Draft Environmental Assessment

Bowman Field
Airport Area
Safety Program

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Table of Acronyms Used Throughout Document

AC	Advisory Circular
AEM	Area Equivalent Method
AIP	Airport Improvement Program
ALP	Airport Layout Plan
ANSI	American National Standards
APM	Airport Planning Manuals
ASTM	American Society for Testing and Materials
ATCT	Air Traffic Control Tower
BFE	Base Flood Elevation
BMP	Best Management Practice
C2	Commercial Zoning
CAA	The Clean Air Act
CAAA	Clean Air Act Amendments
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO_2	Carbon dioxide
CWA	Clean Water Act
dB	Decibel
dbh	Diameter at breast height
DNL	Day-Night Average Sound Level
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement / Study
FAA	Federal Aviation Administration
FAR Part 77	Federal Aviation Regulation
FBO	Fixed Based Operators
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gases
GLI	Greater Louisville Inc. Metro Chamber of Commerce
H_2O	Water vapor
IFR	Instrument Flight Rating
ILCS	Interagency Wetland Policy Act
ISR	Indirect Source Review
KRS	Kentucky Revised Statues
KRS Chapter 77	Chapter 77 Air Pollution Control
LAWCON	Land and Water Conservation Fund
LDA	Landing Distance Available
LDC	Land Development Code
LED	Light Emitting Diode
LOU	Bowman Field Airport
LRAA	Louisville Regional Airport Authority
LWC	Louisville Water Company
MSD	Metropolitan Sewer District
MTOW	Maximum Take-off Weight

N	Number
NAAQS	National Ambient Air Quality Standards
NEC	National Electrical Code
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NO_X	Nitrogen oxides
NPIAS	National Plan of Integrated Airport Systems
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRI	National Rivers Inventory
NWI	National Wetland Inventory
OSHA	Occupational Safety and Health Administration
PACE	Purchase of Agriculture Conservation Easement Corporation
R5	Single Family Residential Zoning
RCRA	Resource Conservation and Recovery Act
RSA	Runway Safety Areas
SDF	Standiford Field, Louisville International Airport
SO_X	oxides of sulfur
TERPS	Terminal Instrument Procedures
UL	Underwriters Laboratories
USDOI	United States Department of Interior
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VFR	Visual Flight Rules
VOCs	Volatile Organic Compound

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CHAPTER 1 -
PURPOSE AND NEED

1.1 Introduction

This Environmental Assessment (EA) is prepared in accordance with Federal Aviation Administration (FAA) *Order 1050.1E, Environmental Impacts: Policies and Procedures,* and *FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.* These documents define policies and procedures placed on the FAA for implementing the NEPA of 1969, as amended, as well as the regulations of the Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) Parts 1500-1508, specifically Sections 1505.1 and 1507.3. The EA is an informational document containing environmental information relevant to the proposed action that is intended for use by decision makers and the public.

Bowman Field Airport (Bowman Field and Airport) is located five miles southeast of downtown Louisville, Jefferson County, Kentucky. See **Exhibit 1 – County Location Map** and **Exhibit 2 – Airport Site Location Map** in **Appendix A**. The airport and adjacent properties are depicted on **Exhibit 3 -- Airport Site Vicinity Map** in **Appendix A**. Bowman Field is owned and operated by the Louisville Regional Airport Authority (LRAA and Sponsor). The Airport both historically and currently provides a broad cross section of general aviation air services and serves as a designated reliever airport to Louisville International Airport – Standiford Field (SDF), the third busiest cargo airport in North America. The Sponsor intends to accommodate existing demands with a continuation of proposed safety improvements at the Airport. These proposed actions include avigation easement acquisition and obstruction mitigation in areas where trees and the potential for trees or other objects could interfere with aircraft operations.

The LRAA plans to apply for Federal financial assistance under the Airport Improvement Program, as authorized by the public law requirements of the Federal Aviation Reauthorization Act of 1996 (P.L.104-264) in order to implement those portions of the proposed Airport improvements that are eligible for Federal funding. To be eligible to receive Federal funds, the Sponsor must prepare an Environmental Assessment (EA). This EA includes the following reviews and determinations:

- Identification of the need for the project and reasonable alternatives including the proposed improvements set forth by the LRAA.
- Review of all applicable resources resulting in the determination of whether or not the proposed airport improvements possess any environmental impacts.
- Provide the basis for the FAA's potential Finding of No Significant Impact (FONSI).
- Identification and satisfaction of special purpose Federal laws, regulations, and executive orders.
- Identification and satisfaction of State and Local laws and regulations applicable to the proposed improvements.
- Identification of any permits, licenses, or other entitlements required for the proposed improvements.
- Inform all agencies involved with the proposed improvements.
- Inform the general public and disclose any known environmental impacts.

This EA has been prepared to define the purpose of and the need for the proposed actions; evaluate reasonable alternatives; identify potential environmental consequences associated with the proposed development; and propose methods to mitigate potential environmental impacts, if applicable.

LRAA's goals for the Proposed Action will be to:

- Initiate a program which will effectively remove hazards to instrument and visual operations at Bowman Field.
- Remediate penetrations to the airspace surfaces as defined by current (February 2012) FAA Terminal Instrument Procedures (TERPS) and visual procedures and standards.
- Prevent the establishment or creation of future manmade or natural hazards to air navigation as defined by Federal Aviation Regulation (FAR Part 77), *Hazards to Air Navigation*.

1.2 Setting

Bowman Field, established in 1919, is the oldest continuously operating airport in Kentucky, and one of the oldest airports in the United States. The airport is located five miles from downtown Louisville within the jurisdiction of Metro Louisville – Jefferson County. Bowman Field encompasses approximately 426 acres and is bordered on the west by Pee Wee Reese Road and Seneca Park, to the north by Seneca Golf Course, to the east by Cannons Lane and Big Spring Country Club; and to the south by Taylorsville Road and Dutchmans Road. The Vicinity map is provided in **Exhibit 3 – Airport Site Vicinity Map** in **Appendix A**.

1.3 Background

Bowman Field provides vital general aviation access to Jefferson and the surrounding Counties. The 325 based aircraft and numerous itinerant aircraft generate an estimated 80,000 annual aircraft operations. The operations include military, Fortune 500 companies and all other categories of general aviation. Support of these operations includes two FBO (Fixed Based Operators) and multiple on airport businesses. Bowman Field, the birthplace of aviation in Louisville, serves as a reliever airport for Louisville International. With smaller, lighter aircraft operating at Bowman Field, the larger, heavier aircraft may operate more aircraft per hour, and operate more efficiently at Louisville International Airport. As a general aviation airfield, Bowman Field offers services such as flight instruction; aircraft leases; charters and sales; aircraft cleaning and refueling; and aircraft repair and maintenance. Bowman Field is classified by the FAA as a *Regional Airport* in the General Aviation Airport Asset Report.

1.4 Purpose and Need

The FAA's primary mission is to ensure the national airport system is safe, efficient and environmentally responsible and meets the needs of the traveling public. NEPA compliance and associated environmental responsibilities are integral components of that mission. With that in mind, the following describes the Purpose and Need for the Sponsor's Proposed Action.

The *purpose* of this project is to provide a safe, efficient, viable and usable airfield at Bowman Field while serving their current fleet mix and complying with FAA FAR Part 77 and TERPS regulations and standards. The purpose of this project must also accommodate existing aeronautical requirements and capacity.

The *need* for this project is to ensure the runways are in compliance with FAR Part 77 and TERPS design standards and to maintain current runway lengths to serve existing aviation users and to retain capacity. Maintaining a 4,357 ft. primary runway and a 3,579 ft. crosswind runway, as well as preservation of the existing airfield geometry, comprises the need to support the review of the proposed actions. The need of

this project must also adhere to the criteria outlined in the FAA's National Plan of Integrated Airport Systems (NPIAS). This includes ensuring the effective and safe use of airport resources while fulfilling their obligation to comply with federal grant assurances, laws and state and local laws. These laws include but are not limited to FAR Part 77 and TERPS under the FAA.

1.5 Airfield Facility Requirements

To provide guidance to airport sponsors, the FAA has published *Advisory Circular 150/5325-4B Runway Length Requirements for Airport Design.* This advisory circular (AC) provides guidelines for airport designers and planners to determine recommended runway lengths for new runways or extensions to existing runways. The runway length requirements for the mix of aircraft (fleet mix) currently using Bowman Field has been calculated using this AC and affirmed by evaluating the performance characteristics of the most demanding aircraft. Runway length requirements were calculated taking into consideration the Airport's elevation, the average high temperature, the performance characteristics of specific airplane groups and anecdotal information provided by aircraft operators.

1.5.1 Methodology for Determining Runway Length Requirements

The runway length requirement analysis identifies the FAA methodology, as described in the AC, in *italics* followed by the supporting information and calculations. The existing estimate of annual aircraft operations at the Airport is based on an inventory of the FAA's *Terminal Area Report*; operations data provided by the Air Traffic Control Tower (ATCT); use of data provided by *FlightAware,* a web-based flight tracking data service; interviews with airport operations personnel and tenants; and a review of airport fuel sales. In the compilation of data from different sources, the following assumptions were made:

- No Turbine powered aircraft fly without a flight plan; therefore, all VFR aircraft are grouped as single or multi-engine reciprocating.
- All aircraft with registration (N) numbers and/or type blocked in the flight plan are considered to be Turbine powered. The 309 'blocked' aircraft in the database were distributed proportionately within the calculated fleet mix of the turbine aircraft.
- Aircraft listed without type identified and without a matching N-number were considered reciprocating.
- Only turbine aircraft were grouped for determination of the appropriate runway requirements graphs and computer run.

The collection of data using the above general assumptions is sufficient to accurately identify and document the grouping of aircraft to meet the FAA's definition of '*substantial use'*.

This analysis is intended to identify the runway length requirement of the aircraft *currently* operating at the airport and therefore does not include a *forecast* of operations or fleet mix during the *planning period*. The runway length requirements identified in this report are based upon current operations and the performance characteristics of the aircraft currently operating. Following a review of the aircraft activity levels during the previous 5 years, it was determined that the 2012 operations would be used for this report. Operations for 2012 fall within 2 percent of the average annual operations during the previous 5 years, making 2012 a *typical year*.

1.5.2 Aircraft Activity

Step 1 – AC 150/5325-4B, Paragraph 102(b)(1). "Identify the list of critical airplanes that will make regular use of the proposed runway for an established planning period of at least five years. For Federally funded projects, the definition of the term "substantial use" quantifies the term "regular use" (paragraph 102a(8))."

During 2012, Bowman Field had 325 based aircraft which was down more than 34 percent since 1999. The reduction in the number of based aircraft and the number of annual aircraft operations is primarily the result of a downturn in the national and local economies. A review of the operations numbers for the last five years reveals that 2012 marked an increase in airport traffic after three consecutive years of decreases. Table 1 shows the number of operations as reported by the FAA - ATCT. Consistent with the LRAA's intent to preserve the existing operating conditions, no forecast of operations is included in this report.

Table 1 - Annual Operations

Year	Itinerant IFR	Itinerant VFR	Local	Total
2012	**9,063**	**32,713**	**37,081**	**78,857**
2011	**8,993**	**29,081**	**32,294**	**70,368**
2010	**9,631**	**31,552**	**33,053**	**74,236**
2009	**9,846**	**31,454**	**33,910**	**75,210**
2008	**13,714**	**33,394**	**41,671**	**88,779**
Five Year Annual Average Total Operations = 77,490				

Note: Operations data from FAA-ATCT record. Does NOT include Overflights

The calculation of the airport's turbine aircraft *fleet mix* and the identification of specific *critical aircraft* were accomplished using flight records provided by *FlightAware*, a Houston, Texas based company that provides aviation services to aircraft operators and airports. *FlightAware* offers historical flight tracking data for all airports and aircraft operating within national airspace and with a flight plan. Individual aircraft operating under a flight plan filed with the FAA into and out of Bowman Field during the 12 month period between March 2012 and February 2013 were identified. The results of this review, annualized to calendar year 2012, are included in Tables 2 and 3.

Table 2 – Aircraft Categories

Aircraft Type	Percent	2012
Single & Multi-Engine Piston	**95.1%**	**74,991**
Turboprop	**3.4%**	**2,689**
Turbojet	**1.5%**	**1,190**
Total	**100%**	**78,857**

Operations data provided by FAA - ATCT

Table 3 - Annual Turbine Operations by Type				
Aircraft Type	**Number of 2012 Operations**	**Percent of Turboprop Operations**	**Number of Passengers**	**Maximum Takeoff Weight Pounds**
TURBOPROP				
Commander 840/900	78	2.9	< 10	10,250
Beech King Air 90	455	17.0	> 10	9,650
Beech King Air 100	45	1.7	> 10	10,100
Beech King Air 200	624	23.3	> 10	12,500
Beech King Air 300/350	29	1.1	> 10	14,000
Cessna 425/441	52	1.9	< 10	8,200/9,850
Mitsubishi MU-2L	20	0.8	> 10	10,800
Piaggo Avanti	27	1.0	< 10	11,550
Pilatus PC-12	896	33.5	< 10	10,450
Piper Cheyenne	100	3.7	< 10	11,200
Socata 7/8	321	12.0	< 10	7,394
Other 12,500 or less	28	1.0	< 10	≤ 12,500
Other – more than 12,500	14	0.5	> 10	>12,500
Total Turboprop	**2,689**	**100%**		
TURBOJET				
Beechjet 400	14	1.1	< 10	16,100
Cessna Citation - CJ1	86	7.2	< 10	11,850
Citation – CJ2	414	34.8	< 10	13,300
Citation – CJ3	30	2.4	< 10	10,400
Citation - 525	250	20.9	< 10	10,700
Citation - V	298	25.0	< 10	16,300
Citation – Excel/Sovereign	16	1.4	< 10	20,200
Citation - Mustang	28	2.4	< 10	8,645
Eclipse 500	42	3.5	< 10	5,950
Other – more than 12,500	12	1.3	< 10	> 12,500
Total Turbojet	**1,190**	**100%**		

Notes: Passenger count does not include 2 pilot seats.

1.5.3 Runway Length Requirement

Step 2 – AC 150/5325-4B, Paragraph 102(b)(2). "Identify the airplanes that will require the longest runway lengths at Maximum Certificated Takeoff Weight (MTOW). This will be used to determine the method for establishing the recommended runway length"

A review of the aircraft listings provided by *FlightAware*, and confirmed by airport records, indicate that the most demanding aircraft currently utilizing the airport are:

- Raytheon/Beech King Air
- Citation – various models

Each of these aircraft types meet the FAA's *substantial use* criteria of 500 or more annual operations. Discussions with airport tenants and aircraft owners' reveals that operators of the aircraft listed above begin to reduce takeoff weight as temperatures climb above 90 degrees.

Step 3 – AC150/5325-4B, Paragraph 102(b)(3). "Use Table 1-1 and the airplanes identified in step No. 2 to determine the method that will be used for establishing the recommended runway length. Table 1-1 categorizes potential design airplanes according to their MTOW. MTOW is used because of the significant role played by airplane operating weights in determining runway lengths. As seen from Table 1-1, the first column separates the various airplanes into one of three weight categories. Small airplanes, defined as airplanes with MTOW of 12,500 pounds (5,670 kg) or less, are further subdivided by approach speeds and passenger seating as explained in Chapter 2. Regional jets are assigned to the same category as airplanes with a MTOW over 60,000 pounds (27,200 kg). The second column identifies the applicable airport design approach (by airplane family group or by individual airplanes) as noted previously in Step 2. The third column directs the airport designer to the appropriate chapter for design guidelines and whether to use the referenced tables contained in the AC or to obtain airplane manufacturers' Airport Planning Manuals (APM) for each individual airplane under evaluation."

The AC indicates that runway length for an airport should be determined in accordance with a grouping of airplanes having similar performance characteristics and operating weights. As noted in *Step 3*, guidelines included in FAA Advisory Circular 150/5325-4B, Table 1-1, *Airplane Weight Categorization for Runway Length Requirements*, require the identification of a *Family grouping of airplanes* based upon current and forecast activity. Currently at Bowman Field, more than 500 annual turbine operations occur by aircraft that fall within two of these *family groupings* identified in Table 1-1 of the AC. These airplanes are listed in Table 4.

Table 4 – 2012 Operations by Family Grouping of Airplanes			
Critical Aircraft	**Number of 2012 Operations**	**Percent of Total Operations**	**Maximum Takeoff Weight - Pounds**
***Family grouping of small airplanes with 10 or more passenger seats* – Figure 2-2**			
Beech King Air 90	455	0.58	9,650
Beech King Air 100	45	0.06	10,100
Beech King Air 200	624	0.8	12,500
Mitsubishi MU-2L	20	0.03	10,800
Group Total	**1,144**	**3.91***	**≤ 12,500**
***Family grouping of large airplanes* - Figure 3-1**			
Beech King Air 300/350	29	0.04	14,000
Beechjet 400	14	0.02	16,100
Cessna Citation – CJ2	414	0.53	13,300
Cessna Citation - V	298	0.38	16,300
Citation Excel/Sovereign	16	0.02	20,200
Other – Misc. Types	26	0.02	> 12,500
Group Total	**797**	**1.01***	**> 12,500**

**Percent of total annual operations by type and group based on Table 1-1 of AC 150/5325-4B*

With the selection of the two airplane groups listed in Table 4 *the AC directs the planner to Chapter 2, Figure 2-2; and, Chapter 3; Figures 3-1 or 3-2 and Tables 3-1.*

Step 4 – "Select the recommended runway length from among the various runway lengths generated by step 3 per the process identified in Chapters 2, 3, or 4, as applicable."

The procedures outlined in AC 150/5325-4B have been used in determining the runway length required to accommodate the designated critical airplanes. The *AC's Table 1-1, "Airplane Weight Categorization for Runway Length* Requirements*"* directs the reviewer to use *Chapter 2, Figure 2-2 for the appropriate family grouping of small airplanes* and, *Figure 3-1* for airplanes over 12,500 pounds but less than 60,000 pounds. The majority of the airplanes in this group are found on Table 3-1 of the AC, *Airplanes that Make Up 75 Percent of the Fleet.* The use of the graphs (Figures 2-2 and 3-1) are based upon the following[1]:

- Airport Elevation . . . . . **546.0 Feet** Mean Sea Level
- Daily Mean Maximum Temperature of Hottest Month . . . . . **89º** Fahrenheit (July)
- Runway Elevation Change . . . . . **13.9 Feet** (0.43% Slope)

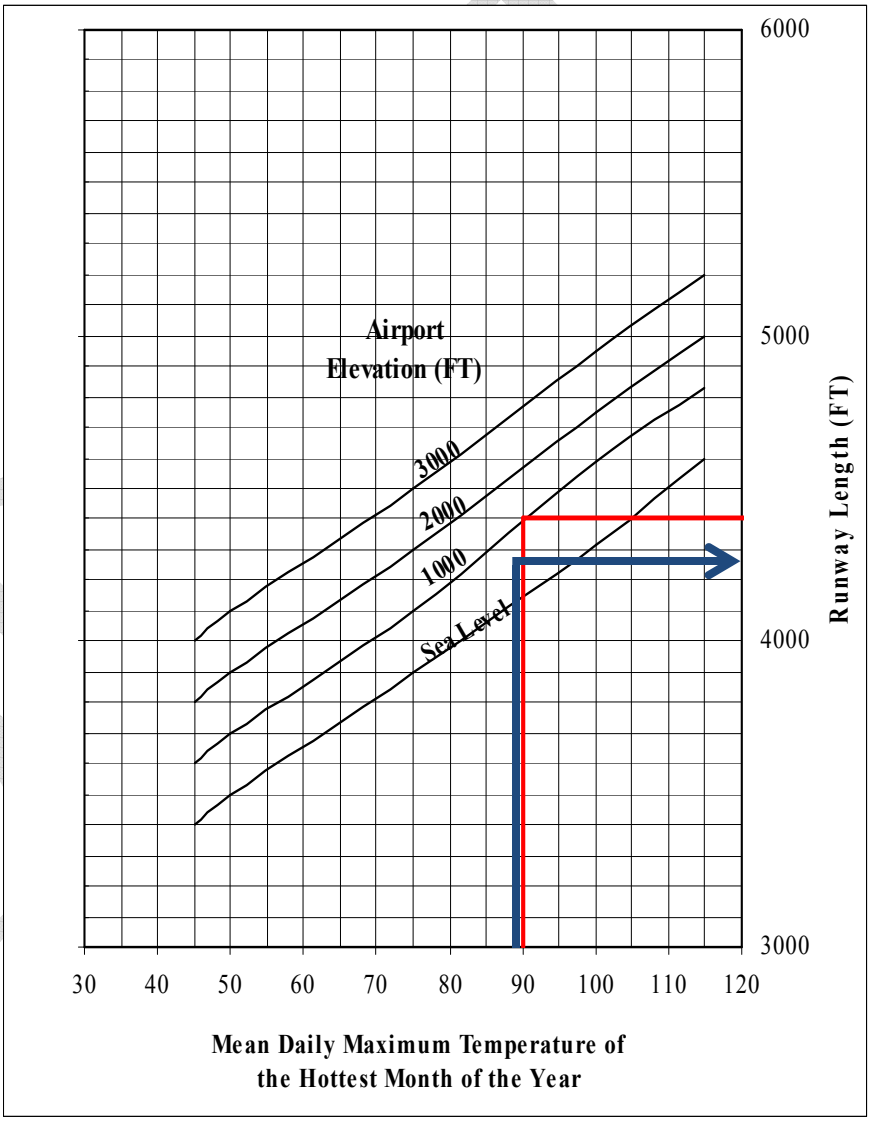
The Graphs of these conditions and their results are shown below. The result of the Runway Length Curves identified by the blue lines for each of these airplane groups is:

- Figure 2-2: Small Airplanes (less than 12,500 pounds takeoff weight) Having 10 or More Passenger Seats – requires a runway length of **4,275 feet**
- Figure 3-1: 75 Percent of the Fleet at 60 or 90 Percent Useful Load – requires a runway length of **4,700 or 6,700 feet**.

[1] Bowman Field Airport Layout Plan Approved: February 27, 2012

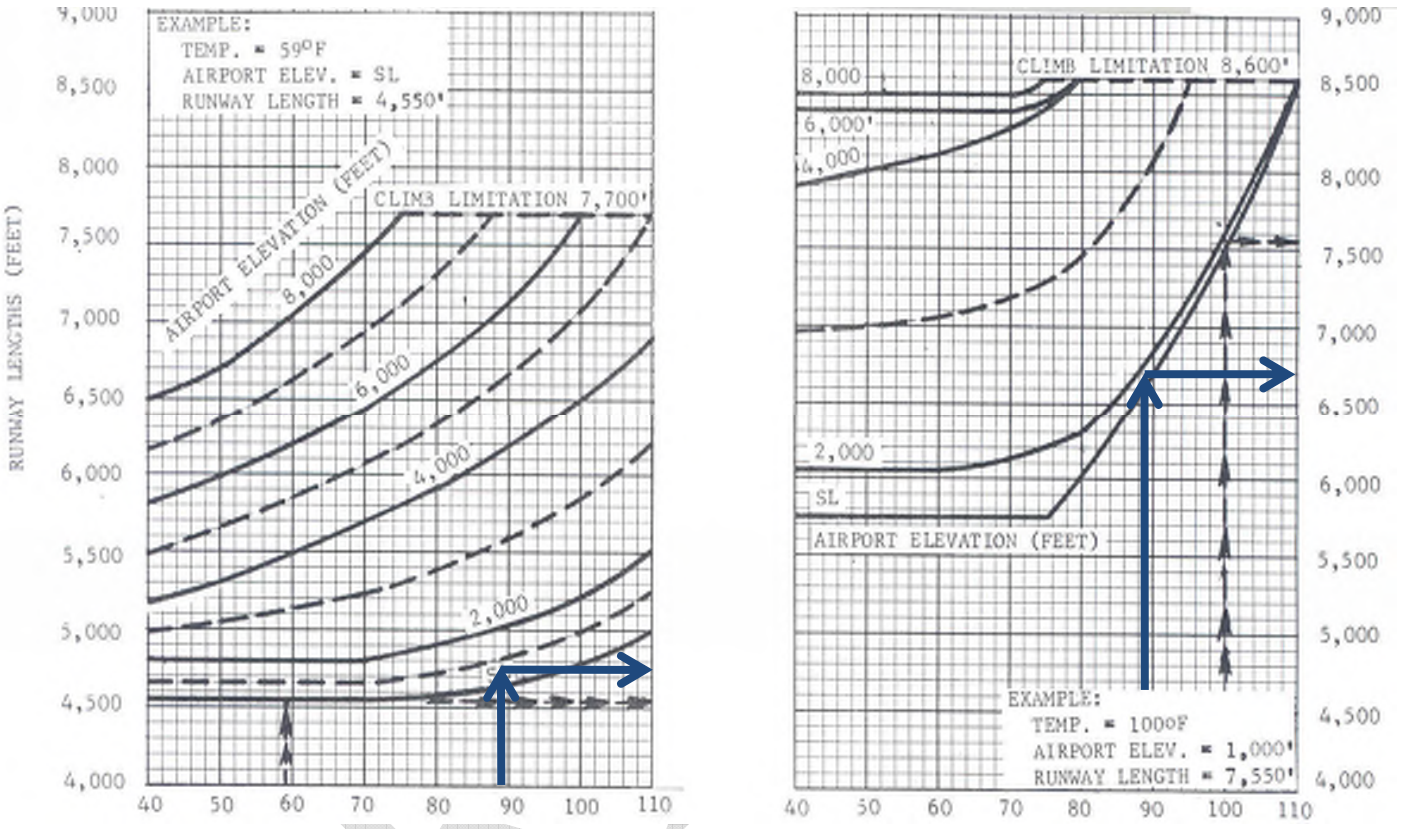
AC 150/5325- 4B Figure 2-2. Small Airplanes Having 10 or More Passenger Seats – excluding pilot & co-pilot

Representative Airplanes	Runway Length Curves
Raytheon B80 Queen Air **Raytheon B90 King Air** **Raytheon B99 Airliner** **Raytheon A100 King Air** **(Raytheon formerly Beech Aircraft)** **Mitsubishi MU-2L** **Swearigen Merlin III-A**	**Bowman Field: Temperature (mean day max hot month) 89° F** **Airport Elevation (msl) 546 feet** **Recommended Runway Length 4,275 feet**



AC 150/5325- 4B Figure 3-1: 75 Percent of Fleet at 60 and 90 Percent of Useful Load

Representative airplanes: **Raytheon (Beech) King Air 300 and 350**
Cessna Citation CJ2, V, Excel, Sovereign, etc.
Beech Jet 400



75 percent of fleet at 60 percent **75 percent of fleet at 90 percent**
60 and 90 percent of the airplane's useful load

Conclusion: Runway Length Requirement

Based upon the guidance contained in AC 150/5324-4B*, Runway Length Requirements for Airport Design* and validated by the FAA's previously used computer program, it is concluded that the current runway lengths at Bowman Field are the minimum required to accommodate the current operating demand. Any reduction in the amount of usable runway length would result in a diversion of a substantial number of operations to the more congested Standiford Field (Louisville International Airport). This evaluation is based upon the existing aircraft fleet mix.

1.5.4 Runway Instrument Approach Procedures

Instrument Flight Rules (IFR) is one of two sets of FAA regulations defining operating requirements for aircraft within the airspace system. The FAA defines IFR as: *Rules and regulations established by the FAA to govern flight under conditions in which flight by outside visual reference is not safe.* IFR flight rules and pilot qualification allow an aircraft to be flown in weather conditions that do not meet minimum

requirements for visual flight rules (VFR). Generally IFR operations must be conducted when weather conditions are below 1,000 foot ceiling and less than 3 miles horizontal visibility. Records for Bowman Field indicate that IFR conditions are present approximately nine (9) percent of the time, or roughly 775 – 800 hours per year.

A review of the Operation data shown in Table 1 reveals that during the 5 year period 2008 – 2012 approximately thirteen percent (13.2%) were IFR operations. During the five year period the airport averaged 10,249 IFR operations per year.

1.6 Sponsor's Proposed Action

The Sponsor's Proposed Action intends to re-establish full use of airfield characteristics for aircraft currently using Bowman Field. This will be accomplished through mitigating obstructions that penetrate TERPS surfaces and other airspace surfaces, as defined by the FAA. The Sponsor's Preferred Alternative and other alternatives are detailed as follows and are depicted in **Exhibits 4 – Alternative 1 and Exhibit 5 – Alternative 2** in **Appendix A**.

- Acquisition of Avigation Easements on those properties where trees penetrate FAA TERPS surfaces and properties where tree penetrations will occur.

1.7 Applicable Regulatory Statutes

The following statutes listed are applicable when evaluating the environmental impacts associated with the Sponsor's Proposed Action. Each of the following is explained in greater detail in Appendix B.

- The Airport and Airway Safety and Capacity Expansion Act of 1987 (P.L. 100-223).
- Federal Aviation Act of 1958, (P.L. 85-726) now recodified as Subtitle VII, Title 49 U.S. Code – Aviation Programs," (§40101 et. Seq.).
- The National Environmental Policy Act 1969 (NEPA).
- Department of Transportation Act of 1966, Section 4(f), Recodified 49 U.S.C. §303c.
- Clean Water Act of 1977 (CWA), 33 U.S.C. §1251, et seq.
- The Clean Air Act of 1970 (CAA), 42 U.S.C. §4701, et seq.
- The Endangered Species Act of 1973, 16 U.S.C. §1531, et seq.
- The Airport Noise and Capacity Act of 1990, (P.L. 101-508).
- Coastal Zone Management Act of 1972, 16 U.S.C. §1451, et seq.
- National Historic Preservation Act of 1966, 16 U.S.C. §470, et seq.
- Wild and Scenic Rivers Act of 1968, 16 U.S.C. §1271, et seq.
- Land and Water Conservation Fund Act of 1965, 16 U.S.C. §4600-5, et seq.
- Coastal Barrier Resources Act, 16 U.S.C. §3501 et seq.
- National Flood Insurance Act of 1968, 42 U.S.C. §4001 et seq.
- Flood Disaster Protection Act of 1973, 42 U.S.C. §4002, et seq.

CHAPTER 2 - ALTERNATIVES

2.1 General Discussion

Federal guidelines concerning an environmental review process require that all reasonable alternatives that could sufficiently meet the Purpose and Need of the Airport are considered. The examination of alternatives is of critical importance to the environmental review process and serves to ensure that an alternative that may enhance environmental quality or have a less detrimental effect has not been prematurely dismissed from consideration. The purpose of this chapter is to describe the process followed during the analysis of alternatives to the proposed project. Alternatives that do not meet the Purpose and Need of the environmental review process are dismissed from further consideration. All alternatives considered to be reasonable and practicable are carried through the study to assess their individual environmental consequences.

