A CIVIC CENTER FOR COCOA, FLORIDA

Submitted in partial fulfillment of the requirements
for the Degree of Bachelor in Architecture

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13 May 1957

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Dear Dean Belluschi:

In partial fulfillment of the requirements for the Degree of Bachelor in Architecture, I herewith submit my thesis, entitled: "A Civic Center for Cocoa, Florida."

Respectfully yours,

John Dyal

to B, insofar as it is worthy . . . .

I would like to acknowledge especially the cooperation, assistance and enthusiasm of Mr. Claude H. Dyal, City Manager of the City of Cocoa, Florida, and the guidance and criticism of the faculty of the School of Architecture and of my fellow students. Also, I would like to acknowledge the help of Miss Kathleen M. Donnelly in editing and typing this thesis.

1. VIEW OF COCOA FROM ACROSS THE INDIAN RIVER

ABSTRACT

In the years following World War II, the town of Cocoa, Florida, has been subjected to great expansionary needs. Much of the growth has been haphazard and chaotic. Concurrently, the citizens of the area have become divided into two groups, the "old guard" and the newcomers. A situation of confusion of civic aims and values has resulted. From this situation a focus for civic activity and a symbol

of a new civic spirit must be forthcoming to rectify the existing problems and foster a sound future development.

This thesis is intended to be a partial step in the right direction. To create a civic center which will provide for the more pressing needs of the town is the first step toward the goals of the future. It includes in its complex the city administrative center, a civic auditorium, a public library, club and meeting rooms, and police and fire departments. The purpose of the civic center is three-fold: to provide for immediate needs, liberally interpretted in view of future needs; to serve as a symbol of a new civic spirit whose development its functions will foster, and finally to serve as a starting point for broad scale future thinking.

