Paul W. Andrews Sept. 17, 1955
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MIAMI'S MARINE DESTINY
— TODAY'S DECISIONS

By George Fox Mott, Ph. D.

A Port Development Survey Prepared for

THE CITY OF MIAMI

by MOTT OF WASHINGTON & ASSOCIATES
Management and Consulting Engineers

To -

Mr Paul W. Andrews

and his Staff associates

Presented with the

Personal Compliments

of

George Ford Morris

15 September 1955

06205

PORT DEVELOPMENT SURVEY

M I A M I ' S M A R I N E D E S T I N Y

- TODAY'S DECISIONS -

By George Fox Mott, Ph. D.

CITY COMMISSION

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RANDALL N. CHRISTMAS

H. LESLIE QUIGG

B. E. HEARN, JR.

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Assistant City Manager

F. L. Correll
City Clerk

J. W. Watson, Jr.
City Attorney

G. N. Shaw
Director of Finance

Arthur E. Darlow
Director of Engineering

Captain Charles A. Olsen, Director
Department of Port Operation and Development

September 1955

MOTT OF WASHINGTON & ASSOCIATES
Management and Consulting Engineers
Dupont Circle Building
Washington 6, D. C.

Port Project 77

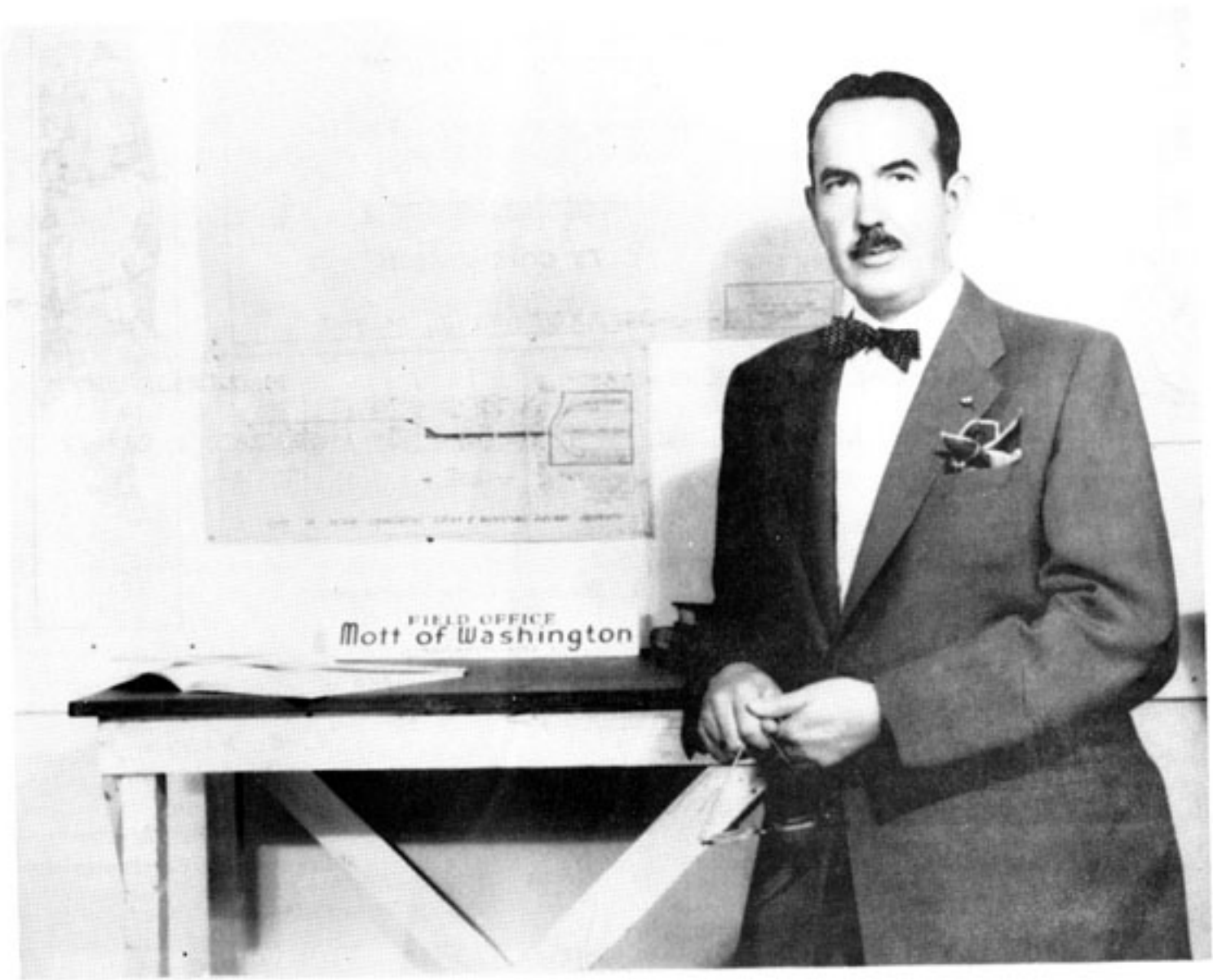
FIELD OFFICE
Mott of Washington

TABLE OF CONTENTS

MAPS

MOTT OF WASHINGTON
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Management Consultants

OFFICE OF
GEORGE FOX MOTT, Ph. D.

DUPONT CIRCLE BUILDING
WASHINGTON 6, D. C.

September 7, 1955

Honorable Abe Aronovitz, Mayor
&
Commissioners of the City of Miami
City Hall
Miami, Florida

Gentlemen:

In accordance with our authorization from you and the contract entered into on your behalf between the City of Miami and ourselves last March, we hand you herewith our report.

We invite your attention to the fact that it sets forth our findings in connection with the PORT DEVELOPMENT SURVEY by posing and answering the thirty two questions which must be decided on the basis of certain assumptions which we also posed in the form of "Objectives Sought." Our answers are presented in the form of "Decisions" - and as these decisions ought to be made at once, we have titled and sub-titled this report Miami's Marine Destiny - Today's Decisions. Decisions given are followed by analyses and, in some cases, by back-ground facts. We have reviewed all of the engineering and economic information bearing on the Port of Miami. Except as such material directly relates to answering one or another of the questions posed, we have felt that no constructive purpose would be served by repeating what others have already said.

We have made most thorough search of the entire relationship of the Port to the City and to its entire Four-County Glade-Trade hinterland, and to its wider Caribbean hinterland, which inquiry has reinforced our conviction that this community, with its natural dowery of location, climate, and the nature of its citizens, must be viewed as a special entity in itself. We have been particularly diligent in our efforts to understand the business, industrial, and marine interests and equities existing in the Greater Miami area and in Dade County.

I want to take this occasion to personally thank the City Manager and the department heads of the City Government, as well as the many private citizens who have given us every courtesy and every aid required. And, finally, let me say that no person or group of persons have either influenced or attempted to influence us in the objective findings which we now transmit to you, in accordance with our contractual mission.

Presented from our Miami Office
Municipal Pier No. 3
853 Biscayne Boulevard

Very sincerely yours,

George Fox Mott, Managing Partner

P R E F A C E

A community with a plan is a community with a future. A community with no plan - or with many uncoordinated plans - is like a household without present conveniences or hope of future comforts.

Miami is in danger of serious reduction in her standard of living. This is not because "times are bad," or because "it's tough all over," and especially not because of local economic retrogression, since the Miami area is on the verge of accelerated and cumulative prosperity of a sounder and more permanent type than ever in her history. The danger is that Miami, like a household faced with visiting friends, a new Buick, and a new set of twins, will become so overwhelmed with traffic, sanitation, safety, and supply problems that just living, moving, and working in the area will be difficult.

Miami has plenty of "backyard" room for new industrial areas and for new housing areas, but she has not yet quite succeeded in establishing a generally accepted master plan for her central work areas - streets, causeways, expressways, bridges, railways, and the port. These work areas are vital and their proper functioning is necessary for the well-being of the whole metropolitan household.

The port is one of the most overworked and understaffed members of the Miami household, and no additional space and no new labor-saving devices or other means of carrying on its vital functions have been provided for it in many a long year. In fact, there has been a feeling on the part of many Miamians that it might be well for the city to transfer its commercial responsibility for an ocean port to some other community, or, perhaps, just dispense with it altogether, as older cities once dispensed with watering troughs and hitching posts on the city streets.

Miami is the magic part of Florida. Miami is the tax-paying part of Florida. Greater Miami is also the land hub and funnel point of

the whole Four-County Glade-Trade Area of sub-tropical North America.

During all of Miami's lifetime, the spot "where the rock hit the water" has been the Port of Miami. The significance of this fact has gone unrecognized most of the time. When recognized, the problems of the port have been shunned, ignored, or made the center of concentric circles of controversy - and no coordinated action. When money expediture has been required, there has been faint heart or vested interest opposition. Courageous elected and appointed leaders have gone to their graves with well-thought-out plans for coordinated action sabotaged by some of the very citizenry who put and kept them in office.

For decades, Miami has refused to follow informed and sometimes dedicated leadership toward coordinated action in city planning and programming. For years, the City has been involved, in one way or another, in touch-and-go jurisdictional wrangles with the County, which is made up largely of the selfsame citizens presided over, for another part of their governance, by another set of officials. The time has come, as responsible Miamians know, for an action plan, followed immediately by action taken.

This Port Development Survey was conceived by the present desire of the Mayor and the City Commission, and a very substantial part of the community, including the marine interests and the press, to find out what could - and should - be done with and for the Port of Miami.

We were told that there existed an abundance of material dealing with most of the basic and some of the specialized aspects of the port problem, including the data necessary for a thorough economic and engineering survey leading to a port development evaluation and decision plan.

Much of the necessary data has indeed been available, or has been made available by City, County, Federal, or private agencies, to all of whom we wish to extend our thanks for their willing and competent assistance.

Other necessary information has been ferreted out from sources perfectly available, but not generally recognized as having a bearing. The total sum of this material, gathered and analyzed, now fills several "Five-Foot Shelves." Other shelves in our workshop are filled with plans - some made a decade ago and some made yesterday - plans formal and informal, official

and unofficial, for solving most of Miami's municipal problems, including the port problem.

The sum of this material is a monument to human effort, organization, and creative imagination, and it has all been of value to us in fulfilling our specific contract mission, as well as the accepted expanded mission of this survey.

We have read and pondered the materials of these Five-Foot Shelves. But we have based our own decisions on personal activity of various arduous types, including personal observation and direct personal survey of every physical factor bearing on the problems requiring answers. This has meant personal reconnaissance of all of the coastal and inland waterways navigable by boat, of the economic area affected. It has also meant personal trips to every point capable of being reached by automobile along the railroads and the principal highways and causeways of Dade County and adjacent counties.

Such personal observation has been of a dedicated nature, in the belief that only a grass-roots survey approach would turn up the conditioning economic, industrial, and engineering facts required to come up with the right decisions.

This activity has also meant innumerable on-the-record and off-the-record conversations with civic, busines, and marine leaders in the Four Counties concerned, but most particularly in Dade County, and most especially in Miami. To all these people, who almost without exception gave freely of their time and opinions, of their experience and their wisdom - and who extended to us every courtesy and aid possible - we express our thanks and great indebtedness. Except as they are mentioned elsewhere as being sources of important basic or collateral information, they must go unnamed, but they cannot go unthanked, and each knows of his contribution.

Even so, in all fairness, five agencies must be singled out because the nature of their help has been such as is clearly above and beyond optimum expectancy - namely, the Board of Engineers for Rivers and Harbors of the Corps of Engineers, U. S. Army, through their Statistical Division in Washington and their resident engineers in Miami; the Miami-Dade County Chamber of Commerce, through its Economic Development and Research Department; the Department of Engineering, the Department of Finance, and the Department of Port Operation and Development, of the City of Miami, the latter three through their Directors and certain of their deputies. To these, along with all the rest - and their number is

very large, we acknowledge our grateful indebtedness.

However, so that there be no mistake, the statements hereafter made, and the decisions reached, have not been those of any person or persons except ourselves. The sole responsibility is ours.

MoW

T O D A Y ' S D E C I S I O N S

PART ONE

PORT JUSTIFICATION

One. Does Miami need her own deepwater port ?

Objectives Sought: A healthy, stabilized overall economy -

1) Supporting and being supported by a large and substantially employable permanent population, with near-average American urban age-group distribution;

2) Supplemented by a sizeable retired and transient population representing the area's greatest single business - all-year-round tourism;

3) Bulwarked by aggressive capitalization on the area's asset of locale which provides unique Sun, water, and climatic attractions for better living, working, and "pleasure craft roving";

4) Made possible by modern transportation and distribution facilities adaptable to present and future passenger and cargo handling requirements of Greater Miami and the Four-County Glade-Trade Area of subtropical Florida; and thus

5) Providing, in addition, suitable positioning for trade flow "in" and trade flow "out" between Miami and trader nations everywhere - and particularly those of the Americas.

Decision: If mature Miami can accept these reasonable objectives as her own, the answer to the question posed clearly is - Yes.

Nevertheless, there has been much said and written on the subject of whether Miami wants to bother with her port and her marine destiny, or whether, instead, she should not be content with Sun, water and tourists, and leave trade, commerce, and marine expansion, with their attendant "shoes and ships and sealing wax," to other communities, such as Port Everglades.

If Miami seeks to build other communities and let her own passenger and commerce heartland wither, the way to achieve it quickly is to let any of her transportation facilities be moved out of her own zone of travel and trade utilization. And this, clearly, would be folly of the first order.

Yes, Miami does need her own deepwater port.

Analysis: A large permanent population must have the sustenance that is created by trade and business activity upon which to depend for continuing jobs. Ports are economic gateways and, as such, create prosperity for the communities they serve in relation to their proximity to the place where the goods they handle are utilized.

An industry as demanding as tourism, and the pleasure boat servicing and supply business that is, in good part, its satellite, must be served well if it is to be kept large and continuing. And certainly, a location so well endowed for trade must be provided with the means to process that business, and commerce generally.

Aside from pipeline distribution, there are four types of carriers. Water - the oldest and cheapest means of transportation. Rail - pioneer distributor of general and bulk cargo, and the traditional way to the interior, after inland waterways. Highway - the fast-freight way to handle broken lots of cargo. Air - the newest and fastest, with great challenge ahead for all but bulk cargo. To dispense with the means to utilize fully any of these carriers, or to transfer the center of their activities to other communities, invites an economic slow-down, if not strangulation.

In reality, Miami has no choice. There is no equivalent for a water port. No land highway takes the place of deepwater ports or navigable waterways. Rail and truck carrier rates to and from Miami are kept reasonable only by the competition of water rates. Certain bulk cargoes would crowd pleasure cars completely off many of our highways, if they had to be transported long distances by truck. Miami would not only cut herself off from the current trend toward domestic shipping revival, and the trade sources of Europe, but she would also cut herself off in a most vital way from the Caribbean area which is only now beginning a tremendous economic, political, and cultural Golden Age. Quite apart from the foregoing considerations, it is frivolous to suppose that national defense planning would concur in port suicide at a vital coastal point.

No city, least of all Miami, can turn its back on commerce or fail to utilize and capitalize on its natural resources and endowments of locale. Among the best-known warnings against a trade-inertia attitude is the Biblical story according to St. Matthew in which the man who buried his talent in the earth instead of using it was "cast into outer darkness" where there was "weeping and gnashing of teeth." History is silent on the fate of the man who left his talent on the beach and let the tide wash it away! Miami has narrowly escaped doing that very thing.

Background: Where civilized men move into a natural paradise, the paradise must change. They bring with them their more complicated needs, the urgencies of trade and the complexities of communal living, of shelter, safety, food and recreation.

The City of Miami has grown from a subtropical sea and jungle paradise into a magnificent city, with the speed almost of a dream, in terms of normal city growth. By many criteria, Miami is a highly successful human community.

But all success must be paid for, and phenomenal success bears a correspondingly high price tag. Some of the bills which face Miami must be paid now. The days of grace have run out.

Note: Amplification of this statement is found in Appendix A. Because the relationship of the Port of Miami to the City of Miami is so essential a part of understanding the key problems posed and answered by this report, all readers, save the few who wish to know only the answers, should read the Section titled "The Port That Miami Forgot."

MoW

TODAY'S DECISIONS

PART TWO

LOCATION FACTORS

Two. What are the fundamental location and space requirements of a modern deepwater port ?

Definition of a port: As was stated in A Survey of United States Ports,* "A good port, in basic characteristics, is what it has always been--a sheltered, convenient meeting place between land and water, with 'facilities' adequate to accomplish the transfer of cargo; surrounded or edged with a population desiring the goods brought and producing the goods shipped."

However, in concept and total relation to the community served by the port, this definition must be amplified at the present day.

Thus, a port is a general trade exchange location (where land and water meet) with one or more specific location sites, providing one or many facilities and services for the handling of passengers and cargo, occupying such space as is required to serve all traffic with efficiency and economy of time, money, and end purpose.

Objectives Sought: Principal port location should be at that point within the area directly served where the total required related facilities and services may best be coordinated by reason of advantages posed by, or in combination with, such factors as harbor utilization, local and tributary land and sea trade patterns, and proximity to actual utilization or to advantageous land transfer points.

Principal port location advantage is always conditioned by the space factor of practical adjustment to a land utilization based upon long-range economic stability of the area, rather than on "flash" real estate values of the moment.

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* Chapter 1, "Ports Are Economic Gateways," by George Fox Mott.

Decision: The principal locale of the Port of Miami should be where the basic interests of the City of Miami, Greater Miami, and the Four-County Glade-Trade Area have their natural focus - even though such location requires some readjustment of certain other expedient planning for the handling of traffic and/or other related problems.

In the long run, there will be less maladjustment to the total economic life of Miami, even though immediate State, County, City, or private interests and planning are affected.

Analysis: Location and space requirements of a port are partly conditioned upon the tangible physical factors of what waterfront land area is not unqualifiedly committed to other permanent land use purpose. On this basis, the waterfront area of Bay Front Park is unequivocably committed - and for good all-purpose civic use. This, however, does not mean that it would be wise to commit more of the waterfront to the same purpose. Consequently, the objective of our analysis has been to examine all of the waterfront areas that have not been firmly committed, review the present use of these areas, and relate the area concerned to the requirements of a port.

Proper consideration must also be given to the recognized civic prejudices and long-established ways of looking at certain parts of the waterfront. And above all, the port location must be considered in direct relation to the current, or reasonable future adjustment of, related transportation properties, investment, and interchange patterns.

The whole is pretty often the sum of all the parts in the port location problem. And we assume - and can prove - that Miami is destined for an ever-increasing economic stability. Thus, we must be extraordinarily alert to provide enough space to permit the port to motivate and participate in that growth.

Background: At one time, the simple concept of a port as a "land and water crossroad" with the characteristics of a public highway was enough. Then the idea of a port being a public utility, because of the service it rendered to the trade and commerce of a community, was recognized. Today, a modern port is coming to have the combined characteristics of a large financial enterprise, a trade center service organization, and, as such a stimulation of all manner of business - as well as a general service area where railroad,

highway, and public and private facilities and waterfront industries meet.

This means that a modern port is not only a community transportation center and a public utility capable of rendering service to many different interests, but it is also the communications and action center of many pulsating businesses, as well as an "organic whole" capable of actual self-sustaining economic activity within itself, whether designed to serve a large community, or a larger commercial trade region.

Thus, modern ports are financial enterprises with the practicle job of operating a series of related facilities, in addition to their overall responsibility for the development of trade and related industry in their area.

MoW

Three. Should the Municipal Docks be relocated ?

Objectives Sought: The best land utilization of available waterfront consistent with existing equities of private investment and of Federal, State, County, and City welfare and investment, together with trade and commerce development advantages to the Greater Miami trade area, to the Four-County adjacent economic hinterland, and to the Caribbean and Latin American tourist and cargo exchange area.

Decision: All factors being thoroughly analyzed and weighed, the decision is that the Municipal Docks of the Port of Miami should not be uprooted and relocated. There is today but one practical site for the commercial ocean port of Miami. That place is where it now is - expanded, redesigned, and augmented by other waterfront utilization, including the Miami River.

This may be done without long-range damage to the equities of anyone concerned, provided that the decision is carried out by determined leadership in substantial coordination with other necessary related basic Greater Miami and Four-County planning and action programs.

Analysis: None of the reasons which are argued for relocation of the Municipal Docks are as compelling as those which govern their being retained where they are. The closer a port is to the area it serves, the better service it can give. The problems of traffic congestion and of commercial waterfront and railroad-track blight are never easy to solve, but there are solutions which will work just as effectively in the port's present location as in any other area in which it might be placed. In addition, another location would present other problems.

To move the port for the sake of moving it, or to provide a temporary bonanza for real estate development, is not economically sound for Miami as a whole, even if the cost be the same.

For example, ignoring all aesthetic arguments, any major primary ocean terminal plant located out in Biscayne Bay would immediately face the problem of no rail connections. No cargo port can operate without a rail connection. The requirement is a "sum certain" today. One may speculate, on a number of different bases, that this may not always obtain, but now it is essential. To provide rail connections for a "spoil island port"

would require bridges. This alone brings into focus a whole galaxy of problems, without wholly resolving others. The talk of tunnels in this connection is not realistic, and the "lightering business" - unless principal port facilities are already on an island, as in the case of New York - is a solution of desperation.

In relation to another type of relocation suggestion, a port plant set up south of the city in the vicinity, let us say, of Cutler would require - just to begin with - a new Federal Project for an ocean channel, as well as complete new development of rail and highway transportation. In addition, the port would back up to perhaps the least profitable potential immediate land hinterland in all southern Florida, and, finally, the City of Miami would, without complex legislative and legal adjustments, lose all control of the port, since it would be outside of city limits. Also, various auxiliary marine activities, such as drydocks, bunkering installations, and other ship repair and servicing agencies, would be obliged to relocate their plants as well.

In addition, the new industrial areas, so profitable to Miami, which have developed in the Miami Canal and and Hialeah areas, as well as the longer established industries on the Miami River, would find themselves in a transportational backwater, until major rail and highway connections with the port had been established. Also, the Miami River, as an auxiliary port area, would then serve its industrial tenants and the principal deepwater port facilities far less well.

As a final municipal and trade factor, the supporters of such a location must face the fact that the area around such a relocated port would take on town and finally city characteristics. There are already some 24 "bedroom" and/or auxiliary corporate areas around Miami, without creating a new city with a port, which will then become an economic competitor.

The Graves Tract. Many of the foregoing factors would also be true if the port were taken north to the million-dollar city-owned Graves Tract. A large group of dedicated men, headed by Dr. W. H. Walker, have devoted their energies to promoting and providing the money required for accomplishing an exceedingly well done business study of the economic feasibility of a Cultural and Trade Center at this site. We do not either endorse or reject the findings of this study, but we have taken cognizance of the fact that many Miamians have long felt that this was the place to build a relocated port. This suggestion was considered worthy of the most careful analysis.

The substance of our findings is that, while the area fulfills many of the criteria of space and location, the total complex of factors now obtaining do not justify the selection of this area for the principal port plant, even if the Inter-American Cultural and Trade Center were not to be located there. On the other hand, if the Trade Center moves forward, as now believed possible, there are compelling reasons for the City's reserving for itself certain rights in the sales contract to permit the establishment there of a subport with some municipally owned facilities for the handling of certain types of cargo. In addition, if this "show window" is built for the promotion of trade, as well as cultural exchange, it might provide an alternative site for the Free Trade Zone considered later in this presentation.

The negative characteristics of the Graves Tract location as a principal port area include the amount of harbor engineering which would be required to utilize Baker's Haulover Cut as a harbor entrance. It would be difficult to establish a justification sufficient to cause the Board of Engineers for Rivers and Harbors to recommend to Congress the expenditure of funds for such a project. This is true in part because of the location's proximity to Port Everglades, and in part because of the disuse which would then obtain of the present main ship channel. Some expenditure of Federal funds might be justified for harbor work in connection with a subport, provided the Trade Center became a going actuality.

Other factors mitigating against the area for a principal port development include the fact that it would not alleviate many of the traffic and transportation problems now obtaining in the present location; it would merely change their locale. Further, once the land is built up to plus 5, as is certainly essential, 40 percent of the area shown is apt to be lost be shrinkage. This weakens the "unlimited space" argument appreciably.

Other Plans. As all Miamians who have been concerned with marine affairs know, there has been no lack of other plans for port relocation. Many of these plans have been good, and many of them have been fought for strenuously and unselfishly by their initiators - and the memory of those who did the fighting is still properly revered. Some of these plans take cognizance of the collateral small boat and pleasure craft yacht dock locations and facilities, but most do not. However, the matter is fully dealt with subsequently in this report.

We have reviewed all plans and suggestions with completely open minds, but have found each of them "wanting," under today's conditions. We have also entertained and abandoned many other possibilities, before arriving at our final decision, expressed above.

Only one thing more needs to be emphasized. The Port of Miami does not consist alone of its Municipal Docks, but rather of the total complex of public and private facilities on any navigable waterway in Greater Miami. And, of course, when we say the Municipal Docks should not be moved, we also say, in the next breath, they must be redesigned and rehabilitated, and the area in which they are located must be expanded in both directions - north and south of their present location. In addition, the Miami River and its tributary canals must be put to work.

Background: These older plans have been too simply and smugly described as being variations of three alternate plans "which seem to have been the basis for about every proposal since." Reference in the report just quoted was to three of a number of alternate plans submitted by the Corps of Engineers in 1939 under a directive of Congress. Be that as it may, one good staff reference report examined summarizes these three plans in the following bare-fact manner:

"1. The 'P. and O. Plan,' which advised simply an expansion of the present municipal docks by building additional new facilities on the adjacent 'P. and O. Docks' property to the south.

"2. 'The Orr Plan,' which proposed a new terminal on filled land southwest of MacArthur Causeway and adjoining the present main ship channel. Highway and rail access from the mainland was to be via a new causeway.

"3. The 'Virginia Key Plan,' calling for substantial enlargement of Virginia Key to include port facilities, and other public projects. This plan was later revised to include a naval station and an airport. Highway access was to be by causeway, railway access by car ferry. The maritime projects in the revised plan were authorized by Congress in 1945, along with an appropriation of about 1/3 of the estimated cost, the remaining 2/3 to be supplied by local interests.

"The 'Virginia Key Plan' had widespread support during

its development stages, but when Federal and local authorities acted to implement it, opposition appeared. As a consequence, the necessary local commitments could not be obtained and the whole project was suspended."

More recently, in 1947, the Miami City Commission authorized a survey to determine a plan for future expansion of the port. The well-known firm of Knappen, Tippets, Abbett embarked upon the task and made a report in the fall of 1949. This survey presented a considerable number of cogent facts, some recognized before but easily forgotten, and came to a number of relevant conclusions and recommendations. Whether it was because the report gave little urgency to the issues presented and the recommendations made, or whether it was because of Miami's habit of not taking port problems seriously is not known, and speculation is not our job. The fact is that little was done as a result of this survey except to receive the report, and then place it in some File 13 for future reference.

Subsequently, in view of a 1945 statute, the Dade County Port Authority, with broad legal powers over water ports as well as airports and other transportation, utilized the services of Engineers George T. Treadwell and Earle M. Radar, to determine for themselves what might be done to improve marine terminal facilities and related matters at the Port of Miami. This report was rendered in 1952 and reversed some of the findings of the 1949 report. It recommended a new port development on or near the spoil islands south of the main ship channel and MacArthur Causeway.

Apart from the fact that this solution was, in its turn, not acceptable to some Miamians, it also marked the beginning of a whole series of disputes as to whose port it was and a number of legal issues as to how the City was to fare by a transfer of the Municipal Docks to the control of the Port Authority, the members of which were also the County Commissioners. The details and record of this "tug-of-jurisdiction" are well accounted for in the press reports and public records.

In the meantime, without benefit of new location, new control, or new facilities, the Municipal Docks continued to fulfill their port functions. By meeting port requirements with a kind of commonsense genius, their management has so far succeeded in keeping the docks a going operation, despite neglect. Even some progress in small ways has been noted.

Four. Since the Municipal Docks are not to be moved to another part of the waterfront, where should the port expand, on a planned-growth basis ?

Objectives Sought: Expanded port utilization of such other part of the bay waterfront area, and/or navigable streams, as is not irrevocably committed to other reasonable public or essential private use in the public weal, and which is suitable for harbor or stream modification, and specifically compatible with economic, cultural, and transportation and land-use realities.

Decision:

1) Retaining its present acreage, the Municipal port area should expand both south and north - as far south as Bay Front Park, down to the area occupied by the City Yacht Basin - and as far north as N. E. 20th Street.

This principal port area should be augmented by:

2) The west side of Watson Island, as a municipal terminal for passenger vessels; the use of the balance of Watson Island is discussed later.

3) The bay sides of Fisher Island, on a private terminal basis, to handle petroleum and certain other bulk cargoes.

4) The lower and upper reaches of the Miami River and the Tamiami Canal at suitable selected sites, to the extent warranted by the marine industries' expansion, and the establishment of new non-dust, non-smoke, and relatively non-noise-creating industries to be brought to Miami for her permanent economic growth, through active port promotion and development, as discussed later.

Analysis: To the south, the P. and O. Dock area should be restored to a more satisfactory cargo transfer use by the construction of a modern cargo pier serving both truck and rail land feeders. This use has been endorsed before by other reports and the job should now be executed, in consonance with details presented later. This site was the first

water terminus of the Flager railroad, and the point where the railroad dredged the first ocean channel to a depth of 9 feet, in cooperation with the Peninsular and Occidental Steamship Company. This was the beginning of the Port - and, in a sense - of the City of Miami.

To the north, the port area should be extended to N. E. 20th Street, which has been designated as a main traffic artery by City planners. The jog-off to 23rd Street for part of the distance - if this is done - does not alter the port limit determination, though 23rd Street, as a port limit, would be equally acceptable, except for additional waterfront land cost.

The Belcher oil interests and their property on Biscayne Boulevard near the corner of N. E. 13th Street extending toward MacArthur Causeway will be discussed under a later section as to its use in connection with the port plan. At this point, it is enough to say that the waterfront part of this property, which is now occupied by a fuel oil tank farm, in the heart of the city, should become a part of the municipal port area.

North from N. E. 13th to 20th Streets, along the bay front, the port should gradually but steadily expand in sizeable steps over the next five years, with planning and land acquisition being started immediately all along the bay. The port does not, in the foreseeable future, need to include the property directly on Biscayne Boulevard between N.E. 13th and 20th Streets.

The MacArthur and Venetian Causeway complication is dealt with separately. However, it may be pointed out here that both of these structures require rehabilitation or adjustment of location, or both, and this thinking is already on the drawing boards of the State Road Department and other road planners. Consequently, further adjustments present only modification of planning now well along, and will involve little, or at least no serious additional costs. The causeways are public utility structures, as are the facilities of the Municipal Port, and the coordination of their respective patterns for overall public advantage is obviously essential.

Port expansion and land adjacent to the bay required for port operation and related purposes should extend northward taking the following course:

1) From N.E. 13th Street along North Bayshore Court to N.E. 15th Street, veering slightly toward the bay

behind the remodeled medical office building. This area contains no essential buildings or improvements at present.

2) From the corner of N.E. 15th Street and North Bayshore Drive, the port expansion will continue along North Bayshore Drive on the bay side, to N.E. 17th Terrace which should be cut straight to the waterfront. This land, east of Bayshore Drive between N.E. 15th Street and 17th Terrace also presently contains few modern structures.

3) From N.E. 17th Terrace to N.E. 20th Street, the port expansion will include the section from N.E. 4th Avenue to the bay, with 4th Avenue being cut through to the new proposed expressway leading to both MacArthur and Venetian Causeways.

As is stated above, the properties facing on Biscayne Boulevard, between N.E. 13th and 20th Streets, are not involved in this port expansion.

The basic land areas to be used for the enlarged principal port area are shown as they now appear, by Plates III and IV.

Plate III includes all present permanent and temporary surface structures, as well as principal underground sanitary structures connected with the new sewage pumping station still under construction.

Plate IV includes the entire area proposed for port expansion between N.E. 13th and 20th Streets, as well as those properties on Biscayne Boulevard not effected by the plan. Principal buildings of public or quasi-public interest are also shown.

Watson Island, in the heart of the bay and reserved exclusively for public use, should obviously be landscaped and utilized as a marine tourist attraction center. It should not be sacrificed for public park and indeterminate general playground area, as it belongs by reason of its locale to the waterfront.

The south side should be left clear, as open waterfront, for it is along this side that the main ship channel is located, which must not be encumbered by structures or craft berths.

The west side is positioned so as to be particularly suited for scheduled passenger ships' berthing.

The north and east sides are suitable for pleasure craft marine use, as developed subsequently in this report. Properly landscaped and developed, this island area could come to personify Miami's charm to residents and tourists alike.

The Miami River, with its navigable tributaries, leading through the city into the present and future industrial section of Dade County, is perhaps the most valuable single commercial asset in Miami. It is used variously for small cargo and pleasure boat servicing, repair, and supply; for dry dock and marine railway installations; and for industrial docks belonging to concerns handling specialized or bulk cargoes, with some stretches which are purely residential land margin.

Plate V shows Watson Island opposite the present port area, and the lower and middle stretches of the Miami River and canal complex. The dark areas show property now owned by the City of Miami, some of which should be utilized as location for a subport wharf and terminal. In addition, four sites are indicated (TB-1, TB-2, TB-3 and TB-4) which are suitable for location of turning basins - necessary when the river is put to more adequate port use. The map also shows the location of bridges across the river, many of which must be replaced by new structures which will not constitute obstruction to navigation or to street traffic.

The City Department of Engineering has long recognized the bridge problem. They have provided adequate studies for decision, which is long past due. Unless decision is reached promptly, the necessary increased commercial and pleasure-craft use of the river will create additional land and river congestion. At the least, the West Flagler Street and South Miami Avenue bridges need immediate replacement. Other bridge replacements ought not to be long delayed. If tunnels are used at any point on the river, they must provide for a channel depth of at least 20 feet at mean low water.

At this point, it is necessary to add that the Miami River, part of Miami's original "dowery", has been used so badly that scores of Miamians look upon it as one might an outdoor privy - necessary for emergency use, but not worth keeping up like the rest of the household. There are a few stretches that are well maintained and suitable to their respective residential or commercial use, but, by and large, the river, like the port area, is not at present a credit to the community. Derelict ships, decaying bulkheads, and a variety of informal junk yards contribute to navigation discouragement and property

depreciation - and this on a stream which has Federal Project status as navigable waterway, hurricane refuge, and key flood control auxiliary; and commercial status as pleasure craft rendezvous and water highway for small trader ships and bulk cargo handling, reaching far into the industrial interior where no truck or rail rate - however low - can match water transportation at its economical best. It is essential that the Miami River be restored to proper physical maintenance and full commercial useability.

MoW

Five. What location factors must be adhered to for the railroad - city - port complex which may be used as controlling in railroad adjustment as well as for general street, highway, and railroad coordination programs required by the area's growth and development ?

Objectives Sought: Providing rail access to the port, including:

1) Recognition of the equities of both railroads serving this area.

2) Cognizance of the controlling public interest in reducing traffic congestion caused by tracks and switching operations across principal traffic ways, including Biscayne Boulevard.

3) Appreciation of the necessity for space for rail classification yards and other normal rail-port activity.

4) Recognition of the civic objective of providing means for rescuing valuable downtown areas from unnecessary warehouse and slum blight which has hampered land use planning and city zoning adjustment.

Decision: Retention of Municipal Railroad property, tracks, and the acquisition of a port-operated switching engine with the following equity recognitions and intra-port location adjustments:

1) Point of crossing Biscayne Boulevard to be limited to that now utilized by the Municipal Railroad.

2) Time of crossing Biscayne Boulevard to be restricted to periods best suited to traffic conditions and port operation needs, as determined by the Port Director.

3) Access to the port area guaranteed on an equal treatment basis to both railroads.

4) Provision for switching and classification tracks wholly within a redesigned and rearranged port area.

