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PUERTO RICO HOUSING AUTHORITY
Río Piedras, Puerto Rico

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PROPOSED

SAL-RENTAL HOUSING PROJECT

March 1951

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I N D E X

	<u>Page</u>
SUMMARY OF REPORT	I
Introduction	
CHAPTER I - GENERAL DESCRIPTION	4
CHAPTER II - PROJECT COSTS	8
CHAPTER III - MONTHLY CHARGES PER DWELLING UNIT	10
CHAPTER IV - RELOCATION OF SEVERAL FAMILIES	16
CHAPTER V - ORGANIZATION	24
CHAPTER VI - FINANCES	34
CHAPTER VII - OTHER CONSIDERATIONS	41

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.....
.....
.....

EXHIBIT I - TYPICAL REINFORCED CONCRETE HOUSE	
EXHIBITS II and III - SUGGESTED ENLARGEMENTS OF REINFORCED CONCRETE HOUSE	
EXHIBIT IV - TENTATIVE SITE LAYOUT FOR SINGLE DWELLINGS	
EXHIBIT V - TENTATIVE SITE LAYOUTS FOR MULTIPLE DWELLINGS	
EXHIBIT VI - ESTIMATED COSTS - SITE AND IMPROVEMENTS	
EXHIBIT VII - DETAILS OF ROOF - CONCRETE HOUSE 20' x 20'	

SUMMARY OF REPORT

Notwithstanding the generous financial assistance offered by the Federal Government to local agencies for clearing and redeveloping slum areas it will still not be possible to conduct a broad redevelopment program because the facilities available at present are insufficient to relocate all the families that would be displaced from such areas.

The report discusses a new type of housing project aimed at providing modest yet sanitary and decent dwellings at such low cost that it will make feasible the relocation of those families who do not qualify for or may not be accommodated in either Federal housing projects (Title III housing, National Housing Act), or other facilities already being provided by the Insular Government and private enterprise. By filling the void existing in present housing provisions a project of that type should open the way for carrying out a slum clearance and redevelopment program on such a large scale that it should result in a considerable reduction of the slum areas of the Island.

The proposed project contemplates the acquisition of open land to divide into lots, the installation of site improvements thereon, and the erection on said lots of houses to be occupied by families displaced from cleared slum areas. The new type of project would complement Federal housing projects, but it could be adopted as a substitute for these, if for any reason, the latter are unavailable in the future.

Acquisition of land and installation of site improvements for the

erection of new houses would be financed through 40-year loans at 2-3/4% interest rate under the provisions of Title I of the Housing Act of 1949. New houses of permanent type would be financed through 40-year mortgage loans at 4% annual interest rate guaranteed by FHA. Actual clearance of slum areas and their redevelopment would be financed also under the provisions of Title I. Land and utilities lots on which acceptable frame houses moved from cleared areas could be erected would be financed by the Insular Government.

Title to new dwellings could be acquired by displaced families upon payment of monthly installments of \$10.61 during a period of 40 years, or rented at \$8.58 a month. Displaced families unable to pay full rent who may not be accommodated in dwellings provided under Title III of the National Housing Act, would become renters of new dwellings subsidized by the Insular Government. The land and utilities lots phase of the overall scheme would follow the pattern of similar projects already being operated by the Authority.

The new project would be developed as a cooperative enterprise of the occupants of the houses under the provisions of section 213, Title II of the National Housing Act, but its management would be entrusted to the Puerto Rico Housing Authority under a management contract.

It is contemplated that housing projects of the type described be initiated in that part of the San Juan Metropolitan Area under the jurisdiction of the Puerto Rico Housing Authority, that is, Río Piedras, Carolina, Bayamón, Cataño, and Guaynabo, from which approximately 12,000 families now living in slums could be relocated. However,

similar projects could well be undertaken in other sections of the Island.

It is estimated that such limited program would require, assuming average conditions of development, approximately the following investments:

HHFA loans for open land and improvements	\$ 2,364,768
FHA insured mortgage loans for the construction of houses	3,750,019
Equity and cash outlays by prospective purchasers	497,133
Insular Government appropriations for land and utilities lots and initial financing of houses devoted to renters	<u>2,679,127</u>
Total investment	\$ 9,291,047

The Insular Government would need to appropriate, besides, certain subsidies to cover an estimated annual deficit in the management operations, amounting to about \$14,721 per year after the program is completed.

The total investment per family displaced from slums would amount to about \$774 of which \$223 would be the Insular Government share. The Government annual subsidy would average about \$1.23 per family displaced.

REPORT ON A PROPOSED
SALE-RENTAL HOUSING PROJECT

INTRODUCTION

Studies made so far to the end that the Island avail itself of the financial assistance offered by the provisions of Title I of the Federal Housing Act of 1949 for the clearance and redevelopment of slum areas have led to the conclusion that it will not be possible to do so on a vast scale unless other type, or types, of housing facilities different from those that may be created under Title III of said Act are developed, because of inability to relocate all the families that would be displaced from cleared slum areas, since many of them do not qualify to occupy Title III dwellings, or these may not be available in sufficient numbers, at the time a redevelopment project is carried out, while sanitary, satisfactory private houses for rent at rates those families can afford to pay are extremely scarce. The so-called land and utilities lot projects, wherein the Insular Government provides lots and site improvements on which families erect houses of a temporary character, furnishes a partial solution; but, the fact that their cost is high, about \$1000 each, and the Insular Government is unable to appropriate funds in the amounts that would be necessary would make a redevelopment program based only on Title III houses and lots of limited scope. Thus, the Island may lose an exceptional opportunity to abate appreciably its serious slum problem.

Further thoughts on the problem have led to devising a sale-rental housing project of new type whereby open land would be acquired and divided into lots, site improvements installed and houses erected thereon. A project of this type would accommodate displaced families unable to occupy Title III or other housing facilities. It is described and discussed at length herein. Although it would be necessary to create a land and utilities lot project in conjunction with a sale-rental project in

order to obtain a well balanced program for the relocation of displaced families, the number of lots would be limited to that needed to re-erect movable houses removed from the project slum area. Because its financing and operating procedures are already well established by the Puerto Rico Housing Authority the lot project is discussed herein only in its relation to the new housing project.

It is, therefore, the ultimate objective of the new type of project to supplement, together with land and utilities lots, Title III projects so that all families living in the slum area, or areas, to be cleared may be relocated, and, consequently, make possible conducting a broad program of slum clearance and redevelopment as contemplated by Title I of the Housing Act of 1949.

In the event that Federal appropriations do not permit building sufficient Title III dwellings to house all the displaced families who qualify and wish to move to them, or should they fail entirely in the future, houses of the new type could be built to supply the deficiency in Title III dwellings. This would imply, though, larger assistance from the Insular Government in the form of fund advances and subsidies, as explained later on. Should the Insular Government be unable to furnish the financial assistance required of it to carry out the broad program, the assistance could be limited to that necessary to provide a sufficient number of the new type of houses so that, together with the required number of land and utility lots, full use could be made of whatever number of Title III dwellings are available for relocating displaced families.

However, should no Insular assistance be available to build such houses the opportunities for clearing slum areas under Title I of the

Federal Act would be very small, indeed, because of the impossibility of relocating families not qualifying for Title III dwellings and unable to move to existing housing facilities.

Although the type of project here described may be adopted in any program for the elimination of slums in other parts of the Island, the report is concerned specifically with the slums within that part of the Metropolitan Area under the jurisdiction of the Authority, where conditions are more approximately alike, as well as more advantageous for redevelopment, than in other regions.

CHAPTER I
GENERAL DESCRIPTION

Lots would be approximately 40 feet by 38 feet for single dwellings and 20 feet by 65 feet for houses in rows. Site improvements would consist of asphalt paved streets, concrete sidewalks, water and sewerage lines, storm sewers and overhead lighting system. Acquisition of land and installation of site improvements would be financed through 40-year loans under the provisions of Title I of the Federal Housing Act of 1949. Land and utilities lots projects would be financed, as at present, by the Insular Government, for this type of development does not qualify for Federal aid.

Dwellings would be mainly of two types: new dwellings built of permanent materials, such as reinforced concrete, concrete block, brick or hollow tile, singly or in rows, to be sold or rented to displaced families, and substantial frame dwellings in good condition that are worthwhile moving from the slums to land and utilities lots. New dwellings would be approximately 20 feet by 20 feet in area, each providing two bed rooms, a living and dining room, kitchen and bathroom, and so designed as to admit of future additions. Exhibit I shows a preliminary design of a typical reinforced concrete house. Exhibits II and III are suggestive of some ways in which this house may be enlarged and improved in appearance, either as a one or a two-story house.

Only existing frame dwellings provided with similar accommodations could be accepted for moving to land and utilities lots.

New dwellings would be financed by 40-year mortgage loans guaranteed by FHA under Title II of the National Housing Act. The moving of frame

dwellings, as well as of displaced families, to the new locations would be financed through loan and grant assistance under these provisions of Title I above referred to relative to the clearance and redevelopment of slum areas.

The whole development would have to satisfy the War Government requirements, as well as those of the Federal Agencies furnishing financial assistance.