2. BREVARD AVENUE LOOKING SOUTH

TABLE OF CONTENTS

Title Page

Letter of Submittal

Dedication

Acknowledgments

Abstract

Table of Contents

List of Illustrations

I BACKGROUND AND INTRODUCTION 1

II THE PROBLEM 10

A. Programme 11

B. Site Selection 15

C. Climatic Considerations 18

D. Analysis and Solution 21

Bibliography 25

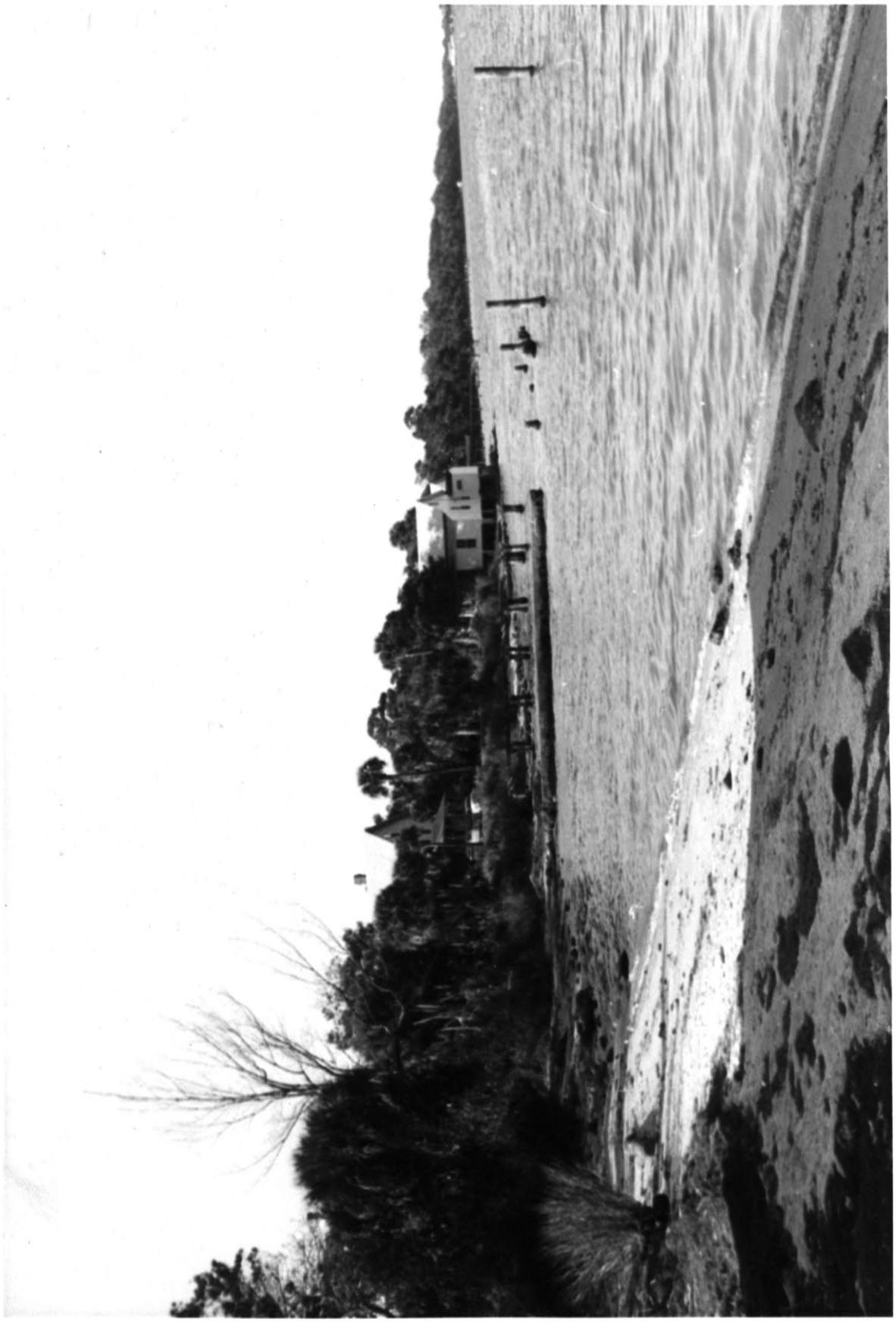
LIST OF ILLUSTRATIONS

Frontispiece: Site Foliage

1. View of Cocoa from Across the Indian River
2. Brevard Avenue Looking South
3. Indian River Shore
4. Portion of the Site Looking North
5. Harrison Avenue Looking East
6. Brevard and Harrison Avenues Looking Northeast
7. Portion of the Site Looking East
8. View Looking Northeast from Site
9. Buildings Opposite the Site Looking Northwest
10. Portion of the Site Looking Southeast
11. Portion of the Site Looking Northwest
12. Portion of the Site Looking Southeast
13. Portion of the Site Looking West
14. Portion of the Site Looking Northwest
15. Foliage

Chart

Site Location Map



5. INDIAN RIVER SHORE

I BACKGROUND AND INTRODUCTION

4. PORTION OF THE SITE LOOKING NORTH

Historical records of Cocoa exist principally in the realm of hearsay and legend. Even the origin of the unusual name of the town is relegated to imaginative fable. Of the several stories connected thereto, the one which seems least improbable is that involving the early packet steamers serving the inland waterway of the eastern coast of Florida during the second half of the nineteenth century. It is

said that the steamers stopped briefly at a dock in an un-named hamlet on the Indian River, where a resident served the passengers on the vessels cocoa, and thence the name.

The hamlet probably was settled just after the Civil War as the nucleus for a community of citrus growers. The soil surrounding the Indian River was found to be ideally suited to citrus growing and thus in the course of years the area became extensively planted. The produce of these groves was shipped north to the railroad at Jacksonville by river steamers and thence to the northern cities by rail. The railroad was not extended down the peninsula until after the first World War. This extension was accomplished principally by Henry Flagler, who was largely responsible for the development of Southern Florida as a resort area, with the consequent "boom" in real estate and building of the twenties.

With this introduction of railroad and highways through Cocoa, the steamers were done away with and the town began to grow rapidly. Citrus could be shipped cheaper and faster by rail. Along with this, the advent of vacationers and new residents bolstered the economic outlook of Cocoa, but the new growth and wealth tended to follow the giddy course typical of the twenties. After the rapid expansion during the decade and a half following World War I, the depression halted practically all growth, unsound enterprises failed, and the economy of the town was stabilized at the level of subsistence.

S. HARRISON AVENUE LOOKING EAST

In 1941 the Navy began construction of a large Air Station on the beach peninsula eight miles east of the center of Cocoa. The resultant construction and influx of personnel to make this installation function brought about a definite upward trend in the economic situation of the town. Although hampered by wartime restrictions on building for civilian purposes, the population increases necessitated new building, both governmental and private. Typically, Cocoa, at the war's end, found itself considerably enriched with much real expansion needed. This resulted in an unprecedented building "boom" in the area. This growth continued with only a slight slackening when the Naval Air Station was closed for a few years after the war. Many people who had served there during the war remained afterwards to take up their civilian lives in Cocoa. In addition, tourism and new residents from the north contributed to the rapid population growth.

Around 1950 the Air Force took over the closed Naval Station and converted and expanded it into an Air Force Base. In addition, they built a large missile testing center on nearby Cape Canaveral, which is at this writing still expanding. From this site the earth satellite will be launched in 1958.

