NPS Form 10-900
(Oct. 1990)

OMB No. 10024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

1. Name of Property

historic name Jewel Box

other names/site number St. Louis Floral Conservatory; City of St. Louis Floral Display House

2. Location

street & number intersection of Wells Drive and McKinley Drive, Forest Park [n/a] not for publication

city or town St. Louis [n/a] vicinity

state Missouri code MO county St. Louis [Independent City] code 510 zip code 63110

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this [X] nomination [ ] request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property [X] meets [ ] does not meet the National Register criteria. I recommend that this property be considered significant [ ] nationally [ ] statewide [X] locally.
(See continuation sheet for additional comments [ ].)

Signature of certifying official/Title Claire F. Blackwell/Deputy SHPO Date 5 January 2000

Missouri Department of Natural Resources
State or Federal agency and bureau

In my opinion, the property [ ] meets [ ] does not meet the National Register criteria.
(See continuation sheet for additional comments [ ].)

Signature of certifying official/Title

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is:

[ ] entered in the National Register
See continuation sheet [ ].
[ ] determined eligible for the National Register
See continuation sheet [ ].
[ ] determined not eligible for the National Register.
[ ] removed from the National Register
[ ] other, explain
See continuation sheet [ ].

Signature of the Keeper Date

5.Classification

Ownership of Property

[ ] private
[X] public-local
[ ] public-State
[ ] public-Federal

Category of Property

[X] building(s)
[ ] district
[ ] site
[ ] structure
[ ] object

Number of Resources within Property

Contributing	Noncontributing	
1	0	buildings
0	0	sites
3	3	structures
0	1	objects
4	4	Total

Name of related multiple property listing.

n/a

Number of contributing resources previously listed in the National Register.

0

6. Function or Use

Historic Function

Agriculture/Subsistence/horticultural facility

Current Functions

Agriculture/Subsistence/horiticultural facility

7. Description

Architectural Classification

Art Deco

Materials

foundation limestone
walls glass
roof asphalt
other brick
iron

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

8.Statement of Significance

Applicable National Register Criteria

[ ] **A** Property is associated with events that have made a significant contribution to the broad patterns of our history

[ ] **B** Property is associated with the lives of persons significant in our past.

[X] **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

[ ] **D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

Property is:

[ ] **A** owned by a religious institution or used for religious purposes.

[ ] **B** removed from its original location.

[ ] **C** a birthplace or grave.

[ ] **D** a cemetery.

[ ] **E** a reconstructed building, object, or structure.

[ ] **F** a commemorative property.

[ ] **G** less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

Architecture

Periods of Significance

1936

Significant Dates

n/a

Significant Person(s)

n/a

Cultural Affiliation

n/a

Architect/Builder

Becker, William C.E./Robert Paulus Construction Company

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographic References

Bibliography

(Cite the books, articles and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

[ ] preliminary determination of individual listing (36 CFR 67) has been requested

[ ] previously listed in the National Register

[ ] previously determined eligible by the National Register

[ ] designated a National Historic Landmark

[ ] recorded by Historic American Buildings Survey

#_____

[ ] recorded by Historic American Engineering Record

#_____

Primary location of additional data:

[X] State Historic Preservation Office

[ ] Other State Agency

[ ] Federal Agency

[ ] Local Government

[ ] University

[X] Other:

Name of repository: Landmarks Association of St. Louis, Inc.

10.Geographical Data

Acreage of Property 16 acres

UTM References

A. Zone	Easting	Northing	B. Zone	Easting	Northing
15	736910	4279820	15	737050	4279670
C. Zone	Easting	Northing	D. Zone	Easting	Northing
15	736710	4279420	15	736600	4279630

[ ] See continuation sheet

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title see continuation sheet

organization _____ date _____

street & number _____ telephone _____

city or town _____ state _____ zip code _____

Additional Documentation
Submit the following items with the completed form:

Continuation Sheets

Maps
A **USGS map** (7.5 or 15 minute series) indicating the property's location.
A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs
Representative **black and white photographs** of the property.

Additional Items
(Check with the SHPO or FPO for any additional items)

Property Owner
(Complete this item at the request of SHPO or FPO.)

name City of St. Louis, Dept. of Parks, Recreation and Foresty, Attn: Dan McGuire

street & number 5600 Clayton Avenue telephone 314/535-1503

city or town St. Louis state MO zip code 63110

Summary: The Jewel Box is a display greenhouse located at the intersection of Wells Drive and McKinley Drive in Forest Park, St. Louis [Independent City]. The contributing building is sited on a flat piece of ground with its entrance facing true south (Photo 1). It shares the location with a set of three reflecting pools constructed at the same time as the greenhouse and counted as three contributing structures (Photos 1, 2, and 7); the site of a formal garden which is no longer maintained in its original elaborate form and which is not counted but is considered part of the setting (Photo 8); a Korean War memorial, counted as a noncontributing object (Photo 11); a wooden bridge of recent construction, counted as a noncontributing structure; and two pairs of gates of more recent construction, which are counted as two noncontributing structures (Photos 9 and 10). Designed by engineer William C. E. Becker, the Art Deco greenhouse features a series of flat, stepped, composition-covered wood roofs with clerestories rather than the more traditional glass roof. Its vertical glass walls are supported by steel arches that provide a large area of open display space uncluttered by posts. The exterior of the greenhouse itself is 144 feet long by 55 feet wide with one-story stone appendages at the north and south ends (Photos 4, 5). Its height at the center (highest) roof is fifty feet. Great pains were taken in the design and orientation of the Jewel Box to provide adequate light for plants in a nearly hailproof building. The greenhouse is virtually unaltered and in very good condition, maintaining a high degree of integrity.

Narrative: The Jewel Box itself rests on a rock-faced ashlar foundation laid with dark mortar (Photo 2). Above, vertical glass walls rise to five stepped, flat-roofed levels. 16,664 square feet of double-strength Libbey-Owens-Ford plate glass in some 4,000 24 x 26" panes were set into a system of wood and wrought iron supports. The glass is primarily enframed on the exterior by copper, the primary exception being two rows of wood-framed windows, one across the top of the lowest "step" and one across the top of the uppermost "step" (see Photo #2). At the time of construction, the copper was given an acid finish to produce a verdigris patina, which is matched by green paint on exposed wood and iron exterior surfaces for a naturally-weathered look.

Supporting the Jewel Box are eight I-beam, Rol-steel fixed arches (Photo 3) visible from the outside. These sustain the weight of the building, which is considerable for a non-masonry building. Triangular trusses provide additional rigidity between every other arch (Photo 6). Wood and iron catwalks (not open to the public), visible in Photos 3 and 6, are located at each roof level to provide access for cleaning and maintenance. The ceiling is made of wood planking with iron joists. Venetian blinds have been installed on the south and west sides of the greenhouse.

A smooth-faced, cut limestone vestibule provides the formal entrance to the Jewel Box (Photo 4). Smooth-faced granite provides a narrow water table for the 1 -story room. A round patio of limestone pavers has been slightly altered to provide a wheelchair ramp to the center doors to meet ADA requirements. Divided into three bays on its front elevation by fluted pilasters, the flat-roofed vestibule is topped with a smooth cornice ornamented by raised medallions. Multipane windows at the sides and transoms add additional natural light to that coming in the multipane doors. A granite cornerstone is incised with the words "erected 1936." Inside the vestibule, a granite sill frames limestone pavers. Smooth ashlar limestone walls rise to a painted concrete ceiling. Ornate Art Deco grillework covers openings on

either side and black metal Deco sconces of concentric circles provide light. Several inscriptions are carved into the limestone walls of the vestibule and two plaques have been installed.[1]

Inside the greenhouse, the floor is brick laid in a herringbone pattern edged with raised planters for the larger, permanent trees and plants. A center planter also holds a concrete water basin, and a waterfall of volcanic rock provides interest near the north end of the greenhouse. Twin curved iron staircases provide access to a concrete-floored balcony located across the south end of the building; their delicate iron balusters alternate twisted and square, and round copper balls top the newel posts. Behind the waterfall, a large buff-brick, limestone-based, multifaceted chimney rises from the basement boilers through the roof at the north end of the greenhouse. Radiators lining the walls at floor level provide the building with steam heat when necessary. Restrooms are located at the north end of the building.