Since a large number of displaced families can only afford to make the smallest possible payments to meet the annual charges on the dwellings, and still others are not even able to do so, but must be subsidized in some way by the Government if they are to be relocated without undue hardship, it is essential that the scheme adopted be such as will result in minimum annual charges and yet provide dwellings that will meet minimum satisfactory standards of sanitation and decency. With this objective in mind five different site layouts have been studied comparatively, three for single dwellings and two for rows of houses, six houses to a row. Very little difference in cost of lots was found between layouts for each type of dwelling, but the cost per lot in the multiple dwelling type amounts to 47% of the cost for the single house. (Exhibit VI) After taking proper account of the savings resulting from the common walls in the row scheme, it was found, also, that the total monthly charge required to cover amortization, interest, and management costs in the case of the single dwelling would be only \$2.03 higher than for the multiple house. (Chapter III, page 14) Because of the greater privacy, possibilities for future enlargement and improvement, and other obvious advantages inherent to the single dwelling, and in view of the relatively small additional charge required it is believed that dwellings to be occupied by purchasers and by families

able to pay full rent charges should preferably be of the single type. Houses of the row type should be built to accommodate families in the lowest income group in order that the Insular Government subsidy required may be reduced as much as possible. This subject is discussed in more detail in Chapter VI, "Finances".

Consideration has been given to the advisability of constructing and operating dormitories to house single persons. Since their number is small, usually less than 10% of the families to be displaced, some could find easily or would prefer accommodations elsewhere, and others would be undesirable as dwellers of public projects, leaving a small group of meritorious cases of old and disable persons to consider, it is thought advisable not to provide for them specifically. As regards the latter group, they could be taken care of by welfare government agencies. Should experience indicate that dormitories are essential they could be provided without difficulty.

To suggest feasible site layouts and for the purpose of estimating cost of dwelling lots rectangular tracts of land, 65.4 acres in extent for the single dwelling development and 72.0 acres for the multiple dwelling, have been selected as units. Such tracts would contain, respectively: about 725 single dwellings in lots 40 feet by 68 feet, with an area of 2720 square feet (252 square meters) each, and about 1368 dwellings in rows in 20-foot by 68 foot lots with an area of 1360 square feet (126 square meters) each. Two adjoining symmetrical tracts would be circumscribed by streets 43 feet in width, but inside local streets would be 36 feet wide. Exhibits IV and V show typical layouts for each dwelling type. Local streets are planned in loops with the idea of preventing through traffic as much as it is reasonable to do so. Cross-walks are adopted as much as it is thought convenient to reduce the area devoted to streets.

Adequate areas for park, community center, school and commercial center are provided to the extent required by the Puerto Rico Planning Board. It is assumed that areas for park and community center will be donated by the project to the pertinent Government Agencies, but that the cost of improvements and structures thereon, as well as their maintenance, will be borne by those Agencies. It is assumed, also, that school and commercial areas will be paid for by the proper entities and will not, therefore, be a burden on the project.

Water, sewerage, storm sewer and electric distribution facilities would be built in accordance with Insular Government standards and would be transferred to the pertinent Government Agency for operation immediately after construction. They would not be a burden on the project, either. Similarly, streets would be transferred to the municipal government concerned as soon as built.

It is assumed that offsite connections, where required, would be paid for by the Insular Government and will not entail an expense to the projects. Some of these would, no doubt, be built adjacent to existing developments, like the San José housing development in Río Piedras, and would require no disbursements for that purpose.

The Authority would hold title to the land and improvements under its loan contract with HHFA. Title to project houses would be held by cooperative associations of the occupants, but management of the projects would be undertaken by the Authority under contract with the associations. These subjects are discussed in Chapter V, "Organization."

The related land and utilities lots project may or may not be adjacent to the housing project, depending on the extent of the tracts available.

CHAPTER II
PROJECT COSTS

Site and Improvements

Exhibit VI contains itemized estimates of cost of the unit areas of improved project land assumed in this study based on layouts shown in Exhibits IV and V for the single and multiple dwelling types, respectively; also estimated costs per lot. Unit costs adopted are based on contract prices for the San José and Eleanor Roosevelt developments built in Río Piedras during the years 1948 and 1949, increased by 10% to account for recent rises in cost.

It is assumed that a coordinated program of site development and house construction would take about one and a half years to carry out for each individual project, after which collection of monthly payments would begin. On this basis, interest would have to be paid on the site loan for a period of 1-1/2 years and on the improvements loan for an average period of one year, which interest charges have been included in the estimates as capital expenses.

The total cost per house lot is estimated for the single dwelling type at \$792, and for the multiple dwelling at \$376, or \$416 lower than the former.

Construction of House

Exhibit VII is an estimate of what the construction of a 20-foot by 20-foot reinforced concrete house would cost if built on a mass-production scale. It is based on a detailed bill of materials to which present prices as quoted to contractors have been applied. It is assumed that some pre-fabricated type of form now in the market, or some other similar type, well designed for ready assembly and dismantling, and for repeated

use, would be employed in the work. It is assumed, also, that direct labor costs for the foundation, concrete and millwork would amount to two-thirds of the materials cost involved. Labor for plumbing and for electric installations has been figured separately, using known costs for similar kind of work. Other items of contractor's expense, such as insurance, labor compensation, performance and payment bonds, etc. are included, also 10% profit to contractor. The total contract cost is estimated at \$1307.29 per house.

Interest during construction, for which a period of one year is allowed, at 4% yearly rate, is estimated to average 2% for the period, and is included in the construction cost. This interest rate is that applicable under the proper FHA regulations, as will be explained later. Engineering and inspection for large scale operations is estimated at 2%. All these items would bring the total construction cost of the single house to \$1,333.44. The estimate for the multiple house amounts to \$1,200 per unit.

The above estimates are appreciably lower than current costs for similar work. In order to check their accuracy and also to explore the possibilities of reducing costs further by using some other material of permanent character, two reinforced concrete and one hollow tile houses are being built by the Authority. Mass production methods are being used in this work as much as possible, and detailed, accurate accounting of costs is being kept.

CHAPTER III
MONTHLY CHARGES PER DWELLING UNIT

These charges consist of:

1. Amortisation and interest on the loan for land and site improvements.
2. Amortisation and interest on the principal of the house mortgage.
3. Premium charges under the FHA contract for mortgage insurance.
4. Fire and other hazard insurance premiums.
5. Property taxes, if any.
6. Operation and maintenance costs.
7. Vacancy and collection losses.
8. Management costs.
9. Miscellaneous

1. Amortization and interest on the loan for land and site improvements:

The loan would be granted by HHFA under Title I of the Housing Act of 1949, would extend over a period of 40 years and would bear interest at the current Federal rate, which is, at present, 2-3/4% annually. It must be repaid with interest in 480 equal monthly instalments, beginning immediately upon occupancy, which is estimated to be 1-1/2 years from the date of the loan contract.

The monthly payments would amount to \$3.39 per \$1,000, or \$2.68 for the \$792 investment on the lot in the case of the single dwelling, and \$1.27 for the \$376 investment in the case of the multiple dwelling.

2. Amortization and interest on the principal of the house mortgage:

Construction of houses would be financed by a banking institution

erection of new houses would be financed through 40-year loans at 2-3/4% interest rate under the provisions of Title I of the Housing Act of 1949. New houses of permanent type would be financed through 40-year mortgage loans at 4% annual interest rate guaranteed by FHA. Actual clearance of slum areas and their redevelopment would be financed also under the provisions of Title I. Land and utilities lots on which acceptable frame houses moved from cleared areas could be erected would be financed by the Insular Government.

Title to new dwellings could be acquired by displaced families upon payment of monthly installments of \$10.61 during a period of 40 years, or rented at \$6.98 a month. Displaced families unable to pay full rent who may not be accommodated in dwellings provided under Title III of the National Housing Act, would become renters of new dwellings subsidized by the Insular Government. The land and utilities lots phase of the overall scheme would follow the pattern of similar projects already being operated by the Authority.

The new project would be developed as a cooperative enterprise of the occupants of the houses under the provisions of section 213, Title II of the National Housing Act, and its management would be entrusted to the Puerto Rico Housing Authority under a management contract.

It is contemplated that housing projects of the type described be initiated in that part of the San Juan Metropolitan Area under the jurisdiction of the Puerto Rico Housing Authority, that is, Río Piedras, Carolina, Bayamón, Cataño, and Guaynabo, from which approximately 12,000 families now living in slums could be relocated. However,

5. Property taxes:

Since the Authority would hold title to the lots, at least until its loan with HHFA is fully amortized, this property would be tax exempt by the terms of the Act creating the Authority.

According to existing legislation regulating the operations of Cooperatives these would be tax exempt only to the extent of \$50,000 of the total assessed property valuation. Since the value of the dwellings to be held by a Cooperative would generally exceed that sum appreciably the amount of the tax would be an important item. It is believed, though, that there will be no difficulty in obtaining an amendment to the law whereby dwellings not exceeding \$2,500 in value per unit held by cooperatives of their occupants would be declared exempt from the property tax. Such an amendment would be in harmony with the principle involved in existing legislation exempting from the imposition of the tax homes having an assessed valuation of not over \$2,500, provided their owners own no other property. It is assumed, for this reason, that the whole project would be tax exempt.

6. Operation and Maintenance Costs:

In order that advantage may be taken of the financing facilities provided in Title II, Section 213, of the National Housing Act already mentioned, as explained in Chapter V, it is proposed that each housing project be owned and operated collectively by its occupants organized into a cooperative association. The Puerto Rico Housing Authority would sponsor each project and would undertake to organize, develop, and operate it for the benefit of the association under a management contract. The proposed organization is described more fully in Chapter V.