Thus Cocoa continues to expand as rapidly, or perhaps more so, as it did after the war. The 1950 census noted the population of Cocoa at approximately 5700 persons, plus the nearby municipalities of Rockledge and Cocoa Beach, which are economically dependent on Cocoa, although separate, and the outlying districts, of an additional

6. BREVARD AND HARRISON AVENUES LOOKING NORTHEAST

population of about 5000 persons. Today, with approximately 15,000 persons connected with the Air Force complex, unofficial estimates place the total greater area population served by Cocoa at roughly 40,000 persons, although the population of Cocoa itself remains less than 10,000.

In addition to this tremendous source of economic stimulus, other new sources have grown up since the war. Cattle and truck farming have been added to the basic citrus growing to constitute the agrarian economic basis. Although citrus remains the principal source of income, the agricultural expansion and the military-civilian Air Force complement and tourism, to a still relatively minor extent, serve to stabilize the local economy on a basis of sound growth.

Cocoa at present is the focal point of approximately 300 square miles of agricultural, commercial and military endeavors. To fulfill the function of this focus, it is faced with grave problems of physical, social and cultural natures. The physical problems, of necessity, are being met, but not always in a creditable manner.

A completely new sewage treatment and disposal system has been provided, a new and superior water supply system is nearing completion, and new streets, walks and lighting are in evidence.

In contrast to this admirable approach by municipal authorities, housing and commercial expansion has been haphazard and chaotic. Housing developments of the typical "mow down trees and plant boxes"

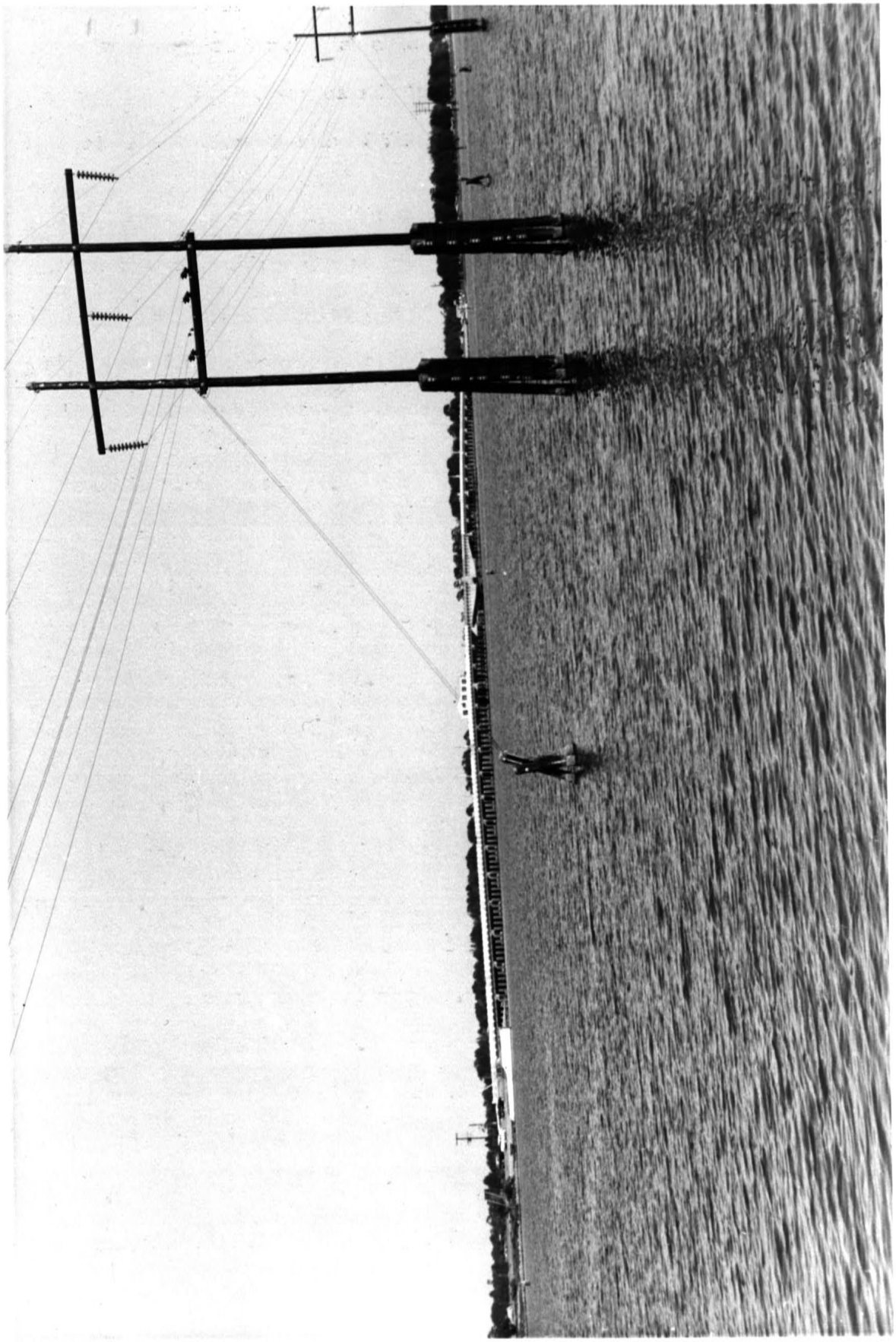
7. PORTION OF THE SITE LOOKING EAST

type have been appearing at a depressing rate. Commercial building has assumed the unintegrated planning and visual disorders so typical of American towns of this size.