2.2 Alternatives Considered

2.2.1 Introduction

As stated in Chapter One – Purpose and Need, the LRAA's goal is to re-establish full use of airfield characteristics for aircraft currently using Bowman Field. The Purpose is to provide safe, efficient and usable airfield resources at Bowman Field while at the same time maintaining the existing aeronautical capacity. The Need for the proposed project seeks to satisfy existing aeronautical demands and comply with safety guidelines and regulations set forth by the FAA as well as comply with FAA Grant Assurance 20.[2] The LRAA intends to restore night time IFR operating capabilities at levels documented in the FAA conditional approval of the Airport Layout Plan (signed February 27, 2012) in their letter dated March 21, 2012, with minimal changes to airfield geometry and comply with safety needs at Bowman Field. Several options exist in addressing the Purpose and Need of this proposed action. See **Exhibit 1 – Federal Aviation Administration – Conditional ALP Approval Correspondence** in **Appendix C.**

- No Action Alternative.
- Alternative 1: Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33.
- Alternative 2: Acquire easements and lighting obstructions to Runways 06, 15, 24 and 33.
- Alternative 3: Construct a new north/south Runway and extend Runway 15 to the northwest.
- Alternative 4: Extend Runway 24 to the northeast and Runway 15 to the northwest.
- Alternative 5: Construct a New Airport.

The rationale used in formulating the alternatives followed a step-wise progression. The analyses first reviewed utilizing the existing airfield (No Action Alternative). The second analysis reviewed re-establishing full use of airfield resources, for aircraft currently using Bowman Field (Alternatives 1 through 4). The final analysis reviewed a reasonable (if any) alternative could be used to replace the existing Airport (Alternative 5).

[2] http://www.faa.gov/airports/aip/grant_assurances/media/airport-sponsor-assurances-aip.pdf

2.2.2 Alternatives Identified

2.2.2.1 No Action Alternative

The Council of Environmental Quality (CEQ) Regulation includes specific directions on the consideration of alternatives. Section 1502.14(d) of said regulations state that "agencies shall include the alternative of no action in any environmental analysis." The No Action Alternative shown in **Exhibit 3 –Airport Site Vicinity Map** in **Appendix A**. This study assumes that if the Airport remains in its current state, the Airport will maintain its current runways and will not provide any additional expansion of airfield resources that would address the constraints outlined in the Purpose and Need of this Environmental Assessment. Bowman Field will be required to relocate the thresholds of each runway to ensure the 20:1 visual approach surface remains free of obstructions. The results of this action would move Runway 06's threshold an additional 640 feet resulting in a Landing Distance Available (LDA) of 2,829 feet. Runway 24's threshold would remain in its current location with a LDA of 3,856 feet. Runway 15's threshold would move an additional 692 feet resulting in a LDA of 2,876 feet. Finally, Runway 33's threshold would be relocated 980 feet resulting in a LDA of 2,876 feet. These shortened and relocated thresholds would eliminate operations by the current critical aircraft group. In addition to threshold relocations the No Action Alternative would require LRAA not address any airfield resource improvements that would address the constraints outlined in the Purpose and Need of this Environmental Assessment.

2.2.2.2 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative, depicted on **Exhibit 4 – Alternative 1** in **Appendix A** proposes purchasing easements over properties containing trees that have or will become obstructions to the four runway approaches. This alternative allows Bowman Field to maintain current runway lengths and regain nighttime operating capabilities to levels depicted on the approved ALP dated February 27, 2012, to serve existing aviation users. Bowman Field would maintain the 4,357 ft. Runway 06-24 (primary runway) and the 3,579 ft. Runway 15-33 (crosswind runway), as well as preserve the existing airfield geometry. Approximately 3,600 trees were identified within the project areas, of these, approximately 104 were determined to penetrate or be within ten feet of the approach surfaces and will need to be trimmed or removed/replaced.

2.2.2.3 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative, depicted on **Exhibit 5 – Alternative 2** in **Appendix A** proposes lighting trees that have become obstructions to Runways 06, 15, 24 and 33. This alternative would require trees that have been identified as penetrating or within ten feet of the approach surface have a lighted pole installed adjacent to the tree. Since these trees are located on non-airport property, both an avigation easement and permanent utility easement would be required to allow the FAA to install and maintain each light. The installation of the lights would require additional utility considerations including overhead power lines integrated into the existing power grid. The new overhead power lines would likely require tree trimming or removal/replacement to ensure branches do not interfere or cause damage to the new and existing power lines. As the obstructions (trees) grow, the lighted poles will need to be replaced or modified to ensure the pole height properly designates the current elevation of the obstruction. The lighted poles placed adjacent to these obstructions would belong to the FAA and they would be entirely responsible for their operations

and maintenance. Based on FAA lighting regulations, obstructions within a 40-ft light radius may be clustered together to minimize the number of permanent lights that may be required. Using this methodology, approximately 115 lights, for all four runway ends, will be needed to properly light trees that have or will become obstructions. A survey of the obstructions would likely occur annually to ensure obstructions have not grown beyond the lighted standards. Since these poles are the property of the FAA they are subject to FAA's Advisory Circulars (AC), as well as national electrical and fire, installation and safety codes and standards. Below is a list of applicable ACs, codes, standards and references that may apply to design and construction of an obstruction lighting system.

- American National Standard for Wood Poles: ANSI O5.1-2008 Wood Poles Specifications & Dimensions.
- American National Standards (ANSI) C80.1 – Rigid Steel Conduit, Zinc Coated.
- ANSI C80.4 – Fittings Rigid Metal Conduit and Electrical Metal Conduit.
- American Society for Testing and Materials (ASTM) Specification B3 – Standard Specification for Soft or Annealed Copper Wire.
- ASTM Specification B8 – Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
- FAA AC No. 70/7460-1K (or most current issue) Obstruction Marking and Lighting.
- FAA AC No. 150/5340-26B "MAINTENANCE OF AIRPORT VISUAL AID FACILITIES".
- FAA AC No. 150/5340-30H "DESIGN AND INSTALLATION DETAILS FOR AIRPORT VISUAL AIDS".
- FAA AC No. 150/5345-53 "AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM" (most current issue) and AC150/5345-53D, AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM Appendix 3 Addendum.
- FAA AC No. 150/5345-43G "SPECIFICATION FOR OBSTRUCTION LIGHTING EQUIPMENT" (or most current issue in force).
- FAA AC No. 150/5370-2F (or most current issue) "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".
- FAA AC 150/5370-10G Standards for Specifying Construction of Airports, PART 11 LIGHTING INSTALLATION, Item L-108 Underground Power Cable for Airports with the applicable modifications, additions and clarifications.
- FAA AC 150/5370-10G Standards for Specifying Construction of Airports, PART 11 LIGHTING INSTALLATION, Item L-110 Airport Underground Electrical Duct Banks and Conduits with the applicable modifications, additions and clarifications.
- FAA AC 150/5370-10G Standards for Specifying Construction of Airports, PART 11 LIGHTING INSTALLATION, Item L-119 Airport Obstruction Lights with the applicable modifications, additions and clarifications.
- FAA Engineering Brief No. 67D Light Sources Other Than Incandescent and Xenon for Airport and Obstruction Lighting Fixtures.
- Federal Aviation Administration Program Guidance Letter 12-02.
- Federal Specification A-A-59544 Cable and Wire, Electrical (Power, Fixed Installation).
- National Fire Protection Association (NFPA) 70 – National Electrical Code (NEC), most current issue in force.

- NFPA 70E – Standard for Electrical Safety in the Workplace.
- NFPA 780 – Installation of Lightning Protection Systems.
- Occupational Safety and Health Administration (OSHA) 29 CFR Part 1910 Occupational Safety and Health Standards for electrical safety and lockout/tagout procedures.
- Rules and regulations of the serving electric utility company.
- Underwriters Laboratories (UL) Standard 6 – Rigid Metal Conduit.
- UL Standard 44 – Thermoset-Insulated Wires and Cables.
- UL Standard 83 – Thermoplastic-Insulated Wires and Cables.
- UL Standard 467 – Grounding and Bonding Equipment.
- UL Standard 486A-486B Wire Connectors.
- UL Standard 514B – Conduit, Tubing and Cable Fittings.
- UL Standard 854 – Service Entrance Cables.

2.2.2.4 Alternative 3 – Construct a new north/south Runway and extend Runway 15 to the northwest

This alternative, depicted on **Exhibit 6 – Alternative 3** in **Appendix A** proposes constructing a new Runway 01-19 and extending Runway 15 to the northwest. The new Runway 01-19 would be 4,357 ft. in length by 75 ft. in width, with a weight bearing capacity able to accommodate the design aircraft of Bowman Field. Runway 01-19 will serve as the new primary runway, with the old Runway 06-24 pavement being removed. In addition, Runway 15-33 will be extended 1,200 ft. to the northwest making it 3,579 ft. long and 75 wide and would remain to serve as the crosswind runway. The existing airfield geometry will change, which will require the relocation of on airport access roads, airport buildings and connector taxiways. This alternative would also require the acquisition of Seneca Golf Course, several commercial properties and a portion of the Hawthorne Estates neighborhood in fee simple title. Once these properties are acquired existing structures, trees and landscaping will be removed to accommodate the new and extended runways. The acquisition of a portion of Hawthorne Estates would also require the trimming or removal/replacement of trees south of the acquired and relocated residential homes as well as the relocation of Taylorsville Road to ensure remaining residents have access to their homes. In addition, this alternative would require the realignment of two segments of the Middle Fork of Beargrass Creek, to ensure the creek is outside of Runway Safety Areas (RSA). Ancillary development will be limited to necessary construction needed including; connecting taxiways, navigational aids, fencing, signage, lighting, obstruction removal, marking, grading and drainage and turf improvements.

2.2.2.5 Alternative 4- Extend Runway 24 to the northeast and Runway 15 to the northwest

This alternative depicted on **Exhibit 7 - Alternative 4** in **Appendix A,** proposes extending Runway 24 to the northeast and Runway 15 to the northwest. This alternative proposes extending Runway 24 950 ft. to the northeast making it 4,357 ft. long and 75 ft. wide, and will remain the primary runway. This alternative also proposes extending Runway 15-33 1,200 ft. to the northwest making it 3,579 ft. long and 75 wide, and will remain the crosswind runway. The existing airfield geometry will change, which will require the relocation of on airport access roads and connector taxiways. This alternative would also require the acquisition of both Seneca Golf Course and Big Spring Country Club, in fee simple title. Once these properties are acquired, existing structures, trees and landscaping will be removed to accommodate the extended runways. To accommodate the construction of Runway End 22's extension, Cannons Lane will be relocated to the north, outside of property acquired by the Airport. In addition, this alternative would

require the realignment of two segments of the Middle Fork of Beargrass Creek, to ensure the creek is outside of the RSA. Ancillary development will be limited to necessary construction needed including; connecting taxiways, navigational aids, fencing, signage, lighting, obstruction removal, marking, grading and drainage and turf improvements.

2.2.2.6 Alternative 5 – Construct a new Airport

This alternative proposes to construct a new airport in close proximity to the existing facilities in the Louisville, Kentucky area to continue to serve its existing airport users. This alternative will require the preparation of a new Airport Master Plan and Site Selection Report. This alternative requires significant acquisition of property potentially including residences and businesses; relocation and severance of roadways; construction of new runways, taxiways, aprons, navigational aids, and general aviation and corporate facilities; and the creation and/or extension of water, sewer and utility lines to serve the new site. A new and separate environmental analysis would be required if this alternative were selected.

2.3 Alternatives Eliminated From Further Consideration

This section discusses those alternatives that have been eliminated from further review and lists the reasons for their dismissal.

2.3.1 Alternative 3 – Construct a new north/south Runway and extend Runway 15 to the northwest

This alternative would negatively impact large portions of the community surrounding the Airport. This alternative would create negative social impacts by disrupting an established community, through acquisition and the relocation of a portion of Hawthorne Estates neighborhood. To construct the new Runway 01-19, approximately 70 acres of residential land would be acquired and 150-200 residential properties would be relocated from Hawthorne Estates. The residents displaced by this alternative would need to be relocated into comparable housing, according to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act). Residential properties not acquired, will need new roads to ensure access to their homes, which will include the relocation of Taylorsville Road. Homes located south of the acquired land would still require tree trimming or removal/replacement, to remove obstructions to the new Runway 01-19. This alternative would also create negative socio-economic impacts through the acquisition of Seneca Golf Course from the Louisville Metro Parks. The acquisition of Seneca Golf Course would remove a source of income from the Louisville Metro Parks as well as eliminate any potential economic benefit to the adjacent community and surrounding businesses. In addition, this alternative would create negative environmental impacts, by realigning portions of the Middle Fork of Beargrass Creek. When compared to Alternative 1 and Alternative 2, this alternative creates additional and negative natural resource, social, socioeconomic and infrastructure impacts. This alternative does not meet LRAA's Purpose and Need by creating additional negative impacts and, therefore, was eliminated from further consideration.

2.3.2 Alternative 4 - Extend Runway 24 to the northeast and Runway 15 to the northwest

This alternative would negatively impact large portions of the community surrounding the Airport. This alternative would require the acquisition of both Seneca Golf Course from the Louisville Metro Parks and the privately owned Big Spring Country Club. This alternative would create additional negative socio-economic impacts to the community by removing a source of income from the Louisville Metro Parks as

well as eliminate any potential economic benefit to the adjacent community and surrounding businesses. In addition, this alternative would create negative infrastructure impacts through the relocation of Cannons Lane, outside of the Runway 15's RSA. This alternative would also create negative environmental impacts, by realigning portions of the Middle Fork of Beargrass Creek. When compared to Alternative 1 and Alternative 2, this alternative creates additional and negative natural resource, social, socioeconomic and infrastructure impacts. This alternative does not meet LRAA's Purpose and Need by creating additional negative impacts and, therefore, was eliminated from further consideration.

2.3.3 Alternative 5 – Construct new airport

This alternative would only address the safety hazards at the Airport by constructing a new airport in a less urban environment area. However, under those conditions the new airfield would no longer serve the existing users of Bowman Field that rely on its proximity to other facets of the Louisville area and would require that the Airport be moved out of the city and possibly out of the county. This alternative does not adhere to the Purpose and Need of the Airport's current function as an airport in the location of which it serves its operators. Additionally, it would be expected that a new airport site would require land acquisition greater than any alternative to be considered in this document. It is also expected that constructing a new airport would require the purchase of numerous residences, businesses and/or farms, and cause major surface transportation disruptions due to roadway relocations; and potentially impact numerous natural resources. Other alternatives being considered in this document have substantially fewer environmental impacts. Since this alternative does not reasonably meet LRAA's Purpose and Need, it has been eliminated for further consideration.

2. 4 Alternatives Considered for Further Examination

2.4.1 No Action Alternative

The No Action Alternative analysis is required pursuant to FAA Orders 1050.1E; *Environmental Impacts: Policies and Procedures,* CEQ Regulations and the FAA's Order 5050.4B, *Airport Environmental Handbook.* These guidelines define the need to analyze and compare the No Action Alternative and other alternatives, if applicable, to the Sponsor's Proposed Action. The No Action Alternative will be studied further in Chapter Four - **Environmental Consequences** of this EA.

2.4.2 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

Currently Bowman Field is operating with reduced runway capabilities due to trees penetrating the approach surfaces. To ensure the airport's runway approaches are in compliance with FAR Part 77 and Terminal Instrument Procedures (TERPS) design standards, the LRAA must remove obstructions in areas beyond Runway Ends 06, 15, 24 and 33. This will allow the Airport to restore and maintain the approaches to the previously established 4,357 ft. primary runway and 3,579 ft. crosswind runway. The airport intends to comply with these requirements. The proposed actions include avigation easement acquisition and trimming or removal/replacement of obstructions. An avigation easement is a conveyance of a specified property interest for a particular area that restricts the use by the owner of the surface (in this case, approach surfaces) and yet assures the owner of the easement the right and privilege of a specific use contained within

the easement document. These proposed easement acquisitions can thereby accommodate the removal or trimming of obstructing trees in areas where these obstructions could interfere with aircraft operations and to prevent future encroachment of the approaches while at the same time, allowing the property owner to remain in place. The Sponsor's Proposed Action will be studied further in **Chapter Four – Environmental Consequences** of the Environmental Assessment Document.

2.4.3 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

Currently Bowman Field is operating with reduced runway capabilities due to trees penetrating approach surfaces. To ensure the Airport's runway approaches are in compliance with FAR Part 77 and TERPS design standards, the LRAA must protect and clear established minimum flight altitudes by installing lighted poles adjacent to obstructions to minimize hazards at the Airport. This may allow the Airport to maintain the approaches to the previously established 4,357 ft. primary runway and 3,579 ft. crosswind runway. The LRAA intends to comply with these requirements. The proposed actions include an avigation easement and ground easement to allow the installation of lighted poles adjacent to the obstructions (tree). This alternative would require annual monitoring to ensure obstructions have not grown beyond the lighted standard and that the lights are operational. This alternative would allow the encroachments to remain but highlight the obstructions so they do not interfere with aircraft operations. The Sponsor's Proposed Action will be studied further in **Chapter Four – Environmental Consequences** of the Environmental Assessment Document.

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CHAPTER 3 - AFFECTED ENVIRONMENT

3.1 Introduction

The purposed of this Chapter is to describe the character of the environment in which the alternatives to be evaluated may occur. Characteristics of the surrounding area are described to familiarize the reader with the geography, land use, demographics and general environmental conditions that could potentially be affected by the alternatives considered. The description of the affected environment is presented in the following sections:

- Airport and Proposed Project Location
- Land Use and Zoning
- Socioeconomic Overview
- Inventory of Natural Environment

To minimize any duplication of information within this document, the affected environment inventory for most of the Federally listed environmental resources (noise, air quality, floodplain, DOT Section 4(f), natural resources, energy supply, light emissions etc.) are discussed in Chapter Four – Environmental Consequences. There are no coastal zone management areas, coastal barriers, or wild and scenic rivers in the project area therefore they will not be addressed in this chapter.

3.2 Airport and Project Location

Bowman Field is located within the city limits of Louisville within Jefferson County in the north central part of Kentucky. It is bordered on the northeast by the Ohio River and Oldham County, on the east by Shelby County, on the south and southeast by Spencer and Bullitt Counties, and on the west and northwest by the Ohio River. As of 2010, Jefferson County is approximately 380 square miles with approximately 1,948.1 people per square mile.[3] The population of Louisville, which is also the county seat, is approximately 756,832 (2013).[4] Louisville is located within the northern edge of the Bluegrass Region of Kentucky, where a large portion of the state's population is centered. The city of Louisville is situated along the southern edge of the Ohio River at the Falls of Ohio, which has had a historical benefit to Louisville as a port. Bowman Field is located in eastern Louisville and is surrounded by several golf courses and neighborhood communities that include; Big Spring Country Club, Seneca Golf Course, Seneca Gardens, Strathmoor Village, Kingsley, Wellington, Meadowview Estates and Broad Fields.

3.3 Land Use and Zoning

3.3.1 Local Jurisdictions

The Louisville Regional Airport Authority (LRAA) is an autonomous municipal corporation established by Kentucky State statute. The LRAA is responsible for owning, operating and developing both Louisville International Airport (SDF) and Bowman Field Airport (LOU). LRAA is self-funded and derives operating revenue from a variety of user fees. The LRAA does not receive local or state funding for the routine operations of either airport. The predecessor of the LRAA was established in 1928 by the Commonwealth of Kentucky's General Assembly and is believed to be the first airport to use the authority-type governance in the United States. LRAA is governed by an eleven member Board of Directors that sets policy, approves

[3] http://quickfacts.census.gov/qfd/states/21/21111.html
[4] http://quickfacts.census.gov/qfd/states/21/21111.html

the budget and hires the executive director, who serves as the organization's chief executive officer and governs the LRAA. The Board is comprised of the Mayor of Louisville, seven mayoral appointees and three gubernatorial appointees, one of which is a member of the Airport Neighbors Alliance Executive Committee. The board members serve four-year staggered terms without compensation.[5]

3.3.2 Zoning

Kentucky has created a Land Development Code (LDC) which is a regulatory document that guides implementation of goals and objectives when creating a Comprehensive Land Use Plan. In Kentucky, first through fourth class cities have their own zoning authority. These cities are allowed to choose which versions or sections of the LDC that best serves their goals and objectives.[6] Jefferson County has 12 cities that meet these criteria, including Louisville-Metro. Jefferson County used these guidelines to create the Cornerstone 2020 Comprehensive Plan for the 12 cities that qualify as first through fourth class in Jefferson County. Based on the guidelines presences in the Cornerstone 2020 Comprehensive Plan, parcels are categorized into "Zoning Districts" and further defined in "Form" districts. These two districts are used in conjunction with each other and used to ensure compatibility and uniform patterns of development within existing and emerging development. The largest zoning districts adjacent to the Airport are residential, business/office and commercial, which are within the Form Districts neighborhood and work. [7,8,9]

3.4 Socio-economic Overview

3.4.1 Community Growth

The population of Jefferson County has increased 6.85% from 693,592 in 2000 to 741,096 in 2010.[10] The Greater Louisville Inc., Metro Chamber of Commerce (GLI) is working to increase and support this growth by assisting initiatives that promote diversity, vibrancy and added possibilities to its communities. This includes a focus on education so they can pave the path for economic prosperity by creating a highly educated work force for a knowledge-based economy. This would likely include supporting community initiatives in the neighborhood communities surrounding the Airport.[11]

3.4.2 Area Wide Land Use

The land use in the area surrounding Bowman is mixed residential and recreational. A large majority of Jefferson County is urban with forested areas to the south and east. The largest population in the county is centered in Louisville. Due to the large urban populations, citizens utilizing the labor opportunities within these areas have required the County to plan for a more livable, attractive, mobile, efficient and environmentally sensitive communities. Many of these labor forces and the local economy benefit from Bowman Field. Louisville's Airports generate a recurring economic impact of more than 64,135 local jobs, more than 7 million dollars in economic activity and more than 320 million dollars in state and local taxes.[12] Bowman Field is surrounded by these urban populations including neighborhoods and two golf courses,

[5] http://www.flylouisville.com/regional-airport-authority/regional-airport-authority-overview/
[6] http://www.louisvilleky.gov/PlanningDesign/ldc/
[7] http://louisvilleky.gov/government/planning-design/cornerstone-2020
[8] http://ags2.lojic.org/lojiconline/
[9] http://louisvilleky.gov/sites/default/files/planning_design/general/hmlss_zoningbasicspresentations.pdf
[10] http://censusviewer.com/county/KY/Jefferson
[11] http://www.greaterlouisville.com/Community_Development/
[12] http://www.flylouisville.com/regional-airport-authority/regional-airport-authority-overview/

one publically owned (Seneca Golf Course) and the other private (Big Spring Country Club). In addition, multiple industrial and commercial centers exist within a 5-mile radius of Bowman Field. See **Table 5 – Major Employers** for the major employers based on employees in Jefferson County.

Table 5 – Major Employers			
Business	Product/Service	Public/Private	Employees
United Parcel Service	International Air Hub	Private	20,931
Jefferson County Public Schools	Education	Public	14,269
Humana Inc.	Managed Care	Private	12,371
Norton Healthcare	Health Care Provider	Private	10,245
Ford Motor Company	Automotive	Private	8,987
GE Appliances	Home Appliances	Private	6,230
University of Louisville	Education	Public	6,187
Louisville-Jefferson County Metro Government	Transportation	Public	5,651
Kentucky One Health Inc.	Health Care Facilities	Private	5,602
Kroger Co.	Retail Grocer	Private	5,417

Source: http://www.bizjournals.com/louisville/subscriber-only/2014/09/26/public-sector-employers.html
http://www.greaterlouisville.com/EconomicDevelopment/Charts/PrivateSectorCompanies/

3.5 Inventory of Natural Environment

3.5.1 Geology

Jefferson County is underlain by two physiographic regions. The southern portion of Jefferson County is underlain by the physiographic region the Knobs. The rest of Jefferson County is underlain by the physiographic region entirely composed of the Outer Bluegrass. The Outer Bluegrass, the larger of the two physiographic regions underlays Bowman Field and covers 95 percent of the county.[13] The Outer Bluegrass region contains sinkholes, springs, entrenched rivers and intermittent and perennial streams. This region also contains discontinuous glacial outwash and leached pre-Wisconsinan till deposits that start in the north from Louisville to Covington. This area is mostly underlain by Upper Ordovician Limestone and shale. Upland streams have moderate to high gradients, boulder and cobble substrate, and long reaches of bedrock and periods of intermittency or areas with interrupted flow.[14] Bowman Field and surrounding communities are predominately underlain by Sellersburg and Jeffersonville Limestone, with small areas around the Airport underlain by Louisville Limestone and Alluvium.[15]

3.5.2 Soils

Jefferson County is characterized by broad, gently sloping ridgetops, moderately sloping to steep side slopes and moderately wide to narrow floodplains. The gentle sloping to moderately steep terraces have been utilized by urban and commercial development. The Sellersburg and Jeffersonville Limestone Unit weathers readily to reddish brown clayey soil, which together with loess mantle is common in the northern part of the quadrangle in addition to New Albany Shale remnants on hill crests.[16]

[13] http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/kentucky/KY111/0/Jefferson_KY.pdf
[14] ftp://ftp.epa.gov/wed/ecoregions/ky/ky_front.pdf
[15] http://kgs.uky.edu/kgsmap/kgsgeoserver/viewer.asp#
[16] http://kgs.uky.edu/kgsmap/kgsgeoserver/viewer.asp#

3.5.3 Water Resources

Residents and businesses of Jefferson County are supplied water by the Louisville Water Company (LWC). The LWC's water source is the Ohio River, which runs along the northern edge of Jefferson County.[17] The alluvium along the Ohio River is the best source of ground water in the County. Properly constructed wells can produce enough for a domestic supply at depths of 100 feet. Water from these wells are typically hard to very hard. Other sources of domestic water supplies can be larger creek valleys and on broad ridges within central Jefferson County. This water from central Jefferson County can usually be obtained at depths of 100 feet, but is susceptible to dry weather and dry quickly.[18] The Middle Fork Beargrass Creek was the single Water of the United States identified within the project area. This creek receives water from the east and flows west to the Ohio River.

3.5.4 Biotic Resources

The Commonwealth of Kentucky has many natural resources that are not only vital to Kentucky's economy but to the economy of the United States. These natural resources include; natural gas, coal, lumber, rock products, and tobacco. In addition to these economic resources, Jefferson County also has several nature preserves with the goal of protection and education about the county and state's biological resources.[19] The Biotic Resources adjacent to the Airport will be discussed further in **Chapter Four, Section Ten – Biotic Communities.**

3.5.5 USDOT Section 4(f) (Recodified at 49 U.S.C. §303(c)) and 6(f) Land

Several Section 4(f)/303(C) or Section 6(f) lands have been documented in the project area. These include Seneca Golf Course and Big Spring Country Club. See **Chapter Four, Section Seven – Section 4(f)/303(C)** for a discussion of potential environmental concerns.

3.5.6 Cultural Resources

In 1988, three adjacent buildings at Bowman Field were added to the National Register of Historic Places (NRHP) and were designated the Bowman Field Historic District. These buildings include the Airport Administration Building, The Curtiss Flying Service Hangar and the Army Air Corps Hangar, and were constructed between 1929 and 1937.[20] See **Chapter Four, Section Eight – Archaeological, Architectural, Historic and Cultural Resources** for a discussion of potential cultural resources concerns.

3.5.7 Threatened and Endangered Species

There are 50 Federally listed threatened and endangered species that have the potential to occur within Kentucky. Of these species, several have the potential to be within the project area.[21] The Commonwealth of Kentucky also maintains of a list of State threatened and endangered species of which several species

[17] http://www.louisvillewater.com/
[18] http://kgs.uky.edu/kgsweb/download/water/wrdc/kipda.pdf
[19] http://naturepreserves.ky.gov/naturepreserves/Pages/default.aspx
[20] http://www.nps.gov/nr/travel/aviation/bow.htm
[21] http://www.fws.gov/frankfort/pdf/ky_te_list_oct_13.pdf

have the potential to be within the project area.[22] See **Chapter Four, Section Eleven – Endangered and Threatened Species of Flora and Fauna** for a discussion of potential environmental concerns.

3.5.8 Wetlands

Based on the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) data and a field determination, there are no identified wetlands within the proposed project area. See **Chapter Four, Section Elevation – Wetlands and Waters of the United States** for a discussion of potential environmental concerns. See **Exhibit 8 – Wetland Map** in **Appendix A**

3.5.9 Floodplains

The 100-year floodplain has been documented in the project area, along The Middle Fork of the Beargrass Creek and its tributaries. See **Chapter Four, Section Twelve – Floodplains** for a discussion of potential environmental concerns. See **Exhibit 9 – Floodplain** in **Appendix A**

[22] http://naturepreserves.ky.gov/pubs/publications/County_Reports/Jefferson.pdf

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CHAPTER 4 - ENVIRONMENTAL CONSEQUENCES

4.1 General

Resources identified below were evaluated and found to not be applicable and will require no further discussion in this Chapter.

- Coastal Zone Management – Jefferson County, Kentucky does not contain any designated coastal zone areas.
- Coastal Barrier – Jefferson County, Kentucky is not adjacent to either the Atlantic or Gulf coast or any Great Lakes and does not contain any designated coastal barriers.
- Wild and Scenic Rivers – The nearest designated Wild and Scenic River in Kentucky is a 17.1 mile stretch of the Red River located southeast of Lexington, Kentucky.[23] The Ohio River is approximately five and half miles from the Airport but it is not a Wild and Scenic River and is not listed on the National Rivers Inventory (NRI).

4.2 Noise

4.2.1 General Discussion

Federal Aviation Administration's Order 1050.1E, "Environmental Impacts and Procedures" Section 14.1-Analysis of Significant Impacts, Paragraph 14.4a states: "For proposed actions involving a single airport which result in a general overall increase in daily aircraft operations or the use of larger/noisier aircraft, as long as there are no changes in ground tracks or flight profiles, the initial analysis may be performed using the FAA's Area Equivalent Method (AEM) computer model. The time of day is also part of the equation used in the AEM method. If the AEM calculations indicate that the proposed action would result in less than a 17 percent (approximately a DNL 1 dB) increase in the DNL 65 dB contour area, it may be concluded that there would be no significant impact over noise sensitive areas and that no further noise analysis is required. If the AEM calculations indicate an increase of 17 percent or more, or if the proposed action is such that use of the AEM is not appropriate, then the proposed action must be analyzed using the Integrated Noise Model or Heliport Noise Model to determine if significant noise impacts will result."

