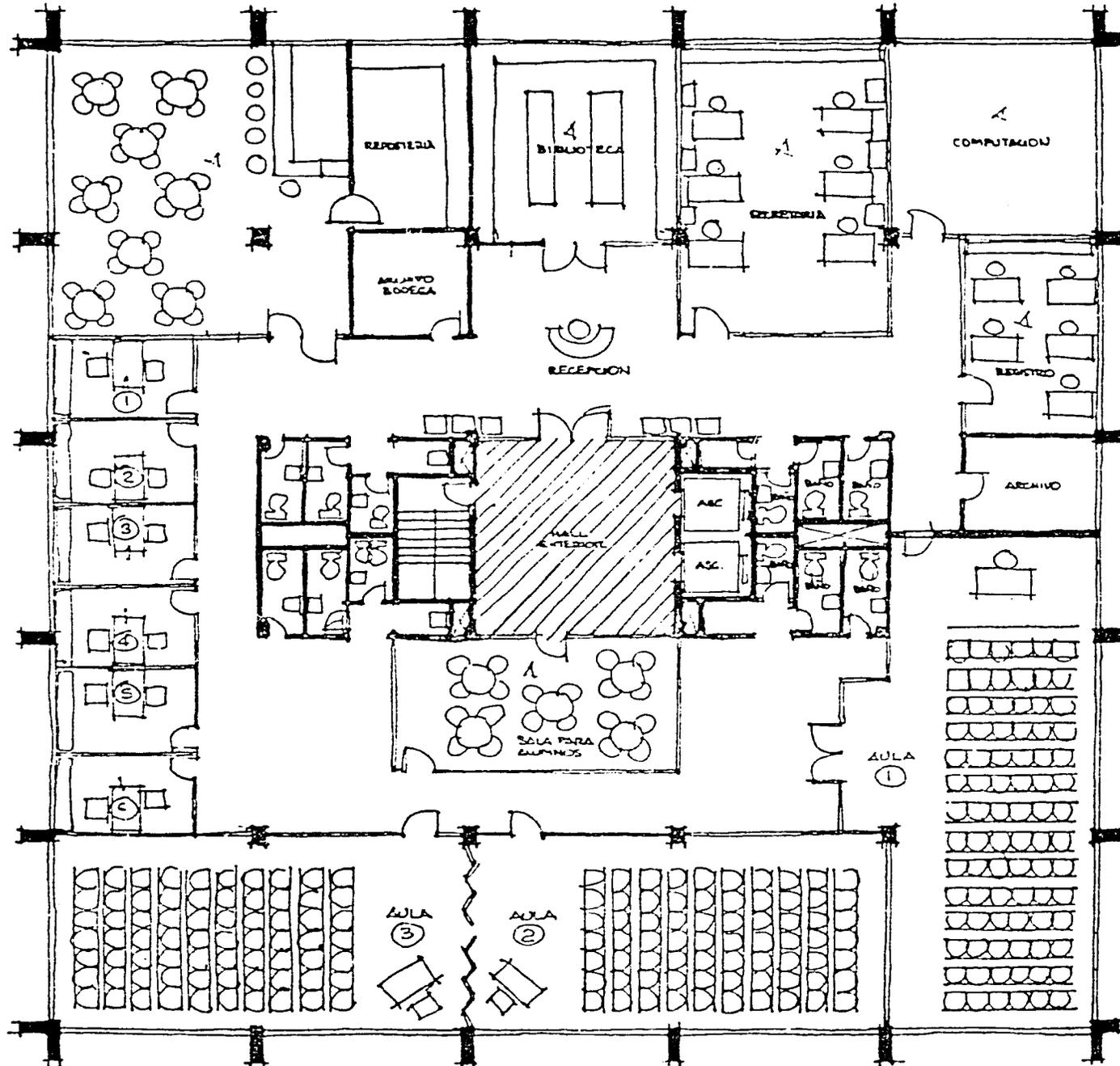


3. POSSIBLE SITE 2

The second site (see Illustration #2) contained 864 square meters of space, located on the main highway to the airport, some one and one-half miles from the center of town. It has existing interior walls, floors and ceilings which would have to be removed, and the interior would have to be completely redone. The site consists of the entire second floor of a building which is five or six years old. An enclosed parking area is adjacent to the building, and the future tenant of the area we are interested in would be allowed 16 spaces in that enclosure. However, the streets on all three sides of the building area are open for parking and there is space there for approximately 100 cars. The building management provides monitors for this parking area to insure safety of persons and property.

There is a security guard at the entrance to the building, and both elevators and stairways to the second floor provide adequate entrance facilities. There are existing walls which must be removed, and both ceilings, and floors would have to be redone. The building is air-conditioned and comfortable. This building has the advantage of being located on a major highway, and in addition to being easy to find, the school would be highly visible to the public.

