KEY WEST BOTANICAL GARDENS AND TROPICAL FOREST

KEY WEST, FLORIDA

CAP ASSESSMENT

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Introduction

The Great Depression fell heavily on Key West. On July 4, 1934, Key West requested of Florida's governor, Dave Sholtz, that he take charge of its affairs because it had been placed in a state of emergency by a series of economic set-backs. The City's resolution revealed that almost half of the population was on Federal relief rolls. Two days later, it was reported that the city was bankrupt and "was in the hands of a receiver, who hoped to overcome years of misfortune and make it a second Bermuda by reviving a lifeless tourist trade and pumping fresh blood into its stricken veins."[1]

The receiver was the Federal Emergency Relief Administrator, Julius F. Stone Jr., who believed that the answer to the city's problem "was to capitalize on the city's charm and entice tourists to a beaten path to its door".[2] By the end of July, more than 1,000 volunteers had signed on with FERA in rehabilitation projects for the city.

[1] *New York Times*, July 6, 1934, page 19
[2] ibid.

The Beginning: 1934

In 1934, the *Key West Citizen* wrote that the Key West Department of Parks and Recreation, under the direction of Gerry Curtis, was acquiring suitable lands for one of the largest tropical botanical gardens in the world. Started under FERA on six acres of dense hardwood hammock on Stock Island, the garden broke ground in 1934.

The *Citizen* wrote on December 10, 1934:

> First Plants in New Garden Put in Ground:
> Tree Ceremony Held This Morning in Activities at Key West's Botanical Garden
>
> First plants of the Key West Botanical Garden were placed in the ground this morning adjacent to the golf course where the garden is to be developed.
>
> A brief ceremony had been arranged for the start of the garden, and the first plant was placed by Mayor William H. Mallory, who spoke briefly outlining the value of such a garden to Key West, and to the development of tropical flora.
>
> Other plants were placed in the ground by Mrs. William P. Warren, president of the Key West Garden Club, Mrs. W. J. Pheland, vice-president, and Miss Mollie A. Parker, corresponding secretary.

The Garden was designed by Ralph E. Gunn of Jacksonville, who later was associated with a number of landscape works in Texas. It opened February 23, 1936.

The Garden itself was 55 acres and was constructed adjacent to the Key West Golf Course, which had been built in 1923. The land was owned by the city of Key West, which also owned the golf course.

During 1935, Mrs. William Pheland began propagating plants at the Key West library for the new garden and on the second of February 1936 she transferred her collection to the garden. In March the following year, she was given supervision of project.

Photo courtesy of the Florida State Archives Florida Memory Project

"Mrs. William R. Warren breaking ground for botanical garden and amphitheater: Stock Island, Florida".

The U.S. Plant Introduction Station at Chapman Field near Miami had forwarded the initial planting to the Garden. The entire group making up the first shipment was composed of aeselas, South American exotics, all of which had been exported from their native home.

Negotiations for receiving plants from the introduction station at Chapman field were carried out between B.M. Duncan, Key West Administrator; J. Gerry Curtis, Director of the Parks and Recreation Department of the Key West Administration, and the Secretary of Agriculture at Washington. The Miami station was located on a 200-acre site, formerly Chapman Field that had been constructed during World War I. The station was located there through the efforts of Dr. David Fairchild, specifically for the introduction of tropical plants into the U.S.