At the rear of the building (north end), a three-bay, flat-roofed loading dock/utility room considerably larger than the vestibule is laid in rock-faced ashlar limestone that matches the foundation of the main building (Photo 5). A small basement for the boilers that provide heat to the building underlies part of this area. This appendage provides the greenhouse with a concrete-floored garage/loading dock and a storage area for maintenance and gardening equipment.

In front of the building, a large, shallow, rectangular, concrete reflecting pool is centered in front of the building, flanked by two smaller, shallow, essentially rectangular concrete pools (visible in the foreground of Photos 1 and 7).[2] These were finished at about the time the Jewel Box was completed. Original concrete sidewalks surround the pools and divide the larger from the smaller pools.

The building appears to have been well-maintained for the most part. Exterior paint is flaking from some of the wood muntins and mullions and the exterior stone of the vestibule is a somewhat stained near the top, but it appears otherwise in good condition. With the exception of the wheelchair access ramp, handicap-accessible restrooms and possibly the waterfall and interior arrangement of planters, the Jewel Box is virtually as built. Photo 7 shows the greenhouse shortly after completion, in which it is possible to see how little the building has been changed.

The Jewel Box's site in Forest Park is shared with a variety of landscape features, structures and objects. The reflecting pools directly south of the Jewel Box and the benches and other objects which are integrated into the pool setting provide an impressive and aesthetically pleasing entry to the greenhouse. Like the radial formal garden to the east, they are contemporary with the nominated building; however, the

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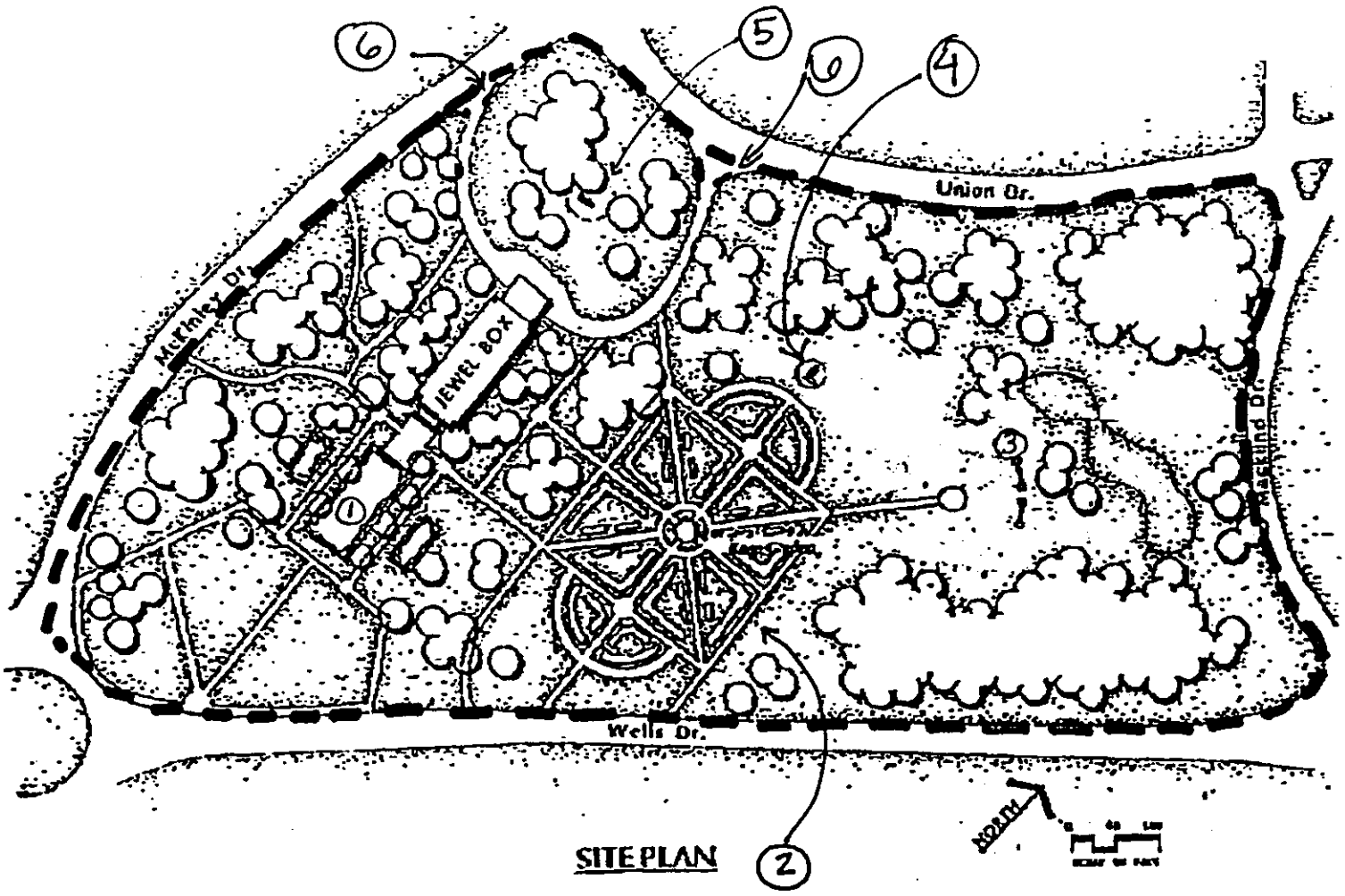
[1]**On the left side:** "Prophets /of Fragrance,/Beauty, Joy/and Song." - Ebenezer Elliott.
In the center: "To me the meanest flower/that blows can give/thoughts that do often lie/too deep for tears." - William Wordsworth
On the right side: "To cultivate/a garden's to walk/with God." - Christian N. Bovee
A bronze plaque reads: "City of St. Louis Floral Display House 'The Jewel Box' Dedicated 1936 Bernard F. Dickmann, Mayor William C. E. Becker, Designer"
A second plaque reads: "Named by Wilhelmine Bru6re Becker 1920 Presented by her daughter."

[2]The smaller two pools have notched corners to form shallow crosses; the large pool has only tiny notches at the corners.

garden is no longer maintained in its original elaborate fashion, although it does enhance the building's setting. A pair of gates of random ashlar construction mark the street intersections of the U-shaped drive which accesses the rear of the building. To the east, the gates of Vandeventer Place (one of the city's early private places), were donated to the city by the federal government when their original site was cleared for a VA hospital. The granite and iron gates were installed in 1950-51; the actual iron carriage gates were subsequently removed. A small wooden bridge of relatively recent construction centers a small planted area to the north of the building. Northeast of the building is the Korean War Memorial, designed by Mel Meyer and installed in 1989. The eight-foot tall stainless steel sundial replaced an earlier Korean War memorial.