Urban and suburban areas are sensitive to the noise emissions resulting from aircraft operations at general aviation airports, such as Bowman Field. All powered aircraft types generate noise, but the noise emissions from the larger, multi-engine propeller and corporate business jet aircraft may be particularly noticeable. Night activities at general aviation airports must also be considered when studying the Airport's daily effects on the surrounding environment. Specific types of human activities, such as resting or sleeping, may be incompatible with certain levels of noise. For this reason, the aviation community carefully studies the influences of aircraft levels of noise. Sensitivity to aircraft noise may influence established settlement patterns and planned or anticipated urban growth trends. Airports often undertake special studies to deal with the question of noise and land use compatibility. These studies may lead to plans to prevent or mitigate the effects of aircraft noise on the human environment.

Neither of the reasonable alternatives contemplates or would include adding new facilities or runways or any other action that could lead in any manner to an increase in traffic at the Airport. The LRAA plans to acquire easements to control obstructions (trees) beyond Runways 06, 15, 24 and 33. The Airport is

[23] http://www.rivers.gov/rivers/red.php

expected to maintain normal growth, suggesting that the current noise levels as of February 2012 will be present.

4.2.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. No noise impacts are expected under this alternative.

4.2.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

Alternative 1 would re-establish night time approaches for air traffic at the Airport. The easement acquisitions and tree trimming or removal/replacement will allow Bowman Field to preserve approaches to Runways 06, 15, 24 and 33. This will allow Bowman Field to maintain the previously established approaches to the 4,357 ft. primary runway and the 3,579 ft. crosswind runway. LRAA intends to re-establish full use of airfield characteristics for aircraft currently using Bowman Field to the level experienced immediately prior to February 2012, and thereby not substantially changing noise emissions within the adjacent neighborhoods or recreational areas. Some localized construction noise may occur during the tree trimming or removal/replacement, but it will be temporary and occur during daytime hours. Individual trees that are trimmed may require maintenance every five years to ensure they have not penetrated the existing approach surface. Therefore, this improvement is not expected to increase operations at the Airport or increase noise levels beyond pre-February 2012 conditions.

4.2.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

Alternative 2 also would re-establish night time approaches for air traffic at the Airport. The easement acquisitions and the installation of lighted poles adjacent to the trees will allow Bowman Field to regain approaches to Runways 06, 15, 24 and 33. This will allow Bowman to maintain the previously established utility of the 4,357 ft. primary runway and the 3,579 ft. crosswind runway. The Airport is expected to realize pre-February 2012 operations and will not substantially change noise emissions within the adjacent neighborhoods or recreational areas. Localized construction noise may occur during the installation of the lighted poles and utility corridors. Construction noise associated with Alterative 2 will likely occur annually as new poles are installed to accommodate tree growth and when the lights are replaced. On construction days, the noise will be temporary and occur during daytime hours. Therefore, some additional noise may be observed from ground equipment but this improvement is not expected to increase operations at the Airport or increase aircraft-generated noise levels beyond pre-February 2012 conditions.

4.2.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquisition of easements and the trimming or removal/replacement of trees that have become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 has some temporary construction noise impacts and may have temporary construction every five to ensure they have not penetrated the existing approach surface. Construction noise from this alternative will occur during the trimming or removal/replacement process and will occur during daytime hours.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will also have temporary construction noise. Construction noise will occur during the installation of the lighted poles and will likely occur annually to accommodate tree growth by replacing poles and light bulbs and will occur during daytime hours.

Additionally, when Alternate 1 is compared to Alternate 2, Alternative 1 has temporary construction noise impacts associated with trimming and removal of trees and possible construction noise every five years to ensure they have not penetrated the existing approach surface. However, the lighted poles in Alternative 2 will require annual maintenance to change the obstruction lights and replace poles, where the trees have grown taller than them. Alternative 2 will likely create more ground equipment noise on a more regular basis than either, Alternative 1 or the No Action Alternative.

4.2.6 Mitigation

Neither Alternative 1 or Alternative 2 nor the No Action Alternative are anticipated to create any adverse noise impacts. Therefore, no mitigation measures for noise impacts will be required.

4.3 Land Use Impacts

4.3.1 General Discussion

Land use is the term normally used to describe the study of existing urban settlement and development patterns. A survey of existing land use provides considerable information and perspective for the analysis of the particular community for which the project is being assessed. The study of existing land use focuses on the determination of the specific use which an individual parcel or tract of land is being put and an analysis which normally includes the summation and delineation of all existing activities and establishments which are assigned to categories such as residential, commercial, industrial, public and quasi-public, institutional, agricultural, and vacant. In some special cases, due to unusual topography or local cultural reasons, the categories are changed to reflect these conditions.

Long-range planning processes should promote compatibility between various land uses as a central objective. The implementation of long-range plans and improvement programs should be concerned with the impact or influence that a particular project will have on community in which it is to become a part of. This certainly includes the direct effects of the implementation of a future land use plan or individual improvement projects or facility, as well as secondary or intended outcomes which may be generated as a result of the implementation activities. Special studies, such as an Environmental Assessment, which, if directly related to specific public improvement projects or programs, should be comprehensive, yet as concise as possible to insure that the results of the implementation have been anticipated and have been found to be within generally acceptable limits. Studies which relate to unique improvement programs, including those which deal either with the location of a new airport or the expansion of an existing facility, should be undertaken within a future land use context.

Bowman Field is located within the municipal boundaries of Louisville, Kentucky. The land use surrounding Bowman Field is mixed residential and recreational. Bowman Field is surrounded by urban populations including the neighborhoods of Seneca Gardens, Strathmoor Village, Kingsley, Wellington, Meadowview Estates and Broad Fields and two golf courses, one publically owned (Seneca Golf Course) and one privately owned (Big Spring Country Club).

4.3.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. No impacts to land use are expected under this alternative.

4.3.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

The LRAA intends to purchase avigation easements within the surrounding Seneca Gardens and Hawthorne Estates neighborhood as well as Seneca Golf Course and Big Spring Country Club. Within the acquired easements, the LRAA proposes to trim or remove/replace trees where they have become obstructions to Runways 06, 15, 24 and 33. The acquisition of these easements will not require existing land use or zoning changes in these areas. The areas adjacent to the Airport will remain a mix of commercial, residential and recreational land uses.

4.3.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

The LRAA intends to purchase both avigation and ground easements within Seneca Gardens and Hawthorne Estates neighborhood as well as Seneca Golf Course and Big Spring Country Club. Within the acquired easements the LRAA proposes installing lighted poles adjacent to trees that have become obstructions to Runways 06, 15, 24 and 33. These lighted poles will need annual monitoring and maintenance to ensure they are properly operating and meet height requirements. The acquisition of these easements will not require existing land use or zoning changes in these areas. The areas adjacent to the Airport will remain a mix of commercial, residential and recreational land uses. However, the installation of lighted poles may be considered inconsistent with recreational or residential land use.

4.3.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquisition of easements and the trimming or removal/replacement of trees that have become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will not change the existing or future land use of the project area.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will not to change the overall existing or future land use of the project area. The installation of lighted poles will alter small amounts of the current land use by creating areas inaccessible to property owners. This may create an environment considered inconsistent with current land use practices in these areas.

When Alternative 1 is compared to Alternative 2, Alternative 1 will have fewer impacts to the existing land uses adjacent to the Airport. Alternative 2 may have secondary indirect impacts with small areas that would be considered inconsistent land use. Alternative 2 will create more inaccessible land in adjacent residential and recreational areas.

4.3.6 Mitigation

Neither the Alterative 1 or Alternative 2 nor the No Action Alternative are anticipated to create any adverse land use impacts. Therefore, no mitigation measures for land use impacts will be required.

4.4 Social Impacts

4.4.1 General Discussion

The characteristics of a community are largely due to the people that live or work there. Associated factors that contribute to the character of a community are business and labor markets, transportation, systems and utilities. The geography, geology and climate of an area are also contributing factors. Any development that significantly affects individuals within a community is defined herein as a social impact. FAA Order 1050.1E states in Section 16.2c, "*The principal social impacts to be considered are those associated with relocation or other community disruption*, *transportation, planned development, and employment."*

Factors to be considered in determining the impact thresholds include:

- Extensive relocation of residents is required, but sufficient replacement housing is unavailable.
- Extensive relocation of community businesses that creates severe economic hardship for the affected communities.
- Disruptions of local traffic patterns that substantially reduce the levels of service of the roads serving the airport and its surrounding communities.
- A substantial loss in community tax base.

4.4.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. In addition, the No Action Alternative will not adversely alter any surface transportation systems; will not divide any established communities; will not disrupt orderly, planned development; nor will it create an appreciable change in employment or substantial loss in community tax base. No social impacts are expected under this alternative.

4.4.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

Alternative 1 includes the acquisition of avigation easements within the surrounding Seneca Gardens and Hawthorne Estates neighborhood as well as within Seneca Golf Course and Big Spring Country Club. LRAA proposes to trim or remove/replace trees in these areas where they have become obstructions to Runways 06, 15, 24 and 33. This alternative would require temporary construction and individual trees that are trimmed may require maintenance every five years to ensure they have not penetrated the existing approach surface, and is not anticipated to permanently divide any established communities or disrupt surface transportation systems.

4.4.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

Alternative 2 includes the acquisition of avigation easements and ground easements within the surrounding Seneca Gardens and Hawthorne Estates neighborhood as well as within Seneca Golf Course and Big Spring Country Club. LRAA proposes to install lighted poles adjacent to trees that have become obstructions to Runways 06, 15, 24 and 33. These lighted poles will not be the property of residential or recreational property owners and will need to be maintained and monitored annually to ensure the lights are working and the trees have not grown taller than the obstruction lights. These poles will likely be tied to the existing overhead utilities through a drop line. In recreational areas where overhead lines don't occur, separate service disruption systems will need to be installed. This alternative will require additional coordination and burden the existing utilities in the community. The lighted poles will need lightning protection as well to ensure if struck they do not affect residential utility supply lines. The lighted poles will only be installed in the portions of the neighborhoods where trees have become an obstruction. This has the potential to create a burden on a small portion of a neighborhood where lights are concentrated.

4.4.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33, will require the trimming or removal of trees on residential and recreational property. Tree removal/replacement will be a temporary event and mitigation for trees impacted in this alternative will occur where applicable. Individual trees that are trimmed may require maintenance every five years to ensure they have not penetrated the existing approach surface. These actions will not divide existing communities or disrupt surface transportation systems.

When compared to the No Action Alternative, Alternate 2 – Lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. This alternative would require a permanent fixture be installed in both the residential and recreational areas. This fixture would be connected to the existing electrical utilities. This alternative will affect property owners whose trees have become an obstruction. The permanent installation of lighted poles within a few residential properties has the potential to create incapability between established communities and neighbors.

When Alternative 1 is compared to Alternative 2, the tree removal/replacement within Alternative 1 will be a temporary construction activity. Individual trees that are trimmed may require maintenance every five years to ensure they have not penetrated the existing approach surface. Alternative 2 includes a permanent fixture and utility corridor that will require annual maintenance to keep the lights operational and to maintain a proper pole-height requirement. With the addition of constant night time lights amongst existing properties, Alternative 2 has the potential to create incapability between established communities and neighbors. Alternative 2 may create more land use impacts over time than either, Alternative 1 or the No Action Alternative.

4.4.6 Mitigation

Neither Alternative 1 or Alternative 2 nor the No Action Alternative are anticipated to create any adverse social impacts. Therefore, no mitigation measures for social impacts are anticipated to be required.

4.5 Induced Socio-economic Impacts

4.5.1 General Discussion

The implementation of improvement projects of all types may induce social or economic impacts on a community or region. Often times, induced socioeconomic impacts are part of a comprehensive program that begins a sequence of events, which will result in the implementation of a program. The development of a major economic development project may start with a public entity providing the essential public services as an incentive for subsequent private development projects, or the underwriting of land to encourage the development of a particular parcel or other development. For example, enterprise zones or similar tax sheltered projects provide incentives to encourage certain actions or provide inducements for certain decisions, which are designed to strengthen the economic base of the community. Improvements at public sponsored general aviation airports may enable the community to recruit new businesses or retain and/or enlarge existing ones, as part of their efforts to generate new economic development.

4.5.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airport resources to address the established Purpose and Need. The No Action Alternative would require Bowman Field to relocate the thresholds of each runway to ensure the 20:1 visual approach surface remains free of obstructions. This would result in relocated thresholds on all four runway ends. These shortened runways would prevent the operations of the current critical aircraft group. The loss of critical aircraft operations will result in the relocation of a large number of based aircraft to other airports and reduce fuel sales and income for the Airport. This loss in income to the Airport would significantly reduce recurring economic benefits provided by Bowman Field to the surrounding community.

4.5.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

Alternative 1 includes the acquisition of avigation easements within the surrounding Seneca Gardens and Hawthorne Estates neighborhood as well as within Seneca Golf Course and Big Spring Country Club. LRAA proposes to trim or remove/replace trees in these areas where they have become obstructions to Runways 06, 15, 24 and 33. As part of this alternative, replacement trees will be made available, to ensure homes within the affected neighborhood and recreational areas retain value and character. Actions completed under this alternative would be temporary with possible maintenance every five years for trees that are trimmed initially. This alternative will not divide any established communities or disrupt planned development. Therefore adverse socio-economic impacts are not expected under this alternative.

4.5.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

Alternative 2 includes the acquisition of avigation easements and ground easements within the surrounding Seneca Gardens and Hawthorne Estates neighborhoods as well as within Seneca Golf Course and Big Spring Country Club. LRAA proposes to install lighted poles adjacent to trees that have become obstructions to Runways 06, 15, 24 and 33. These lighted poles will not be the property of the original property owner and will need to be maintained and monitored annually by the FAA to ensure the lights are working and the tree has not out grown the pole. To be both operationally and cost effective, the obstruction

lighting will run continuously. Based on FAA regulations these lights will be red.[24] The addition of these lighted poles within residents yards and adjacent to trees will likely detract from the neighborhood's value and the "curb-appeal" of these homes as well as surrounding homes that will be affected by the constant red glow of the obstruction lights.

4.5.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33. This alternative will require the trimming or removal of trees on residential and recreational property. Tree removal/replacement in this alternative will be a temporary event and mitigation will occur for trees affected. Individual trees that are trimmed may require maintenance every five years to ensure they have not penetrated the existing approach surface. While the No Action Alterative would reduce the Airport's runway length and thresholds eliminating operations by the Airport's current critical aircraft group and reducing the Airport's recurring economic benefits to the surrounding community.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. This alternative would require a permanent fixture be installed in both the residential and recreational areas that would require annual maintenance subject to FAA regulations. This alternative also has the potential to detract from the value of the residential and recreational properties with the lighted poles installed as well as properties adjacent to them due to the glow radius of the lights.

When Alternative 1 is compared with Alternative 2, Alterative 2 will likely have more long term induced socioeconomic impacts by adding lighted poles to both the yards of residential areas as well as the recreational golf courses. These lighted poles have the potential to also detract from the value of the adjacent properties. Alternative 2 and the No Action Alternative may create more socioeconomic impacts over time than Alternative 1.

4.5.6 Mitigation

Neither Alternative 1 or Alternative 2 nor the No Action Alternative are anticipated to create any adverse induced socioeconomic impacts. Therefore, no mitigation measures for induced socioeconomic impacts are anticipated to be required.

4.6 Air Quality

4.6.1 General Discussion

Air Quality Standards establish limits for various pollutants in the air. With passage of the Clean Air Act (CAA) in 1970 and amendments thereto, the Federal government began adopting standards for the entire country. Federal Air Quality Standards are divided into two categories. Primary standards were designed to protect against adverse health effects. See **Table 4-1 National Air Quality Standards**. Secondary standards were designed to protect against adverse welfare effects such as plant and material damage, odor, or reduction in visibility. On November 15, 1990, Congress passed amendments to the CAA to address the

[24] FAA AC 70/7460-1K

problem that many areas across the United States were in violation of the National Ambient Air Quality Standards (NAAQS) for ozone and/or carbon monoxide. These amendments, referred to as the Clean Air Act Amendments of 1990 (CAAA), were aimed at correcting weaknesses in the CAA provisions and tightening up the control requirements for states to develop new air quality designations, state implementation plans, and air quality strategies for those area not meeting the NAAQS.

FAA's Order 5050.4B, "*National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*" states that "The Federal Aviation Administration has the responsibility to assure that Federal airport actions conform to State Plans for controlling area wide air pollution impacts." If the proposed Federal action involves airport location, runway development or other physical airside and/or landside improvements which increase airport capacity, paragraph c (in FAA Order 5050.4B) shall be reviewed to determine if an air quality analysis needs to be done for the Environmental Assessment. If the proposed Federal action is in a state which does not have applicable Indirect Source Review (ISR) requirements, then the projected airport activity levels are examined. No air quality analysis is needed if the levels of activity forecast in the time frame of the proposed action are below those in either a or b below:

a. If it is a commercial service airport and has less than 1.3 million passengers and less than 180,000 general aviation operations forecast annually; and
b. If it is a general aviation airport and has less than 180,000 operations forecasted annually.

Finally, as stated in FAA's Order 1050.1E, *Environmental Impacts: Policies and Procedures*; The General Conformity Rule covers direct and indirect emissions of criteria pollutants or their precursors from Federal actions that meet that following criteria.

a. Reasonable foreseeable; and
b. Can practically be controlled and maintained by the Federal agency through continuing program responsibility.

"*A conformity determination is not required if the emission caused by the proposed Federal action"…"If the action is listed as exempt or presumed to conform; or if the action is below the emission threshold (de minimis) level."* If the project's emissions are below annual threshold levels (*de minimis* levels) and are not regionally significant, then the requirements of the general conformity regulation do not apply to the action or program.

Kentucky Revised Statues (KRS), which is a set of laws that run in accordance with the Kentucky Constitution, details air quality regulations in Title IX - Counties, Cities, And Other Local Units; Chapter 77 Air Pollution Control (KRS Chapter 77).[25] KRS Chapter 77 defines guidelines, law, regulations and enforcement procedures to ensure local and city regulations are in compliance with the State. KRS Chapter 77 also incorporates Federal Air Quality Standards into their regulations and standards. The Airport Pollution Control District of Louisville enforces these regulations and guidelines and works to ensure cleaner air for the residents of Louisville and Jefferson County.[26]

[25] http://www.lrc.ky.gov/statutes/chapter.aspx?id=37430
[26] http://louisvilleky.gov/government/air-pollution-control-district

The following air quality information/actions will be considered during the construction of either alternative. See **Exhibits 2A-2B - Kentucky Department of Environmental Protection Coordination** in **Appendix C.**

- The Kentucky Division for Air Quality Regulations **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precautions to prevent matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area, transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway.
- The Kentucky for Air Quality Regulations **401 KAR 63:005** states that open burning is prohibited. Open burning is defined as the burning of any material in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purpose list in the Kentucky "Open Burning Brochure".
- The utilization of emission reduction strategies, were applicable. This includes; utilizing alternative fuel equipment, utilizing other emission controls that are applicable to specific equipment and reducing idling time on equipment.

Jefferson County is currently in attainment for most pollutants, including sulfur dioxide, carbon monoxide, ozone, lead, PM10 and nitrogen dioxide. However, the county is currently a non-attainment area for PM-2.5, thereby not achieving the national standard for air quality. In addition to PM-2.5, Louisville is listed as being in non-attainment for sulfur dioxide, as well.[27] **See Table 4-2 Jefferson County 2014 Air Quality Compliance.**

[27] http://www.epa.gov/airquality/greenbook/anayo_ky.html

Table 6 National Air Quality Standards				
Pollutant	Primary Standards			Form
	Average Time	Level	Status	
Carbon Monoxide (CO)	8-hour	9 ppm	Current; most recently affirmed in August 2011	Not to be exceeded more than once per year
	1-hour	35 ppm		
Lead (Pb)	Rolling 3 – Mouth Average	0.15ug/m	Current. Designations completed November 2011. SIPs addressing nonattainment areas due to EPA 2012-2013	Not to be exceed
Nitrogen Dioxide	1-hour (primary)	100 ppb	Current	98th percentile, averaged over 3 years
	Annual	53 ppb	Current	Mean
Particulate Matter (PM10)	24-hour	150 ug/m	Current	Not to be exceeded more than once per year on average over 3 years
Particulate Matter (PM2.5)	Annual	15 ug/m	Current	Annual mean, averaged over 3 years
	24-hour	35 ug/m	Effective 2006. SIPs addressing nonattainment areas due to EPA at end remain in place	98th percentile, averaged over 3 years
		65 ug/m	Effective 1997. Related implementation rules remain in place	98th percentile, averaged over 3 years
Ozone	8- hour	0.075 ppm	Effective 2008 Implementation in progress	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
	8-hour	0.08 ppm	Effective 1997. Related implementation rules remain in place	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Sulfur Dioxide (SO2)	1-hour (primary)	75 ppb	Current. Attainment plans due January 2014.	99th percentile of 1-hour daily maximum concentration, averaged over 3-years.
	3-hour (primary)	0.5 ppb	Current	Not to be exceeded more than once per year

Source: EPA: http://www.epa.gov/air/criteria.html

Table 7 Jefferson County 2014 Air Quality Compliance						
County	CO	Ozone	PM10	PM2.5	SO2	Pb
Jefferson (Louisville)	Attainment	Attainment	Attainment	Nonattainment	Nonattainment	Attainment
Jefferson (remainder)	Attainment	Attainment	Attainment	Nonattainment	Attainment	Attainment

Source: EPA Green Book: http://www.epa.gov/airquality/greenbook/ancl.html#KENTUCKY

4.6.2 No Action Alternative

The No Action Alternative assumes there will be no expansion of airfield resources to address the established Purpose and Need. No increase in air quality emission impacts area expected under this alternative.

4.6.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This Alternative does not propose the construction of any facilities that would increase capacity at the Airport. This alternative will require the trimming or removal/replacement of trees that have become obstructions to the Runways 06, 15, 24 and 33. The number of trees affected by this alternative is relatively small compared to the overall population of trees within the area. Trees removed by this alternative will mitigated with height appropriate tree species where applicable.

Temporary construction operations may result in a temporary decrease in local air quality during the trimming or removal/replacement of trees. Individual trees that are trimmed may require maintenance every five years to ensure they have not penetrated the existing approach surface. Daily pollution loads produced by these activities depend on several factors. These include the type, number, and emission rates of various construction machines and trucks and the daily private vehicle traffic of construction personnel. Mulching of solid waste material, such as trees and scrub vegetation, may be performed during construction, if necessary. In general, while tree trimming or removal/replacement activities could affect local air quality, any possible effects are considered to be minimal and terminate upon completion of the project. No adverse effects on human and animal life, food, water supplies and plant life are expected as a result of either aircraft emissions or air contaminants produced as by-products of the trimming or removal/replacement of trees within the project area.

4.6.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the installation of lighted poles adjacent to trees that have become obstructions to the Runways 06, 15, 24 and 33. The installation of the lighted poles will require the trimming and/or possible removal of trees to integrate them into the utility system. The number of trees affected by this alternative is relatively small compared to the overall population of trees within the area. Trees affected by the project will be mitigated were applicable.

This alternative will require annual maintenance to replace light bulbs and poles where the tree has grown taller than them. Therefore, construction activities associated with this alternative may occur more often and

could result in a temporary decrease in local air quality more frequently. Daily pollution loads produced by installation and maintenance activities depend on several factors. These include the type, number, and emission rates of various construction machines and trucks and the daily private vehicle traffic of construction personnel. Dust hazards are possible due to the presence of fine silts and sands, which are subject to wind erosion. The use of dust palliative treatments (i.e. dampening and stabilization) should minimize these conditions. Mulching of solid waste material such as trees and scrub vegetation, may be performed during construction, if necessary. In general, while construction activities could affect local air quality, any possible effects are considered to be minimal and terminate upon completion of the project. No adverse effects on human and animal life, food, and water supplies and plant life are expected as a result of either aircraft emissions or air contaminants produced as by-products of the installation and maintenance of obstruction light poles within the project area.

4.6.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require the trimming or removal/replacement of trees on residential and recreational property. This alternative is unlikely to have any effect on the local air quality as the use of construction equipment for this alternative will be temporary and any trees removed will be mitigated. Individual trees that are trimmed may require maintenance every five years to ensure they have not penetrated the existing approach surface.

When compared to the No Action Alternative, Alternate 2 – Lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. This alternative will require permanent trimming or removal/replacement of trees to allow for utilities corridors and require annual maintenance and construction equipment to ensure lighted poles meet FAA obstruction standards.

When Alternative 1 is compared with Alternative 2, Alterative 2 will require additional construction activities that will occur more often and could result in temporary decreases in the local air quality more frequently. Alternative 2 is anticipated to create more air quality impacts over time than either, Alternative 1 or the No Action Alternative.

4.6.6 Mitigation

Neither Alternative 1 or Alternative 2 nor the No Action Alternative are anticipated to create any adverse air quality impacts. Therefore, no mitigation measures for air quality impacts are anticipated to be required.

4.7 Water Quality

4.7.1 General Discussion

Surface water quality is affected by a number of factors including concentration of atmospheric pollutants, chemical composition of surface soils and exposed bedrock, diversity and composition of ground cover, watershed land use, and point sources discharge of pollutants. Most of the Airport's property is mown grass areas and areas of development with formal storm water collection facilities. The Airport is surrounded by residential and recreational developments also with storm water collection infrastructure.

The Federal Water Pollution Control Act also known as the Clean Water Act (CWA) provides guidelines for water quality standards, to protect the integrity of the nation's waters through discharge control, waste water treatment standards. This Act also developed guidelines to minimize the loss of intermittent streams, wetlands, playa lakes, prairie potholes, aquifers, sloughs or other unique water resources. Waters protected under the CWA are all waters with a significant nexus to navigable water, which is subject to jurisdictional interpretation.

Water pollution control programs are designed to protect the "Beneficial Uses" of the water resources of the state. Each state has the responsibility to set water quality standards that protect for these beneficial uses, also called designated uses. The Kentucky Division of Water has an operational plan they use to manage, protect and enhance the quality and quantity of the Commonwealth's water resources for present and future generations through voluntary, regulatory and educational programs.[28]

- Protect, manage and restore water resources.
- Conduct effective water resource planning.
- Meet Federal and state program requirements.
- Promote better management and communication of data.

The Division has recommended Best Management Practices (BMP's) to prevent nonpoint-source water pollution and, thereby, control stormwater runoff and sediment damage to water quality and aquatic habitat. The Soil and Water Conservation District or the Division of Conservation of the Environmental and Public Protection Cabinet are responsible for determining the BMP's for various types of construction. In addition, if during the construction of either alternative the construction area disruption is equal or greater than one acre, then a Kentucky Pollutant Discharge Elimination System, stormwater discharge permit from the Division of Water will be required. See **Exhibits 2A-2B - Kentucky Department of Environmental Protection Coordination** in **Appendix C.**

Residents and businesses (Bowman Field included) of Jefferson County are supplied water by the Louisville Water Company (LWC). The LWC's water source is the Ohio River, which runs along the northern edge of Jefferson County. The Middle Fork Beargrass Creek is the only Waters of the United States identified within the project area. This creek receives water from the east and flows west to the Ohio River.

Metropolitan Sewer District (MSD) is responsible for the treatment of water within the metro area as well as Bowman Field. The MSD has six regional water quality treatment centers and 270 sanitary sewer pumping stations. Once processed to regulatory standards, water collected by the MSD is then released into local waterways as treated water that meets the requirements established by the Kentucky Division of Water.[29]

[28] http://water.ky.gov/Documents/AnnualReports/DOW%20Annual%20Report%202014.pdf
[29] http://www.msdlouky.org/aboutmsd/pdfs/MSD_gen_brochure_web.pdf

4.7.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. No water quality impacts are expected under this alternative.

4.7.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative proposes acquiring easements to trim or remove/replace trees that have become obstructions to Runways 06, 15, 24 and 33 and will not be affecting the municipal water supply or the Middle Fork of Beargrass Creek.

4.7.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative proposes acquiring easements and installing a lighted pole adjacent to trees that have become obstructions to Runways 06, 15, 24 and 33 and will not be affecting the municipal water supply or the Middle Fork of Beargrass Creek.

4.7.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require the trimming or removal/replacement of trees on residential and recreational property. This alternative is unlikely to have any effect on the municipal water supply or the Middle Fork of Beargrass Creek.

When compared to the No Action Alternative, Alternate 2 – Lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. This alternative is unlikely to have any effect on the municipal water supply or the Middle Fork of Beargrass Creek.

When compared to Alternative 1, Alternative 2 will require additional construction activities resulting from the installation of permanently lighted poles and annual maintenance. Neither alternative is anticipated to create adverse impacts to the municipal water supply or to the Middle Fork of Beargrass Creek.

4.7.6 Mitigation

Neither Alternative 1 or Alternative 2 nor the No Action Alternative are anticipated to create any adverse water quality impacts. Therefore, no mitigation measures for water quality impacts are anticipated to be required.

4.8 Department of Transportation Act, Section 4(f) [Recodified at 49 U.S.C., Subtitle 1, §303(c)] and Related Lands

4.8.1 General Discussion

Section 303c of the Department of Transportation Act of 1966 provides that the Secretary shall not approve any program or project which requires the use of any land from a public park, recreation area, wildlife and waterfowl refuge, or historic site, unless there is no feasible and prudent alternative to the use of such land and such a program includes all possible planning to minimize harm to such areas. In addition to lands identified under Section 303c of the DOT Act of 1966, other lands funded by the LAWCON Section 6(f), Pittman-Robertson, and Dingell-Johnson moneys must be considered. When proposed improvements affect lands purchased or developed using LAWCON funds, as administered by the United States Department of Interior (USDOI), changes in use to other than public outdoor recreation at assisted sites may only be made with the prior approval of the Secretary of the Interior. Also, converted properties must be replaced by substitute properties of at least equal fair market value and of reasonably equivalent location and usefulness.

4.8.2 No Action Alternative

The No Action Alternative assumes there will be no expansion of airfield resources to address the established Purpose and Need. No impacts to Section 303c or 6(f) lands are expected under this alternative.

4.8.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative requires the acquisition of easements to trim or remove/replace trees that have become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33. The easements will be located within neighborhoods and recreational areas surrounding Bowman Field. One of the recreational areas, Seneca Golf Course, is publicly owned by Louisville Metro Parks. Since Seneca Golf Course is publically owned it is subject to regulations under Section 4(f). Although there are trees within the golf course that would be trimmed or removed/replaced, they are a small percentage of the trees and will be replaced where possible. This alternative would not substantially change the existing form or function of the golf course, therefore is unlikely to have a negative impact on Section 4(f) properties. Preliminary correspondence with Louisville Metro Parks has occurred and through the Draft Environmental Assessment review a *de minimis* impact determination will be pursued.