POSSIBLE SITE NO. 2
864 Sq. Meters

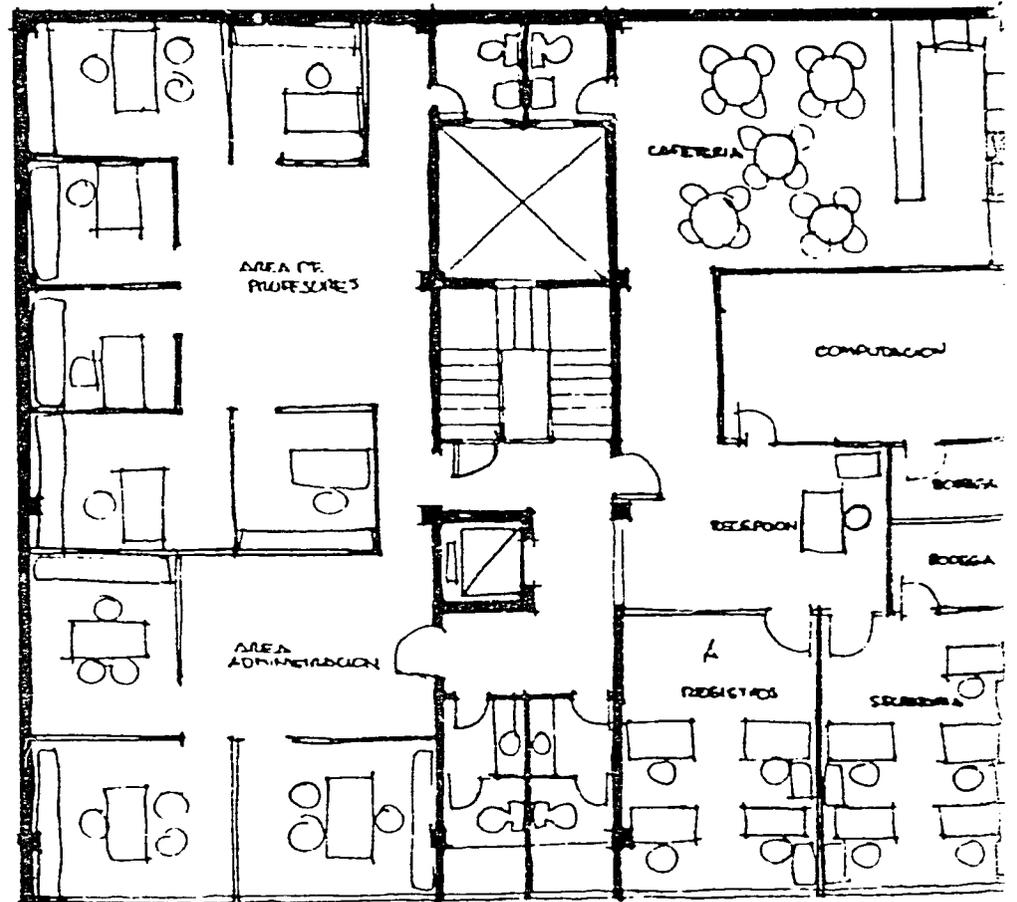
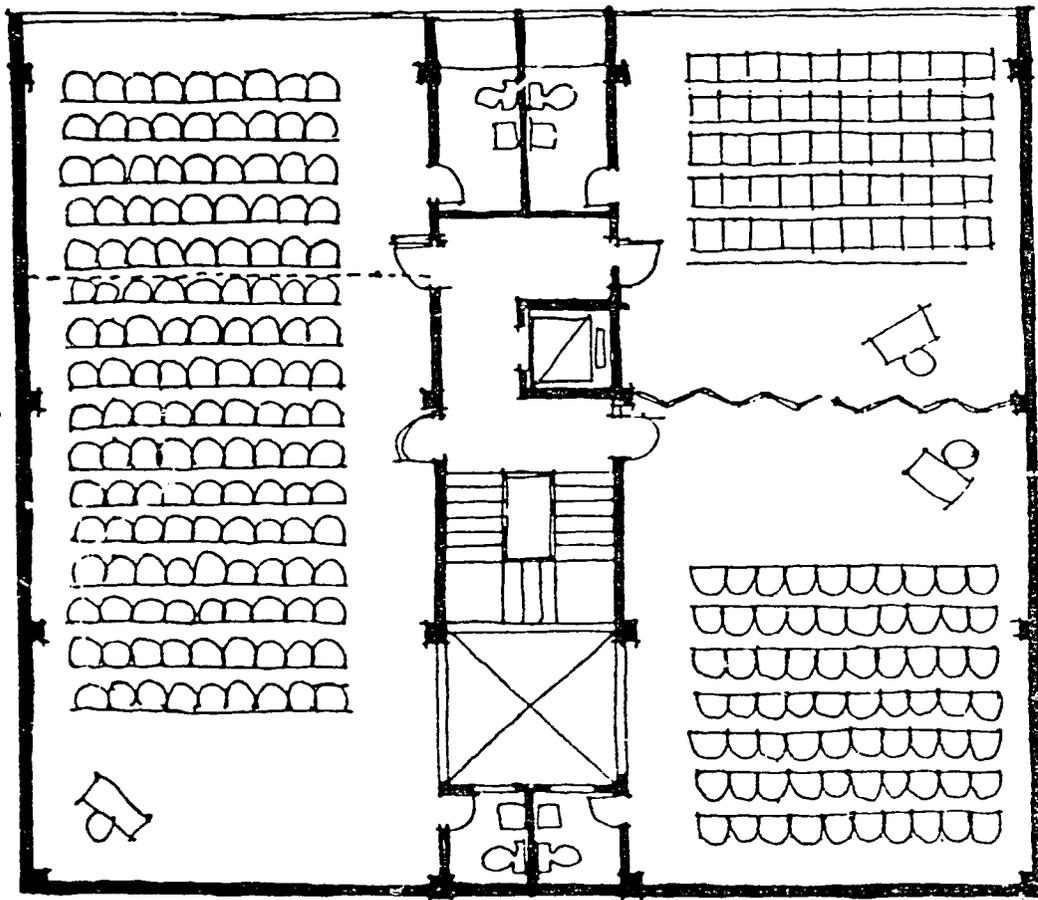