Boundary Map, Jewel Box



Resources:
① Reflecting pools (3 contributing structures)
② Formal Garden (not counted)
③ Vandeventer Place Gates (1 non contributing structure)
④ Korean War Memorial (1 non contributing object
⑤ Wooden Bridge (1 non contributing structure)
⑥ Vandeventer Place gates (1 noncontributing structure)

Summary: The Jewel Box, located in Forest Park, is eligible for listing in the National Register under Criterion C and is locally significant in the area of ARCHITECTURE. Constructed 1936-37, the Art Deco building is an outstanding example of greenhouse design. A distinct and controversial departure from conventional greenhouse design, the plan by engineer William C. E. Becker was in part a result of months of extensive testing to determine appropriate light levels. Having ascertained that in St. Louis hailstorms are the greatest threat to traditional all-glass greenhouses, Becker set about the task of designing a facility that would withstand hail while still providing appropriate light without whitewashing the panes.[3] Additionally, he met the challenge of producing a design that would allow easy replacement of glass, should that be necessary. He succeeded admirably on all counts. The Jewel Box is still in operation as a working greenhouse (having weathered numerous hailstorms unscathed during more than sixty years); it remains in good condition and is virtually unaltered.

Narrative: The genesis of the present Jewel Box began when Nelson Cunliff became Commissioner of Parks and Recreation in 1913, an era of dense smoke and soot in St. Louis. There was great concern among home owners and the city's park department over the chances for survival of plant life in the city. Quite a good deal of damage and loss was being experienced by the city's trees, shrubs and plants each year. An avid home gardener, Cunliff began a citywide survey to determine which plants could best survive in St. Louis' then-murky atmosphere. Upon obtaining the results of the survey, he asked John Moritz, then in charge of the city's greenhouses, to set up a display in one of the standard-design Forest Park greenhouses (now razed) using pollution-resistant plants and shrubs that the average St. Louisan could grow. The artificial light conditions allowed a display showing visitors what their gardens might look like in four months. The display was wildly popular, attracting thousands of people; long lines became the norm as visitors waited for hours to get a look at the plants. Seasonal plantings and floral "tableaux" continued to attract crowds through the 1920s. Someone commented that the exquisite displays looked "just like ajewel box," and the imaginative nickname caught on.[4] The small size of the greenhouse kept lines long, and for a number of years there was much local discussion about the chances of getting a larger facility.

When Bernard Dickmann became Mayor of St. Louis in 1933, he decided that a new facility warranted the allocation of $75,000 from the 1923 bond issue to build a larger display greenhouse to replace the old Jewel Box. With the additional help of PWA money (PWA Project #66 paid for some 40% of the cost), the required $125,000 was raised. The money was allocated in 1933-34. William C. E. Becker, Chief Engineer of Bridges and Buildings for the City of St. Louis, was given the task of building the new facility in Forest Park.[5] Becker, a well-respected 1915 graduate of Washington University with a degree in Civil

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[3]The clear panes of standard greenhouse roofs admit light of too great an intensity during the summer at St. Louis' latitude. A traditional coating of whitewash (a mixture of lime, whiting, size and water) creates enough opacity to protect the plants from burning rays and keeps the greenhouse from overheating.

[4]Some sources credit John Moritz with giving the Jewel Box its name, some sources say it was exclaimed by some unnamed female visitor, and a plaque on the wall of the present Jewel Box credits the name to a Wilhelmine Bruere Becker (no relation to William Becker) who supposedly made the remark in 1920.

[5]Becker, either alone or with Taxis & Becker (or Becker, Becker & Pannell), did the engineering on a number of significant buildings in St. Louis, including the main terminal at Lambert St. Louis International Airport; the old Federal Building; the Civil Courts Building; the Missouri Pacific Building; several hospitals including Queeny

Engineering, immediately began a lengthy investigation into the nature of the needs and problems inherent in a large greenhouse. To fully understand the horticultural requirements of a new greenhouse, Becker enlisted the expertise of George Pring and George T. Moore, Superintendent and Director of Shaw's Garden (now called the Missouri Botanical Garden), respectively.[6] During a visit to the Garden's greenhouses, Becker noticed that part of a roof of one building had been permanently replaced with roofing material rather than glass. A 1928 hailstorm had done about $50,000 worth of glass damage in fifteen minutes at the Botanical Garden alone, besides destroying some of the most valuable botanical exhibits. Due to the inaccessibility and cost of replacing the glass panes, some repairs had been done with other materials. Becker's inquiries as to the resulting impact of the loss of light on the plants convinced him that an all-glass roof was not necessary if enough light entered the building through the side walls. Initial plans for the greenhouse were begun in January of 1934. Trials were then started using a light meter at open-air sites in Forest Park and Shaw's Garden and indoor sites in the Garden's Display and Palm Houses and in the old Jewel Box. Having thus established some standards of greenhouse lighting, Becker built two scale models (1" = 1') of proposed plans and embarked on about four months of light-meter testing (Figure 1). After some 3900 light-intensity readings, Becker determined that his design would in fact provide more than sufficient light despite its non-glass roof.[7] The new building was to be built with its longitudinal axis on a true north-south line to assure uniform distribution of sunlight to plants.

In implementing his concept of an essentially hailproof greenhouse, Becker employed extremely tall, vertical glass walls. Because the sun is at a relatively low angle during much of the year in St. Louis, sufficient light could come through the high walls of the new design rather than through a traditional glass roof. The sun is only directly overhead during the height of summer, when its heat and intensity are so strong that conventional glass greenhouse roofs must be whitewashed to reflect most of the sun's rays.

Tower at Barnes Hospital, the original part of Deaconess Hospital, Homer G. Phillips Hospital, City Hospital No.I, the City Sanitarium's infirmary and isolation hospital, and parts of Koch Hospital; Aloe Plaza (site of Carl Milles' "Meeting of the Waters"); six police stations; three community centers including Tandy in the Ville; and the J. C. Penney Warehouse Building (NR, 1998), among many others.

[6]Moore and Pring are referred to in a typed manuscript from the office of Becker, Becker and Pannell (William Becker's successor office) as "the two men who probably know as much about the practicaly [sic] and scientific phase of plant growing and flower exhibition as any two men in the United States, or even in the world." Becker later said that his design evolved as a direct result of two questions he asked of the men: 1)What kind of greenhouse would you build if you were erecting a new one? 2)How much light do you need in a greenhouse?

[7]The resourceful Mr. Becker accomplished the task of determining year-long light readings in only four months by mounting the models (one with conventional interior pillars and the other with the arches that were ultimately used) on a spherical bearing, allowing the model to be tilted to replicate the direction of the sun's rays at any hour of the day and approximately any day of the year. For this task a special sundial chart was prepared by Washington University Professor of Mathematics H. R. Grummann (Figure 2). On the chart, in addition to the hour lines, were curves outlining the path of the shadow of the tip of the gnomon when the chart is horizontal and the sun is at a definite declination. By tilting the scale model on its ball bearing and making the tip of the shadow of the gnomon coincide with certain points on the chart, it was possible to reproduce fairly accurately the direction of the sun's rays for any hour of the day and time of the year. With this setup it was possible to run out a set of light readings on a model in about two weeks that would ordinarily take one year. It should also be noted that the intensities required were for a display greenhouse, rather than a growing greenhouse.

Thus, he reasoned, a greenhouse in St. Louis need not have a glass roof; a solid roof would both shield and insulate. However, if Becker had designed a greenhouse with a single-level solid roof covering an entire building of conventional height, not enough light would have been admitted. Not only did his design call for soaring glass walls, it employed two features critical to its success. First, the roof is a series of narrow steps, effectively providing the building with a series of clerestories. It is this element that keeps the interior from being shaded too much by the solid roof. The second important feature is the series of eight structural steel arches that give the building its strength while maintaining a floor area free of more conventional (and light-blocking) support pillars.[8]

Satisfied with the results of his light readings, Becker began preparations to have the new Jewel Box built. When in the spring of 1935 sketches of the proposed design appeared in the local newspapers (Figures 3, 4),[9] several irate letters to the editor subsequently appeared. One unnamed disgruntled writer wrote of the design,

> It is simply grotesque . . . The modernistic style is only a passing craze anyway, and is not suitable for any public building that is to stand for generations. Surely our city fathers were asleep to approve such a design for so beautiful a setting. Let us hope it is not too late to reconsider the matter and have other designs submitted.