These problems can only be solved in a mutually satisfactory and desirable manner if some sense of civic and community responsibility is developed in the people of the town and criticism of all the inherent values and ills of a project are forthcoming, rather than the present "it's new, it must be progress" approach.

This critical approach, if developed, can contribute to the development of sorely needed social and cultural facilities. A sense of civic concern exists; it needs only to be implemented to produce the aspects of the town required to make it function properly as the nucleus of community activity that it is.

At present, social and cultural conditions and facilities are completely inadequate. Recreational facilities at the public level are limited to one cinema, one drive-in cinema, the town baseball club, high school athletics, drama and band, and infrequent concerts and lectures from visiting artists and speakers. At the semi-public level there are the country club, church social affairs, civic clubs and various limited-membership organizations. On the whole, the major social and cultural activities are carried on at the private level. The area that is acutely lacking in organization and facilities is that of the public as a whole. The community is, under the rapid growth conditions of the present, the aspect which definitely needs binding together.



8. VIEW LOOKING NORTHEAST FROM SITE

Cocoa, as we have seen, has been, through most of its history, a small town with small town problems and approaches. Its first taste of rapid growth in the twenties was giddy and in many respects unwise. Today, faced with an even greater expansion, it can no longer face its problems with the same approach it has used in the past.

The principal danger of the present is that civic problems are, in the most part, being faced in the manner of the twenties. Expansion per se is looked upon as synonymous with progress. Problems are being overwhelmed rather than solved. Public thinking is present-oriented rather than future-oriented. Administrative thinking, fortunately, has tended to be long-range, and in being so has actually met public opposition and criticism on certain needed bond and tax issues. The folly of this continual small town approach to problems which are no longer small town in scale is obvious, yet it exists.

The principal reason for this conservative, small town, status quo attitude is natural and understandable, if unwise. There exist two factions of people and thinking in Cocoa. The first is the group of people who are the "old guard" Cocoa area residents who for the most part were born, raised and have lived their entire lives in the area. This group is now outnumbered by the second group, the new-comers. Although appreciating the contribution to commerce and building made by this new group, the "old guard" continues to regard them, for the most part, as separate. The two groups rarely mix socially. The older group retains most of the civic authority and

9. BUILDINGS OPPOSITE THE SITE LOOKING NORTHWEST

influence as well as social prestige, and are reluctant to meet the newcomers on a common ground. It is understandably difficult for a small community, used to its own ways and notions of itself, to suddenly grasp and accept such a tremendous influx of new people, ideas and problems.

Yet this is the principal problem to be solved. The town cannot function as a nucleus of a community if that community is divided in itself. A common ground must be provided as a basis of community integration. This common ground must exist physically and mentally. Each of these aspects depends for its success on the other. Without a healthy community spirit, facilities for its function and expression cannot exist; and yet without these facilities, the task of developing the spirit is hampered.