The U.S. Department of Interior (USDOI) publishes a list of those areas that have received Land and Water Conservation Fund (LAWCON), Pittman-Robertson and Dingell-Johnson Funding. There are no such areas located within this alternative's project area. The closest listed area is a Kentucky State Park (E.P. "Tom" Sawyer State Park), approximately 9.5 miles away from the Airport.[30]

[30] http://parks.ky.gov/maps/default.aspx

4.8.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative proposes acquiring easements and installing a lighted pole adjacent to trees that have become obstructions to Runways 06, 15, 24 and 33. The easements will be located within neighborhoods and recreational areas surrounding Bowman Field. One of the recreational areas, Seneca Golf Course, is publicly owned by Louisville Metro Parks. This area is a publically owned park and regulated under Section 4(f). Due to FAA regulations, these lights will need to be red and continuously running. [31,32]

The U.S. Department of Interior (USDOI) publishes a list of those areas that have received Land and Water Conservation Fund (LAWCON), Pittman-Robertson and Dingell-Johnson Funding. There are no such areas located within this alternative's project area. The closest listed area is a Kentucky State Park (E.P. "Tom" Sawyer State Park), approximately 9.5 miles away from the Airport.[33]

4.8.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require the trimming or removal of trees on residential and recreational property. This alternative will trim or remove/replace trees located on Seneca Golf Course. However, only a small percentage of the overall trees will be impacted and replaced with smaller trees, where applicable.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. This alternative would impact Seneca Golf Course by installing lighted poles adjacent to trees that are obstructions. The lighted poles could detract from its recreational value by altering it overall viewshed.

When compared to Alternative 1, Alternative 2, requires the permanent installation of lighted poles within Seneca Golf Course and although would not change the function of the course, it has the potential to change the form and recreational value. Alternative 2 would create more impacts to a Section 4(f)/303(C) or 6(f) property than either, Alternative 1 or the No Action Alternative.

4.8.6 Mitigation

Neither the Alterative 1 nor the No Action Alternative area anticipated to create any Section 4(f)/303(C) or 6(f) impacts. Preliminary correspondence with Louisville Metro Parks has occurred and through the Draft Environmental Assessment review a *de minimis* impact determination will be pursued prior to the commencement of tree trimming activities. Therefore, Section 4(f)/303(C) properties will not be significantly impacted by the proposed action because it does not require the use of any section 4(f)/303(C) properties, and it does not create a constructive use that substantially impairs the property.

[31] FAA AC 70/7460-1K Part 52
[32] FAA AC 70/7460-1K Part 51
[33] http://parks.ky.gov/maps/default.aspx

Alternative 2 however, may create further impacts that could require additional mitigation, if this alternative is selected as the Airport's preferred alternative. Additional input from stakeholders would then be sought to assess the proper amount of mitigation required.

4.9 Archaeological, Architectural, Historic and Cultural Resources

4.9.1 General Discussion

Section 106 of the National Historic Preservation Act of 1966, as amended, requires every Federal agency to "take into account" the effects of its undertakings on properties that are listed in, or eligible for, the National Register of Historic Places. The National Register of Historic Places is part of a national program to coordinate and support public and private effort to identify, evaluate, and protect our historic and archaeological resources and is the official list of the Nation's cultural resources worthy of preservation. Properties listed in the National Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. These resources contribute to an understanding of the historical and cultural foundations of the nation. The significance of potential resources and the determination for their eligibility for listing on the National Register is based on the quality of significance in American history, architecture, archeology, engineering, and culture which is present in historic districts, sites, buildings, structures, and objects, that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- are associated with events that have made a significant contribution to the broad patterns of our history;
- are associated with the lives of significant persons in our past;
- embody the distinctive characteristics of a period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- have yielded or may be likely to yield, information important in history or prehistory.

The initial cultural resource documentation focused on the geographical areas within the TERPS approach surfaces. Archival research was conducted for this area to determine the presence of previously recorded historic properties. Only one recorded historic property, the National Register of Historic Places (NRHP) listed Bowman Field Historic District, is present. The TERPS approach surface for Runway 06 encompasses a corner of the official Bowman Field District boundary. However, no approach protection efforts are proposed within the district and as a result, there will be no effect to this historic property.

Following the archival research, a survey was conducted to identify other potential historic properties within the Area of Potential Effect (APE). The field survey effort resulted in the recordation of thirteen properties. These included two golf courses, six neighborhoods and five individual buildings. After historical and architectural evaluation of each of these properties was conducted, seven are identified as eligible for listing in the NRHP. These include the Seneca Golf Course and the neighborhoods of Seneca Gardens, Seneca Manor, McCoy Manor, Kingsley, Seneca Village and Seneca Village No. 2. See **Historic Architectural Survey for the Bowman Field Airport Area Safety Program Jefferson County, Kentucky** in **Appendix B.**

The FAA as part of the Section 106 process received and considered comments and concerns from designated consulting parties. As part of the process the APE was expanded to include areas outside of the initial 2014 investigation. The comments and additional areas incorporated into the APE were analyzed in a Supplement to the Cultural Resources Evaluation. The 2014 document reviews the original investigation boundary, in the form of the TERPS approach surfaces, which includes thirteen (13) properties. These included two (2) golf courses, six (6) neighborhoods, and five (5) individual buildings. The Supplement to the CRE reviews areas outside and adjacent to the TERPS, which includes an additional neighborhood (Hathaway Neighborhood). The supplement also reviews the FAA's revised scope, which includes only trees that are penetrations or near term penetrations within easement proposed for acquisition. See **Historic Architectural Survey for the Bowman Field Airport Area Safety Program Jefferson County, Kentucky, Appendix I** in **Appendix B**.

4.9.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. This will result in a decrease of runway lengths that would drastically reduce the number of critical aircraft that could use the Airport.

4.9.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative would require the acquisition of easements to trim or remove/replace trees that that have become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33. The easement acquisition will occur within the residential neighborhood of Seneca Gardens and Hawthorne Estates and within Seneca Golf Course and Big Spring Country Club. Based on the Cultural Resources documentation and Supplement, Seneca Golf Course is recommended NRHP eligible under Criterion A for historical associations with the New Deal's Works Progress Administration. However, due to alterations to the original course design, it no longer possesses sufficient design integrity to qualify as a historic landscape therefore; this alternative will not have an adverse effect on this property. The seven (an additional neighborhood added as part of the Supplement efforts) individual neighborhoods that are recommended eligible all qualify for listing under Criterion A for their historical associations with the suburban development of eastern Louisville and Criterion C as intact architectural representations of early to mid-twentieth century neighborhoods. Based on FAA's determination using the Nation Historic Preservation Act - A Handbook for Integrating NEPA and Section 106[34], it does not appear that this alternative will affect key character-defining features that qualify these neighborhoods for listing. See **Historic Architectural Survey for the Bowman Field Airport Area Safety Program Jefferson County, Kentucky** in **Appendix B**.

[34] http://www.achp.gov/docs/NEPA_NHPA_Section_106_Handbook_Mar2013.pdf

4.9.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative would require the acquisition of easements to install lighted poles adjacent to trees that have become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33. The easement acquisition and lighted pole installation will occur within the residential neighborhoods of Seneca Gardens and Hawthorne Estates and within Seneca Golf Course and Big Spring Country Club. The installation of the lights would require additional utility corridors including overhead power lines integrated into the existing power grid. The new overhead power lines would likely require tree trimming and/or removal to ensure branches do not interfere or cause damage to the new and existing power lines. Based on the cultural resource documentation and Supplement, Seneca Golf Course is recommended NRHP eligible under Criterion A for historical associations with the New Deal's Works Progress Administration. However, due to alterations to the original course design, it no longer possesses sufficient design integrity to qualify as a historic landscape and, therefore, the tree trimming and/or removal and installation of lighted poles in this alternative will not have an adverse effect on this property. The seven (an additional neighborhood added as part of the Supplement efforts) individual neighborhoods that are recommended eligible all qualify for listing under Criterion A for their historical associations with the suburban development of eastern Louisville and Criterion C as intact architectural representations of early to mid-twentieth century neighborhoods. The installation of poles and the addition of a concentrated group of red lighting may have a negative effect on the historical integrity of these residential neighborhoods identified as being eligible for listing. See **Historic Architectural Survey for the Bowman Field Airport Area Safety Program Jefferson County, Kentucky** in **Appendix B**.

4.9.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will not affect key character-defining features that qualify the previously listed properties on the Airport property for listing as cultural or historical resources. This determination was based on FAA's determination review of the Nation Historic Preservation Act - A Handbook for Integrating NEPA and Section 106[35]. The loss of income as a result of the No Action Alternative could affect the LRAA's ability to maintain the Bowman Historic District to National Register standards. The severe reduction of critical aircraft that use the Airport would subsequently eliminate a large source of income for the Bowman Field and their ability to maintain and protect the Bowman Historic Districts to standards set by the National Register.[36]

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will not adversely affect key character-defining features through trimming or removal of trees. However, the installation of poles and a concentrated group of red lighting may adversely affect the cultural and historical integrity of properties identified in the cultural resources documentation. However, the loss of income as a result of the No Action Alternative could affect the LRAA's ability to maintain the Bowman Historic District to National Register standards.

[35] http://www.achp.gov/docs/NEPA_NHPA_Section_106_Handbook_Mar2013.pdf
[36] http://www.nps.gov/tps/how-to-preserve/briefs.htm

When compared to Alternative 1, the addition of lighted poles in Alternative 2 may adversely affect historical characteristics of previously listed properties and their potential eligibility for listing. Since Alternative 2 would require the installation of an object that is not consistent with the historical or cultural integrity of the neighborhoods and the No Action could affect the LRAA's ability to maintain the Bowman Field Historic District, both would create larger cultural resources impacts than Alternative 1.

4.9.6 Mitigation

Alternative 1 not is anticipated to create any cultural resources impacts, based on FAA's determination review of the Nation Historic Preservation Act - A Handbook for Integrating NEPA and Section 106. Therefore, no mitigation measures for cultural resources will be required. However, Alternative 2 is anticipated to create impacts to the cultural integrity of the neighborhoods and would need further review under Section 106 consultation if this alternative was selected as the LRAA's preferred alternative. The No Action Alternative could create cultural resources impacts in the future and may require additional review under Section 106 at such time as the Bowman Field no longer has funds to maintain the Bowman Historic District. Coordination with the Kentucky SHPO has occurred through consulting party meetings and additional coordination may be required as the CRE is finalized.

4.10 Biotic Communities

4.10.1 General Discussion

The FAA Order 5050.4B, Table 7-1 (Significance Thresholds) states that a determination needs to be conducted to ensure the Airport improvements results in only minor alteration of existing habitat of species commonly found in the affected area. The minor alterations are referred to as the removal of habitat, which support a limited number or variety of common wildlife species or the removal of a few acres that represents a small percentage of the area's overall inventory.

4.10.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. No impacts to biotic communities are anticipated under this alternative.

4.10.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the trimming or removal/replacement of trees on residential and recreational property. The trees proposed for trimming or removal/replacement are not unique to the surrounding area and will only affect a small percentage of the total trees in the surrounding area. Due to the large number of trees and vegetation adjacent to or near the project areas, there is comparable habitat for any displaced organisms to emigrate. The trees will be trimmed or removed/replaced in the winter months when most organisms are dormant and are unlikely to be actively utilizing these trees. Coordination with the USFWS has occurred for two Federally endangered bats, the Indiana bat, (*Myotis sodalis*) and the Northern Long Eared bat, (*Myotis septentrionalis*), which have the potential to be within the project area.

4.10.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the installation of lighted poles adjacent to trees on residential and recreational property. This alternative will likely require some tree trimming and/or removal to allow use of the overhead utilities to operate the lights. The trees proposed for trimming and/or removal are not unique to the surrounding area and will only affect a small percentage of the total trees in the surrounding area. Due to the large number of trees and vegetation adjacent to or near the project areas there is comparable habitat for any displaced organisms to emigrate. The trees will be trimmed and/or removed in the winter months when most organisms are dormant and are unlikely to be actively utilizing these trees. Coordination with the USFWS has occurred for two Federally endangered bats, the Indiana bat, (*Myotis sodalis*) and the Northern Long Eared bat, (*Myotis septentrionalis*), which have the potential to be within the project area.

4.10.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential and recreational areas. This alternative will require tree trimming or removal/replacement that has the potential to be habitat for fauna and flora. However, there is a large amount of adjacent comparable habitat in which any displaced species could emigrant. Therefore, Alternative 1 is unlikely to adversely impact local biotic communities.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. This alternative will require tree trimming and/or removal that has the potential to be habitat for fauna and flora. However, there is a large amount of adjacent comparable habitat in which any displaced species could emigrant. Therefore, Alternative 2 is unlikely to adversely impact local biotic communities.

When compared to Alternative 1, Alternative 2 will require the installation of a permanent lighted poles and require annual maintenance. However Alternative 2 will require the more frequent trimming and removal of trees to properly maintain utility corridors and lighted poles.

4.10.6 Mitigation

At this time, neither the Alternative 1 or Alternative 2 nor the No Action Alternative is anticipated to create any adverse impacts to biotic communities. Additional coordination with the USFWS will occur to verify the appropriate tree removal schedule and effect determination.

4.11 Endangered and Threatened Species of Flora and Fauna

4.11.1 General Discussion

Section 7 of the Endangered Species Act, as amended, requires each Federal agency to insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the

affected states, to be critical, unless such agency has been granted an exemption for such action by the Committee (Endangered Species Act of 1973, 16 U.S.C. §1531, et seq). Threatened and endangered species of plants and animals are defined as follows:

- A Federally endangered species is any species, which is in danger of extinction throughout all or a major portion of its range;
- A Federally threatened species is any species, which is likely to become an endangered species within the foreseeable future throughout all or a major portion of its range;
- A state-endangered species is any species, which is in danger of extinction as a breeding species in Kentucky; and
- A state-threatened species is any breeding species, which is likely to become a state-endangered species within the foreseeable future in Kentucky.

There are 50 Federally listed threatened and endangered species that have the potential to occur within Kentucky. Of these species, several have the potential to be within the project area. The Commonwealth of Kentucky also maintains of a list of State threatened and endangered species of which several species have the potential to be within the project area. Of the state and Federally endangered species within Kentucky, the Indiana bat (*Myotis sodalis*) and the Northern Long-Eared bat (*Myotis septentrionalis*) are the only species that have the potential to be affected by the project.

Potential indirect effects to the Indiana and Northern Long-Eared bats include the loss of potential summer roosting, foraging and corridor habitat for both species. In the summer months, both the Indiana and the Northern Long-Eared bats will leave their winter hibernacula (caves) and migrate to their summer roosting habitat. The summer roosting habitat for the Indiana bat is generally defined as trees with a diameter at breast height (dbh) of five inches or greater. Typically they roost in trees with cavities, snags or exfoliating bark and in closed to semi-open forests adjacent to water features for access to foraging areas. The Northern Long-Eared bat has a similar habitat; however, they typically forage on forested hillsides, ridges or more upland sites. Based on a letter dated December 3, 2014 from the USFWS, the Indiana bat is the only federally listed species believed to have the potential to occur within the proposed project area. In addition, no designated critical habitat has been proposed for the Northern Long-Eared bat. Although the proposed project area may have habitat for this species, considerations taken for the Indiana bat are sufficient to ensure the project is unlikely to affect the Northern Long-Eared bat. This guidance will remain until April 2, 2015 when a final rule to list the Northern Long-Eared bat is expected. If the project's associated construction continues beyond April 2, 2015 and the Northern Long-Eared bat is listed additional coordination with the USFWS will be conducted. See **Exhibits 3A-3B - U.S. Fish and Wildlife Service Coordination** in **Appendix C.**

4.11.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. No impacts to threatened and endangered species are expected under this alternative.

4.11.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the trimming or removal/replacement of trees on residential and recreational property. A site assessment of the area was completed in August 2014 and concluded that the presence of both the Indiana and the Northern Long Eared bat is likely. To avoid direct impacts to these species, seasonal tree clearing has been proposed thereby allowing the bats to be in their winter hibernacula during the trimming or removal/replacement. The trees impacted in this alternative are a small percentage of the total tree population in the area. Any potential populations of Indiana or Northern Long Eared bats have a large amount of adjacent comparable habitat. Based on a letter dated December 3, 2014 from the USFWS, they concurred that the proposed project is unlikely to have an adverse effect on the Indiana Bat in keeping with the following obligations.(1) seasonal clearing occurs (October 15 through March 31), (2) if new information is revealed during construction that would affect a species in a manner not already stated, additional coordination with the USFWS will be required, (3) if the construction plan is modified additional coordination with the USFWS will be required, and (4) if new species are listed or designated during construction additional coordination with the USFWS will be required. See **Exhibits 3A-3B - U.S. Fish and Wildlife Service Coordination** in **Appendix C.**

4.11.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the installation of lighted poles adjacent to trees on residential and recreational property. This alternative may access electricity from the existing utility to make the lights operational. This will likely occur via a drop line from the existing overhead utility wire. This will require some tree trimming and/or removal to ensure limbs and branches don't interfere with the utility infrastructure. A site assessment of the area was completed and concluded that the presence of both the Indiana and the Northern Long Eared bats is likely. To avoid direct impacts to these species, seasonal tree clearing has been proposed thereby allowing the bats to be in their winter hibernacula during the trimming and/or removal. The trees impacted in this alternative are a small percentage of the total tree population in the area. Any potential populations of Indiana or Northern Long Eared bats have a large amount of adjacent comparable habitat.

Based on a letter dated December 3, 2014 from the USFWS, they concurred that the proposed project is unlikely to have an adverse effect on the Indiana Bat in keeping with the following obligations.(1) seasonal clearing occurs (October 15 through March 31), (2) if new information is revealed during construction that would affect a species in a manner not already stated, additional coordination with the USFWS will be required, (3) if the construction plan is modified additional coordination with the USFWS will be required, and (4) if new species are listed or designated during construction additional coordination with the USFWS will be required. See **Exhibits 3A-3B - U.S. Fish and Wildlife Service Coordination** in **Appendix C.**

In addition to tree removal, this alternative will include the installation of continuously illuminated obstruction lights. Little is known about the effects of red lighting on bat populations. Bats are nocturnal and may be sensitive to light since they nest during the day and emerge at night to feed.[37] Additional

[37] http://www.lbp.org.uk/downloads/Publications/Management/lighting_and_bats.pdf

coordination, through the draft environmental assessment review, will occur with the USFWS in regards to the effects of lighting on bat species.

4.11.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential and recreational areas. The trimming or removal/replacement of trees has the potential to affect potential Indiana and Northern Long Eared bat habitat. The percentage of trees being cleared is small compared to the total number of trees within the area. Indiana and the Northern Long Eared Bat using this area as summer roosting habitat will have ample adjacent comparable habitat. The USFWS concurs with this assessment as long as specific obligations are met. See **Exhibits 3A-3B - U.S. Fish and Wildlife Service Coordination** in **Appendix C.**

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. This alternative will also require tree trimming and/or removal in areas where trees have the potential to interfere with the utility wires being used to provide electricity to the poles. The trimming and/or removal of trees has the potential to affect potential Indiana and the Northern Long Eared bat habitat. The percentage of trees being cleared is small compared to the total number of trees within the area. Indiana and Northern Long Eared bats using this area as summer roosting habitat will have adjacent comparable habitat. Seasonal tree clearing will be recommended to minimize impacts. The effects of lighting on potential populations will be coordinated with the USFWS through review of the draft environmental assessment.

When compared to Alternative 1, Alternative 2 will require the permanent installation of lighted poles and annual maintenance. Alternative 2 however, has the potential to effect populations through the addition of lighting in the area. Alternative 2 has the potential to create greater impacts to threatened and endangered species than either Alternative 1 or the No Action Alternative.

4.11.6 Mitigation

Neither the Alternative 1 or Alternative 2 nor the No Action Alternative is anticipated to create any adverse impacts to threatened and endangered species. Additional coordination with the USFWS will occur to confirm the appropriate tree removal schedule and effect determination. If the project's associated construction continues beyond April 2, 2015 and the Northern Long-Eared bat is listed, additional coordination with the USFWS will be required.

4.12 Wetlands and Waters of the United States

4.12.1 General Discussion

The Army Corps of Engineers (Corps) and the EPA jointly define wetlands as "*those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in*

saturated soil conditions."[38] Wetlands generally include swamps, marshes, bogs and similar areas. According to the Corps Wetlands Delineation Manual, wetlands must possess the following diagnostic characteristics: a prevalence of hydrophytic vegetation, hydric soils and wetland hydrology. The USFWS mapped potential wetland areas based on high altitude aerial photography. This mapping has been termed the National Wetland Inventory (NWI).

Waters of the United States are defined as "those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. A determination of navigability, once made, applies laterally over the entire surface of the water body, and is not extinguished by later actions or events which impede or destroy navigable capacity."[39]

4.12.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. No impacts to wetlands are expected under this alternative.

4.12.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the trimming or removal/replacement of trees on residential and recreational property. The NWI map does not show any mapped wetlands within the proposed project area. The Middle Fork of Beargrass Creek is the only Waters of the United States within the project area. Trees will not be trimmed or removed/replaced in a manner that will discharge fill material into the creek. Therefore the project area will not impact any wetlands or Waters of the United States.

4.12.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the installation of lighted poles adjacent to trees on residential and recreational property. The NWI map does not show any mapped wetlands within the proposed project areas. The Middle Fork of Beargrass Creek is the only Waters of the United States within the project area. Lighted poles will not be installed adjacent to or within the creek. Therefore this alternative will not impact any wetlands or Waters of the United States.

4.12.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential areas. There are no NWI wetlands mapped within the project area and this alternative will not discharge fill material into the Middle Fork of Beargrass Creek.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become

[38] (Corps 33 CFR §328.3) http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&rgn=div5&view=text&node=33:3.0.1.1.35&idno=33
[39] http://www.lrc.usace.army.mil/Missions/Regulatory/Definitions.aspx

obstructions. There are no NWI wetlands mapped within the project area and this alternative will not require the discharge of fill material the Middle Fork of Beargrass Creek.

When compared to Alternative 1, Alternative 2 will require the permanent installation of a lighted poles and annual maintenance. Neither alternative will require impacts to wetlands and or Waters of the United States. None of the alternatives will likely create negative impacts to wetlands and or Waters of the United States.

4.12.6 Mitigation

Neither the Alternative 1 or Alternative 2 nor the No Action Alternative will create any impacts to wetlands. Therefore, no mitigation measures for wetland impacts will be required.

4.13 Floodplains

4.13.1 General Discussion

Floodplains perform many important functions included in flood desynchronization, wildlife habitat, food chain support, nutrient retention and removal and erosion control. Regulatory floodplains are those with a designated 100-year floodplain that are mapped on National Flood Insurance Rate Maps by the Federal Emergency Management Agency (FEMA). Longitudinal encroachment of transportation projects on designated floodplains requires a formal review under Executive Order 11988, *Floodplain Management*. Executive Order 11988 directs Federal agencies to "take actions to reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare and restore and preserve the natural and beneficial value served by floodplains". United States Department of Transportation Order 5650.2, *Floodplain Management and Protection* contains procedures for implementing the Executive Order and establishes a policy of avoiding actions within the 100-year floodplain. FEMA classifies and defines flood prone areas by zones based on the probably and potential intensity of flooding.

4.13.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. No impacts to floodplains are expected under this alternative.

4.13.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the trimming or removal/replacement of trees on residential and recreational property. The Middle Fork of Beargrass Creek is within the project area of Runways 15 and 24. Several trees are located within Zone AE (areas inundated by 100 year flooding, for which base flood elevations have been determined). Trees trimmed/or removed in these areas will be done in a manner so there is no net loss of floodplain storage volume. The remainder of the project area is located within Zone X (areas that are determined to be outside of the 100- and 500- year floodplains), which is considered outside of the managed floodplain system.

4.13.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the installation of lighted poles adjacent to trees on residential and recreational property. The Middle Fork of Beargrass Creek is within the project areas of Runways 15 and 24. Several trees are located within Zone AE (areas inundated by 100 year flooding, for which base flood elevations have been determined). The installation of poles within these areas will require that floodplain storage volume be replaced 1:1 to ensure there is no net loss of floodplain storage volume. The remainder of the project area is located within Zone X (areas that are determined to be outside of the 100- and 500- year floodplains), which considered outside of the managed floodplain system.

4.13.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential and recreational areas. This alternative may require trimming or removing trees within a floodplain but any such action will be completed in a manner so there is no net loss to floodplain storage volume.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. This alternative may require the installation of lighted poles adjacent to trees, within a floodplain. Any floodplain volume loss due to the installation of poles will be replaced 1:1 to ensure there is no net loss of floodplain storage.

When compared to Alternative 1, Alternative 2 will require the permanent installation of lighted poles and annual maintenance. Alternative 2 will require ground disturbance within a floodplain to install lighted poles. This ground disturbance will result in an impact to the floodplain and require floodplain volume mitigation.

4.13.6 Mitigation

Neither the Alternative 1 nor the No Action Alternative will create any adverse impacts to floodplains. Therefore, no mitigation measures for floodplains impacts will be required.

Alternative 2 however will require floodplain volume loss mitigation due to the installation of poles. This loss of volume will be replaced at a ratio of 1:1 to ensure there is no net loss of floodplain storage.

4.14 Farmland

4.14.1 General Discussion

Agricultural land in Kentucky is categorized as either prime farmland or important farmland. Prime farmland has the best combination of physical and chemical characteristics for use as cropland, pastureland and wooded land. It has the soil quality, growing season and moisture supply needed to produce sustained high yields of crops economically when treated and managed according to modern agricultural methods.

Important farmland is agricultural land that is nearly prime farmland, which can economically produce high yields of crops when treated and managed according to acceptable farming methods.

The Federal Farmland Protection Policy Act, 7 U.S.C. § 4201 et seq. authorizes the United States Department of Agriculture, NRCS to identify the effects of the Federal program on the conversion of farmland to nonagricultural uses. Federal agencies must identify and take into account the adverse effects of Federal programs on the preservation of farmland. They must also consider appropriate alternative actions, which could lessen adverse effects and assure that such Federal programs, to the extent practical, are compatible with state and local government and private programs and policies to protect farmland.

To protect existing agricultural resources in Kentucky, The Kentucky General Assembly established (1994) the Purchase of Agriculture Conservation Easement Corporation (PACE). PACE allows the Kentucky Department of Agriculture to preserve farmland by allowing the state to purchase agriculture conservation easements in order to ensure that lands currently in agricultural use will continue to remain available for agriculture and will not be converted to other uses.[40]

4.14.2 No Action Alternative

The No Action Alternative assumes there will be no expansion of airfield resources to address the established Purpose and Need. No impacts to farmlands are expected under this alternative.

4.14.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the trimming or removal/replacement of trees on residential and recreational property. The easement acquisition and tree trimming or removal/replacement will occur in urban areas that are not currently and are unlikely to be used as farmland in the future. Alternative 1 will not remove prime or important farmland from production.

4.14.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the installation of lighted poles adjacent to trees on residential and recreational property. The easement acquisition and lighted pole installation will occur in urban areas that are not currently and are unlikely to be used as farmland in the future. Alternative 2 will not remove prime or important farmland from production.

4.14.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential and recreational areas. This alternative is not on or near farmland and will not require the removal of any farmland from production.

[40] http://www.kyagr.com/marketing/PACE.html

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. This alternative is not on or near farmland and will not require the removal of any farmland from production.

When compared to Alternative 1, Alternative 2 will require the installation of a permanent lighted pole and annual maintenance. Neither alternative is on or near farmland and will not require the removal of any farmland from production. None of the alternatives are anticipated to create impacts to farmland.

4.14.6 Mitigation

Neither the Alternative 1 or Alternative 2 nor the No Action Alternative is anticipated to create any impacts to farmland. Therefore, no mitigation measures for farmland impacts will be required.

4.15 Energy Supply and Natural Resource Development

4.15.1 General Discussion

This section evaluates the impact of the Sponsor's Proposed Action on the consumption of energy and natural resources. The proposed consumption is compared to the available resources in the region and the impacts of the proposed development are stated herein. The evaluation focuses on four separate areas:

- Consumption of energy for stationary facilities such as buildings and lighting systems;
- Consumption of fuel by aircraft;
- Consumption of fuel by ground vehicles; and
- Use of natural resources, which are in short supply.

4.15.2 No Action Alternative

The No Action Alternative assumes there will be no expansion of airfield resources to address the established Purpose and Need. No impacts to energy supplies or natural resources are expected under this alternative.

4.15.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the trimming or removal/replacement of trees on residential and recreational property. This alternative will not require permanent energy supply from the existing energy supply infrastructure. The construction activities required for this removal/replacement would be temporary and would not utilize any substantial amounts of natural resources, which are considered to be in short supply. Individual trees that are trimmed may require maintenance every five years to ensure they have not penetrated the existing approach surface. Providing fuel used in construction of the Alternative is a private, profit centered activity and would have no adverse impacts on the overall system. Therefore, it is anticipated there will be no adverse impacts on existing natural resources.

4.15.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

Alternative 2 will require the acquisition of easements and the installation of lighted poles adjacent to trees on residential and recreational property. To operate the lights, the poles will either need to be tied into the existing utility system or they would need a dedicated power supply. The installation of these lights and operation will follow the standard set forth in 14. FAA AC 150/5370-10G Standards for Specifying Construction of Airports, PART 11 LIGHTING INSTALLATION, Item L-119 Airport Obstruction Lights with the applicable modifications, additions and clarifications. This alternative will likely increase demand on the existing power supply and will need separate consideration for metering to ensure energy demands for both the residential and recreational as well as the obstruction lights are being met. If the poles are incorporated into the existing utility system, precautions, such as lightning protection, will need to be taken to minimize damage to lights and the utilities of the surrounding areas during storm events.

4.15.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential areas. Alterative 1 is not anticipated to put an undue burden on the existing energy supply or natural resources. Neither the No Action Alternative nor Alternative 1 are likely to cause an adverse impact to natural resources.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. These poles will require additional power either through the existing utility infrastructure or through a dedicated power supply. Either power supply will require additional energy resources to the area and put a burden on the existing utilities. Alternative 2 therefore has additional impacts on energy supply and natural resources than the No Action Alternative.

When compared to Alternative 1, Alternative 2 will require the permanent installation of lighted poles and annual maintenance. These poles will require additional power either through the existing utility infrastructure or through a dedicated power supply. Either supply will require additional energy resources to the area and put a burden on the existing utilities. Alternative 2 will create more impacts to energy supply and natural resources than either, Alternative 1 or the No Action Alternative.

4.15.6 Mitigation

Neither the Alternative 1 or Alternative 2 nor the No Action Alternatives are anticipated to create any adverse impacts to energy supplies or natural resource development. Therefore, no mitigation for energy supplies or natural resources will be required.

4.16 Light Emissions

4.16.1 General Discussion

Aviation lighting required for the purpose of security, obstruction clearance and aeronautical navigation is the prominent contributor to light emissions radiating from airports. These lights usually fall within the

following categories: airfield lights (runway and taxiway), aircraft parking apron lights, building lights, auto parking lot lights and navigational lights (rotating beacon, approach lighting). Airport light emissions may be considered to have an impact if light is directed towards a sensitive receptor (residential area). The following section summarizes the existing and future lighting conditions and their potential impacts.