It is believed that the management of the projects would follow quite closely the pattern of management of Title III and Insular Government

housing, and that the costs of operation and maintenance in the former would be approximately the same as in the latter. Actual average monthly costs of operation and maintenance in Dr. Rafael López Sicardó Development, Río Piedras, as given in the "Operating Statement" for the fiscal year 1950-1951 have been adopted here, with a few modifications, as follows:

(a) Project office expense

Salaries	0.50
Legal & other fees	0.04
Other project office expense	<u>0.03</u>

\$ 0.57

(b) Repairs and Maintenance:

Structures	0.17
Plumbing	0.26
Painting	0.34
Electrical system	0.19
Other equipment	<u>0.10</u>

\$ 1.06

Total operating and maintenance costs, average per month \$ 1.63

The same costs are assumed for the multiple dwelling although they should be slightly lower.

No charge is made for janitorial service nor for keeping the grounds clean as occupants would be required to attend this work themselves.

7. Vacancy and Collection Losses:

The experience of the Authority in operating Title III projects is that there are practically no vacancy losses in the Metropolitan Area. It is very small for the Island as a whole, 0.16%, and most of this is found

in one town. Collection losses vary in the Metropolitan Area from 0.15% in Río Piedras to 0.84% in Cataño. For the Island as a whole it amounts to 1%. However, the overcharges collected on account of delayed payments exceed the collection losses. It is reasonable, therefore, to assume that the vacancy and collection losses will be balanced by the overcharges.

8. Management Costs:

These would be a proportionate share of the overhead expenses of the Authority, which include expenses of the offices of the Executive Director, Comptroller, and property and personnel. It is estimated that the sum of \$0.40 per unit would cover this item.

9. Miscellaneous:

This is intended to cover a number of items of personnel insurance, such as: workers compensation, fidelity and position, robbery and messenger, pension, etc. The sum of \$0.10 is allowed for these purposes.

Summing up, the total monthly charges per dwelling unit would amount to:

<u>Item</u>	<u>Single Dwelling</u>	<u>Multiple Dwelling</u>
1. Amortization and interest on the lot	\$ 2.68	\$ 1.27
2. Amortization and interest on the house	5.04	4.52
3. Premium charges for FHA insurance	0.48	0.43
4. Fire insurance	0.28	0.23
5. Property taxes	0.00	0.00
6. Operation and maintenance costs	1.63	1.63
7. Vacancy and collection losses	0.00	0.00
8. Management costs	0.40	0.40
9. Miscellaneous	<u>0.10</u>	<u>0.10</u>
T o t a l	10.61	8.58

On a full rental basis the above charges would be reduced by the

amounts of the amortizations, and would become \$8.71 for the single and \$7.25 for the multiple dwelling.

CHAPTER IV
RELOCATION OF SLUM FAMILIES

The number of families living in slums in the urban areas of the Island has been estimated by the P. R. Planning Board at 95,000, as of the year 1950. Of this number around 40,000 are located in the territory under the jurisdiction of the Puerto Rico Housing Authority, of which about 12,000 reside in those sections of the San Juan Metropolitan Area under the Authority, namely: Río Piedras, Carolina, Bayamón, Cataño, and Guaynabo. (Housing in Puerto Rico, page 15, Tech. Paper No. 5, P. R. Planning Board.)

On account of the fact that the income of slum families in the Metropolitan Area is appreciably higher than in the rest of the Island and opportunities for success should be greatest, present studies are directed specifically to that area. It is believed that similar opportunities will be found in the San Juan area proper, which falls under the San Juan Housing Authority, and to a somewhat lesser extent in the cities of Ponce and Mayaguez. But, because of the condition of lower income it is to be expected that the demand for each type of housing facility in other areas would be different from that of the Metropolitan Area and the needed Government subsidy would be higher. Those areas should be the subject of a separate study.

Facilities for the relocation of displaced families would be furnished mainly by Title III housing to the extent available, the sale-rental project, land and utilities lots, and private housing elsewhere, but, there is little experience on which to base an estimate of the demand for each type of facility, for, although the Government has undertaken the task of relocating families from cleared areas on several occasions in the past,

the experience of many years ago is of little value today since conditions have changed considerably. The most recent experience had that may be of assistance at present has been in connection with the clearing of "El Fanguito" area in Santurce, from which 2207 families were displaced between 1948 and 1950. This experience reveals that 36% of the families moved to some Federal or Insular public low-rent housing, 36% to private housing, and 28% to Insular land and utilities lots. As regards families moving to private housing, 5.8% were obliged to do so, even if unwilling, because, being single persons, did not qualify to occupy public housing.

Applying to the slum population of the Metropolitan Area the information obtained from preliminary investigations made of the qualifications to occupy different types of housing, as determined from their rent paying ability and other conditions, of 1177 families living in "El Monte" slum located in Hato Rey, Río Piedras (an area being studied for a slum clearance and redevelopment project), the most probable potential demand for housing facilities, in percentages, of said population if displaced from their present location is arrived at as follows:

<u>Monthly income of family</u>	<u>Family Group</u>	<u>Percentage</u>
\$20 - 110	Renters of project houses qualifying for title III dwellings	38.5
\$110 - 160	Purchasers of project houses	17.1
\$160 /	Purchasers of better than project houses	11.6
	Total purchasers	28.7
\$20 & less	Subsidized renters of project houses who do not qualify for Title III houses	3.3
	Owners of frame houses suitable to move to land and utilities lots	21.9

Single persons to move to private housing 7.6

T o t a l 100.0

The classification of "purchasers of better than project houses" is made in regard to families with incomes above \$160 a month, because it suggests the possibility of making provisions in the project to build a number of houses of higher type than the project house, also because many of those families may prefer to buy or rent an intermediate type of house outside of the project. Although provisions to that end are not included in this study they might be considered when developing a specific project.

The above estimated demand presupposes that Title III houses will be available to all families qualifying. This may be the case in the future, either totally, or partially, or none at all, depending on appropriations and legislation by the Congress.

However, should the opposite extreme case of no Title III dwellings available be encountered the probable potential demand would become:

<u>Monthly income of families</u>	<u>Family group</u>	<u>Percentage</u>
\$110 - 160	Purchasers of project houses (same as above)	17.1
\$160 /	Purchasers of better than project houses (same as above)	11.6
\$70 - 110	Purchasers of project houses who qualify also for Title III houses	<u>17.9</u>
	Total purchasers	46.6
\$60 - 70	Full renters of project houses who qualify also for Title III dwellings	8.3
\$20 - 60	Subsidized renters of project houses who qualify also for Title III dwellings	12.3
\$20 & less	Subsidized renters of project houses who do not qualify for Title III houses (same as above)	<u>3.3</u>
	Total subsidized renters	15.6

Owners of houses suitable to move to lots (same as above)	21.9
Single persons to move to private housing (same as above)	<u>7.6</u>
Total	100.0

The above analysis indicates that, depending on the availability of Title III units, the potential demand for the purchase of project houses would fluctuate between 28.7% and 46.6%, and for renting between 3.3% and 23.9%. Including Title III houses the combined potential demand for public housing both for buying and renting would be 70.5%. The potential demand for lots would be the same in either case, 21.9%. The number of single persons to move elsewhere, would also be the same, 7.6%.

A comparison of those percentages with similar ones given on page 17 for "El Fanguito" reveals some striking differences. In this slum as many families moved to public housing (Federal and Insular) as to private housing, or 36% in each group. For the project under study only single persons (7.6%) have been classified as moving to private housing, while in "El Fanguito", 36% moved to private housing, although only 5.8% were single persons, which fact brings forth a strong characteristic of individualism on the part of many slum dwellers who prefer to shift by themselves independently of Government guidance. The same characteristic will, undoubtedly, be found in varying degrees in other areas.

To judge from the experience of "El Fanguito", where as many families went to private as to public housing, the actual demand for public housing consequent to a redevelopment project may be only about 50% of the potential demand, or 35.3% of the families involved. There is no information, though, on which to base an estimate of the probable actual demand for each type of

public housing facility. Most likely, it will be necessary to wait until a specific redevelopment project reaches the stage of final tenant selection for relocation to answer that question. For the purposes of this study it seems conservative to assume that one-half of 35.3%, or about 18% of the families displaced would prefer to move elsewhere. Applying an 18% reduction uniformly to the potential demand for public housing the anticipated demand for each type would be as given in the table on next page. The demand is computed separately for the conditions of Title III dwellings fully available and none at all.

As regards land and utilities lots the actual demand in "El Fanguito" was equivalent to 28% of the families displaced, while the potential demand in this study is estimated at 21.9%. The percentage in each individual project falling in this group depends to a great extent on the circumstance that their houses be in good enough condition to do so. Since the two figures are roughly conformable, 21.9% may be taken as representative of what the actual demand for lots will most probably be. This type of facility is not considered very desirable, because the type of dwelling that would be moved to them is not entirely satisfactory and the investment on the lots is rather high. Attempts should be made to have as many of those dwellings as possible moved to rural areas, or otherwise disposed of without great loss, for their total destruction might cause an undue financial burden on the slum clearance project. To the extent that those attempts are successful the demand for other types of facilities will increase and that for lots decrease. Because of the uncertainties involved no account is taken in this study of the possibility just referred to.

Anticipated housing demand in per cent
of number of families to be displaced
from slums.

<u>Type of public facility</u>	<u>Title III dwellings available</u>	<u>No. Title III dwellings available</u>
Title III dwellings	31.6	0.0
<u>Project houses</u>		
Purchasers	23.6	38.3
Full renters	0.0	6.8
Subsidized renters	2.7	12.9
Land and Utility lots	<u>21.9</u>	<u>21.9</u>
Total	79.8	79.9

The remaining 20.2% would go to private housing.