11

4. POSSIBLE SITE 3

The third location (see Illustration #3) is in the center of the business district, located in what might be called the banking area. It contains 668 square meters. The building is old, with narrow stairs and small elevators. Two floors of the building are available, and both would be required to make up the total of 668 square meters. The single and most significant aspect of this location is that parking is absolutely nonexistent, and public transportation would be essential for all staff, students, faculty, and visitors. This weakness is a major one, and for all practical purposes rules out locations in the downtown area. However, this possible site is included in this report to reflect the anticipated costs of refurbishing such locations. All buildings in this downtown area are relatively old and the ceilings, floors, and air-conditioning ductwork, as well as the interior walls would have to be redone to make the site suitable.

Possible Site No. 3
Two Floors 668 Sq. Meters



5. REFURBISHING COSTS

The costs to be incurred in refurbishing the three possible sites are shown below in comparative form. These estimates were prepared with the assistance of the local consulting architect. All amounts are stated in U.S. dollars.

	Site 1	Site 2	Site 3
Remove existing walls, ceilings, floors	\$ 0	\$ 1,000	\$ 1,000
Plumbing fixtures	1,700	800	800
Plumbing labor	500	500	500
Floor covers	19,700	15,000	13,000
Wall partitions and inside doors	28,000	23,000	20,000
Ceilings, light fixtures	21,000	10,000	9,000
Window covers, blinds, drapes	20,000	17,000	6,000
Painting	1,000	800	700
Electrical work	7,100	7,000	6,000
Air-conditioning ducts, fixtures	27,000	24,000	20,000
Bathroom tile	1,000	1,000	1,000
Cabinets, kitchen area	700	700	700
Contingencies for overlooked items	32,500	25,200	19,400
Cost of returning the site to its original state	3,000	2,000	2,000
TOTAL	<u>162,700</u>	<u>128,000</u>	<u>99,100</u>

Rental costs for space such as the three sites described above varies from \$4 to \$6 (U.S.) per square meter per month.

We were quoted approximately \$4,000 per month for the first site, \$3,500 for the second, and approximately the same (\$3,600) for the third.

The facsimiles of the architect's rough sketches of the three sites indicate that the 1,200 square meter area used in our proposed budget is essential for an effective organization, and the initial refurbishing cost and the monthly rental cost difference is insignificant when compared to the additional efficiency and effectiveness which the larger space would permit.

Our recommendation is that an amount of \$165,000 for refurbishing a suitable site be included in the budget proposal, with a monthly rental budgeted at \$5,500. This amount would permit the school to take advantage of a suitably large site which we feel can be located. Our efforts during this stage of the search for a suitable site were directed toward formulating sound cost estimates, and we did not have sufficient time to comb 100 percent of the city for possible sites. During the implementation stage of this project, sufficient time will be available to select the best site, and there is a reasonably strong possibility that the actual sites described above will not be available at that time. However, there is little doubt that a site with 1,000 to 1,200 square meters will be available when the implementation stage of this project begins.

The architect consultant advises that refurbishing such as that described above could be accomplished in approximately three months. However, to provide a margin for error a six month period would be better for planning purposes.

II. COMPUTER FACILITIES

This section outlines the computer requirements for the Ecuadorean Graduate Management Program , recommendations for a computer system and an estimate of its cost. These topics are treated under the following headings:

1. Objectives of the Proposed System
2. System Recommendations
3. System Configuration
4. System Cost
5. Academic Computing Requirements
6. Software Requirements
7. Operating Expenses
8. Site Preparation

1. Objectives of the Proposed System

The recommendations described below concerning computer facilities at the Ecuadorean Graduate Management School are based upon the following considerations:

i. Providing adequate instructional computing resources to be responsive to 75 full-time graduate students who will be working toward a Master's degree in business administration.

ii. Assuring that adequate resources will be available for the research needs of the organization, both students and faculty.

iii. Providing adequate resources to support a level of usage necessary for Ecuadorean state-of-the-art executive training programs.

iv. Providing support for administrative activities such as those of finance, library, administration, registration, and student records.

v. Providing sufficient capability for expansion at a low cost and with minimum additional personnel.

vi. Minimizing the time and expense of downtime, repair and maintenance.

vii. Maximizing the effectiveness and efficiency of the system controls, both within the hardware and software, which are necessary when administrative and instructional uses are made of the same system.