Analysis: Although settlement of the knotty problem of city-wide railroad track location readjustment is outside

the limits of this survey, on a strictly direct problem basis, it has been necessary to study the factors revolving around the larger problem in order to meet squarely the port need for rail connections. For this reason, it is considered appropriate to make certain observations and suggestions bearing on the larger problem, as well as decisions bearing specifically on the port problem.

At this point, attention is invited to Plate VI which is a map of Miami showing particularly certain existing and planned main traffic arteries, truck routes, expressways, railroad trackage, waterways, the airport, the new civic center, and other points of departure important to this and the immediately following questions, objectives, and decisions of this survey.

As to providing railroad connection to the port, the following, or some adjustment equally acceptable to all parties concerned, must be arranged to get cargo by rail to and from the port area via the Municipal Railroad tracks which begin in the vicinity of N.W. 7th Avenue and N.W. 11th Street, as shown by numbered circle 1, on Plate VI.

It is proposed that when and if the Florida East Coast Railway ceases to operate below N.E. 29th Street on what is now its main line, an interchange be arranged at, or in the vicinity of Iris Crossing along 11th Avenue in Hialeah, where the present belt line of the F.E.C. crosses the tracks of the Seaboard Air Line Railroad, as shown on Plate VI by numbered circle 2. At this time, and under such circumstances as may be provided by a tri-party contractual arrangement (both railroads and the City representing the port), all freight of both railroads, destined for the port, would move over trackage owned and now used solely by the Seaboard Air Line Railroad, on their route to their junction with the Municipal Railroad trackage, which may be clearly followed on the referenced map, Plate VI.

As to the larger problem, it would appear essential to recognize that both railroads have very considerable property and equipment investments, which in turn affect, and are affected by industrial and business interests in Miami and Dade County which require the railroads for their continuing prosperity, and, in some cases, their very operational existence. Such businesses as processing plants, manufacturers, and warehouses who either require, or are accustomed to be, serviced by rail must, in all fairness, either relocate, or be relocated, if rail facilities are removed.

Personal observations made during this survey along all the trackage of both railroads in Dade County led to the discovery that most of the concerns using rail connections in or near the central business section of the city have already provided themselves with, or have thought of the need to provide themselves with, other business locations. Such provisional hedging has been anticipated along both railroad tracks in the newer industrial areas, mainly outside the city limits. The Florida East Coast Railroad has encouraged the development of new locations all along its beltline. On the other hand, it appears equally true that this railroad still has a very large part of its revenue from traffic originating in the older part of the city, in those fringe areas of the central business section which were once suitable warehouse and manufacturing locations.

For whatever collateral value it may be in coordinating the total city traffic planning program, it is suggested that, were equitable adjustment provided to the F.E.C. and to the concerns which their tracks serve, the main line of the F.E.C. might reasonably be abandoned from south of N.E. 29th Street to a mutually acceptable point in Coconut Grove, provided that the freight house and dray track facilities on the north bank of the Miami River, and the industries affected, were relocated on property of this railroad north of 36th Street on the main line, and in the belt line area north and west of the city.

However, consideration might also be given to utilizing the trackage south of N.W. 5th Street for a short-line commuters' train service, operated by the F.E.C., from communities south of Miami to the heart of the city with terminal at a modern station between West Flager and N.W. 5th Streets.

MoW

Six. What are the essential elements of traffic access to the port, which must be adhered to by planners, for passenger cars, trucks, and the large cargo-handling and trailership trucks of the future ?

Objectives Sought: To make possible and encourage passenger and cargo increases by providing planned and easy automobile and truck traffic access to the port, including:

1) Provision for increase in the number and size of trucks moving cargo to and from the port area - both short- and long-haul.

2) Provision for future mass movement of trailer trucks to and from designated parts of the port with the coming of trailership carriers.

3) Recognition that cruise ship passengers, port tenants, and their employees, as well as tourists, need easy access to the port. (Sightseers, the world over, are attracted by ship sailings and cargo handling.)

Decision: Provision for:

1) Two or more points of truck and trailertruck access to the port from the main traffic arteries leading toward and over the projected expressways and turnpikes.

   a - One of these should be a truck road paralleling the Municipal Railroad tracks and thence to the West Leg of the expressway to the International Airport and the industrial areas of Dade County.

   b - The other essential truck road should join the projected turnpike or expressway in the vicinity of the north end of the enlarged port area, and thus avoid any involvement in mid-city traffic.

2) Other truck access for traffic destined for or from the central business area, and for points not on main arteries or expressways.

3) Passenger and taxi access to the port area from at least four points on Biscayne Boulevard to the present and enlarged port area.

Analysis: Trafficeways of whatever kind serving the port area must provide ready access for passenger cars, trucks, and trailer trucks. Such trafficways must allow for easy access to the central business section of the city, from the newer County industrial area, from the International Airport, and, above all, from the principal State expressways and turnpike now on the drawing boards. Reference is made to Plate VI which shows existing and planned main traffic arteries, expressways and pertinent areas in relation to highway adjustment.

Street and highway access to the port is essential for Miami's economic well-being, as the port is second only to the airport in Miami as a passenger and cargo interchange point.

Failure to provide ready access to the port area will not only cause extreme traffic congestion with even slight port business increases, but will hamper seriously the marked increase in cargo which will be handled by the port when port facilities and services are improved.

Trafficway planning must give full recognition to the increasing use of trucks as long-haul movers and distributors of much cargo passing through the port. This trend will increase, even allowing for some increase in rail movements at a regenerated port. Unless, or until railroads serving Florida find a way to compete with trucking lines handling cargo requiring fast distribution at a number of way points along a given route, the Port of Miami will prosper to some degree on the basis of how well she can facilitate the handling of truck cargo both to and at the port. "Turn-around" time is just as important to modern trucking as to ship operators. Whether fast pick-up and delivery time will become a reality at the Port of Miami depends in some measure on provision made for trafficways to the port on a realistic basis.

When the trailerships begin to operate, the location of expressways and highways in relation to the port will have even greater significance. It is certain to change many aspects of traditional cargo handling, and Port Miami should recognize the opportunity for establishing a reputation for expediting truck movement, in preparation for this development.

MoW

Seven. What bridge and causeway adjustment in Biscayne Bay is essential to port expansion ?

Objectives Sought: Better harbor utilization of Biscayne Bay for port and marine development.

Decision: Acceptance in principle of the State Road Department's plan for merging MacArthur and Venetian Causeways by the construction of an 8-lane bridge, as a part of the expressway system joining the enlarged port area, the International Airport, and the main through trafficways and toll pike, PROVIDED THAT the following modifications are incorporated, in order to preserve navigation requirements for port and marine development:

1) Utilization of the present center-island road route transversing Watson Island for the MacArthur Causeway approach to the bridge, in order not to destroy the marine development potentials of Watson Island, as described later in this report.

2) Revision of the plan to provide for the Venetian Causeway approach to leave the north end of San Marco Island, rather than the south side of Biscayne Island, with junction northwest of Biscayne Island, and joining the mainland at N.E. 20th Street.

However, special attention is invited to the fact that - granting the desirability of a high-level fixed bridge, under the total circumstances, including State sponsorship, and assuming that such a bridge would be 80 feet above mean low water - this feature of the plan is not essential to port and marine development, provided, of course, that the new combined bridge over Biscayne Bay does veer north to 20th Street and does incorporate an adequate drawbridge.

Analysis: It would be folly to make the necessary replacements of the structures spanning Biscayne Bay from either Watson or Biscayne Island, without taking advantage of the opportunity to enlarge the port area and increase pleasure boat utilization of Biscayne Bay.

One of the important collateral advantages of having such a bridge span join the mainland at N.E. 20th Street lies in moving northward the cloverleaf on the Miami side to a point where traffic congestion would be less disrupting to the central business section and to the greatly over-crowded present access to the port area. The present plan, calling for the combined bridge at N.E. 14th Street, shows traffic south from this proposed span joining Biscayne Boulevard at 11th Street. Were this done, ingress and egress to the port area would be next to impossible. Street traffic congestion would be neatly augmented by truck and railroad care movement across the Boulevard. The necessary replacement of MacArthur Causeway provides ideal opportunity for forward thinking.

Attention is invited to Plates VII and VIII. Plate VII is the published drawing-board version of the State Road Department's current suggestions. Plate VIII is an acceptable modification of this plan, which is believed subject to the same engineering design adjustments as the plan on Plate VII.

Other bridging or tunneling, or pipe laying, in any part of the port limits should be reviewed with extreme care before authorization is given, as once the construction is complete, the task of changing the pattern established may have to await hurricane solution. Under no circumstances, should structures be built - whether bay shore trafficways, or malecons, or bridges - which will obstruct navigation or make of the principal bay area a series of contained lakes. To do so will limit navigation and destroy in part the opportunity for full marine expansion.

Should a bridge be proposed over Government Cut from Fisher Island to Miami Beach, it is essential that it be no less than 170 feet above mean low water. No opinion is expressed as to its feasibility or need.

Tunneling or pipe laying should always be 10 to 12 feet deeper than navigation expectancy would suggest. The new sewage pipe laid in parts of Biscayne Bay and crossing near the mouth of the Miami River is an example of less than adequate recognition of possible future navigation needs.

MoW

Eight. Do present locations provide adequate docking space for pleasure craft ?

Objectives Sought: Maximum capitalization on the exceptional combination of conditions in Miami for capturing a greater percentage of what is now perhaps the most important recreation, dollarwise, in the United States.

Decision: Miami does not now have adequate yacht dock space of a type to attract craft now bypassing Miami for Bahia Mar and other basins providing complete accommodations for discriminating recreation craft owners.

Analysis: Although with some minor harbor adjustment and facility enlargement of existing yacht basins, Miami would be able to accommodate average pleasure-craft needs, on the basis of present promotion activity, there is no suitable close-in luxury type yacht basin to fulfill the need for more complete capitalization on the opportunity presented to Miami as the traditional "magic name" in Florida recreation.

The City of Miami now has two municipally operated marina areas and one satellite marginal quasi-public basin. The City Yacht Basin at Bay Front Park was built in 1925 and has served as a marina under varying conditions of utilization, maintenance, repair, and efficiency ever since. During most of this time, except during World War II, facilities at this basin have been taxed to capacity during the winter season, with increasing all-year-round use. Although some kinds of facilities are lacking, places like Pier 5 and the excursion boats which go around the bay and up the river have made the area a tourist attraction.

In 1950, Dinner Key Marina was built and since then has been used extensively, even though the location, attractive as it is, has certain fundamental limitations by reason of its exposed position. Just south of Dinner Key are a few small boat docks known as the Seminole Docks and Mary Street Docks. This basin is marginal in its provisions and is currently operated similarly. However, this area could be dredged to 5 feet, and, with new pier construction and management adjustments, an additional 75 boats of 20 feet or under could be berthed here, thus enlarging the Dinner Key facilities.

In addition, at the present time, the MacArthur Causeway-Watson Park docking area is under the control of the municipal Department of Yacht Docks. Only occasional large yachts tie up here.

The character of the current yacht dock basins of the city is not in keeping with the requirements demanded by the more discriminating and larger-spending pleasure craft owners. This has been so particularly since the construction, about six years ago, of the Bahia Mar facility at Fort Lauderdale. This facility has a capacity for 450 pleasure boats with complete marine services of every kind. It is ideally located, with room for docking and maneuvering boats of varying sizes, with piers providing all kinds of utility connections, and designed to provide retail conveniences of all types, including restaurants, apparel shops, post office, laundry and dry cleaning, food marts, barber shops, beauty shops, gift centers, and the like. Whether this type of marina layout would be wholly acceptable to Miamians and their visitors is not the question at issue. The fact is that this marina has been highly successful as a commercial operation and the elite of pleasure craft coming to this section of Florida are berthing here more often than in Miami.

In addition to the public yacht basins, with a capacity of 70 at the Bay Front Park basin and 166 at Dinner Key, there are a considerable number of privately owned and operated yacht basins and facilities on the lower and middle reaches of the Miami River and other protected waterways. Several hundred boats may be docked, stored and/or repaired at these private docks.

Apart from these accommodations, Dade County now has a large yacht basin at Crandon Park and a smaller one at Bakers Haulover Park. In addition, of course, many of the bay front hotels and private island residences have dock facilities of one type or another.

Notwithstanding the variety of these average-type accommodations - with allowance for the fact that some are not average - the fact is that there are now 14,413 Coast Guard-numbered and Customs-documented pleasure craft in this area. This does not count the many thousands of small boats, including outboard and sail, which may well number upwards of 50,000. While an accurate census has not been made, as it could hardly be accomplished except at great cost, it is evident that pleasure craft activity in this area is extensive and capable of tremendous expansion.

Council of Marine Interests Survey. In connection with this problem, the Council of Marine Interests sponsored and helped conduct, with the Miami-Dade County Chamber of Commerce, a full inquiry of all persons or firms directly or indirectly

connected with the pleasure craft business in Greater Miami. No effort was made to go beyond those marine interests which have been active in their general civic support of marine activities in the 22 communities most affected.

Out of some 250 persons or firms contacted, some 100 participated on a full-faith-and-credit basis. Of this group there were 61 questionnaire responses which were sufficiently significant to warrant tabulation and analysis. Review of these showed that 36 depended upon the marine industry for 90 percent of their total business.

Although not statistically conclusive, as there were wide variances between and among the kinds and sizes of marine industries represented, it is nevertheless felt that this direct grass-roots inquiry into what the marine industry is doing, wants to do, and hopes to do, points up a number of facts which show large expansion potentialities, both in volume of work to be created and in dollars to be spent, if adequate marina facilities were, in fact, present to take care of pleasure craft in Miami.

The need for additional facilities is borne out by the fact that 88 percent of the responses analyzed say that boat docking and launching facilities in this area are insufficient. This same sample group endorsed, by 67 percent tally, the belief that expanded facilities would cause them to increase the number of employees in their operation. Analyzed, this means that an increase of 161 employees, for this group, would mean a combined increased payroll of $613,296.00, at an average wage of $3,800.00 per annum. When this figure is related to the $25 to $60 a day that an average pleasure craft docked in Miami will leave in the area, it is clear that the economic advantage is not alone to the small boat industry, but also to the entire business community. No accurate information exists upon which to speculate as to the total number of dollars thus attributable to increased payrolls, plus client spending, but it requires scant imagination to recognize the significance and importance of an operation which is, in fact, not only a contributing satellite of the community's largest industry, tourism, but is also at least one of the prime reasons for tourism being the largest industry in Miami. It is another one of those cases where one finds it difficult to determine which comes first - the swan or the egg.

One other finding of the above inquiry merits consideration. Thirty-four firms report that proper extension of

pleasure craft facilities would increase their business by a combined figure of $4 million per year. When one recognizes that this estimated business increase is figured for only a fraction of the total number of firms which do marine business, the evidence strongly indicates that a very large volume of business, which should and would come here, is going elsewhere, with attendant advantages to other communities.

Even allowing for the statistical limitations involved in the referenced kind of sample study, it is clear that those who ought to know the potentials in their own business are convinced that the pleasure boat industry in Miami is getting short-shift, rather than a fair shake, on the basis of the marina accommodations currently available.

Our conclusions, that an additional marina location is desirable, is not based solely upon local information and inquiry. The history of municipally developed recreation facilities, including marinas, indicates that they have been highly successful, and often profitable, ventures in civic enterprise.

MoW

Nine. In view of all related considerations, what is the most suitable place for a new luxury-type marina ?

Objectives Sought:

1) To provide discriminating pleasure craft owners from everywhere greater incentives to use Miami as a vacation base-of-operations.

2) To place Miami in a competitive position with other south Florida cities in serving the boating public.

3) To increase the economic stability and general prosperity of the marine industry which represents a significant section of Miami's permanent economic base.

4) To encourage tourism, the area's No. 1 industry, by providing increased means to enjoy one of Miami's greatest natural assets - her waterfront, by its further beautification and development.

Decision: Utilization of the north and east waterfront areas of Watson Park for a modern luxury-type marina, with a general beautification of the entire island as a recreational garden spot.

Analysis: Though other areas convenient to pleasure craft users and the marine interests can be created from lands which could be made available, the general advantages of Watson Island, and its immediate availability for development, give this location the decision.

The City Yacht Basin may not be expanded without sacrifice of some of the central port area. Further, its transformation into a luxury-type facility would change its whole character and, in the long run, would be unrewarding, as there is a need for a somewhat rehabilitated and improved facility of the general type here existing.

While Dinner Kay could be developed somewhat more in keeping with the kind of facility envisioned there some years ago, the development of another area does not prevent such an expansion in the future. Its generally unprotected position mitigates against some of its other advantages.

Other areas which could be utilized include additional sections of the Miami River, but such utilization would limit the expanded use of this waterway for commercial purposes which are so essential to the future permanent economic welfare of Miami.

Other possibilities, such as the land side of Burlingame Island, or the beautification and development of some of the closer-in spoil islands, hold some promise, but for a number of reasons, these latter are ruled out, under conditions obtaining.

One of the more compelling reasons for choosing Watson Island is the unanimity of belief on the part of the Council of Marine Interests that this location will prove the proper answer to the need for the establishment of a new modern marina. This group represents most of the forward-looking marine interests in this community. Their judgment must not be considered lightly, nor passed off as mere self-interest. Self-interest it is, but it is the self-interest of substantial citizens working for a more prosperous and permanently stable economy in Miami. These people represent in Miami liaison and contact with the thousands of visiting yachtsmen and pleasure boat owners. They are the ones who are best able to know what this large group of money-spending recreation-seeking visitors want.

Plate IX shows an adaptation of the development this Council proposes, and is endorsed in principle.

It provides an adequate plan for an improvement which should be started immediately.

The Council Plan layout makes provision for the Miami Yacht Club which has a 250-family membership, about equally divided between sail and power craft, though it is anticipated that their facilities, when completed, will accommodate a total of 750 family memberships, and, in addition, will offer much-needed launching facilities to the public for up to 700 small boats a day. Approval of their request for a long-term lease of the property shown on Plate IX would permit them to go ahead with their plans, and is believed to be in the public interest.

The Miami Outboard Club has a membership of 310, with an anticipated potential of 600, with launching ramps and facilities available to the public sufficient to handle up to 500 small boats a day. Similarly, they desire to complete a building program, provided the City of Miami grants them a suitable lease arrangement for the property shown by Plate IX. This should be done.

The north side of the island would be the municipally-operated part of the marina. The finger piers proposed will provide berths for 196 boats. Provision has also been made for a dock master's house, shower rooms, and what appear to be adequate parking facilities.

Port of Entry. Review of the method by which yachts coming to Miami from foreign waters are cleared by Customs warrants strong recommendation that a single permanent port of entry be established. If this were done, clearance could be achieved in a matter of minutes rather than hours by the Government officials responsible, as they would thus need to be in but one place at one time. Many yachts bypass Miami for other yacht basins because of the present inconvenience and delay in clearing customs and immigration at Miami. Certainly, both customs and immigration officials would welcome such a measure. Location of such a single port of entry should be in the vicinity of the U. S. Coast Guard base.

Beautification of Watson Park. The essentiality of making Watson Park an attractive marine playground, cruise ship gateway, and possibly a continuing tourist attraction center seems to make enough common sense to insure accomplishment. The blimp base is an added attraction, provides revenue to the City, and all-in-all is an asset of considerable value.

MoW

TODAY'S DECISIONS

PART THREE

OPERATION FACTORS

Ten. Would a combined Dade-Broward Port Authority be desirable or advantageous at the present time ?

Objectives Sought: The objectives of a combined two-county port authority would be simply the objectives of any combined port operation - those of the pooling of resources for port and traffic promotion, the elimination of duplicative competition and duplicated facilities, and the greater control, taxation, and administrative freedom of a special port agency or "district" which could cut across regional lines and jurisdictions which do occasionally operate in restraint, or confusion, of trade, communications, or transportation.

These conventional objectives of combined operation, in general, must be measured not only against the values of separation and the realities of conditions now obtaining in the case of Dade and Broward Counties, but also in relation to all four counties in the Glade-Trade Area, which is the natural and actual economic unit of south Florida.

Decision: The advantages to be gained from a combined Dade-Broward County Port Authority are not sufficient to justify the creation of such an agency, under conditions obtaining and within the framework of governance existing.

A wider combination, a four-county "Glade-Trade Port Authority", with policy, taxation, and development functions only, should be most carefully considered for a time when the population and the economic development of south Florida will make some such overall coordination genuinely useful.

Analysis: Dade and Broward Counties are not unlike each other in many of their important land utilization and economic characteristics. On the other hand, both counties have distinct "personalitity", interests, and achievement patterns. They are

alike, as two brothers are recognizable members of the same family, but with great individual differences. Much of what Dade County's Miami has achieved is aspired to, or achieved in part, by Broward County's Fort Lauderdale. There is this important distinction, however. Miami is the traditional "magic spot" of south Florida, and is overwhelmingly the present center of economic development. It should remain so.

The growth and economic evolvement of Broward County, particularly Fort Lauderdale - and of other smaller communities in both counties - have been the result of wanting the advantages of Miami without some of the limiting characteristics, such as space and restrictions of one type or another, thought to exist in Miami.

As to the respective ports, Port Everglades has prospered, not so much because of any extensive Broward County hinterland, as because Port Miami has been unable to fulfil its historic mission. Sixty to seventy-five percent of bulk cargo, such as cement, which comes into Port Everglades, is destined for use in Greater Miami. This is true of other building materials and also, perhaps to an even greater degree, of petroleum products.

This circumstance might be an argument for combining the two port operations, except that Miami's own economic stability rests, in considerable measure, on retaining her traditional position as a trade center, in developing her own waterfront, and not allowing her traditional marine interests to be separated from her body economic or politic. Location factors, related circumstances and facilities are such that petroleum products may be best handled on a tonnage basis at Port Everglades, while passenger ships may be better served at Port Miami. However, all other types of cargo should go to the port nearest to intended utilization, both as a means of reducing transportation costs, and to eliminate additional handling - keeping in mind that two handlings of cargo, and long haul are always wasteful when one handling, and/or short haul, will do. Further, and of significance in this area, road traffic load is increased appreciably if long haul on a scheduled basis is required for the movement of essential goods.

Cargo handling is the profitable part of port operation. Passenger and cruise ships are the "frosting on the cake" - not the main meal. In fact, many lines provide passenger service only as an auxiliary to freight service. The recently announced new run of the S.S. Southern Cross out of Port Miami in October is a combination passenger and freight service, and is a local case in point.

Healthy competition between ports is also a desirable factor. Whenever one finds transportation facility monopoly, one finds poor service. For example, the Pennsylvania Railroad's near monopoly of rail traffic between several eastern states and New York City has resulted in the poorest possible passenger service, and barely satisfactory freight service, over much of that territory. On the other hand, perhaps the best rail service in America exists between Chicago and the Twin Cities, Minneapolis and St. Paul, because competition for business keeps the three railroads which serve this area on their toes service-wise.

It might also be pointed out that San Francisco, as a port operation, became less and less satisfactory until the Port of Oakland, and other bay ports, challenged and even overtook the traditional position of San Francisco as a port of entry. The position of Baltimore as an ocean port suffered seriously from facility decrepitude and trade inertia until it faced increasing competition from the Hampton Roads ports, particularly Norfolk.

The water ports in question here, the Port of Miami and Port Everglades, are not physically contiguous, nor are they located on a common river or harbor system. County and municipality jurisdictions have not caused traffic or shipping friction up to the present, and there seems no reason why they should do so in the future, or at least not until such time as population growth has brought the two communities much closer together than they are at present.

Therefore, while in the two types of port service mentioned above - certain specific bulk cargoes and passenger handling - the two ports are complementary in function, on an overall port traffic basis, the competition which exists is healthy rather than wasteful, as there is cargo enough for all, and it will be some time before any good port facilities in southern Florida will go unused.

Four-County Transportation Authority. On a long-range basis, when population growth and mutual interests provide the base for a natural synthesis, a Glade-Trade Port Authority should be given priority consideration as a top-policy coordination body for Dade, Broward, Palm Beach and Monroe Counties.

At such time, the need for a non-political and independent agency for control purposes will be evident. It would be an agency of the State created for policy, not operational control. As such, its sphere of activity would be limited to broad-range

transportation development and promotion, with State-delegated sovereign power to hold property, tax, condemn, finance, and generally control policy over all the four Glade-Trade Counties of subtropical Florida. These counties together form an economic unit of similar interests and potentials which eventually will be recognized. This Authority would leave direct port control and administration, and development of individual port operations, including the water ports of the Four Counties, to semi-autonomous port-operating corporations. Such corporations would be the operational agencies for port business, and so be tied in to the communities they directly serve.

Such a Port Authority might properly be made up of a seven-member commission, each serving for seven years on staggered terms, with six of the initial members named in the creating act upon nomination of the following bodies: one each, by the County Commisssions of each County; one each, by the controlling body of the Port of Miami and of Port Everglades; the seventh member to be chosen by the other six and to serve as chairman for the first two years, with the chairmanship to be elective thereafter. The length of term of the original members, except the chairman who will serve as chairman or member for the full seven years, will be determined by lot, after appointment. The Authority should be self-perpetuating, with a limited veto provision, such as is now provided by the act creating the Water and Sewer Board of the City of Miami.

MoW

Eleven. What should be the relationship of the Port of Miami to the City of Miami ?

Objectives Sought: To review the current status of the Department of Port Operation and Development, as one of the city departments, with a view to determining whether the present relationship is one which should:

1) Continue indefinitely;

2) Continue until such time as the long-range future objective of a four-county port authority is established; or

3) Continue for the time being in its present relationship to the city, but with a view to estblishing the port department as a semi-independent public corporation similar to the Department of Water and Sewers.

Decision:

1) For a period of two to four years, the Department of Port Operation and Development, or any successor department responsible for port operation, should continue its general organizational relationship to the City of Miami, as a department, with its Director responsible to the City Manager.

2) However, as a port is primarily a commercial operation, even though a public trust facility, the Port of Miami should, within a period of four years, be changed for control and operation to a public service corporation, under the same kind of relationship as currently exists between the City of Miami and its Department of Water and Sewers, which would permit the Port to operate as a public utility business, under its own Board.

3) This change of status should be planned so as to be accomplished during the next meeting of the State Legislature, or at such time as a metropolitan government is effectuated for Greater Miami.

Analysis: The Department of Port Operation and Development has had varying degrees of attention from the government of the City of Miami. For a long period of years, the port was generally regarded by the occupants of City Hall as a source of revenue which could be, and was, used as part of the general fund. During this period, it is not unfair to point out, the port contributed upwards of 2 1/2 million dollars to that general fund. During this period, also, the port facilities deteriorated as would any public or private facility which was not maintained. These circumstances, of coursé, are history.

For a number of practical reasons, including especially the port department's limited financial resources, and traditional position of dependency upon the authority of the Commissioners and upon the service resources of other city departments, it is not practicable to launch the department on its own, with independent status, until after a period for reorganization, and for achieving financial stability, has prepared the way.

This period of preparation for semi-independent status need be no longer than two to four years, provided the municipal government and the citizens of Miami are determined to give Greater Miami the kind of port operation and development program needed to round out the basic economic stability of this part of Florida.

This preparatory period must see the accomplishment of a number of action programs, including essential reorganization and expansion of the port department's operational staff, various changes in its revenue tariff provisions, and immediate steps toward carrying out the more expensive and extensive program phases for expansion, rehabilitation, promotion, and general development of the port, as recommended and described throughout this survey.

Much may be accomplished without committing any funds not already recognized as port money. The larger expenditures, by their very nature and extent, will require maximum effort on the part of the City of Miami and the entire business community to accomplish. The details of all of this accomplishment program, and the reasons therefor, are being spelled out throughout this report.

The reasons for the future creation of a semi-independent public service corporation are easily recognized and clearly set forth in the decision. A port is not only an operating busi-

ness, but it is also a required public utility, and it is both of these to a greater extent than any other municipal department except the Department of Water and Sewers, with which it has much in common from an operational point of view.

MoW

Twelve. Should the present Department of Port Operation and Development and the Department of Yacht Docks remain as separate departments of the city government, or should they be combined ?

Objectives Sought: Effective control and operational efficiency -

1) From the point of view of the departments' own operations.

2) From the point of view of the city government.

Decision: As the two departments here concerned are both revenue-producing public business utilities, having a common background as marine agencies, requiring the same kind of staff servicing, engineering, promotion, revenue accounting, facility maintenance, and operational management, and as their merging would give the City Manager equal or more effective control, they should be combined.

Analysis: Municipal organization at its best is governed by the same management principles as any successful public or private corporation.

Public administration authorities and management engineers today are in complete agreement that there should be no more separate department heads reporting directly to the general manager of a public or private agency than are necessary for effective policy coordination and operation control, with due regard to the functional relationships of the departments to one another and the agency as a whole. As a result, the trend is toward fewer, rather than more, separate departments, in both government and industry.

In any event, there is no good management reason for having two separate city departments dealing with operations so closely allied as are those of the Department of Port Operation and Development and the Department of Yacht Docks and Small Craft Operations and Facilities. There should be but one city department, and its Director, as a major department head, should report directly to the City Manager.

MoW

Thirteen. As the Department of Port Operation and Development and the Department of Yacht Docks should be combined, what should the new department be titled, what organizational structure should it have, and what modifications or adjustments should be made in the 1955-56 budget for the consolidated department ?

Objective Sought: A modern, efficient port and marine operations department.

Decision: The combined department, logically titled "Department of Port and Marine Operations and Development," should have the following staff and operating sections:

Office of the Director
Office of Port Development
Office of Port Engineer
Office of Commercial Port Operation
- Commercial Wharf Section
- Cold Storage Plant Section

Office of Yacht Dock Operation

The Director of the Department and the heads of each office, together with certain of their deputies and assistants, should have indefinite tenure and be wholly exempt from civil service provisions, since key personnel* of this department must be selected and retained solely on the basis of their ability to produce under such competitive business operation conditions as obtain in any commercial operation, rather than under the dedicated public service merit concept. They should be appointed and retained on indefinite appointment tenure, on the basis of professional competency, on a strictly non-political, non-civil service, in or out of State residence formula, without prejudice and with priority to all qualified incumbents of such positions in the departments concerned.

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* These positions are identified on the Salary Schedule table on pages 45 and 46, as "Job."

Salaries of key personnel should be commensurate with commercial and professional salaries for similar work, under similar conditions, and in line with the salaries paid by ports which are directly or indirectly competitive.

The positions and the salary schedule believed appropriate are given on pages 45 and 46.

The proposed budget, using funds already approved in the 1955-56 budget for the two departments combined, plus $57,881.00 to be transferred from the present port surplus balance, is given on pages 47 and 48.

Analysis, description of positions, and justification follow, beginning on page 49.

DEPARTMENT OF PORT AND MARINE OPERATIONS AND DEVELOPMENT

SALARY SCHEDULE

HOURS PER WEEK	NAME POSITION	NUMBER EMPLOYEES	MONTHLY RATE	AMOUNT
	Administrative:			
Job	Director	1	$1,000	$ 12,000.00
Job	Executive Assistant and Accounts Supervisor	1	500	6,000.00
41	Stenographer-Clerk II	1	234	2,808.00
	Reserve for Lower Pay Bracket Adjustment			96.00
	Reserve for Salary Increases			63.00
		3		$ 20,967.00
	Office of Port Development:			
	Traffic Manager	1	625	7,500.00
Job	Public Relations Aide and Secretary	1	350	4,200.00
Job	Stenographer-Clerk II	1	225	2,700.00
41	Reserve for Lower Pay Bracket Adjustment			96.00
	Reserve for Salary Increases			54.00
		3		$ 14,550.00
	Office of Port Engineer:			
	Port Engineer and Maintenance Supervisor	1	656	7,872.00
Job	Terminal Maintenance and Construction Supervisor	1	363	4,356.00
Job	Municipal Railway Foreman	1	363	4,356.00
	Carpenters	2	363	8,712.00
44	Painter	1	363	4,356.00
44	Painter	1	297	3,564.00
44	Blacksmith	1	335	4,020.00
44	Maintenance Repairman	2	234	5,616.00
44	Custodial Worker I	1	309	3,708.00
60	Plumber	1	349	4,188.00
44	Electrician	1	349	4,188.00
44	Auto Equipment Operator I	1	253	3,036.00
44	Watchman	1	253	3,036.00
48	Watchman	1	234	2,808.00
48	Watchman	1	225	2,700.00
48	Watchmen	2	217	5,208.00
48	Clerk II	1	243	2,916.00
48	General Maintenance Mechanic	1	309	3,708.00
44	General Maintenance Mechanic	1	413	4,956.00
44	Watchman	1	253	3,036.00
48	Reserve for Salary Increases			515.00
	Reserve for Longevity			120.00
	Reserve for Lower Pay Adjustments			672.00
		23		$ 87,647.00

DEPARTMENT OF PORT AND MARINE OPERATIONS AND DEVELOPMENT

SALARY SCHEDULE - CONTINUED

HOURS PER WEEK	POSITION	NUMBER EMPLOYEES	MONTHLY RATE	AMOUNT
	Office of Commercial Port Operations:			
Job	General Manager (Deputy Port Director)	1	625	$ 7,500.00
41	Stenographer-Clerk II	1	225	2,700.00
	Reserve for Merit Increase in 6 Months			500.00
		2		$ 10,700.00
	Commercial Wharves Section:			
Job	1-Chief Wharfinger-Part Time	1	250	3,000.00
	Assistant General Manager and Principal Wharfinger	1	350	4,200.00
		2		$ 7,200.00
	11-Cold Storage Plant:			
Job	Refrigerating Plant Manager	1	554	$ 6,648.00
48	Refrigerating Plant Operator	2	397	9,528.00
48	Refrigerating Plant Operator	1	322	3,864.00
41	Typist Clerk II	1	263	3,156.00
		5		$ 23,196.00
	Office of Yacht Docks:			
Job	General Manager of Yacht Docks	1	500	6,000.00
Job	Dockmaster	1	449	5,388.00
Job	Assistant Dockmaster	1	285	3,420.00
Job	Assistant Dockmaster	1	285	3,420.00
56	Watchman	1	297	3,564.00
56	Watchman	1	274	3,288.00
48	Watchman	1	209	2,508.00
41	Stenographer-Clerk III	1	297	3,564.00
41	Typist Clerk III	1	309	3,708.00
41	Stenographer-Clerk II	1	253	3,036.00
48	Custodial Worker	1	243	2,916.00
48	Laborer I	1		2,740.00
	Reserve for Salary Increases			293.00
	Reserve for Lower Pay Brackets			192.00
		12		$ 44,037.00
	GRAND TOTAL			$208,297.00

DEPARTMENT OF PORT AND MARINE OPERATIONS AND DEVELOPMENT

PROPOSED BUDGET

ADMINISTRATIVE:		
Personal Services - Employees	$ 20,967	
Contractual Services	4,817	
Commodities	410	
Fixed and Sundry Charges	27,071	
Equipment - New	116	$ 53,381
OFFICE OF PORT DEVELOPMENT:		
Personal Services - Employees	14,550	
Port Promotion	8,000	
Travel Expense	2,000	
Miscellaneous Operational Expense	2,000	26,550
OFFICE OF PORT ENGINEER:		
Personal Services - Employees	87,647	
Personal Services - Other	60	
Wages	15,676	
Contractual Services	28,055	
Commodities	8,925	
Fixed and Sundry Charges	50	
Equipment - New	2,011	142,424
OFFICE OF COMMERCIAL PORT OPERATIONS:		
Personal Services - Employees	41,096	
Personal Services - Other	50	
Wages	2,999	
Wages - Special	5,000	
Contractual Services	13,930	
Commodities	3,825	
Equipment - Replacements	16,500	83,400
OFFICE OF YACHT DOCKS:		
Personal Services - Employees	44,037	
Personal Services - Other	1,540	
Contractual Services	15,883	
Commodities	7,837	
Fixed and Sundry Charges	1,234	
Equipment - New	36	70,567

DEPARTMENT OF PORT AND MARINE OPERATIONS AND DEVELOPMENT

PROPOSED BUDGET - CONTINUED

ALTERATIONS AND IMPROVEMENTS:		
Contractual Services		$ 2,388
WAREHOUSE ROOF REPAIRS:		
Contractual Services		28,000
ADDITIONS AND IMPROVEMENTS:		
Contractual Services		1,260
MISCELLANEOUS RECONDITIONING:		
Commodities		2,000
TIMBER AND FENDER PILING:		6,800
DEBT SERVICE:		
Personal Services	$ 39	
Principal	70,000	
Interest	12,588	82,627
TOTAL		$499,397

Analysis: For many years, the Department of Port Operation and Development has not been fully equipped to do the job for which it is basically responsible. The organizational pattern under which it has been working in recent years has developed out of necessity and the sheer commonsense need to utilize the tools at hand, even when inadequate to do the job. For all practical purposes, there is no fixed organization, as the functions of the various existing sections of the department have been subject to varying operational responsibility - for example, the abolition of positions such as that of the Port Engineer, when the incumbent died a few years ago. Since that time, with few exceptions, there has been no one to whom the Port Director might delegate authority with safety.