4.16.2 No Action Alternative

The No Action Alternative assumes there will be no expansion of airfield resources to address the established Purpose and Need. No light emission impacts are expected under this alternative.

4.16.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the trimming or removal/replacement of trees on residential and recreational property. This alternative will not require the construction of facilities that will require lighting. Tree trimming or removal/replacement will be conducted during day light hours, so it is unlikely equipment needed for this alternative would need lighting to complete the work.

4.16.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the installation of lighted poles adjacent to trees on residential and recreational property. Since these lights will be used to illuminate obstructions within the runway approach surfaces, they must follow the guidelines presented in FAA Advisory Circular (AC) 70/7460-1K Chapter 5 Red Obstruction Lighting Systems. The AC states that "Red obstruction lights should be operated by a satisfactory control device (e. g. photocell, timer, etc.) adjusted so the lights will be turned on when the northern sky illuminance reaching a vertical surface falls below a level of 60 foot-candles (645.8 lux) but before reaching a level of 35 foot candles (367.7) lux). The control device should turn the lights off when the northern sky illuminance rises to a level of not more than 60 foot-candles (645.8 lux). The lights may also remain on continuously. The sensing device should if practical, face the northern sky in the Northern Hemisphere. (See AC 150/5345-42)." Due to the anticipated quantity of obstruction lights and their locations, it is recommended having the lights on continuously so they are all on at the same time. There are two lighting options for the lighted poles; light emitting diode (LED) type illumination or 116 Watt incandescent lamps. LED type obstruction lights provide a longer life and reduce maintenance. Some of the FAA approved L-810 obstruction light manufacturers report average life expectancies of 100,000 hours for their LED type L-810(L) obstruction lights. The 116 Watt incandescent lamps used in L-810 obstruction lights are reported to have a life expectancy of approximately 8,000 hours. However, per Federal Aviation Administration Program Guidance Letter 12-02 it notes "The FAA is reviewing the use of LED obstruction lights and approach lights with aircraft using Enhanced Flight Vision Systems or Night Vision Imagery technology that relay on an infrared signature. LED Fixtures may not provide this infrared signature. The same issues may be present in LED high intensity runway edge lights. For these reasons, LED obstruction lights, LED approach Lights, and LED high intensity runway edge lights are not Airport Improvement Program (AIP) eligible at this time." If LED lighting were used the lights would need to be purchased by Airport funds. The use of AIP funds would require purchasing incandescent lamps.

4.16.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential and recreational areas. Alterative 1 does not require the construction of facilities and tree trimming or removal/replacement will occur during daylight hours. Alternative 1 will not contribute to the Airport's light emissions.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. If the lights run continuously, cloudy days, twilight hours, and night time will have a noticeable red glow due to the concentration of lighting. The installation of the lighted poles adjacent to obstructions off all four runway ends will contribute to the light emissions radiating from airports as well as impact both the residential and recreational areas.

When compared to Alternative 1, Alternative 2 will require the permanent installation of lighted poles and annual maintenance. If the lights run continuously, cloudy days, twilight hours and night time will have a noticeable red glow do to the concentration of lighting. This installation of the lighted poles adjacent to obstructions off all four runway ends will contribute to the light emissions radiating from the airport as well as impact both the residential and recreational areas. Alternative 2 will create greater impacts to light emissions than either, Alternative 1 or the No Action Alternative.

4.16.6 Mitigation

Neither Alternative 1 nor the No Action Alternative are anticipated to create any impacts with regards to light emissions. Therefore, no mitigation measures for light emissions will be required. Alternative 2 is expected to increase the Airport's light emissions and will require special considerations to ensure the obstructions are properly lighted while reducing the light effects on the ground. Additional mitigation will be studied if Alternative 2 becomes the LRAA's preferred alternative.

4.17 Construction Impacts

4.17.1 General Discussion

The construction of new facilities often gives the appearance of increased activity which is often quite different than those the facility will reflect after its completion. The impacts of the construction phase are relatively short in duration and do not reflect the impacts, if any, that the facility will have for a much larger time period on the environment. Construction impacts normally involve the movement of equipment, building materials, laborers, and related personnel to and from the construction site. In addition, noise levels, smoke, dust and possible disruption of public services and other temporary undesirable conditions often accompany the construction phase. The movement of equipment and materials may have short-term effects on normal traffic flows and cause temporary inconveniences to individuals who normally reside or travel in the construction area. Many of the adverse temporary effects can be minimized through the careful scheduling of deliveries and the movement of equipment to avoid peak traffic conditions and other sensitive

periods. Other on-site precautions can be taken to reduce the adverse impacts caused by the construction activities.

The construction guidelines presented below are applicable to both Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 and Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33.

4.17.2 Noise

The major acoustic impact will result from cutting, trimming and mulching vehicles on site and material haul vehicles driving through local streets. Construction vehicles will sound similar to the residential and commercial tree trimming that could occur in the area. Haul vehicles will sound similar to truck traffic. No blasting will be necessary. Construction activities will take place during daylight hours.

4.17.3 Air Quality

Dust resulting from ground disturbing activities (i.e. utility line trenching, stump removal and pole installations) may be generated. Several methods of controlling dust and other air pollutants include: exposing the minimum area of erodible earth; applying temporary mulch with or without seeding; using water sprinkler truck; using covered haul trucks; using dust suppressors or penetration asphalt on haul roads; and using plastic sheet coverings. It is anticipated trees removed will be mulched into enclosed vehicles.

4.17.4 Water Quality

During construction, some amount of erosion may occur. Engineering controls will be used to limit erosion and sedimentation. An erosion and sediment control program, including the possible use of silt fences, silt traps, retention basins and/or interim soil stabilization, may be developed during the design phase of the project. Based on a letter dated December 16, 2014 from the Department of Local government, a groundwater survey of the site and vicinity should be conducted, and any wells or springs located should inspected and mapped and records filed with the Groundwater branch, Division of Water. If any water wells on-site need to be abandoned, state regulations require that they be properly plugged by a Kentucky certified water well driller. See **Exhibits 4A-4C - Kentucky Clearinghouse; Department for Local Government Coordination** in **Appendix C.**

4.17.5 No Action Alternative

The No Action Alternative assumes there will be no expansion of airfield resources to address the established Purpose and Need. No construction impacts are expected under this alternative.

4.17.6 Summary of Impacts

Both Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 and Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 may cause temporary localized air degradation from construction activities. Dust resulting from trenching and auguring, exhaust emissions and construction activities could be generated. Proper engineering measures

can minimize the impact on the surrounding properties. Heavy equipment operations during construction may temporarily increase noise levels. The majority of noise impact will result from construction vehicles on site and material haul vehicles driving through local streets. Construction vehicles will sound similar to trucking freight services presently operating in the locale. Construction activities will take place during daylight hours. The location and the nature of both the Airport and the proposed improvements under consideration will not have any adverse impacts on the area. However, Alternative 2 - Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33, will likely require annual maintenance of each lighted pole to ensure the light is operation and the tree has not out grown the pole. This annual maintenance will likely increase construction impacts in the area as poles and lights are replaced and trees are trimmed and/or removed so as not to interfere with the obstruction lighting. Alternative 2 has the potential for additional construction impacts than either Alternative 1 or the No Action Alternative.

4.17.7 Mitigation

Neither the Alternative 1 or Alternative 2 nor the No Action Alternatives are anticipated to create any adverse impacts resulting from construction activities. Therefore, no mitigation for construction impacts will be required.

4.18 Solid Waste

4.18.1 General Discussion

Environmental concerns relative to solid waste disposal range from adequate landfills for normal urban trash and garbage to the safe disposal of industrial waste. More recently, concerns over "hazardous" waste disposal have heightened the intensity of the issue. Waste disposal facilities have, on occasion, become the center of controversy since landfills and the truck traffic they generate are often perceived as not being compatible with residential areas. Consumer product marketing and packaging trends have resulted in the steady rise in per capita volumes of solid waste and related environmental regulations have complicated their disposal. Traditionally, except for the open burning issue that reduced airport visibility, general aviation airports have not been heavily involved in solid waste conflicts since they generally do not contribute considerably to the problem. Unless an airport has related industry or a major paint and repair service facility, it does not generate appreciable amounts of solid waste. FAA's Order 5050.4B states: *"Airport actions which relate only to airfield development (runways, taxiways, and related items) will not normally include any direct relationship to solid waste collection, control, or disposal other than that associated with the construction itself (reference paragraphs 47e(20))"*. Construction activities as part of pavement development generate varying amounts of solid waste. General disposal of these wastes must be monitored and processed properly.

In regard to the location of landfills and their proximity to airports, the FAA's Order 5200.33B, *Hazardous Wildlife Attractants on or Near Airports*, provides the following comments: Landfills, garbage dumps, sewer or fish waste outfalls and other similarly licensed or tilted facilities used for operations to process, bury, store or otherwise dispose of waste, trash and refuse will attract rodents and birds. Where the dump is ignited and produces smoke, an additional attractant is created. All of the above are undesirable and potential hazards to aviation since they erode the safety of the airport environment. The FAA neither approves nor disapproves locations of facilities mentioned above. Such action is the responsibility of the Environmental Protection Agency and/or the appropriate state and local agencies. The role of the FAA is to ensure that

airport owners and operators meet their contractual obligations to the United States government regarding compatible land uses in the vicinity of the Airport. While the chance of an unforeseeable, random bird strike in flight will always exist, it is nevertheless possible to define conditions within fairly narrow limits where the risk is increased. Those high-risk conditions exist in the approach and departure patterns and landing areas on and in the vicinity of airports.

Various observations support the conclusion that waste disposal sites are artificial attractants to birds. Accordingly, disposal sites located in the vicinity of an airport are potentially incompatible with safe flight operations. Those sites that are not compatible need to be eliminated. Airport owners need guidance in making those decisions and the FAA must be in a position to assist. Some airports are not under the jurisdiction of the community of local governing body having control of land usage in the vicinity of the Airport. In these areas the airport owner should use its resources and exert its best efforts to close or control waste disposal operations within the general vicinity of the Airport. Criteria for determining incompatibility are contained in FAA Order 5200.5A and will be considered as incompatible if located within areas established for the airports through the application of the following criteria:

- Hazardous wildlife attracting sites located within 10,000 ft. of any runway end used or planned to be used by turbine powered aircraft.
- Hazardous wildlife attracting sites located within 5,000 ft. of any runway end used only by piston powered aircraft: and
- Any hazardous wildlife attracting site located within a five mile radius of a runway end that attracts or sustains hazardous bird movements from feeding, water or roosting areas into, or across the runways and/or approach and departure patterns of aircraft.

In addition, the Commonwealth of Kentucky requires that all solid waste generated by a project be disposed of at a permitted facility. They also set forth guidelines in dealing with underground storage tanks and contaminants. If underground storage tanks are encountered, they must be properly addressed. If asbestos, lead and/or other contaminants are encountered during this project, they must be properly addressed. See **Exhibits 4A-4C - Kentucky Department of Environmental Protection Coordination** in **Appendix C.**

4.18.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. No impacts to solid waste facilities are expected under this alternative.

4.18.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the trimming or removal/replacement of trees on residential and recreational property. This alternative will require the removal of tree trimmings and logs as part of the construction activities and therefore will not be a burden on the existing waste removal systems. The materials generated during the trimming or removal/replacement of trees will be removed from the site and either reused or disposed of properly according to city ordinances.

4.18.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

Alternative 2 will require the acquisition of easements and the installation of lighted poles adjacent to trees on residential and recreational property. This alternative will require the removal of tree trimmings and logs as part of the construction activities and therefore will not be a burden on the existing waste removal systems. The materials generated during the pole installation and trimming and/or removal of trees will be removed from the site and either reused or disposed of properly according to city ordinances. However, because the poles are permanent, maintenance will occur annually, which has to the potential to create solid waste from construction. The material generated from annual maintenance will be disposed of accordingly.

4.18.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential and recreational areas. This alternative will create solid waste during tree trimming and removal but will be removed from the site and disposed according to local ordinances or through reuse.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. These poles will be permanent and will likely create solid waste during their installation. This waste will be removed from the site and disposed of properly. Maintenance on these poles will occur annually to ensure the obstruction lights are working and the trees have not grown taller than the poles. Waste from the annual maintenance will be removed and disposed of properly.

When compared to Alternative 1, Alternative 2 will require the permanent installation of lighted poles and annual maintenance. This solid waste generated annually from Alternative 2 will include tree refuse like Alternative 1, but also has the potential to include incandescent light bulbs and utility poles should new ones need to be installed or replaced. Alternative 2, will likely create more solid waste initially as well as over time. Alternative 2 is anticipated to have larger solid waste impacts than either, Alternative 1 or the No Action Alternative.

4.18.6 Mitigation

Neither the Alternative 1 or Alternative 2 nor the No Action Alternative will create any adverse impacts with regards to solid waste. Therefore, no mitigation measures for solid waste impacts will be required.

4.19 Hazardous Waste

4.19.1 General Discussion

Hazardous waste is an overall term that includes spills, dumping and releases of substances threatening to human and animal life. To identify these materials and protect the environment from harmful interaction of potential hazardous wastes, several Federal laws and regulation have been enacted including: the National Priorities List (Superfund Sites), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA). As a method of protection for the citizens of the Commonwealth of Kentucky, the Division of Waste Management has a hazardous waste

division, which oversees the handling of hazardous waste throughout its lifetime. The authority to implement hazardous waste laws has been delegated by the Commonwealth of Kentucky to the U.S. Environmental Protection Agency (USEPA).[41]

4.19.2 No Action Alternative

The No Action Alternative assumes that there will be no expansion of airfield resources to address the established Purpose and Need. No hazardous waste impacts are expected under this alternative.

4.19.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the trimming or removal/replacement of trees on residential and recreational property. Therefore, the USEPA listing of potential, suspected, and known hazardous waste or hazardous substance sites in Kentucky (i.e. National Priorities List (NPL)) has been reviewed. As a result of the review, it was concluded that no sites were listed in the project area as of October, 2014.[42] This alternative will not include the demolition or construction of buildings or facilities that have the potential to have hazardous waste. The trimming or removal/replacement of the trees will not require the use of hazardous chemicals and required construction protocols will be to taken to minimize the release of construction material.

4.19.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements and the installation of lighted poles adjacent to trees on both residential and recreational property. Therefore, the USEPA listing of potential, suspected, and known hazardous waste or hazardous substance sites in Kentucky (i.e. National Priorities List (NPL)) has been reviewed. As a result of the review, it was concluded that no sites were listed in the project area as of October, 2014.[43] This alternative will not include the demolition or construction of building or facilities that have the potential to have hazardous waste. The removal and/or trimming of the trees will not require the use of hazardous chemicals and all required construction protocols will be to taken to minimize the release of construction material.

4.19.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential and recreational areas. This alternative is not near any hazardous waste sites.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. These poles will be permanent and will require annual maintenance. This alternative is not

[41] http://waste.ky.gov/HWB/Pages/default.aspx
[42] Environmental Protection Agency: http://www.epa.gov/superfund/sites/query/queryhtm/nplprop.htm
[43] Environmental Protection Agency: http://www.epa.gov/superfund/sites/query/queryhtm/nplprop.htm

near any hazardous waste sites. Any materials replaced during annual maintenance will be disposed of properly.

When compared to Alternative 1, Alternative 2 will require the permanent installation of lighted poles and annual maintenance. Neither alternative is near any hazardous waste sites. Any materials replaced during annual maintenance under Alternative 2 will be disposed of properly. No impacts from hazardous waste are anticipated.

4.19.6 Mitigation

Neither the Alternative 1 or Alternative 2 nor the No Action Alternatives are anticipated to create any adverse impacts with regards to hazardous waste. Therefore, no mitigation measures for hazardous waste are required.

4.20 Cumulative Impacts

4.20.1 General Discussion

This section addresses the cumulative effects of past, present and reasonably foreseeable future actions in combination with both proposed Alternatives. The reason for this analysis is that while impacts of many actions may be small, the cumulative (added) effects of past, present and reasonably foreseeable actions on resources could be, in the aggregate, sizable. NEPA requires that cumulative effects be studied along with direct and indirect results of those actions. The No Action Alternative studied throughout the Environmental Consequences of this document serves as the litmus against which all cumulative impacts are measured.

When reviewing the significance of cumulative impacts, the same thresholds used in judging alternatives are also implemented. The thresholds of significance are defined in FAA Orders 1050.1E, *Environmental Impacts: Policies and Procedures*, and 5050.4B, *Airport Environmental Handbook*. The following is additional CEQ guidance for assessing cumulative impacts:

- CEQ § 1508.7 states that "'Cumulative impact' is the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."
- CEQ § 1508.25 defines three types of actions to be considered in determining the scope of an EIS:
    - Actions (other than unconnected single actions) which may be:
        - Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:
            - Automatically trigger other actions which may require environmental impact statements.
    - (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
    - (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.
        - Cumulative actions, which when viewed with other proposed actions have

cumulatively significant impacts and should therefore be discussed in the same impact statement.

  - Similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze these actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement.

- For airport actions, the effect of a number of decisions about a complex of projects can be individually limited to the extent that a finding of no significant impact or categorical exclusion would appear to be appropriate for each project; however, when considered together, the projects may exceed the threshold values. In both environmental assessments and environmental impact statements, the total proposal must be considered. In the context of the CEQ Regulations, the total proposal includes both of the proposed Alternatives and all other actions reasonably related to it in time and probability.
- In determining when to consider the effects of actions by other agencies in the airport vicinity, the potential for combined significant impact shall be evaluated. For example, new highway construction and airport expansion in combination may create significant air quality impacts. Extensive earth moving from more than one project may combine to cause severe erosion or flooding.

4.20.2 Summary of Impacts

A review of past, present and reasonably foreseeable conditions indicates that the Airport has had minimal impacts on the local environs. It is expected that future impacts to environmental resource categories beyond either Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 or Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will be minimal. A small number of past and present off-airport projects have occurred in the area and this trend of development is expected to continue in the future.

4.20.3 Past Airport Projects

Several development projects at the Airport have included asphalt upgrades on pavement near the Corporate Hangar Row and East T-Hangars. The asphalt in these areas was rehabilitated and additional apron repairs and sealcoating will be performed in 2014. New roofs have been installed on the Central American Hangar (east) and the Bowman Business Center in 2014. Finally, the Louisville Executive Aviation parking lot was rehabilitated in 2014.

4.20.4 Current and Present Airport Projects

Bowman Field has projects scheduled throughout the airfield in 2015 including the current preferred alternative and repair airfield aprons, repair the Bowman Administration building's drainage, repaint tenant hangars, rehabilitate t-hangar pavement, update pavement condition index, sealcoat and crack seal airport pavement and clean out oil/water separator.

4.20.5 Reasonably Foreseeable Future Airport Actions

In defining the reasonably foreseeable future Airport actions, the term "future actions", for purposes of this discussion, are those improvements depicted on the approved ALP but not contained within Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 and Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 of this environmental assessment. NEPA approval for those projects will be completed at the appropriate time.

4.20.6 Summary and Conclusion

A review of past, present and reasonable foreseeable conditions indicate that Bowman Field has had minimal impacts on the local environs. Some past and present off-airport projects have occurred in the area and others are expected to occur in the future. It is anticipated that local road projects proposed by the City of Louisville and/or Jefferson County and other community projects should not have any negative impacts on the Airport environs. However, until specific off-airport project plans are known, it is not possible to fully quantify specific cumulative impacts from either Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 or Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and other non-airport developments.

4.21 Environmental Justice and Children's Environmental Health Risks

4.21.1 General Discussion

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, provides that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The Executive Order makes clear that its provisions apply fully to programs involving Native Americans.

4.21.2 No Action Alternative

The No Action Alternative assumes that there will be no acquisition of homes or businesses, no impacts occur to a disproportionately high number of minority or low income populations, and there should be no environmental health risks and safety risks that could disproportionately affect children at or near the Airport to address the established Purpose and Need.

4.21.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements within residential and recreational properties. In addition, trees that have become obstructions to the runway will be trimmed or removed/replaced. This alternative does not require the displacement of the residents, homes or businesses within the project area and no adverse impacts are anticipated to occur to a disproportionally high number of minorities or low

income families. There are no projects within this alternative that would create environmental health or safety risks that could disproportionately affect children.

4.21.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the acquisition of easements for lighting obstructions to Runways 06, 15, 24 and 33 and will require the installation of lighted poles adjacent to trees that have become obstructions. These poles will be permanent and will require annual maintenance. This alternative does not require the displacement of the residents, homes or businesses within the project area and no adverse impacts are anticipated to occur to a disproportionally high number of minorities or low income families. There are no projects within this alternative that would create environmental health or safety risks that could disproportionately affect children.

4.21.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require trimming or removal/replacement of trees within residential and recreational areas. This alternative does not require displacing residents, homes or businesses within the project area.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. These poles will be permanent and will require annual maintenance but will not require displacing residents, homes or businesses within the project area.

When compared to Alternative 1, Alternative 2 will require the permanent installation of lighted poles and annual maintenance. Neither alternative will require displacing residents, homes or businesses within the project area. None of the alternatives will likely create environmental justice impacts or health and safety risks to children.

4.21.6 Mitigation

Neither the Alternative 1 or Alternative 2 nor the No Action Alternative is anticipated to create any adverse impacts with regards to environmental justice and children's environmental health risks. Therefore, no mitigation measures for environmental justice and children's environmental health risks impacts will be required.

4.22 Climate Change/Greenhouse Gases

4.22.1 General Discussion

Greenhouse Gases (GHG) are those gases that trap heat in the earth's atmosphere. Both naturally occurring and anthropogenic (man-made), GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and ozone (O_3).

Research has shown a link between fuel combustion and greenhouse gas emissions. Sources that require fuel or power at an airport are the primary sources that generate greenhouse gases. Aircraft are often cited as air pollutant sources; however, they produce the same types of emissions as automobiles. For instance, aircraft jet engines, like many other vehicle engines, produce carbon dioxide (CO_2), water vapor (H_2O), nitrogen oxides (NO_X), carbon monoxide (CO), oxides of sulfur (SO_X), unburned or partially combusted hydrocarbons (VOCs), particulates and other trace compounds.

4.22.2 No Action Alternative

The No Action Alternative does not create any increases in greenhouse gases due to the restricted night time operations since February of 2012. Therefore, no mitigation measures for greenhouse gases will be required.

4.22.3 Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33

This alternative will require the trimming or removal/replacement of trees. However, the total number of trees affected is a small percent compared to the total number of trees within the surrounding area. Trees will be mitigated where applicable and pre-February 2012 operational activity is anticipated to occur. Therefore, no substantial increases in aircraft and ground equipment exhaust emissions are expected as part of this alternative.

4.22.4 Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33

This alternative will require the installation of lighted poles adjacent to trees that have become an obstructions to the runway ends. This alternative will likely require some tree trimming and clearing to ensure utilities can be provided to the poles and other trees do not block the obstruction lighting. The addition of four areas to be lighted under this alternative will increase the demand for electricity. This electricity, supplied by pollutant emitting electric power generators, would be expected to cause additional emissions.

4.22.5 Summary of Impacts

When compared to the No Action Alternative, Alternate 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 will require the trimming or removal/replacement of a small percentage of trees adjacent to the Airport. They will be mitigated when possible to replace any function they may have provided.

When compared to the No Action Alternative, Alternate 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33 will require the installation of lighted poles adjacent to trees that have become obstructions. These poles will be permanent and will require annual maintenance by large diesel powered trucks to ensure the lights are working and replace poles, where the trees have grown taller than them. Some tree trimming and/or removal will be required to ensure the lightened poles are operational and functioning.

When compared to Alternative 1, Alternative 2 will require additional annual maintenance by large diesel powered machinery and the trimming and/or removal of trees. Since Alternative 2 would require permanent

fixtures and continued maintenance with tree trimming and/or removal it is anticipated to contribute additional overall exhaust emissions than either, Alternative 1 or the No Action Alternative.

4.22.6 Mitigation

Neither the Alternative 1 or Alternative 2 nor the No Action Alternative is anticipated to create any adverse impacts with regards to climate change or greenhouse gases. Therefore, no mitigation measures for climate change or greenhouse gases impacts will be required.

4.23 Conclusion

This Environmental Assessment examined potential impacts associated with LRAA's need to ensure the runways at Bowman Field are in compliance with FAR Part 77 and TERPS design standards and to re-establish approaches to the 4,357 ft. primary runway and the 3,579 ft. crosswind runway, as well as preservation of the existing airfield geometry. The purpose of this project is to provide a safe, efficient, viable and usable airfield at Bowman Field while preserving pre-February 2012 airport characteristics. The No Action Alternative would require Bowman Field to relocate the thresholds of each runway to ensure the 20:1 visual approach surface remains free of obstructions. This would result in relocated thresholds on all four runway ends. These shortened runways will prevent the operations of the current critical aircraft group and does not meet the LRAA's Purpose and Need. Therefore, the No Action Alternative was not selected as LRAA's Proposed Action.

Based on the analysis conducted throughout this document, Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 best meets Bowman Field's Purpose and Need with the least amount of environmental consequences. By acquiring avigation easements to allow for the trimming or removing/replacing trees, Alternative 1 has less of an impact to its surrounding environs during initial construction and over time than Alternative 2 – Acquire easements for lighting obstructions to Runways 06, 15, 24 and 33.

Therefore, Alternative 1 – Acquire avigation easements for the trimming or removal/replacement of individual trees that have or may become an obstruction to the TERPS Approach Surfaces to Runways 06, 15, 24 and 33 has been selected as the LRAA's Proposed Action. See the following **Table 8 –Summary of Impacts Matrix**.

Table 8 – Summary of Impacts Matrix

Less of an impact			More of an impact	
Environmental Consequences Criteria		No Action Alternative*	Alternative 1	Alternative 2
Noise Impacts				
Aircraft		Reduction	No affect	No affect
Construction		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming and/or removal occurs annually
Land Use Impacts		No effect, however does not meet established Purpose and Need	Requires avigation easements	Requires avigation and additional ground utility easements
Social Impacts		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming and/or removal plus may create incapability between communities and neighbors
Induced Socioeconomic Impacts		**Severe impacts from loss of corporate jet fleet to Airport and surrounding communities**	Tree trimming or removal/replacement occurs every 5 years	Tree trimming and/or removal plus reduces surrounding property values
Air Quality				
Aircraft		Reduction	No affect	No affect
Construction		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually
Water Quality		No effect, however does not meet established Purpose and Need	No affect	No affect
*The No Action Alternative does not meet the LRAA's Purpose and Need. Therefore, the No Action Alternative is not considered a viable alternative using criteria within this document.				

Table 8 – Summary of Impacts Matrix - Continued

Less of an impact			More of an impact	
Department of Transportation Act, Section 4 (f) [Recodified at 49 U.S.C, Subtitle 1, Section 303(c)] and Related Lands		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually Seneca Golf Course
Archaeological, Architectural, Historic and Cultural Resources		No effect, however does not meet established Purpose and Need	No affect	May effect the historical integrity of viewsheds
Biotic Communities		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually
Endangered and Threatened Species of Flora and Fauna		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually plus potential effects resulting from continuous lighting
Wetlands and Waters of the United States		No effect, however does not meet established Purpose and Need	No affect	No affect
Floodplains		No effect, however does not meet established Purpose and Need	No affect	Pole/light installation in floodplain areas
Farmland		No effect, however does not meet established Purpose and Need	No affect	No affect
*The No Action Alternative does not meet the Airport's Purpose and Need. Therefore, the No Action Alternative is not considered a viable alternative using criteria within this document.				

Table 8 – Summary of Impacts Matrix - Continued

Less of an impact			More of an impact	
Energy Supply and Natural Resource Development		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually plus additional burden on existing electrical utilities
Light Emissions		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually plus additional light emissions
Construction Impacts		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually
Solid Waste				
Construction		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually
Hazardous Waste		No effect, however does not meet established Purpose and Need	No affect	Pole/light adjustments occurs annually with lights being disposed of properly
Cumulative Impacts		No effect, however does not meet established Purpose and Need	No affect	No affect
Environmental Justice and Children's Environmental Health Risk		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually plus additional light emissions
*The No Action Alternative does not meet the LRAA's Purpose and Need. Therefore, the No Action Alternative is not considered a viable alternative using criteria within this document.				

Table 8 – Summary of Impacts Matrix - Continued

Less of an impact			More of an impact	
Climate Change/Greenhouse Gases		No effect, however does not meet established Purpose and Need	Tree trimming or removal/replacement occurs every 5 years	Tree trimming, removal or pole/light adjustments occurs annually plus additional burden on existing electrical utilities
*The No Action Alternative does not meet the LRAA's Purpose and Need. Therefore, the No Action Alternative is not considered a viable alternative using criteria within this document.				

CHAPTER 5 - CITIZEN INVOLVEMENT AND AGENCY COORDINATION

5.1 Introduction

FAA's Order 5050.4B states that:

- While requests for Federal airport actions originate with a public agency, the involvement of the community at large is a necessary element in the decision-making process. An effective opportunity to comment at appropriate stages in the decision-making process shall be provided to communities, citizen groups, and other individuals affected by airport proposals submitted to the FAA. They shall also be provided an opportunity to review and comment on draft and final statements.

- In accordance with Section 509(b)(6) of the 1982 Airport Act, the opportunity for public hearings shall be offered on any action involving airport location, location of a new runway, or major extension of a runway. For other actions, a public hearing shall be considered in accordance with the guidelines contained in paragraph 49. FAA Advisory Circular 150/5050-4, Citizen Participation in Airport Planning, has additional specific guidance on community involvement. Standard procedures for Federal agency public involvement are stated in CEQ 1506.6.

The preparation of this Draft Environmental Assessment has been coordinated with various city, county, township, state and Federal units of government. Many of these agencies have assisted with the completion of this document through the review process. Receipt of all written review comments from those public agencies involved in the review process will be incorporated into the Final Environmental Assessment.

5.2 Agency Coordination

Coordination with public agencies provides appropriate government units, local, state and Federal, the opportunity to review for the proposed Alternatives for conformance with the requirements of their jurisdictions and programs and to make known any concerns they may have.

The following is a list of public agencies that have received early coordination letters and the Draft Environmental Assessment for review and comment.

- The Commonwealth of Kentucky E-Clearing House
- Kentucky Department of Aviation
- Kentucky Department of Environmental Protection
- U.S. Army Corps of Engineers
- U.S. Department of the Interior – Fish and Wildlife Service
- U.S. Department of Transportation - Federal Aviation Administration - Memphis ADO
- U.S. Environmental Protection Agency Region 4
- Federal Aviation Administration Air Traffic Control Tower
- U.S. Department of Agriculture

Comments received to date by these agencies, have been incorporated into the Draft Environmental Assessment. If the agency was not mentioned in the body of the document, they either did not submit a comment at the time of the publication of this draft document or stated no further coordination was needed.