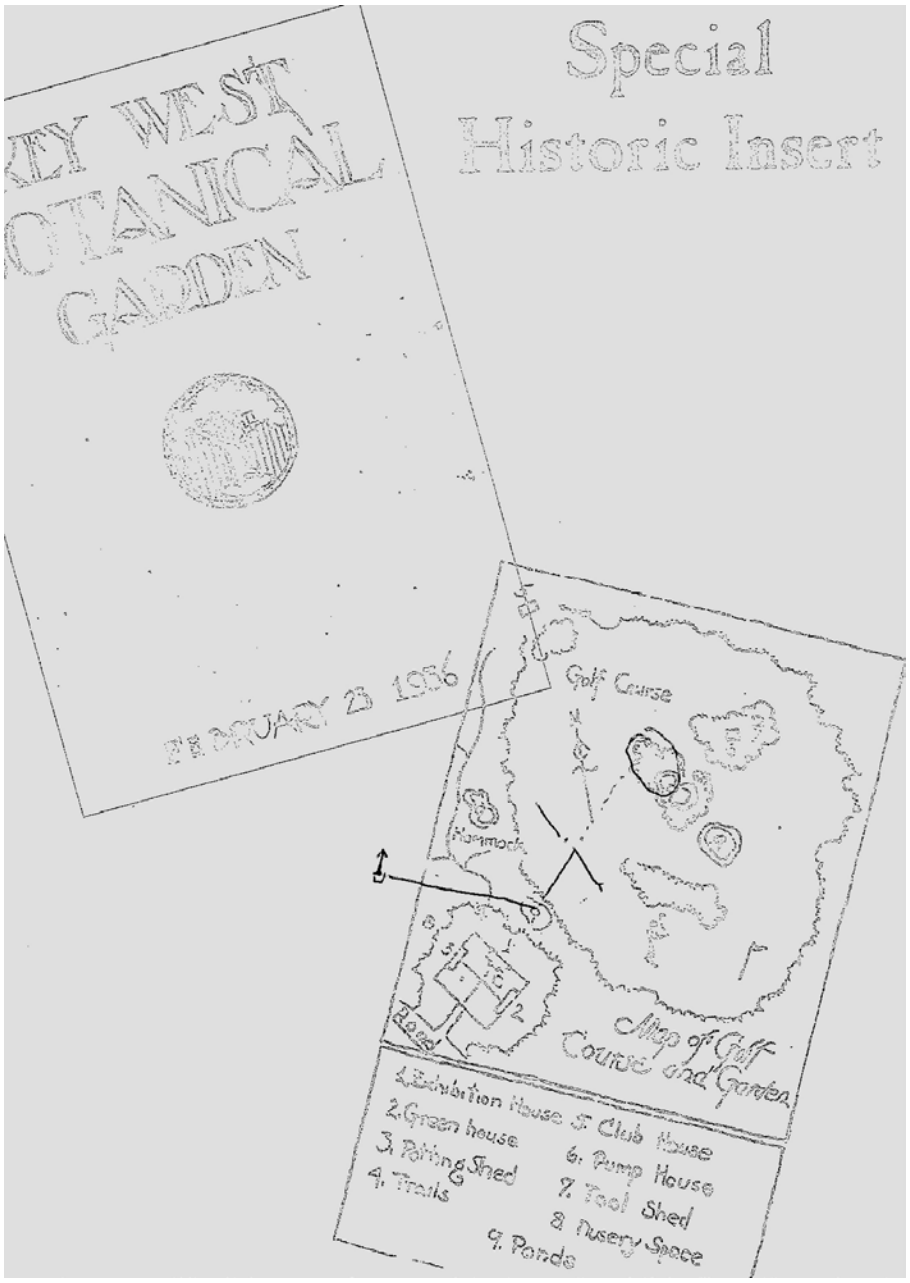
The *Miami Herald* wrote on November 29, 1935: … "Three separate works progress administration projects totaling $39,685.10 are making possible the development of the garden".

The article went on to report that an allotment of $15199.40 had been made available for 'botanical garden proper', and "A second project provides for the expenditure of $16,954.70 on greenhouses and facilities and $8,542 has been appropriated for a water distribution system. The article finished by stating:

> To date there has been some 7,000 plants, including 80 species planted in the garden tract. These plants were sent to Key West from the plant introductory stations of the department of agriculture in Coconut Grove and Glendale, Md. (now Beltsville Agricultural Experimental Station).
>
> "Several tons of rock were removed from the four acre plot where the garden for flowers is being developed. This rock is being utilized in an enclosing wall and its flagstone walks.
>
> "Within this four-acre plot a group of greenhouses is being built. These greenhouses have been designed to take care of the propagation of plants under tropical conditions, such as extreme warm periods and periodical rains and high winds. These greenhouses are an adaptation of the slat houses used in the north, combined with adjustable shutters."
>
> "Some two miles of pipe line are being laid through this tropical hammock to supply water to the introduced plants during the dry season.