R. W. Reynolds wrote,

> . . . how can anyone imagine that forbidding block of ice as a proper setting for delicately-tinted orchids and lilies? And do you think people will call this new enclosure "the Jewel Box"? . . . The city fathers seem to forget that we and future generations will have to took at these buildings, and that we have the right to demand the best architectural talent that St. Louis can provide.

Becker later noted in a typed manuscript that ". . . all of the public criticism missed the real point, as the Post-Dispatch pointed out editorially, 'it isn't the building that will become popular necessarily but the exhibits and type of display arranged in it.' " He seemed to sincerely believe that the whole merit of the building was based on a superior ability to function as an effective, yet fairly hailproof, greenhouse. This is clearly a case of form following function. That the Jewel Box is more universally known and loved in St. Louis today for its lean Art Deco architecture than for its continued quaint floral displays is a tribute to its classic design. Becker was painfully aware of the intense public scrutiny; as he wrote in an unpublished manuscript:

> . . . many visitors to St. Louis have commented very favorably about it. It is with some satisfaction that this public popularity is referred to because it was considered a delicate task to transfer

[8]After "weeks of study on stress & strain," Becker estimated that the building could withstand 100-mph winds.

[9]The sketches differed from the actual design primarily in the addition of a sunburst design on the front of the building near the roof. Several variations of the design were considered, all using the stepped-clerestory concept but having various cosmetic changes.

unusual public interest from the old and much smaller "Jewel Box" to the more spacious and different "New Jewel Box."[10]

Ignoring the public criticism, the Board of Public Service approved the project's design and put out a call for bids. Becker later wrote that one of the country's largest builders of greenhouses looked at the plans and refused to bid, saying the design would not work. In a summary of information from Becker's office about the building of the Jewel Box, he stated that "The design of the building was such that, in its simplicity, any first-class building contractor could bid on it; thus taking its construction out of the field of greenhouse construction 'specialists' and making it a simple building job and consequently less costly."[11] Apparently he was not alone in this conclusion, since some seven other companies did vie for the job, which was won by the Robert Paulus Construction Company of St. Louis. (Paulus, not a greenhouse specialty company, also constructed many residences and other types of buildings in the city.)

Construction began on December 12, 1935. In the final design, eight structural steel fixed arches neatly support the main center roof as well as the smaller, "stepped" roofs and the weight of the four clerestories (Photo 3). Each I-beam arch was bent into shape at an Atlantic coast shipyard and has a single splice in the center. The height and span of each measures 49'. The masonry wall and arch footings are monolithic, thus making use of the walls to improve stability of the framing above. The glazed walls are load-bearing and are made in sections extending from arch to arch and from setback to setback. U-bar uprights in the foundation outside the Jewel Box help support the weight of the clerestories while shifting the main weight burden to the eight arches. The two main advantages of this design are that the interior view is unobstructed and that the steel is not buried in a wall and allowed to corrode, a typical greenhouse problem. An aluminum paint protects the interior metal from rust and the growth of fungus in the humid atmosphere. Galvanized wrought iron was used in the side-wall framing to reduce deterioration from corrosion. Where the arches intersect with the horizontal members of the clerestory roofs, wood and iron catwalks traverse the interior length of the building, allowing for safe and easy maintenance of virtually every part of the interior (Photo 6). A "circulatory system" thought by Becker's office to be unique was incorporated into the window design, with upright, U-shaped capping along the base of each setback tier of glass, into which the water of condensation drips from the glass into special drains leading out onto the floor. Provision was also made so that all water can be drained from the pipes along the clerestory levels, allowing them to be used as steam pipes in the event of the need for steam to deal with heavy icing conditions.[12]

In order to make the structure self-sufficient, Becker added a formal entrance in the form of a smooth-cut limestone one-story vestibule to the south end (Photo 4) and a somewhat larger, rock-faced limestone loading dock/utility area at the rear (Photo 5). Both retain their original functions and are unaltered.

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[10]"Memorandum Concerning Floral Conservatory in Forest Park, St. Louis, Missouri," ca. late 1937?, unpublished typescript in archives of the office of Becker, Becker & Pannell, St. Louis, the descendant firm of William C. E. Becker.

[11]"Jewel Box," n.d., typescript in the archives of the office of Becker, Becker & Pannell, St. Louis, the descendant firm of William C. E. Becker.

[12]Ibid.

When the greenhouse was completed, George T. Moore, Director of Shaw's Garden, said that the Jewel Box

> will serve as a model for simitar structures to be erected throughout the country . . . almost equal in importance is the fact that such a design reduces maintenance to a minimum. The convenience with which painting, glazing, shading, etc. may be taken care of in such a structure, as compared with the standard type of palm house, results in an annual saving in maintenance which only those experienced in the care of an ordinary greenhouse can appreciate.[13]

The design of the Jewel Box did receive some attention beyond St. Louis, including an honorable mention in a national competition conducted by the Pittsburgh Glass Institute in which there were 650 entries. The greenhouse was also used in product promotion: an article on glass products appearing in the December 1937 Supplement to the Architectural Forum mentions the building in reference to its use of double strength Libbey-Owens-Ford plate glass; an advertisement in the Engineering News-Record of March 1937 touts its use of wrought iron (Figure 5).

The completed greenhouse (Photo 7) was stocked with mature plants serendipitously acquired (for only the cost of transportation) from a conservatory in Chicago that was closing. The new Jewel Box opened November 14, 1936 and immediately proved so successful that in less than three months electric lights were installed to extend the facility's hours to 9:00 p.m. daily. Its 1938-39 attendance was logged at 416,000; during the same period the Art Museum in Forest Park set a record of 390,000 attendees.[14] Transference of public affection from the old to the new Jewel Box was apparently never an issue. The building's design was vindicated for Becker and the Board of Public Service when a severe hailstorm in the spring of 1938 broke more than a thousand panes of glass in nearby park greenhouses - and left the Jewel Box undamaged.

The greenhouse remains in continuous operation, open year-round with seasonal displays. Some ninety weddings a year are currently held in the Jewel Box and wedding pictures at the site are a St. Louis tradition. The building remains in good condition, almost completely unaltered.

William C. E. Becker died in 1973 at 83. In an interview about the Jewel Box with a Post-Dispatch reporter in 1963, he was quoted as saying, "You know, I've got my name on buildings all over town. But it isn't on that one, and that's the one building I'd like most to have it on."[15] His name is there now, on a bronze plaque inside the Jewel Box (see Footnote 1, Section 7).