It should be noted that if Title III houses are fully available no project housing would be needed for full renters and very few for subsidized renters. On the contrary and to the extent that Title III houses are unavailable, appreciable numbers of project houses would be needed for both classes of renters. A program for clearing the Metropolitan Area should be, therefore, tied in with the Title III program and both carried out during approximately the same period if the slums are to be eliminated in a reasonable time and with a minimum of difficulties and expense. The tentative Title III program of the Authority contemplates the building of about 10,000 dwelling units in the next six years while the estimated demand would be 3792. (31.6% of 12,000 families) It appears, then, that if a coordinated program is carried out as indicated there would be available sufficient Title III units to satisfy the estimated demand even if the Title III program is curtailed appreciably.

There are 1742 Title III units now under construction scheduled for

completion on different dates within the next two years. It will probably not be possible to occupy all those units with families displaced from slum clearance projects, because of the limited time available to get underway sufficient supplementary projects of the other types of facilities needed to clear slum areas in corresponding proportions. It is believed that it should be possible to remove from the slums in the next two years not more than 2,000 families of which about 632 would use as many Title III dwellings in construction. The balance of 1110 dwellings would have to be assigned to families from other areas. Probably some arrangement could be worked out whereby most of these dwellings could be occupied by families from areas to be cleared in the near future.

Should conditions develop as indicated in the preceding paragraph, the remaining 10,000 slum families could be relocated during the following four years, or whatever other period is finally adopted for the future Title III program. The additional need for Title III houses would amount to 3,160 units.

It will be assumed in this report that there will be sufficient Title III houses to permit clearing all the slums in the area. Should this not be the case the requirements for project houses would be somewhere between the figures given in table on page 21.

Single dwellings should be built to house prospective purchasers, and, also, full renters, should there be no Title III dwellings for these, since they may eventually become purchasers. The fact that, on an average, about 70% of slum dwellers own their houses points out vividly to a powerful incentive to become house owners, which should be encouraged. The single dwelling, offering greater privacy, should foster that highly desirable characteristic to a larger extent than the multiple dwelling.

The multiple dwelling, requiring a monthly charge \$2.03 lower than the single dwelling (page 14) should be built for the subsidized renter in order to reduce the amount of the subsidy to be borne by the Insular Government as much as possible. If, as expected, sufficient Title III units are available to accommodate all displaced families qualifying for them the total amount of the subsidy would be small, for, then, only about 2.7% of the displaced families would need multiple dwellings (Page 21), but in the event that no Title III houses are available 12.9% of the displaced families would become subsidized renters (page 21) and the total subsidy may be appreciable. Further consideration is given to this subject in Chapter VI, "Finances."

CHAPTER V
ORGANIZATION

Since organizing for construction, and, later, operation of a sale-rental housing project depends to some extent on the method or methods of financing adopted consideration to this subject will be given at this moment.

Financing for the acquisition of land and installation of site improvements presents no special difficulties. HHFA would grant 40-year loans to the Housing Authority for that purpose under the provisions of Title I of the Housing Act of 1949. The interest rate would be the current Federal rate, at present 2-3/4%. The Authority would hold title to the property until the loan is fully paid. Clear title to the lots would be given to purchasers when the loan is cleared if, as planned, their share of the costs has been paid by that time.

The possibilities of financing the construction of houses under any one of the provisions of sections 203, 207 and 213 of Title II of the National Housing Act, which is being administered by the Federal Housing Administration (FHA), has been explored. They are discussed briefly herein below. Mortgage-loans would be made, in any event, by banking institutions to be insured by FHA under one of the sections mentioned.

Section 203 provides for the insurance of mortgages on individual dwellings owned by their occupants or built for sale. Since it does not cover rental-housing projects the section is not applicable to the proposed projects. It would be applicable individually to those houses intended for prospective purchasers, but the handling of a large number of small mortgages and the relative high cost of servicing them would be

cumbersome. Also, the interest rate, which may run as high as 5%, would be appreciably higher than if financing were done under any of the other sections.

Section 207 provides for the insurance of mortgages on group housing held by a government instrumentality, such as the Authority. Contrary to Section 203 it is limited to rental housing and may not include houses for sale. It is understood that, for this reason, financing under the provisions of this section is not available at present.

Section 213 provides for the insurance of mortgages of non-profit cooperative housing. Two types of associations may be organized under this section: the sale and the management types.

The sale, or building corporation type, may be organized for the purpose of constructing houses for sale individually to its members. Mortgage insurance by FHA would not begin until the houses are built and transferred to each member. Financing during construction must, therefore, be done without benefit of FHA insurance, which should involve no difficulties as short term loans at favorable rates may be obtained from commercial banks. The maturity for the mortgage may not exceed 25 years, and the interest rate, 4% annually. It is understood that because of the short term no insurance for this type of corporation is being carried by FHA at present. Otherwise, it would be feasible to organize under this section a building corporation among those displaced persons who are able and willing to purchase a house. Although the 25-year amortization period might be a drawback for it would require, on a \$1,200

house-lean at 4%, a monthly payment \$1.32 higher than for the 40-year period allowed to the management type of corporation, this increase would be compensated in part by the fact that the purchaser could do himself them, the work of maintenance and repair. In an association of the management type he would have to pay the association about \$1.06 a month for that work.

The mortgage under the sale type would have to be a blanket mortgage on the property covered by one project, but it might provide for the release of individual houses upon their transfer to members of the corporation. In such cases, financing of those houses would have to be made under the provisions of section 203.

Under FHA regulations, a sale, or building corporation, may not handle the rental housing needed to accommodate displaced families unable or unwilling to purchase a house. These could be taken care of by the management, or cooperative ownership, type of association, the functions of which would be to build, maintain, and manage housing projects for the benefit of its members. Occupants must necessarily be members of the association. Mortgage insurance would begin as for the sale type, after the construction period, and may extend to 40 years. The interest rate may not exceed 4% annually, as under section 207.

The mortgage in the management corporation would also be a blanket mortgage but without a release clause, and, so long as the mortgage insurance contract is in force, no property in the project may be sold and released from the lien of the mortgage except with the prior approval of the mortgage lending institution and the FHA. This feature is not entirely satisfactory from the Authority's point of view since a purchaser may not obtain clear title to his dwelling if he is willing to

amortize his indebtedness previous to the maturity of the blanket mortgage. However, it may be legally possible to overcome this restriction, in a practical way, if the corporation assumes all the obligations on the individual property upon payment of said indebtedness.

After giving careful consideration to relevant favorable and unfavorable factors involved, the management type of corporation is believed to offer the best opportunities of success for both prospective purchasers and renters, and is adopted in this report.

It is essential that sale-rental projects be fully coordinated and harmonized with the broader program of slum clearance and redevelopment, of which it would, in fact, be a complement. It is essential, also, to secure from the parties whose assistance is a pre-requisite to the success of the enterprise previous approval of the proposed scheme as well as of the functions to be assumed by each. The parties are, besides the Puerto Rico Housing Authority acting as sponsoring and managing agency: the Puerto Rico Planning Board who must pass on the whole scheme; the Housing and Home Finance Agency who would finance the clearing and redevelopment of slum areas as well as the acquisition of land and installation of site improvements; the banking institutions who would finance, through mortgages, the construction of houses; and the Federal Housing Administration who would insure said mortgages. Action by the Insular Legislature may be required to authorize the use of a current annual appropriation of around \$500,000 devoted to slum clearance purposes to defray the subsidies that would be needed by relocated families unable to pay the full rent charges, as already explained; also, to exempt the housing cooperatives from the payment of

property taxes.

Assuming that the approval of the various parties concerned and their offer to furnish the assistance required of each have been secured, it is expected that organizing for construction and operation from thereon would proceed approximately as outlined below:

1. Selection by the Puerto Rico Housing Authority of one or more slum areas for clearing and redeveloping, and preparation of a satisfactory project to that end under Title I of the Housing Act of 1949.

The project must meet with the approval of the Puerto Rico Planning Board and the Housing and Home Finance Agency. Since procedures to carry out this phase of the activities are already well established by the latter Agency they are not discussed here. Financing of the project would depend on combined loans and grants from said Agency and local grants, as provided in the Housing Act. It would be independent of the financing of the housing project here contemplated.

2. Selection of open land for the site of the housing project.

The extent of open land required would depend on the needs for relocating families to be displaced from the area, or areas, to be cleared as determined from tenant selection studies made as part of the activity described under paragraph 1 and as discussed in Chapter IV.

3. Preliminary site planning and estimates, and submission to the Puerto Rico Planning Board and the Housing and Home Finance Agency for approval. Preparation and submission should be timed to coincide with the preparation and submission of an application to the Housing and Home Finance Agency for a final advance of funds with which to carry out final studies of the slum clearance project contemplated

under paragraph 1. Expenses incurred for work under this and paragraph 2 above would be defrayed from preliminary advance funds provided by HHFA for the slum clearance program, which should contain an item to cover said expenses.

4. Final site planning and estimates, and submission to the Puerto Rico Planning Board and the Housing and Home Finance Agency for approval. Submission to the Housing and Home Finance Agency should accompany an application for a long-term loan for the acquisition of open land and the installation on it of site improvements. Preparation and submission should also be timed to coincide with the preparation and submission to the Housing and Home Finance Agency of an application for a temporary loan and capital grant to carry out the slum clearance project contemplated under paragraph 1.

Expenses for work under this paragraph would be defrayed from final advance funds assigned by HHFA to the slum clearance program.