In 1935, the Key West Administration, the new governing body for the city, published its Key West Guide Book, in which the Garden was described. The guide writes, after a description of the Key West Country Club:

> "Numerous paths through a native Florida hammock lead from the country club house and golf course to a most interesting botanical garden. Exotic trees and tropical shrubbery grow along the pathways and deep into the hammock itself.
>
> Visiting this garden, one will be repaid by seeing many varieties of tropical trees that bloom nowhere else in the United States, for Key West's excellent climate, free from frost, makes possible the growing of real tropical trees on the island…
>
> While the garden itself is comparatively young, thousands of plants have already been set out. Included among them are 1,855 exotic plants, numbering 61 distinct species, which were received from the United States Plant Introduction Station at Glendale, Md. From the United States Introduction Station at Coconut Grove there were received and set out 1,900 plants, among which were 15 rare species.



Original brochure at garden's opening

Note that the plans show the stone wall enclosed area with the Entrance, Greenhouse, Potting Shed, and Exhibition House, all joined by "flagstone" walks.

Photo courtesy of the Florida State Archives Florida Memory Project

"Woman planting a tree: Stock Island, Florida."

The Guide continues, describing many of the plants:

> An indication of what can be accomplished with waste material is to be found in the four compost pits near the garden. In these pits are placed sawdust swept from the floor of a box factory; loggerhead sponge which has little commercial value; seaweed swept up on Key West beaches by incoming tides; and dairy fertilizer. The only foreign substance which goes into the pit is milorganite and phosphate rock. A yield of high-grade compost is obtained from these materials and is being used in fertilizing the trees found in the garden.[3]

Further description comes from The American Guide Series, Florida, a Federal Writers' Project. It wrote:

> STOCK ISLAND, 169.5 m., was so named because in early days Key Westers kept their cattle here. On the KEY WEST MUNICIPAL GOLF COURSE (greens fee

[3] Key West Guide Book, An Aid To The Visitor--- Fall and Winter 1935-1936. Key West Administration September, 1935

> $1), 171.2 m., players tee off within sight of the Gulf and face the Atlantic at the 8th hole.
> Adjoining the fairway ® is the KEY WEST BOTANICAL GARDEN, established as a part of the Key West rehabilitation program, planted with thousands of exotic trees and shrubs furnished by the U.S. Plant Introduction Station. Among them are the sausage tree, bearing hard sausagelike fruit on long slender stems; the Norfolk Island pine, a tall pyramidal tree with spreading up-curved branches; the white orchid tree, covered with pale white flowers delicately veined with green; the soap tree; and the woman'-tongue tree, with long slender pods in which the seeds rattle monotonously at the slightest breeze.[4]

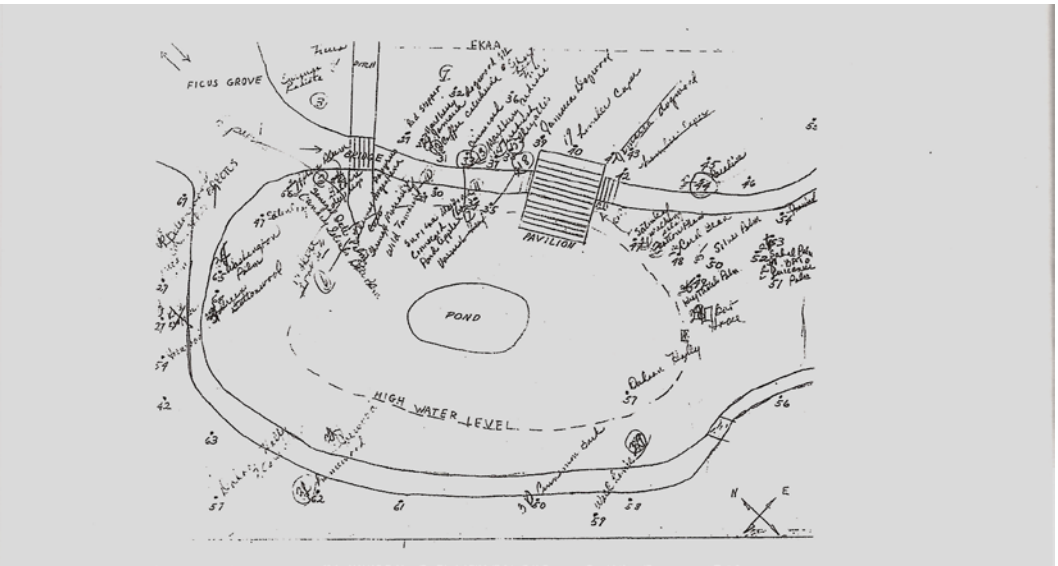
The original plan contained a square area, approximately 74 feet on a side, enclosed by two-foot high, eighteen-inch wide masonry keystone random ashlar wall with a cement cap. Within this square were flowerbeds and a feature at each cardinal point. The features were an Entrance at the center of the wall off the access road, an Exhibition House opposite the entrance at rear, a side Potting Shed at the west side, and at the east side, a Greenhouse.