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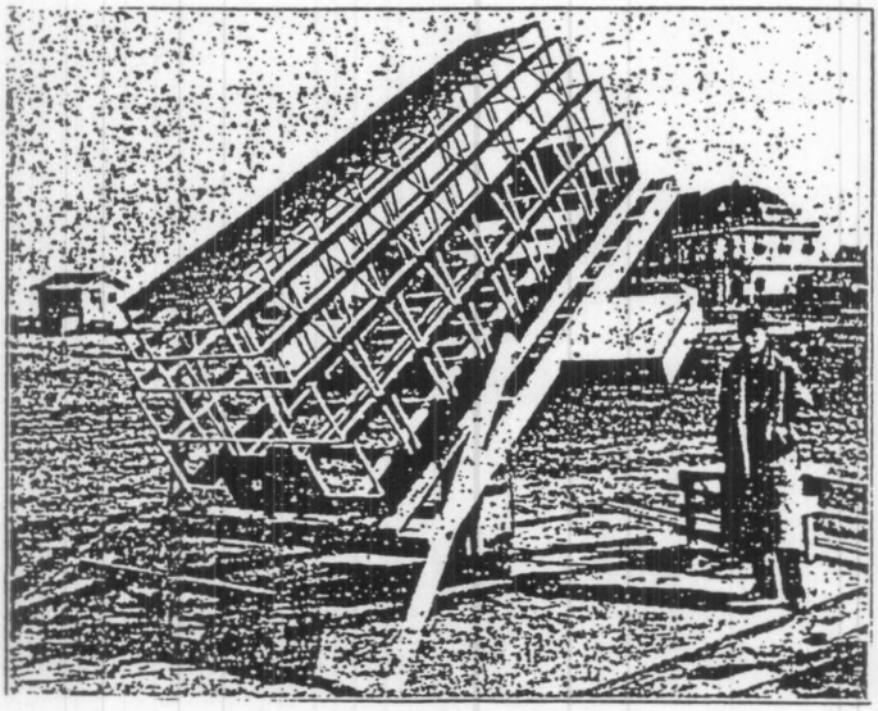
[13]William C. E. Becker, "The Jewel Box in Forest Park," n.d., typed manuscript in the archives of the office of Becker, Becker & Pannell, St. Louis, the descendant firm of William C. E. Becker.

[14]As a frame of reference, the attendance at the old Jewel Box in 1934 was 25,752.

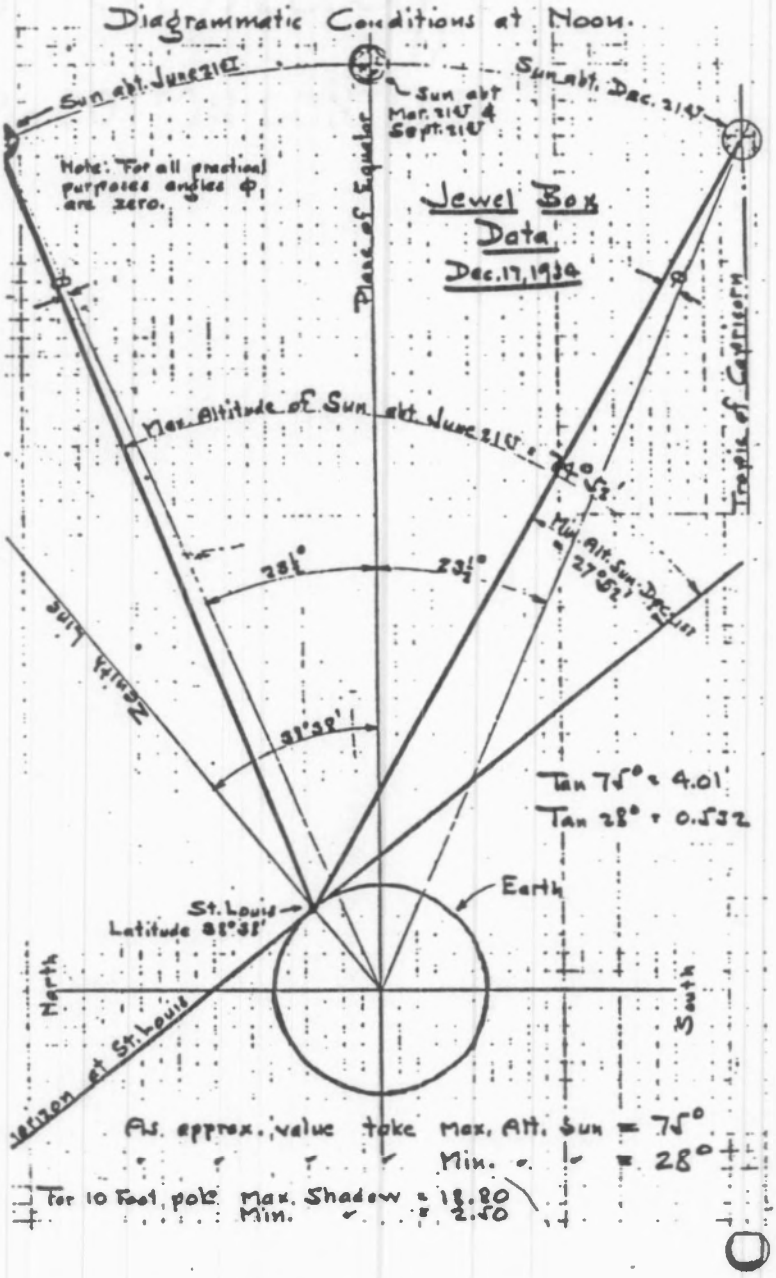
[15]Dickson Terry, "JEWEL BOX - Unique in Its Field," St. Louis Post-Dispatch 4 August 1963, p. 1-8J.

FIGURE 1



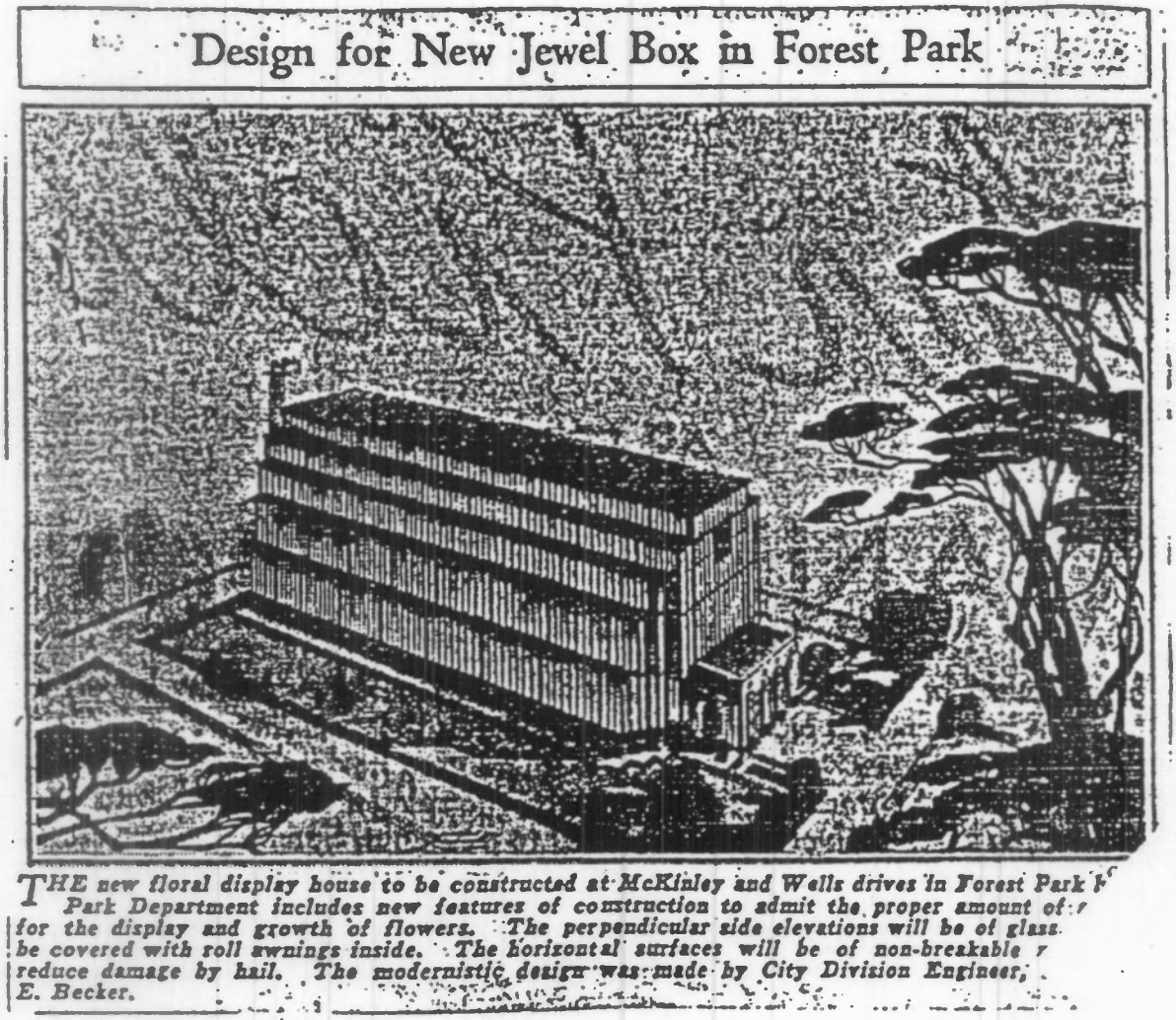
MODEL OF JEWEL BOX USED IN LIGHT MEASUREMENTS
Source: *Florists' Review* No. 1977, 17 October, 1935