5. Organization of non-profit cooperative ownership corporation.

While steps outlined in paragraph 4 are being taken the Authority should start organizing the dwellers affected by the slum clearance project into a cooperative corporation. It would not be necessary at this stage to have all prospective members join, but at least twelve of them must organize, under the sponsorship of the Authority, and elect a Board of Directors. The corporation should enter at once into a management contract with the Authority, delegating in the latter all functions pertaining to planning, designing, financing, constructing and management of the organization during the period of development, and, later, of operation. The Authority would prepare the articles of incorporation, by-laws and contract documents to be

submitted, first to the corporation and, then, to HHFA and FHA. The corporation, which must comply with Insular laws, would be incorporated after there is reasonable assurance that the project will proceed to completion. Besides the management contract the Authority and the Corporation should enter into an agreement whereby the latter would lease from the former for a period of at least 50 years, the lots to be occupied by the Corporation dwellings. This term is required by FHA in order that the building loan may qualify for FHA insurance; nevertheless, clear title could be given to the Corporation, after the Authority has paid to HHFA its 40-year loan on lots with respect to which full amortization and other payments have been made by the Corporation, or at any time later when said payments are made. The nature and amount of the payments are given in Chapter III "Monthly Charges per Dwelling Unit," and Chapter VI "Finances."

Full membership of the corporation should be developed during the last stages of the slum clearance project when the final tenant selection and relocation agreements with the slum families are made. The heads of displaced families who are to occupy corporation houses must necessarily become members. At this time those who plan to purchase a house must guarantee the payment of their equity on it as well as other required cash outlays. It is believed that the cash payments to be made by the Authority to families as compensation for leaving the slum area will generally be sufficient to meet those obligations. Since renters, whether full or subsidized, would have no initial obligations to meet, the Insular Government would provide for them. (See Chapter VI)

At the time the relocation agreements with subsidized renters are signed the amount of their rent would be determined. The rules to follow in fixing the rent, based on ability to pay, would be similar to those in use for Insular housing projects.

The number of houses that may be built for any individual project is limited by FHA requirement that the membership in the corporation must amount at least to 90% of the number of dwellings in the project.

Expenses incurred in organizing the corporation would be defrayed from final advance funds granted by HHFA for the related slum clearance project.

6. Purchase of open land and installation thereon of site improvements.

After the coordinated slum clearance and housing projects, and the organization of the cooperative corporation have been approved by the Planning Board, HHFA and FHA, and funds from the long-term HHFA loan are made available, the land would be purchased, contract drawings and documents for the installation of site improvements prepared and construction of the latter undertaken after due call for bids and award. As pointed out on page 7 site improvements would be transferred to the pertinent Government agency as soon as built.

7. Land and Utilities Lots.

The lots, to be financed from Insular appropriations, should be available by this time so that an early start may be made in re-erecting on them houses from the area being cleared.

8. Work preparatory to the construction of houses.

While steps noted under paragraphs 5 and 6 are being taken the Authority would prepare contract drawings and documents for the construction of houses to be built on the improved land, and would submit them to the approval of the Planning Board, HHFA and FHA. Expenses incurred would be defrayed from final advance funds by HHFA for the related open land project. Bids to finance the construction through mortgage loans under the provisions

of Section 213, Title II of the National Housing Act, would be requested of banking institutions and a commitment to that effect obtained from the successful bidder. A commitment from FHA to insure said mortgages should be obtained by the successful bidder at this time. Certain commitment fees to be paid to this bidder and to FHA would have to be advanced from funds appropriated by the Insular Government to assist in supporting the project (Chapter VI, "Finances").

9. Award and construction.

After approval of contract documents the Authority would call for bids, award the contract, and supervise the construction. A short-term bank loan should be obtained by the cooperative to finance construction activities until funds from the mortgage loan become available.

10. Financing Agreement.

After the houses are built the Cooperative would execute its agreement with the successful banking institution to furnish the mortgage loan. The temporary construction loan would be liquidated at this time. The agreement should contain, besides other provisions required by FHA to qualify the mortgage for insurance, the following particulars:

- a. The amount of the mortgage (90% of the total construction cost)
- b. The interest rate.
- c. The premium charge under the contract with FHA for insurance.
- d. Hazard insurance premiums.
- e. The equal monthly payments by mortgagor to mortgagee as will amortize the debt in a period of 40 years.

11. Relocation of families.

Moving of houses and their dwellers out of the project slum area to

land and utilities lots may start as soon as these are ready.

When a sufficient number of houses are built to justify it the relocation of displaced families in the new dwellings may commence as per arrangements to be made under the related slum clearance project.

Financing for relocation would be a part of the financing for the slum clearance project.

12. Operation and Maintenance.

The Authority should be ready to assume the management for operation and maintenance on behalf of the corporation as soon as project houses are occupied. Management should include the services of billing, collecting, maintenance and repair, accounting, legal service, payment of obligations, general administration, etc. The Authority would perform these functions with its own organization, to which additional personnel would be incorporated as needed.

Management of land and utilities lots, complementary to the housing project would be conducted by the Authority as for other projects of the same type. Accounting for each type of project and for each individual project should, of course, be kept separate.

CHAPTER VI

"FINANCES

It has been stated that there are about 12,000 families living in the slums in that part of the Metropolitan Area within the jurisdiction of the P. R. Housing Authority. The number is increasing from year to year. In order to eliminate these slums in a reasonable time and, also, make use of Title III housing facilities proposed for the next six years, a well balanced program should contemplate the displacement and relocation of about 2000 families a year, on an average. However, because of the time required to initiate the program, as indicated on page 22, it is assumed that only 2000 families would be relocated in the first two years and at the rate of 2500 families per year in the four years immediately following.

Because of limitations imposed by the sizes of individual slum areas as well as of tracts of open land that may be available for relocation, also, because varying conditions as between sites would tend to make the costs of the dwelling units, and, consequently, their monthly charges, vary from place to place, it may be that a broad program of housing will contemplate carrying out a few independent projects, each under a separate cooperative corporation. Very likely a development for new facilities will include in combination provisions for single and row dwellings and for land and utilities lots. Layouts for the latter could very well be equal or similar to those for single dwellings.

For the purposes of analyzing the financial phases of the program and estimating, in a preliminary way, the funds required, it is assumed that the clearance of the slums in the Authority's portion of the Metropolitan Area and the relocation of their 12000 families will be

undertaken under a comprehensive well coordinated program. Such a program would require, as a complement, the following facilities for relocation (page 21), assuming that there would be available sufficient Title III dwellings.

Title III dwellings	3792
Project houses for:	
Purchasers	2832
Full renters	00
Subsidized renters	324
Land and utilities lots	<u>2628</u>
Total	9576

The other 2424 families, to make up the twelve thousand, would move elsewhere.

To accommodate families not going either to Title III dwellings or moving elsewhere the following facilities would be required:

- 2832 lots for single dwellings
- 324 lots for row dwellings
- 2832 single dwellings for prospective purchasers
- 324 row dwellings for subsidized renters, and
- 2628 land and utilities lots, including sanitary installations

The investments required to furnish those facilities would be:

2832 lots at \$ 792	\$ 2,242,944
324 lots at \$ 376	<u>121,824</u>
Total for dwelling lots	\$ 2,364,768

2832 single dwellings at \$ 1334	\$ 3,777,888
324 row dwellings at \$ 1200	<u>388,800</u>
Total for project dwellings	\$4,166,688
2628 land and utilities lots, including sanitary installations, at \$1000	<u>\$2,628,000</u>
GRAND TOTAL	\$9,159,456

Note: The assumed cost of \$1000 per land and utilities lot is that obtained in recent developments.

HHFA would provide 100% of the funds required for the dwelling lots; FHA insured mortgages would provide 90% of the investment for dwellings, or \$3,750,019, and the balance of \$416,669 by the owners as initial equity; and the Insular Government would provide 100% of the funds required for land and utilities lots.

Of said sum of \$416,669 to be provided as initial equity on the mortgage loan, the 2832 prospective purchasers would pay \$134 each, or \$379,888. This sum would be well covered by the payments to be made to those purchasers under the slum clearance project as compensation for moving from the slum area. The compensation would also cover certain cash outlays in the form of fees and other disbursements required to effect the mortgage. For single dwellings they would be:

FHA application and commitment fees	\$ 3.00
FHA inspection fee-\$2.00 per \$1,000 of the mortgage loan	2.40
Initial FHA insurance premium-1/2% of the mortgage loan	6.00
Financing charge by the lending institutions - 1% of the mortgage loan	12.00
Cash working capital-1-1/2% of the mortgage loan	<u>18.00</u>
Total	\$41.40

The combined equity and cash outlays to be provided by the prospective purchasers would amount to \$175.40 per single dwelling, or \$497,133 in all.

For houses in a row the cash outlays would be \$37.70 instead of \$41.40. Since these houses would be occupied by subsidized renters, the Insular Government would have to contribute on behalf of the cooperative in the form of loans or grants, the required equity and cash outlays amounting to \$120 and \$37.70, respectively, or \$157.80 per dwelling. The total contribution for this purpose would be \$51,127. This sum added to the \$2,628,000 investment for land and utility lots would bring the total capital contribution by the Government to \$2,679,127.

Should it become necessary to devote single dwellings to some full renters because of insufficiency of Title III dwellings the Government would have to provide the equity and cash outlays at the rate of \$175.40 per dwelling.