All of this has made the Port Director's job an arduous labor of love, under the most difficult circumstances, and the fact that he has been able to carry on with the means at hand reflects great credit on his extraordinary commonsense and his thorough knowledge of port and terminal operation. From a strictly objective point of view, it is no more than fair to say that few port directors in America would have been able to carry on, since World War II, with the organizational and manpower limitations currently existing at this port.

There is no constructive value in dwelling on the causes for inadequacies which have come to pass as other departments of the City have gradually taken over some of the functions which ought to be handled by the port directly. Nor is it helpful to point out that the port has never had either budget or personnel adequate to deal with traffic problems, including freight rate structure, general port promotion, and trade solicitation. In fact, anything which has been accomplished in regard to freight rate matters has been handled by contractual arrangement with the Greater Miami Traffic Association, on a consultant basis. By and large, they have done a good job, but without the active cooperation of a traffic manager directly assigned to the port, the consultant arrangement provides but half a loaf.

The organizational pattern which is now proposed grows out of the most careful analysis of the needs of this port, as well as of the requirements and operational patterns of other comparable ports in the United States. The proposal presented in the decision, incorporated in the Position and Salary Schedule table, and translated into the Budget, takes into consideration all of the control and operational needs of both the present Department of Port Operation and Development and the present

Department of Yacht Docks. Every position, every proposed salary, and every item included in the proposed budget has been studied with a view to economy and efficiency, as well as current needs, desirable expansion, and long-range planning provisions in connection with both the anticipated retirement of present incumbents and the training of qualified successors.

The work that has been done on this phase of the survey alone would normally have required a detailed management and personnel audit for which a considerable fee would have been in order. However, this job has been included in the present survey, for the optimum objectives of the accepted contract mission could not have been fulfilled adequately, otherwise.

The following brief explanatory remarks with regard to the organization and the personnel evaluation audit are presented by way of summary recapitulation, rather than as detailed analysis of findings.

As stated in the decision, the new Department of Port and Marine Operations and Development, as proposed, consists of five separate offices or divisions. Each is taken up in order of its organizational chart position.

1) Office of the Director. The head of the Department should be known as the Director, and this position should be held by a person of mature discernment who, by reason of his training and experience, has broad knowledge of harbor, port, and terminal operations. The Director should have either a marine and nautical background and a transportation and terminal background, or one of these, plus professional training. In addition, he should be bulwarked by an understanding of shipping problems, transportation and trade intricacies, and a knowledge of the kinds of people who ship and trade, as well as those who participate in marine pleasure craft activities.

   The present Director is not only well qualified, but has rare genius for preventing the difficult task from becoming impossible by the exercise of commonsense during times of operational stress. He should be retained and given a salary commensurate with his counterparts in most ports of comparable size in the United States. The salary suggested is the same as that now paid to the Manager of Port Everglades, is in line with salaries given other port directors, and is what Miami

inevitably will have to pay to his replacement, as an incentive for a competent man. As the present Director will certainly seek retirement in from three to five years time, it is essential that a deputy Port Director be selected and trained at the earliest practicable time. In view of the total facts, it is recommended that the person selected to occupy the position of General Manager of the Office of Commercial Wharf Operations - the qualifications for which are stated hereinafter - be selected with this deputy role in mind. There is no person in either of the departments at present who is in any way qualified for this task.

In the Director's office, and as a principal management aid, it is essential to have a position charged with responsibility for general office management, accounts and billing supervision, and general executive assistance. A position has been proposed, titled "Executive Assistant and Accounts Supervisor," with a salary commensurate with the broad responsibilities of the job. Fortunately, there is at present a qualified and fully competent person serving in this general capacity, without specific titled or salary recognition, and presently designated as "Administrative Assistant." The incumbent of this position should be given the new position, upon abolition of the old job.

2) Office of Port Development. This is a staff section of the department. The head of this office should have the title of Traffic Manager. This is a new position. The job here created has at least three functions, each of which, in larger ports, might be handled by a separate department. These functions are (1) Traffic management, including attention to adjustment of domestic and foreign freight and conference rates relating to competition with other ports; (2) Promotion and cargo solicitation; and (3) Public relations, the effective "selling of the port" to shipping companies, traders, industry, and the citizens of Miami, by all the media available, including advertising of all kinds.

The person filling this position at the Port of Miami ought to be well-trained in transportation and traffic matters, with considerable training and experience, possibly in a similar position at some other port, or with some major agency handling such matters. In addition, he should be adept at public relations by

reason of native endowment and industry, and should be young enough to have fifty percent of his working life ahead of him, as the job envisioned here is a tough, exacting, and important assignment. The Traffic Manager should speak Spanish.

The other key position in this office is titled "Public Relations Aide and Secretary." This position might be filled by a man or a woman, with preference to the former, all other things being equal - and they never are. This position is a sort of deputy for public relations and publication matters. The person filling it might have journalism, business, or transportation as a college background, should be able to write good public relations copy, speak Spanish, and have had secretarial training or experience.

3) Office of the Port Engineer. The head of this office should bear the title of "Port Engineer and Maintenance Supervisor." As in the case of the Traffic Manager, this is a new position and heads the second staff section of the Department. While the head of this office should be a well-trained civil engineer of registered professional competence, acquainted with the requirements of port engineering, it is not envisioned that he necessarily be a design, structural, or construction specialist, as these responsibilities would, for the time being, be carried by the City's Department of Engineering. On the other hand, it is envisioned that he represent the Port Director in all matters concerned with port engineering, whether with the City Engineer's Department, or with consulting engineer organizations, and that he be charged with planning and supervision of any construction and/or repairs going on at the port. In addition, and as a prime responsibility, the Port Engineer would also be in charge of all maintenance of facilities and buildings in the combined Department. He should be directly, and solely, responsible to the Port Director.

Two principal assistants are envisioned for this office. One of these would bear the title of "Terminal Maintenance and Construction Supervisor"; and the other, "Municipal Railway Foreman." Both should be thoroughly trained and experienced mature persons of demonstrated competence in similar or immediately junior positions.

4) Office of Commercial Port Operation. This office is one of the two operational branches of the new Department. As is true at most comparable ports, this division is charged with most of the day-to-day activity of the port, including pier, wharf, terminal, warehouse, and special facility operation. The efficient functioning of these operations provides the mainspring from which come general satisfaction with port services, from the point of view of ship owners, shippers, traders, freight forwarders, et al. One of the most important objectives of this branch is to expedite cargo through the port, and to provide minimum turn-around time for ships and for rail and truck carriers servicing the port from the land side. For all practical purposes, this function is now being accomplished by the Port Director, with some assistance from two employees presently designated as "Superintendent of Dock Operations," and "Assistant Superintendent of Dock Operations." The function is handled to a very large extent by the Port Director and his immediate office, because of its importance and because at the present time there is no suitable person to whom authority may be delegated.

Thus, the Office of Commercial Port Operation would take over these functions, now accomplished in part by the Port Director's immediate office, and in part by two employees who should be, but are not, qualified to do a larger portion of the job.

The Office of Commercial Port Operation should have, in addition to its headquarters section, two special operating branches, the Commercial Wharf Section, and the Cold Storage Plant Section, the operators of which would report to the head of the office, who in turn would report directly to the Port Director.

The head of the Office of Commercial Port Operation, which represents a partially new and partially reorganized branch, would be known as the General Manager of the Port. In addition to the duties described above, he should be named "Deputy Port Director," as pointed out earlier, if at the end of six months preparation and probationary time he proves satisfactory and potentially suitable as a successor to the Port Director. At that time, he should be named "Deputy Port Director," and given a progressive salary in-

crease of $500 per annum, for three years, if proved competent and retained. This would establish the position at $9,500, pending the retirement of the Port Director, at some subsequent time.

The person to whom this position is offered should be carefully screened and should have all of the basic qualifications stated as essential for the Port Director, with the exceptions of age and length of experience. As a matter of principle, it would almost certainly be unwise to appoint a person to this position who was more than 50 years of age, or less than 38. The Port Director should be authorized to undertake immediately a nation-wide search for a qualified man, and should be authorized a special budget to engage, by contractual arrangement, the services of a management engineering and/or port consultant firm to assist in this search, recommendation, and selection. The services of this same firm might also be used for procurement of personnel for other new positions included in the proposed reorganization.

Apart from the creation of a new position to head this operating branch, two other new positions should be created to operate the commercial wharves section. One of these positions should be that of "Chief Wharfinger," an old and well-established title pertaining to pier and wharf operation, the duties of which are also well-established, though differing somewhat from port to port. This position should be created as a half-time assignment, and the present incumbent of the abolished position of Superintendent of Docks should be designated for it, at the salary indicated in the schedule. This position is created in part because the functions of the job are necessary as a means of training new personnel, and in part, quite frankly, because the present Superintendent of Docks, though eligible for retirement by reason of age, has rendered long and valuable service of an important nature to the Port and to the City of Miami.

The other position in this office, and the one which would carry the operating burden of assistance to the General Manager, should carry the title, and perform the functions of, "Assistant General Manager and Principal Wharfinger." No person at present employed at the port is qualified. This job should be filled

by a younger man, rugged in constitution, and college-trained, preferably in transportation and/or related fields. Industry and long hours should be recognized as part of the job, and by way of incentive, it should also be recognized that this person would be in training for, and the logical understudy of, the General Manager, when and if that position becomes vacant, in from three to five years.

The head of the other operating section of this office, the Refrigerating Plant Manager, and his immediate assistants, are qualified for the jobs they occupy, and no recommendations are made for reorganization, except that the position of Night Watchman at the refrigerating plant should be abolished, and in lieu thereof, should be added an additional position identical with two now existing, titled "Refrigerating Plant Operator," except that the additional position should designate time and duty specifically during the night hours. This action should be taken at once.

5) Office of Yacht Docks. All of the functions of the present Department of Yacht Docks and Small Craft Operations and Facilities, except those pertaining to overall direction and supervision, budgeting, administration, maintenance, and other staff functions, would be the responsibility of this office. Maintenance of the docks at the various marinas would be the responsibility of the Port Engineer and Maintenance Supervisor, under the general direction of the Port Director. Promotion and public relations in connection with pleasure craft facilities would be the responsibility of the Office of Port Promotion.

Thus, the general functions and responsibilities of a "Dock Master," including the collection of revenues, and the maintaining of liaison with pleasure-craft owners, would be the core operating job of this office. The head of this office, titled "General Manager of Yacht Docks," would be directly responsible to the Port Director. The person filling this position should have a definite background of experience in various types of marine and pleasure craft operations and activities. Preferably, he should have been an active officer in the Navy or Merchant Marine, or possibly

a large yacht captain, in addition to having the qualifications for the management and accounting responsibility which necessarily pertains to this job. Evidence available indicates that the incumbent of the position presently titled "Dock Master" is qualified for this job.

Directly assisting the Manager of Yacht Docks should be a "Dock Master," who should have the functions, the duties, and the responsibilities currently assigned to that position in the present Department of Yacht Docks. If the present Dock Master is appointed General Manager of Yacht Docks, the Dock Master's job would be open. The present incumbent of the abolished job of Assistant Superintendent of Docks should be considered for this post.

Proposed Budget Adjustments. The proposed budget adjustments, as stated on pages 47 and 48, have taken into consideration all of the new positions, including the salary schedule proposal, and the required contractual and other operating expenses of each of the offices proposed under the new combined Department. This has been done by appropriate transfer of amounts previously approved in the 1955-56 budgets for both departments, and by adding to that, provision for salary changes, position abolition, new positions, and funds for operating each office of the new combined Department. Provision has been included for debt service.

There have been no additions for repairs, improvements, or reconditioning, beyond those already contemplated by the present budget. In consequence, the changes that have been made are made solely to provide adequate personnel and basic operating funds for a greatly-needed revision of the organization and budget of the combined Department, as a part of the overall port development and expansion plan.

The increase in budget is currently available without obligation of any other funds, from port surplus which is considered the port's own money. The additional budget is required, as the point of beginning for an improved port operation in connection with the overall port development plan required if this port is to be a part of the permanent basic economy of Greater Miami.

MoW

Fourteen. Should the recently abolished position of Harbor Master, together with the harbor master fees, be re-established ?

Objective Sought: Provision for the general security of the entire harbor area within the recognized port limits designated by the Federal Rivers and Harbors Project, in accordance with the traditional authority and responsibility of a harbor master, as existing in nearly every port in the world.

Decision: The position of Harbor Master should be re-established in Miami, possibly by joint action of the State Board of Pilot Commissioners and Port Wardens, the Dade County Port Authority, and the Commissioners of the City of Miami, provided, however, that such position be created as an ex-officio responsibility of the Director of the Department of Port Operation and Development, or its successor Department, with the authority to deputize properly qualified Assistant Harbor Masters from personnel under his control, and provided, further, that no fees be levied or charged against shipping.

Analysis: The Harbor Master is the person traditionally charged with enforcing the rules and regulations of the Board of Pilot Commissioners and Port Wardens, under the law as it is in Florida. The Harbor Master has traditionally, and actually, been a Deputy Sheriff, with full policy powers over all waters, piers, wharves, and harbor areas within harbor limits, and wherever his duty may take him within Dade County. It has been traditional to permit him to appoint as many deputies as he needs, to keep port traffic lanes open, and to protect shipping within the harbor. In some ports, it is also his duty to allocate every arriving ship at a berth, in the stream, or at a wharf in the bay, in order to facilitate the loading or discharging of its cargo, with the provision that he conform, to the extent possible, with the wishes and desires of the managers of port facilities.

Although the traditional position, which carried with it certain fees assessed against each vessel coming within the harbor, is now carried on more efficiently and economically by the Port Director, insofar as the Municipal Port is concerned, there is currently no authority for the Port Director to exercise jurisdiction beyond the Municipal Dock area, except by courtesy and the general tradition of being recognized as a sort of honorary "Captain of the Port."

This anomalous situation is untenable, as a practical matter,

in the interest of security and the general welfare in time of emergency within the recognized port limits of the Bay and the Miami River. The obvious person to exercise this authority is the Port Director.

MoW

Fifteen. Should the Port operational service charges be revised ?

Objectives Sought: Realistic, as well as competitive, charges for port operational services.

Basic Decision: If Miami wishes to pay her way as a modern port, by receiving proper reimbursement for services performed by the port, and even then be in accord with charges assessed for similar services at nearby and competitive ports, the answer necessarily is - Yes.

Analysis: An exhaustive study has been made of the port operational charges for fifteen nearby and also more distant, but still competitive ports, namely: Port Everglades, Jacksonville, Tampa, Palm Beach, Savannah, Georgia, Charleston, S. C., Baltimore, Hampton Roads, Philadelphia, New York, New Orleans, Gulfport, Mobile, Houston, and Galveston, together with charges for the Port of Miami.

In making such a survey, it must be borne in mind at the outset that ports are highly individualistic and they are often their own masters in many ways. Cargo specialties at one port may be nonexistent at another, and therefore special rate structures may or may not be a part of all port tariffs.

Miami's Tariff No. 7, Port of Miami was published in 1951. Since no changes in rates were made at that time, and since factors influencing rates, such as increased labor and maintenance costs, have continued to increase, the present charges for port operational services are inadequate. Tariff No. 7 should be revised and republished.

With the exception of Tampa, which makes no charges for berths at any of the wharves, the entire burden being laid on the cargo in the form of wharfage charges, Miami's dockage rates are the lowest of all the ports examined. The present rate for Miami is 1 cent per registered gross ton, per day, with a minimum rate of $1.00 per day for each vessel. Jacksonville's rate is also 1 cent per day, but has a minimum of $5.00. Nearby Port Everglades' rates are double that of Miami. Many ports charge at least 3 cents per day, with a $5.00 minimum.

Dockage charges represent but one example of inadequate charges for operational services at the Port of Miami. It is

interesting to note from this study that any changes in Miami's rates should be revised upward in the immediate future. As substantial improvements are made, both as to facilities and services performed, rates may very well be reviewed for possible upward or downward revision. It is quite possible that operational efficiency may make it possible to take the latter course.

Definite action should be taken in the immediate future to adjust Miami's port operational charges to a more realistic basis.

The decisions as to itemized changes are stated and analyzed on the following pages.

Decision as to Wharfage for Cargo: The wharfage rate for General Cargo should be immediately increased from 28 cents per ton to 30 cents per ton. Item No. 2, in Tariff No. 7, which provides a rate of 17 cents per ton for "Grain, grain products and feed; animal or poultry, classified lower than Sixth Class in Southern Classification, including cottonseed meal, linseed meal, cottonseed hulls, peanut meal, rice bran, rice hulls, hays and straw, or any of these commodities moving on rates lower than Sixth Class rates," should be eliminated. A new Item No. 2 should be established for bananas with a rate of 1 cent per stem in lieu of the present charge of 28 cents per ton.* Item No. 3, Automobiles, set up, with a rate of $1.00 each should remain the same.

Analysis: Miami's wharfage rates for general cargo are at least 2 cents lower than most competitive ports, as much as 7 cents lower when compared with the Port of Houston. It is also believed that a better method of charging wharfage for banana shipments could be made by levying a charge per stem rather than by tonnage. An accurate couting of stems may be taken from the stevedores handling this cargo, as their fees are also based upon the per-stem count. The upward revision of rates, as outlined above, will be in line with competitor charges and will result in increased revenue for the Port of Miami.

The table below shows the amount of revenue received from wharfage under the present rate during the past 30 months ending June 30, 1955, and what the revenue would have been under the new rate and the resultant net increase in revenue to the port:

Year	Revenue received under present rate (28 cents per ton)	Revenue which would have been received under new rate (30 cents per ton)	Net increase in revenue which would have been received under new rate
1953	$ 77,936.27	$ 87,001.61	$ 9,065.34
1954	75,888.61	82,075.36	6,186.75
1955 (first half)	45,970.44	49,656.18	3,685.74
	$199,795.32	$218,733.15	$18,937.83

* During the fiscal year 1953-54, the port received, by way of imports, 39,214 tons of bananas - or 1,595,351 stems. At the rate of 28 cents per ton, the total revenue received was $10,979.92. If the rate had been 1 cent per stem, the port would have received $15,953.51, or an increase of $4,973.59.

Decision as to Wharfage for Passenger Traffic: Wharfage rates for passenger traffic should immediately be revised upward, as follows:

	From	To
Passengers embarking from shore to ship	50 cents per passenger	$1.00 per passenger
Passengers debarking from ship to shore	50 cents per passenger	$1.00 per passenger
Passengers in transit on a ship making Miami a port of call on a continuous trip, debarking and embarking, a total charge of	50 cents per passenger	$1.00 per passenger
Passengers under the age of 12 years, traveling on half-fare rate	25 cents per passenger	50 cents per passenger
Passengers traveling without charge for passage	No charge	No charge

Analysis: The increased cost of handling passengers - increased labor, electricity, and maintenance of buildings cost - dictates the necessity for increasing wharfage rates for passenger traffic, as outlined above. This rate has never been changed and the revision is long overdue. Defraying the increased costs is, of course, paramount. However, the table below shows the amount of increased revenue which would have been received during the past 30 months had the new rates been in effect:

Year	Revenue received under present rates (50¢ for adults, 25¢ for children)	Revenue which would have been received under new rates ($1.00 for adults, 50¢ for children)	Net increase in revenue which would have been received under new rates
1953	$38,528.25	$ 77,056.50	$38,528.25
1954	33,555.75	67,111.50	33,555.75
1955 (first half)	26,265.50	52,531.00	26,265.50
	$98,349.50	$196,699.00	$98,349.50

Decision as to Dockage Rates: The present charge for dockage of 1 cent per registered gross ton, per day, with a minimum invoice for dockage charged per vessel of $1.00 per day should be immediately revised to 2 cents per registered gross ton per day, with a minimum invoice for dockage charged per vessel of $2.00 per day.

Analysis: A survey of fifteen competitive ports reveals that Miami's dockage charge is below that of all other ports. The dockage charge and the minimum may both be doubled and still be in line with all competitor ports, not to mention the increase in revenue which may be estimated from the table below showing what the increase would have been during the 30-month period which ended June 30, 1955:

Year	Revenue received under present rates (1¢ per registered gross ton; $1.00 minimum for 24 hours)	Revenue which would have been received under new rates (2¢ per reg. gross ton; $2.00 min. for 24 hours)	Net increase which would have been received under the new rates
1953	$ 35,977.36	$71,954.72	$ 35,977.36
1954	43,608.47	87,216.94	43,608.47
1955(first half)	27,250.16	54,500.32	27,250.16
	$106,835.99	$213,671.98	$106,835.99

Decision as to Rates for Preferential Berthing Rights: The charges for granting preferential berthing rights should be immediately revised upward as follows:

	From	To
Per square foot, per annum, which shall include the aprons and warehouse space contiguous with the lineal footage of berth assigned	4 cents	8 cents

Analysis: The present rate of 4 cents per square foot for preferential berthing rights is far below what could be termed a "fair" charge for such rights, and should be immediately revised upward, as outlined above. As port facilities and services improve, a new study should be made with consideration of a further upward revision. Note the table below for increased revenue which would have been received during the 2 1/2 year period, ended June 30, 1955, if the new rate had been in effect:

Year	Revenue received under present rate (4¢ per square foot)	Revenue which would have been received under recommended rate (8¢ per sq. ft.)	Net increase in revenue which would have been received under new rate
1953	$ 7,156.92	$14,313.84	$7,156.92
1954	7,156.92	14,313.84	7,156.92
1955 (first half)	3,578.46	7,156.92	3,578.46
	$17,892.30	$35,784.60	$17,892.30

Decision as to Rates for Rental of Office Space: The City may, at its discretion, rent office space, when available, to steamship lines which have been assigned a preferential berthing right. The present rate of 6 cents per square foot, per month, should be immediately revised upward to 10 cents; all other office space, not assigned under preferential berthing rights, which is currently rented for 15 cents per square foot, per month, should be revised upward to 20 cents.

Analysis: The present rates for rental of office space, 6 cents per square foot, per month (Preferential) and 15 cents (Non-preferential), are below present-day charges, not only in competitor ports, but for comparable facilities in the City of Miami. Immediate upward revision of the office space rental charges should be made to bring them in line with present-day charges. Further study, with a view to possible further increase, should be made as improvements are made in port facilities and services. Note the tables of comparison below for present charges and for recommended rates:

Year	Revenue received under present rate (6¢ per sq. ft. per month) (Preferential)	Revenue which would have been received under recommended rate (10¢ per sq. ft. per mo.)(Preferential)	Net increase in revenue which would have been received under new rate
1953	$ 9,509.76	$15,849.60	$ 6,333.84
1954	9,509.76	15,849.60	6,333.84
1955 (first half)	4,754.88	7,924.80	3,169.92
	$23,774.40	$39,624.00	$15,849.60

Year	Revenue received under present rate (15¢ per sq. ft. per month) (Non-preferential)	Revenue which would have been received under recommended rate (20¢ per sq. ft.) (Non-preferential)	Net increase in revenue which would have been received under new rate
1953	$23,828.40	$31,711.20	$ 7,882.80
1954	23,828.40	31,711.20	7,882.80
1955(first half)	11,914.20	15,885.60	3,971.40
	$59,571.00	$79,308.00	$19,857.00

Decision as to Scale Charges for Weighing Autos, Trucks, and Trailers : Tariff No. 7 now makes provision for a 50-cent charge for each empty vehicle weighed, and $1.00 for one which is loaded, partially loaded, or reloaded. This charge should be changed to $1.00 each, regardless of content.

Analysis: The same amount of labor and time is required for weighing a vehicle, regardless of content. If a uniform rate of $1.00 were charged, the Port of Miami levy would still be as low or lower than all competitor ports. An estimation of increased revenue from this source may be gained from the following table:

Year	Revenue received under present rate ($1.00 loaded; 50¢ empty)	Revenue which would have been received under recommended rate ($1.00 each)	Net increase in revenue which would have been received under new rate
1953	$ 6,660.00	$ 8,913.00	$ 2,253.00
1954	5,674.00	7,461.00	1,787.00
1955 (first half)	2,197.50	2,914.00	716.50
	$14,531.50	$19,288.00	$ 4,756.50

Decision as to Rates for Fresh Water: The present charge of 35 cents per ton (or 250 gallons) of fresh water should immediately be raised to 50 cents per ton, including government vessels, with a minimum of $2.00, rather than the present $1.00 minimum.

Analysis: The present charge is too low to defray the cost of this service. Even with the increase, Miami's rate will be equal to, or less than, most competitive ports. The following table reflects the net increase in revenue which would have been received during the past 30 months ending June 30, 1955, if the new rate had been in effect:

Year	Revenue received under present rate (35¢ per ton, or 250 gallons; $1.00 minimum)	Revenue which would have been received under recommended rate (50¢ per ton, or 250 gallons; $2.00 minimum, including government vessels)	Net increase in revenue which would have been received under new rate
1953	$13,600.89	$14,416.94	$ 816.05
1954	16,782.75	17,789.71	1,006.96
1955 (first half)	12,972.48	13,750.82	778.34
	$43,356.12	$45,957.47	$2,601.35

Decision as to Rates for Running Lines: When the City is requested to perform the service of taking, letting go, and shifting lines, a charge of $5.00 for each service is assessed. This charge should immediately be revised from $5.00 to $20.00, depending upon the size of the vessel.

Analysis: The size of the vessel should determine the amount of the charge, rather than a flat fee for each service, inasmuch as it is doubtful if the actual cost of such services to a large vessel could actually be covered by the $5.00 charge.

This service is rendered so seldom that the revenue derived is not significant, but the change in tariff is justified even so. Such income as is derived from this item is placed in the dockage account.

Decision as to Truckage Charges: The loading and unloading charge of $2.00 for motor freight vehicles (trucks, trailers, or tractor-trailers) using the property of the Commercial Docks for such purposes in connection with freight or cargo should be immediately raised to $4.00. That portion of the tariff which makes charges not applicable to motor freight vehicles transporting freight or cargo to and/or from points in Monroe or Broward Counties should be deleted.

Analysis: It is felt that an unnecessary amount of congestion has developed at the port because of a number of trucks that possibly should not be there. The fee charged at present is nominal, of course, and the doubling of the charge, and lifting of the restriction of the charge on cargo bound to and/or from points in Monroe and Broward Counties, may alleviate this congestion to some extent. Note the table blow in connection with present and recommended Truckage Charge revenues:

Year	Revenue received under present rate ($2.00, except to motor freight vehicles transporting freight or cargo to an/or from points in Dade, Monroe or Broward Counties)	Revenue which would have been received under recommended rate ($.00, except to motor freight vehicles transporting freight or cargo to and/or from points in Dade County)	Net increase in revenue which would have been received under new rate
1953	$4,580.00	$ 9,160.00	$4,580.00
1954	3,096.00	6,192.00	3,096.00
1955 (first half)	1,110.00	2,220.00	1,110.00
	$8,786.00	$17,572.00	$8,786.00

Decision as to Trackage Charges: The trackage charges assessed for use of the Municipal Railway tracks should be immediately revised upward as follows:

	From	To
Per loaded car	$2.00	$6.00
Per empty car	$2.00	$6.00
Per car, where lading is loading to or unloaded from a car while on the Municipal tracks located on the Commercial Dock properties, and cargo is not for water transportation.	$5.00	$10.00

Analysis: An investigation into the charges for trackage reveals that the present charge for loaded and empty cars is far below what it should be and it is necessary to treble the charge, to bring it in line with present-day charges elsewhere, and to defray labor and maintenance costs which have been constantly on the rise during the past several years.

A serious effort should be made to discourage use of the Municipal tracks for cargo which is not for water transportation. The $10.00 charge should be levied immediately, and if that rate is not sufficient to deter use for non-water traffic, the rate should be restudied with a view to even further upward revision. The charge on non-water cargo is not intended as a basis for increased revenue, although this may possibly be a result.

Note the table on the next page which reflects the net increase in revenue which would have been received during the past 30 months ending June 30, 1955, if the new rate had been in effect:

(The increase for the non-water destined cargo is not estimated, since the number of cars in this category is not more than 20 cars per year, and it is desired that the number decrease.)

Year	Revenue received under present rate ($2.00 for loaded and empty cars)	Revenue which would have been received under recommended rate ($6.00 for loaded and empty cars)	Net increase in revenue which would have been received under recommended rate
1953	$ 8,780.00	$26,340.00	$17,560.00
1954	7,564.00	22,692.00	15,128.00
1955 (first half)	3,754.00	11,262.00	7,508.00
	$20,098.00	$60,294.00	$40,196.00

Decision as to Storage Charges: There should be a consolidation of the "Storage in Warehouses" and the "Open Ground Storage" rates, with a uniform charge of 50 cents per ton, for each 30 days or fraction thereof, for all items except vehicles.

The rate for vehicles (Warehouse or Open Ground Storage) should be raised from $1.00 each per day to $2.00 each, per day, this to be exclusive of Ship's Trailer Trucks, which will need to be individually assessed when they become operative at the Port of Miami.

Analysis:

Warehouse and Open Ground Storage. At present, Warehouse and Open Ground Storage is at a minimum at the Port of Miami, and the prime objective should be to keep the goods moving so there will be adequate space at all times to accommodate incoming and outgoing shipments. Present storage rates are so low, in many instances, that it encourages long-time storage, which is directly opposed to the desired objective. As warehouse and open ground storage facilities improve, the rates should be reviewed with a view to adjusting upward or downward, whichever may be appropriate.

As a practical matter, open ground storage charges have netted relatively little, since the usurpation of the only space available by other agencies of the City for the construction of the new sewage pumping station on Port property. The Port has incurred a loss of $60,000.00 to $75,000.00 a year by this nearly two-year, and still unfinished, operation.

Vehicle Storage. It is especially desirable that vehicles be kept on the move, and therefore, the recommended increase from $1.00 each per day to $2.00 each, per day, is made. If that increase is not sufficient to keep the vehicles from using excessive storage space for long periods of time, a further upward revision should be seriously considered.

Decision as to Wharfage Rates for Petroleum Products in Bulk : The rates of 3/4 cent (when vessel or barge is berthed in Slip No. 1) and 35/100 cent (when vessel or barge is berthed at head of Pier No. 1) are adequate. However the minimum invoice provision should be amended to provide a minimum wharfage charge of $1.00 for inbound cargo and $1.00 for outbound cargo.

Analysis: If it is determined, on a practical basis, to handle bulk petroleum products through the Port of Miami on any increased basis, charges for such handling should be reviewed

Decision as to Wharf Demurrage Charges: No change recommended, as it is very seldom used.

Decision as to Rate for Hose Rental: No change is recommended.

Decision as to Electricity Rates: No change is recommended

Decision as to Change in Free Time Allowances. Including Sundays and legal holidays, the free time allowed for assembling outgoing cargo and for removing inbound cargo from space assigned should be immediately amended as follows for all items except vehicles, which should be allowed 48 hours in all cases:

	From	To	
	For LCL and CL	For LCL	For CL
Import traffic	Ten days	5 days	7 days
Export traffic	Ten days	5 days	7 days
Intercoastal traffic, outbound	Ten days	5 days	7 days
Intercoastal traffic, inbound	Ten days	5 days	7 days
Intracoastal traffic, outbound	Ten days	5 days	7 days
Intracoastal traffic, inbound	Ten days	5 days	7 days

Analysis: It is believed that the cutting of the free time allowance would considerably ease the warehousing and storage problem and would help to assure adequate space for incoming and outgoing shipments. As port facilities and services improve, the free time allowance should be reviewed for possible revision. It is especially desirable to shorten the free time allowance for vehicles in order to eliminate, as much as possible, their long-term storage.

MoW

Sixteen. Are the present charges for pilotage at the Port of Miami adequate, or should the pending application by the Miami Bar Pilots Association for an increase of $1.00 in tariff be granted in whole or in part ?

Objective Sought: Reasonable compensation to pilots for service rendered, with due regard to charges made at other ports, and the effect on the volume of traffic coming into Miami.

Decision: Upon the total evidence available, no increase in pilotage charges are warranted, though the Board of Pilot Commissioners and Port Wardens might be justified in increasing the charges for pilotage service by 50 cents, from 7 p.m. to 6 a.m., provided pilotage is extended, as it should be, on a 24-hour service basis.

Analysis: The Miami Bar Pilots Association is in reality a group of individual pilots licensed by the Board of Pilot Commissioners and Port Wardens, who themselves are appointed by the Governor of the State.

Until and unless all of the records of the Bar Pilots Association are fully audited by an independent public accounting firm, and the facts are made generally known, there is no way of ascertaining whether the rates should be increased on a compassionate basis for pilots, or not. Insofar as providing an incentive for persons to enter this type of marine service is concerned, no evidence is available to show any lack of qualified persons, and thus it must be assumed that compensation at the present rate is adequate enough to attract. Insofar as the burden on shipping is concerned, the effect would not be serious one way or the other.

Objectively, it should be pointed out that the pilotage job at the Port of Miami is considerably less exacting as to difficulty, and much less time-consuming than that required of pilots in many other ports, including some other Florida ports. If the requested increase were granted, pilot services at Miami would be paid for at the maximum permissible under State law - and this is not warranted, even on a 24-hour service arrangement.

Seventeen. What action should be taken with regard to adjustment of the import-export rail rates ?

Objectives Sought: Import-export rail rate parity for the Port of Miami with South Atlantic and Gulf ports.

Decision:

1) A new complaint should be filed with the Interstate Commerce Commission as soon as possible, requesting equalization of rates at the Port of Miami with the other southern ports on traffic moving between Miami and the industrial midwest, referred to generally as the Central Territory.*

2) After litigation on (1) above has been successfully concluded, proposals should be instigated with the rail carriers to bring the import-export rates between the Port of Miami and points in the Southern Territory in closer relationship with rates to and from other southern ports.

3) Negotiations should be continued to secure the benefits of the South Atlantic port rates in the deliberations before the rail rate committees on the proposals of the North Atlantic ports. If this matter should eventually result in formal action before the Interstate Commerce Commission or the courts, the Port of Miami should be actively represented in any and all proceedings in connection with these matters.

4) In all of this action, the Traffic Manager of the Port of Miami should utilize the continuing consultant services of the Greater Miami Traffic Association. The City of Miami should supply all necessary legal counsel.

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* This territory may be described as that bounded on the east by a line drawn through Pittsburgh, Pa., to Buffalo, New York; on the south by the Ohio River; on the west by the Missouri River; and on the north by the Canadian Border.

Analysis: The adjustment of the import-export freight rates with other southern ports is a matter of necessity. Its importance is second only to acceptance of a general port development plan, including the physical improvement of the port and its facilities and a better organizational pattern for carrying on port operations. Pressure for adjustment must be applied, in order to allow Miami to compete on an equal basis with other southern ports for import-export trade. At present, Miami is on a parity only with the south Florida group of ports, including West Palm Beach, Port Everglades, and the Port of Tampa, and is still not on parity with other southern ports, despite long litigation.

Trade through the Port of Miami will continue to be lost as long as inequitable freight rate differentials exist. The last litigation before the Interstate Commerce Commission affecting Miami culminated in a decision by the United States District Court in Jacksonville, April, 1955, the overall result of which was to maintain the status quo. A new complaint, therefore, should be filed to introduce new evidence, such as the inauguration of regular scheduled sailings from the Port of Miami via conference vessel, applying conference ocean freight rates, which evidences justification of freight rate equalization. Such evidence was unavailable at the time of the original I.C.C. proceedings.