FIGURE 2



SUNDIAL CHART PREPARED BY H. R. GRUMMANN
Source: Becker, Becker & Pannell, St. Louis

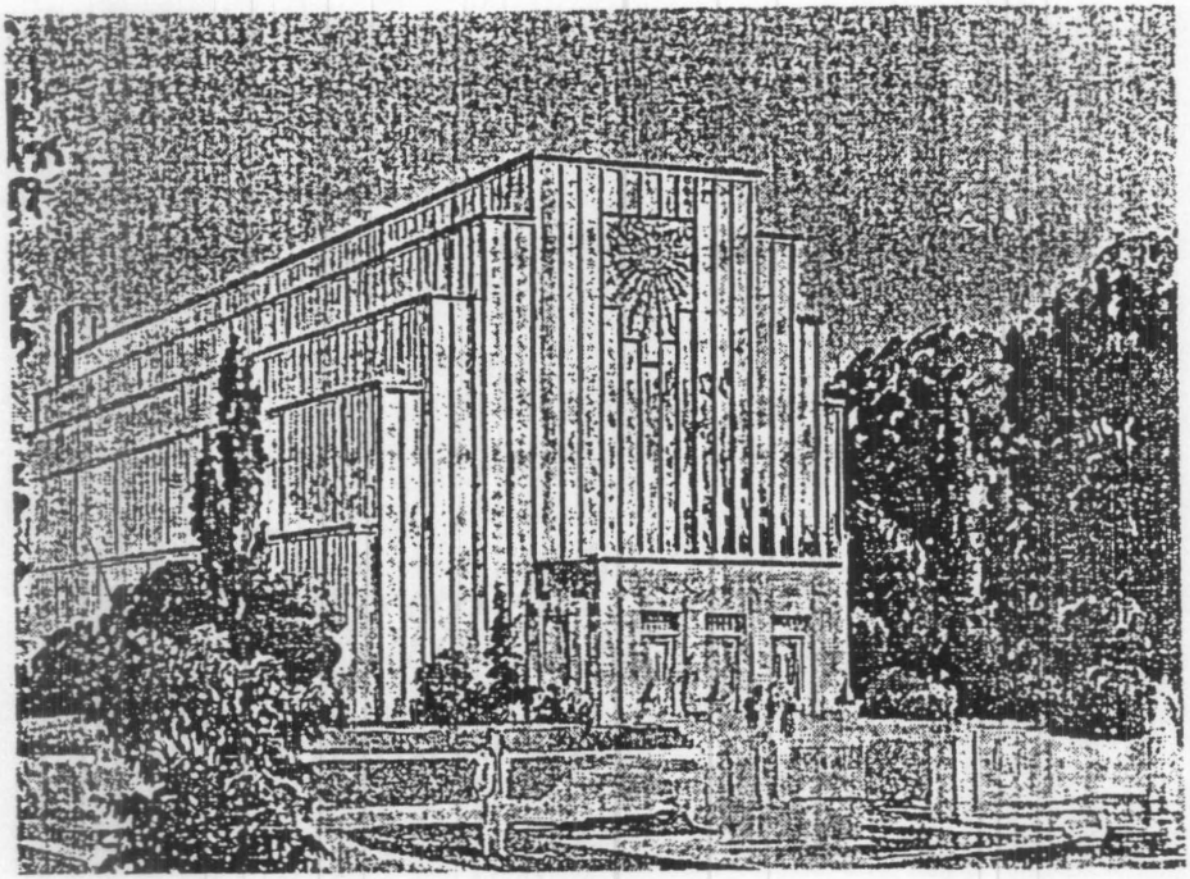
FIGURE 3



THE new floral display house to be constructed at McKinley and Wells drives in Forest Park by Park Department includes new features of construction to admit the proper amount of r for the display and growth of flowers. The perpendicular side elevations will be of glass be covered with roll awnings inside. The horizontal surfaces will be of non-breakable r reduce damage by hail. The modernistic design was made by City Division Engineer, E. Becker.

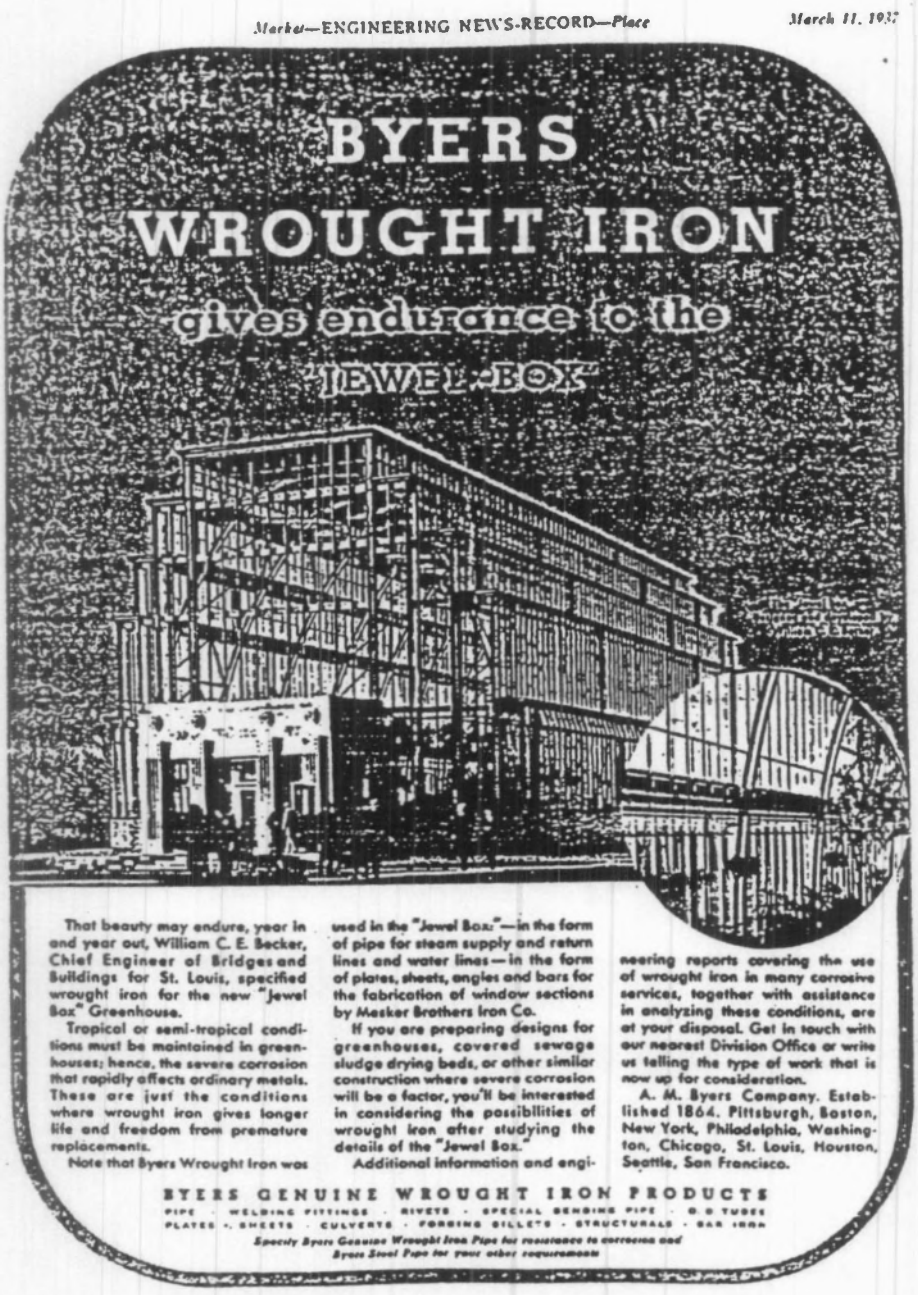
PUBLISHED DESIGN FOR THE JEWEL BOX
Source: Files of Becker, Becker & Pannell, St. Louis