Three ponds were on the site with a channel from a pond, now on the Key West Golf Course, to small pond existing on site, Desbiens Pond [or Buttonwood Pond], and a channel from that pond to Gulf, now blocked off. A third pond, Mangrove Pond, exists on the northern portion of the site, now inaccessible to the public.

The channels were constructed of stone from the site, and concrete. At present, the end of the channel is of brick from recent construction.

The greenhouse, seemingly a redundant building in Key West's climate was a necessity. According to a history of Fairchild Garden in Coconut Grove, " Many seedlings and other young plants from the warm regions of the world need protection

[4] American Guide Series: Florida. Federal Writers Project. Oxford Press, New York, 1939



Plan courtesy of the Key West Botanical Garden and Tropical Forest

Plan of Desbiens Pond

against our occasional cold snaps, torrential rains, strong winds, and blazing sun. A glass-house is essential during the first weeks and months of the life of tender plants. Then as they grow stronger they can be moved out to he slat-house, where they get part shade and other needed protection before they take a permanent place in the landscape."[5]

There is no evidence remaining of the original Potting Shed. The area where that had been located has over time been considerably altered. At present, the Office building and the Garden Wall and Water Feature are located roughly in this area. In this area, the wall was noticeably rerouted in an earlier (probably c1960) "restoration" attempt.

Ignored and neglected during World War II, the Garden soon was overgrown with "weed" plants and the structures decayed. In August 19, the City of Key West deeded five and one-half acres of land adjacent to the golf course for construction of a "war-emergency" hospital. In July of 1951, Monroe County purchased this facility and when the new Florida Keys

[5] Fairchild Tropical Garden: The First Ten Years. Ronald Press, New York 1948

Memorial Hospital was constructed in 1971, this facility became county offices. Not until 2003 was this building removed, allowing the Garden to become visible from the road.

In 1953 and again in 1956, land, which had been incorporated in the Garden, was deeded by the City of Key West to the Key West Aqueduct Authority for water storage tanks. The construction of a parking lot and the water tanks filled in the Garden's water runoff channel.

The original Entrance location from a point that approximates the original sightline from the road.

While there was some interest in the Garden in the 1950's with the Boy Scouts clearing trails and putting identification labels on some of the trees, little was done until 1960 saw renewed interest On January 29, 1961; the Garden was reopened and designated by the City of Key West a "permanent wildlife sanctuary, botanical garden and arboretum under the

city's park system."[6] At that time only eleven acres of the original 55 remained. At that time too, a new entrance was created leading directly off of College Road and the Key West Citizen reported that there was the "removing of decaying buildings."[7]

During the 1960's, the Garden was described as having a front garden enclosed by a rustic fence with a second garden enclosed by stone fence. A third garden was entered from an opening in the stone fence beside the old greenhouse in the second garden. The third garden extended to rear of the Monroe General Hospital and to the golf course and included a wooded area up to the golf course and the Aqueduct Commission fence. From this a narrow strip of woodland between the fence and golf course, at rear of first pond, a trail wound to the second fresh water pond in the northern hammock.

It is extremely likely that all of these ponds on the site and on the golf course are fresh water lenses from a shallow water table in the area. This would account for the types of flora in the area, types reliant on subsurface fresh water.

In 1972, the Key West Garden Club contracted with the City of Key West to maintain the Garden, and this they did until 1991. In 1986, the Garden Club conducted a major clean up of the Garden and on April 12, 1987, the Club hosted a grand re-opening of the Garden. Formed in 1988, the Key West Botanical Garden Society, Inc., took over the management of the Garden in 1991.