Background: The present import-export rail rates applying at the Port of Miami stem from decisions made on the basis of conditions and facts long since significant only as history. The present rates have evolved too slowly and unrealistically from rates originally devised on an expediency basis, for a more distant port and for completely different types of port facilities and operations. They are thoroughly out of line.

When the general adjustment of import-export rail rates was adopted and published at the southern ports, the basic concept of the adjustment was to equalize the rates to the various ports, in order to permit free competition with the North Atlantic group of ports, including New York, Baltimore, Philadelphia, and Boston. Rates at the Gulf and South Atlantic ports, except south Florida, were established on a parity. At that time there were no ports of any consequence south of Jacksonville, except Key West which was served by the Florida East Coast Railway. Practically 100 percent of the traffic to and from Key West was for movement via the Florida East Coast Car Ferry to Havana, Cuba. The southern carriers felt that

the Key West movement should carry a differential above the South Atlantic ports since the distance was approximately 530 miles more than Jacksonville, and also due to the fact that the entire movement of export traffic was for movement to Havana, Cuba, via car ferry, only 90 miles from Key West. Therefore, a differential in the amount of 62 1/2 cents per hundredweight (cwt.), first class, was adopted and applied by the rail carriers. As the Port of Miami developed and enlarged, it inherited this ill-fitting adjustment due to the fact that Miami was intermediate to Key West. Later, after a hurricane destroyed the F.E.C. right-of-way in the Florida Keys, the rates were made specifically applicable to Miami and to Tampa. The restriction limiting the application of the rates to movements to Cuba was subsequently removed, allowing the rates to apply on traffic destined to other foreign ports.

The Greater Miami Traffic Association, on behalf of the Port of Miami, filed a formal complaint in 1946, requesting the I.C.C. to order the rail carriers to eliminate differentials applied at the Port of Miami and to place this port on a rate parity with the Gulf and South Atlantic ports. This proceeding, and a reopening of the same proceeding in 1950, continued this matter in litigation for the past nine years. Decision was rendered in April, 1955, in the United States District Court in Jacksonville. Through various efforts of the Association, the differential of 62 1/2 cents per cwt., first class, has been reduced to 35 cents per cwt., first class, and none of the series of general increases, aggregating approximately 100 percent, have been applied to this differential, thus improving the competitive relationship. In addition, the entire south Florida group of ports, including Miami, West Palm Beach, Port Everglades, Tampa, and the Port of Tampa, are equalized and this grouping has been maintained, thus allowing Miami to compete with these neighboring ports on an equal basis. The Commission and the courts, however, have ruled unfavorably on Miami's request for parity in rates with the other southern ports.

MoW

Eighteen. Is it essential to provide a person charged specifically with the duties of Traffic Manager as a part of the new organization of the Port of Miami, in view of the services rendered in the past and available through the Greater Miami Traffic Association ?

Objective Sought: A truly competitive traffic rate position for the Port of Miami with certain other United States ports - a condition not now, or at any recent time, actually obtaining.

Decision: No port should be without a responsible person with his principal duty as Traffic Manager - least of all the Port of Miami at this time.

Analysis: Success in the field of freight rate adjustment requires more than consultant traffic services, as provided by the Greater Miami Traffic Bureau, and more than qualified legal assistance to that agency from the City Attorney. It requires day-to-day awareness of the problem by being faced with it from an operation point of view.

Representation of the Port in negotiations before the rate committees of the carriers and in proceedings before government regulatory agencies in matters concerning freight rates to and from the Port, in an effort to retain and improve Miami's competitive relationship with other United States ports, must be recognized as an essentially difficult task.

For the past several years, the City of Miami has retained the services of the Greater Miami Traffic Association to represent the Port of Miami in negotiations for adjustment of inland import and export rates, in order to permit and encourage the unrestricted flow of foreign traffic at rates competitive with those applicable to other ports. This group's services to the Port of Miami and to the City are not to be in any way underestimated, as they have performed good service. However, they operate in a multi-capacity, and should be considered as consultants, and, to be truly effective, they must have the continued backing of a qualified port person who is meeting the day-to-day operating problems as a practitioner. This person should be the Traffic Manager of the Port, and all ports of consequence in the United States recognize this. The problem cannot be dealt with solely in a consultant's office on a part-

time basis, with or without legal collaboration. It has to be dealt with on the streets, on the waterfront, and in day to day trade solicitation of business as well.

MoW

Nineteen. Should the services of the Greater Miami Traffic Association continue to be utilized by the City and the Port of Miami ?

Objectives Sought: Appropriate consultant service on traffic matters affecting port trade, in order to achieve and, once achieved, retain, rate equalization for the Port of Miami with other South Atlantic and Gulf ports.

Decision: The City of Miami should continue the services of the Greater Miami Traffic Association, on a yearly retainer basis. The currently established fee appears reasonable, as the City utilizes their services for other purposes as well.

Analysis: The problem of reaching parity for freight rates with all other southern ports has been an extended struggle, with some encouragement, but no equitable adjustment in sight. The importance of the problem to commerce in this Four-County Grade-Trade Area is very great. The freight rate battle should be joined by businessmen of the community, as their interests are much affected.

For the past several years, the GMTA has performed valuable research and active representation of the Port in traffic matters, and in addition, has actually performed some few services which normally are handled by a full-time Port Traffic Manager and his assistants. In continuing these consultant services, the City of Miami should support the Association additionally, either by counsel from the office of the City Attorney, or by authorized employment of special legal counsel to assist in connection with required legal proceedings. GMTA should also have the cooperation of steamship lines operating, or planning to operate, regular scheduled service out of the Port of Miami, to supply necessary evidence and witnesses from the ranks of shippers and receivers.

Finally, while the general relationship of GMTA to the City should continue, as the tasks ahead require the experience and best energies of all, their services should be considered as supplementary, as far as port traffic management activities are concerned.

MoW

TODAY'S DECISIONS

PART FOUR

HARBOR UTILIZATION

Twenty. What harbor adjustments are required and/or desirable for the better utilization of Biscayne Bay, the channels therein, the Miami River, and other adjoining and tributary waters used for trade and pleasure-craft navigation ?

Objectives Sought: Adequate depths and widths for ship channels, turning basins, access to piers and wharves of the present and expanded Port of Miami, as a means toward attracting and servicing more cargo and passenger vessels at the port, and thus improving the permanent economic position of Greater Miami and its hinterland.

Decision: On a phased-accomplishment basis, the following harbor, bay, and channel adjustments should be made, either by public or private initiative, or both, and/or appropriate Federal rivers and harbors aid, as rapidly as practicable, in coordination with the overall port development plan for improvement and expansion of port areas and facilities:

As to Biscayne Bay and the channels therein:

1) Although the Main Ship Channel, through the Bay via Government Cut, might well be increased in depth by 3 to 7 feet, and in width by 100 feet, there is no real justification for such increase at the present time.

2) If the north and northwest sides of Fisher Island are to be utilized for private industrial development, as is contemplated, and as believed essential for petroleum storage and handling by the Belcher oil interests and others, a channel should be dredged, 300 feet wide, 30 feet deep, and 5,100 feet long, 4,000 feet along the north side and 1,100 feet along the west side, of the island.

3) Assuming the interest of the developers of Fisher Island (and/or the City of Miami Beach and/or private terminal and shipbuilding operators) in providing a turning basin for the largest ships, and assuming the interest of the United States Navy and the Defense Department in providing a protected anchorage within Biscayne Bay, a basin 1,500 feet by 1,500 feet by 30 feet deep should be dredged northwest of the island and adjoining Fishermans Channel.

4) Fishermans Channel should initially be dredged to a depth of 15 feet, 200 feet wide, from Fisher Island to Brickell Point at the mouth of the Miami River, a distance of 14,000 feet.

Except for the unfortunate fact that the channel has to cross the Miami 72-inch concrete force sewer pipeline which runs from Bay Front Park to the Virginia Key Sewage Disposal Plant, the depth of the channel should be dredged to 20 feet at this time, but the placement of this sewer pipe at a depth of only 20 feet at the point of crossing Fishermans Channel is limiting - unless approximately 1,700 feet of this pipe were removed and replaced at the depth which should have governed when it was laid.

5) The present turning basin in front of the Municipal Docks should be enlarged to approximately 1,700 feet by 2,000 feet, by dredging to a depth of 30 feet an area which will then extend the turning basin from the Municipal Pier Line on the west to Watson Island on the east, and from approximately 300 feet south of Pier No. 3 on the south, approximately to MacArthur Causeway on the north, with a 200-foot wide by 20-foot deep 1,200-foot long channel veering southwest to the southernmost portion of the present P. & O. Docks, and the most northerly pier of the City Yacht Basin, so as to provide access to a new pier facility discussed later as "Caribbean Pier."

6) A channel 400 feet wide and 30 feet deep should be established by dredging along the waterfront from the turning basin in the vicinity of MacArthur Causeway north to a point 1,200 feet south of N.E. 20th Street, at which place the channel becomes a 900-foot wide by 800-foot long turning basin, and then reverts to a 400-foot wide channel which extends 200 feet north to

a new land area, 200 by 400 feet wide, created just south of 20th Street and connecting up on the land side with the newly established pier line.

7) The spoil from each of these dredged channels and turning basins are placed as indicated in the analysis, without enlarging the spoil islands in Biscayne Bay now existing between the main channel and Fishermans Channel.

Reference: Attention is invited to Plate X for a visual presentation of the decisions reached above.

As to the Miami River:

8) The mouth of the Miami River will be made thoroughly navigable by the removal of the accumulations at its mouth by the dredging of Fishermans Channel, as stated in item 4 above, but it should be made further navigable by being generally straightened to the extent practicable from its mouth for 1,400 feet, in accordance with the current approved Federal Project for widening the channel at the Mouth of the Miami River by 20 to 100 feet for that distance.

9) Although the channel is said to be 15 feet deep under flood conditions, under the provisions of the existing Federal Project, it should be deepened to 15 feet at mean low water, and this depth should be considered a compromise only until such time as funds are available to correct the error created by placing the Biscayne Bay force main at a depth of only 20 feet, rather than 30 feet, at the point of crossing Fishermans Channel.

10) The 150-foot width of the channel, extending for a stretch of only 3 miles, thence to a width of 125 feet for 1.1 miles, and thence to 90-foot width for 1.4 miles, should be made a minimum of 150 feet wide for the entire distance, and the Federal Project should be further extended up the river, as soon as practicable, and in any event, the obstacles to navigation at 36th Street should be removed. The present Federal-approved project channel of 12 feet deep and 100 feet wide, from Miami River to Palmer Lake, is not considered important at this time.

11) Two to four turning basins should be immediately provided by dredging at the points noted on Plate V and marked TB-1, -2, -3, and -4.

Reference: Attention is invited to Plate V for visual following of the Miami River decisions, with particular attention to bridges and the sites for turning basins.

As to the Intercoastal Waterway:

12) At such time as the Inter-American Trade Center to be located on the Graves Tract becomes a reality, or at such time as other trade development requires, the present Federal Project authorization of a 125-foot wide by 12-foot deep channel should be increased to 150 feet wide by 20 feet deep from the turning basin near MacArthur Causeway to a point at the Graves Tract just beyond Bakers Haulover Cut.

Reference: Attention is invited to Plate II showing the route of the Intercoastal Waterway in the pertinent area.

Analysis: Harbor utilization as interpreted for coverage by Part Four of this survey, is limited, for convenience of development of the report in a logical fashion, to the actual changes in waterway widths or depths recommended. Where dredging requires the removal of significant amounts of spoil, placement of this spoil is covered in the analysis which follows, in the order of the items of decision above.

As to Biscayne Bay and the Channels Therein:

1) From an economic point of view, there might be some advantages in a wider and deeper main ship channel, but they would not be commensurate with the cost, at this time. There is no current shipping need for either a wider or a deeper channel at present, though a larger-ship pattern in the future may call for review of this decision at a later date. Preponderance of evidence warrants the conclusion that navigating this channel from the sea to the turning basin can be safely done by any fully experienced pilot, day or night, at any time but in hurricane weather. This is true, despite some protestations by a few navigators to the contrary. However, it may be that some minor navigation aids would be useful, and even increase the safety factors for pilots not experienced in these waters. For example,

the installation of adequate range lights would be relatively inexpensive and should be procured in the interest of maximum security.

2 and 3) Dredging in the vicinity of Fisher Island, as indicated in the decision, will require the removal of 860,000 cubic yards of spoil in order to provide the 30-foot deep 300-foot wide 5,100-foot long channel which extends, as shown on Plate X along the entire north side and part-way down the west side of the island. It will also require the removal of 2,420,000 cubic yards of spoil to provide the anchorage area described, and visually presented on Plate X. It is contemplated that the dredged materials will be spoiled as follows:

300,000 cubic yards to be spoiled in the ocean just south of the South Jetty and east of Fisher Island.

3,000,000 cubic yards to be used to fill the low flat area approximately 3,000 feet by 3,000 feet along the northwest side of Virginia Key.

The materials will have to be pumped an average distance of 4,500 feet, and will consist of 62 percent rock and 38 percent other material.

Attention is invited to the fact that the total cost of this dredging, as pointed out in the section dealing with finance, can be more than compensated for by the increased land area thus created, at current market values.

4) Dredging Fishermans Channel from Fisher Island to Brickell Point at the mouth of the Miami River, for a channel depth of 15 feet, 14,000 feet long, 200 feet wide, with side slopes 1-vertical to 3-horizontal, will require the removal of 1,260,000 cubic yards of spoil. The dredged material can be disposed of on the two larger Dodge Islands and on the low area east of Burlingame Island. The material dredged will consist of about 45 percent rock and 55 percent other material. Placing the spoil on the two Dodge Islands may be done without increasing their size or shape, but simply elevating them a little higher out of the Bay. The placement of the spoil alongside Burlingame Island in the shallow water area, as shown on Plate X, would give this island from 20 to 25 acres more land suitable for high priority real estate development, and the revenue to

the City from the sale of this land would be at least equal to the cost of the dredging of this entire channel.

5 and 6) Increasing the main turning basin, as shown on Plate X, and as described in item 5 of the decision, plus the dredging of the channel and the auxiliary turning basin, as shown on Plate X, and as described in item 6, to a depth of 30 feet below mean low water, will require the removal of 2,840,000 cubic yards of spoil. Of this total, 1,533,000 cubic yards will be needed, and used, to extend land areas and pier frontages, as shown on Plate X. The remainder of the total dredged material may be disposed of in one of three alternate ways, in order of preference:

a) By creation of a new island on the north side of the Biscayne - San Marco - San Marino Islands group, within the limits of the City of Miami, of approximately the size shown by Plate X, and for suggested required zoning as R-1. This approximately 55 acres of desirable high-grade residential land will come close to paying for the entire dredging operation, as developed later in the finance section of this report.

b) The spoil may be sold for a somewhat lesser sum to Miami Beach for their proposed and already laid-out island just north of the Venetian Causeway group, approximately directly north of DiLido Island.

c) The dredged material may be disposed of by sale at from 25 cents to $1.00 per cubic yard, by arrangements similar to those in use at West Palm Beach, on Peanut Island.

As to the Miami River:

8 thru 11) First, it should be pointed out that navigation on this river, as has been stated many times earlier in this report, has been greatly handicapped by neglect, poor housekeeping, mal-use of the waterfront for non-waterfront purposes, and by the condition and height of the bridges crossing the river. All of these conditions have mitigated against the commercial development of this valuable stream. No half measures should be employed to prevent a continuation of the past bad pattern. Bridges must be replaced as rapidly as practicable, with 32-foot clearance or more, at mean low water.

Dredging of the channel to a depth of 15 feet at mean low water should be accomplished as an extension of the current Federal Project, no new authorization request. No estimate has been made of the number of cubic yards of dredged material which will be removed by the suggested deepening and widening of the river channel, but the very preliminary feasibility survey made in connection with this report indicates that there should be no problem of disposing of this spoil along the middle and upper reaches of the left bank going up stream. The amount of spoil which will be removed by creating two or more of the turning basins at the points noted on Plate V should cause no problem.

As to the Intercoastal Waterway:

12) Increasing the Intercoastal Waterway from the present channel dimension authorizations under the Federal Project of 125 feet wide by 12 feet deep to 150 feet wide by 20 feet deep, using the same side slopes of 1-vertical to 3-horizontal, will require the removal of 3,440,000 cubic yards of material which may be disposed of about 1,000 feet off and paralleling the channel.

MoW

TODAY'S DECISIONS

PART FIVE

LAND UTILIZATION

Twenty One. What land adjustments are required and/or desirable for the better utilization of the waterfront land of Biscayne Bay, in the present and expanded port area ?

Objectives Sought:

1) Most practical and profitable utilization of the land areas currently available and/or planned to be available for the attraction and handling of trade, under the proposed port development plan.

2) The creation and/or better economic use of waterfront land required for continuation of the port in its present commercially suitable location, recognizing the inviolability of Bay Front Park.

3) Transformation of the present port area from a near-blight condition into a creditable and attractive extension of the central business district.

4) Transformation of the waterfront land area between N.E. 13th and 20th Streets to a land use commensurate with the importance of the waterfront and the economic need of the Glade-Trade Area, without altering the character of the property facing Biscayne Boulevard, and without creating blight of adjoining property.

5) The promotion of a stable economy for Greater Miami and for the Florida and Caribbean hinterland of which Miami is the natural focal point.

Decision:

SINCE the essentiality to Miami of a centrally located deepwater port has heretofore been established by this survey, and

SINCE incompatible waterfront area and land use must be reconciled, owing to the scarcity of both in the central Miami area of Biscayne Bay,

THEREFORE, land use of the waterfront area, reasonably available by replanning and rezoning processes, must be established objectively on the basis of the present location and planned expansion of the port.

AND, FURTHER, all other land use planning for Greater Miami and Dade County must be adjusted accordingly.

In line with the broad concept of this land-use decision, as stated above, the following specific decisions with regard to affected areas are presented:

References: Plate XI and, collaterally, Plates III, IV, V, VI and X.

As to the Outer Approach Land Areas Within Biscayne Bay:

Fisher Island Adjustment

1) Designation of the north and northwest sides of Fisher Island for industrial development, except for that section on the north side, 300 feet south of Government Cut, owned and utilized by the U. S. Government as a quarantine station.

Activation of Belcher Terminal

This envisions that the Belcher Oil Company will reactivate their Fisher Island Terminal and utilize that property for the receipt and storage of petroleum products and for bunkering services now carried on from their 200-foot waterfront property just north of the present Municipal Docks.

Dodge Islands Not Enlarged

Though fill from dredging the channel on the north side and creation of the anchorage on the northwest side of the island will create valuable new land areas, both on the sea side of Fisher Island and the Bay side of Virginia Key, as indicated on Plate X it is not contemplated that this created land be used for marine development purposes. Similarly, no proposal of this survey envisions use of the Dodge Islands for marine purposes, though it is envisioned that they be built up, though not enlarged, from the fill from the deepening of Fishermans Channel.

As to the Commercial Port Area from N.E. 6th to 13th Streets along Biscayne Boulevard:

Land Use Change to Provide for Transportation Building

2) From approximately N.E. 6th Street to N.E. 7th Street, from the Boulevard to the present bulkhead line of the Florida East Coast Railroad property, the erection of a modern two-story transportation center building, of approximately 300 by 300 feet, set back from Biscayne Boulevard at least 25 feet to provide appropriate architectural design and landscaping; the portion of the slip west from the present F.E.C. pier line to be filled in to provide part of the land required.

Featuring Roof Heliport

Floor space of this building should be utilized on long-term lease arrangement, which would make the cost of the building self-liquidating and revenue-producing. Space would be provided for a downtown consolidated transportation ticket office for passenger transportation generally. Space would also be available for other related transportation and traffic offices, and for restaurant and other public service concessions. A unique feature of the building would be provision for the use of the roof as Heliport No. 1 for the City of Miami. In addition to other service this facility would provide, there would be established direct passenger service between the International Airport and the central business section. Building requirements for helicopter landings on roof tops are readily available, and present no real engineering or construction problems today.

3) From approximately N.E. 7th Street to N.E. 9th Street, along Biscayne Boulevard, east for 125 feet only, a modern two-story building is planned, to be 100 feet deep and approximately 600 feet along the Boulevard, the building to be set back 25 feet from the Boulevard to provide sidewalk, architectural design and landscape effectiveness.

Land Use Change to Provide for Trade Mart

This building may be used by the City for the City-sponsored Trade Mart, now tentatively planned as part of the Civic Center group; otherwise, the building may be used for offices of firms serving the waterfront, and, in any case, there should be here an import-export branch office of a leading city bank, to provide convenient banking facilities for Latin American passenger and trade purposes. This building would be immediately in front of the new Caribbean Pier to be described later.

Entrance to Caribbean Pier

4) From the south side of N.E. 9th Street there should be a properly landscaped 125-foot wide entrance for unrestricted traffic to the rehabilitated modern pier area. No buildings or billboards to be constructed for temporary or any other use, and the side portions thereof to be attractively landscaped, sidewalked, and appropriately marked as the entrance to the Caribbean Pier, Port of Miami.

Land Use Change to Provide for Modern Car Parking Garage

5) From a point approximately 75 feet north of the entrance to the Caribbean Pier described by (4) above, back 25 feet from the Boulevard, and extending along the Boulevard north for 200 feet, a modern mechanical garage of the general style and design described as suitable for Site A by the Engineering Report on Parking Requirements made for the City of Miami by the Radar Engineering Company, as of November 1954 (illustrated on page 57 of that report). This building, in view of its location, should be limited to four floors, the two top floors to extend over the new sewage pump station under construction (see Plate III). It is estimated that this type of mechanical garage, by redesigning, would provide a capacity for 225 cars.

Land Use Adjustments For Main Commercial Port Entrance

- only rail entrance to port area

6) North of the building described in (5) above, and reaching to the north side of the extension of N.E. 11th Street, is designated as the main entrance to the transformed present Municipal Pier area. This entrance would provide space for the Municipal Railroad entrance, a collateral truckway entrance fed in part from a truck road built alongside the present Municipal Railroad tracks' route through the city, as well as a direct-across-the-Boulevard entrance from N.E. 11th Street, and an auxiliary entrance for traffic from Biscayne Boulevard. It would be attractively landscaped 85 feet back from the Boulevard, and provided with a distinctive entrance design. This entrance of approximately 300 feet controlling width leading off the Boulevard will handle all rail traffic to and from the entire enlarged port area, as well as other traffic as indicated.

Land Use Change to Provide for Trade Services Office Space

7) From this Main Entrance, north along the Boulevard veering easterly to the present northern property line of the port there is space for a modern four-story building to be 125 feet deep and approximately 525 feet long, set back from the Boulevard 25 feet to provide architectural design, landscaping, and sidewalk.

This building is planned for offices of firms serving the waterfront, such as freight forwarders, marine insurance agencies and others, including shipping and stevedoring company offices. Space would be rented to such firms on long-term lease arrangements, and the building cost would thus be self-liquidating.

As to the Commercial Port Area from N.E. 6th Street to N.E. 13th Street, along the Waterfront:

"Caribbean Pier" - new general cargo terminal

8) The Caribbean Pier would have a land area appearance of a trapezoid, reaching from the present F.E.C. Railroad property into the bay, approximately 1,600 feet beyond the present bulkhead at its northern side, and 900 feet on its southern side, with an approximate width of 600 feet. It would include the small spoil islands within that area (see Plate X), and would be created from the spoil procured from enlargement of the present turning basin. The facilities and arrangement of this pier are described in Part Six of this report, "Terminal Facility Needs."

Slip Adjustment for More Land

9) The slip bulkhead lines of Slips No. 1 and 2 will be filled eastward an additional 125 feet in order to create more port-use land. The base of Slip No. 3 will be filled to the same north-south line, for the same reason. At the same time, and as a coordinate measure, the pier line will be extended eastward 125 feet beyond the present line. (See Plate X.)

Apron Extension

10) The apron of the south side of Pier No. 3 will be widen- an additional 30 feet.

As to Watson Island:

11) As previously developed, the north and east sides of Watson Island are planned as a modern marina. The west side is to be used for marginal pier docking for cruise ships, and the south side, along the channel, is to be kept free. The Power Squadron's LCI serves a useful training purpose, but berthing space location must be subject to needs of scheduled ships with full-time crews.

As to the North Expansion of the Port Area:

12) That part of the Belcher property extending from the vicinity of Biscayne Boulevard and N.E. 13th Street

Acquisition of Waterfront Part of Belcher Property

600 feet toward the waterfront on 13th Street, thence south from this point 140 feet, thence toward the Boulevard 300 feet, thence south to the City-Belcher property line, should be retained by the Belcher interests. The balance of this property, including the waterfront side, is required as the essential land link for port use, including the planned extension north of the Municipal Railway tracks.

In this connection; the equities of the Belcher interests have been given the most careful consideration. This phase is discussed specifically in the section dealing with facilities, with regard to the fire hazard created by a tank farm in the heart of the city.

New Port Land Created by Fill from Dredging

13) Beginning at the intersection of the present north pier line of the port and the Belcher property adjacent to Pier No. 1, the waterfront pier line all the way north to N.E. 17th Terrace is extended by fill on an average of 125 feet east, so that the north-south pier line, including the marginal piers created by this decision, are at the same point, with the exception of the outmost extent of the Caribbean Pier.

New Location for Dade Drydock Operation

14) At N.E. 17th Terrace and the new pier line intersection with Biscayne Bay, a slip 30 feet deep and approximately 450 feet wide is anticipated. This slip and the land area behind it to N.E. 4th Avenue, plus 400 feet of the marginal pier south and the land area back to North Bayshore Drive, is planned for the use of the Dade Drydock Company. It is anticipated that the half-circle section of N.E. 4th Avenue, with its present landscaping, remain. It is also possible that the acquisition of the land occupied by the Pelican and Bellvue interests may be postponed indefinitely.

Location for Trailer Ship Pier, Trailer Storage and Warehouse (See Plate XII)

15) Beginning at the north side of the slip mentioned in (13) above, just south of N.E. 18th Street and the intersection of the new pier line and Biscayne Bay, a land area is to be created between the new pier line and the circular portion now known as North Bayshore Drive. An additional land area 200 by 200 feet is to be created just south of N.E. 20th Street, as shown on Plate X and XI. This land area provides adequate space to handle extensive, regularly scheduled trailer ship operations. The provisions here created will provide ideal accommodation for the docking and loading of as many as three trailer

ships at one time, with adequate adjoining parking area for at least two warehouse terminals 300 feet long and 80 feet wide, together with driveways and with access to the planned expressways and the proposed turnpike.

As to the Creation of Miami Island:

New R-1 Land for the City of Miami

16) As developed in Part Four, Harbor Utilization, on page 85, the creation of the channel and the auxiliary north turning basin will require the location of approximately 1,400,000 cubic yards of fill which may be used to create an island, possibly to be known as Miami Island, of 4,000 by 600 feet, or approximately the size of Palm Island adjoining MacArthur Causeway. The new island is placed just north of Biscayne and San Marco Islands, as shown on Plate X. As pointed out earlier, this created land would have a very high real estate value, and if zoned R-1, will be in keeping with the adjacent islands as to land use.

As to the Miami River:

Auxiliary Turning Basin and Municipal Dock up the Miami River

17) The future development of the Miami River as a commercial asset warrants land provision for eventual construction of municipally-owned and -operated marginal docks with open storage space, as well as a suitable terminal with some warehouse provision, at some point in the middle reaches of the river. A suitable land area for this sub-port lies between N.W. 19th and 22nd Streets and generally north of the turning basin required for the development of this section of the river trade (see Plate V, TB-2). An adequate portion of this tract should be secured by the City for future port use.

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TODAY'S DECISIONS

PART SIX

TERMINAL FACILITY NEEDS

Twenty Two. What terminal adjustments and facility requirements, apart from those already dealt with, are either essential, or necessary as operational aids, to achieve the rehabilitation of Port Miami for the attraction and handling of passenger and cargo traffic ?

Objectives Sought: To specify necessary modification or scrapping of existing installations, to propose required new structures and equipment, to designate trade-attracting, expediting, or safety facilities, as a means of making the Port of Miami a more self-sufficient and modern public-servicing agency, as well as a more profitable revenue-producing agency, with full recognition that neither time nor money must be wasted, or sacrificed to expediency.

Decision:

1) The port area requires transformation into a civic asset by being made physically distinctive, commercially convenient and generally an integral extension of the business, park, and recreational system of the City of Miami.

2) The Biscayne Boulevard front of the central port area should be used for its most profitable port revenue purpose - modern revenue-producing, cost self-liquidating commercial-use buildings, excepting only space required for entrances and landscaping.

3) All piers, wharves, and docks require rehabilitation or redesign, and one new large modern highly functional general cargo pier, with high revenue potential, is required.

4) Marginal wharves must be provided to accommodate ships and process types of cargo not now coming to the port in appreciable quantity because of lack of handling capability.

5) A completely modern port and terminal facility to accommodate the most recent innovation in land-water transportation - the trailer ship - is required. Today is none too early to make provision for this new and profitable coordinated water and land system for transporting cargo.

6) More unique and atmosphere-producing cruise ship facilities are required to stimulate passenger travel and bring new passenger ship service to Miami.

7) The Municipal Docks must repair some of their transit sheds, allocate more space to truck carriers, arrange more adequate means to handle rail traffic, and find open storage space for lumber, steel, and similar cargo.

8) Transit shed utilization should be made more flexible in its trans-shipment function by the construction of warehouses within the port area to take over the storage function. Until this is done, there is no alternative to the economic necessity of utilizing transit sheds for storage.

9) Space and facilities must be provided for such marine industries, shipping firms, freight forwarders, and other marine service agencies, as are traditionally and necessarily a part of this port's waterfront operation.

10) Bunkering must be supplied to ships calling at Port Miami, but the central city location of the port precludes concentration of petroleum storage within its immediate area, as the port and the bayfront areas of the city are otherwise continually subject to the remote but actual

danger of a water-carried conflagration. Similarly, it is neither feasible nor wise for the port to handle hazardous cargo under any but emergency conditions.

11) Floating equipment of the port should include a steel-hull, properly equipped fire boat and additional public or private tugs for general ship movements in the harbor area.

12) The Municipal Railroad must be made self-sufficient by the purchase of a 25-ton diesel switch engine, the construction of an engine house, and the complete readjustment of trackage within the port area, including provision for car classification on the port side of Biscayne Boulevard.

13) Truck movements into and out of the port, and within the area, must be provided for by increased turning space and better access to terminals.

14) Dock tenant car parking, cruise ship passenger car storage, and general visitor temporary parking must continue to be provided.

15) Heavy cargo-handling equipment, such as a 35-ton mobile crane, and, possibly, a railroad gantry crane, should be purchased and then rented as public facilities.

16) A Free Trade Zone should, within a period of five years, be fully warranted provided the controlling decisions of this report are promptly approved and acted upon, in the interim.

Analysis: The foregoing decision includes in its several parts the questions dealt with subsequently in this part of the report. Some of these are handled on an individual question, objective, decision, analysis basis, in accordance with the pattern established. The balance are either self-evident in the decision or are discussed here.

Integration with the city of the port in its physical and commercial aspects, as well as in its landscaping and recreational character, has been dealt with more or less continuously throughout this survey and is mentioned here only for completeness and to re-emphasize our conviction of its importance.

As to bunkering, and the decision to acquire the waterfront part of the Belcher property, which of course also means the removal of all storage tanks from the area, attention is invited to a statement made by the National Fire Protection Assocation in connection with a recent inquiry. The reply, under date of August 2, stated, "Normally, such storage is prohibited by municipal ordinance in congested business areas of cities, residential areas, and from the vicinity of schools and hospitals." Yet, information received from City Government sources indicates that Miami ordinances dealing with gasoline and oil storage tanks are by no means fully protective. The fact is, however, incidence of recent marine terminal fires indicates that while the greatest hazard lies in the storage of gasoline and other highly flammable liquids, the overall fire record of above-ground petroleum storage suggests that the continuation of a tank farm in the midst of the city is an unnecessary hazard. The adoption of some model ordinance for the storage, handling and use of flammable liquids, such as the one suggested by the National Fire Protection Association, is recommended to the City for consideration.

In view of the port development envisioned, the five-year agreement between the City of Miami and the Belcher Oil Company, which expires on the 18th day of October, should under no circumstances be renewed, since, in addition, it is believed that the revenue provisions thereof are totally inadequate under present-day conditions.

As to floating equipment, both the port and the City would be given some valuable additional protection if a steel-hull fireboat were procured. While the present Police Boat is a necessary means of harbor patrol and has some fire-fighting equipment, it would be helpless to combat a water-based fire of any magnitude. It is understood that the Fire Department of the City is well-equipped to deal with land-based fires, including those at the port area. A steel-hull fireboat, fully equipped, may be procured for under $50,000.00.

The need for additional tug boats has not been fully surveyed, as it is somewhat outside of the scope of this report, but evidence available warrants the observation that shipping increase will soon result in too limited tugboat service. This should not happen, and

free enterprise initiative should solve it.

Heavy cargo equipment must be available. It could be procured by either the Department of Port and Marine Operations and Development or a private agency or firm located in the port area. Such equipment is revenue-producing and self-liquidating. The possession of heavy lifting equipment has proved one of the soundest investments for ocean ports, as trade is specifically attracted to ports able to handle heavy cargo. With large container and assembled vehicle and machinery cargo on the increase - the latter particularly in the Caribbean trade - such equipment is even more certain to attract trade. The City should acquire at least one mobile crane (35-ton), at a cost of about $100,000.00.

Free Trade Zones have been part of the pattern of foreign trade since the days of the Hanseatic League, and they make more economic sense than many of the more recently created devices to balance out by artificial controls the free enterprise initiative of producers and traders. Miami - academic opinion to the contrary - has all the basic ingredients in its potential trade future to make a free trade zone a profitable operation and a service to the whole Caribbean area. This is apart from the fact that the establishment of such a zone would have considerable "conversational" value, from a promotional point of view, and would fit into the character pattern being anticipated for the Inter-American Trade and Cultural Center development.

A free trade zone in the United States is accomplished by the creation of a Foreign Trade Zone established under specific Federal provisions as an exchange point for the expedition and encouragement of foreign commerce. Such zones are outside of customs territory, and operations undertaken therein, without payment of duties, excise, or similar taxes, provide for a great variety of processing and other manipulation of foreign and domestic merchandise. Storage is unlimited and duty and other taxes are assessed only upon merchandise actually entering customs territory, and are based upon the quantity and condition at the time of entry.

Private initiative in Miami has already recognized the potentials of a free trade area by obtaining from the Florida State Legislature authority to make federal application for the right to establish, operate, and maintain such an area. The private corporation established under Florida law was created in 1945 under the leadership of Henry O. Shaw, pioneer "realist" and long-time Miami shipping operator.

As the establishment of a Foreign Trade Zone in Miami is not of such immediacy - with some advantage in delaying action for a period of two to five years - as to require location decision at this time, departure from the policy of this survey is made to point up three locations as reasonable alternatives. The zone might well be established on land adjacent to the middle or upper reaches of the Miami River, preferably near the International Airport and the newer industrial area of the County. This position makes the strongest appeal if the action were taken relatively soon. The second and third alternatives are conditioned on the expedition with which the community exercises its option to carry out the expanded port land utilization plan presented in this survey, and to develop the Inter-American Trade and Cultural Center. Adequate space is available, and much advantage would follow from the establishment of such a free trade zone immediately south of the area envisioned for the new waterfront location of the Dade Drydock Company. And, of course, since the "Interama" is envisioned as a "trade show window," the inclusion of a sub-port and a free trade zone adjacent to, but a part of the actual land plan for the Graves Tract, would give that development a commercial reality beyond and above its present concept.

MoW

Twenty Three. To what land use is the Biscayne Boulevard front of the central port area destined, in the transformation of the port, as a means of removing the blight and extending the central business area ?

Objectives Sought: Effective, revenue-producing use of the valuable property adjacent to Biscayne Boulevard of the central port area, without displacing the port or compromising the commercial - business - recreational nature of the locale.