FIGURE 4



WATERCOLOR OF PROPOSED JEWEL BOX BY ERWIN C. SCHMIDT
Source: *St. Louis Globe-Democrat, 26 May, 1935*

FIGURE 5



ADVERTISEMENT FOR IRON USING THE JEWEL BOX
Source: *Engineering News-Record, 11 March, 1937*

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St. Louis, Missouri. Collection of Becker, Becker & Pannell. "The Jewel Box in Forest Park." William C. E. Becker, ca. 1941.

St. Louis, Missouri. Collection of Becker, Becker & Pannell. "Memorandum Concerning Floral Conservatory in Forest Park, St. Louis, Missouri." William C.

E. Becker, ca. late 1937.

St. Louis, Missouri. Collection of Becker, Becker & Pannell. Untitled typescript, n.d.

Verbal Boundary Description

The boundary of the property is defined by the dark broken line on the accompanying map entitled, "Boundary Map, Jewel Box." The property is defined by a trapezoidal-shaped parcel of land defined by McKinley Drive on the west, Union Drive on the north, Macklind Drive on the east and Wells Drive on the south. The land in Forest Park all belongs to the City of St. Louis and is not divided into traditional parcels; the land within the above-named boundaries is loosely associated with the Jewel Box.

Boundary Justification

The boundary encompasses the building and an additional parcel of land for a total of 19 acres. The proposed area makes uses existing streets to define the plot of land which surrounds the Jewel Box.

11. Form Prepared By

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   original draft nomination

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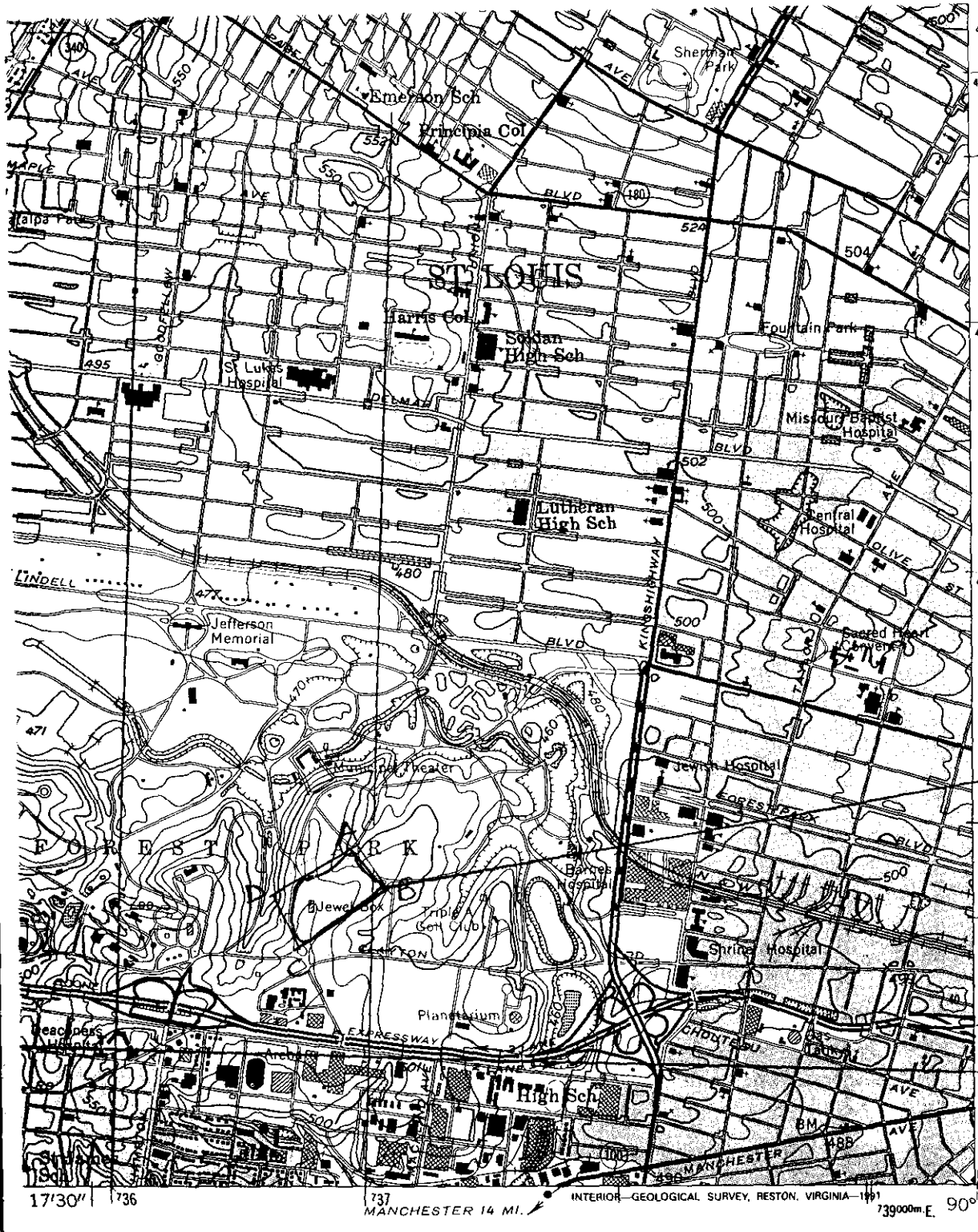
   Editor and revisions, items 1-11



INTERIOR—GEOLOGICAL SURVEY, RESTON, VIRGINIA—1981

ILE

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———

Medium-duty ——— Unimproved dirt - - - - - -

Interstate Route U. S. Route State Route

QUADRANGLE LOCATION

Revisions shown in purple compiled by the Geological Survey from aerial photographs taken 1968 and 1974
This information not field checked

Purple tint indicates extension of urban areas

CLAYTON, MO.