It is recommended that the rubble, which remains on the site, be divided into three categories. The first would be that material which can be reused in the reconstruction of the perimeter wall. These pieces are noticeably shaped. The second group would be those pieces that may be used

[6] *Miami Herald*. July 12, 1968
[7] *Key West Citizen* January 23, 1962

in the construction of some new features in the Garden. Finally, the third group consists of that material which cannot be used for either of the above purposes; this material may be disposed of.

The channels from pond to pond were apparently created to provide for runoff when the ponds overfilled from heavy rains. Created from rubble and concrete, the channels are no longer useful as the end of the channel from Desbiens Pond to the Gulf has been blocked.

They may also have been used in the irrigation system for the garden but this is somewhat unlikely given the vast amount of irrigation piping laid when the garden was begun.

It is recommended that the channels be left in place, cleaned out, and identified as to their original purpose.

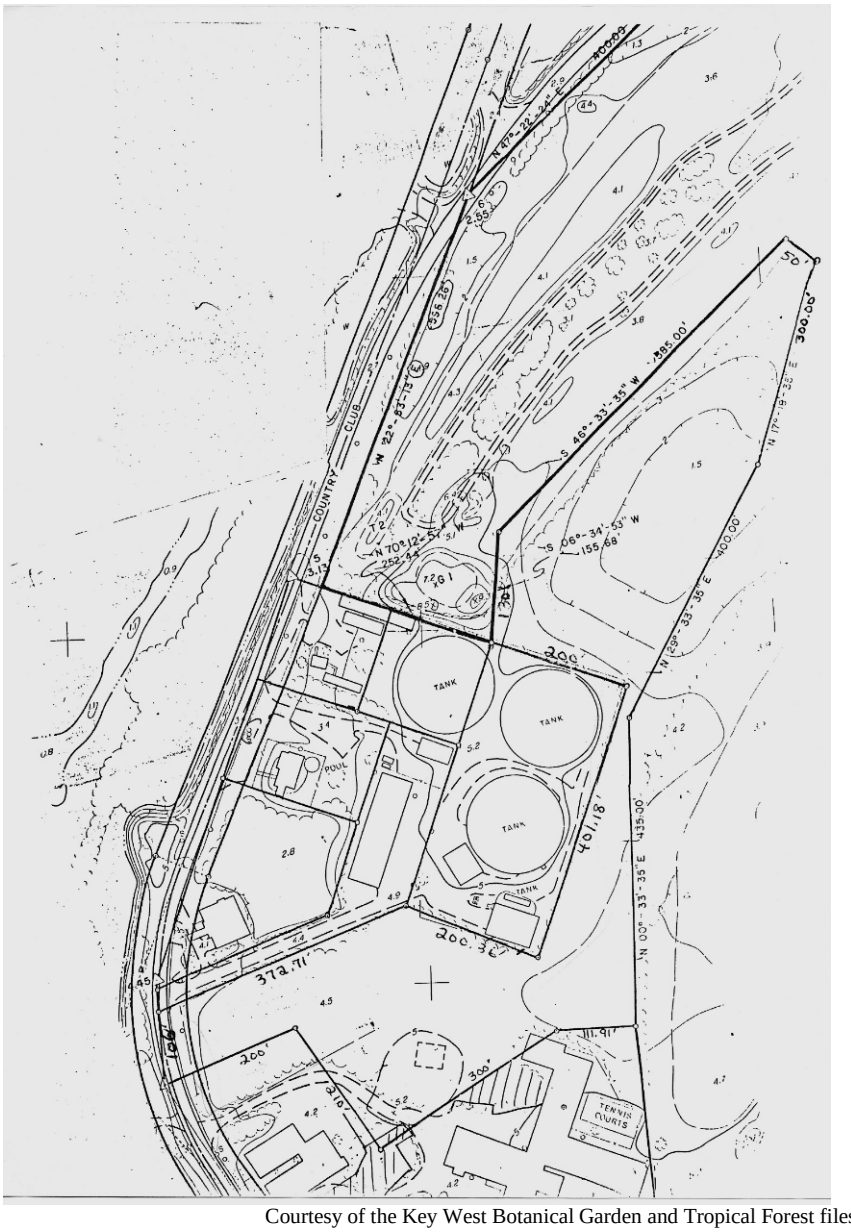
The possibility does exist that a cistern had been constructed in association with theses channels. A large section of pipe has been uncovered which may have played a part in the water distribution system in the garden

In addition to the existing Garden grounds, a new section of land has been recently added to the Garden. Formerly occupied by the County Building, this new area may have contained a pond, which no longer exists. The County Building was demolished in 2003, save for the chapel. While it was intended to reuse the chapel after its rehabilitation, this course of action has been tabled pending a determination of its eventual use. At present, the building is in poor condition and will require extensive work to make it habitable. Should this not prove feasible, the best alternative would be its demolition. As the chapel is less than fifty years old, this demolition would not require any further activity on the part of the Garden.