Decision: To design and construct modern revenue-producing cost self-liquidating commercial use buildings along the whole extent of the central port's Biscayne Boulevard area, excepting only space required for redesigned and landscaped entrances.

Reference: Attention is invited to Plate XI showing the land-use plan for the present central and expanded port area, as developed specifically in Part Five, "Land Utilization," and the brief descriptions given of the purposed buildings, in connection with decisions.

Analysis: At the outset it is recognized that there are certain obvious steps of considerable complexity from a coordination point of view which must be taken almost simultaneously, but in an orderly way, for the accomplishment of this transformation. These include:

1) Acquisition of the F.E.C. property south of the Municipal Dock area, as an immediate "must," at a fair market price which can be hardly placed at more than $1,074,800, based on land appraisal information obtained locally, on the basis of non-speculative present value.

2) Cancellation of leases of Biscayne Boulevard tenants of property to be utilized.

3) Authorizing and accomplishing the collateral architectural and engineering design and construction plans for each of the several buildings and other structures proposed.

4) Taking such realstic immediate engineering action as is required to modify, alter, and relocate any of the underground intercepter construction connected with the new

sewage pump station under construction as may be required to disengage this valuable section of Biscayne Boulevard from its present blight status occasioned by the unwise and expedient placing of the pump station in the middle of the central port area. This adjustment is required in order to make it feasible to build over and around the sewage installation now under dilatory construction, with consequent continuing loss of revenue to the port of approximately $75,000 a year, by reason of ground space occupied by the construction. (See Plate XIV for location detail.)

5) Accomplishment of demolition of existing structures, except the new pump station, and arrangement for construction of the new buildings and installations.

Although it is not within the scope of the present survey to describe, except in the most general way, what is envisioned in this construction program - and this has already been done in Part Five - the following further general description is supplied as a basis for better understanding of the buildings suggested.

Transportation Building (Plate XI, place designation 2). This building should have highly valuable and important utility use for the entire transportation industry. It will provide a gathering together in one well-located building of a large number of now scattered offices and ticket agencies which confuse resident and tourist alike, and which consume unnecessarily large amounts of time in movement between and among transportation people themselves. Space in this building ought to be at a premium, and it is not believed that there would be much difficulty in getting letters of intent with commitments for lease of space therein, provided transportation and marine leaders in Miami mean what they say about seeking a better port.

This building would have the unique modern feature of a roof heliport which would permit rapid interchange of travelers to and from the International Airport, and from other communities within a 300-mile radius, to reach dowtown Miami with a minimum of frustration and without adding to traffic congestion.

On the ground floor there should be provided space for a car rental concession, and all or part of the area now used as a City meter parking facility just south of the proposed building should be available for the use of such a car rental agency. It is understood that the car rental concession at the International Airport is granted on the basis of 10 percent of gross income. On the same basis, such a concession here would provide considerable revenue.

Other concessions which would have revenue-producing value in addition to normal rental include a restaurant, which is badly needed in the port area.

Marine Use Building, or City Trade Mart (Plate XI, place designation 3). Should the City see fit not to develop the proposed "Civic Center" Trade Mart at this alternative site, on the space suggested here, the building can be readily rented to marine interests for offices or stores. One essential ground-floor tenant should be an export-import branch facility of a leading bank which wishes to capitalize on the certain expansion of Caribbean trade.

Car Parking Garage (Plate XI, place designation 5). The construction of a mechanical garage of four or possibly five-story height in frontof and partially over the new sewage pump station under construction may be designed and justified in general concept along the lines indicated by the typical mechanical garages recommended to alleviate the parking problem in the central business district by the recent engineering report on parking requirements made by the Radar Engineering Company. Its financing can be accomplished by the issue of revenue bonds, as suggested in that report, and operated either by the port or on a concession basis by private enterprise.

The Maritime Building (Plate XI, place designation 7). This building, like the Transportation Building, is believed to have high lease and rental space potentiality. The character of this building could be slightly different than that of the Transportation Building, in that it might provide particularly for maritime and collateral port service agencies, such as stevedoring firms, freight forwarders, and others who are either unsatisfactorily now housed in and around the port in transit shed or terminal buildings, or in other scattered areas not wholly conducive to operational convenience or efficiency.

MoW

Twenty Four. What are the public and private pier, wharf, and dock facilities available for passenger and cargo handling and auxiliary marine use in Miami ?

Objectives Sought: To present the nature and type of major and minor public or private pier, wharf, or dock facility located in Biscayne Bay and on the Miami River, including ownership and present use, to indicate something of both the extent and the limitations of these facilities.

Reference: Plate XIII identifies by circled numbers the following list of facilities. Attention is also invited to symbols on the map which show the location of government installations and of special marine service facilities, such as drydocks and marine repair plants, bunkering stations, warehouses, rail freight stations, and bulk cargo-handling sites.

Survey Findings:

1 Belcher Oil Company Fisher Island Terminal, on north side, about 1,000 feet from Government Cut. Owned by the Belcher Oil Company. Designed for receipt and shipment of petroleum products and for bunkering vessels, but not now in full use.

2 Fisher Island Quarantine Station Slip, on north side, 300 feet south of Government Cut. Owned by U.S. Government; operated by U.S. Public Health Service for landing and mooring small government vessels.

3 Corps of Engineers Boat Slip, on Meloy Channel at foot of Washington Avenue, Miami Beach. Owned by U.S. Government, Corps of Engineers, U.S. Army. Operated by the Corps and by the U.S. Immigration Border Patrol Service, by the U.S. Public Health Service, and by the Miami Beach Harbor Police, for mooring small government vessels.

4 Miami Bar Pilots Dock, 100 feet north of "3" above. Owned by U.S. Government; leased by Miami Bar Pilots Association. Used by the latter and by the U.S. Public Health Service for mooring pilot boats, and for landing for U.S. Government ferry to Fisher Island Quarantine Station.

5 Harley Street Wharf, at foot of Harley Street, Miami Beach. Owned by the City of Miami Beach and the Wood Shipbuilding Corporation. Used by the latter for mooring small vessels used in ferrying supplies and personnel to Fisher Island.

6 City of Miami Beach Recreation Center Wharf, north of the foot of Biscayne Street. Owned and operated by the City of Miami Beach for the mooring of miscellaneous vessels.

7 Muller Warehouse Dock, between foot of 2nd and 3rd Streets, Miami Beach. Owned and operated by Wm. H. Muller & Co., Inc. for the mooring of vessels.

8 City of Miami Beach Third Street Bulkhead, south of foot of 3rd Street, Miami Beach. Owned and used by the city for mooring vessels.

9 Miami Beach Railway Company Bulkhead, at the foot of 3rd Street, Miami Beach. Owned by the Miami Beach Railway Company and used by various operators for the mooring of vessels.

10 Alton Boat Company Wharf, on Meloy Channel at foot of 4th Street. Owned by the City of Miami Beach and used by the Alton Boat Company for mooring small craft for storage and repair.

11 U. S. Coast Guard Dock, on Main Ship Channel at MacArthur Causeway, about 1,300 feet from Miami Beach shore. Owned by the U.S. Government and used by the U. S. Coast Guard for mooring their vessels.

12 Albury Causeway Terminal Yacht Basin, on east side of Causeway Island near MacArthur Causeway. Owned and operated by Albury & Company for mooring small vessels for storage and repair.

13 Albury & Company Terminal, on Causeway Island, about 2,000 feet from Miami Beach via MacArthur Causeway. Owned and operated by Causeway Terminal (Albury & Company) for receipt and shipment of general cargo in foreign and domestic trade.

14 Texaco Miami Sales Terminal, on Causeway Island, about 2,500 feet from Miami Beach via MacArthur Causeway. Owned and operated by The Texas Company for receipt and shipment of bulk and packaged petroleum products in foreign and domestic trade.

15 Florida Power & Light Company Power Plant Wharf, on Causeway Island, about 2,800 feet from Miami Beach via the causeway. Owned and operated by the named company for the receipt of fuel oil for plant consumption, and for the mooring of government vessels.

16 City of Miami Mooring Wharf, on west side of Watson Island about 2,100 feet from Miami via MacArthur Causeway. Owned by the City of Miami and used by the Department of Port Operation and Development for mooring miscellaneous government and commercial vessels.

17 Belcher Oil Company Wharf, between MacArthur Causeway and approximately N.E. 12th Street. Owned and operated by named company for the receipt and shipment of petroleum products in foreign and domestic trade, and for bunkering vessels.

Municipal Docks. Numbers 18 through 22 are the central port facilities owned by the City of Miami and operated by the Department of Port Operation and Development, which are shown in detail on Plate XIV.

18 Municipal Pier No. 1, at foot of N.E. 12th Street.
Used for receipt and shipment of general cargo in foreign and domestic trade, and for bunkering vessels (by the Belcher Oil Company).

19 Municipal Slip No. 1 Bulkhead, at inner end of Slip No. 1, at foot of N.E. 11th Street.
Used for the receipt of bananas in foreign trade, for handling miscellaneous cargo, and for mooring small vessels.

20 Municipal Pier No. 2, between foot of N.E. 10th and 11th Streets.
Used for receipt and shipment of general cargo in foreign and domestic trade, and for passenger vessel berthing.

21 Municipal Slip No. 2 Bulkhead, at inner end of Slip No. 2.
Used for handling miscellaneous cargo and mooring tugs.

22 Municipal Pier No. 3, between N.E. 9th and 10th Streets.
Used for receipt of general cargo in foreign and domestic trade, and for passenger vessel berthing.

23 Dade Drydock Corporation Pier, between foot of N.E. 8th and 9th Streets. Slip and land area leased from the F.E.C. Railway and by arrangement with the City of Miami. Structures and facilities owned and operated by the Dade Drydock Corporation for mooring floating drydocks and vessels undergoing outfitting and repair.

24 Dade Drydock Corporation Wharf, at foot of N.E. 8th Street. Land leased from F.E.C. Railway. Facilities owned and operated by the Dade Drydock Corporation for same operation as above (see 23) and also for handling of heavy machinery for foreign trade.

25 Florida East Coast Railway P. and O. Docks, between foot of N.E. 6th and 8th Streets. Owned and operated by the railway for the receipt and shipment of general cargo in foreign and domestic trade.

26 Florida East Coast Railway Pier, at foot of N.E. 6th and 7th Streets. Owned and operated as above (see 25).

27 Warriner & DesRocher Wharf, on Miami River, right bank, 500 feet west of S.E. 2nd Avenue Bridge. Owned and operated by Warriner & DesRocher, Inc. for mooring vessels undergoing repair.

28 Gulf Oil Corporation Dock, on Miami River, right bank at east side of South Miami Avenue Bridge. Owned and operated by the Gulf Oil Corporation for receipt and shipment of petroleum products, and for bunkering and mooring vessels.

29 Southeastern Terminal & Steamship Company Wharf, Miami River, left bank, at west side of South Miami Avenue Bridge. Owned and operated by the named company for the receipt and shipment of general cargo, the receipt of bananas in foreign trade, and the mooring of vessels.

30 Crosland Fisheries Wharf, Miami River, left bank, at east side of Florida East Coast Railway Bridge. Owned by the F.E.C. Railway and operated by Crosland Fisheries, Inc. for receipt of fish.

31 Florida Power & Light Company Power Plant Dock, Miami River, left bank, at west side of Florida East Coast Railway Bridge. Owned by the power company and used for receipt of fuel oil by barge for plant consumption.

32 Miami Shipbuilding Corporation Wharf, Miami River, right bank, between F.E.C. Railway and S.W. 2nd Avenue Bridges. Owned and operated by the Miami Shipbuilding Corporation for mooring vessels undergoing outfitting and repairs.

33 Miami Police Department Boat Mooring, Miami River, left bank, at east side of S.W. 2nd Avenue Bridge. Owned and operated by the City of Miami for mooring of Police Department boats and other small craft.

34 Arthur Vining Davis Wharf, Miami River, left bank, 700 feet above S.W. 2nd Avenue Bridge. Owned and operated by Arthur Vining Davis for mooring miscellaneous tugs and barges.

35 Daniels Towing & Drydock Wharf and Slip, Miami River, left bank, 900 feet above S.W. 2nd Avenue Bridge. Owned and operated by Daniels Towing & Drydock, Inc. for mooring vessels for repair and mooring own tugs and barges.

36 East Coast Fisheries Wharf, Miami River, left bank, at lower side of S.W. 1st Street Bridge. Owned by East Coast Fisheries, Inc. and City of Miami. Operated by East Coast Fisheries, Inc. for receipt of seafood, handling of nets and fishing gear, and mooring of fishing vessels.

37 East Coast Fisheries Main Wharf, Miami River, left bank, between S.W. 1st Street Bridge and W. Flagler Street Bridge. Owned and operated by East Coast Fisheries, Inc. for receipt of fish.

38 M. F. Comer Bridge & Foundation Company Wharf, Miami River, left bank, between foot of N.W. 11th Avenue and N.W. 10th Court. Owned and operated by the named company for mooring contractors floating equipment.

39 Howard Backus Tug & Barge Dock, Miami River, right bank, up upper side of N.W. 12th Avenue Bridge. Owned and operated by Howard W. Backus for mooring tugs and other floating equipment for storage and repair.

40 Merrill-Stevens South Yard No. 1, Lower Wharf, Miami River, right bank, 120 feet above N.W. 12th Avenue Bridge. Owned and operated by Merrill-Stevens Drydock & Repair Company for mooring vessels undergoing repairs.

41 Merrill-Stevens South Yard No. 1, Upper Wharf, Miami River, right bank, 250 feet above N.W. 12th Avenue Bridge. Owned and operated as above (see 40).

42 Merrill-Stevens South Yard No. 2, Mooring Wharf, Miami River, right bank, 525 feet above N.W. 12th Avenue Bridge. Owned and operated by named company for mooring vessels.

43 Merrill-Stevens Main Yard, East Pier, Miami River, left bank, at upper side of N.W. 12th Avenue Bridge. Owned and operated as above (see 40 and 41).

44 Merrill-Stevens Main Yard, West Pier, Miami River, left bank, 80 feet above N.W. 12th Avenue Bridge. Owned and operated as above (see 40, 41 and 43).

45 Merrill-Stevens Main Yard, Slip No. 4 Repair Wharf, Miami River, left bank, 150 feet above N.W. 12th Avenue Bridge. Owned and operated as above.

46 Merrill-Stevens Main Yard, Slip No. 3 Repair Wharf, Miami River, left bank, 260 feet above N.W. 12th Avenue Bridge. Owned and operated as above.

47 Merrill-Stevens Main Yard, Mid-Slip Repair Pier, Miami River, left bank, 340 feet above N.W. 12th Avenue Bridge. Owned and operated as above.

48 Merrill-Stevens Main Yard, Slip No. 2 Repair Wharf, Miami River, left bank, 420 feet above N.W. 12th Avenue Bridge. Owned and operated as above.

49 Merrill-Stevens Main Yard, Fitting-out Dock, Miami River, left bank, 550 feet above N.W. 12th Avenue Bridge. Owned and operated as above.

50 Merrill-Stevens Main Yard, Storage Slip No. 1, Miami River, left bank, 750 feet above N.W. 12th Avenue Bridge. Owned and operated as above.

51 Merrill-Stevens 17th Avenue Yard Storage Slips, Miami River, left bank, at upper side of N.W. 17th Avenue Bridge. Owned as above and used for mooring miscellaneous vessels for storage and repair.

52 Nuta's Yacht Basin, Miami River, left bank below foot of N.W. 19th Avenue. Owned by Louis Nuta. Operated by Nuta's Yacht Basin for mooring commercial and recreational vessels for repair and storage, and for mooring contractors' floating equipment.

53 Ebsary Foundation Company Slip, Miami River, left bank, 400 feet below foot of N. W. 22nd Avenue. Owned and operated by named company for mooring contractors' floating equipment for storage and repair.

54 Belcher Oil Company Slips, Miami River, right bank, at upper side of foot of N.W. 22nd Avenue. Owned and operated by the named company for mooring own vessels for storage and repair.

55 Shaw Brothers - Pure Oil - American Oil Dock, Miami River, left bank, between foot of N.W. 21st and 22nd Streets, opposite entrance to Tamiami Canal. Owned by Shaw Brothers Oil Company and operated by all named companies for receipt of petroleum products for storage and local distribution, and for fueling vessels.

56 Shaw Brothers Docks, Miami River, left bank, between foot of N.W. 21st and 22nd Streets. Owned by Shaw Brothers Oil Company and operated by Shaw Brothers Shipping Company for receipt and shipment of general cargo in foreign and domestic trade, and for mooring of vessels.

57 United Metals Corporation Dock, Miami River, Left bank, at upper end of Shaw Brothers concrete dock. Owned and operated by named company for shipment of scrap metals by barge.

58 Hempstead Brothers - Dunn Boat Yard Dock, Miami River, right bank, 1,000 feet above entrance of Tamiami Canal. Owned by estate of Mrs. Dunn and J. O. Webster, and operated by Hempstead Brothers - Dunn Boat Yard, for mooring contractors' floating equipment and vessels for repair.

59 Collier Steel Company Dock, Miami River, left bank, at foot of N.W. 26th Street and N.W. 32nd Avenue. Owned by John W. Goggin and operated by Collier Steel Company, Inc. for receipt and shipment of steel and fabricated steel in foreign and domestic trade, and for mooring vessels for repair.

60 Eagle Docks & Warehouses, Inc., Miami River Wharf, left bank at foot of N.W. 32nd Avenue. Owned and operated by named company for the receipt and shipment of machinery, vehicles, and construction equipment in foreign and domestic trade.

61 Maule Industries Palmer Lake Sand Dock, west side of Palmer Lake, south of Miami Canal, between N.W. 37th and 38th Avenues, and N.W. 25th and 30th Streets. Owned and operated by Maule Industries, Inc. for receipt of sand and crushed rock by barge.

62 Atlas Iron & Metal Corporation Mooring, Miami River, left bank, at foot of N.W. 28th and 29th Streets and N.W. 35th Avenue. Owned and operated by the named company for the receipt and shipment of scrap metals, and for mooring vessels for scrapping.

63 I. E. Schilling Company Sand Dock, Miami River, left bank, between foot of N.W. 35th and 36th Avenues. Owned and operated by the named company for the receipt of sand, shell, and construction materials.

64 Auto-Marine Engineers, Inc. Dock, Miami River, left bank, foot of N.W. 31st Street and N.W. 36th Avenue. Owned and operated by the named company for mooring vessels for engine installation and repair.

65 DesRocher Sand Company Dock, Miami River, left, bank, at foot of N.W. 32nd Street. Owned by DesRocher Sand Co., Inc., and operated by the DesRocher Towing Company, Inc., and Watkins Towing Company, Inc., for receipt of sand, and for mooring dredges, tugs, and barges.

66 L.E.W. Corporation Dock, Miami River, left bank, between Seaboard Air Line Railroad and N.W. 36th Street Bridges. Owned and operated by the named company for receipt and shipment of construction materials and equipment, and for mooring contractors' floating equipment.

67 Belcher Oil Company Airport Oil Dock, Miami River, right bank between Seaboard Air Line Railroad and N.W. 36th Street Bridges. Owned and operated by the named company for the receipt of petroleum products.

MoW

Twenty Five. What pier, wharf, dock and terminal rehabilitation or redesign is required in the present commercial port area ?

Objective Sought: Availability of functionally adequate piers, wharves and docks in the central port area, now known as the Municipal Docks, embracing Piers 1, 2, and 3, and the terminals and transit sheds thereon.

References: Plate XIV for present status, and Plates X and XI for harbor and land utilization modification.

Decision:

1) As has been forcefully and continuingly stated in this survey, and in all preceding surveys, beginning with the engineering report made by Chelsie J. Senerchia, Inc., in 1947, the Municipal Docks should be made sound structurally and be placed, as a very minimum, in full functional condition by rehabilitation and repair. This should be accomplished - to the extent deterioration fails to outdistance planning - in the order of priority established for bulkhead repair by the City Engineer.

2) As the harbor utilization aspect of any rehabilitation, all present slips not fully 30 feet in depth (except for the section of each which will be returned to land use - see Plates X and XI) should be dredged to that depth and pilings adjusted accordingly; and each of these piers physically modified as to pier line (plus 125 feet to compensate for 125-foot fill at the base, as a land use modification - see Plate XI).

3) The apron on the south side of Pier No. 3 should be widened by 30 feet, so as to be able to handle properly truck traffic. (The north side of this pier in currently undergoing major repair.)

4) Though certain terminals, particularly those on Pier 3, may be considered satisfactory in the interest of dollar economy, though not modern or functionally wholly adequate, there should be instituted, on

a phased accomplishment basis, a plan for redesign and remodeling of most terminal and transit sheds in this central port area. Redesign should invariably provide for roof parking facilities on all but two-story terminals.

5) As Warehouse No. 8 on Pier 1 is partially astride the through truck route provided for intra-port use, it should be given priority in redesign and land use modification.

Analysis: Plate XIV was prepared by the City Engineer's Office at our request to show in considerable detail the present status of the Municipal Docks. Though its reproduction size necessitates the use of a reading glass to read certain of the details thereon, the plate provides virtually all that is necessary to understand the physical characteristics of this important central port area.

Part of the Legend in the lower left corner is repeated, for quicker interpretation, immediately below:

A 4300 ft. of steel bulkhead. Needs capping in concrete to elev. -3.00 ft. and apron repairs. Est. cost $1,000,000.

B 950 ft. of steel bulkhead. Needs replacing to same standards as shown in plans. Est. cost $600,000.

C 500 ft. of steel bulkhead. No. 1 priority section for replacement of bulkhead and aprons to same standards as shown in plan. Est. cost $375,000. Existing bulkhead failing due to tiebacks and short pile lengths.

D 234 ft. of steel bulkhead. Needs alternate pairs of piles driven to +4.0 and 0.0 and new concrete cap and apron slab on piles. Est. cost $70,000.

E Now under construction - 512 ft. of steel bulkhead and concrete cap.

The cost estimates above given for these pier bulkhead repairs are based on the present physical status and do not take into consideration the 125-foot pier line extension nor the 125-foot fill in the base of the slips. However, it is believed that these alterations are compensatory and should not change the cost estimates made.

MoW

Twenty Six. What port and terminal facility arrangements are envisioned at this time in connection with the expanded port area north of N.E. 15th Street ?

Objectives Sought: Optimum utilization of the expanded port area, with particular regard to providing port and terminal facilities for the berthing of ships, the repair and servicing of vessels, and the handling of cargo not otherwise provided for in the port area.

Decision:

1) Marginal wharf space is required to accommodate ships calling at the port with or for heavy cargo, such as lumber, pipe, steel, cement, and other special cargo requiring both open and warehouse storage.

2) Municipal Railroad trackage is required along the new marginal wharf for direct loading and unloading, together with certain other trackage back of the wharf area, including spur tracks, as far north as 17th Street (see Plate XI).

3) Construction of at least two large modern warehouses for both temporary and long-term storage is required, in order to free present general cargo terminals and transit sheds for their trade flow in-and-out role. Part of one of these warehouses might well be established as a bonded warehouse facility.

4) Determination as to the feasibility of constructing a third warehouse as a cold storage facility for the use of local firms and others not requiring cold storage directly adjacent to the pier location should be made by soliciting advance commitments for the use of such space when and if it were provided.

5) Generous space provision must be made for open storage, as it has been this limitation which has cost the port large revenues,

causing many ships each month to bypass Miami for Port Everglades. There must be sufficient area, served by rail as well as truck, to accumulate large shipments of machinery, fabricated steel, lumber, and similar cargo for the developing Caribbean trade.

6) The essentiality of providing ship repair facilities to ships making Miami a regular port of call must be recognized and provided for fully. This is doubly indicated in this port, in view of the Dade Drydock Company's importance to the port by reason of its aggressive and highly successful waterfront enterprises.

7) A modern facility must be established which is designed and arranged specifically for the handling of trailer ships, including provision for a parking yard area adequate for large numbers of trailers, together with a warehouse terminal, and a built-in ramp 250 feet long reaching to upper deck level, for the rolling on and off of trailers loaded on the weather and second decks of such vessels.

Reference: Plate XI, and place designations 13, 14, and 15 thereon.

Analysis: The practical nature of the decisions given is believed to be pretty well self-evident to anyone acquainted with the current serious space limitations of the present crowded port area. It may be well to add, however, that our conviction of the need for this additional breathing and working space for the port is exceedingly strong. It is believed to be just as essential, from the point of view of satisfactory port development, as is the generally recognized bulkhead repair need.

The thing to remember is that trade is attracted principally to ports which have the means of handling most types of cargo reasonably and expeditiously. And, of course, ships that cannot find good berthing facilities, along with open storage space and the availability of heavy cargo-handling equipment to supplement ships gear when they require it, will not look with much favor upon Miami as a port of call. This does not mean that there are not many other factors entering into choice of a shipping or receiving port. Of course, there are. Freight rates and service charges,

rail and truck route speed and convenience, as well as other factors, all play their roles, but no shipper routes fabricated steel, for example, through a port where the handling is awkward or the space disproportionately small, if there is any alternative.

The increasing importance of the Caribbean trade and its requirements for heavy machinery, construction equipment, steel fabrications, and other similar cargo, may be pointed up by the fact that one firm in Miami handled, during the past year, approximately 150,000 tons of such cargo for the Caribbean trade alone, across a private and by no means adequate pier facility.

The kinds of facilities here suggested will give new businesses some cause - and some opportunity - to come into this area. We have learned, for example, that Miami might be the distribution point for the entire southeastern area of the United States for Salt whose source is within a few hundred miles of the port. Another customer of one waterfront operator is currently seeking to build, near the port, a warehouse to accumulate parts and equipment for the Caribbean trade. It is expected that this investment and equipment would exceed two million dollars. There are many others who want to do business here. The port needs this business, which it will get only if it has the proper facilities.

Determination of what space and what facilities are needed may not be calculated by the kind of speculation that uses yesterday's tonnage and yesterday's facilities to measure tomorrow's trade, when both of the former conditions are too old to have even the "glint" to attract the trade.

Provision for Dade Drydock (Plate XI, place designation 14). No survey of the port activities in Miami can fail to recognize the valuable contributions which are being made by a whole galaxy of shippers, shipbuilders and traders of the area. Many of these firms, and the individuals who spark their aggressiveness, make noteworthy contributions to the municipal port operation, as well as to their own businesses, by providing, in one way or another, water port facilities which the municipal port lacks, or by providing leadership and port promotion activity of great essentiality to the welfare of the entire business community. No objective observer can fail to recognize that one of these firms is the Dade Drydock Company. This firm has built a prosperous business, with a large payroll and mounting opportunities for expansion in volume of work handled and cargo processed. It has done so at a location wholly inappropriate on any number of grounds, because there was no other place to go, and the need for the services performed was

great enough to warrant expensive rearrangements.

Consequently, a great injustice would be done if a port development plan failed to recognize the waterfront equity which this installation has acquired. As a result specific provision is made for this firm's present facility needs, with some opportunity for clearly indicated expansion. It is contemplated that the entire slip indicated on Plate XI, space designation 14, be allocated to their use, together with the land area between N.E. 17th Terrace and N.E. 18th Street east from the alley (see Plate IV) to what is now North Bayshore Drive, as well as a 400- to 500-foot marginal pier allowance south of the slip, with the land area at that point extending from the pier line back to the port limits. It is anticipated that arrangements can be made under a long-term lease plan to render the cost of this property to the City a self-liquidating project, with incentive to Dade Drydock to provide its own required improvements by granting certain long-term preferential rights and allowances.

Provision for Trailer Ship Facility. No recent development in transportation holds as great promise to shippers, traders, and consumers alike, as the trailer ship kind of operation. Miami has a rare opportunity to capitalize on this development as few ports will be able to do, if the decisions of this survey are carried out as proposed. The most northerly section of the expanded port area has been set aside for this facility, as shown on Plate XI, space designation 15.

A typical layout for such a terminal is shown on Plate XII. The only important difference between the typical layout shown and the proposed facility for Miami is that provision has been made here to handle as many as three trailer ships at one time. Miami is fortunate in the fact that the shipping company most active on the East Coast in the development of this sea trailer service is the Waterman Steamship Lines, who use Miami as a port of call. Contact made with this company tends to confirm the belief that special lease arrangements can be made for the development of this facility in the expanded port area. The company has made such arrangements in other ports.

The terminal shown by Plate XII affords approximately a 1,000-trailer parking area. The facility anticipated for Miami will be designed for a somewhat less extensive area, though the parking yard provisions, as well as the driveways, are more than ample. No rail provisions are made and none are needed. The location has been particularly chosen for its proximity to the proposed "Legs" of the expressways and turnpike (see Plate VI), and, under the plan envisioned, these trucks would have no cause for entering the

central business section of the City or more than the most northerly part of the port area, except when the destination or origin of a given trailer truck is within the downtown business district, and, in this case, the truck can traverse several blocks of truckway within the port area before entering Biscayne Boulevard.

MoW

Twenty Seven. Since the Municipal Railway is a necessary and integral part of the port development plan, what steps are required to make it self-sufficient ?

Objective Sought: A practical and economical plan for utilizing the Municipal Railway system within the port area in such manner as to contribute to efficient car loading, handling, switching and dispatch, in the interest of reducing turn-around time and eliminating daytime crossing of Biscayne Boulevard.

Decision: The following adjustments and innovations are proposed:

1) Total elimination of the switching operation on and across Biscayne Boulevard.

2) Arrangement for train crossing of Biscayne Boulevard at reasonable intervals, from 9 p.m. to 6 a.m., and at no other time .

3) Purchase of a 25-ton diesel switch engine, at a cost of approximately $22,000; and construction of an engine house in the port area.

4) Provision for a classification area for 24 cars near the south end of the enlarged port, and a secondary classification yard and spur tracks for 9 to 12 cars, near the northern end of the enlarged port, but south of Bayshore Slip (see Plate XI, space designation 14).

5) Complete readjustment of the trackage within the port area, to accomplish the intent of the suggested arrangement of trackage shown on Plate XI.

Analysis: As established earlier in this report, rail facilities are essential to the operational effectiveness of any deep-water port. This being true, it is also essential that the rail operation contributes to the port without causing serious traffic congestion or undue interference with intraport traffic movement.

The decision as to 1 and 2 above can lead to accomplishment, provided the related points of this decision and the principal elements of this port development plan are put into effect.

A fully appropriate 25-ton diesel electric locomotive can be obtained for car movement within the port. The type recommended

is 150-HP, capable of hauling 330 tons on a 5 percent grade at 5 to 10 m.p.h., and is fully capable of handling the entire switching job within the port. It requires no more than a three-man crew, and it is believed that the present Municipal Railway Foreman could be trained to serve as both Foreman and Engineer. The classification yard at the south end of the enlarged port area would occupy a space 50 feet by 400 feet on a depressed section inside the new Caribbean Pier. The height of the entrance to the pier at this point would be 27 feet. The secondary classification yard is as shown at the north end of the enlarged port area, on Plate XI.

Complete readjustment of trackage within the port area may be accomplished with the consultation and guidance of a senior railroad terminal superintendent, by the present Municipal Railway Foreman, with a somewhat enlarged crew, at approximately $34,000, assuming that most of the present track can be salvaged, and that the trackage provisions within the Caribbean Pier are considered a cost of that installation.

McW

Twenty Eight. Since a modern highly functional general cargo pier is an essential part of the facility expansion program for the Port of Miami, what particular characteristics should it have in order to fulfill its designated role as the Caribbean Pier ?

Objectives Sought:

1) Availability of a completely modern pier and terminal facility to handle both the largest cargo ships coming into the port, and also a large number of smaller ships of the Caribbean trade, including a more effective and efficient handling of the banana boats, a cargo partially lost to other ports by reason of present facility limitations.

2) The creation of a facility which, in addition to its characteristics as a great modern general cargo pier, is capable of being a revenue-producing civic attraction center for tourists and Miami residents alike.

3) Construction of a facility which will have so many revenue-producing characteristics as to be capable of being financed by revenue bonds.

Decision: This new modern highly functional general cargo pier and civic attraction installation should be titled the Caribbean Pier. It should be located as indicated in Part Five, "Land Utilization," and as shown in both Plates X and XI, in the latter with place designation of 8.

It should have, in addition to other characteristics common to modern piers, the following specific features:

1) From its land base, the pier would extend into Biscayne Bay from the site referred to as the F.E.C. property, beginning at what is now the pier line of the F.E.C. docks. On its north side it would extend to include most of a small spoil island, a distance of 1,600 feet; on its south side it would extend 900 feet parallel to the north side, and thence veer north to form the shape of a trapezoid, 600 feet wide at the base between parallel sides.

2) Except for 50-foot aprons around the entire pier, the pier

would be covered by a single two-story terminal building with a high-ceiling ground floor for necessary terminal operations.

3) The ground floor would be one large relatively unobstructed terminal area for primary use as a transit shed and cargo-handling area. It would have a height of 29 feet and would provide numerous large openings for truck passage. Trucks would be provided with planned freedom of movement within the terminal building and on the aprons. Three railroad tracks would enter the terminal from the land end of the building for a distance of 400 feet on depressed tracks, or, if that does not prove feasible, a ramp loading platform might be substituted. These parallel tracks would occupy a space 50 feet in width by 400 feet in length, and would serve both for loading and as a marshalling yard for classification.

4) There would be, at the northwest (land) corner of the building a toll passenger car elevator which would take cars seeking to park on the open end of the second floor of the building. This parking area would be the width of the building, or approximately 550 feet, to a point 500 feet east. At this point, the building would become a full roofed two-story structure for the rest of its length. This closed portion of the second story would be utilized as a "Top o' the Columbus" type restaurant having as its special promotive feature a Latin American atmosphere, as well as a view of the entire Bay area, second to no other in south Florida. In addition to a general dining room, it is envisioned that there be a moderate-sized Caribbean Banquet Room which could be reserved by marine interests and other civic groups for scheduled or special luncheon or dinner meetings.

As this entire area, with the exception of the point, which is envisioned as an outdoor cocktail garden, would be air-conditioned and glass-windowed on three sides, it should be a very profitable concession, both to the port and to the commercial operators. It could be entered on foot by a second-story ramp from the Transportation Building on Biscayne Boulevard.

5) The water terminal ground floor pier would accommodate the largest ships, on the north side. On the south and east sides, from the point and extending around to the south land

base of the terminal, the channel would be 20 feet deep and 200 feet wide, as provided for in the harbor utilization plan. It is on these sides that the colorful Caribbean thousand-ton trader ships and banana boats would discharge and load. Viewed from the dining area above, the entire waterfront operation would take on a special glamor to tourist and resident diners alike. The visitor might well talk of his evening on the roof of the Caribbean Pier at Port Miami long after he had forgotten everything else about his stay.

6) Preliminary estimates indicate that this pier would not cost over 8 1/2 million dollars, and, quite certainly one to three million less if certain harbor adjustment and land use costs were partially charged against other facility improvements.

MoW

Twenty Nine. In addition to facilities now available to passenger ships, what special pier and terminal provisions are required to increase the attractiveness of Miami as a scheduled cruise port ?

Objective Sought: To determine the most appropriate place for the berthing of additional passenger ships.

Decision: Assuming the general landscaping and beautification of Watson Island, in accordance with the concept previously developed for its use as a marine recreational center, the west side of the island is ideally suited for the development of a unique, rambler-type building passenger terminal, adjacent to marginal wharves, and with space provision for Heliport No. 2 immediately inland from the terminal.

Analysis: Passenger traffic at Miami ought to be placed on a more unique, distinctive, travel-atmosphere basis than is the case at the present time. There is no reason why the glamor should all be in Nassau, Havana, or Trinidad.

Marginal wharves placed on this side of Watson Island would require little more than bulkheading and paving, and, with the enlargement of the turning basin to include the whole western reach of the island, there would be no additional dredging problem. Consequently, there is no better place to locate a new passenger terminal. Debarkation on Watson Island would speed passengers' travel to their local destinations - whether in Miami or Miami Beach. In connection with the terminal operation there should be a car rental concession, and such other conveniences of a public nature as a restaurant, gift and souvenir shops, and a drug store. None of these establishments, properly designed, would be out of line with the public recreational use of Watson Island.