38090-F3-TF-024
PHOTOINSPECTED 1979
1954

PHOTOREVISED 1968 AND 1974

DMA 7961 III NE—SERIES V879

(CAHOKIA) 296 II SW

Jewel Box
St. Louis [Independent City], MO

A. 15/736910/4279820
B. 15/737050/4279670
C. 15/736710/4279420
D. 15/736600/4279630

THE JEWEL BOX
WELLS & MCKINLEY DRIVES
FOREST PARK
ST. LOUIS (INDEPENDENT CITY) MO
PHOTO BY CYNTHIA LONGWISCH
DECEMBER 1998
NEG: LANDMARKS ASSOC. OF ST. LOUIS, INC.
FRONT ELEVATION; CAMERA FACING NW
#1 OF 7

THE JEWEL BOX
WELLS & MCKINLEY DRIVES
FOREST PARK
ST. LOUIS (INDEPENDENT CITY) MO
PHOTO BY CYNTHIA HILL LONGWISCH
DECEMBER 1998
NEG: LANDMARKS ASSOC. OF ST. LOUIS, INC.
WEST (SIDE) & SOUTH (FRONT) ELEVATIONS; CAMERA FACING NE
#2 OF 7

THE JEWEL BOX

WELLS & MCKINLEY DRIVES

FOREST PARK

ST. LOUIS (INDEPENDENT CITY) MO

PHOTO BY CYNTHIA HILL LONGWISCH

JANUARY 1999

NEG: LANDMARKS ASSOC. OF ST. LOUIS, INC.

INTERIOR LENGTHWISE SHOT FACING NORTH (CHRISTMAS DECORATION IS SUSPENDED FROM THE CEILING)

#3 OF 7

THE JEWEL BOX
WELLS & MCKINLEY DRIVES
FOREST PARK
ST. LOUIS (INDEPENDENT CITY) MO
PHOTO BY CYNTHIA HILL LONGWISCH
JANUARY 1999
NEG.: LANDMARKS ASSOC. OF ST. LOUIS, INC.
VESTIBULE (SOUTH END OF BLDG.), FACING NE

#4 OF 7

THE JEWEL BOX

WELLS & MCKINLEY DRIVES
FOREST PARK
ST. LOUIS (INDEPENDENT CITY) MO

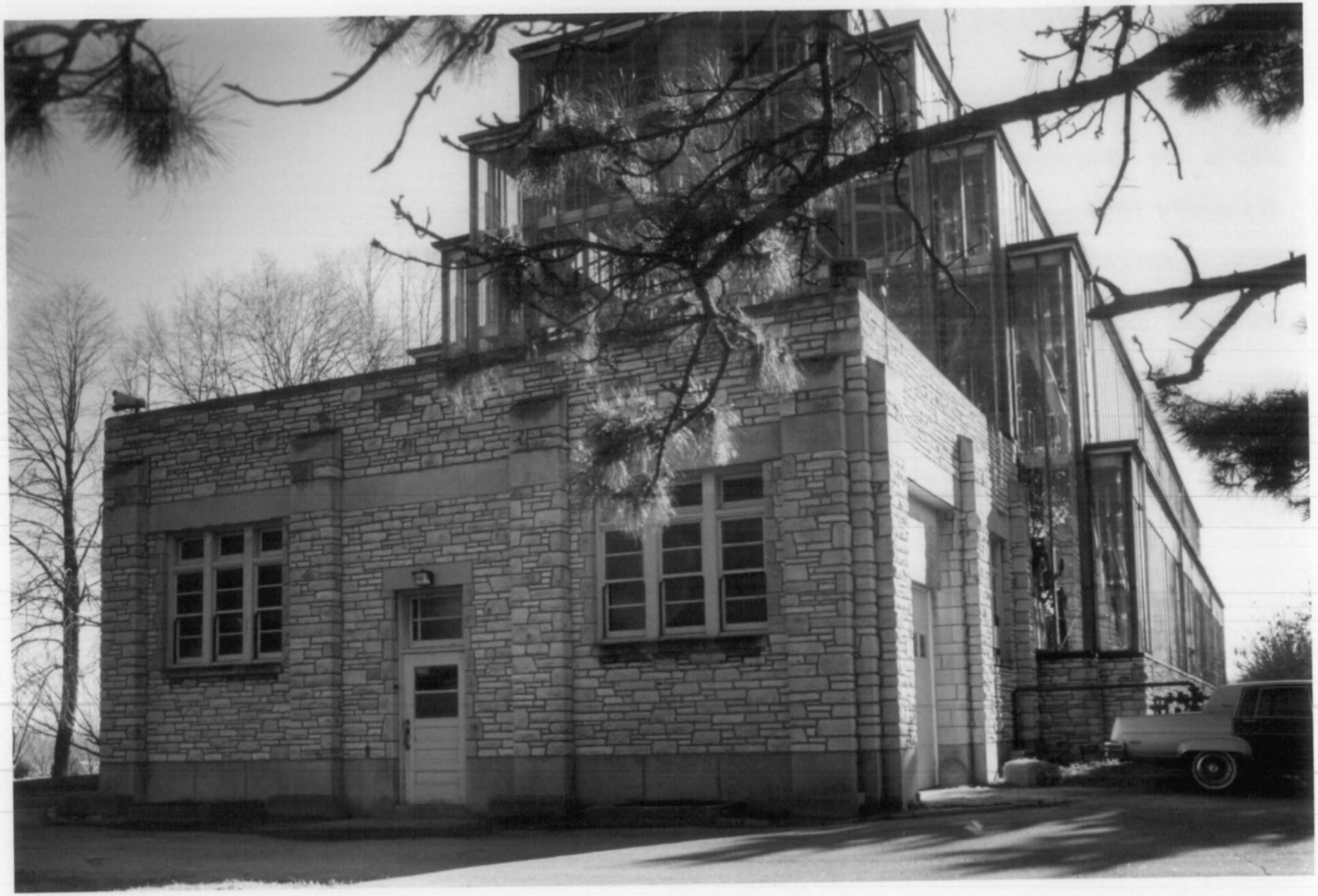
PHOTO BY CYNTHIA HILL LONGWISCH

JANUARY 1999

NEG.: LANDMARKS ASSOC. OF ST. LOUIS, INC.

LOADING DOCK/UTILITY BAY (NORTH END OF BLDG.), FACING SE

#5 OF 7



THE JEWEL BOX
WELLS & MCKINLEY DRIVES
FOREST PARK
ST. LOUIS (INDEPENDENT CITY) MO

PHOTO BY CYNTHIA HILL LONGWISCH

JANUARY 1999

NEG: LANDMARKS ASSOC. OF ST. LOUIS, INC.

INTERIOR VIEW OF EAST SIDE, FACING NE

#6 OF 7

THE JEWEL BOX
WELLS & MCKINLEY DRIVES
FOREST PARK
ST. LOUIS (INDEPENDENT CITY) MO
PHOTO BY RAYMOND JENNELLE

WINTER, 1936-37
NEG: LANDMARKS ASSOC. OF ST. LOUIS, INC.
ORIGINAL PHOTO FROM COLLECTION OF BECKER, BECKER & PANNELL, ST LOUIS
FRONT (SOUTH) & SIDE (WEST) ELEVATIONS; CAMERA FACING N/NE

#7 OF 7

The Jewel Box
Wells & McKinley Drive
Forest Park
St Louis [Independent City], MO
12/1999
Photo: Lynn Josse
neg. Landmarks Assoc. of St Louis
E. elevation including formal garden
Photo #8

The Jewel Box
Wells & McKinley Drives
Forest Park
St Louis (Independent City), Mo
photo: Lynn Josse
12/1999
neg: Landmarks Assoc. of St. Louis
gates at access drive, camera facing SE
Photo #9

The Jewel Box
Wells & McKinley Drives
Forest Park
St. Louis [Independent City] MO
photo: Lynn Josse
12/1999
neg: Landmarks Assoc. of St. Louis
Vandeventer Place gates, camera facing N
Photo #10

The Jewel Box

Wells & McKinley Drives

Forest Park

St. Louis [Independent City], Mo

photo: Lynn Josse

12/1999

neg: Landmarks Assoc. of St. Louis

Korean War Memorial, camera facing N

Photo #11