Desbiens is the smallest pond on the site and at present is the only one accessible to the public.

The Garden Today

Most recently, the Garden has undergone a major transformation with the construction of a Visitors' Center, Public Toilets, Boardwalks, Water Feature with Planting Wall, Offices, and Storage. These features were constructed in 2001-2002.



Courtesy of the Key West Botanical Garden and Tropical Forest files

Existing Site

Northeast corner of the original stone wall. This portion contains the most intact part of the wall and is a good model for any reconstruction that might be entertained.

The rock wall at the rear of the property. At the right, the wall is in its original condition while at the left, some reconstruction has taken place. The wall was original of random ashlar wall with cut stones. These can still be found on the site and any reconstruction should attempt to use these.

Fragments of the c1960 rebuilt stone wall at western edge of site.
[This portion should be removed as it is not original nor does it replicate the random ashlar of the original wall.]

Fragment of the Exhibition House wall

Importantly, however, there are the many extant remains of the original garden. There are a great many fragments from the original features remaining in the garden.

Corner foundation of the Exhibition House – all four of these remain

New Boardwalks now meander through the Garden allowing visitors to experience the plantings while walking over the ruins of the original Garden

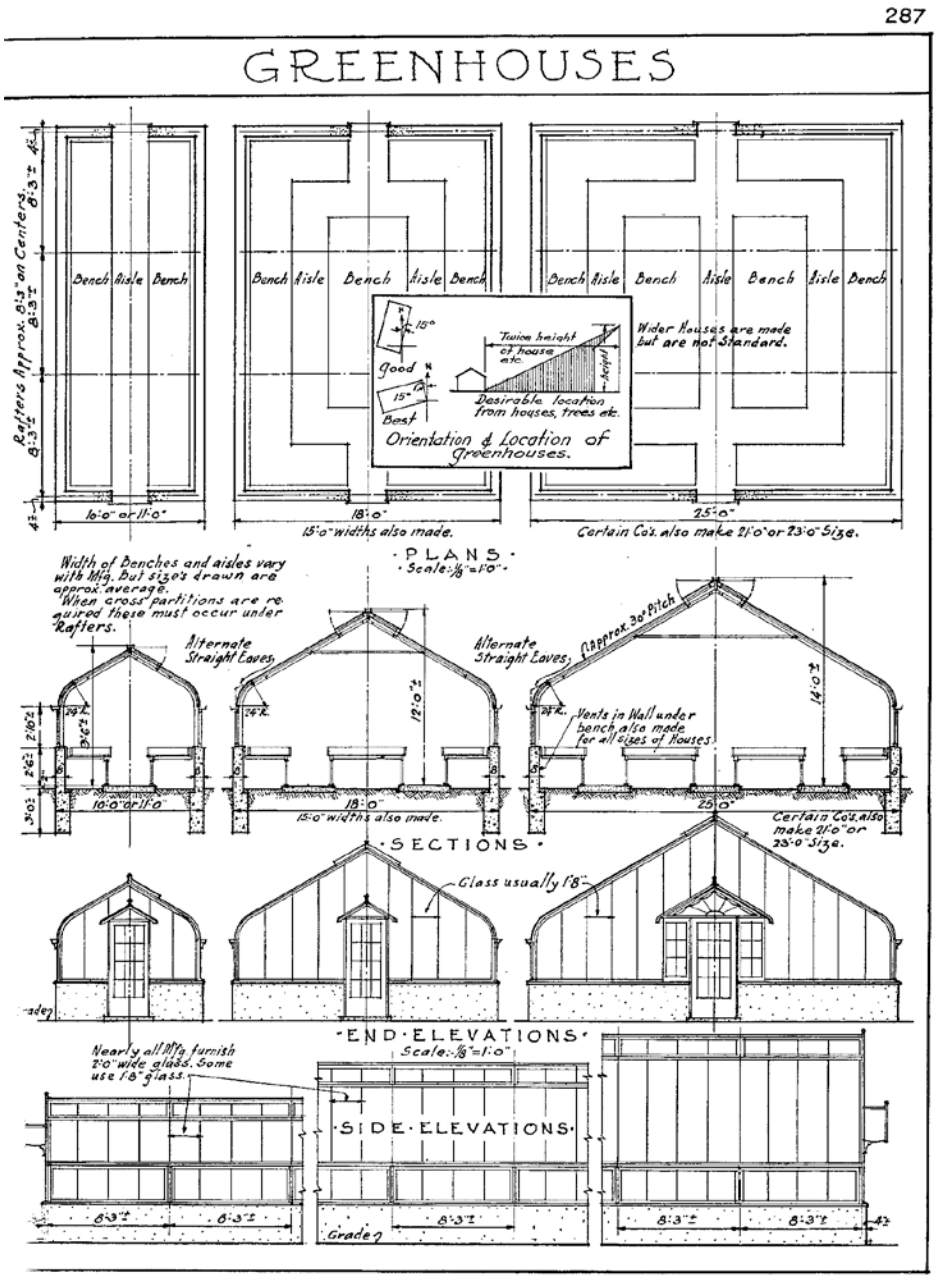
Observations and Goals

It is critical to the understanding of the Garden and its history that all of the original construction on the site be retained. While much of this is in ruin, these ruins can be interpreted for the visitor, allowing for a better understanding of the work done by the Federal Emergency Reconstruction Administration and the type of planning which was done in the 1930's. Additionally, the rock enclosing wall can be restored in order to set the scene for the Garden's present and future appearances. The restoration should be done carefully in the manner of the original construction.

The remainder of the ruins from the original construction should be left, again as a part of the interpretation of the Garden's history. At present, because the original appearance of the various buildings, Entrance, Exhibition House, etc. cannot be determined, there should be no effort to reconstruct them. Reconstruction should only be undertaken when the original appearance of a feature can be documented. The condition of the remains of the original work is very good. The rubble on the site should be cleared so that those features can be exposed for interpretation. Signage and other graphics could be used to explain their original purpose that would assist in the interpretation of the Garden and its history.