To configure a system which best meets all of these objectives we have conferred with faculty in the Information Systems areas of the Consortium universities, in the University Computing Center, and with several vendors. These discussions centered around the possible configurations which are feasible, the systems support which will be available for each possible configuration, any potential power source problems, the degree of training needed to operate the system, and its expandability.

2. System Recommendations

i. The recommended system is a network of personal computers of the IBM 256K dual disk drive type. These would be tied to a large memory file server, such as the IBM 36 which has 400 megabytes of storage. A number of different types of printers will be tied to the system, including letter quality printers for secretarial and administrative use, a form-feed printer for administrative use, a high-speed line printer for any heavy academic hard-copy printing, and a number of low cost but slower printers for individual student or faculty use. The system files will be backed up with an attached tape drive and power protection will be provided by a surge-protector and a battery auxiliary power unit.

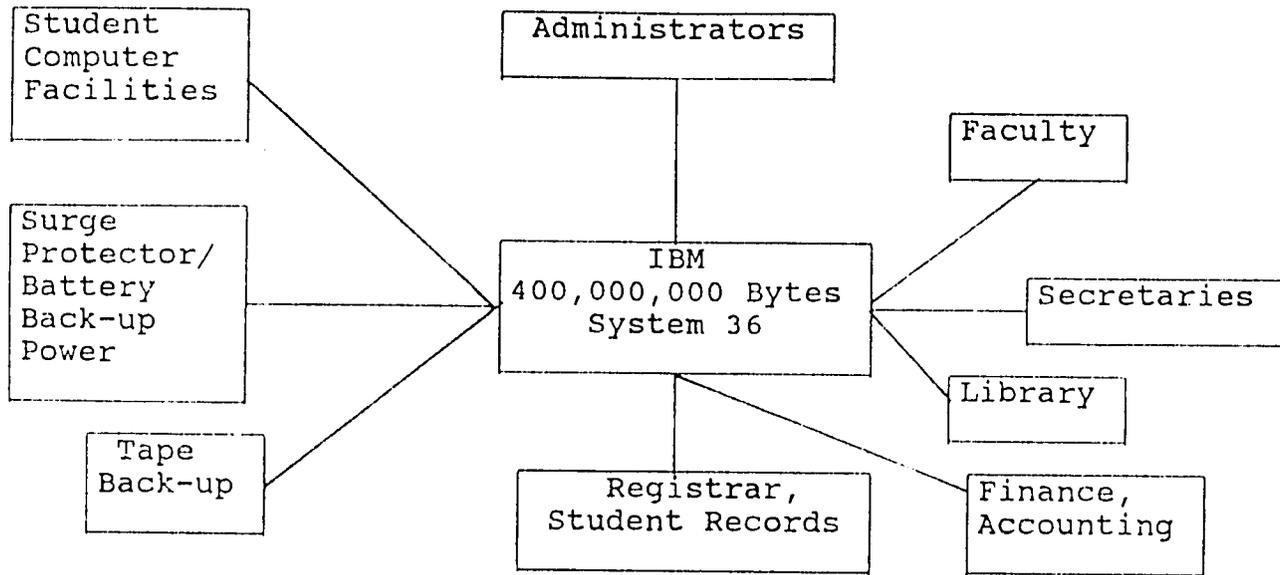
ii. Cost of the recommended system would be \$160,000, including installation, software and initial training costs of operating personnel.

iii. The system would consist of IBM hardware, primarily because of the greater availability of repair and maintenance support in the host country.

3. System Configuration

The system will consist of 24 personal computers of the 256K, dual disk drive type, tied together with a 400 megabyte magazine drive, a tape backup system, and several different types of printers. This configuration is illustrated below.

Computer System Configuration



4. System Cost

The individual elements in the system and their cost are summarized below.

Basic 400 Megabyte magazine drive, IBM System 36	\$ 43,785
19 basic 256K dual diskdrive personal computers without printers	39,197
19 monochrome display units	3,553
5 basic 256 dual diskdrive personal computers, with monochrome display and printers	13,265
Line printer, 240 LPM	4,912
4 letter quality printers	19,880
Magnetic tape backup unit	<u>11,660</u>
Total hardware costs	\$136,252
Estimated software costs (operating systems, wordprocessors, statistical packages, etc.)	21,000
Travel and training costs of system administrator	3,000
Estimated freight	<u>5,748</u>
Total cost	\$165,748

The detailed proposal submitted by IBM representatives is contained in Appendix I of this report. A proposal by Com-tec Services, Inc. was also considered but was not deemed as attractive as the IBM configuration. The Com-tec proposal was for \$155,000 for hardware and was based upon a Novelle Star File Server in place of the IBM System 36. This system cost did not include software, and the availability of more

software and the availability of greater maintenance facilities for the IBM equipment in the host country placed the decision in favor of the IBM configuration. The Com-tec Services proposal is shown in Appendix II of this study.