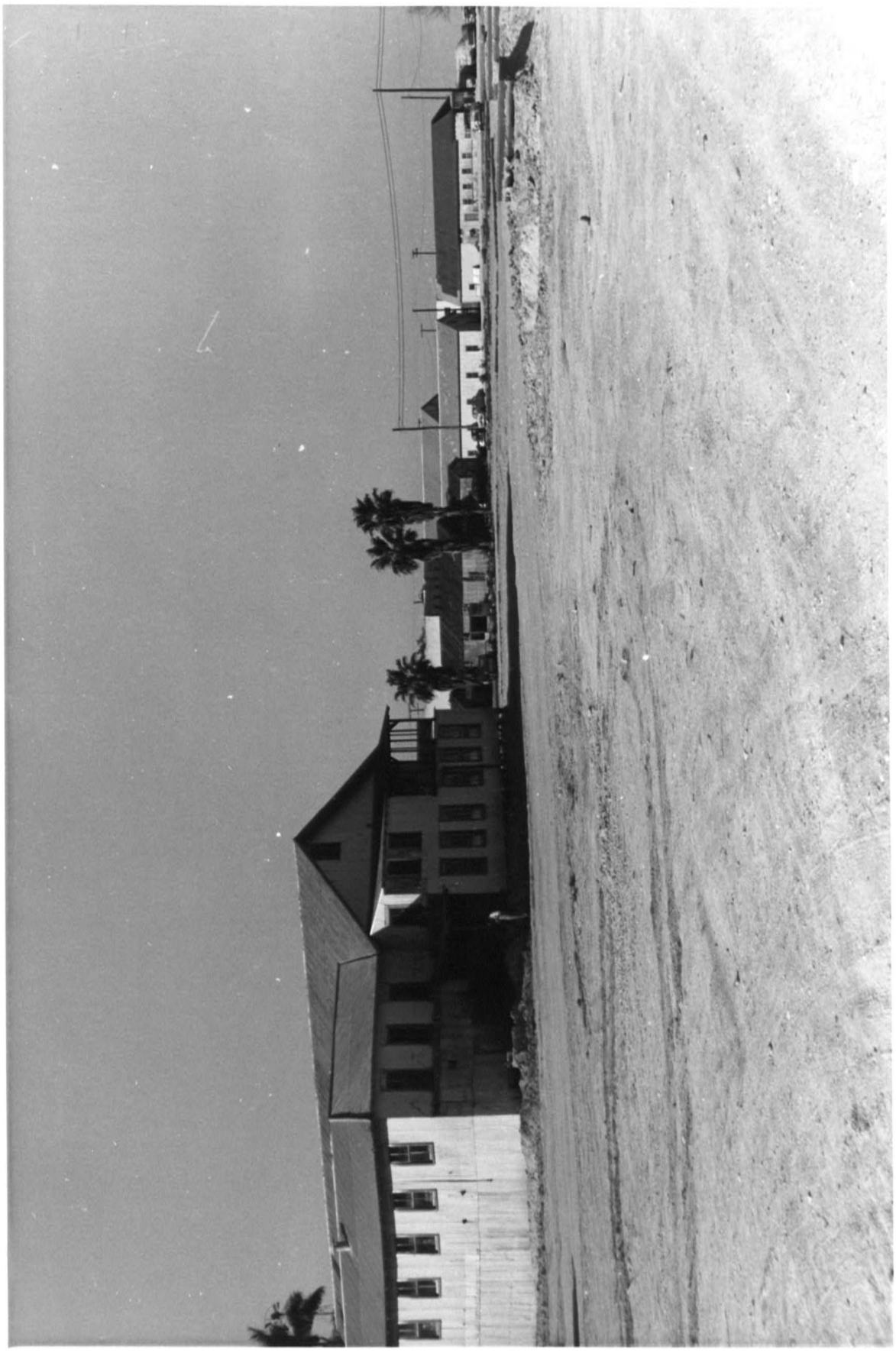
In this "chicken-egg" situation, it is clear that both aspects are equally necessary, and both must arise together. In the present case, the existing facilities for the focal function of Cocoa are so limited and inadequate that the physical expression has an excellent chance to come into existence and thereby influence the development of the spirit.

The problem at hand, then, seems to be ideally suited to the situation. A new civic center for Cocoa can not only provide for the physical needs of the town, such as city administration, library, meeting halls, auditorium, police and fire departments, it can provide, in part at least, that central, physical focus about which a new and unified

community spirit can be born. It should be a thing frankly new, without debts to things which no longer have meaning, yet preserving that which is vital, and of no mean pretensions to express the basic idea and need behind it.