The passenger terminal structures created should be architecturally unique, but simple and informal in style. The present appeal of the modern cruise ship is not, today, only to the "monied classes," but rather to all and sundry, including those on a "busman's holiday." Thus, the terminal may be designed in maximum good taste and convenience without being ostentatious in the Fontainebleau style.

No cost estimates have been made as to these buildings, but it is believed that they would be relatively inexpensive, and preferential

berthing arrangements with cruise ship operators could and would, with promotion activity, bring new scheduled passenger liners to Miami. Berthing at these facilities should be limited to ships carrying passengers exclusively, as cargo handling facilities would be lacking, and inappropriate.

MoW

PART SEVEN

PORT FINANCE FACTORS

Thirty. How are United States ports generally financed, both as to capital investment and operational and maintenance needs ?

Objectives Sought: To review for background understanding, the methods of financing available to ports; the methods utilized by other United States ports to meet their financing problems; and, in addition, to make certain pertinent observations directly bearing on the problem in Miami.

Survey Findings: As ports are both public service utilities and business enterprises, the problem generally centers around commercial facilities, general harbor improvements which serve both public and private enterprise objectives, and both profitable and unprofitable port services required by the trade area concerned.

Although a large private enterprise or quasi-public service agency may dredge a channel, build a wharf, or provide a terminal facility for its own purposes as a part of its own capital investment or operating expansion expense - as was so frequently done in the early days of railroad expansion - such enterprises and agencies have neither the total complex resources nor the profit incentive to accomplish comprehensive development for even a geographically restricted community, under present conditions. And, of course, the economic wellbeing of a total commercial region is also obviously beyond their proper cognizance. An ocean port is everyone's concern but final responsibility for what is, after all, a civic, a county, a state, a national, and even an international facility, must rest with a public sponsor - city, county or state.

Such a sponsoring agency must face the fact that comprehensive port development requires, under even optimum conditions of land availability, the actual acquisition of considerable acreage, the construction of bulkheads, the grading and filling of low areas, the dredging of harbors and navigable waterways, and the provision for rail and highway access. This must all be accomplished with full recognition that there is always a risk incident to the creation of such facilities in direct proportion to the state of economic stability and general positioning of the community and trade area served, by reason of the fluctuations which will occur in the flow of trade, if the economic position of the supporting community itself falters. It is, of course,

also true that trade fluctuations may be so considerable as to show deep valleys and high peaks, when federal trade policy, world or national economic market conditions, or shipping restrictions develop. This is but to say that only Lloyds of London or the Bank of Monte Carlo may be relied upon to insure against the Acts of God or the unwise machinations of world politics or national isolationism.

Port Fund Sources. The sources of funds of port programs may be stated in general terms as: taxes levied by the parent or sponsoring political unit or units and/or port authorities, when they are created with taxation powers; bonds issued against and secured by the taxable wealth of a municipality, county or state sovereignty; bonds and other types of indebtedness issued against and secured by specific revenues of one or more income-producing facilities; income from the position of the port as a landlord, or from collateral non-port operating sources such as bridges, tunnels, industries, concessions, etc.; appropriations from a political unit or gifts from a sponsor; and port revenues created by services for which charges or fees are levied.

Capital Investment Requirements. Any port development program required land acquisition and facility construction and/or rehabilitation which varies at any given time in relation to the nature of the financial heritage of the port. That is, a port which has been financed over the years on a sound basis, with the gradual acquisition of financial reserves for development and expansion as the economic area it serves also grows and expands, will have no extraordinary or sudden capital investment to provide, as it will have acquired such funds through the years. The same is true in connection with port facility replacements and general maintenance. This finding, of course is based upon the assumption that the city or larger community and economic area and the port started their growth and development at about the same time, as is true of most American port cities, including Miami. Where ports have been recently created, such as at Houston or Long Beach, large initial investment has been necessary.

In consequence, the only time that extraordinary capital investment is required in connection with the development and expansion of an old port - except when disaster of hurricane or war proportions occurs to destroy the port area and the facilities thereof - is when there have been long periods of extraordinary trade reversals, or equally long periods of unwise neglect to provide for financial reserves, or long periods of siphoning off port revenues for other purposes - in other words, when robbing Peter to pay Paul has been the rule rather than the exception. This, of course, is the exact position in which Miami finds herself today. To the extent that

this has occurred in other cities or other ports, means have been found to make such capital investments, which have, not infrequently, run into many millions of dollars. For example, one port commission reported in 1954 capital investment in port facilities of more than $30 million.

Financial Operating Needs. Except when a port administration functions primarily as a leasing agency, without responsibility for maintaining its own facilities, ports, like any other public service utility or business enterprise, have heavy operating expenses if they make a business of going after trade and doing the job that is their natural role in the economic development of the trade areas they serve. Ports of any size thus require substantial staffs to handle maintenance, operations, traffic and promotion, to say nothing of accounting, statistics, planning, and general administration. Such ports as New Orleans and Seattle have had more than 275 employees since 1950. Other ports, such as San Francisco, have over 300, Mobile nearly 400, and Los Angeles approximately 435, according to a national survey conducted five years ago.

Although Miami is not in this port class, her lack of personnel, even relatively, constitutes a drag against efficient day-to-day operation, and a major obstacle in the path of preparation and promotion for increased trade.

The average of some 25 ports reviewed recently shows that direct operating expenses make up the principal part of all operating expenses, which means that most ports have large direct labor outlays as a normal expectancy. This serves to point up even more that the extraordinarily small number of persons employed by the Port of Miami and available to the Port Director make the Miami operation one of sheer determination and "main strength and awkwardness." Horatio at the bridge is a noble legend, but a hard way to operate a port.

Port Revenues. A review of the same group of 25 ports of varying sizes shows that revenues at these ports come from the following charges and fees in the following percentage relationship:

Dockage and wharfage	28 percent
Other terminal services	36 percent
Leases and rentals	25 percent
All other	11 percent

Miami's revenues follow a somewhat different pattern and over a three-year period average as follows:

Dockage and wharfage	55 percent

Other terminal services	22 percent
Leases and rentals	12 percent
All other	11 percent

In a sentence, this means that the Port of Miami has to handle relatively much more cargo than the average of these other ports to obtain the same income. The lack of terminal facilities and the crowded condition of the port are reflected by the relatively low percentage of total income from leases and rentals (for non-port operating space), and the low percentage from terminal charges for services other than dockage and wharfage. Proposals for correcting in part this imbalance, by upward revision of selected fees and charges, have been made in Part Three of this survey.

Public Aid to Ports. Almost all ports receive some form of public aid. This aid may take the form of appropriations, general obligation bonds, tax levies, income from specific taxes, actual or potential tax means as security for port bonds, and/or the pledged general credit of a political unit as security for bonds. For example, for many years, one port was subsidized by its City Council, with a direct appropriation of $150,000 per year. Of course, general obligation bonds are used frequently. The Port of Mobile was originally launched in this fashion.

Tax assessments have also been widely used by municipalities in behalf of their ports, in such places as Camden, New Jersey, Gulfport, Oakland, California, and Port Everglades. In many places, the budget of a port authority, when approved by a municipal or county commission, is accepted as an order for levies on behalf of the port. In some cases, like Camden, the port district covers several counties and in this case the port district is so set up as to be able to tax and support a bond issue with the burden being distributed among the several counties by reason of a contract between each political unit and the port authority. At Port Everglades, a 5 mil tax is put in a special fund exclusively for port administration, and there are other levies to cover capital investment, principal, interest, and sinking fund cost of obligations outstanding. In fact, it is common for port authorities to have direct and indirect taxing power. And of course it is normal that public aid will be given to ports when required.

Self-supporting Aspects. The differences of opinion with regard to whether or not a port should be able to maintain itself independently varies so widely that it is not possible to establish a majority concept among those qualified to judge. There is a considerable number who make a strong case for the principle that a port should be a self-contained public corporation engaged in a revenue recovery business.

When viewed in this light, the port operation may be considered as one would a power and light company. A good many ports are largely or completely self-supporting. Most of those in this category, however, operate other transportation installations along with a deepwater port.

The concensus of one group of port experts - with which we concur - is that a port properly launched may be expected to be self-supporting to the extent required to cover operating expenses, some promotional expenses, pay off revenue bonds, pay debt service and the like, but may not be expected over a long period of time to maintain itself in its entirety as to major 20-year-type recurring maintenance needs, or to provide the sums required for large capital investment for expansion, unless fortuitous or wise financial planning and saving programs are initiated when a port is launched, or extraordinarily good luck steps in to bring to the port unexpected cargo in qualtity, or the port has a special non-port operating revenue source.

There is, of course, also the point of view, held by a number of competent people, that the public advantage of well-developed port activity is so great that it would be more sound economically from a social point of view to consider the port, as well as all other public transportation facilities, as social costs. Of course, this is not the general position with which we have associated ourselves. On the other hand, it is a position widely held and readily defended.

In any case, one is justified in taking the compromise position that as a port is a part of the economic machinery of a community's general welfare position, and therefore a "necessity" in the legal sense, it should receive some subsidy if required.

Credit Position. The credit position of a port is its ability to pay, and the principal factors involved include such considerations as the character of the port's operation, the financial management of port funds from whatever source, the general economic factors and trends existing or thought to be existing in the economic trade area which is served, any limitation on debt or tax rates, any trend in the tax rate or tax collection of the sponsoring unit, the direct port income from various port charges and fees, the debt retirement policy of the sponsoring body, and the ratio of the net debt to the assessed value.

Rentals. Apart from port charges and fees, rentals, concessions, and leases provide an important source of direct income. A very large number of ports capitalize on this landlord type of income. However, many ports have been effectually blocked in their development because of altogether too generous long-term leases. Be that as it may, the leasing of waterfront facilities by a port may

be-short-sighted if the period of the lease extends over too many years. Some states and their political subdivisions have wise restrictions with particular regard to commercial sites and leases, so as to require that they be reviewed and reassessed periodically. This is a protection when inflation affects the price level and dislocates the original relationship between the contracting parties and the buying power of the "consideration". When restrictions exist, the period is usually placed at a maximum of 10, 20, or 30 years. However, some political units, like Portland, Maine, have a 5-year limit, and New Orleans has a 99-year limit in connection with industrial sites. There is no standard yardstick which may be applied in this connection, except that perhaps the practical considerations which govern all negotiations and fund raising. Our own position is that the wellbeing of the port, as well as equity to both parties, is best served when review is made every 10 years. This gives both port and lessee desirable security. A different arrangement should obtain when the lessor is a capital investor in port facilities on .any extensive scale. Incentive to inprovement or initial industrial development requires a practical minimum of 20 years.

Bond Financing. Among the more practical methods of port finance is the issuance of bonds. General obligation bonds pledge the "full faith and credit" of the political unit ;issuing them. The unit's power to levy taxes is the primary basis of their security. Such bonds may be limited or unlimited as ;to the rate of interest, but the amount of bonds outstanding is limited in any case by the tax debt and tax limit of the political unit issuing them. By and large, the general obligation bond is the most useful method of providing general municipal financing, and where the port is, in effect, a ward of the municipality, as is the case in Miami, this is a reasonable method of financing a public utility enterprise so important to the City. However, the Port of Miami, though a ward of the City, is equally a responsibility of the County, which, in political theory and to some extent in practice, is the local arm of the State. Consequently, as the port serves not only the City, but also equally the 24 incorporated satellite communities and the un--incorporated areas of Dade County as well, there ought to be some sharing of financial responsibility.

Revenue bonds usually name a specific facility or combination of facilities whose income is pledged as security. Not infrequently, the security of a bond issue is restricted to the facility which is to be constructed. Twenty-year lease arrangements with option of renewal are often a requirement for the issuance of such bonds when new construction is involved, with a further requirement that rental amortise 50 to 60 percent of the cost in 20 years. In general,

revenue bonds tend to make for a conservative improvement policy, as improvements under such conditions must be generally self-supporting, but their usefulness in financing a port is strictly limited as a practical matter, under a good many circumstances. Where practicable, this method of financing facilities has advantages in a case like Miami's, where several political units actually benefit from the port. The marketability of such bonds is increased by the fact that the port facilities to be constructed, and the income therefrom, are both tax-free. Another type of bond frequently used is the income bond which is secured by the income of the port as a whole.

It is not uncommon for a port to utilize several types of financing simultaneously. In fact, any single method of financing a port requiring major overhaul and/or expansion, such as Miami, would be inadequate.

MoW

TODAY'S FINANCIAL DECISIONS

PART EIGHT

FINANCING THE PORT OF MIAMI

Thirty One. How can the new rehabilitated, redesigned, and expanded Port of Miami be financed ?

Objectives Sought:

1) To carry out the general and specific decisions of this port development survey in such manner as to spread the economic burden of launching a rehabilitated, redesigned, and expanded port as equitably as possible, without putting the entire burden on the City of Miami, or complicating or delaying the general financing by spreading the cost too broadly.

2) To provide a large enough general land acquisition and port facility improvement fund to permit practical adaptability to the financing required.

3) To provide, by the issue of self-liquidating revenue bonds, such numbers of specific facility use funds as are feasible for the financing of revenue-producing facilities which can properly be recognized as solely self-supporting.

4) To take maximum advantage of the revenue-producing character of the port, by making realistic, though thoroughly competitive, the fees and charges assessed against traffic and/or appropriately charged for other port operation or non-operational space or services.

5) To suggest the means for expeditious accomplishment of the foregoing objectives and for management engineering coordination for achievement.

Decision: It is proposed that the following action be taken -

A. As to Finance Methods to be Employed:

1) Authorize the transfer of $57,881 from the existing Port Surplus - the Port's own funds - to the proposed new Department of Port and Marine Operations and Development; authorize the City Manager to establish such a new Department with that name,

and the combined budget of the two Departments effected as indicated in this report. (See Finance Chart I.)

2) Authorize the increase in port fees and charges, as proposed, to increase operating revenues an average of $137,425 per year. (See Finance Chart II.)

3) Approve in principle and take the first steps toward issuing General Obligation Bonds to create the required substantial basic port improvement fund, and take the steps necessary to determine the means by which Dade County could legally participate in similar action, possibly by contractual arrangement.

4) Approve in principle the issuance of such self-liquidating Revenue Bonds for the construction of the several revenue-producing buildings and other facilities proposed by this report.

5) Approve in principle and take the first steps toward making application to the Federal Government for authorization and funds to amend the present Federal Project to provide certain specific harbor, river, and intracoastal waterway improvements capable of being practically financed in this manner without undue delay.

6) Approve in principle and take the steps necessary to utilize any funds currently earmarked for the accomplishment of such presently approved projects as are also required to accomplish, in whole or in part, proposals in the report.

7) Approve in principle and plan to utilize the proceeds from the sale of land created by the port development dredging and land use changes to pay in whole or in part for certain harbor utilization adjustments not practical to include in the Federal Project.

B. As to Finance and Related Procedures to be Followed:

1) Accomplish at once, and unequivocably, regardless of pressures from any and all sources:

a - such zoning changes as are required in the clear public interest to expedite accomplishment of the harbor and land utilization decisions of this survey;

b - such steps as are necessary to acquire the properties needed to carry out these decisions.

2) Accomplish, with or without State funds, by whatever means are necessary, the rebuilding and the re-directing of MacArthur and Venetian Causeways from their present western-end locations to a new western-end location at, or north of N.E. 20th Street - utilizing either street-level or high-level bridge design.

3) Establish immediately the increase in the fees and charges for port services, as outlined in the decisions given in Part Three of this report.

4) Authorize immediately the changes in departmental organization and budget, as outlined in the decisions given in Part Three of this report.

5) Provide for an election in which at least 50 percent plus 1 of the qualified freeholders participate, and present the essentiality of port development so clearly to the voters as to get their approval for the issue of 30-year general obligation bonds.

6) Authorize by such an election a 1/2 mil levy by the City of Miami and a 1/2 mil levy by the County of Dade, as a minimum measure for creating a general port development fund.

7) Provide for such revenue bond issues as may be required to finance specific revenue-producing facilities, and in such manner as to amortize the cost over sufficient time span to make the financing feasible and attractive to bond purchasers.

8) Establish a Greater Miami Port Development Committee of 18 members, to be selected from leaders in both the City and the County, with reasonable representation from the several separate corporate communities, as a leadership committee of expediters to work actively toward providing for and carrying the joint-general election proposed for the authorization of the general obligation bonds, which foregoing step is second in precedent order only to approving changes in organization and budget, and changes in the revenue fees and charges, as heretofore proposed.

9) Take all steps required for approval of harbor and land adjustments proposed which are subject to Federal concurrence, and make application for amendment of the existing Federal Project for accomplishment of some of the harbor changes by the use of Federal funds.

10) Provide the organizational mechanism and the modus operandi for coordinating the management engineering required for this Miami port development plan, including provision for adequate funds for the consulting firm or individual employed.

Analysis: The reasons for the recommendations stated in the decision above are, in the main, self-explanatory to those who have read the report. A few of the points made, however, warrant some further development.

Obviously, no port development plan which adequately provides for the expansion of the port from its present impossibly limited space may be achieved without some practical re-adjustment of harbor and land areas. The necessity for the changes required is dealt with throughout this report. The methods of accomplishing the necessary harbor changes and land acquisitions will present different problems in connection with each requirement.

Plan Must Be Sold

However, the most important overall consideration in connection with financing the port - now that a planned program for port development has been created - is a well-conceived combined City, County, and Industry leadership program for "selling" the need for port development to the freeholders and to the leadership of all segments of the Greater Miami and Dade County community. Unless this is done on a planned program basis, the proposals made in this report will be sabotaged either by inertia or by planned deflection and disagreement - which has thus far effectively prevented all attempts at solution of, not only the port problem, but many other major problems as well.

Create Port Development Committee

Perhaps the most effective way to prevent such sabotage is the creation by the Commissioners of the City of Miami of a non-political Port Development Committee of leading citizens selected in such manner as to assure dedicated and dynamic participation of all business and industry segments of the City of Miami, Dade County, and the incorporated communities. It is suggested that such a committee be 18 in number, with 9 appointed as business and professional leaders of the City of Miami, and 9 as representative of business and professional leaders of the County and the incorporated communities. It is further suggested that a panel of names from which selection might be made could be created by requesting the significant business, marine, and other trade and professional associations to each nominate 2 names, one for City representation, and one for County representation. Assuming 18 such associations were instructed to nominate 2 each, a panel of 25 to 36 persons would be created, allowing for duplicate nominations, from which a most representative committee could result.

However, regardless of the method used for creating a Miami Port Development Committee, it is essential that such a committee be formed, and that they immediately proceed to familiarize themselves with the details and aspects of the port development program, and develop in concert an action plan for doing the job generally and specifically, to make certain that the general obligation bonds are voted to authorize the 1/2 mil tax levy by the City of Miami and the 1/2 mil levy by Dade County, in order to create a large enough general land acquisition and port facility improvement fund to permit practical adaptability to the financing required.

Issue General Obligation Bonds

Thirty-year general obligation bonds, on the basis of 1/2 mil for each political unit, will produce approximately $12 million. This is based on an estimated tax yield using the factors of $456,870 per mil for the City of Miami levies, and $1,140,657 per mil for Dade County levies. Debt service is based upon $63,500 per year per $1 million of bonds. The latter debt service might well be less than the estimate given, if the bonds are well set up and low interest rates obtained.

Dade County Responsibility

It may, of course, be argued that Dade County has no responsibility for helping to create a port development fund, but we believe that the preponderance of evidence not only justifies but creates an obligation on the County for assisting in this port development program launching. Inquiries made indicate that there is nothing to prevent elections being held simultaneously by both political units for the authorization of such general obligation bonds for harbor and port facility purposes. As the use of the funds would be under the control of the City of Miami, inasmuch as the port is a ward of the City, it would be necessary to provide legal machinery for the cooperative arrangement. Evidence available indicates that this might be accomplished by contractual arrangement between the two political units. Possibly, the same result could be attained by contractual agreement between the City of Miami and the Dade County Port Authority, as the alter ego of the County Government in matters of this kind.

The essential recommendation, however, is that levies be made, by issuance of general obligation bonds, preferably against both benefitting political units, to produce a basic port development fund which must be no less than $10 million, and need be no more than $15 million, assuming the causeway adjustment is handled separately.

Revenue Bonds Also Needed

Funds raised from the general obligation bonds, when combined with funds raised by revenue bonds issued by the action of the City Commission, without an election, and supported solely and entirely by the revenues of the project against which they are issued, will produce a total fund of workable size. Both types of bonds may be

used in combination. When this is done, great flexibility is possible. If this is done, it should be remembered that for combination use of both general obligation and revenue bonds, the general obligation bonds should be so issued that they would have no claim to or reliance on the revenues of the port, so as to leave the revenues free for the support of the revenue bonds. General obligation bonds could be used to purchase lands and make improvements, with resulting enhancement of existing revenues or creation of new revenues, which could then be used to support revenue bonds, with the proceeds to be used either for retirement prior to maturity of some of the general obligation debt, or for further expansion and improvement of the port facilities.

Combined Use of Bonds

Such Federal funds as are obtained will permit the program to be phased faster. However, it is our opinion that the recommended port development plan should not wait the slow procedural pattern of getting a Federal Project approved before initiating and accomplishing some of the more essential early harbor improvement requirements.

Another important phase of the financing are the funds anticipated from the equity created and turned into cash by sale of lands developed from the harbor dredging. Land values created by the action recommended will be very substantial and will come close to paying for much of the required harbor changes, with proper real estate handling. More specifically, for example, the dredging costs required to create the 400-foot channel from the enlarged turning basin to N.E. 20th Street, and the Bayshore Turning Basin 800 by 900 feet, is within about $200,000 of the sales value of the acreage on the proposed Miami Island, as described in Part Four of this report, and as shown placed north of Biscayne Island on Plate X. Carefully developed cost estimates have been received for accomplishing the harbor work, and discretely sought counsel from local real estate appraisers has given land value estimates. It should also be pointed out that the dredging operation will also produce the fill required to create the land extensions necessary to carry out the land utilization plan for the enlarged port area. No fill will be turned back to the sea or wasted. All will be used to produce either a more adequate waterfront area for the expanded north section of the port, or for the creation of this proposed island of approximately 55 acres, which, once developed, will add substantially to Miami's taxable residential real estate.

Value of New Land

MoW

Thirty Two. What phased cost estimate and budget may be anticipated as a basis for financial planning for the Port Development Program ?

Objectives Sought: To establish a preliminary cost estimate and budget for a phased program for the rehabilitation, re-design, and expansion of the Port of Miami.

Findings: The following is a reasonable preliminary estimate, on a phased basis, of the probable --

CAPITAL EXPENDITURES AND CONSTRUCTION COSTS OF PORT FACILITIES, including Proposed Method of Financing and Phased Priority of Accomplishment

Item	Facility	Priority*	Cost Estimate	Method of Finance
	Harbor Utilization Adjustment			
1	Dredging in vicinity of Fisher Island	II	$ 559,000	Federal and/or other
	- with anchorage	V	1,210,000	Federal
2	Dredging Fishermans Channel			
	- 15-foot depth	II	441,000	Federal
	- 20-foot depth	V	441,000	Federal
3	Increasing main turning basin; creating 400-foot channel and Bayshere turning basin	I	1,565,000	General obligation bonds to be reimbursed partially from sale of created land for $1,375,000
4	Increasing I.C.W. from turning basin to Graves Tract	IV	1,651,200	Federal
5	Deepening Miami River	II	No estimate	Federal
6	Creating turning basin(s) in Miami River (2)	II & IV	No estimate	Federal and/or other
	Land Utilization Adjustment			
7	Five parcels of land (approximately 1,257159 sq.ft., or about 28.86 acres) from N.E. 13th St. to N.E. 20th St., including North Port area shown plus waterfront area of Belcher property	I	2,570,415	General Obligation Bonds

/ * 2-year units, I to V

CAPITAL EXPENDITURES AND CONSTRUCTION COSTS
OF PORT FACILITIES--Continued.

Item	Facility	Priority	Cost Estimate	Method of Finance
8	One parcel of land beginning at south side of Municipal Docks to approx. N.E. 6th St, commonly known as the F.E.C. Property	I	$ 1,100,000	General Obligation Bonds
9	Reserve for land cost contingencies including demolition costs	II	1,000,000	General Obligation Bonds
	Terminal Facility Needs - Old Port			
10	Bulkhead repair of present Municipal Docks	I	2,045,000	General Obligation Bonds
11	Additional allowance for widening apron of Pier No. 3	I	600,000	General Obligation Bonds
12	Other terminal repair and modernization	III	400,000	General Obligation Bonds
13	Municipal Railway track adjustment	I	34,000	G.O. Bonds
	- reserve for contingencies	II	15,000	G.O. Bonds
14	Diesel Locomotive	I	22,000	Port operating expense
14.1	Fire boat ($50,000)	II	25,000 25,000	City Budget & Port operating expense
15	New truckways in Port	I	50,000 50,000	G.O. Bonds & Port operating expense
16	35-ton mobile crane	II	100,000	Port operating expense
17	New Caribbean Pier, complete	II	7,500,000 500,000	Revenue Bonds G.O. Bonds
18	Entrance ways & landscaping	I & II	50,000 25,000	G.O. Bonds & City Budget

CAPITAL EXPENDITURES AND CONSTRUCTION COSTS OF PORT FACILITIES--Continued.

Item	Facility	Priority	Cost Estimate	Method of Finance
19	Tugboat	I	No estimate	Private
20	Range lights	I	No estimate	Port budget
21	Transportation Building	I	$1,200,000*	Revenue Bonds
22	Marine use building	I	350,000*	Revenue Bonds
23	Mechanical parking garage	I	700,000	Revenue Bonds
24	Maritime Building	II	500,000*	Revenue Bonds
	Terminal Facility Needs - New North Area			
25	Marginal Wharves	I	2,000,000	G.O. Bonds
26	Paving and truckways	I	150,000	G.O. Bonds
27	Warehouse	II	500,000*	G.O. Bonds
28	New rail trackage	I	100,000 50,000	G.O. Bonds & Port operating expenses
29	Dade Drydock facilities	I	No estimate	Private
30	Trailer ship facilities & terminal	II	2,000,000	Revenue Bonds
	Watson Island			
31	Marginal wharf	I	500,000	G.O. Bonds
32	Cruiseport passenger terminal	I	200,000 600,000	G.O. Bonds & Revenue Bonds
33	Watson Island Marina	I	50,000 100,000	G.O. Bonds & Revenue Bonds
		TOTAL	$30,968,615**	

* Preliminary allowance cost

** Total of estimated costs without regard to anticipated method of financing, but exclusive of private interest investment and channel-dredging cost of the Miami River.

Finance Chart I

COMPARATIVE BUDGET CHART

An item by item analysis of proposed changes and increases, utilizing the present organizations of the Department of Port Operations and Development and the Department of Yacht Docks as a combined Department, to reflect the present approved 1955-1956 budget provisions, as Column I, and this Port Development Survey budget proposal, as Column II.

	I 1955-56 BUDGET	TOTALS	II PROPOSED BUDGET	TOTALS
Administrative				
Personal Services-Employees	$ 16,309		$ 20,967	
Contractual Services	3,520		4,817	
Commodities	275		410	
Fixed and Sundry Charges	22,993		27,071	
Equipment-New	86	$ 43,183	116	$ 53,381
Commercial Wharves:				
Personal Services-Employees				
Salaries	60,334		115,741	
Wages	8,052		8,052	
Personal Services-Other	50		50	
Contractual Services	27,045		27,045	
Commodities	4,790		4,790	
Fixed and Sundry Charges	50		50	
Equipment-New	611		611	
Miscellaneous Operational	---		2,000	
Port Promotion	---		8,000	
Travel Expense	---	100,932	2,000	168,339
Cold Storage Plant:				
Personal Services-Employees				
Salaries	22,680		23,196	
Wages	2,999		2,999	
Wages-Special	5,000		5,000	
Personal Services-Other	50		50	
Contractual Services	13,930		13,930	
Commodities	3,825		3,825	
Equipment-Replacements	16,500	64,984	16,500	65,500
Municipal Railroad:				
Personal Services-Employee				
Salaries	3,786		4,356	
Wages	7,624		7,624	
Personal Services-Other	10		10	
Contractual Services	1,010		1,010	
Commodities	4,135		4,135	
Equipment-New	1,400	17,965	1,400	18,535

Finance Chart I

COMPARATIVE BUDGET CHART

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Commodities	4,135		4,135	
Equipment-New	1,400	17,965	1,400	18,535

Finance Chart I---Continued

	1955-56 BUDGET (Continued)	TOTALS	PROPOSED BUDGET (Continued)	TOTALS
Office of Yacht Docks:				
Personal Services-Employees	$ 59,307		$ 44,037	
Personal Services-Other	1,540		1,540	
Contractual Services	17,180		15,883	
Commodities	7,972		7,837	
Fixed and Sundry Charges	5,312		1,234	
Equipment-New	66	$ 91,377	36	$ 70,567
Alterations and Improvements:				
Contractual Services		2,388		2,388
Warehouse Roof Repairs				
Contractual Services		28,000		28,000
Additions and Improvements:				
Contractual Services		1,260		1,260
Miscellaneous Reconditioning:				
Commodities		2,000		2,000
Timber and Fender Piling:				
Contractual Services		6,800		6,800
Debt Service:				
Personal Services		39		
Principal		70,000		
Interest		12,588		82,627
TOTALS		$441,516		$499,397

	PORT DEPT. SURPLUS	TOTALS	YACHT DOCKS SURPLUS	TOTALS
Surplus-June 30, 1955				
Investments	$ 98,167		$ 99,989	
Accrued Income	24,523		15,424	
Accrued Interest	25,245	$147,935	37	$115,450
Total Surplus				$263,385
Proposed Budget		$499,397		
Combined Port and Yacht Docks Budget 1955-56		441,516		
Increase				57,881
TOTAL SURPLUS BALANCE AFTER TRANSFER ALLOWING FOR INCREASES				$205,504

Finance Chart II

COMPARATIVE CHART I

Showing the 1953, 1954 and first half of 1955 Port revenues as they were and as they should have been had proper charges been assessed.

Type Charge	Year	Revenue received under present rate	Revenue which would have been received under new rate	Net Increase in Revenue which would have been received under new rate
Cargo Wharfage	1953	$ 77,936.27	$ 87,001.61	$ 9,065.34
	1954	75,888.61	82,075.36	6,186.75
	1955*	45,970.44	49,656.18	3,685.74
		$199,795.32	$218,733.15	$ 18,937.83
Passenger Wharfage	1953	$ 38,528.25	$ 77,056.50	$ 38,528.25
	1954	33,555.75	67,111.50	33,555.75
	1955*	26,265.50	52,531.00	26,265.50
		$ 98,349.50	$196,699.00	$ 98,349.50
Dockage	1953	$ 35,977.36	$ 71,954.72	$ 35,977.36
	1954	43,608.47	87,216.94	43,608.47
	1955*	27,250.16	54,500.32	27,250.16
		$106,835.99	$213,671.98	$106,835.99
Preferential Berthing Rights	1953	$ 7,156.92	$ 14,313.84	$ 7,156.92
	1954	7,156.92	14,313.84	7,156.92
	1955*	3,578.46	7,156.92	3,578.46
		$ 17,892.30	$ 35,784.60	$ 17,892.30
Office Rental Space (Preferential)	1953	$ 9,509.76	$ 15,849.60	$ 6,339.84
	1954	9,509.76	15,849.60	6,339.84
	1955*	4,754.88	7,924.80	3,169.92
		$ 23,774.40	$ 39,624.00	$ 15,849.60
Office Rental Space (Non-Preferential)	1953	$ 23,828.40	$ 31,711.20	$ 7,882.80
	1954	23,828.40	31,711.20	7,882.80
	1955*	11,914.20	15,885.60	3,971.40
		$ 59,571.00	$ 79,308.00	$ 19,737.00
Scale Charges	1953	$ 6,660.00	$ 8,913.00	$ 2,253.00
	1954	5,674.00	7,461.00	1,787.00
	1955*	2,197.50	2,914.00	716.50
		$ 14,531.50	$ 19,288.00	$ 4,756.50
Fresh Water	1953	$ 13,600.89	$ 14,416.94	$ 816.05
	1954	16,782.75	17,789.71	1,006.96
	1955*	12,972.48	13,750.82	778.34
		$ 43,356.12	$ 45,957.47	$ 2,601.35
Truckage	1953	$ 4,580.00	$ 9,160.00	$ 4,580.00
	1954	3,096.00	6,192.00	3,096.00
	1955*	1,110.00	2,220.00	1,110.00
		$ 8,786.00	$ 17,572.00	$ 8,786.00

COMPARATIVE CHART[I]
(Continued)

Type Charge	Year	Revenue received under present rate	Revenue which would have been received under new rate	Net Increase in Revenue which would have been received under new rate
Trackage (Loaded & Empty Cars)	1953	$ 8,780.00	$ 26,340.00	$ 17,560.00
	1954	7,564.00	22,692.00	15,128.00
	1955*	3,754.00	11,262.00	7,508.00
		$ 20,098.00	$ 60,294.00	$ 40,196.00
Trackage (Non-water cargo cars)	1953	$ 100.00	$ 200.00	$ 100.00
	1954	100.00	200.00	100.00
	1955*	50.00	100.00	50.00
		$ 250.00	$ 500.00	$ 250.00
Total Revenue from Charges Listed Above	1953	$226,657.85	$356,917.41	$130,259.56
	1954	226,764.66	352,613.15	125,848.49
	1955*	139,817.62	217,901.64	78,084.02
	1955**	139,817.62	217,901.64	78,084.02
Three-Year GRAND TOTAL		$733,057.75	$1,145,333.84	$412.276.09
Three-Year AVERAGE		$244,352.58	$381.777.94	$137,425.36

* Reported for first half-year only.

** Estimated, second half-year only.

I Those port revenues whose fees have been realistic and competitive, and were not recommended for change are not included in this comparative compilation.

Financial Chart III

REVENUE SOURCE CHART
for 1951-1952, 1952-1953, 1953-1954

A tabulation of the three-year average of port revenues from certain operational service fees and charges with a grand total of the yearly averages from these sources.

Source of Revenue	Three-Year Average
Dockage	$41,059.37
Warehousing	3,348.89
Cargo Wharfage	82,113.57
Storage	61,942.60
Passenger Wharfage	35,444.25
Water	12,954.38
Trackage	8,652.93
S.S. Line Rents	15,292.49
Misc. Rents	45,806.50
Demurrage	525.33
Electric Current	2,964.91
Trucks	5,306.00
Gasoline Comm.	421.07
Scales	7,111.83
Cold Storage	49,389.77
Miscellaneous	637.69
AVERAGE YEARLY REVENUE FROM THE ABOVE SOURCES	$372,971.58

CITY OF MIAMI HARBOR AND PORT FACILITIES

OPERATING STATEMENT TEN FISCAL YEARS

	Estimated 1955-56	1954-55	1953-54	1952-53	1951-52	1950-51	1949-50	1948-49	1947-48	1946-47
REVENUE:										
Operating Revenue	380,000	386,456	359,391	386,033	383,689	402,621	355,199	353,665	386,111	314,908
Contribution from General Fund		327,690								
Total Revenue	380,000	714,146	359,391	386,033	383,689	402,621	355,199	353,665	386,111	314,908
OPERATING EXPENSE:										
Salaries and Wages	126,784	118,203	120,716	120,000	119,167	107,514	101,131	97,366	85,832	66,528
Other Operating Expense	100,280	104,201	81,339	78,737	60,902	66,582	72,737	53,507	50,726	68,083
Total Operating Expense	227,064	222,404	202,055	198,737	180,069	174,096	173,868	150,873	136,558	134,611
NET OPERATING REVENUE	152,936	491,742	157,336	187,216	199,620	228,565	181,331	202,792	249,553	180,297
OTHER EXPENSE:										
*Construction and Repairs	40,448	426,105	2,692	164,167	30,458	68,984	44,261	213,250	45,501	30,635
Debt - Principal & Interest	82,627	108,422	86,343	90,196	92,643	94,376	93,040	90,634	90,114	109,748
Total Other Expense	123,075	534,527	89,035	254,363	123,097	163,360	137,301	303,884	135,615	140,383
NET REVENUE	29,861	-42,785	68,301	-67,147	76,523	65,205	44,030	-100,912	113,938	39,914
RECONCILED NET REVENUE -	16,934	2,305	17,668	43,695	53,677	50,884	34,966	98,883	106,114	17,224

*Total construction and repairs over ten year period—$1,256,127 - amortized over a twenty year period.