The selection of IBM equipment is based upon that supplier's ability in the following areas:

1. The widest range of academic and administrative software.

2. The potential for providing software not yet identified as required.

3. Upgradability or expandability of the system.

4. No more expensive than other systems that meet the basic requirements of the proposed school.

5. Academic Computing Requirements

The curriculum described in the Academic Program study proposal relies heavily on computer resources. The computing courses within the program can in some cases be satisfied by personal computers with a stand-alone 256K capacity, but in other cases software packages in the 1 to 2 megabyte range will be needed, such as the SPSS and SAS packages. In addition certain instructional, administrative and research computing needs will require capacities greater than a 256K PC will provide. Further, the IBM software which is available for both personal computers and for larger scale units can be utilized using the system 36 configuration.

Computing skills now make the difference between an adequately prepared graduate with a Masters degree and a student who is technologically unprepared. For the GMP's curriculum to be successful a relatively heavy reliance on computing is a necessity. Table 1 on the next several pages presents the expected courses and the magnitude of computer utilization embedded within the Graduate Management Program curriculum.

The number of computers proposed for student use will provide one computer for each three to four students. This should be sufficient for even peak loads, since the computer facility could be made available both day and evenings and even on weekends if necessary.

With respect to academic research, computer resources beyond the minimum necessary for instructional use would be required. Both memory and speed are important considerations in the research area. Current and potential applications include econometric analysis, statistical analysis, mathematical programming, decision analysis, financial modeling, and graphics. The System 36 capabilities, coupled with the tape input-output capability, provides for almost unlimited research usage.

Table 1

EXPECTED DEGREE AND KIND OF COMPUTER UTILIZATION
FOR MASTER'S CORE COURSES

<u>Course</u>	<u>DEGREE OF UTILIZATION</u>				<u>Applications Software</u>
	<u>High</u>	<u>Moderate</u>	<u>Low</u>	<u>None</u>	
Data Analysis	X				Statistics, Basic or Pascal, Computer Assisted Instruction
Organization Behavior			<i>b</i>	<i>(X)</i>	-----
Entrepreneurship		X			Simulation Packages
Export Marketing			X		Simulation Decision Analysis
Micro Economics		X			Linear Program- ming, Cost Benefit Analysis, Simulation
Principles of Accounting		X			Electronic Spread sheet, Accounting Applications, Computer Assisted Instruction

<u>Course</u>	<u>High</u>	<u>Moderate</u>	<u>Low</u>	<u>None</u>	<u>Applications Software</u>
Macro Economics		X			Data Base Management, Decision Analysis, Simulation, Statistics
Agribusiness		X			Electronic Spread sheets, Simulation
Principles of Accounting		X			Electronic Spread sheets, Accounting Applications Computer Assisted Instruction
Introduction to Marketing		X			Statistics, Market Analysis Applications
Public Administration				X	Decision Analysis Simulation, Data Base Management
Financial Management	X				Electronic Spread sheet, Decision Analysis, Simulation, Financial Management Applications
Production Management		X			Decision Analysis Simulation, Graphics, Mathematical Programming, Data Base Management
Project Evaluation		X			Statistics, Decision Analysis Data Base Management

<u>Course</u>	<u>High</u>	<u>Moderate</u>	<u>Low</u>	<u>None</u>	<u>Applications Software</u>
Principles of Management			X		Decision Analysis Simulation
Business Policy			X		Decision Analysis Simulation
Environmental Analysis		X			Simulation Statistics
Management Accounting		X			Spread Sheets, Financial Analysis Packages, Decision Analysis

6. Software Requirements

The following software requirements will be necessary for the administration, academic and research requirements of the Graduate Management Program. This list is not intended to be exhaustive, for others will undoubtedly be identified. However, the list does indicate that the amount budgeted for software (\$21,000) is not excessive. Further, individual costs are given in Appendix I.

SAS Statistical Analysis System

SPSS Statistical Package for the Social Sciences

Linear and Mathematical Programming

Graphics

Programming Languages: Fortran, Basic, Cobol, Pascal

Data Base Management

Accounting and Business Applications Software

Library Package

Registrar and Student Record Package

Electronic Spreadsheets

7. Operating Expenses

The cost for the initial training of the system administrator is included in the cost figures given above. One person is able to administer the proposed system, and once trained can train others as back-up personnel. The relative ease with which systems administrators can be trained and the low cost for administration is the predominant reason for not recommending a single large main-frame computer. The one administrator needed for the proposed system will be able to assist both teaching personnel and students in learning how to get onto the system and utilizing its full capabilities. The system administrator should be knowledgeable about computers, with the ability to program in several languages, such as Fortran or Cobol. However, high level computer science expertise would not be necessary. Maturity and dependability would be essential for the administrator because that person issues passwords which permit individual users to access programs or data files.

Although computing facilities are not yet as commonplace in the host country as in the U.S., the proposed system

should not be expected to generate revenue for the school. Any revenue which might be generated should be considered as an offset to the continuing need for additional software.