10. PORTION OF THE SITE LOOKING SOUTHEAST

II THE PROBLEM



11. PORTION OF THE SITE LOOKING NORTH WEST

A. PROGRAMME

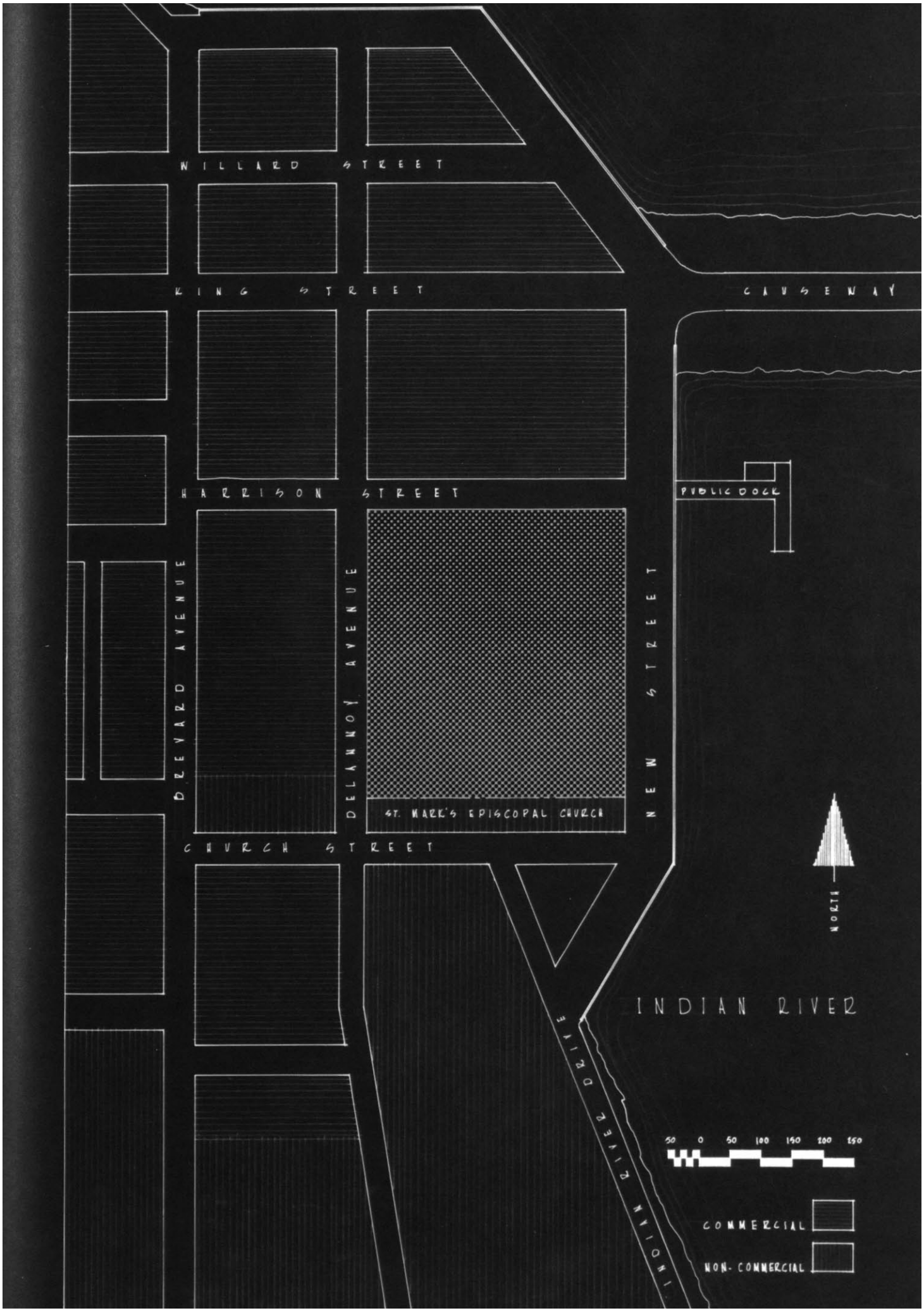
	capacity	sq. ft.
1. City Administration		
a. Mayor's Office	2	400
b. City Manager's Office	2	400
c. Tax Collector's Office	3	600
d. Tax Assessor's Office	2	500
e. Building Inspector's Office	3	600
f. Water and Sewer Department		
i Office	10	900
ii City Engineers	3	800
iii Billing Department (soundproof)	1	400
iv Radio Room (soundproof)	1	75
g. Council Chamber	40	1,500
h. Reception and Lounges	40	1,000
j. Conference Room	20	400
k. Records and Files		800
l. General Storage		800
m. Rest Rooms, Maintenance, Corridors		1,500
Total		10,675

		capacity	sq. ft.
2.	Club and Meeting Rooms		
	a. Main Meeting Room	100	3,000
	b. Three Club Rooms @ 25 persons	75	1,500
	c. Kitchen	3	300
	d. Rest Rooms, Corridors		500
	Total		5,300
3.	Library		
	a. Lobby and Reception	20	1,000
	b. Reading Alcoves with open shelves for 20,000 volumes	25	2,500
	c. Children's Library with open shelves	25	600
	d. Control	2	150
	e. Librarian's Office	1	250
	f. Reference Alcove	4	250
	g. Closed Stacks for 60,000 volumes		2,800
	h. Work Area	4	500
	Total		8,050
4.	Auditorium		
	a. Main Hall	350	3,000
	b. Lobby	350	2,500
	c. Coat Rooms		250
	d. Stage, Dressing Rooms and Storage Modest Dramatic and Lecture Functions		1,500
	e. Rest Rooms and Lounges		800
	Total		8,050