TOTAL TEN YEAR NET REVENUE AFTER AMORTIZATION- $432,305

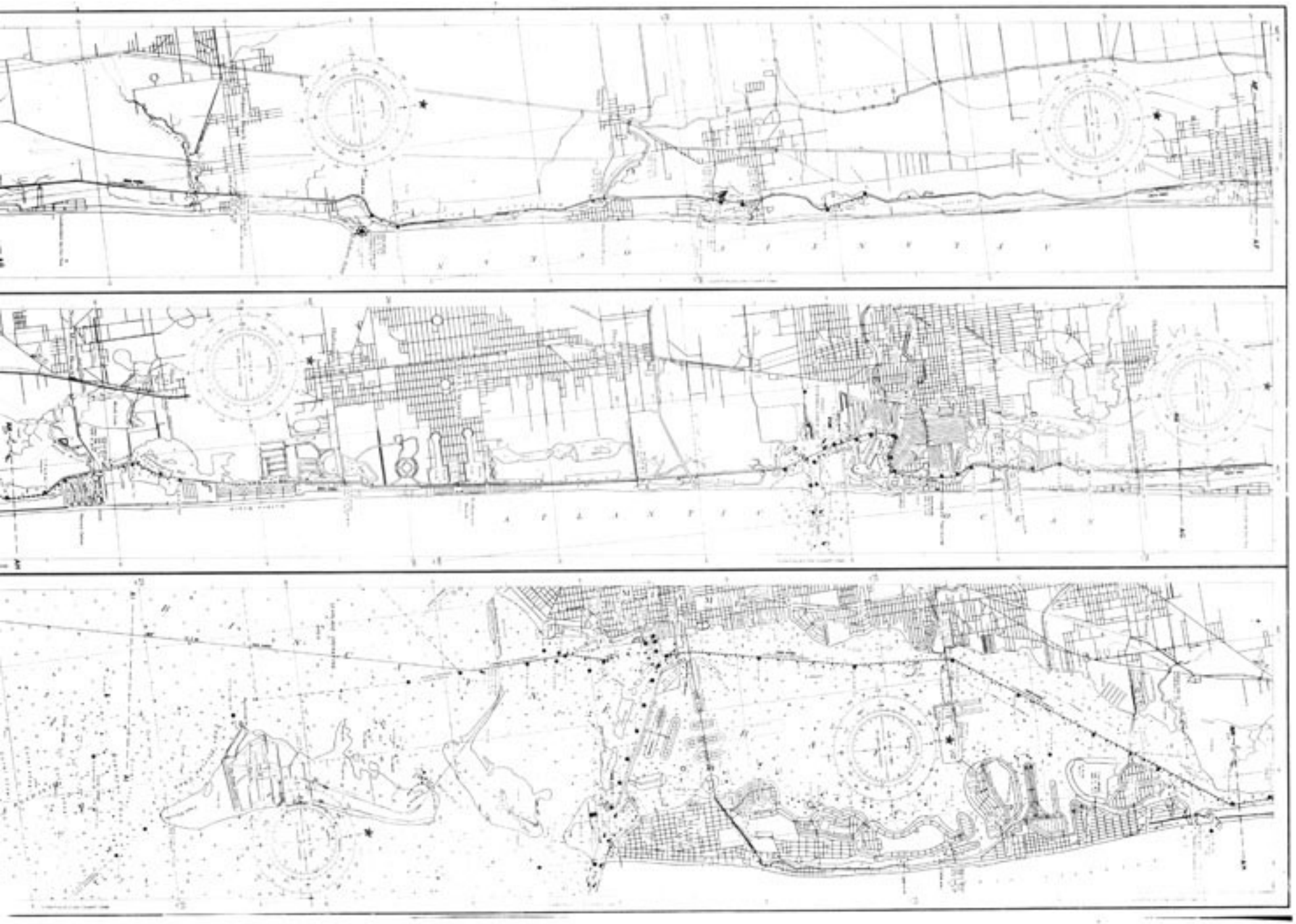
Source: City of Miami Finance Department; Department of Port Operations & Development, as adapted by the Watt Research Group.

CITY OF MIAMI YACHT DOCKS AND SMALL CRAFT

OPERATING STATEMENT EIGHT FISCAL YEARS

	Estimated 1955-56	1954-55	1953-54	1952-53	1951-52	1950-51	1949-50	1948-49
REVENUE:								
Operating Revenue	137,500	140,840	137,512	110,478	93,862	76,150	64,231	66,911
Contribution from General Fund						4,500		
Contribution from Port Department				25,000	13,143	13,930		
Total Revenue	137,500	140,840	137,512	135,478	107,005	94,581	64,231	66,911
OPERATING EXPENSE:								
Salaries and Wages	59,307	54,806	52,845	52,869	50,365	38,625	32,881	32,152
Other Operating Expense	32,070	30,387	31,785	27,664	26,194	19,451	20,906	13,648
Total Operating Expense	91,377	85,193	84,631	79,874	76,560	58,080	53,788	45,801
OTHER EXPENSE:								
Construction and Repairs	-0-	-0-	126	22,961	8,291	17,593	897	6,434
Debt - Principal & Interest	-0-	-0-	17,058	18,352	18,781	18,917	17,727	17,200
Total Other Expense	-0-	-0-	17,184	41,314	27,073	36,501	18,625	23,635
NET REVENUE	46,123	55,646	35,696	14,289	3,371	-0-	-7,181	-2,525

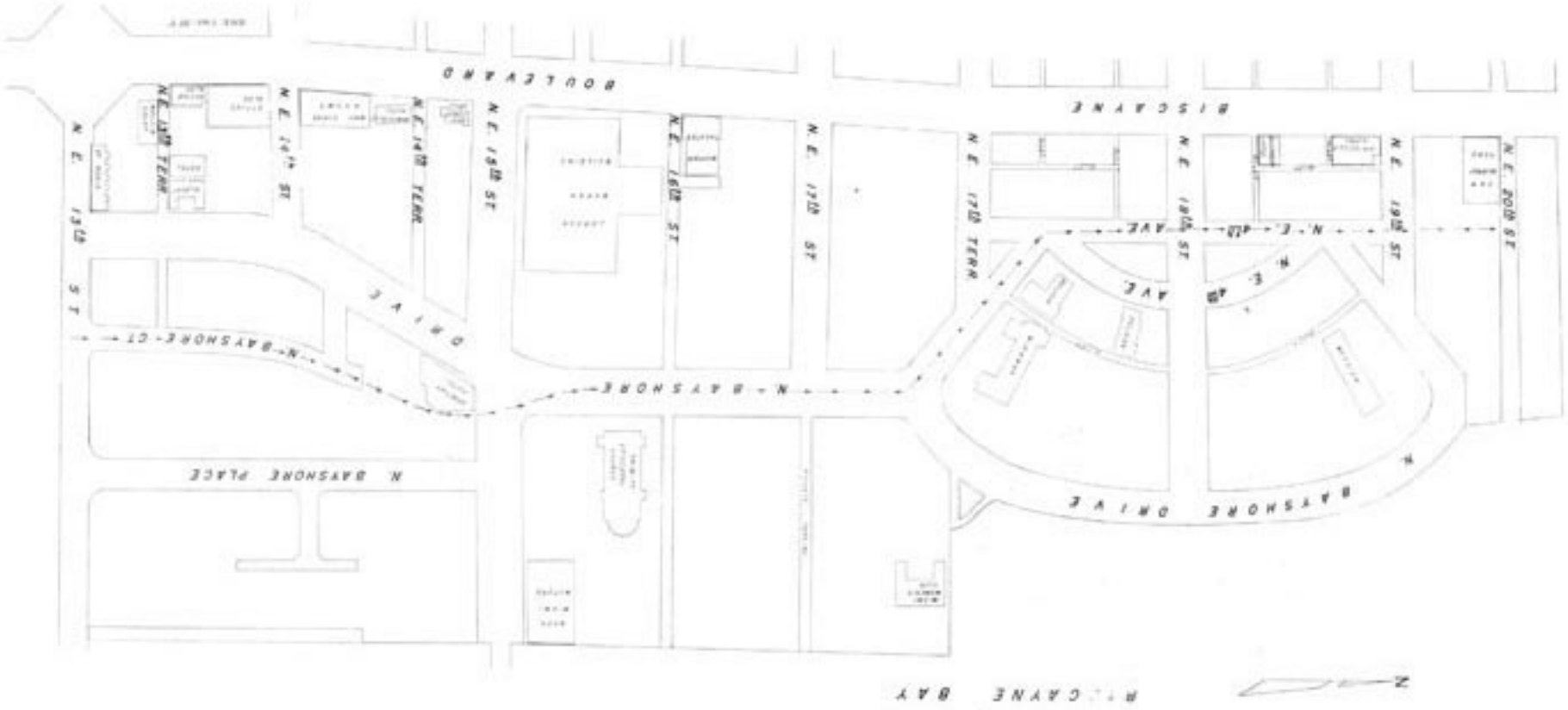
Source: City of Miami Finance Department;
Department of Yacht Docks, as
adapted by the Watt Research Group.



CE: U. S. Coast and Geodetic Survey
Not To Be Used For Navigation Purposes

WATERWAYS

MoW Project 77 Plate No. 11



LEGEND: Arrows indicate West and North limits of proposed North Port Area. These properties West of the arrows, including those facing Biscayne Boulevard are not effected.

SCALE: 1 inch : 100' 0"

SOURCE: Prepared Expressly for this Survey by Department of Engineering, City of Miami

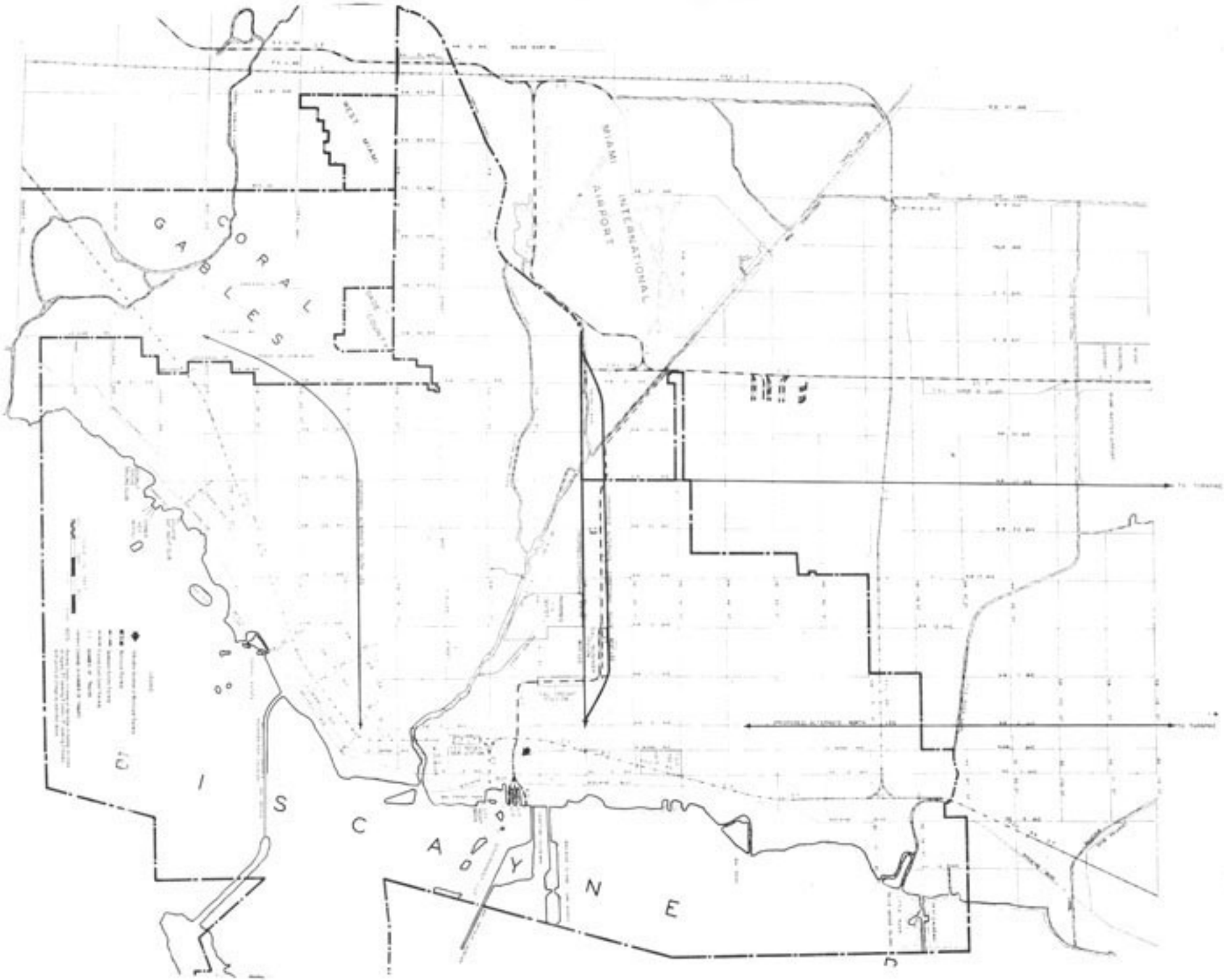
PROPOSED NORTH PORT EXPANSION AREA

MoW Project 77 Plate No. IV

SOURCE: Miami City Planning Board Map showing Municipal Property, as adapted by Mott Research Group

THE MIAMI RIVER AREA

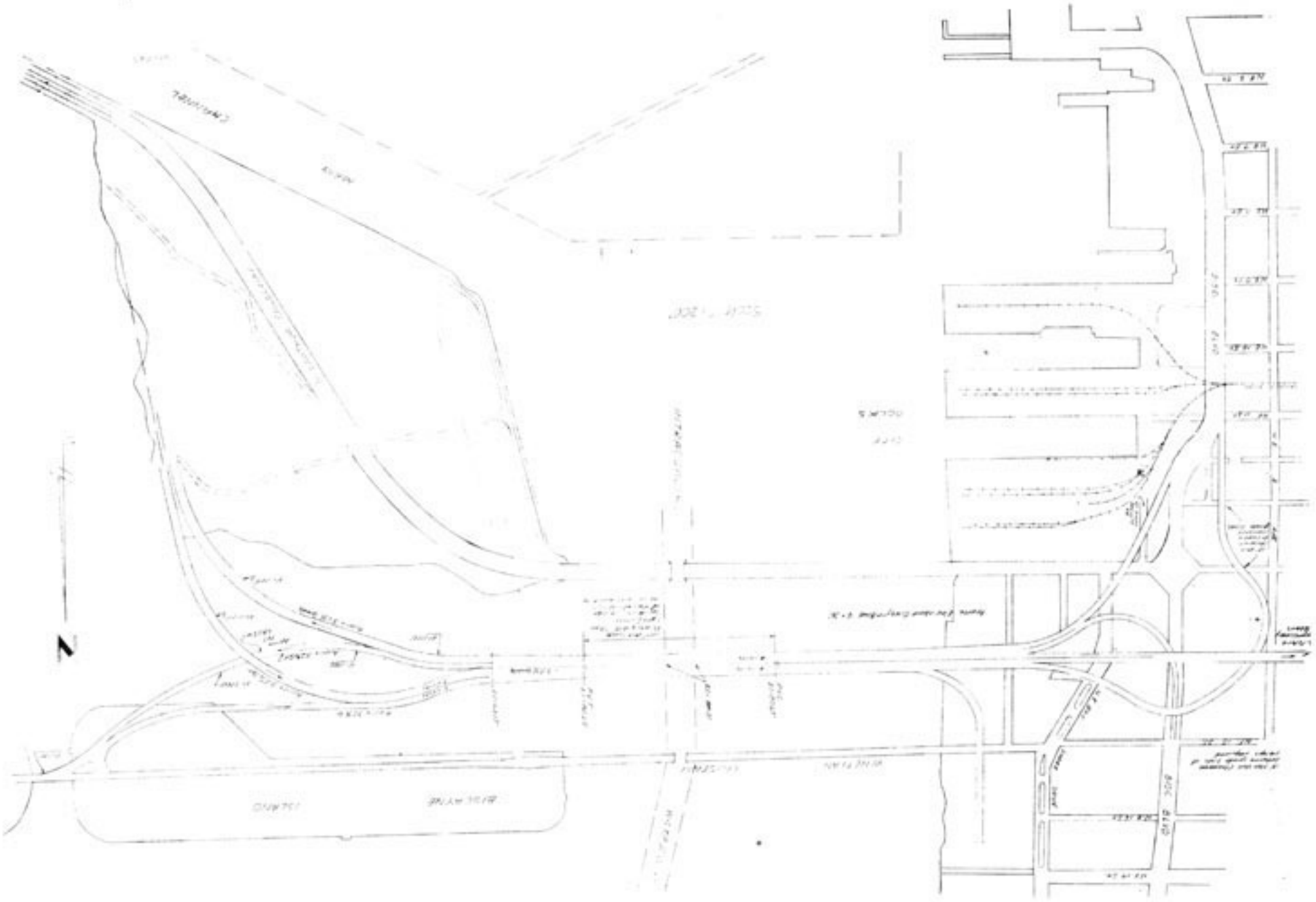
MoW Project 77 Plate No. V



SOURCE: Department of Engineering, City of Miami and Mott Research Group

PRINCIPAL PRESENT AND PROPOSED TRANSPORTATION ROUTES OF GREATER MIAMI

MoW Project 77 Plate No. VI



SOURCE: Department of Engineering, City of Miami and State Road Department

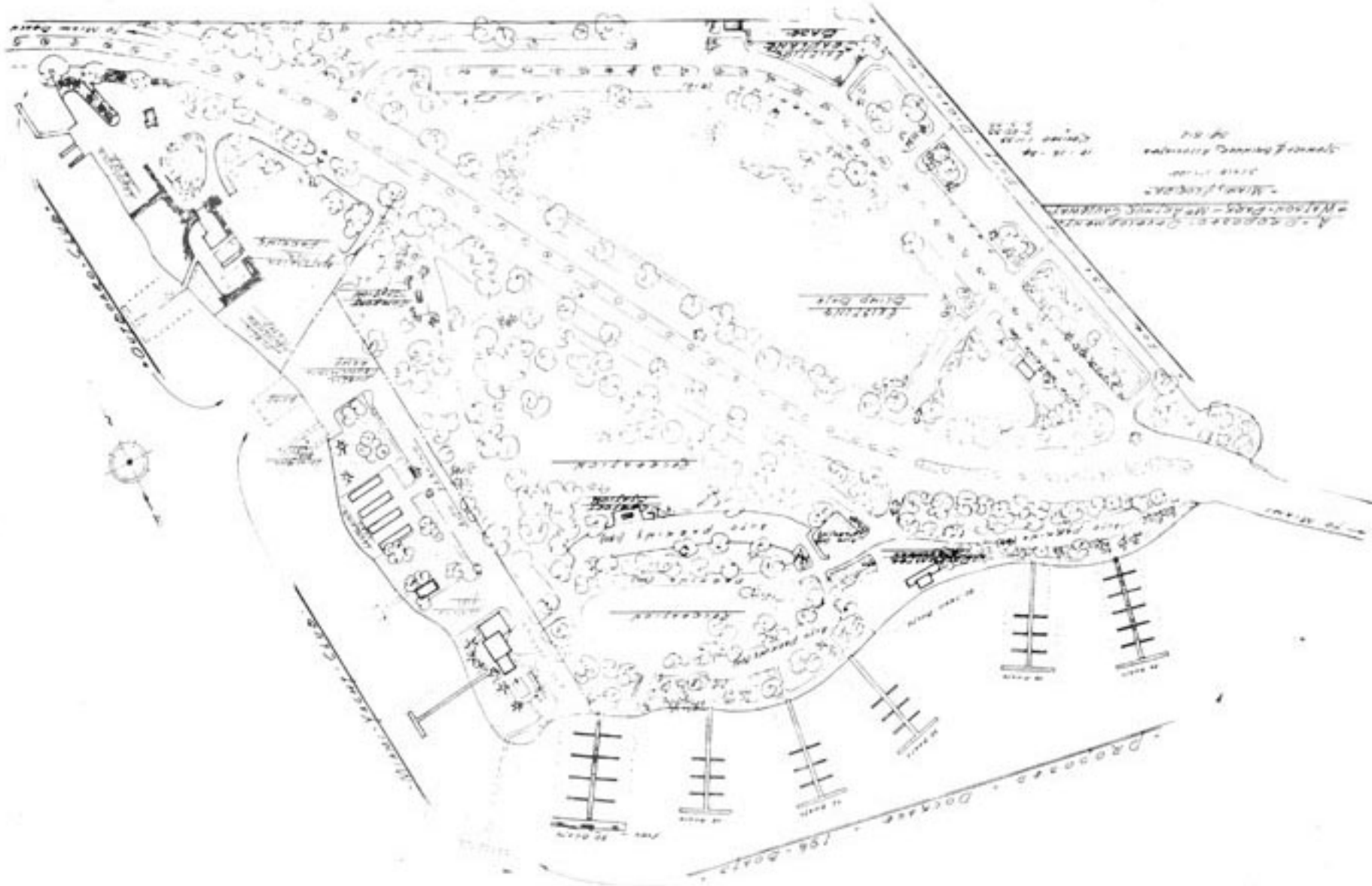
PROPOSED STATE ROAD DEPARTMENT PLAN FOR HIGH LEVEL BRIDGE

MoW Project 77 Plate No. VII

PROPOSED MODIFICATION OF
STATE ROAD DEPARTMENT PLAN

URCE: Depart st of Engineering, City
of Miami, State Road Department
and Matt Research Group

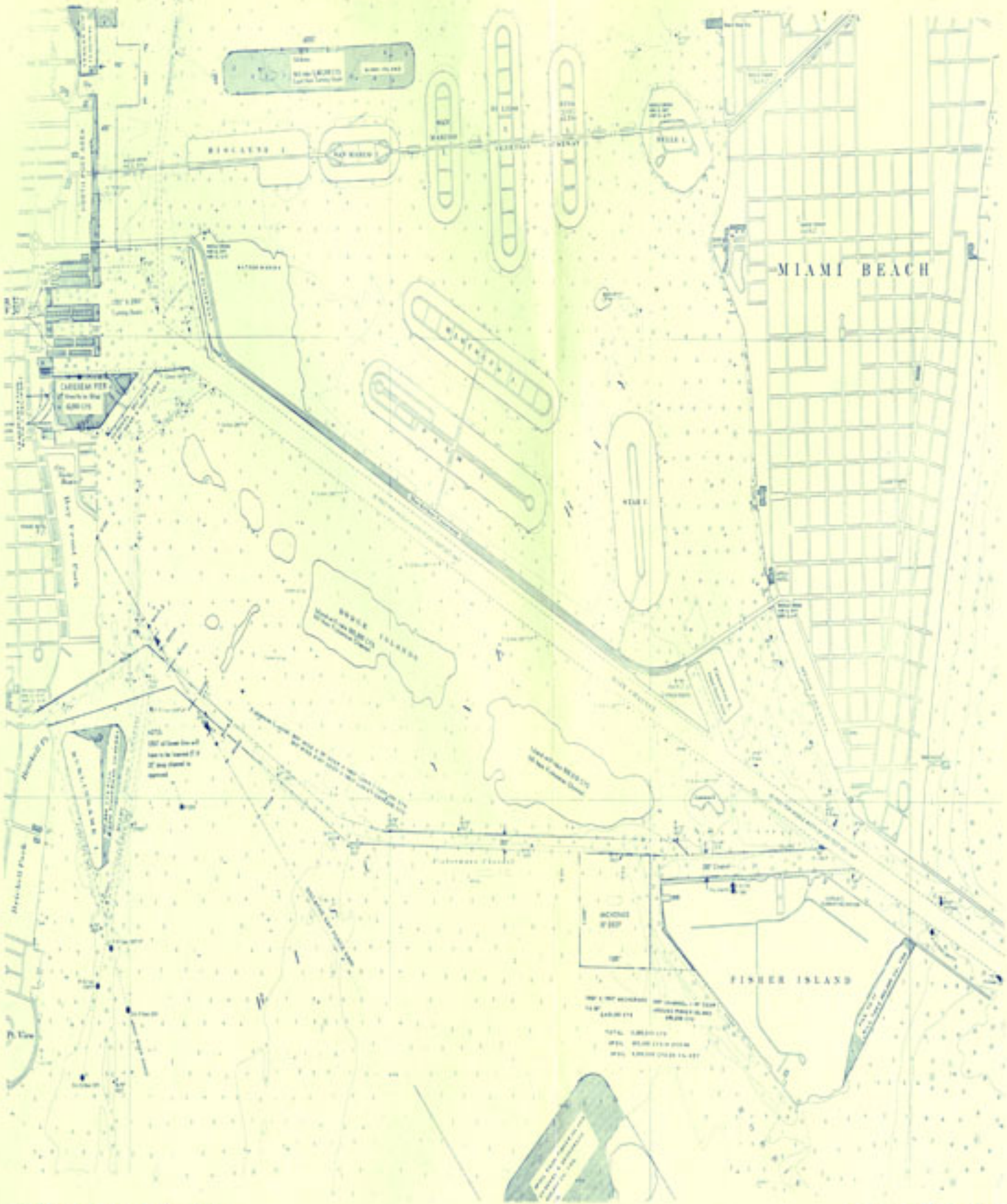
MoW Project 77 Plate No. VIII



SOURCE: Adapted for this Survey by Mott Research Group

PROPOSED MARINA DEVELOPMENT
FOR WATSON ISLAND

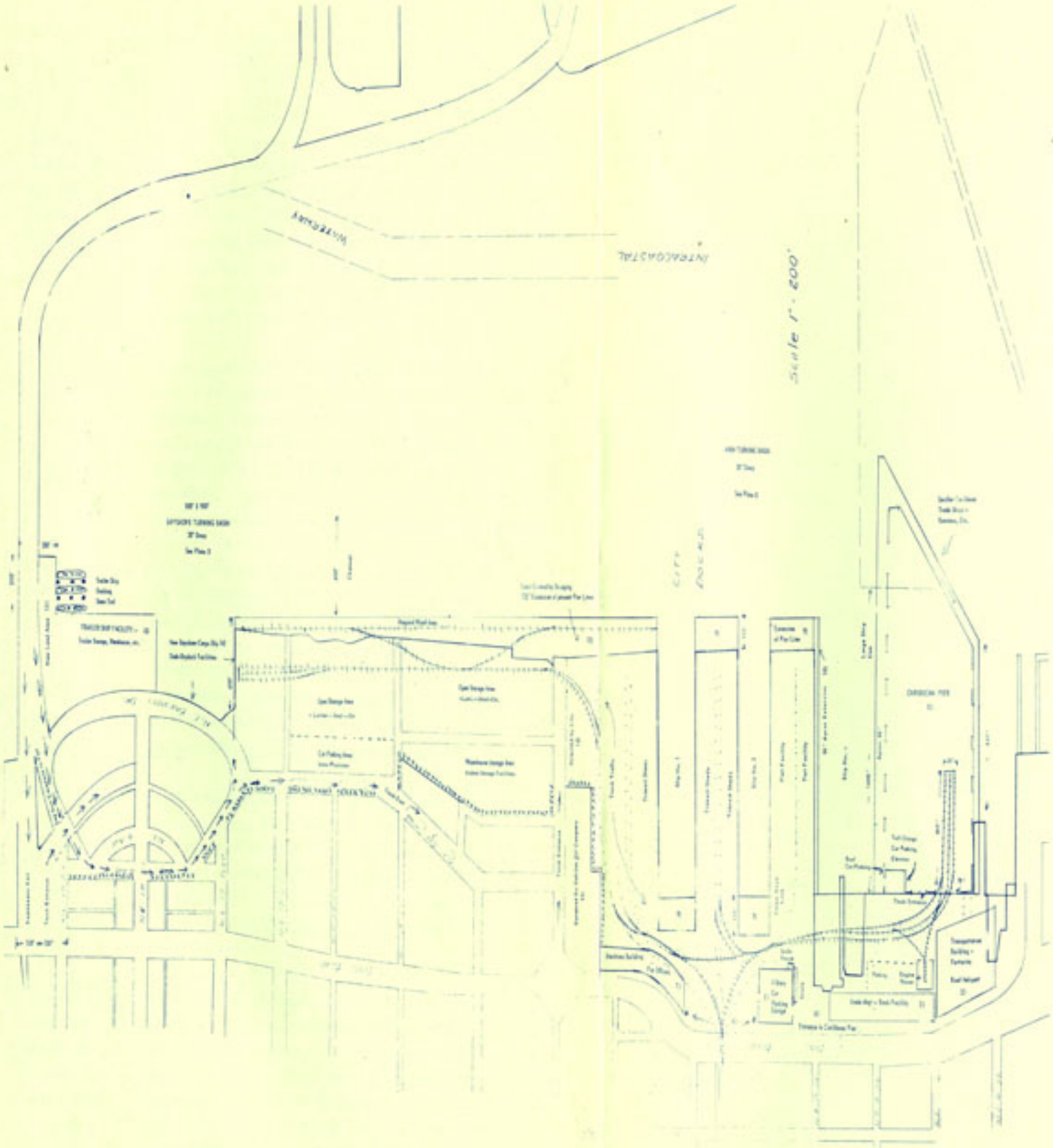
MoW Project 77 Plate No. IX



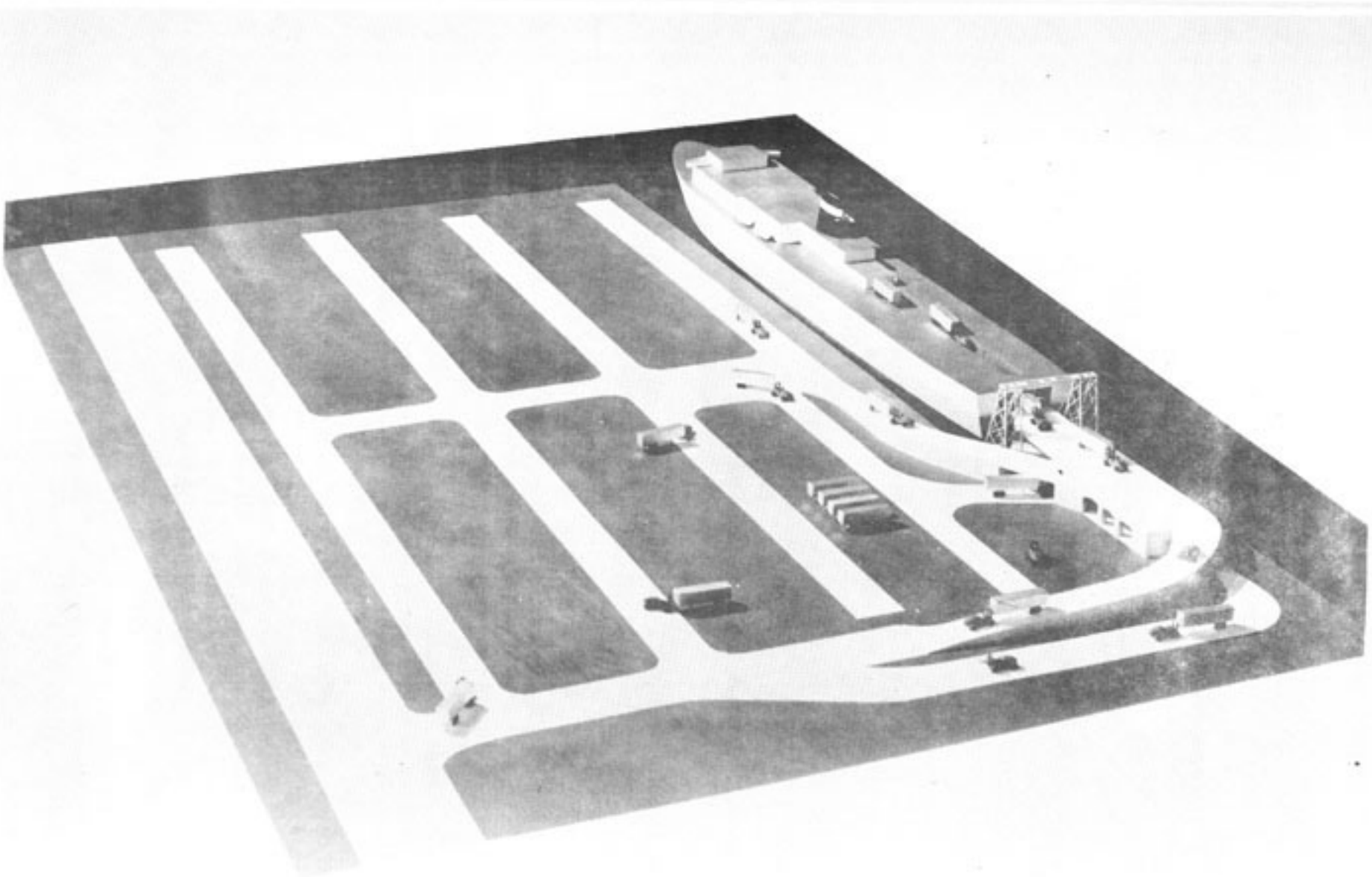
SOURCE: U.S. Coast and Geodetic Survey
as adapted by Matt Research Group

CENTRAL AREA OF THE PORT OF MIAMI SHOWING NEW HARBOR UTILIZATION PLAN

Master Plan - 17 Plate No. X



SOURCE: Mott Port Development Council CENTRAL AREA OF THE PORT OF MIAMI SHOWING PROPOSED LAND UTILIZATION MoW Project 77 Plate No. XI