Monthly maintenance costs for the hardware will be \$700, if the system were located in the U.S. The cost in the host country should be similar in amount, and IBM repair and maintenance facilities in the host country appear to be adequate.

8. Site Preparation

The requirements for the computer facility at the new institution include:

i. A separate area with adequate protection for the central System 36, the console, and the tape backup system. These can fit easily into a normal size office, where the systems administrator will also be housed.

ii. A separate area for the personal computers designated for student use. The equipment located at this site would be available for student use and would consist of (1) twelve of the personal computers without printers, and (2) the five personal computers which do have the slower, dot matrix printers.

iii. Cables throughout the office and instructional areas, concealed in walls and ceilings.

iv. Normal air conditioning and humidifying facilities, such as would be necessary in the offices and classrooms.

v. An uninterruptable and steady power supply. A surge protector and battery backup power supply would provide this needed capability.

vi. A tape backup system to provide security against loss of programs and data files should loss of power or some other similar catastrophe occur.

With the exception of installation of the cables during site preparation, and inclusion of the needed administrative and student space in the layout of the facility, there are no special site provisions such as airconditioning or heating which will be necessary. The ease and flexibility with which this type of system can be installed is one of the major advantages of the recommended configuration. A technician from IBM would be needed at the time of installation, and this service is included in the purchase price of the hardware. Such expertise is available in the host country.

III. Furniture and Equipment

The furniture and equipment costs described below are based upon the needs to adequately furnish the 1092 square meter site described in the Site Preparation section of this report. The characteristics, costs, and weights are taken from the most recent catalogues of The Highsmith Co., Global Business Furniture, and the Business and Institutional Furniture Co. These suppliers are frequently used by The University of Houston in furnishing its facilities, and provide "medium-priced" materials.

In the determination of specific furniture and equipment items, each classroom, office, and functional area was analyzed separately. Summarized by type, the anticipated furniture and furnishings costs are as follows:

	<u>Units</u>	<u>Unit Cost</u>	<u>Total</u>
Standard office desks	18	\$275	\$4950
Executive desks	5	560	2800
Desks/receptionists, secretaries	12	440	5280
Chair, executive	5	250	1250
Office chair, standard	15	85	1275
Chair, secretary	12	130	1560
Visitor's chair, #1	6	120	720
Visitor's chair, #2	21	60	2280
File, 4 drawer	35	230	8050

File, 2 drawer	2	160	320
Executive work table	5	375	1875
Standard work table	11	115	1265
Waste basket	51	10	510
Lamp, office	15	25	375
Sofa, office	5	500	2500
Book shelf	12	90	1080
Blackboard, 4' X 12'	7	115	805
Blackboard, 3' X 4'	3	25	75
Marker board	7	30	210
Computer table	7	260	1820
Computer table chair	7	130	910
Executive book case	3	485	1455
Cafeteria tables	20	80	1600
Cafeteria chairs	80	15	1200
Classroom tables	120	110	13200
Classroom chairs	243	40	9720
Paper shredder	3	270	810
Library bookshelf	19	100	1900
Cardholder	2	200	400
Chairmats	3	25	75
Wall decorations, plants	15	100	1500
Utility work tables	5	115	575
Chairs, utility	10	40	400
Lecterns	3	100	300

Conference tables	3	300	900
Contingencies, shipping costs, small items, etc. 25% of the total			<u>18480</u>
TOTAL FURNITURE AND FURNISHINGS			\$92425

The equipment items listed below are based upon the same site and the same size considerations as was used for furniture and furnishings. The cost estimates have been taken from a variety of sources, all of which serve the University of Houston.

Typewriters (10 @ \$500)			\$ 5000
Printing and reproduction			4000
Cash register			400
Telephone switchboard (4 lines, 20 extensions)			16000
Simultaneous Translation equipment			25000
Desktop calculators			1200
Film projector			150
Overhead projectors			1000
Screen			50
<i>A-V equip</i> Kitchen equipment, appliances, utensils (Includes refrigerator, stove, freezer, fryer, grill, grinder, peeler, coffee maker, food warmer, icemaker, blender, toaster, cutter, scales, flatware, silverware, etc.)			10000
Vacuun cleaner			400
Safe			500
Lock-type supply cabinets			450
Moving dolly			130

Bulletin boards	450
Flip charts	120
Battery operated clocks	400
9-passenger van	14000
Standard passenger automobile	8000
Contingencies to cover freight and small items 15% of the total	<u>10800</u>
TOTAL EQUIPMENT	\$97050

In addition to the major items listed a large number of small items will be needed. These have necessitated the contingencies line which is a percentage of the total.

IV. Library Acquisitions

The objective of the library is to have a sufficient collection of both books and periodicals to satisfy the instructional and research activities of the organization. Since most state-of-the-art books in business administration are published in English, the library should have the primary books and journals in the English language as well as all relevant Spanish language materials. Similarly, at least one of the primary reference indexes of business publications in English must also be available, to the fullest extent that back copies can be obtained. One in English and another in Spanish would be desirable, since they usually do not include items in more than one language. Journals, newspapers, and periodicals in both English and Spanish should be available.