The Government would also be required to bear the annual deficit in the operation of the project because of inability of renters to pay the full charges on their house. The deficit is estimated as follows:

The annual charges on the housing project, (page 14) disregarding the land and utilities lots, after full operation starts, would be:

2832 single dwellings

2832 x 10.61 x 12 \$ 360,570

324 row dwellings

324 x 8.58 x 12 33,383

Total annual charge \$ 393,953

while the gross income would be:

From purchasers

2832 x 10.61 x 12 360,570

From subsidized renters (average montly charge
\$ 4.80)

324 x 4.80 x 12

\$18,662

Total gross income

\$379,232

Deficit \$ 14,721

The figure of \$4.80 used above is the average monthly rent that subsidized renters would be able to pay as estimated from studies made in connection with "El Monte" slum clearance project, in Río Piedras. Subsidized renters are considered to be families whose income fluctuates between \$20 and \$60 a month.

It should be remarked that the deficit, or subsidy required, of \$14,721 a year would not be a total loss, for the Government would be acquiring an equity on the rented houses in the amounts of those portions of the subsidy that cover amortization payments. Neither the equity and cash outlays to be provided by the Government for rental houses, amounting to \$51,127, would be a loss. They represent an asset that may be ultimately recovered, wholly or partly, in cash.

The \$2,628,000 investment in land and utilities should not be considered a loss, either, but an investment. The Authority is actually operating projects of this type on both sale and rental bases, charging interest in cases where the occupants can afford to pay it. A favorable balance resulting from the operations is invested in additional lots.

The Insular funds that would be involved in the suggested 6-year program for the relocation of the 12,000 families in the slums of the Metropolitan Area under the Authority would be, approximately:

INSULAR GOVERNMENT APPROPRIATIONS
RELOCATION OF 12,000 FAMILIES

Year	Families relocated:	Investments		Annual Subsidy	Total Appropriations
		Equity and cash outlays on house project	Land and utilities lots		
1st. & 2nd.	2,000	\$ 8,519	\$ 438,000	\$ 2,454	\$ 448,973
3rd.	2,500	10,652	547,500	5,520	563,672
4th.	2,500	10,652	547,500	8,587	566,739
5th.	2,500	10,652	547,500	11,654	569,806
6th.	2,500	10,652	547,500	14,721	572,873
Total	12,000	51,127	\$ 2,628,000	\$ 42,936	\$ 2,722,063
7th. year and on		0.00	0.00	\$ 14,721	\$ 14,721

The appropriations would be reduced appreciably if, as already pointed out, many movable houses can be sold to re-erect in rural areas instead of on land and utilities lots; also, if some of the subsidized renters, as is to be expected, are able in time to pay a larger share of the full rent, and even become purchasers. On the other hand they would be increased if there are insufficient Title III dwellings to accommodate the renters.

The annual appropriations by the Insular Government could be defrayed easily during the first two years from the \$500,000 currently appropriated annually by the Legislature for slum clearance purposes. The additional demands on the Treasury for the other four years would be relatively small. Beyond that period only the annual subsidy,

\$14,721, would be needed, leaving the balance free to spend on other Island projects.

The estimated total capital investment required from all sources to relocate the 12,000 families would be:

HHFA loans for open land and improvements	\$ 2,364,768
FHA insured mortgage loans for the construction of houses	3,750,019
Equity and cash outlays by prospective purchasers	497,133
Insular Government appropriations for land and utilities lots, and share of equity and cash outlays on rental houses	<u>2,679,127</u>
Total	\$9,291,047

The total investment would be equivalent to \$774 per family displaced from slums, of which \$223 would be the Insular Government share. The annual subsidy required of the Government would amount to about \$1.23 per family displaced.

CHAPTER VII
OTHER CONSIDERATIONS

No allowance is made in this study for conducting social and welfare work after the families are relocated. Since the Government regularly conducts these activities in the slums, it should continue to do so in the new areas where improved living conditions should lead to smaller expenditures.

For similar reasons no item is included for construction of a community center, but a suitable area is reserved for it. The center would cost to build around \$90 per family, and would increase the monthly charge per unit by \$0.31 if paid for by the project.

Consideration has been given to the possibilities of reducing further the monthly charges by lowering the standards of some items of work, such as paving only an 18-foot strip instead of 26 feet in main streets, and adopting gravel sidewalks instead of concrete. The reduction in construction cost would be equivalent to less than \$30 per dwelling and would cause a reduction in monthly charge of about \$0.10. Since such types of construction are less desirable and tend to increase maintenance costs their adoption is not justified.

Further assistance, not mentioned in the report, may be required of the Insular Government in the way of providing offsite connections for utilities installed in the new housing areas, and in sharing with the municipal governments concerned their proportion of the losses they should bear, if they occur, in the slum clearance and redevelopment projects to be carried out in cooperation with HHFA.

As regards offsite connections no estimate of cost can be made until the sites for development are selected. In the Metropolitan

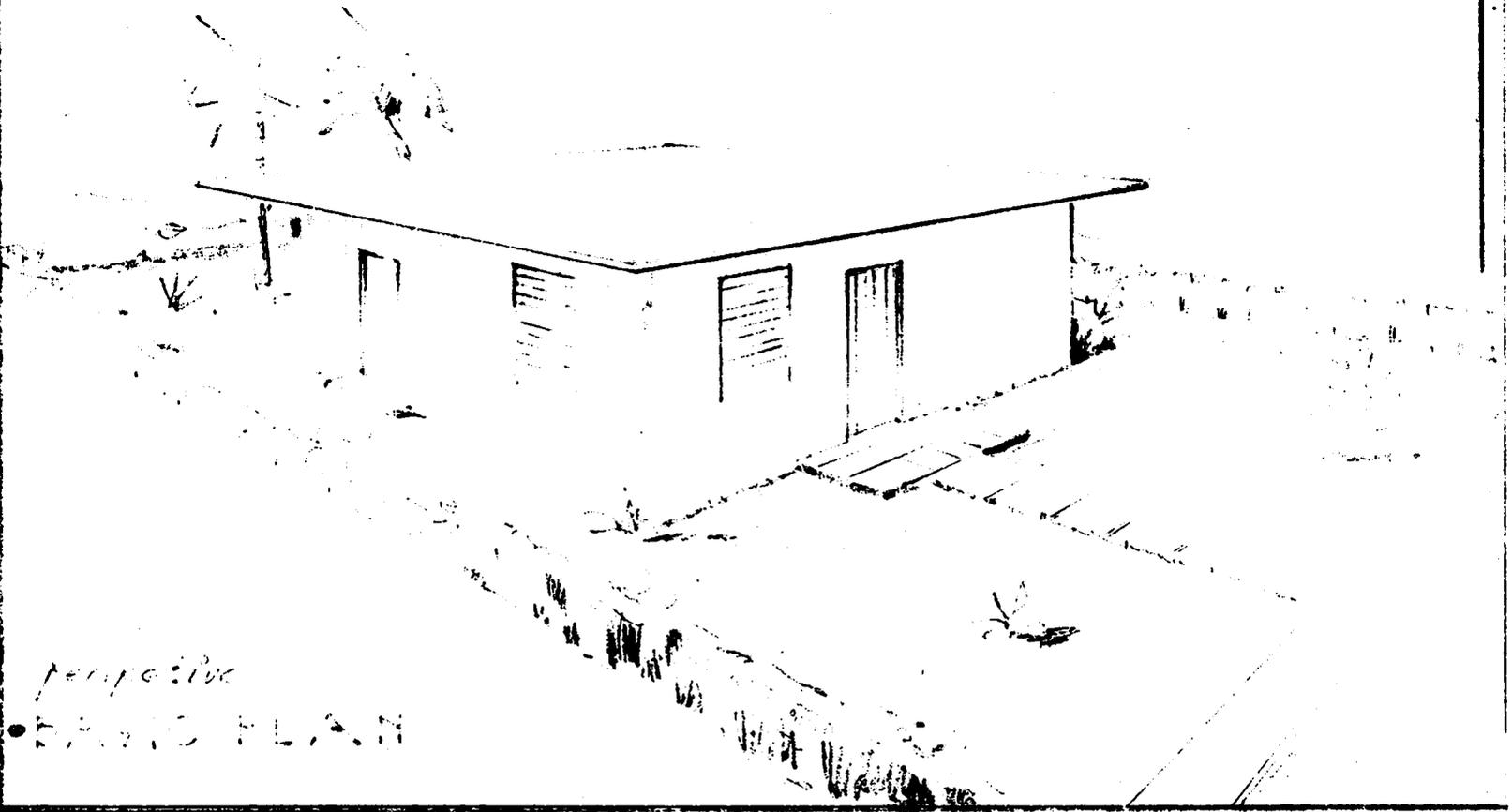
Area most of these sites will probably be adjacent to existing housing developments and should require relatively small expenditures for offsite connections.

As to losses resulting from slum clearance and redevelopment activities there is no basis, either, on which to prepare an estimate. The municipalities should bear them to the extent of their capacity. With reference to the Metropolitan Area under the Authority, it is anticipated that the amounts needed, if any, will be small, for, since about two thirds of the slums are located on public lands no disbursements would be needed to acquire the property. The fact that the value of improved land in the area is generally high will be a favorable factor.

The housing project here described deserves the most careful consideration on the part of the authorities concerned. If carried out successfully it should set a new standard for other Authorities to follow and should place the slum clearance program on a much broader course of progress than heretofore. It should prove to be a great forward step in overcoming what so far has been an insurmountable difficulty.