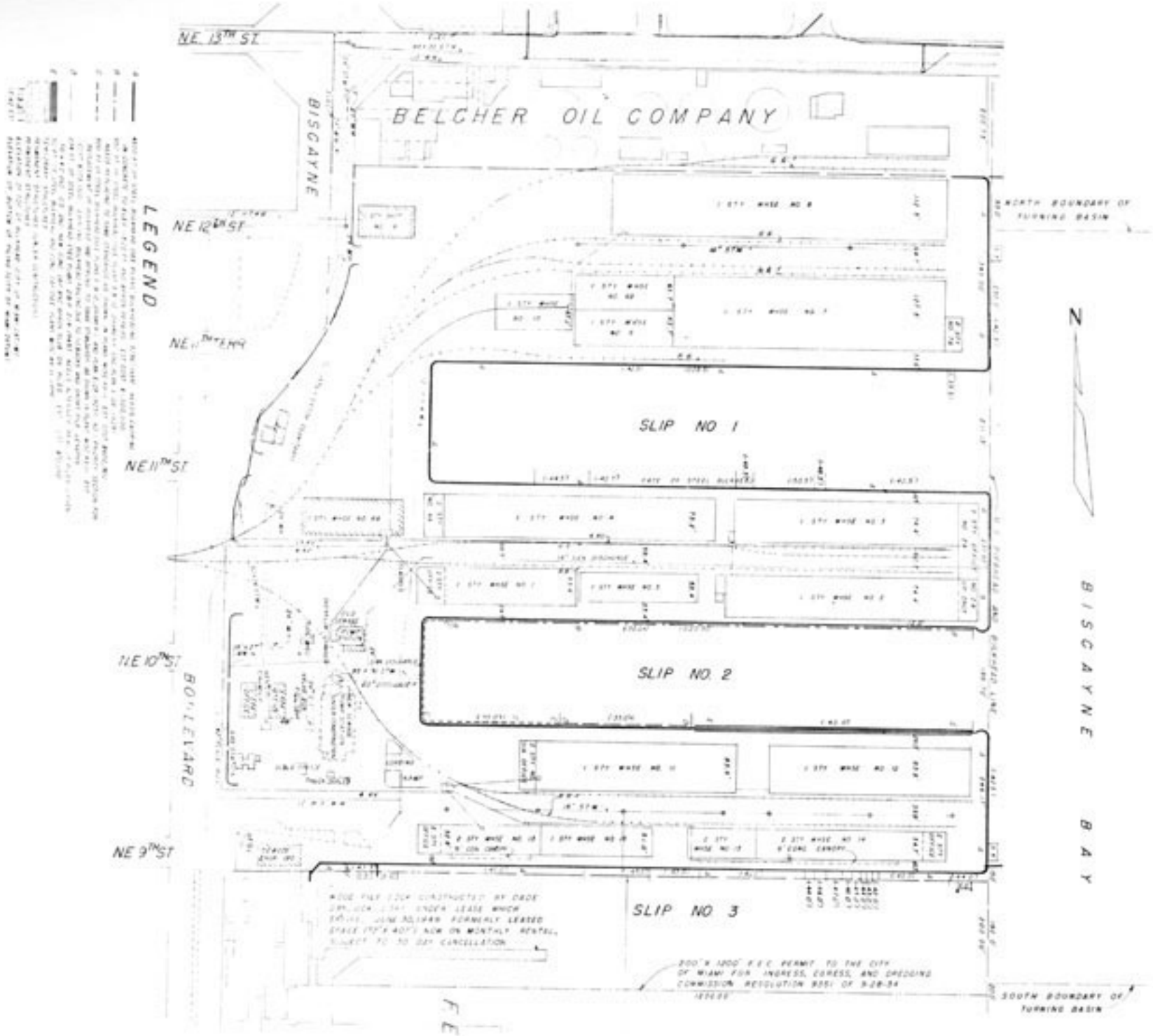
A MODERN PIER

MoW Project 77 Plate No. XII

SOURCE: Corps of Engineers, U. S. Army Adapted by Matt Research Group

PORT FACILITIES AT
MIAMI, FLORIDA

MoW Project 77 Plate No. XIII



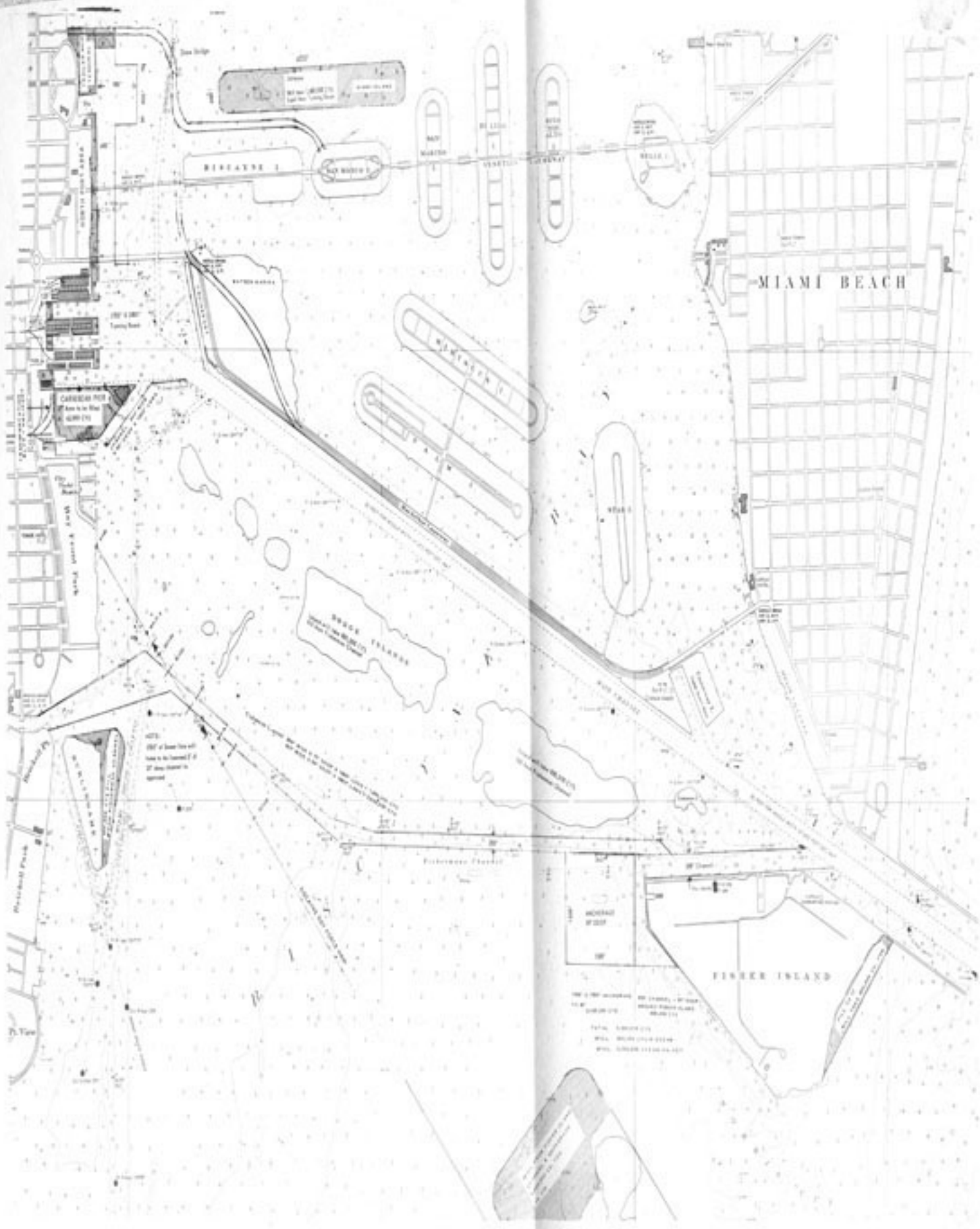
SOURCE: Department of Engineering, City of Miami

COMMERCIAL DOCK AREA
SHOWING PRESENT PERMANENT AND TEMPORARY STRUCTURES

MoW Project 77 Plate No. XIV

EXPANDED PORT OF MIAMI

The map on the following page is a combination of the principal features of the harbor utilization plan and the land utilization plan, in relation to the Development Program proposed.


MIAMI BEACH
FISHER ISLAND

The Point of Beginning

The historic first trade synthesis occurred in Miami when the Flager railroad was built to the harbor's edge. In that place, in due course, cargo transfer between land and sea was accommodated by the dredging of channels and the construction of wharves, piers, and railroad sidings. And, naturally, as water ripples out evenly from a dropped stone, the town grew up around the port area and the railhead. There was nothing to prevent it from spreading in all directions, and spread it did, thus encircling the port and contributing to the future traffic congestion of the City of Miami.

When the Florida real estate and resort boom had settled down to a more or less steady rhythm, as it did in the 30's, and Miami was becoming self-conscious about her civic appearance, public opinion began to operate to put the port's back to the wall. It seemed outrageous and unreasonable to many Miamians to have the railroad-track and commercial waterfront squalor so close to their fine hotels. Then Biscayne Boulevard began to bear its full share of the load as part of U. S. Route 1, and aesthetic distaste was reinforced by traffic congestion. Increasing hords of automobiles poured down the east coast of the Peninsula and were caught in constantly recurring "log jams" by the port railroad classification and switching operations which took place on and across the highway. The alternative, track approaches along the sea to the port area, was unthinkable in Miami where Sun, sea and beach are the very reasons for existence.

The Central Problem Posed

The surface congestion dilemma has faced all modern port cities in varying degrees. New York, while possessing an almost inexhaustible amount of water frontage, also faced and faces continually mounting transportation congestion. Baltimore and Philadelphia, in the same way, must solve conflicting surface streams of traffic. Any big metropolis must solve this problem, or die. Solution is never final but must change with changing conditions.

The obvious solution, in the case of Miami, would seem to be to move the main port plant elsewhere. If, when the problem was first realized, only one clearly more suitable port area had

existed, it might then have been accomplished. But there are, in the Miami area, many possible port areas - none ideal, as the present site is not ideal - and the decision to move was not made, and cannot ever be made without unanimous determined action, and without cooperation from all local, County, State and Federal agencies concerned. And a very high degree of justification would have to be found for any of these agencies to abandon investments already made, channels already dug, and projects already initiated.

The Commercial Port Area

The use of waterfrontage is divided between public and private operation, as follows:

The Port of Miami consists of five major categories of water terminals:

1) The Municipal Docks located at the shore end of the deepwater channel on the west side of Biscayne Bay, roughly from N.E. 9th Street to N.E. 13th Street, and extending to Biscayne Boulevard.

2) Privately owned terminals north and south of the Municipal Docks, and forming, with them, a solid commercial terminal frontage from MacArthur Causeway to Bay Front Park.

3) Privately owned terminals on Causeway and Fisher Islands in the harbor along the deepwater channel.

4) Privately owned terminals and marine servicing establishments located along the Miami River and the Miami Canal.

5) Various small boat and pleasure yacht docks maintained by the Miami Department of Yacht Docks, and by private concerns, at various points in Biscayne Bay and in the Miami River.

The Municipal Docks are administered by a Port Director under the City of Miami Department of Port Operation and Development. The private terminals are privately run and regulated, with movement of shipping into and within the port area being arranged by mutual cooperation and "commonsense" agreement between the Port Director and the various private terminal operators.

Related Waterfront and Land Use

Leaving aside the question of putting to active port use other waterfront areas under municipal jurisdiction, the utilization of the present active acreage is not 100 percent effective or revenue-producing, nor is it wholly consistent with overall city zoning and land use programs.

The principal ocean port area, along the west shore of Biscayne Bay from MacArthur Causeway to Bay Front Park, is also the principal source of criticism by many public and private agencies and individuals, as it is a region of weeds, flimsy unpainted structures of unspecified function, petroleum storage tanks, piles of haphazard construction materials, a confusion of trucks, tractors, rusty iron, crumbling dock piles and - facing the Boulevard - filling stations, lurid billboards, and clip joints. Such an area represents - and to the outward eye is - all that the respectable citizen and merchant does not want in his neighborhood. And to make it worse, this conglomeration is set like a boil on the boulevard right between a fine auxiliary retail section represented by some newly built and building department stores and office buildings, on the north, and beautiful Bay Front Park with its fine hotels facing, on the south. In fact, regardless of its present disreputable appearance, the port's Biscayne Boulevard frontage has a land use value of a thousand dollars a front foot.

The Port Railway Problem

Leading off from this present unnecessarily unattractive port nucleus are railway tracks, including the Municipal Railroad tracks between N.E. 10th and 11th Streets, and the Florida East Coast tracks between N.E. 6th and 7th Streets. These tracks cross Biscayne Boulevard at street level and, incredible to relate, consist not merely of double tracks, but are used for railroad car classification and assembly, which activities are carried on at any time of the day or night, thus stopping traffic along the Boulevard from two to ten minutes at a stretch. Thus, whether you are delivering merchandise from Sears Roebuck to a customer in south Miami, or are on your way in the family car from Detroit, Michigan, to Key West, you wait at this point until the switching operation of the moment is accomplished before you can proceed on your way.

In addition to the incredible traffic ineptitude of these rail crossings at highway level, the railroad rights-of-way leading west away from the waterfront have become blight areas, un-

assimilable by any municipal land use projection. A trip along the tracks shows that warehouses, both in heavy and slight use, are well mixed with totally unused structures, and that long sections of track frontage have mushroomed with low-class negro housing. Thus, it seems, the wholly unnecessary blight of the port has stretched out, by similar land-use neglect, into the city proper, wherever its facilities and auxiliary facilities have gone.

It is probably unnecessary to point out that warehousing in the most heavily assessable portion of a city is uneconomical, and that port warehousing to be properly located must be directly adjacent to and a part of the port operation. It is also obvious that slum-type housing is disastrously out of place in the heart of the city.

Other Waterfront Areas and Their Use

In addition to the principal port area described above, there are water terminal areas at various island and causeway points in Biscayne Bay, and along the Miami River and its tributary canals.

The MacArthur Causeway and Fisher Island stations are not subjects for civic concern at the present time, since the installations there are properly located and maintained and no congestion of traffic is caused by their presence.

The Miami River waterfront is variously utilized as to types of port operations, but, in general, the River area presents a picture of mixed commercial and residential use, with signs of very lax regulation either by public or private agency. The use of the Miami River for water traffic poses the additional land traffic problem of movable bridges and seems, in this area also, to render the city the unwilling victim of its port.

Harbor Utilization is a Joint Investment

Water terminal functions and installations in the Miami area are of vital concern to the City of Miami, the County of Dade, the State of Florida, and the Federal Government of the United States. Therefore, in various aspects, the cooperation, or active concurrence, of each of these agencies is necessary for proper allocation and utilization of port and waterway areas. In addition, the private citizen, the ultimate beneficiary, is responsible in his

role of consumer, retail or wholesale merchant, or private industrialist or agriculturalist, for knowing the economic justification for water traffic, and for giving his support (in his various roles) to appropriate programs for the encouragement and aggrandisement of the Port of Miami operation.

The Port of Miami is a Neglected Civic Property

It would be incorrect and highly misleading to suggest that the many privately owned and operated water terminals in and around Biscayne Bay are poorly operated and maintained. Quite the contrary is true. However, private terminal operation suffers from - and on the other hand sometimes extracts undue financial advantage from - the municipal port terminal inadequacies of plant and administration.

Whether the reader accepts the aesthetically depressing picture of the port painted in preceeding paragraphs, or whether he sees the port operation in its true light - weighing all factors and acknowledging all present and potential benefits - there is no disagreement with the single fact that as a port of call, or as a terminal for scheduled water traffic, or as a harboring and servicing area for pleasure craft, the Port of Miami is in an unsatisfactory condition.

The physical condition of the municipal piers, wharves and docks is one of extreme delapidation. The size and construction of the slips, piers, aprons, and transit sheds are insufficient and outmoded in the light of modern port terminal construction.

The approaches to the port by rail constitute a major street traffic nuisance, while trackage within the port area is not sufficient for the expeditious handling of increasing exports of heavy machinery and fabricated metal products. The street and highway approaches for trucks are inconvenient for present load and quite insufficient for cargo traffic in the near future.

The terminal and marine servicing facilities located on the Miami River, while not universally delapidated, contribute their share to the heterogeneous, and therefore municipally unstable land utilization picture - and constitute another street traffic complication.

Accommodations for pleasure craft, once so well served at the Royal Palm Basin, but now located at less commodious marinas in Biscayne Bay and Dinner Key, are insufficient and inadequately

maintained by competitive standards, and thus Miami has lost much of this revenue to other localities.

Several of the privately owned terminal facilities in the main port area are inappropriately located, serving to crowd normal port operations and constituting, in one instance, a real municipal safety hazard.

A Seaport is a State of Mind

Cities of the past which grew up around and through the activities of a sea port were naturally aware of their ports as their own original reason for existence. Their public and private revenues were derived from the sea, and port-mindedness was a natural concept to their citizens and their governing bodies.

At present, the stream of trade cargo along world trade routes is so diverse, its flow and regulation so complex, and its media so numerous in type and purpose, that the individual, and even the community surrounding a port, is prone to dismiss the whole operation from mind, and minimize trade benefits as he deprecates trade necessities.

The citizens of Miami are not representative of this type of economic ignorance. If they were, such a survey as that represented by this presentation would be a futile gesture. On the other hand, the concept of the port as not merely a "dour necessity of trade," but actually as a part of the City's dowery in terms of economic stability, and cultural and recreational benefits, has not been fully visualized by Miamians in general. Or perhaps it would be more accurate to say that only in recent years have any of the port cities of the United States become aware of the collateral values of their ports as economic assets and as objects of public pride and sources of public entertainment and display, the benefits of which accrue to the city without financial outlay beyond that which is already necessary to achieve sound progressive port operation.

This value is clearly to be seen in the case of airports. The National Airport at Washington is a sightseers' Mecca second only to the National Monuments and the Government buildings. Everyone likes to see the planes take off. Does the fact not suggest itself, that everyone also likes to watch ships dock and load and sail? It is a natural synthesis, then, to provide observation areas for "portside superintendents." If, in addition, food and drink and certain selected types of retail opportunities be provided, then the perfect combination of profit and recreation is achieved.

The Port of Miami Has Natural Advantages

Simply as a civic feature, the Port of Miami has certain special endowments. It is not tucked away in a "Limehouse Dock" area. Its municipal terminal stands in a blaze of what could well be "glory" on Miami's finest thoroughfare, close to the heart of the principal retail, park, and hotel center of the city.

Traffic must move, and the port activities must function. The wise city resolves that since it can't do without its port, it must live with its port. The Army "housekeeping" rule applies here. Any undesirable object shall be removed from the area. If it cannot be removed, paint it! In civic terms that means, if it is not feasible to relocate the port, clean it up, repair it, modernize it, and work out an orderly program designed to change it from a physical liability into a cultural, physical, and - above all - economic credit to the city.

Certainly one of the principal complaints against the port could be transformed into commendation simply by improvement in the housekeeping of the port area. This may seem a superficial suggestion, but public spirit and citizen- and visitor-approval are not negligible in their effect. And, as a good housekeeper does not stop with cleanliness and order - as many husbands have cause to know - but goes on to repairs, alternations, and improvements of all kinds, so housekeeping at the port is one good place to start.

County and State Equities in the Port of Miami

Dade County is geographically very nearly co-existent with the Greater Miami Area, and, thus, within the frame of its own jurisdiction and functions, it is co-responsible for, and co-benefited by port operation.

The State of Florida, as one of the principals in the Federated group of the United States of America, is and must be extremely zealous in aid of all profitable, or potentially profitable, establishments of whatever nature within her boundaries. The power of the State rests directly upon the prosperity of her citizens and the prosperity of all regions within the State must be the subject of long-range and impartial State concern. A seaport as a public servant utility and a channel for trade should have appropriate State consideration.

Federal Interest and Responsibility

There is no need to dwell on the zealous promotion of river, harbor, and coastal improvements which has characterized the Corps of Engineers of the U. S. Army in carrying out all missions assigned to it by Congressional directive since - and even before - the first Rivers and Harbors Act. The Engineers, however, can move only in legally specified ways, and, except in certain projects of overwhelming importance to national welfare, their activities can be initiated only by decision and application of local interests. However, in the case of Miami, Federal assistance for certain harbor and installation improvements is overdue and awaits only concerted local decision and tenders of unequivocal local action to be implemented.

Apart from the Port of Miami Federal Project now on the books - though inactive and unlikely to be revived in its present form - the Miami area is of concern to the Federal Government in many ways. To mention only a few, Government Cut and the Miami Ship Channel are federally created and maintained deepwater channels from the open sea to the central port area. The Intracoastal Waterway, which cuts through Biscayne Bay and Florida Bay, is part of the federal project designed to provide protected shipping along the Atlantic coastline of the United States. The Florida Inland Navigation District, made up of eleven east coast Counties, cooperates with the Federal Government relative to this waterway, from Jacksonville to Miami. The deep water anchorage which exists outside Biscayne Harbor is of value to all ocean shipping, including Naval vessels, and the Miami River is a subject of federal interest as a navigable waterway, as a small-boat hurricane refuge channel, and as a key part of the Federal-State Flood Control project.

Port Inadequacy is Part of an Overall Problem

Port facilities at the municipal docks have received little maintenance and almost no capital improvements since 1940. Critical deterioration has been repaired only just before - and sometimes not until - complete unusability has occurred. There are several reasons for this, which are worth stating only because they suggest certain methods of improvement.

From the 1920's and continuing to the present, Miami has been involved in a pattern of real estate promotion and tourist, resort, and new-inhabitant expansion. As is characteristic of any extraordinary growth phenomenon, basic considerations - in this case, municipal problems and objects of concern - have been somewhat

sidetracked and neglected while the rush is on. Miami's boom has been continuing, and through it all, Miami has kept pace only with difficulty with the primary capital improvements required for metropolitan development.

Any city which grows phenomenally reaches a point where basic facilities must be enlarged, while the tax base to provide them is insufficient. New traffic-handling street systems, water runoff and sewage facilities, fire and polic protection, and public welfare and education systems - all are enormously costly in construction and initiation stages, while real estate assessment and attraction of assessable commercial and industrial establishments do not keep pace with minimum metropolitan needs.

The port of Miami has been the victim of this lack of local funds, on the one hand, and of the concentration of local interests on the resort and new-housing phase of the city's life, on the other.

Miami, and the southern Florida area in general, have also been victims of the resort-city development pattern combined with a real estate boom and bust psychology. To some, this suggests that Miami is a papier-mache kind of city, rather than what it has come to be. Dade, Broward, and Palm Beach promoters have helped this false thinking along by referring to the "Gold Coast" part of Florida. The banking implications of this false concept outside of Florida have not always been helpful, and have affected Miami's credit rating for sale of bonds for capital improvements. Ultra-conservative investment capital centers in other parts of the country have been hard to "sell" at times, as a result. This situation, now fully realized by responsible Miamians, is being successfully reversed, since the economic reality of a large metropolitan area with growing assets of all kinds, including airports, seaport facilities, increasing light industry, and increasing position in the international trade picture, means better interest rates in financing efforts on behalf of municipal capital improvements.

Port Miami Has Played a Passive Role

A port is a state of mind, as has been suggested previously, and Miami has not learned to consider its ocean terminal as a vital organ, nor have Miamians universally come to realize their port's added, and now immeasurable, value in terms of the Caribbean--Latin American - European trade complex.

In addition to an early lack of port-mindedness in Miami, the

War years further reduced active local participation in port operation, since commercial traffic was completely halted by Navy utilization of port and harbor facilities. When the Navy withdrew in 1945, except for one installation kept until 1947, it was clear that the trade picture had also changed. Coastwise shipping had been decimated for the time, but, on the other hand, there was a new South Atlantic - Caribbean pattern emerging.

However, the challenge to either restore the old or create new trade patterns was hardly recognized by Miamians. Port promotion was dealt with as a luxury and not as an operational need. And this occurred in a city where promotion of other kinds has been developed into an art. Port promotion and traffic solicitation had few advocates and this function of the port was forgotten with the same nonchalance as was the condition of her docks and terminals. The Port of Miami has suffered in the overall Miami picture from too many other urgent local needs which had sponsors and/or better advocates. The result is the spectacle of a good going business operation allowed to exist but not allowed to grow, simply because of the lack of a will to decide on the way, and then pay the price.

Instability of Relationship to Sovereign Authority Brought Operational Stagnation

Original harbor improvements were made in the 1890's by the Florida East Coast Railway, the Federal projects being started in 1902 and carried on in cooperation with the F.E.C., the City of Miami, and other local private interests, up until the present. The City of Miami, rather than Dade County, has been the moving spirit in port development, and in 1943 a genuine port authority was created by State legislation and titled the "Greater Miami Port Authority." This official body was authorized to take charge of the local cooperation and works aspects of the soon-to-be-authorized new Federal project which is familiar as the "Virginia Key Project."

At this point, the "resort" side of Miami's personality overcame the conservative economics element, and the project was abandoned at local insistence. The Greater Miami Port Authority was abolished by the State Legislature in 1945; and in its place was created the Dade County Port Authority which was authorized to administer both water and air ports in the County. However, the water port division of the Authority was never organized. The jurisdictional controversy ended in a stalemate. The result has been frustration. The lack of decision and/or leadership has been used as an argument for inaction in port matters, and the port has been present, but not a favored member of the family, at the Budget Banquet.

"Holding the Port"

"Holding the Port" is not enough. A defensive position inevitably deteriorates. A sound offensive campaign is the way to make the most of any valuable civic property. And a flourishing port will be another link in the chain of sound capital assets which, in turn, will open to Miami vistas of new economic plateaus.

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The essentiality of taking into account all measurable as well as speculative elements of the economic position of Miami as the natural focal point of subtropical Florida, as well as the potential capital city of the large land and sea hinterlands of the Caribbean, may hardly be over-emphazied in reaching decisions as to what role the Port of Miami can play as the land-sea - air transportation transfer point for passengers and cargo, in the years ahead.

We have gathered and compiled large quantities of such statistical indicators, as well as reviewed the extensive material gathered and compiled by others. These data have been tabulated, charted, and examined both as to what they purport to show and as to what they actually do show. This has been a complex task, not so much because of the difficulty of interpretation of the vast amount of material, but because all such data have practical limitations when used as indices for prediction of tomorrow's economic position with regard to a city or area. Of course, all mature economists know this, but they are apt to avoid saying so, as any indication that statistics are fallible makes the client uneasy. In fact, it may cause him to lose his nerve entirely, and avoid making decisions, even on the basis of the best information available. Yet, decisions must be made, cities must take action, and business must chart its own future in the confident expectation that the decision is right now, and will not be too far away from reality a decade or so hence.

We have been most conscious of all this during our analysis of the background facts upon which we have predicated our decisions. We have weighed figures and observed averages, but have also recognized those intangible but certain conditions - unprovable by statistics - which are essential to reaching the inevitable sum certain of things to come.

Against this background of research and evaluation, we have posited every decision reached in our report. Had time and money been no object, or had this been an economic and industrial survey per se of the Four-County Glade-Trade Area, or of Greater Miami, instead of a Port Development Survey, we should here present the economic and industrial facts considered significant, together with such charts, tables, and graphs as would depict the trends and develop the measurable conclusions.

Since we recognize with reluctance that it is not practicable to include most of these data, we have presented only a relatively few statistical compilations, including

First, four tables dealing with relative economic facts pertaining to each of the four Glade-Trade Counties - Dade, Broward, Monroe and

Palm Beach. These tables show, for each of these Counties, for the first quarters of 1948, 1951, and 1953, the growth and numbers of employees, taxable payrolls, and total reporting units for firms covered by old-age and survivor's insurance programs.

Second, waterborne tonnage and traffic of the Port of Miami for 1953, the date of the last official compilation by the Maritime Commission, which we have compared with similar figures compiled by us in 1949.

This latter table is being included, not because we consider it a significant indicator of this port's future, but because the omission of a tonnage table from a port survey would be considered highly unconventional, though the whole technique of trade statistics and the method of their compilation are undergoing revision at this time. It has become generally recognized that trade statistics need to be compiled and read in new ways. Not only are commodity patterns and trade routes changing, but cargo handling methods and shipping design are close to a special renaissance of their own.

By way of special observation, attention is invited to the general use of the term "Gold Coast" to refer to the economic relationship of Dade, Broward, and Palm Beach Counties to the rest of Florida and to the other southeastern United States. The name, so often included in economic reports and in the press, has a most unfortunate connotation when these same reports and press stories are circulated in other parts of the nation --and particularly in centers of conservative financial habits. It is respectfully submitted that investment bankers are not nearly so much interested in the "glitter of gold" as they are in the certainty of a substantial economy with a permanent, responsible citizenry behind that economy. As Miami - and all of the four Glade Counties in different ways - are entitled to evaluation on the basis of the facts rather than a slogan, the term should be abandoned.

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GROWTH IN NUMBER EMPLOYEES, TAXABLE PAYROLLS, AND TOTAL REPORTING UNITS, FIRMS COVERED BY OLD AGE AND SURVIVORS INSURANCE PROGRAMS. GLADE-TRADE COUNTIES, 1948-1953

Dade County, Florida

Economic Activity	Number Employees - Mid-March				Taxable Payrolls - January-March				Total Reporting Units			
	1948	1951	1953	% Increase 1948-1953	1948	1951	1953	% Increase 1948-1953	1948	1951	1953	% Increase 1948-1953
Agric. Services, Forestry, Fisheries	539	835	708	31.4	284	506	447	57.4	113	167	165	46.0
Mining	273	233	447	63.7	176	193	470	167.0	11	11	21	90.9
Contract Construction	17,261	17,081	17,203	-0.3	13,551	14,755	15,781	16.5	1,234	1,529	1,595	29.3
Manufacturing	13,225	16,550	21,766	64.2	8,913	11,946	17,377	95.0	697	921	1,044	49.8
Public Utilities	17,202	18,650	23,331	35.6	13,064	16,429	24,002	83.7	369	404	428	16.0
Wholesale Trade	10,740	12,916	14,205	32.3	7,856	10,437	12,254	56.0	871	953	1,140	30.9
Retail Trade	40,454	45,344	48,817	20.7	21,070	26,720	31,444	49.2	3,912	4,502	4,782	22.2
Finance, Insurance and Real Estate	8,729	9,790	11,832	35.5	5,328	6,920	9,186	72.4	1,369	1,632	1,813	32.6
Services	29,785	33,486	36,671	23.1	16,948	20,144	24,698	45.7	3,897	4,134	4,582	27.4
Not Elsewhere Classified	540	563	360	-33.3	179	284	192	7.3	118	149	97	17.8
Unclassified	1,289	1,883	1,756	35.2	660	1,032	1,140	72.7	268	492	490	82.8

Source: County Business Patterns, First Quarters 1948, 1951 and 1953 - U. S. Department of Commerce, as adapted by the Economic Development and Research Departments of the Miami-Dade County Chamber of Commerce and the Mott Research Group.

Broward County, Florida

Economic Activity	Number Employees - Mid-March				Taxable Payrolls - January-March				Total Reporting Units			
	1948	1951	1953	% Increase 1948-1953	1948	1951	1953	% Increase 1948-1953	1948	1951	1953	% Increase 1948-1953
Agric. Services, Forestry, Fisheries	144	295	373	159.0	60	192	193	221.7	31	61	70	125.8
Mining	50	86	79	58.0	34	58	58	70.6	3	5	6	100.0
Contract Construction	3,091	4,180	4,482	45.0	2,504	3,557	4,134	65.1	348	461	612	75.9
Manufacturing	1,098	1,884	3,382	208.0	727	1,426	2,584	255.4	84	119	156	85.7
Public Utilities	1,203	1,318	1,684	40.0	656	1,011	1,368	108.5	57	67	78	36.8
Wholesale Trade	1,153	691	1,092	-7.7	875	444	889	1.6	91	99	156	71.4
Retail Trade	4,944	7,810	9,552	93.2	2,719	4,611	6,050	122.5	733	976	1,199	63.6
Finance, Insurance and Real Estate	1,000	1,429	2,001	100.0	540	895	1,361	152.0	207	356	512	147.3
Services	3,530	5,869	6,778	92.0	2,234	3,090	3,932	76.0	513	672	816	59.1
Not Elsewhere Classified	80	144	110	37.5	29	58	56	93.1	24	47	38	58.3
Unclassified	120	399	407	239.2	51	222	247	384.3	26	103	92	353.8

Source: County Business Patterns, First Quarters 1948, 1951 and 1953 - U. S. Department of Commerce, as adapted by the Economic Development and Research Departments of the Miami-Dade County Chamber of Commerce and the Mott Research Group.

GROWTH IN NUMBER EMPLOYEES, TAXABLE PAYROLLS, AND TOTAL REPORTING UNITS, FIRMS COVERED BY OLD AGE AND SURVIVORS INSURANCE PROGRAMS. GLADE-TRADE COUNTIES, 1948-1953

Monroe County, Florida

Economic Activity	Number Employees - Mid-March				Taxable Payrolls - January-March				Total Reporting Units			
	1948	1951	1953	% Increase 1948-1953	1948	1951	1953	% Increase 1948-1953	1948	1951	1953	% Increase 1948-1953
Agric. Services, Forestry, Fisheries	-	42	80	-	-	13	43	-	2	8	14	600.0
Mining	-	-	-	-	-	-	-	-	-	-	1	-
Contract Construction	91	269	537	490.1	44	164	442	900.5	24	37	44	83.3
Manufacturing	117	224	216	84.6	56	120	149	166.1	23	18	21	-8.7
Public Utilities	259	205	248	-4.2	159	132	183	15.1	13	12	20	53.8
Wholesale Trade	216	132	162	-25.0	102	78	106	3.9	25	21	27	8.0
Retail Trade	854	1,259	1,619	89.6	351	551	836	138.2	185	228	241	30.3
Finance, Insurance and Real Estate	63	95	171	171.4	25	52	133	432.0	13	17	23	76.9
Services	568	706	913	60.7	231	332	544	135.5	118	147	163	38.1
Not Elsewhere Classified	5	18	-	-	-	7	-	-	3	6	2	-33.3
Unclassified	46	62	48	4.3	15	20	22	46.7	10	18	19	90.0

Source: County Business Patters, First Quarters 1948, 1951 and 1953 - U. S. Department of Commerce, as adapted by the Economic Development and Research Departments of the Miami-Dade County Chamber of Commerce and the Mott Research Group.

Palm Beach County, Florida

Economic Activity	Number Employees - Mid-March				Taxable Payrolls - January-March				Total Reporting Units			
	1948	1951	1953	% Increase 1948-1953	1948	1951	1953	% Increase 1948-1953	1948	1951	1953	% Increase 1948-1953
Agric. Services, Forestry, Fisheries	242	525	384	58.7	144	291	258	79.2	20	40	40	100.0
Mining	17	19	-	-	6	13	-	-	3	3	2	-33.3
Contract Construction	3,307	3,858	4,056	22.6	2,625	3,004	3,471	32.2	338	375	436	29.0
Manufacturing	1,229	1,855	2,160	75.8	745	1,359	1,845	147.7	104	133	153	47.1
Public Utilities	1,590	1,801	2,017	26.9	1,023	1,196	1,610	57.4	66	78	72	9.1
Wholesale Trade	1,430	1,884	2,615	75.9	902	1,109	1,618	79.4	158	132	154	-2.5
Retail Trade	6,894	8,254	9,683	40.5	3,699	4,691	6,148	66.2	994	1,183	1,250	25.8
Finance, Insurance and Real Estate	1,716	1,740	1,899	6.6	1,034	1,244	1,473	42.5	244	287	349	43.0
Services	6,452	6,203	7,119	10.3	3,209	3,281	3,975	23.9	750	816	895	19.3
Not Elsewhere Classified	49	60	-	-	19	63	-	-	23	30	26	13.0
Unclassified	163	269	300	84.0	116	121	172	48.3	47	85	79	68.1

Source: County Business Patterns, First Quarters 1948, 1951 and 1953 - U. S. Department of Commerce, as adapted by the Economic Development and Research Department of the Miami-Dade County Chamber of Commerce and the Mott Research Group.

WATERBORNE TONNAGE AND TRAFFIC OF THE PORT OF MIAMI FOR 1953
(Including Comparative Tonnage Figures for 1949)

KIND OF TRAFFIC As To Foreign Trade	Total Tonnage 1949	Total Tonnage 1953	% of Total Traffic 1953	Leading Commodities - 1953	% of Total Imports
Imports	172,526	188,688	19.2	(1) Newsprint	26.7
				(2) Bananas	20.7
				(3) Residual Fuel Oil	20.2
				(4) Cement	11.7
				(5) Steel Mill Products	9.0
				(6) All others	11.7
					Exports
Exports	42,743	41,824	4.2	(1) Machinery & Vehicles	20.4
				(2) Non-metallic minerals, n.o.s.	15.4
				(3) Wood & Paper Products, n.o.s.	12.2
				(4) Lumber & Shingles	8.2
				(5) Vegetable Food Products & Beverages	8.2
				(6) All others	35.6
					C.R.
Coastwise Receipts	430,382	689,561	70.1	(1) Non-metallic minerals, n.o.s.	90.1
				(2) Metals & Manufactures	2.7
				(3) Vegetable Food Products & Beverages	2.1
				(4) All others	5.1
					C.S.
Coastwise Shipments	4,416	23,062	2.4	(1) Non-metallic minerals, n.o.s.	76.6
				(2) Chemicals & Related Products	9.2
				(3) Metals & Manufactures	8.6
				(4) All others	4.6
					AODR
All Other Domestic Receipts	n.a.	40,428	4.1	(1) Vegetable Food Products & Beverages	57.3
				(2) Non-metallic minerals, n.o.s.	36.2
				(3) Animals & animal products, edible	2.2
				(4) All others	4.3
					AODS
All Other Domestic Shipments	n.a.	622	1/	(1) Miscellaneous	100.0

n.a. - Comparable figures for 1949 not available.
1/ - Less than .5%.

Source: Commercial Statistics, Water-Borne Commerce of U. S., 1949, 1953, Board of Engineers for Rivers and Harbors, C of E, U. S. Army.