	capacity	sq. ft.
5. Police Department		
a. Desk and Waiting	8	350
b. Chief's Office	1	150
c. Court Room	25	500
i Mayor's Room	5	100
ii Prisoner's Waiting Room	2	75
d. Conference Room	20	250
e. Lounge	10	250
f. Lockers, Showers and Toilets	10	250
g. Cells: 2 persons per cell		
i 12 male cells	24	800
ii 4 female cells	8	300
iii Guard's Room	1	75
iv Matron's Room	1	75
v Showers and Toilets	2	200
vi Juvenile Cell with W.C.	2	100
h. Fingerprinting and Files		250
j. Storage and Cataloging		1,000
k. Radio Room (soundproof) shared with Fire Department	1	75
l. Garage for 6 cars (ground level)		2,000
m. Watch Station (ground level)		100
n. Shop and Maintenance		300
o. Corridors, etc.		500
Total		5,700

		capacity	sq. ft.
6.	Fire Department		
	a. Garage for 4 trucks, 1 car (ground level)		3,000
	b. Dormitory	12	800
	c. Lockers, Showers and Toilets	12	500
	d. Training Room	50	750
	e. Lounge	12	250
	f. Chief's Living Quarters	4	1,500
	g. Corridors, etc.		500
	h. Watch Station (ground level)		100
	j. Shop and Testing (ground level)		400
	k. Hose Drying (cabinet type) (ground level)		100
	Total		7,900
7.	Miscellany		
	a. Heating Apparatus Room (ground level)		500
	b. Air Conditioning Apparatus (above main buildings)		500
	c. Parking for 375 cars		

12. PORTION OF THE SITE LOOKING SOUTHEAST


WILLARD STREET
KING STREET
CAUSEWAY
HARRISON STREET
PUBLIC DOCK
BREVARD AVENUE
DELANNOY AVENUE
NEW STREET
ST. MARK'S EPISCOPAL CHURCH
CHURCH STREET
NORTH
INDIAN RIVER
INDIAN RIVER DRIVE
50 0 50 100 150 200 250
COMMERCIAL
NON-COMMERCIAL

B. SITE SELECTION

The site chosen for this thesis is an area of approximately four and one-half acres situated one block away from the heart of the business district of Cocoa and fronting on the Indian River. It is isolated on the north, east and west by streets, and on the south borders a fifty-five foot wide lot occupied by St. Mark's Episcopal Church, beyond which

is a fourth street. The land is completely level and approximately three feet above the river level, which has no tidal variation.

The eastern half of the site, on the river side, has been recently filled in, and the street on that side added to alleviate the traffic situation passing through the heart of the town. Thus, the site is divided in half, roughly, between filled land which is free of vegetation, and old river shore land which is underlaid with coquina rock and, despite its downtown location, heavily treed with virgin live oak and palm. Originally, this shore property was occupied by four private residences and thus escaped commercial development and concurrent vegetation removal. Two of these original dwellings still exist, with an abandoned citrus packing house on the grounds of one. The entire area has been recently acquired by the town and filled in to provide park space and parking lots. The existing structures are of no economic or practical value to the town and would best be removed.

The area of the site which is most heavily vegetated, the northwest corner, comprises about one acre. This area was bequeathed to the town on proviso that it be maintained as a public park and, therefore, cannot be built upon.

The site ideally combines ample space for building, parking and public green space with easy access to the main shopping and office area and a superb view overlooking the Indian River and Merritt Island to the east and south.

The principal drawbacks to the site are: Firstly, there are two completely different soil conditions. Secondly, there exists a high water table and the consequent danger of flooding during a severe hurricane, due to its low elevation with respect to the river level. Although a concrete sea wall has been built on the eastern shore of the site, its presence would only prevent serious flood erosion and not keep out the water in such an event. Thirdly, the buildings surrounding the site, with the exception of the church, are run-down and unsightly commercial structures, and although a few of them need to be razed, many are destined to remain for several years.

13. PORTION OF THE SITE LOOKING WEST

C. CLIMATIC CONSIDERATIONS

The climate of Florida is sub-tropical. The principal factors of the climate are intense sun and heavy rainfall. The sunlight produces extreme contrast between light and shade and strong glare, especially from sky and water. The intensity of light tends to "wash out" lines and forms which are not distinctly accentuated by shadow or other device.

In addition, it requires protection of building interiors by means of overhangs, screens, grilles or glare and heat reducing glass. The temperatures are high in general. In the Cocoa area, summer temperatures range from 85 to 95 degrees in daytime, with occasional temperatures exceeding 100 degrees, and night temperatures range from 70 to 80 degrees. The winter temperatures range from 50 to 70 degrees in day and 40 to 60 degrees at night, with occasional frost conditions of a few hours duration.

The seasons of fall and spring are less distinct than in more northern latitudes, because the sun's angle does not vary as radically through the year. Spring and fall are chiefly noted by milder temperatures with heavier rainfall than in summer and winter. For the most part, foliage and flowering continues throughout the year with the different species having their own dispersed times of blooming and bearing.