5.3 Public Coordination

Several methods will be utilized to inform the public and interested parties of the proposed LRAA actions, to receive comments with respect to potential, environmental impacts, and to respond thereto. A Draft Environmental Assessment will be forwarded to several Federal and State reviewing agencies requesting their review and comments on the document. A copy of the Draft Environmental Assessment will be made available for public review at Bowman Field, libraries and government offices.

A notice for opportunity to hold a public hearing will be advertised in the Courier-Journal and the Louisville Defender. These newspapers are of general circulation and serve the greater Louisville, Kentucky area. If requested, a Public Hearing, using a workshop format, will be provided for concerned citizens to ask questions and allow for input regarding this environmental document. Individuals involved in the preparation and review of the Draft Environmental Assessment will be available to respond to citizen's questions throughout the public hearing session.

5.4 Permits and Commitments

A list of all the permits and commitments for the development of the LRAA's Proposed Action are contained herein. It should be noted that even though the airport sponsor may obtain one or more permits from the appropriate Federal, state, and/or local agencies for the proposed project, initiation of such project shall NOT be approved until FAA has issued its environmental determination.

5.4.1 Permits

- A Metropolitan Sewer District Site Disturbance Permit for erosion prevention and sediment control may be required.
- Louisville Metro Parks may a require permit application for any projects occurring on their property. The applicant must submit a permit application, including any exhibits, to the Parks Director allowing two (2) weeks for review and approval. Bowman Field may be subject to the tree replacement policy set forth in this permit.
- Bowman Field will be required to file an FAA Form 7460 for the temporary use of a crane.
- Kentucky law requires that all structures built on or near an airport, as defined by KRS 183.861, must be approved and permitted by the Kentucky Airport Zoning Commission. Bowman Field may be required to apply for a TC 56-50 permit for the temporary use of a crane.

5.4.2 Commitments

- If a tree is removed in a landscaped area the homeowner will be eligible for a re-landscaping allowance of up to $2,500 over and above the cost of replacement trees.
- The LRAA will pay for tree trimming or removal/replacement, stump removal and yard restoration.
- All new plants will carry a one-year warranty; replacement trees will carry a two-year warranty.
- If the project's associated construction continues beyond April 2, 2015 and the Northern Long-Eared bat is listed additional coordination with the USFWS will be required.

- Submittal of an application for Federal funds to develop the Airport involving the possibility of soil erosion, water and air pollution during the construction process, will include assurances that the sponsor will ensure the contractor and the Resident Engineer will take all necessary precautions to prevent these types of pollution during the construction process. In particular, the methods for minimizing the effects upon the environment will be as follows:
  - Air pollution from dust will be kept to a minimum by watering the disturbed areas at whatever frequency is necessary to control the creation of airborne dust.
  - Wherever necessary, siltation basins will be constructed in the natural drainage ways to control the build-up of silt in existing ponds and creeks. The number, placement and design of such basins will be determined in the final design.
  - Erosion of the disturbed soil after the construction season and during the winter and spring months will be controlled by the planting of temporary cover crops and ultimately after final earth shaping, the entire area will be fertilized, seeded or sodded as required by Federal and state laws.

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CHAPTER 6 -
LIST OF PREPARERS

6.1 – List of Preparers

Bowman Field's Environmental Assessment was prepared by Hanson Professional Services Inc. for the Louisville Regional Airport Authority. Specifically, the preparation of this document was overseen by Mr. Tommy Dupree, Program Manager and Stephen Wilson, Community Planner for the Federal Aviation Administration, Southern Region; Memphis Airports District Office. The following individuals from the firm of Hanson Professional Services Inc. prepared text and exhibits: Mr. Rodger Anderson (Co-Author), Mr. Tim Haskell (Co-Author), Ms. Melissa Jenkins (Technical Documentation) and Ms. Shawn Gibbs (Technical Documentation).

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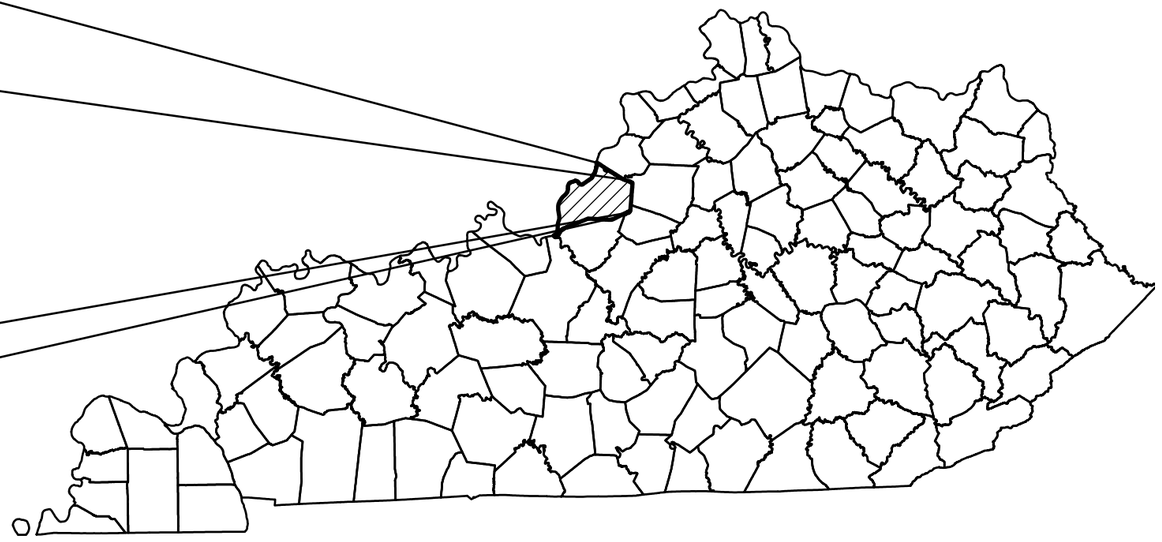
APPENDIX A -
EXHIBITS

JEFFERSON COUNTY, KENTUCKY

BOWMAN FIELD

COMMONWEALTH OF KENTUCKY



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LOUISVILLE, KY 40205

BOWMAN FIELD AIRPORT AREA SAFETY PROGRAM

DRAFT ENVIRONMENTAL ASSESSMENT

NO.	DATE	DESCRIPTION		
			LAY	DWN	REV

ISSUE: MONTH DAY, YEAR
12A00134
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DRAWN BY: SKG
REVIEWED BY: RHA

SHEET TITLE

COUNTY LOCATION MAP

EXHIBIT 1

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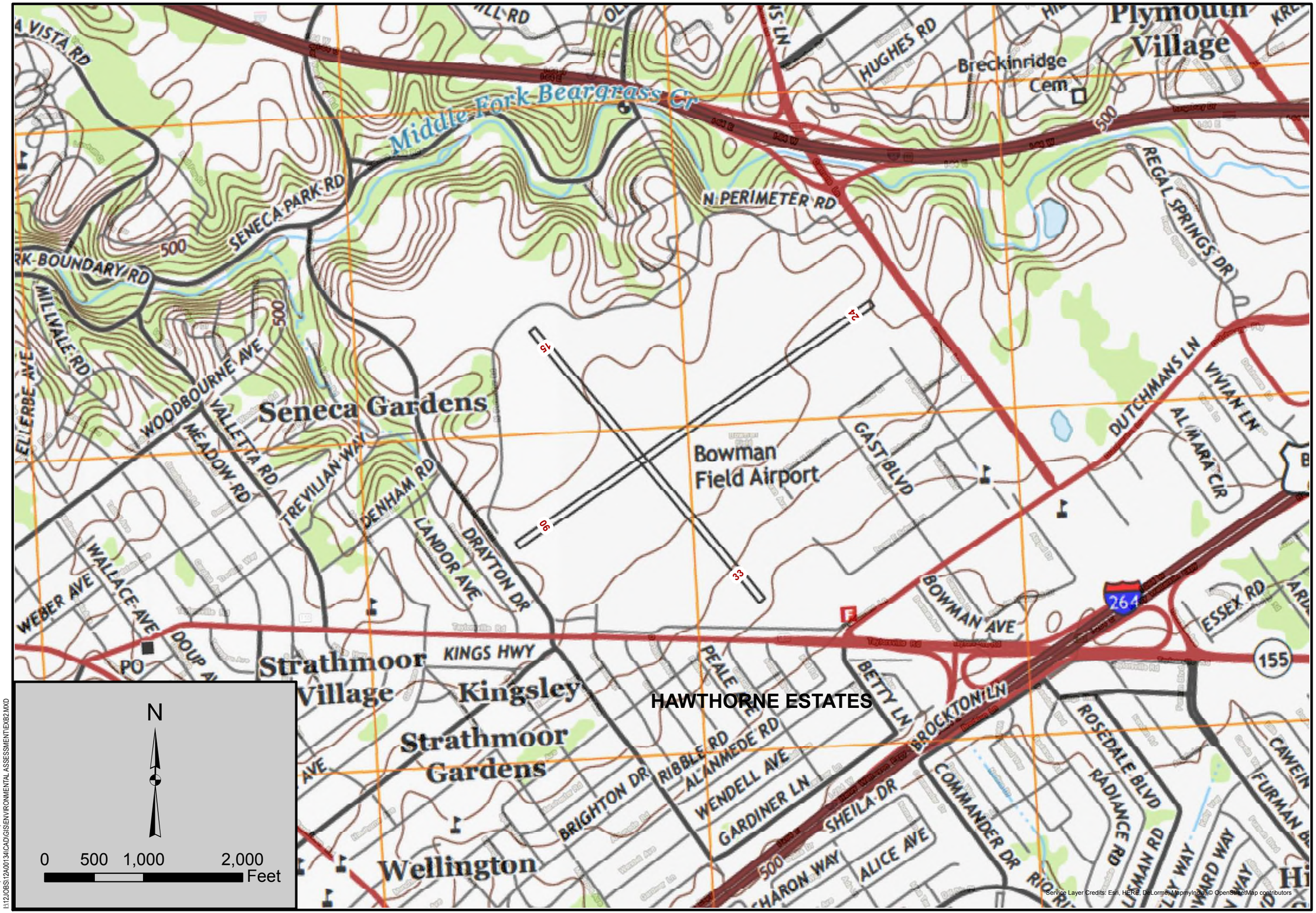

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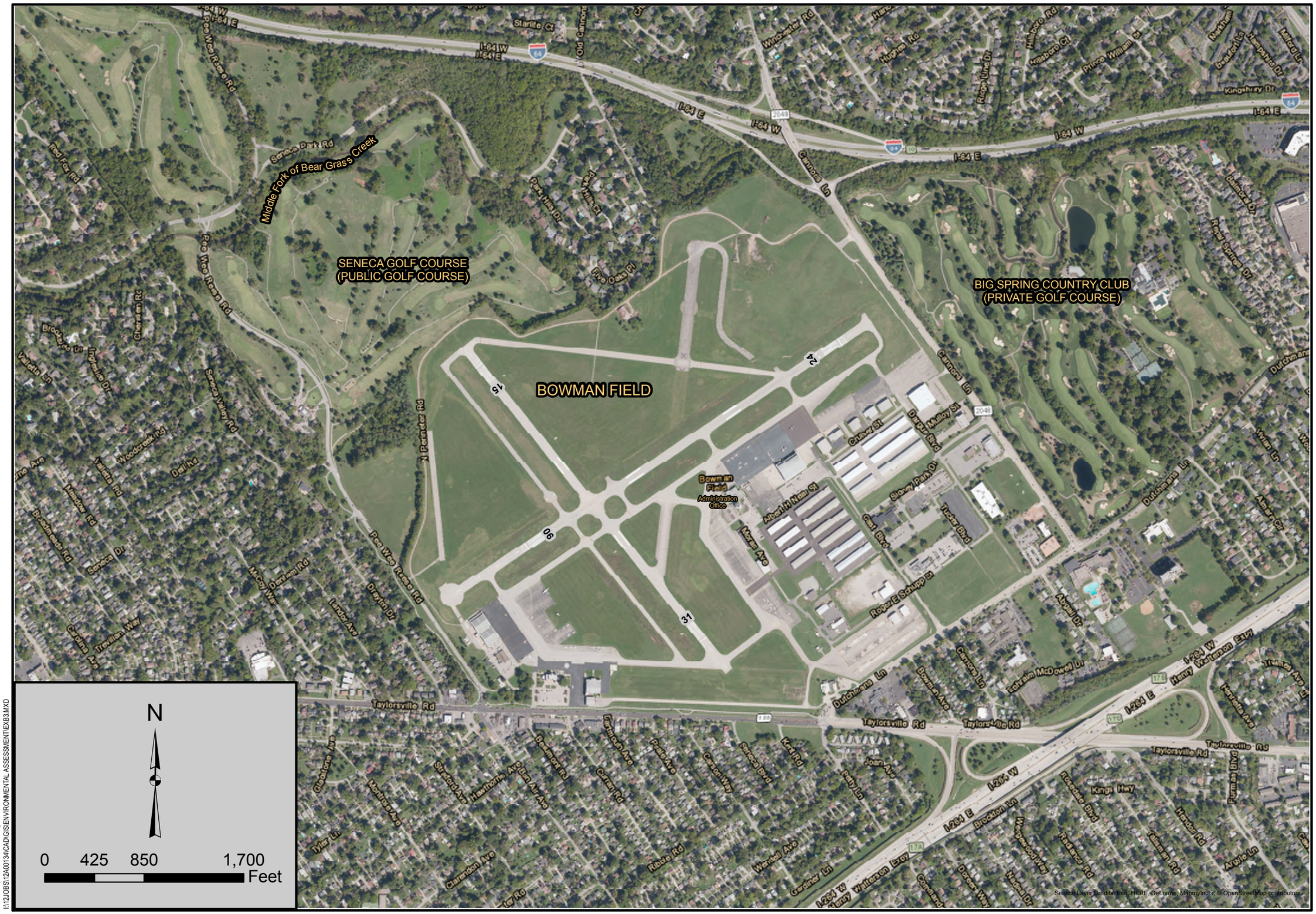
SHEET TITLE

AIRPORT SITE LOCATION MAP

EXHIBIT 2



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AIRPORT SITE VICINITY MAP

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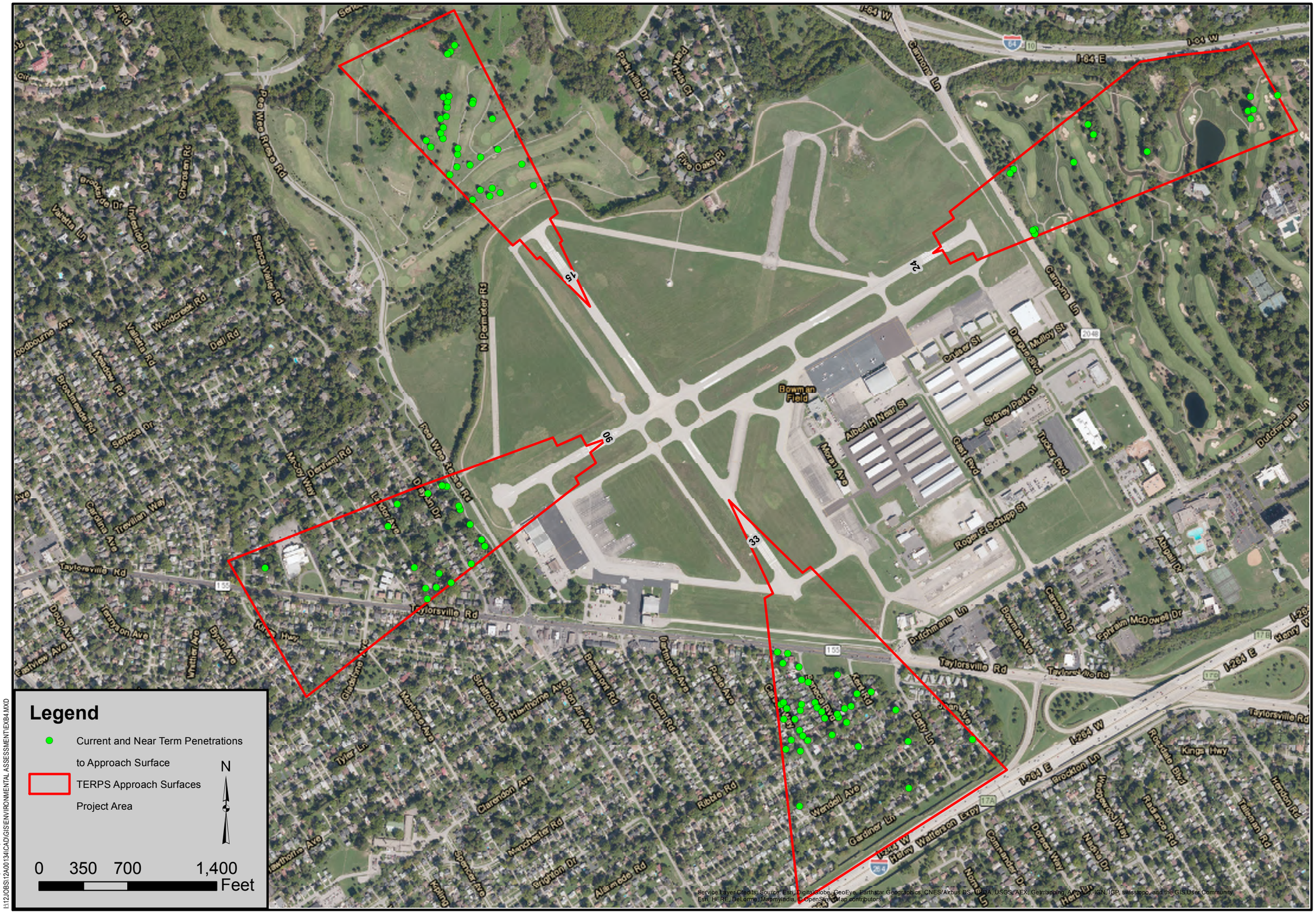

Legend

- Current and Near Term Penetrations to Approach Surface
- TERPS Approach Surfaces
- Project Area

N

0 350 700 1,400 Feet

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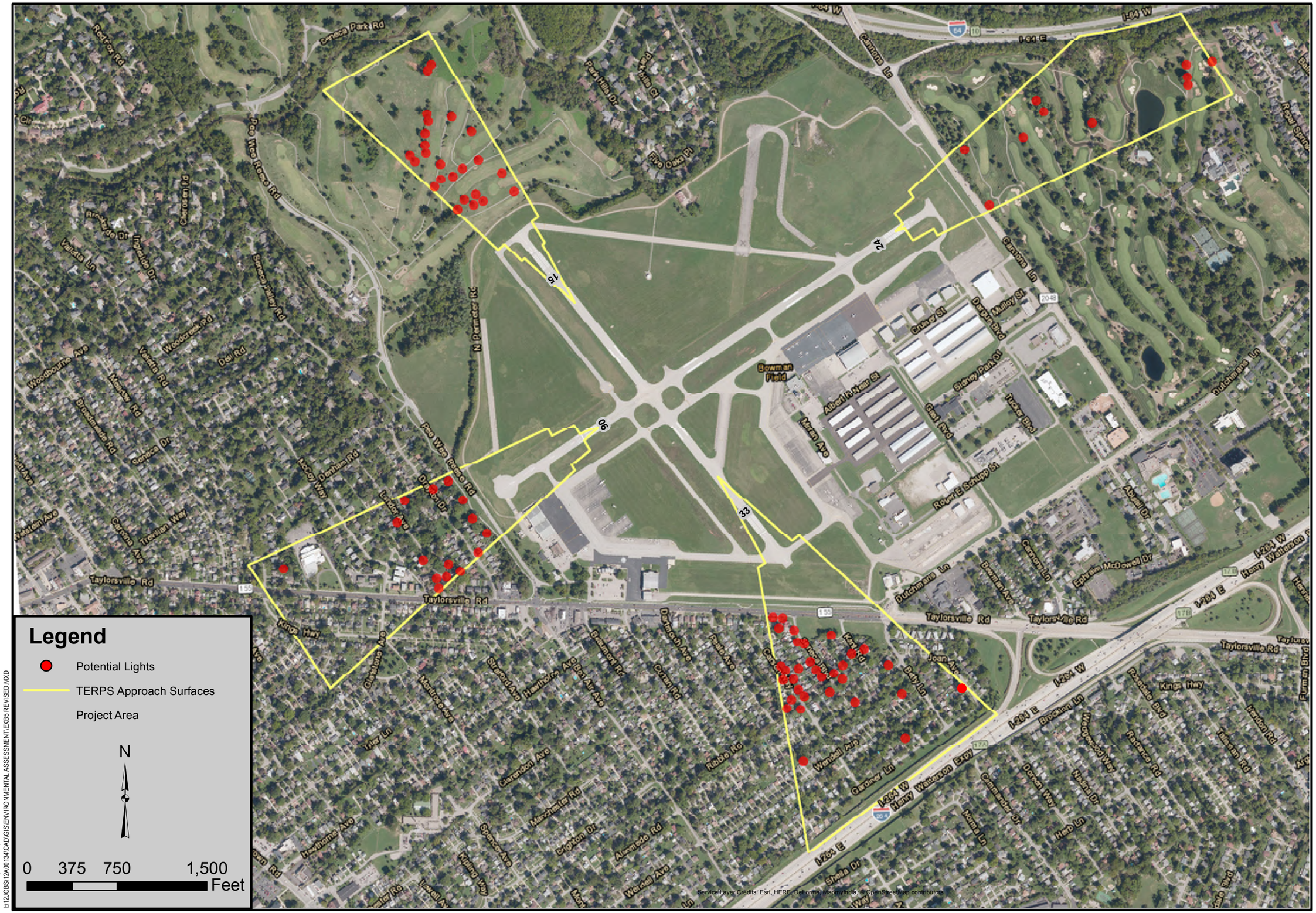
ALTERNATIVE 1

EXHIBIT 4



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ALTERNATIVE 2

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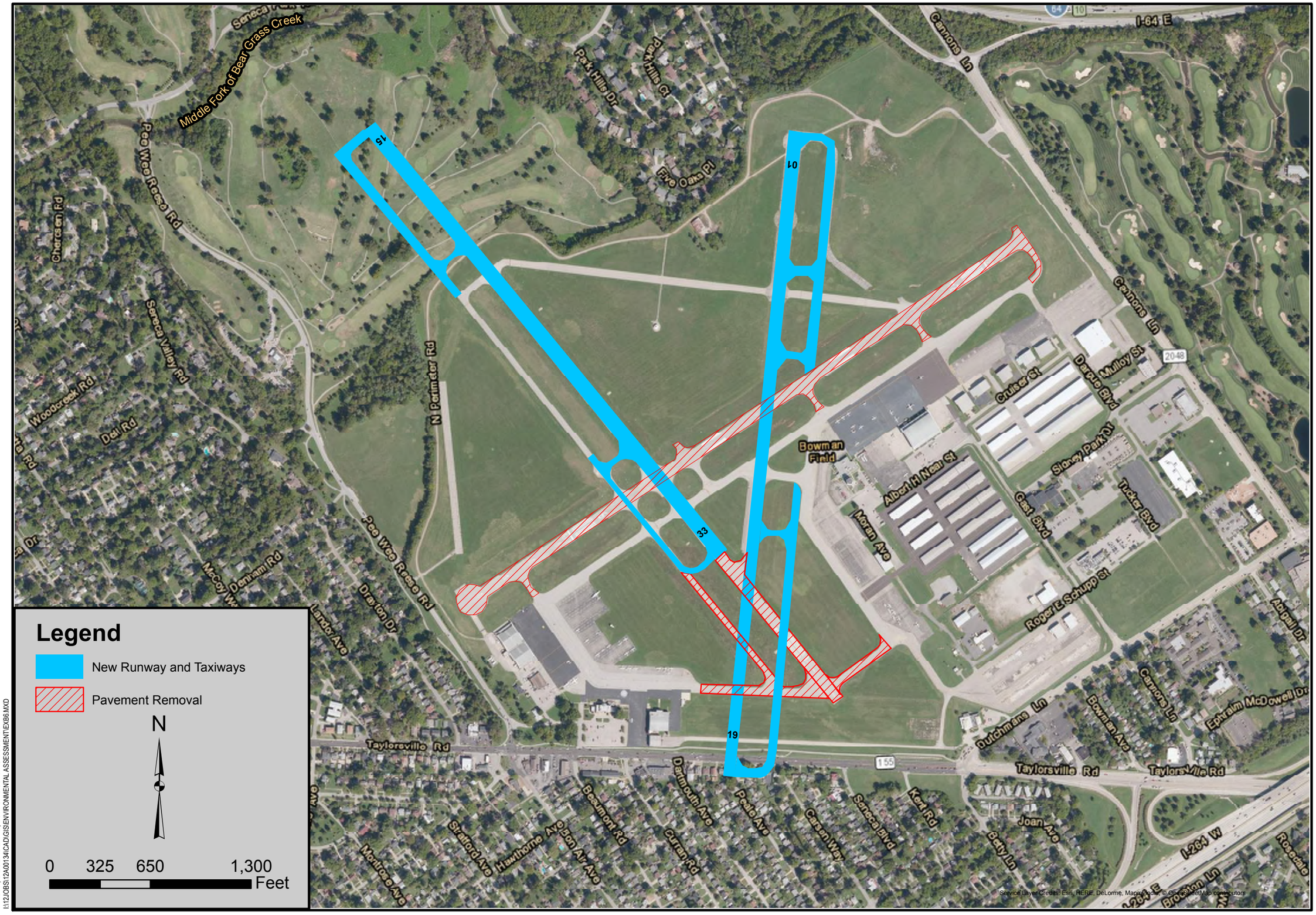

Legend

- New Runway and Taxiways
- Pavement Removal

N

0 325 650 1,300 Feet

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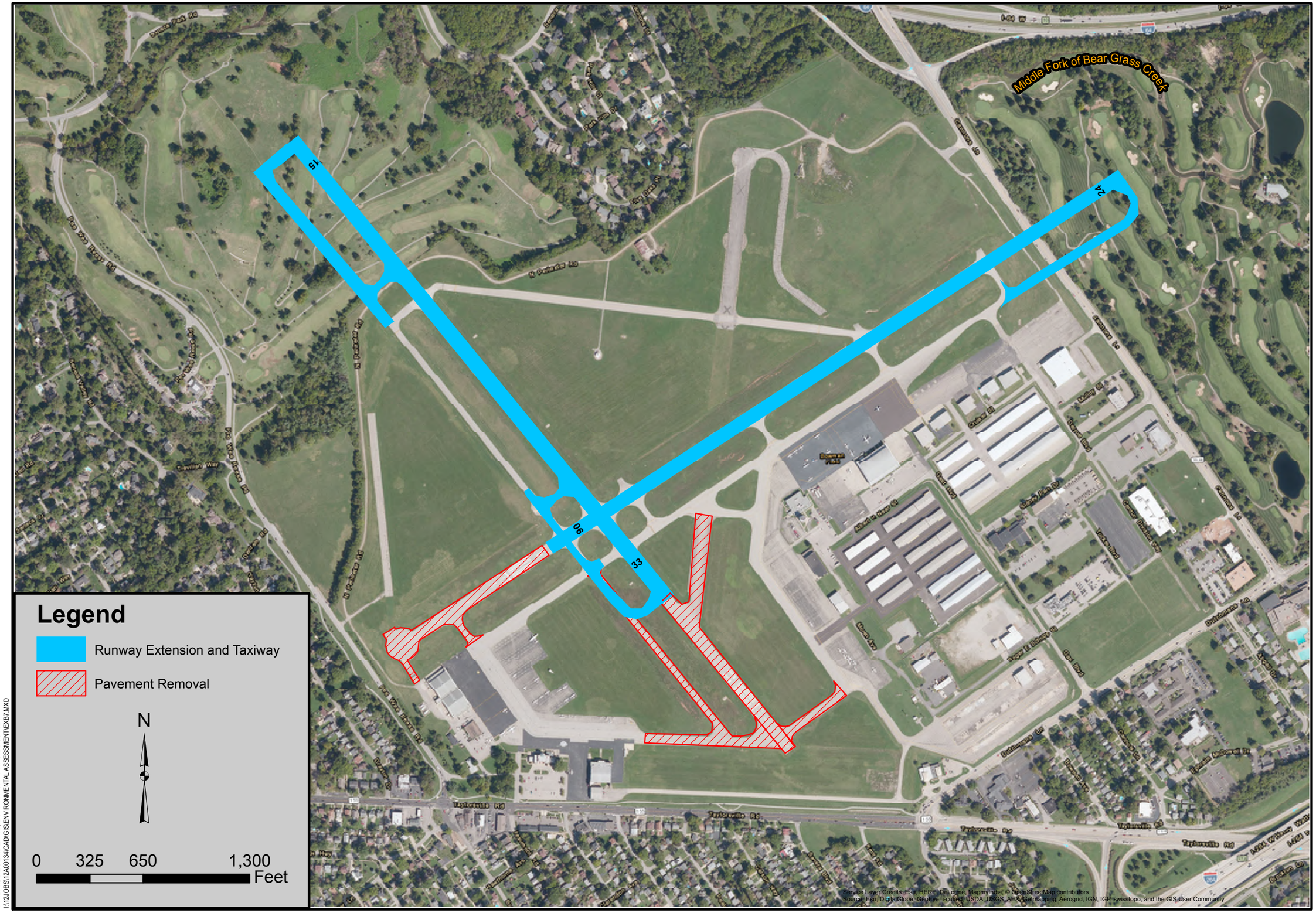

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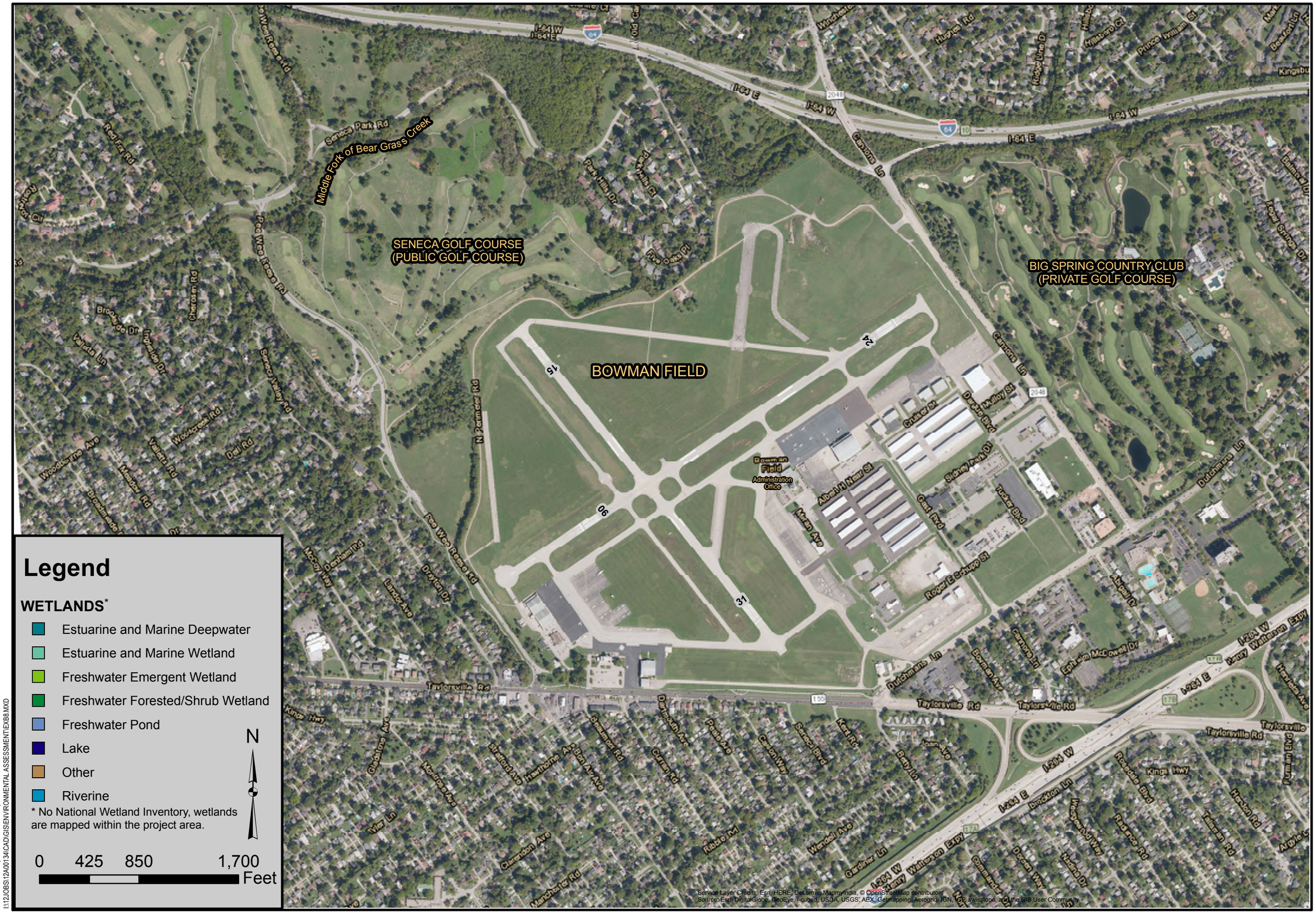

Legend

WETLANDS*

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

* No National Wetland Inventory, wetlands are mapped within the project area.