Care must be taken to identify key materials which currently exist, order them, and catalog them correctly. Identification of holdings appropriate for a special library of the type envisioned is a complex, specialized task. Fortunately one of the consortium members, INCAE, is well versed in the library requirements for a graduate school of business in Latin America. INCAE's librarian, Tom Bloch, is internationally recognized as an expert in this area. Moreover, as a consequence of the development of its new campus in Costa Rica, INCAE is just now completing the

process of reconstructing, from nothing, its library holdings there. Availability of that recent, relevant experience, perhaps through consultation with Mr. Bloch, should enable the Ecuador program to develop its library quickly and efficiently.

A review of the holdings of the Baker Library Core Collection and the INCAE library suggest that holdings of 150 periodical subscriptions, 10,000 volumes, and appropriate indexes is the appropriate order of magnitude required for a good quality library. If the books and back issues were required initially, financial costs would be of two types: an initial acquisition cost, and annual recurring costs to maintain subscriptions as well as enlarge and update the basic collection at a level of 1,000 volumes per year:

subscriptions, 150 @ 44.10	6,615.00
books, 1,000 @ \$40.00	40,000.00
Index, 2 @ \$900.00	<u>1,800.00</u>
	48,415.00

In addition to the annual recurring costs, an additional expenditure of \$40,000 is required for back copies and \$40,000 for the core collection.

It is recognized that donations of books from various sources may be forthcoming. However, such donations are likely to include a variety of materials, many of which may be older or not directly relevant. Consequently, it is

difficult to rely on donators for the systemic, timely development of a core collection. Although material from such sources would be welcome, it is best viewed as a supplement to the core collection.

The \$80,000 required for the initial collection are included in the site costs described here; the \$48,315 annual acquisitions cost is included separately with other operating costs.

V. Budget Summary

The financial budget required to implement the recommendations described in this report is as follows:

1. Site preparation	\$165,748
2. Computer facilities	166,000
3. Furniture and furnishings	92,425
4. Equipment	97,050
5. Initial library acquisitions	<u>80,000</u>
Total site costs	\$601,223

Appendix I
 Details of the IBM Recommended
 Configuration

S/36 for Ecuadorean Graduate Management Program

Unit MDL/FC / Description	Qty	Monthly Rental	Purchase	Maint. Monthly
5360-B24 256K, 400MB, Magazine Drive	1	3980.00	55100.00	209.00
1005 Additional 128K Storage	1	117.00	1250.00	4.50
4900 Work Station Cntrl Expansion	1	128.00	2000.00	3.50
7960 8809 Magnetic Tape Attach.	1	262.00	4200.00	7.50
2990 Multi National Character Set	1	NC	NC	NC
		4487.00	62550.00	224.50
VPA Discount-30 PCT		--	-18765.00	--
Machine Total		4487.00	43785.00	224.50
5150-176 Sys Unit, 256K, Two Ds Diskt	19	N/O	43605.00	Monthly N/O
1209 256KB Mem Exp	19	N/O	9291.00	N/O
4900 Monochrome Dsp and Prt Adp	19	N/O	4750.00	N/O
		--	57646.00	--
VPA Discount-32 PCT		--	-18449.00	--
Machine Total		--	39197.00	--
5151-001 Monochrome Display	19	N/O	5225.00	Monthly N/O
		--	5225.00	--
VPA Discount-32 PCT		--	-1672.00	--
Machine Total		--	3553.00	--

Appendix I cont.

Unit MDL/FC / Description	Qty	Monthly Rental	Purchase	Maint.
5150-176 Sys Unit, 256K, Two Ds Diskt	5	N/O	11475.00	Monthly N/O
1209 256KB Mem Exp	5	N/O	2445.00	N/O
4900 Monochrome Dsp and Prt Adp	5	N/O	1250.00	N/O
		--	15170.00	--
VPA Discount-32 PCT		--	-4855.00	--
Machine Total		--	10315.00	--
5151-001 Monochrome Display	5	N/O	1375.00	Monthly N/O
		--	1375.00	--
VPA Discount-32 PCT		--	-440.00	--
Machine Total		--	935.00	--
4201-001 Proprinter	5	N/O	2745.00	N/O
5612 Parallel Attachment Cable	5	N/O	225.00	N/O
		--	2970.00	--
VPA Discount-32 PCT		--	-955.00	--
Machine Total		--	2015.00	--

Appendix I cont.