RAFAEL A. GONZALEZ
Consulting Engineer

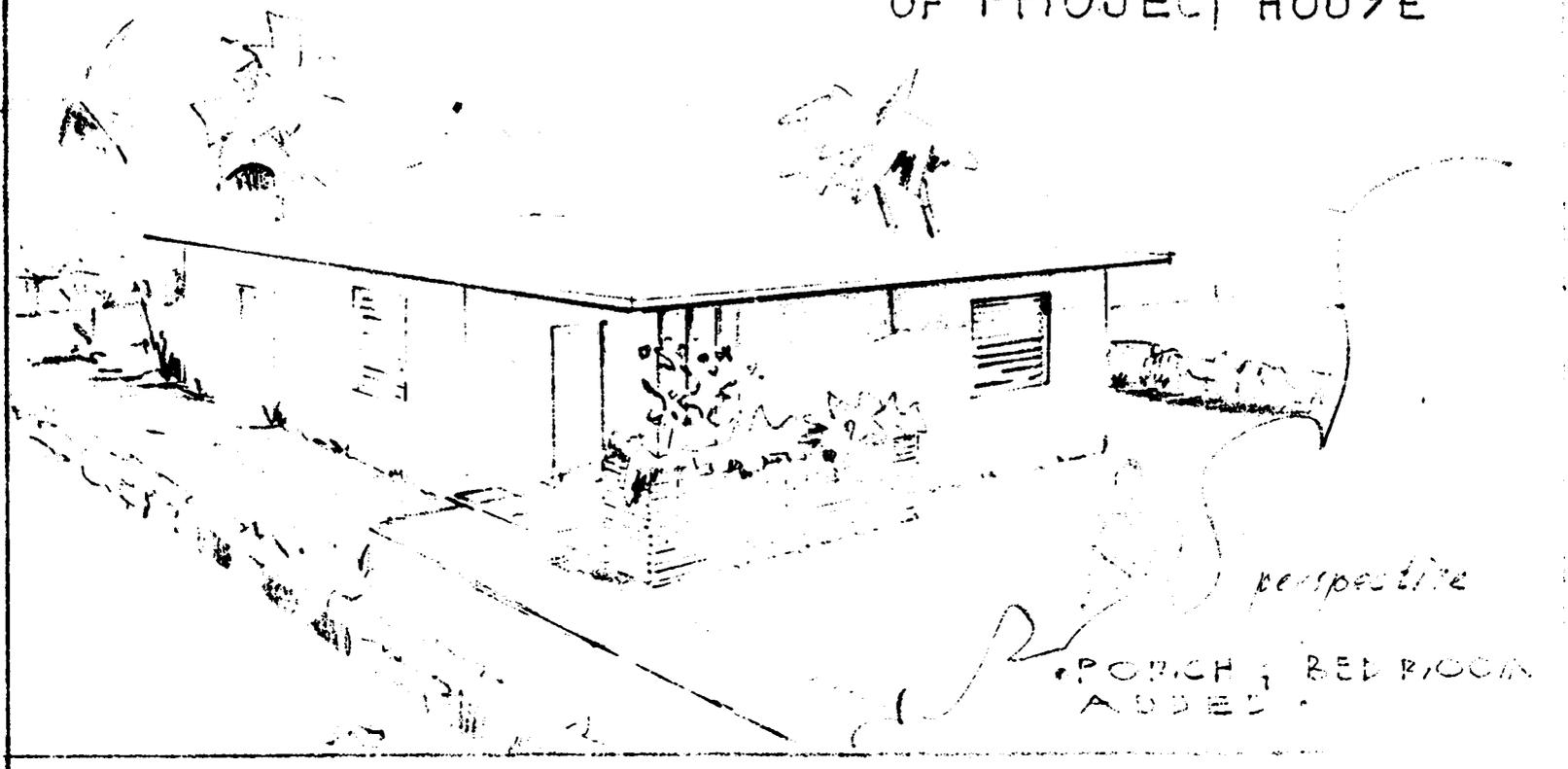
EXHIBIT I
TYPICAL PROJECT HOUSE



perspective

• DRAFT PLAN

EXHIBIT II
SUGGESTED ENLARGEMENT
OF PROJECT HOUSE

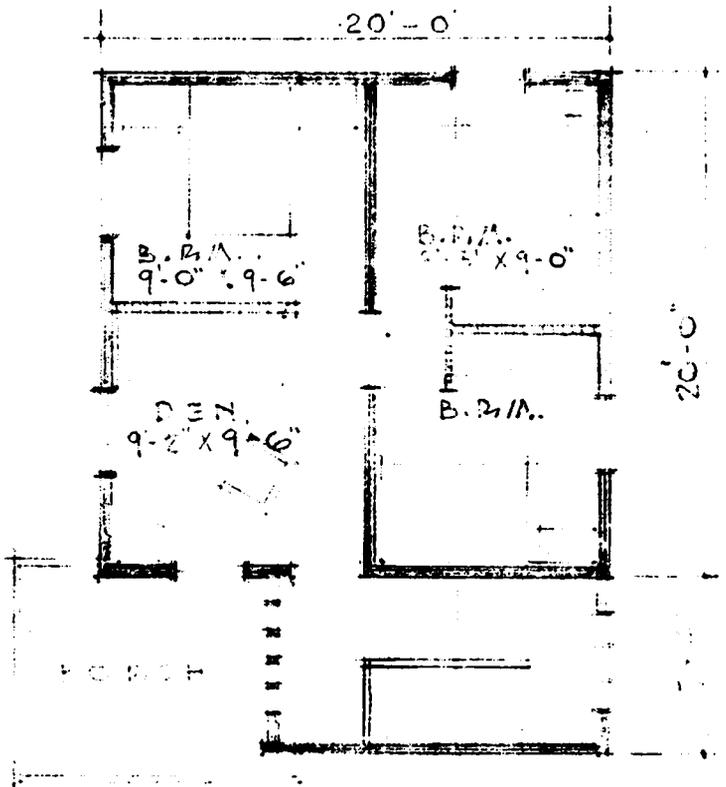
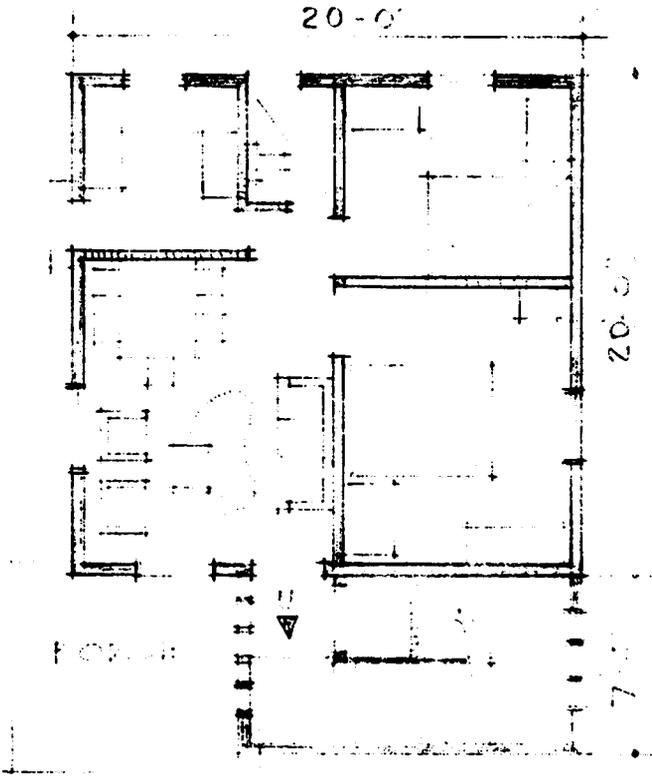