N

0 425 850 1,700 Feet

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NATIONAL WETLAND INVENTORY MAP

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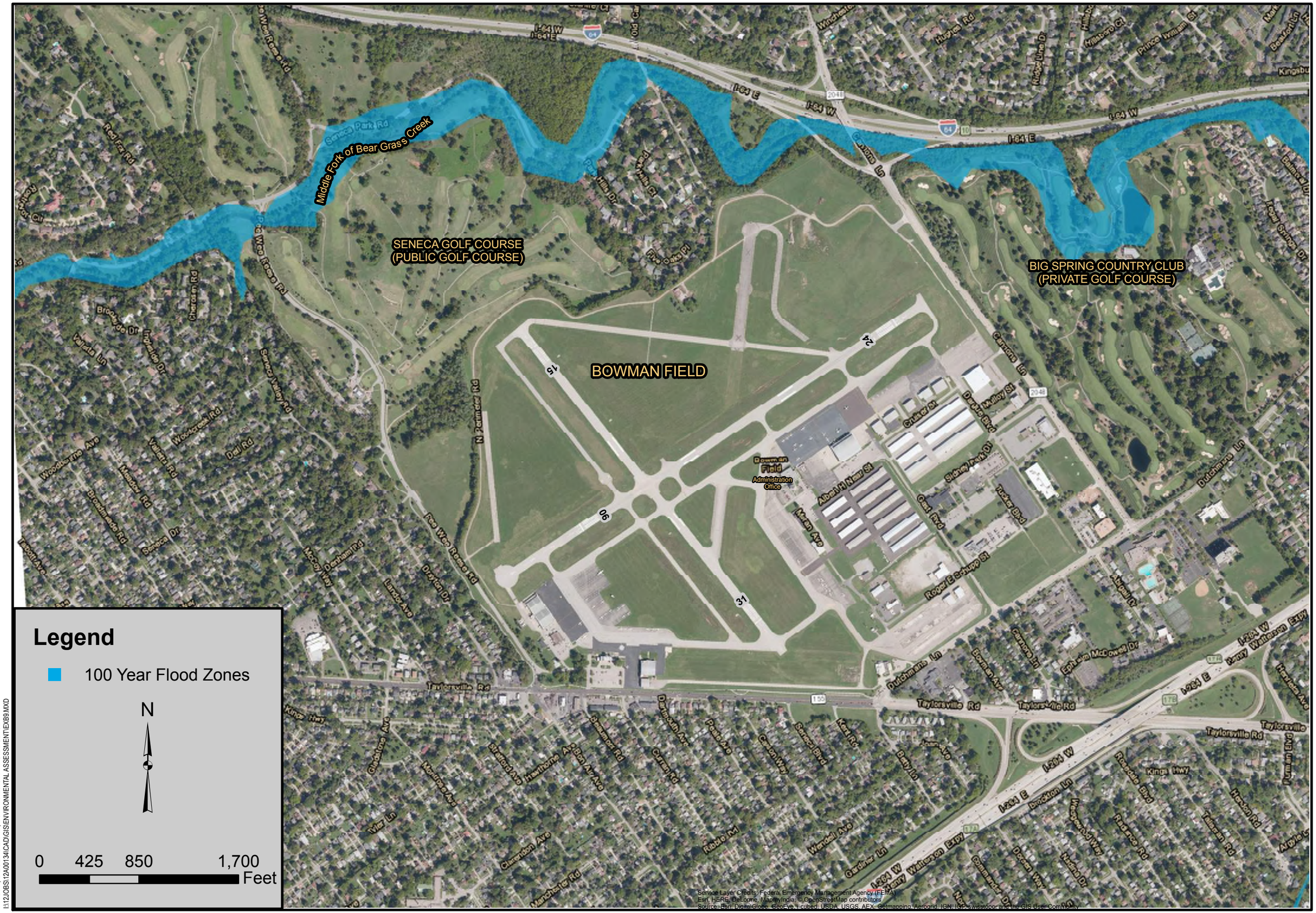

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FLOOD RATE INSURANCE MAP

EXHIBIT 9

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APPENDIX B -
HISTORIC ARCHITECTURAL SURVEY FOR THE BOWMAN FIELD AIRPORT SAFETY PROGRAM JEFFERSON COUNTY, KENTUCKY

U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2600 Thousand Oaks Blvd, Suite 2250
Memphis, TN 38118

Phone: 901-322-8180

May 24, 2016

Mr. Craig Potts
Executive Director and State Historic Preservation Officer
Kentucky Heritage Council
300 Washington Street
Frankfort, KY 40601

Dear Mr. Potts:

RE: DETERMINATION OF EFFECTS
BOWMAN FIELD AIRPORT, AREA SAFETY PROGRAM
LOUISVILLE, KY
KHC # 45249

The Federal Aviation Administration (FAA) Memphis Airports District Office (ADO) is proposing a "Determination of No Adverse Effect" under Section 106 of the National Historic Preservation Act (NHPA) for the undertaking at the Bowman Field Airport (LOU) in Louisville, KY. As you are aware, the undertaking consists of easement acquisition and tree trimming/replacement. The purpose of the undertaking is to enhance safety by removing tree obstructions and restore the airport's capabilities for nighttime instrument approach procedures.

After careful consideration of the information provided by the project proponent, the Louisville Regional Airport Authority, the Kentucky Heritage Council (State Historic Preservation Office), and consulting parties during the Section 106 consultation process, the FAA has concluded the undertaking would not adversely affect historic properties. This conclusion is predicated on our assessment that the impacts to the trees are not a contributing element to the historic resources. I respectfully request your review and concurrence or objection to the enclosed determination.

In closing, I would like to mention that your office, along with the other consulting parties in this undertaking, will soon be receiving a hard copy of documents related to the proposed project. The documents are being provided in accordance with our discussions at the last Section 106 consultation on March 31, 2016.

Thank for your participation in the consultation. If you have any questions, please feel welcome to contact me at (901) 322-8181 or Aaaron Braswell of my staff at (901) 322-8192.

Sincerely,

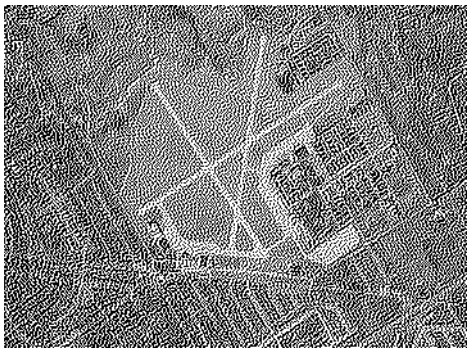
Phillip J. Braden
Manager, Memphis Airports District Office

Enclosures

cc: Bowman Field Airport Section 106 Consulting Parties

Historic Architectural Survey for the Bowman Field Airport Area Safety Program

Jefferson County, Kentucky



December 2014

Brockington®
CULTURAL RESOURCES CONSULTING

Historic Architectural Survey for the Bowman Field Airport Area Safety Program

Jefferson County, Kentucky

December 2014

Final Report

Prepared for:
The Louisville Regional Airport Authority
and the
Federal Aviation Administration

Under Contract With:
Hanson Professional Services, Inc.

Prepared by:

Patricia Stallings
Senior Historian
678-638-4126
patriciastallings@brockington.org

Brockington and Associates, Inc.
Atlanta • Charleston • Elizabethtown
Jackson • Jacksonville • Pensacola • Savannah

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Compendium

The Federal Aviation Administration (FAA) as part of the Section 106 process received and considered comments and concerns from designated consulting parties. As part of the process the Area of Potential Affect (APE) was expanded and trees being evaluated were limited to those within proposed avigation easements. The following Cultural Resources Evaluation (CRE) was composed in 2014 and does not include comments from the consulting parties and does not take into consideration the expanded APE. The comments and additional areas incorporated into the APE were analyzed in a Supplement to the Cultural Resources Evaluation. **See Supplement to the CRE in Appendix I**.

The following CRE provides information on the original 2014 investigation APE, in the form of the Terminal Instrument Procedure (TERPS) approach surfaces, which includes thirteen (13) properties (see Table ES1). These included two (2) golf courses, six (6) neighborhoods, and five (5) individual buildings. The Supplement to the CRE (**Appendix I**) reviews additional areas outside and adjacent to the TERPS, which includes an additional neighborhood (Hathaway Neighborhood). The supplement also reviews the FAA's revised scope, which includes only trees that are penetrations or near term penetrations within easements proposed for acquisition. The Supplement should be considered in tandem with the 2014 CRE. In addition, the FAA identified certain inconsistencies within the text and the effects determinations have been revised to maintain consistency. These changes are marked by the footnote. "FAA identified certain inconsistencies within the text and those have been revised".

Executive Summary

The Louisville Regional Airport Authority (LRAA) has undertaken the Bowman Field Airport Area Safety Program (Safety Program) to comply with the current Federal Aviation Administration (FAA)-required object clearing standards. Under the direction of the FAA and LRAA, Hanson Professional Services, Inc. (Hanson) has begun preparation of an Environmental Assessment (EA) for the re-establishment and protection of runway approaches that were in effect as of February 2012. The Safety Program EA will examine and compare various mitigation alternatives, including the purchase of avigation easements on select properties, for the removal and replacement, trimming or the lighting of trees that penetrate the Terminal Instrument Procedure (TERPS) approach surfaces to Bowman Field. The EA is being prepared for the FAA to comply with the National Environmental Policy Act of 1969 (NEPA). Because it is sponsored by the FAA, the Safety Program is subject to Section 106 of the National Historic Preservation Act (NHPA), which stipulates that any federal undertaking consider impacts to historic properties. This document was designed to provide Section 106 compliance in regard to reporting historic architectural resources and to meet the reporting standards of the Kentucky Heritage Council, the designated state historic preservation office.

Based on the nature and scope of the undertaking, the FAA defined the Area of Potential Effect (APE) as those geographical areas within the TERPS approach surfaces. This APE contains all direct and indirect effects of the currently proposed alternatives and mitigation measures. Archival research was conducted for the APE to determine the presence of previously recorded historic properties. Only one recorded historic property, the National Register of Historic Places (NRHP) listed Bowman Field Historic District, is present. The TERPS approach surface for Runway 6 clips a corner of the official Bowman Field District boundary. However, no mitigation efforts are proposed within the district and, as a result, there will be no effect to this historic property.

Following the archival research, Brockington and Associates, Inc. conducted a survey to identify other potential historic properties within the APE. The field survey effort resulted in the recordation of thirteen (13) properties (see Table ES1). These included two (2) golf courses, six (6) neighborhoods, and five (5) individual buildings. After historical and architectural evaluation of each of these properties, seven (7) are eligible for listing in the NRHP. These include the Seneca Park Golf Course and the neighborhoods of Seneca Gardens, Seneca Manor, McCoy Manor, Kingsley, Seneca Village and Seneca Village No. 2.

The Seneca Park Golf Course is NRHP eligible under Criterion A for historical associations with the New Deal's Works Progress Administration. Due to alterations to the original course design as, it no longer possesses sufficient design integrity to qualify as a historic landscape and, therefore, the proposed Safety Program mitigation efforts will not have an adverse effect on this property. The six individual neighborhoods that are eligible all qualify for listing under Criterion A for their historical associations with the suburban development of eastern Louisville and Criterion C as intact architectural representations of early to mid-twentieth-century neighborhoods. Two of the neighborhoods, Seneca Vista and Kingsley, are also eligible under Criterion B due to their associations with individuals who played an important role in the suburban development of Eastern Louisville.

Each of the neighborhoods possesses a combination of landscape features, such as road networks, sidewalks, utility easements, setbacks and spatial uniformity, which contributes to its eligibility. However, archival research, including a review of historic aerial photographs, did not reveal any particular vegetative pattern or features such as trees or plantings that would be considered character-defining features. In addition, the inventory of trees around Bowman Field conducted for the Safety Program suggests the majority of plantings are of the low-canopy and ornamental variety typically planted by property-owners. A lesser percentage of plantings in the neighborhoods appear to have developed organically (e.g., along fence rows) and represent the taller growing variety. This pattern was observed during the architectural field survey. The exception is Kingsley, which historic photographs indicates was designed with regularly spaced trees along King's Highway; however, while Kingsley falls within the APE, there are no mitigation efforts pro-

posed within its boundaries. In summary, the proposed mitigation alternatives will not adversely affect key character-defining features that qualify the six neighborhoods for listing in the NRHP.

The remaining six (6) architectural properties (Big Spring Country Club and five outparcels on Taylorsville Road and Gladstone Avenue) are not eligible for the NRHP.

Table ES1. Architectural Properties identified during the investigations.

Property Name	(Runway #) Location	Description/ Year(s) Built	NRHP Status	Safety Program Effect[1]
Bowman Field Historic District	(6) NW of Pee Wee Reese Rd and Taylorsville Rd	Airport terminal and hangars/ 1929-1932	Listed	No Adverse Effect
Big Spring Country Club	(24) NE of Cannons Lane and Dutchman's Lane, S of I-64	Golf Course/ 1927 (alterations mid-1900s; 2003-2004)	Not Eligible	N/A
Seneca Park Golf Course	(15) NW and SE of Seneca Park Rd	Golf Course/ 1934 (alterations 1950s, 60s; ongoing)	Eligible (Criterion A)	No Adverse Effect
Seneca Vista Neighborhood	(6) N of Taylorsville Rd, including Drayton Dr, Landon Ave	1937-1950 (minimal post-1950 infill)	Eligible (Criteria A, B, C)	No Adverse Effect
McCoy Manor Neighborhood	(6) E&W of McCoy Way, between Trevillian Way and Gladstone Ave	Post-World War II suburb/ 1949-1957 (no infill)	Eligible (Criteria A, C)	No Adverse Effect
Seneca Manor Neighborhood	(6) E&W of Valetta Rd, between Trevillian Way and Taylorsville Rd	Post-World War II suburb/ 1935-1958 (no infill)	Eligible (Criteria A, C)	No Adverse Effect
Kingsley Neighborhood	(6) S of Taylorsville Road, including King's Highway, Winston Ave, Emerson Ave, Tyler Ln, and Gladstone Ave	Early automobile suburb/ 1926-1964 (minimal post-1964 infill)	Eligible (Criteria A, B, C)	No Adverse Effect
Seneca Village Neighborhood	(33) S of Taylorsville Rd, N of Ribble Rd, including Kent Rd, Seneca Blvd and Carson Way	Post-World War II suburb/ 1947-1954 (minimal post-1954 infill)	Eligible (Criteria A, C)	No Adverse Effect
Seneca Village No. 2 Neighborhood	(33) S of Ribble Rd, E of Bon Air Ave, N and W of Watterson Expy., including Carson Way, Alanmede Rd, Gardiner Ln, Wendell Ave, Betty Ln & Joan Ave	Post-World War II suburb/ 1951-1960 (minimal post-1960 infill)	Eligible (Criteria A, C)	No Adverse Effect
2615 Taylorsville Road	2615 Taylorsville Road	Commercial Bldg./ Ca. 1960s	Not Eligible	N/A
2613 Taylorsville Road	2613 Taylorsville Road	Apartment Bldg./ Ca. 1960s	Not Eligible	N/A
2609 Taylorsville Road	2609 Taylorsville Road	Apartment Bldg. / Ca. 1960s	Not Eligible	N/A
2605 Taylorsville Road	2605 Taylorsville Road	Apartment Bldg. / Ca. 1960s	Not Eligible No Effect	N/A
2542 Gladstone Avenue	2542 Gladstone Avenue	Apartment Bldg. / Ca. 1960s	Not Eligible No Effect	N/A

[1] FAA identified certain inconsistencies within the text and those have been revised

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1.1 Project Overview and Methods of Investigation

1.2 Project Overview and Sponsorship

The Louisville Regional Airport Authority (LRAA) initiated the Bowman Field Airport Area Safety Program (Safety Program) to comply with the current Federal Aviation Administration (FAA)-required object clearing standards. Bowman Field, established in 1919, is a general aviation airport located approximately five miles from downtown Louisville, Kentucky (Figure 1.1). The airport is situated on 426 acres, and includes 17 buildings and four runways.

Under the direction of the FAA and LRAA, Hanson Professional Services, Inc. (Hanson) has begun preparation of an Environmental Assessment (EA) for the re-establishment and protection of runway approaches and airfield characteristics as defined by the Airport Layout Plan (ALP) that was approved by the LRAA in February 2012. The EA is being prepared for the FAA to comply with the National Environmental Policy Act of 1969 (NEPA). Because it is sponsored by the FAA, the Safety Program is subject to Section 106 of the National Historic Preservation Act, which stipulates that any federal undertaking consider impacts to historic properties. This document is intended to provide information to assist in the determination of (1) the presence of cultural resources within an Area of Potential Effect (APE), (2) whether those resources are included in or eligible for the National Register of Historic Places (NRHP), and (3) any historic properties that may be adversely affected by the action. .

1.2.1 Scope of the Safety Program EA: Proposed Alternatives, Mitigation, and the Area of Potential Effect

In July 2012, the LRAA contracted with Hanson to conduct the Safety Program. As the first step in the Safety Program, Hanson conducted an aerial survey of the airport and surrounding properties to determine the height of manmade and natural objects. Survey results were then submitted to the FAA for review and validation. The Flight Standards and Flight Procedures branches of the FAA then compared the data with the requisite airspace surfaces based on current airport capabilities applicable to each runway at Bowman Field Airport. The result was a list of tree clusters that penetrate the critical Terminal Instrument Procedure (TERPS) approach surfaces as determined by the FAA. All penetrations to these FAA-defined critical approach surfaces have been determined to be trees and vegetative growth – *no manmade objects penetrate these surfaces*. These approach surfaces are shown in Figures 1.2 through 1.6.

The Safety Program EA will examine and compare various mitigation alternatives and identify a preferred alternative to comply with FAA standards; specifically the alternative *must maintain the airfield operating capabilities in effect as of February 2012*. The EA will assess the program details and eligibility for federal funding. Alternatives and mitigation measures currently proposed include:

- Establish priorities to address the most critical areas first (based on property location and existing tree canopy conditions);
- Purchase avigation easements over necessary properties to gain airspace protection. Offers will be based on market value appraisals conducted by licensed and certified property appraisers following strict federal guidelines;
- Trees will be assessed by a certified arborist as to whether they can be trimmed or should be removed. If a tree is removed, the homeowner may select up to two low-canopy replacement trees from a list compiled by a certified arborist for use in this climate;
- If a tree is removed in a landscaped area the homeowner will be eligible for a re-landscaping allowance of up to $2,500 over and above the cost of replacement trees;
- The LRAA will pay for tree trimming and/or removal, stump removal and yard restoration;
- All new plants will carry a one-year warranty; replacement trees will carry a two-year warranty.

Figure 1.1 Location map of Bowman Field in relation to City of Louisville.

Based on these proposed alternatives the FAA has defined the APE for cultural resources investigations, as illustrated in Figures 1.2 through 1.6. For historic architectural resources, the APE consists of those geographical areas within the TERPS approach surfaces. This APE contains all direct and indirect effects of the currently proposed alternatives and mitigation measures. For archaeological resources, the APE is anticipated to be limited to areas that may require ground-disturbing activities (i.e., tree removal and stump grinding), once such areas are finalized. Per KHC standards, this document addresses architectural resources only. Once the mitigation areas are finalized, FAA will consult with the Kentucky Heritage Council (KHC) regarding the need for any archaeological studies.

1.3 Methods of Investigation

This document was designed to provide Section 106 reporting compliance based on scope of proposed alternatives and mitigation efforts identified in Section 1.1.1. This document was also tailored to meet the reporting guidelines established by the Kentucky Heritage Council, the designated state historic preservation office (Sanders 2006). The Senior Historian assigned to this project, Ms. Patricia Stallings, is qualified under the applicable Secretary of Interior Standards for history and architectural history stipulated in 36 CFR Part 61. Ms. Stallings was assisted during the field investigations by Mr. Chris Sims, RPA.

The remainder of Chapter 1 describes the methods employed during this survey, including a discussion of any previous investigations in the vicinity, background research, the architectural survey, and a context for evaluating properties for the NRHP. Chapter 2 presents a regional and historic context in which to evaluate properties identified during the fieldwork. Chapter 3 includes results of the architectural survey, a discussion of effects, and recommendations for management of eligible historic properties. Chapter 4 presents a summary of the project findings. Finally, this document provides a listing of references cited and appendices with supporting information.

1.3.1 Archival Research

Prior to the architectural survey, the Senior Historian performed a literature review of available materials. The object of this research was to (1) collect information on previously recorded cultural resources that may be within the APE, (2) identify types of aboveground resources that may be encountered during the survey, and (3) develop a context in which to evaluate resources recorded during the fieldwork. Specific materials sought during this phase of work included historical maps, aerial photography, deeds, plats, newspaper articles, published documents (books and articles at both the scholarly and popular level), cultural resources management reports, and other relevant data.

The archival research included a review of materials at a multitude of repositories. At the KHC, copies of material related to previously recorded properties in the project area were obtained. Specifically, the NRHP form for the Bowman Field Historic District was retrieved. Other documents reviewed included the National Park Service (NPS) multiple property listings *Historic Resources of Jefferson County* (1980) and *Louisville and Jefferson County* (1988). Relevant historic contexts sponsored by the KHC were also reviewed. Specifically, these documents included *The New Deal Builds*, a history of the New Deal in eastern Kentucky (Kennedy and Johnson 2005) and *House In a Box*, a history of prefabricated houses in the Jackson Purchase region (Johnson and Kennedy 2006).

A number of historic maps, newspaper and journal articles, and city data were obtained at the Louisville City Library. The City of Louisville Archives contained historic aerial photographs dating to 1928, as well as relevant Sanborn Maps and City Directories. All year built data for the recorded properties was collected from the Jefferson County Property Valuation Administrator (PVA), and deed research was conducted at the office of the Jefferson County Clerk as well as the Clerk's online land record system.

At the Metro Louisville Department of Planning and Design (MLDPD), two historical and architectural studies were obtained. The first, *Louisville Survey: East* was prepared by the City of Louisville Community

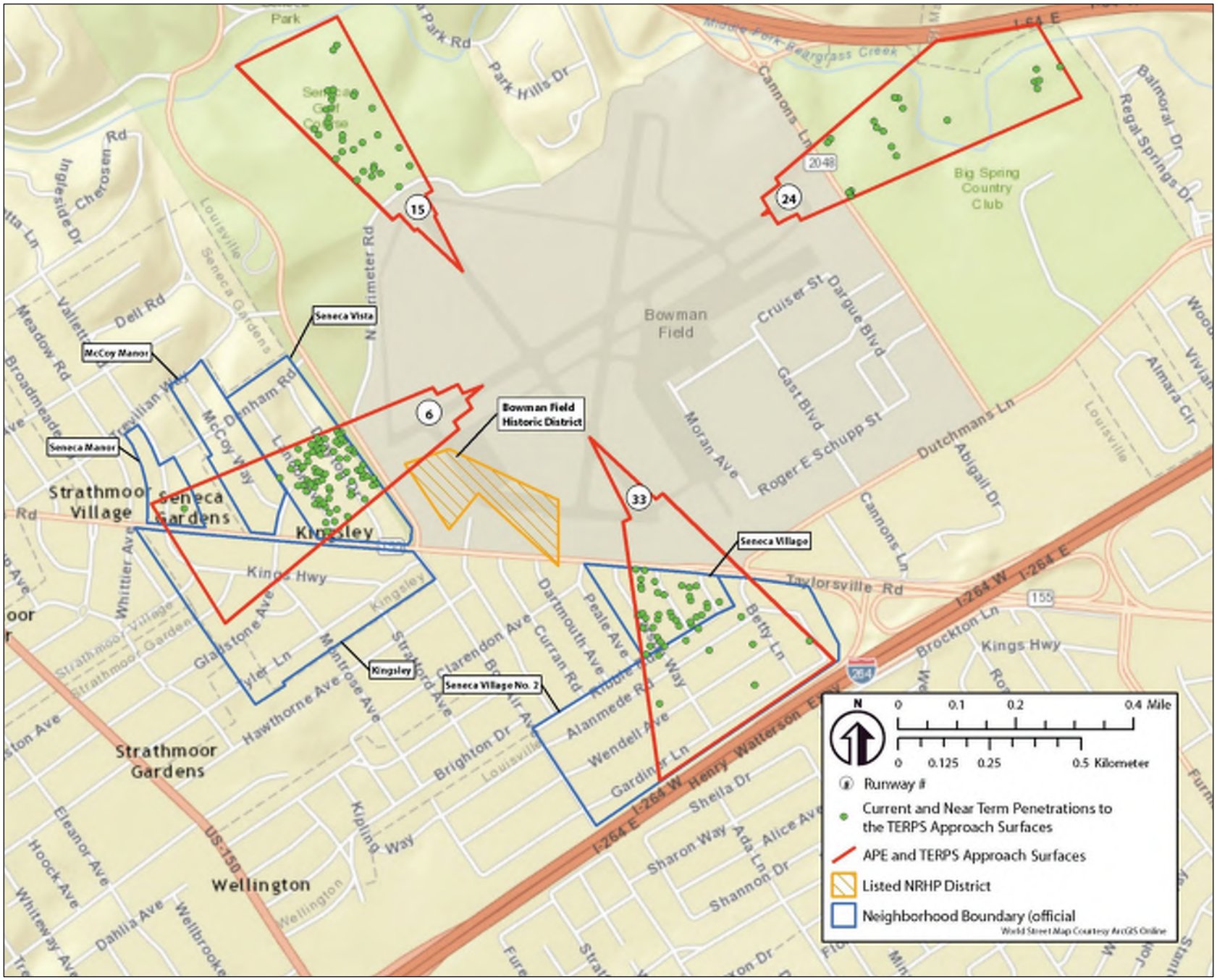

Figure 1.2 Safety Program APE on street map, showing APE, current and near term penetrations to TERPS.

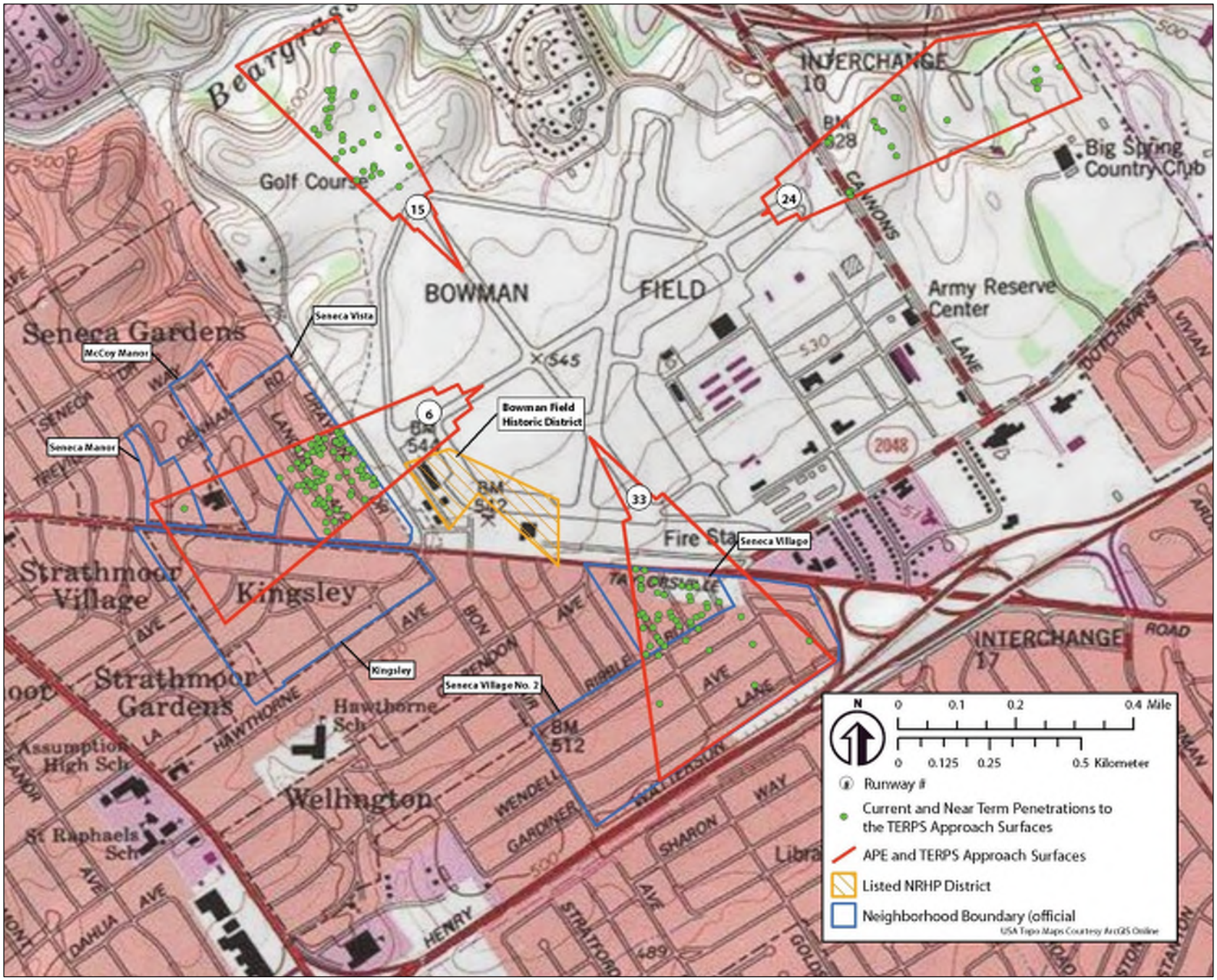

Figure 1.3 Safety Program APE on USGS quadrangle map, showing APE, current and near term penetrations to TERPS.