Unit MDL/FC / Description	Qty	Monthly Rental	Purchase	Maint.
5224-002 Printer Table Top 240/175LPM	1	N/O	6550.00	Monthly 62.00
9470 184 Character Multinational	1	NC	NC	NC
9567 System/36 System Printer	1	NC	NC	NC
		--	6550.00	62.00
VPA Discount-25 PCT		--	-1638.00	--
Machine Total		--	4912.00	62.00
5219-D02 Printer 60 Cps	4	N/O	21000.00	Monthly 256.00
2956 Character Set U.S. EBCDIC	4	NC	NC	NC
7870 Front Exit Sheet Feed	4	N/O	7400.00	80.00
9050 IBM Supplied Cables	4	NC	NC	NC
9565 Attached to System/36	4	NC	NC	NC
		--	28400.00	336.00
VPA Discount-30 PCT		--	-8520.00	--
Machine Total		--	19880.00	336.00
8809-C01 Magnetic Tape Unit First DRI	1	700.00	11660.00	Monthly 73.00
9065 Pebble Gray	1	NC	NC	NC
9891 Non-Locking Plug	1	NC	NC	NC
9902 Power 208V 60HZ 1 Phase	1	NC	NC	NC
		700.00	11660.00	73.00
VPA Discount - N/O				

Appendix I cont.

Unit MDL/FC / Description	Qty	Monthly Rental	Purchase	Maint.
Hardware Totals		5187.00	136252.00	
-----TOTALS-----				
Monthly Maintenance Charge Total -			695.50	
Purchase Only Total -			75895.00	
Purchase Only Monthly Maintenance Charges -			336.00	
Monthly Lease Charge 1 Year Total			359.00	
Hardware minimum monthly charge; the hardware minimum monthly charge excludes purchase only machines, and single use charges for machines. The charge is calculated by totaling the lower of either the MRC or the minimum MLC for each machine			5546.00	

Appendix I cont.

Customer Financing Alternatives

In addition to the prices stated above, IBM Credit Corporation financing programs are offered for most IBM machines.

TERM LEASES

- 3, 4, or 5 year term for most machines
- Fixed monthly payments
- Investment tax credit options
- Flexible upgrade choices
- Renewal and purchase options
- Tailored financing for transactions over \$1 million

INSTALLMENT PAYMENT PLANS

- 10 percent minimum down payment
- maximum financing term of 60 months for most machines
- \$5,000 minimum financed amount
- Separate plan for state and local government.

Appendix I cont.

Program Feat	Description	Qty	One Time Charge
5727-AP1	Advanced Printer Function	1	
4516	Basic License OTC	1	700.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount-30.00 PCT		-210.00
5710-CAT	S/36 Computer Assisted Trainin	1	900.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount-30.00 PCT		-210.00
5727-QU1	Query/36	1	
4731	Basic License OTC	1	950.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount-30.00 PCT		-285.00
5727-WP1	Displaywrite/36	1	
4727	Basic License OTC	1	2000.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount-30.00 PCT		-600.00

Appendix I cont.

Program Feat	Description	Qty	One Time Charge
5796-ZGB	S/36 Schools Fixed Asset Inv.	1	3600.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount	N/O	
5796-ZGC	S.36 Schools Student Att. Sys.	1	3600.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount	N/O	
5796-ZGF	S/36 Schools Library Mgt. Sys.	1	1800.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount	N/O	

Appendix I cont.

Program Feat	Description	Qty	One Time Charge
** Personal Computer Software Selected **			
5870-LLA	Category L (30 percent Max)	24	
4180	IBM PC DOS 3.0	24	1560.00
	VLA Discount-30.00 PCT		-480.00

Appendix I cont.

Program Feat	Description	Qty	One Time Charge
5727-SS1	System support licensed prog	1	
4500	SSP Basic OTC	1	4000.00
9049	5360 Distr. Med: Diskette 2D	1	
4502	Extended SSP Basic OTC	1	1150.00
6000	Extended SSP Feature	1	
	VLA Discount-30.00 PCT		-1545.00
5727-RG1	System/36 RPG 11	1	
4530	Basic License OTC	1	800.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount-30.00 PCT		-240.00
5727-UT1	System/36 Utilities	1	
4534	Basic License OTC	1	600.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount-30.00 PCT		-180.00
5727-WS1	PC Support/36	1	
4764	Basic License OTC	1	700.00
9049	Distr. Med: Diskette 2D	1	
	VLA Discount-30.00 PCT		-210.00

Appendix I cont.

Program Feat	Description	Qty	One Time Charge
Specific software listed			\$18,340.00
IBM PC Software (word processor, spread sheets, etc)			<u>2,660.00</u>
			\$21,000.00

The prices reflect all announced price changes that take effect within three months from the date of this report.

The prices stated are for your information only and are subject to change. Applicable taxes are not shown.

Note: Software must be in Spanish input-output mode, and Spanish versions may differ in price from the above quotations. Less expensive, improved, and expanded software becomes available almost daily and should be acquired when superior to that listed here.

Appendix II
Com-Tec Services Proposal
for Computer Hardware

70 mb. Novelle Star	16,895
24 personal computer connections	6,000
60 mb tape backup	3,000
2 mb memory	4,000
Console	700
RS-232 adapter	600
1000 watt Battery backup	1,600
LAN-3	6,000
Set-up and training costs	13,200
Cable	2,000
Software (standard) not custom	5,000
24 personal computer @ \$3,000	72,000
1 line printer 300 lpm	5,000
4 letter quality printers	12,000
1 t351 dot matrix printer,	2,000
5 Epson printers	<u>5,000</u>
Total Cost	\$155,000