One exception to the concept of reconstruction might be the construction of a new greenhouse on the site of the original. While the exact nature of the original remains a mystery, there are plans from the era, which could be used. The presence of a greenhouse in the Garden would be both practical from the point of plant development, and might also be attractive to

visitors to the Garden who might then be able to see how the propagation process works.



Greenhouse plans from Architectural Graphic Standards published in 1932, 1944 revision

Shown above are typical greenhouse plans from the 1930's. The existing slab remaining on the site is approximately 10'-0" by 35-40' which accords well with the single bay type shown at the left.

Exhibition Hall Slab

Remnants of the Greenhouse Floor Slab

One other feature that could be duplicated might be the compost pits. It shouldn't be too difficult to determine where these were as they were constructed as large holes in the rock subsurface and, as they were filled with organic material, their presence can probably be easily ascertained. Inasmuch as the keys are filled with sinks holes, which over the years filled with deteriorating vegetable matter, forming their own sort of compost "pits", this would seem to be an appropriate activity.

Finally, the area where the new "floor" installed where the original Entrance existed might also be enhanced with some feature, something that would draw attention to the location's original importance, such as a pergola, seating, or some similar construction.

The concept of leaving these ruins is similar to the construction of a Computer Assisted Drawing, where each layer of drawing represents a different phase of a project. The Garden is best exhibited if each of its phases can be shown, overlaying the new elements on the original. In this way, the Garden may be made to conform to contemporary use but also show its tradition, the contemporary "floating" over the original. Thus the earliest plans are retained as well as other changes that have taken place throughout the Garden's life. This way, both the manmade as well as the natural features can be observed and read by the visitor, increasing the knowledge gained from the experience.

When the Garden was first established, it obtained many specimens from what are now Department of Agriculture Experimental Stations. The materials supplied to the Garden, as well as to other similar gardens that were being established or improved by FERA were all of a practical nature, designed with the purpose of establishing areas for medical research, food production, and so forth.