perspective

• PORCH, BED ROOM
ADDED •

EXHIBIT III

SUGGESTED ENLARGEMENT OF PROJECT HOUSE



• FIRST FLOOR
BASIC PLAN + PORCH
+ STAIRWAY

• SECOND FLOOR

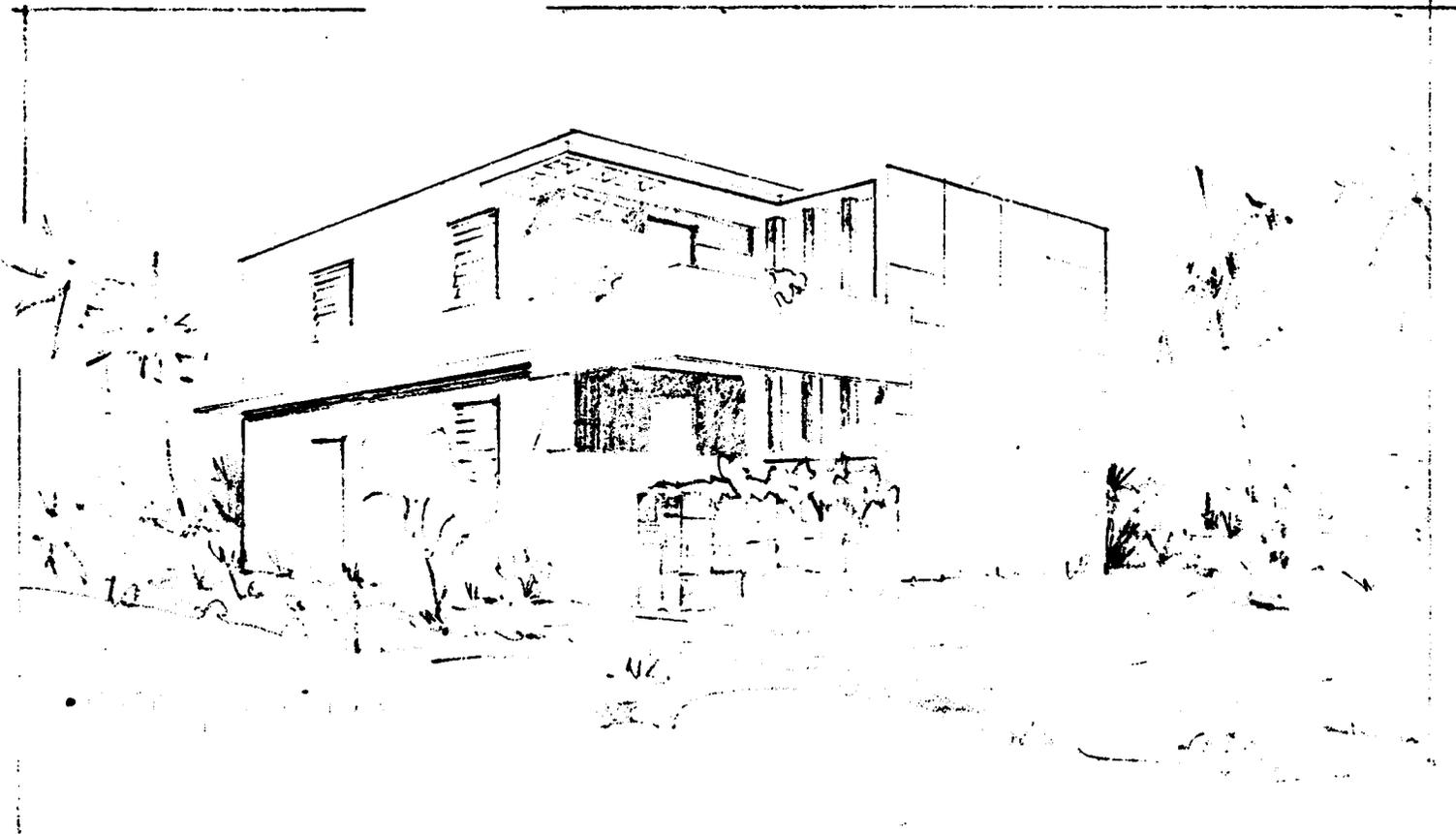
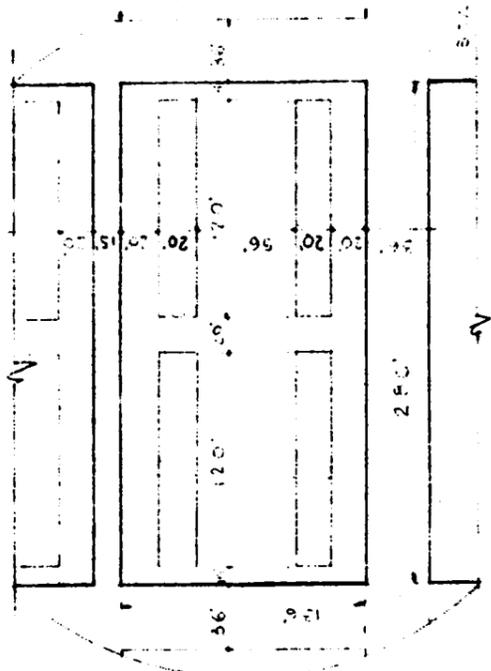


EXHIBIT V

NO. 100-100-100-100



SYMMETRICAL ABOUT AA AXIS



AREA DISTRIBUTION	SQ. FT.	PER CENT
SCHOOL	110,000	10.0
PARK	140,000	12.7
SHOPPING	100,000	9.1
COMMUNITY CENTER	200,000	18.2
DWELLING LOTS & STREETS	270,000	24.5
TOTAL	1,120,000	100.0

PUERTO RICO HOUSING AUTHORITY
 SLUM CLEARANCE & URBAN REDEVELOPMENT DIVISION

SALE - RENTAL HOUSING PROJECT
 TYPICAL SITE LAYOUT FOR ROW OF HOUSES

SCALE 1" = 200'

DATE

Item	Unit Cost per Lin. Yd. (4)	Quantities Yards	Total Cost	Quantities Yards	Total Cost
4. Water Distribution System	11.73	6277	73,629	6695	78,532
5. Sewerage System	8.31	6324	52,552	6590	54,763
6. Electric distribution system (overhead)			43,500		38,304
7. Storm sewer system	8.48	748	6,343	740	6,275
Total			331,929		281,588
8. Engineering, Administration and Contingencies, 15%			49,789		42,238
9. Interest during construction, Average, 1 year at 2-3/4%			10,497		8,906
Total Construction Cost			392,215		382,731
Total Cost, Site and Improvements			573,950		513,941
Number of lots		725		1368	
Total Cost per lot			\$ 792		\$ 376

(1) Areas for park and community center to be donated.

(2) Includes an item for average grading.

(3) Asphalt paving, 4-foot sidewalks, concrete curb and gutter.

(4) Unit costs based on contract prices for San José and Eleanor Roosevelt developments carried out in 1948 and 1949, increased by 10%.

EXHIBIT VII
Estimate of Cost

Concrete House 20' x 20'

<u>Quantities</u>		<u>Unit Cost</u>	<u>Total Cost</u>
<u>Structure:</u>			
18.0 Mts ³	crushed stone	\$ 3.50	\$ 63.00
12.0 Mts ³	sand	1.75	21.00
164 bags	cement	1.05	172.20
4 bags	lime	0.90	3.60
1115 Lbs.	3/8" ϕ reinforcing rods	0.075	83.63
423	cement block 4" x 6" x 12"	0.12	50.76
5	pairs pin hinges 8"	0.90	4.50
6	pairs " " 6"	0.80	4.80
66	bolts 3/8" x 2"	0.03	1.98
66	washers for 3/8" bolts	0.005	0.33
11	door bolts 6"	0.40	4.40
1	front door padlock	1.40	1.40
11	door and window handles	0.10	1.10
250	f. b. m. lumber for doors and windows	0.12	30.00
60 Lbs.	nails	0.10	6.00
1 Gal.	oil paint for doors and windows	4.35	4.35
2 Lbs.	coloring powder	0.20	0.40
10 Lbs.	glue for lime paint	0.45	4.50
1	paint brush 4"	2.10	2.10
4 Gals.	gasoline	0.27	1.08
1/3 Gal.	lubricating oil	0.75	0.25

Proportion of "Uniform" Cost, 1/100		\$ 51.00
Proportion of roof form cost, 1300 f.b.m. used 6 times	0.12	<u>26.00</u>
		538.38
Labor, 2/3 material cost		<u>358.88</u>
	Total	\$ 897.26

Plumbing

1	water closet		30.00
1	shower		1.00
1	2" floor trap		1.50
1	enameled sink 12" x 18"		12.00
21 Ft.	1/2" galv. pipe	0.14	2.94
10.5 Ft.	3/8" " "	0.12	1.26
1	universal coupling		0.45
3	3/8" Ts	0.18	0.54
3	3/8" elbows	0.15	0.45
1	sink faucet		1.00
2	3/8" valve	0.85	1.70
1	1/2" bronze valve		2.25
6	3" C.I. pipe	3.50	21.00
3	3" C.I. Ys	1.75	5.25
2	3" C.I. Plugs	0.75	1.50
2	3" - 45° C.I. elbows	0.90	1.80
3	3" x 2" C.I. Ys	1.75	5.25
1	3" x 2" T		1.50
1	3" U - C.I. trap and plugs		4.00
1	3" fresh air inlet		1.25

4		2" C. I. pipes	\$ 2.50	\$ 10.00
10	Lbs.	lead	0.30	3.00
1-1/2	Lbs.	sakum	0.24	0.36
1		3" lead elbow		3.50
1		W. C. (star)		0.70
1		floor strainer		0.30
1		4" bronze sleeve		1.00
1	Lb.	Putty		<u>0.15</u>
			Total materials	\$ 115.65
			Labor	<u>25.00</u>
			T o t a l	\$ 140.65

Electric Installation

1		plain safety switch		3.00
1		wall bracket 2H		0.95
1		meter trough		4.00
1		condulet F 3/4		0.60
10	Ft.	3/4" galv. conduit	0.24	2.40
20	Ft.	wire TW #8	0.06	
5		3" x 3" galv. boxes	0.26	1.30
5		2" x 4" " "	0.33	1.65
1		wall switch	0.21	0.21
4		duplex wall receptacles	0.14	0.56
5		ceiling sockets	0.19	0.95
5		lamp sockets	0.26	1.30
15	Ft.	lamp cord No. 14	0.03	0.45
100	Ft.	1/2" galv. conduit	0.12	12.00

200	Ft.	No. 14 wire	0.03	6.00
14		1/2" locknuts	0.025	0.35
14		1/2" bushings	0.04	0.56
5		receptacle plates	0.07	0.35
1		ground clamps		<u>0.60</u>
			Total materials	\$ 37.23
			Labor 10 outlets at \$2.00	20.00
			1 house connection	<u>4.00</u>
			Total	\$ 61.23

SUMMARY

Concrete work	\$ 897.26
Plumbing	141.06
Electric installation	<u>61.23</u>
	\$ 1,099.54
Contingencies, 3%	<u>32.98</u>
Total direct construction cost	\$ 1,132.52
Worker's compensation 3.3% of 40% of \$ 1,132.52	14.95
Social security 1.5% of 40% of \$1,132.52	<u>6.80</u>
	\$ 1,154.27
Contractor's profit 10%	<u>115.43</u>
	\$ 1,269.70
Public liability 0.4% of 30% of \$ 1,269.70	1.52
Performance and payment bond 1.0% of \$1,269.70	<u>12.70</u>
	\$ 1,283.92

Interest during construction, average 2% of \$1,154.27 / \$1.52 / \$12.70 = \$ 1,168.49	\$	<u>28.37</u>
Total contract cost	\$	1,307.29
Engineering and inspection, 2%		<u>26.15</u>
Total construction cost	\$	1,333.44