Although the heaviest rainfall occurs in fall and spring, there are no definite dry and rainy seasons as such. The rainfall continues at a slightly lower pace throughout summer and winter. The summer rainfall is predominantly in the form of brief, though frequently violent, thunder showers, and the winter rainfall is commonly gentle rains of long durations.

August through October is the season of hurricanes. Although in recorded history, Cocoa has never been directly hit with the center of a hurricane, severe winds and rains have been experienced on many occasions, and the danger of a direct hit does exist. All structures

must be designed to withstand wind gusts of 150 miles per hour or more and to be tight against high water levels and driving rain.

In addition, fairly high humidities are experienced throughout the year. Fortunately, a prevailing sea breeze alleviates much of the discomfort of heat and humidity, but adds a salt-spray moisture content to the air, which, in conjunction with the humidity and heat, produces a serious rust, corrosion and mildew problem.

The climate, although highly favored in winter by visitors, is on the whole not uncomfortable year-round. However, in the case of indoor work and activity, air-conditioning or air circulation and sun and glare control are necessary for the summer months, and some heating is required in winter.

14. PORTION OF THE SITE LOOKING NORTHWEST

D. ANALYSIS AND SOLUTION

On analysis, it was first decided that since the site was to provide three distinct aspects of the community and civic life, namely: the civic center itself, public green area and public parking area; these three should be arranged and inter-related to the best advantage of each. As mentioned before, the green area is already fixed and

inviolable at the northwest corner of the site. The buildings are to be located on the northeast corner of the site, mainly on the filled land to avoid as much as possible the structural complications of the differing soil conditions. In addition, this places the buildings as close as is feasible to the center of town and makes them easily accessible from the streets on the north and east as well as giving them an unobstructed frontage on the river. This arrangement allows the green area to serve as a delightful pedestrian approach and a subtle separation of the civic center from the commercial areas of the town. The parking area is to be placed on the south of the buildings and green area to serve as a buffer zone between the existing church and the civic center, and, in addition, complete the visual and spatial demarcation of the building complex. The area to be used for parking contains many existing trees and the church property is bordered by a screen of vegetation, so that the area, although in one large unit, will not be as barren and unsightly as is the usual case.

As the building complex is completely isolated on all four sides, it also has an approach; pedestrian, vehicular or both, on these four sides. Each side must present an equally appropriate appearance to the public. The ground pedestrian circulation will take the form of two intersecting axes, one east-west, the other north-south, connecting green area with river front and parking area with street, respectively. The vehicular circulation circumnavigates the area on all four sides, with the south side being the parking space, which serves general public use as well as civic center use.

The pedestrian and vehicular circulation patterns and the arrangement of the various functioning parts of the center, as well as the need for a certain aspect of unity and monumentality inherent in such a complex, have suggested a bi-axially symmetrical scheme.

In addition, the need was felt to elevate the buildings considerably above the ground level for several reasons. First and most important of these is the danger of hurricane flooding. Only those functions which of necessity must be on ground level will be so. Secondly, the elevation of the main floor area allows freedom of ground movement and interior functioning without conflicting circulatory problems. Thirdly, since a pile system of foundations is required by soil conditions, the elevation of the main floor area would not entail radically different structural thinking from what would be necessary for ground-level construction. Fourthly, it is felt that the elevation has many visual and psychological advantages in producing a spirit of lightness and spatial interest. Fifthly, it allows free air circulation beneath the buildings, making the spaces around them airier and cooler. Sixthly, it would tend to reduce aerodynamic lift and pressure differentials in hurricane conditions as far as the buildings are concerned. Seventhly, it would allow the occupants of the buildings an unobstructed view of the river over traffic passing at the river's edge; and, eighthly, it would insure privacy of interior function by separating them from pedestrian and vehicular levels. The additional expense of this proposal is not denied.

A third main aspect of the solution is to provide an umbrella-like covering over the main group of buildings. This would be designed to alleviate the problem of intense sun on the buildings and surrounding spaces. It will be in the form of some open-work or grille-like structure to allow some sunlight and produce a delightful chiaroscuro effect within the complex. In addition, some sections of it would be omitted to introduce direct sunlight for contrast, where desirable. Also, this covering will serve as a unifying device to the entire complex of masses and voids to make it more easily and comfortably discernable at a distance and to signify the large scale of the entire scheme.

It is hoped that a partial solution to not only the physical, but the social, community and aesthetic needs of the town and area can be provided by a design which, in intent, is symbolic of a new community spirit and is monumental enough, in today's terms, to provide a fitting focus for the community's activities for which it is purposed.

15. FOLIAGE

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