There is historical precedent in the Florida Keys with regard to botanical gardens, one that the Key West Botanical Garden is now in a position to follow. In 1838, Dr. Henry Perrine founded a botanical garden on Matacumbe Key and filled it with exotic materials from around the world in an effort to determine what Florida was best suited for in the plant world. Among the plants that Perrine and his Tropical Plant Company of Florida experimented with were hemp, bananas, mangos, and coffee. Perrine later moved many of his experiments to Indian Key because of the Second Seminole War; all of this work was destroyed in 1840.

Later botanical gardens have included the Fairchild Gardens in Coconut Grove, so-called by its founder, Robert Montgomery, founded in 1939. Montgomery named the gardens for Fairchild who was an extraordinary plant explorer who had created the Section of Foreign Seed and Plant Introduction at the United States Department of Agriculture. Fairchild was responsible for introducing a number of important plants to the United States including alfalfa, nectarines, dates, horseradish, and flowering cherries. Fairchild Gardens now houses the Center for Tropical Plant Conservation.

Additionally, it was Fairchild, who was inspired by a remark made in 1908 by Alexander Graham Bell to the effect that Fairchild should organize a "Plant Utilization Society" for the purpose of stimulating an interest in the uses of new plants. He responded to Bell, "You have asked me Mr. Bell, if there was not a place in the world for some organization which might be called a Plant Utilization Society which would encourage thousands of people who are interested in plants to discover new uses for the. I believe that there is a place for such an organization and that the time is ripe for its formation" [8]While the organization never did get underway as dreamed, it did cast Fairchild into the role of author of his Occasional Papers, which dealt with all manner of the usefulness of plants.

[8] Fairchild Tropical Garden: The First Ten Years.

Interestingly, when the garden was begun, it was premised on the idea that no botanical garden existed in the region and that the Miami area was the perfect setting for such an institution as it was "frost-free". However, inasmuch as Fairchild was intimately associated with the Agricultural station in Coral Gables prior to the establishment of the garden that bears his name and, because the Key West project preceded the Coral Gables garden, it is highly likely that Fairchild had a major role in the establishment and stocking of the Key West Botanical Garden with its original materials.

In examining the purposes of various botanical gardens as they have been established in the past, a definite pattern emerges. They all have had some purpose other than the simple task of the cultivation of unusual plants for its own sake. The Brooklyn Botanical Garden, Arnold Arboretum, and so forth have set specific goals for not only the types of plant materials included but also for the potential that these plants and species have for specific uses. Whether it be as food sources, which is often the case, the use of plant materials for medicinal purposes, or as a means of learning more about the effects of flora on the environment, each garden works towards a defined end.

It can be argued that as the Key West Botanical Garden and Tropical Forest is brought back into the mainstream of such institutions, that a goal be set for its existence other than simply the cultivation of tropical plants. Given the past knowledge of the Garden, little though it is at this time, it appears that experimentation was on the list of goals that were early on established for it.

In the periodical *Tropical Woods,* [9] published in 1957, the authors fully describe the various attempts to collect and categorize the flora of the keys, with particular attention to the

[9] *Tropical Woods*. Number 107, pp. 36-65 "The Woods and Flora of the Florida Keys. Introduction. Stern, William L. and George K Brizicky, 1957

lower keys whose climate and geology is distinct from the northern keys. They thoroughly explored each researcher and botanist from the report prepared by the Spanish explorer Hernando d"Escalante Fontaneda, c1575 up through mid-twentieth century researchers.

Of particular note is the extensive number of apothecaries and physicians who, in the mid-eighteenth century made extended trips to the keys, again particularly Key West, in order to identify various exotic native flora and to ship many of these examples to herbaria in the Northeast and England. As this flora has been identified, it is important to continue the Botanical Garden's role in continuing to research and cultivate these types of plant materials.

The potential for investigation of the medicinal uses of native plants is very high and has become a widely recognized research field at present It seems totally appropriate that the Botanical Gardens continue this tradition in its future as a means of presenting to the public not only the flora of the keys, but also the benefits which can be derived from propagating plant material useful to the medical professions.

Finally, the existence of fresh water on the site would be of inestimable value in developing programs and plantings that will enable the Garden to become a world class educational resource.