Development Cabinet in 1979. It was one of three geographically-oriented reports designed to identify architecturally significant landmarks and buildings, but within that report is a detailed history of eastern Louisville that addresses key themes such as suburban development and the developers who envisioned them. A more recent analysis of suburban Louisville development was found *They Came, They Saw, They Bought: The Twentieth Century Housing Boom in Louisville, Kentucky, 1920-1970* (Brother et al. 2014). This detailed document was designed as a tool for evaluating the City's neighborhoods for the NRHP. Other archival sources reviewed included materials held at the two golf courses that lay within the APE (Seneca and Big Spring) and the historic photograph collection on display at the Bowman Field administration building.

1.3.2 Architectural Survey

During the weeks of August 15 and September 15, 2014, the project historian conducted both a windshield reconnaissance and an intensive survey of thirteen architectural properties (including individual buildings, districts, and landscapes) located within the Safety Program's APE. The survey included a pedestrian inspection of any individual properties, neighborhoods or outparcels that are within the APE and at least two high-resolution photographs were taken of each resource. If necessary, for any evaluated neighborhoods or districts that extended beyond the APE, the project historian conducted a sampling survey of selected properties to glean further information in regard to district integrity and design, architectural composition, the presence and type of any infill development, and the general landscape aesthetic of roads, sidewalks, or other defining features. The results of the architectural survey are presented in Chapter 3, with supporting information included in Appendices C-H.

1.3 National Register of Historic Places Criteria

Any site encountered as part of fieldwork is assessed for potential eligibility for listing on the National Register of Historic Places based on the significance criteria set forth in 36 CFR Part 60.4. The criteria for evaluation are based on the quality of significance in American history architecture, archaeology, engineering, and culture are present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
B. That are associated with the lives of persons significant in our past; or
C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. That have yielded, or may be likely to yield, information important in prehistory or history.

A resource may be eligible under one or more of these criteria. Criteria A, B, and C are most frequently applied to historic buildings, structures, objects, districts, or non- archaeological sites (e.g., battlefields, natural features, designed landscapes, or cemeteries). The eligibility of archaeological sites is most frequently considered with respect to Criterion D. In addition, a general guideline of 50 years of age is employed to define "historic" in the NRHP evaluation process. That is, all resources greater than 50 years of age may be considered. However, resources that are more recent may be considered if they display "exceptional" significance (Sherfy and Luce n.d.).

Following *National Register Bulletin: How to Apply the National Register Criteria for Evaluation* (Savage and Pope 1998), evaluation of any resource requires a two-fold process. First, the resource must be associated with an important historic context. If this association is demonstrated, the integrity of the resource must be evaluated to ensure that it conveys the significance of its context. The applications of both of these steps are discussed in more detail below.

Figure 1.4 Safety Program APE on current aerial photography, showing APE, current and near term penetrations to TERPS.

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Figure 1.5 Detail map of Safety Program on aerial photography, showing APE and proposed mitigation alternatives at runways 15 and 24.

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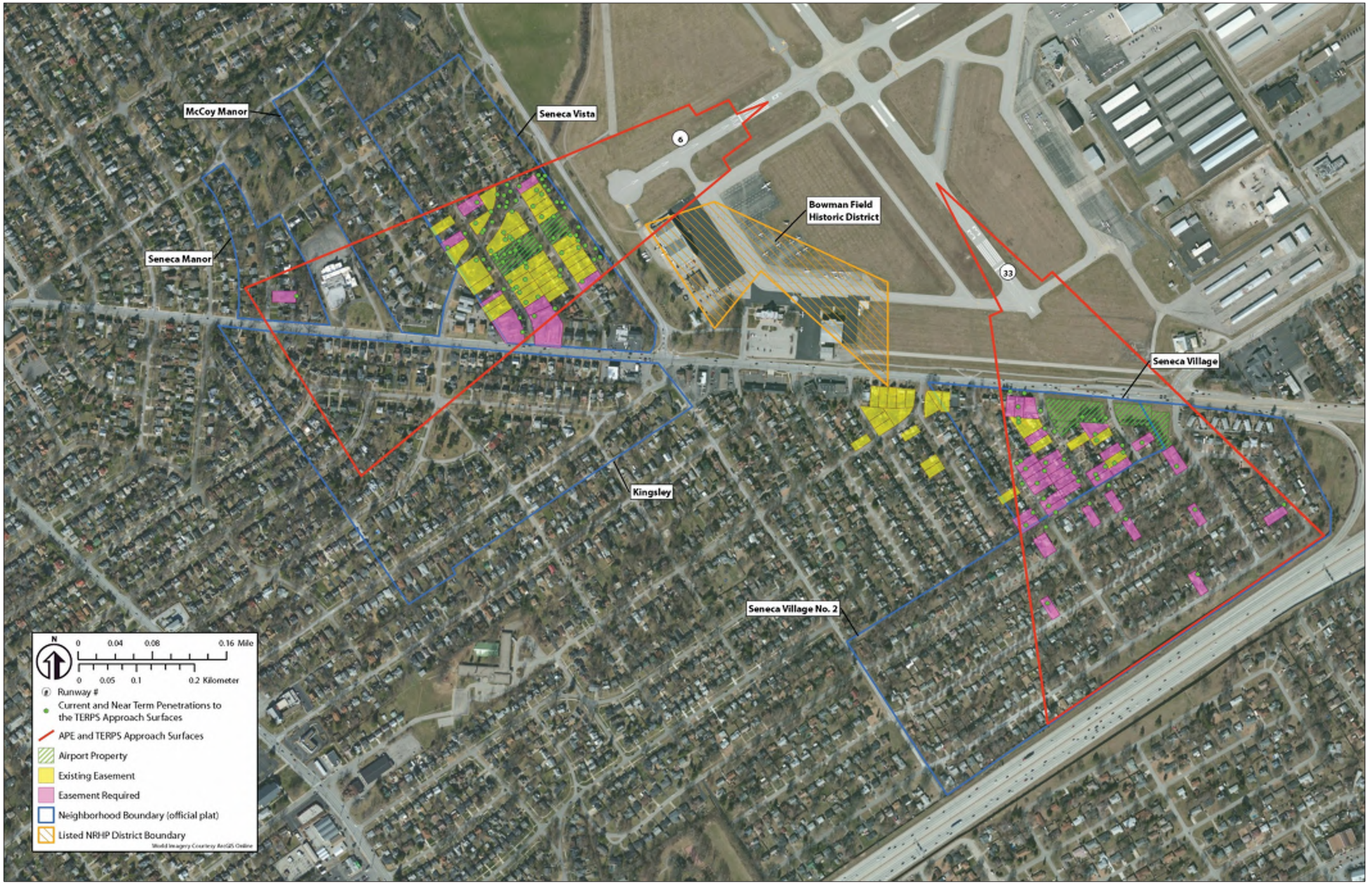

Figure 1.6 Detail map of Safety Program on aerial photography, showing APE and proposed mitigation alternatives at runways 6 and 33.

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Determining the association of a resource with a historic context involves five steps (Savage and Pope 1998). First, the resource must be associated with a particular facet of local, regional (state), or national history. Secondly, one must determine the significance of the identified historical facet/context with re- spect to the resource under evaluation. Any particular historical facet/context becomes significant for the development of the project area only if the project area contains resources that were constructed or gained their significance during that time. For example, an antebellum historic context would be significant for the development of a project area only if the project area contained buildings that were either built or gained their significance during the early nineteenth century. Similarly, the use of contexts associated with the pre-contact Native American use of a region would require the presence of pre-contact archaeological sites within the survey universe.

The third step is to demonstrate the ability of a particular resource to illustrate the context. A resource should be a component of the locales and features created or used during the historical period in ques- tion. For example, early nineteenth-century farmhouses, the ruins of African American slave settlements from the 1820s, and/or field systems associated with particular antebellum plantations in the region, would illustrate various aspects of the agricultural development of a region prior to the Civil War. Conversely, contemporary churches or road networks may have been used during this time period but do not reflect the agricultural practices suggested by the other kinds of resources.

The fourth step is to determine the specific association of a resource with aspects of the significant historic context. Savage and Pope (1998) define how one should consider a resource under each of the four criteria of significance. Under Criterion A, a resource must have existed at the time that a particular event or pattern of events occurred and activities associated with the event(s) must have occurred at the site. In addition, this association must be of a significant nature, not just a casual occurrence (Savage and Pope 1998). Under Criterion B, the resource must be associated with historically important individuals. Again, this association must relate to the period or events that convey historical significance to the individual, not just that this person was present at this locale (Savage and Pope 1998). Under Criterion C, a resource must possess physical features or traits that reflect a style, type, period, or method of construction; display high artistic value; or, represent the work of a master (an individual whose work can be distinguished from others and possesses recognizable greatness [Savage and Pope 1998]). Under Criterion D, a resource must possess sources of information that can address specific important research questions (Savage and Pope 1998). These questions must generate information that is important in reconstructing or interpreting the past (Butler 1987; Townsend et al. 1993).

After a resource is specifically associated with a significant historic context, one must determine which physical features of the resource are necessary to reflect its significance. One should consider the types of resources that may be associated with the context, how these resources represent the theme, and which aspects of integrity apply to the resource in question (Savage and Pope 1998). As in the example given above, a variety of resources may reflect the antebellum context (farmhouses, ruins of slave settlements, field systems, etc.). One must demonstrate how these resources reflect the context. The farmhouses represent the residences of the landowners who implemented the agricultural practices during the antebellum era. The slave settlements housed the workers who did the daily tasks necessary to plant, harvest, process, and market crops.

Once the above steps are completed and association with a historically significant context is demonstrat- ed, one must consider the aspects of integrity applicable to a resource. Integrity is defined in seven aspects of a resource; one or more may be applicable depending on the nature of the resource under evaluation. These aspects are *location, design, setting, materials, workmanship, feeling, and association* (36 CFR 60.4; Savage and Pope 1998). If a resource does not possess integrity with respect to these aspects, it cannot adequately reflect or represent its associated historically significant context. Therefore, it cannot be eligible for the NRHP. To be considered eligible under Criteria A and B, a resource must retain its essential physical characteristics

that were present during the event(s) with which it is associated. Under Criterion C, a resource must retain enough of its physical characteristics to reflect the style, type, etc., or work of the artisan that it represents. Under Criterion D, a resource must be able to generate data that can address specific research questions that are important in reconstructing or interpreting the past.

2.0 Historic Context

2.1 Suburban Development in the Vicinity of Bowman Field

The history of suburban development in Louisville, Kentucky has been well documented. Most recently, Brother et al. (2014) prepared *They Came, They Saw, They Bought*, a history of Louisville's twentieth-century housing boom. That historic context also provides an overview not only of suburban development in general, but also of the common architectural types, styles, and general landscape of suburb design.

In 1979, the City of Louisville Community Development Cabinet prepared *Louisville Survey: East Report*, in which Mr. Carl E. Kramer wrote an exceptionally detailed history of the area of eastern Louisville. Because of the nature of the architectural resources identified for this survey project (e.g. early to mid-twentieth-century suburban neighborhoods), the most relevant portions of that context are presented here, specifically those chronicling the development in and around Bowman Field. Graphics have also been added to illustrate the context. For further reference, a copy of the 1979 report is provided as electronic Appendix B.

> [Page 50] During the first nine decades of Louisville's history, development in what is now the city's East End was minimal. Economically, the area was devoted primarily to agriculture, which was symbolized by the numerous outstanding country homes which dotted the area. But during the three decades which preceded the Civil War, the development of a radial transportation network and the establishment of several industrial and institutional activities foreshadowed the urbanization which was to come. With the end of the Civil War and the advent of the streetcar, eastern Louisville burst outward, setting off a chain reaction of urban development which would continue, with only brief interruptions, for more than a century.
>
> [Page 86] The years that spanned American entry into World War I and the end of World War II were a watershed in Louisville's history. In less than three decades, the city experienced its greatest period of industrial growth and residential development, witnessed the displacement of the streetcar by the automobile as the primary mode of personal transportation, suffered through its deepest economic depression and its severest flood, and felt the effects of two international wars. In the process the city began its evolution from an industrial city into a modern corporate metropolis, characterized by an increasing degree of local, state, and federal participation in and regulation of the urbanization process, the establishment of several large industrial plants owned by giant corporations, the inexorable transfer of much local business and industry from local to outside ownership. Some of these trends would not become immediately apparent until the 1950s or 1960s.

In Eastern Louisville, transportation was a major impetus for suburban development [pages 90-92; 96]:

> The 1920s and 1930s witnessed numerous advancements in the area of transportation, particularly in eastern Louisville. One which both resulted from and contributed to urban growth along Bardstown Road was the Louisville Railway Company's extension of streetcar service from Douglass Loop to Doup's Point in the early 1930s. Residents of the area, working through the City Limits Community Club, had tried unsuccessfully for some time to persuade the company to initiate the extension. But company president James P. Barnes continually insisted that the firm could not afford to provide the extension under its existing financial structure.
>
> The residents received a major boost in January 1924 when the Board of Public Works endorsed the endeavor. About the same time, City Attorney David Fairleigh announced that the Louisville and Interurban Railroad's practice of transporting passengers from Doup's Point to Douglass Loop and other points in the city at a charge of 14 cents per ride was illegal. Fairleigh told the Board of Public Works that under the law the Interurban, although a subsidiary of the streetcar company, was technically a railroad because it lacked a franchise to operate in the city and operated instead under authority

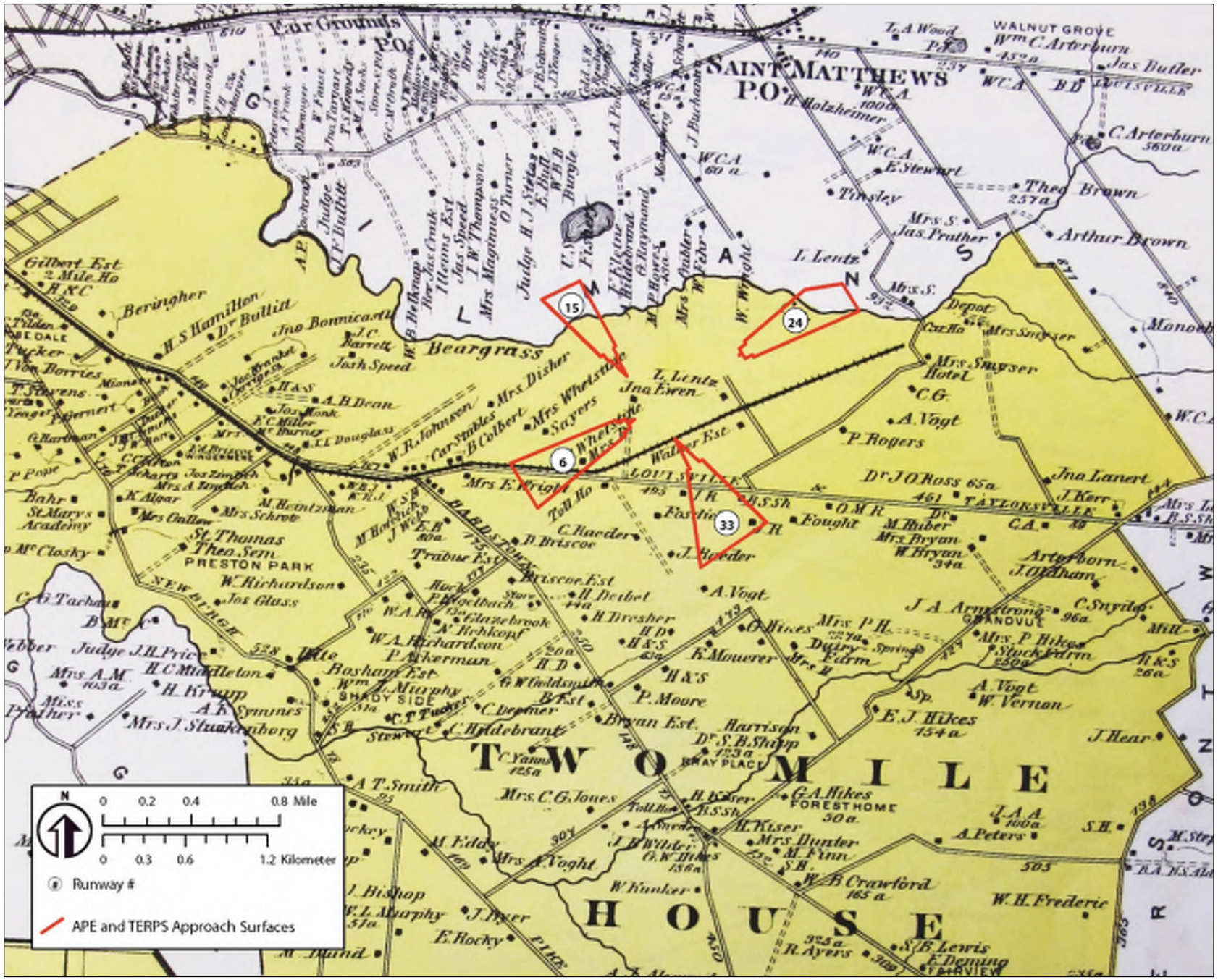

Figure 2.1 Atlas of Jefferson and Oldham Counties, Kentucky (Beers and Lanagan 1879).

of the State Railroad Commission. But the City Attorney also recognized that if the city forced the Interurban to cease passenger services between Doup's Point and Douglass Loop, it would leave area residents without any kind of public transportation. Therefore, he suggested that the streetcar company take over the Interurban lines, which it technically owned anyway, and extend streetcar service over the same rails. This could be done, Fairleigh suggested, without increasing the existing street car fare. But the Louisville Railway Company continued to resist the idea of an extension for more than three years.

The decision to extend the Bardstown Road streetcar lane came in conjunction with another major development in Louisville's public transportation system, the public franchising of bus service. Early in 1915 the city had begun to license jitney buses, individually owned cars that operated with a minimum of regulation and coordination in routes. Operating at five cents per ride in direct competition with the streetcar, which now charged seven cents a ride without a token, the jitneys were an economic bane to the Louisville Railway Company, which was confined to its franchised rail routes.

The city also devised a feeder system, wherein buses operating in distant neighborhoods would connect with streetcar lines serving downtown and major industrial areas, thus preventing buses from clogging traffic in heavily traveled areas. But the transit company preferred an express bus system over feeder streetcar lines. The ordinance which finally gained approval in April 1928 was a compromise between the conflicting positions. It gave the transit company a blanket monopoly over routes but provided for close supervision of the designation process by the Board of Public Works. The city, however, won its preferred feeder system as opposed to the express routes.

Expansion and rationalization of the city's public transportation significantly enhanced personal mobility during the 1920s and 1930s. But to an ever-increasing degree, much of public transit's role began to be displaced by a relatively newfangled mode of personal transportation - the automobile. A portent of the automobile's importance came in 1913 when the Ford Motor Company set up an assembly plant near Third and Breckinridge Streets. By the early 1920s the city had numerous auto dealerships. Some 46,000 cars were in operation traffic accidents were becoming a serious problem; and movement was afoot to regulate traffic and improve streets. By 1930, as a result of the combined effects of the automobile, bus service, and the Depression, streetcar service had begun to suffer a serious decline in patronage, which would eventually lead to its demise.

Perhaps the most far-reaching transportation in eastern Louisville during the 1920s was the development of Bowman Field, Louisville's first airport. Bowman Field dates its origin to 1918, when, it is believed, the first aircraft touched down on a cow pasture in what was then part of the old Von Zedwitz estate near Taylorsville Road. Originally part of the John Floyd military land grant of 1774, the property passed into the hands of a descendent, Mary Elizabeth Caldwell. In the nineteenth century she married a German nobleman, Curt Baton Von Zedwitz, and left Louisville to make her home in Germany. Both died before American entry into World War I, but after the declaration of war, the federal government seized the estate under the Alien Property Act.

In 1919, a local freight transfer operator, Abram H. Bowman, subleased 50 acres of the Von Zedwitz estate. The following year he purchased a surplus Canadian Jenny and formed a commercial flying business with pilot Robert H. Gast. The partnership dissolved a short time later, and in May 1921 Bowman went into business with W. Sidney Park, a former Louisvillian who had just come home after working for the Glenn L. Martin Company in the manufacture of bombers. The Bowman Park Aero Company was one of the first firms in the United States to specialize in aerial photography.

As local enthusiasm for flying grew, so did support for a permanent airport. In 1923, with the backing of local civic leaders, Bowman and Park persuaded the Army Air Corps to lease the Von Zedwitz property as an intermediate airdome. Soon thereafter, an Air Corps reserve unit with 12 aircraft was arranged in Louisville. Already known informally as Bowman Field, the facility was formally dedicated as such in 1923. A year later, the Yellow Air Taxi Service Company opened Louisville's first air passenger service. In 1927, in the wake of the enthusiasm -generated by Charles A. Lindbergh's

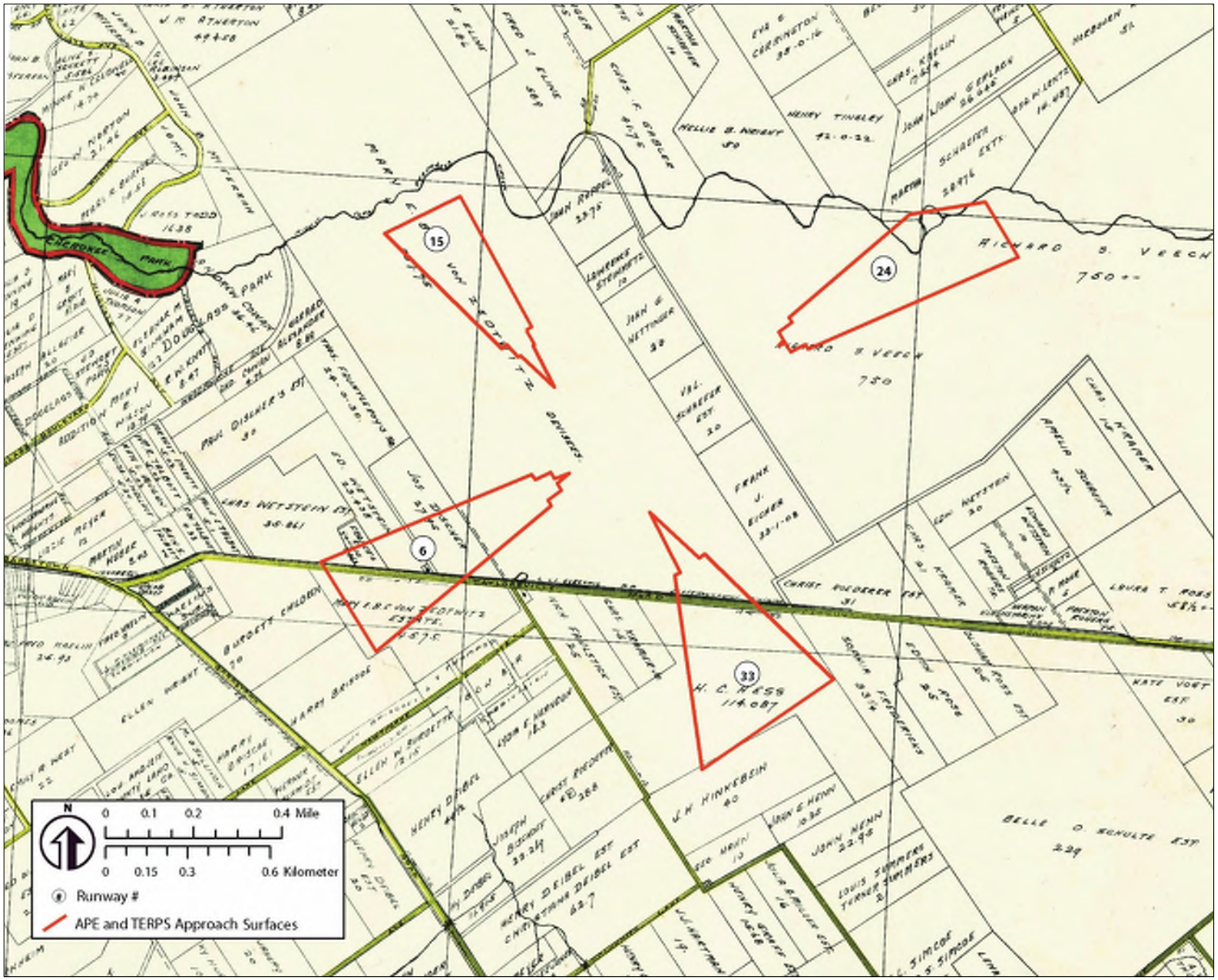

Figure 2.2 The Louisville Title Company's 1913 property map of Louisville and Jefferson County, showing the Von Zedwitz estate, future site of Bowman Field, north of Taylorsville Road.

nonstop flight to Paris, Louisville voters approved a $750,000 bond issue to finance the purchase of Bowman Field as a municipal airport. In 1928, the-General Assembly passed legislation authorizing creation of the Louisville and Jefferson County Air Board to operate the field as a publicly-owned facility. Airline service to Louisville began the same year when Continental Airways (later American Airlines), began mail service between Louisville and Cleveland. Three years later Continental initiated passenger service between Louisville and Nashville. Eastern Airlines launched service to and from Louisville in 1934. Before long, Bowman Field was handling 13,000 passengers annually on eight scheduled daily flights.

While the primary function of Bowman Field was to improve Louisville's commerce, it also had the effect of adding a large new section of institutional open space to the city-scape. The Bowman Field purchase comprised 552 acres, much more land than necessary for the airport. Inasmuch as the land was purchased not by the air board but by the parks commissioners, the excess land was developed as Seneca Park. Plans for the park were drawn by Olmsted Brothers, successor to the firm of Frederick Law Olmsted, the designer of Louisville's park system. During the two years that followed the purchase, roads were built and a four-acre tract was purchased from R. S. and C. R. Reynolds to join Seneca and Cherokee Parks into a dual unit described by the Louisville Herald-Post as a "second to none for beauty and accessibility." In practical terms, Seneca Park and Bowman Field provided a new sylvan magnet for residential development along both the Bardstown Road and Frankfort Avenue axes.

A substantial portion of the residential development which occurred in eastern Louisville as a consequence of the technological improvements of the 1920s took place along the city's suburban fringe. But most of it was within the city limits, especially the large section annexed in 1922. From 1917 through 1929, 89 subdivisions were platted within the bounds of present day eastern Louisville. Of these, 55 were located in one of eight neighborhoods which began to experience substantial development during the 1920s.

[Page 96] During [the 1920s] more than 40 subdivisions were platted in the area between Speed Avenue and Bowman Field north of Bardstown Road and Taylorsville Road and bounded by Rutherford Avenue, Newburg Road, and the present day Watterson Expressway (except for the Hayfield – Dundee area), south of Bardstown and Taylorsville Roads. This area encompasses the Douglas, Belknap, Gardiner Lane, and Hawthorne neighborhoods and the sixth-class cities of Seneca Gardens, Strathmoor Manor, Strathmoor Village, Strathmoor Gardens, Kingsley and Wellington.

There were a number of early automobile suburbs that developed around Bowman Field [page 102]:

Located on land which was once part of Judge James Speed's Farmington estate, the Hawthorne neighborhood is bounded generally today by the cities of Strathmoor Manor and Kingsley, Bardstown Road, the Watterson Expressway, and Taylorsville Road. It consists of 13 subdivisions, six of which were laid out during the 1920s, including two which make up the sixth class city of Wellington.

Development began in 1909 when A. V. Thompson platted the Bon Air Subdivision on the eastern half of a parcel which lay along Hawthorne and Clarendon Avenues between Bardstown Road and Bon Air Avenue. Five years later, George W. Holland recorded the western portion of Clarendon Avenue between Bardstown Road and Bon Air Subdivision as the Lancashire Subdivision. But development remained dormant until 1925, when William F. Randolph's Wakefield-Davis Realty Company platted two sections of Beaumont on a tract bounded by Taylorsville Road, Bon Air Avenue, Ribble Road, and a line between Curran Road and Dartmouth Avenue. The following year, developer J. C. Turner laid out Hathaway Subdivision between the Beaumont developments and a line between Peale Way and Carson Way. Three years later, the triangular tract formed by Taylorsville Road, Ribble Road and Hathaway Subdivision was platted by W. C. Coleman's Dingle View Land Company as the first section of Seneca Village. A second section which stretches from Bon Air Avenue to Taylorsville Road be-

Figure 2.3 Bowman Field, circa 1930, not long after construction (Goodman-Paxton Collection, Kentucky Digital Library).

tween Ribble Road and Gardiner Lane, was laid out in 1948 and revised in 1950 by Edgar W. Archer's Lupino-Realty Company.

Until Section 2 of Seneca Village was platted in 1948, the largest subdivision in Hawthorne was Wellington, which became a sixth class city in 1946. Wellington actually consists of two subdivisions. The first, Herndon Place, was laid out along Manchester Road and Brighton Drive between Montrose and Be1 Air avenues by W. C. Coleman in 1925. Three years later, however, C. C. Hieatt's Consolidated Realty Company took over Herndon Place, added a larger parcel between Montrose and Bardstown, and re-subdivided the entire tract as the Wellington Extension of Strathmoor. The year after World War II ended, Edgar W. Archer platted Alanmede Subdivision on a parcel immediately south of Wellington, bounded on the east by Bon Air Avenue, on the south by Gardiner Lane, and on the west by Montrose. Two years later, M.C. Elliott and Ada M. Delhomer platted Hawthorne's final subdivision, Villanova, located directly south of Alyade between Gardiner Lane and what is now the Watterson Expressway.

The eventual incorporation of Wellington underscores a phenomenon which became endemic not only to Louisville but to the United States as a whole. The residential building boom which occurred along Lexington and Bardstown Roads during the 1920s was representative of suburban explosion which occurred throughout the nation. As the sweeping annexation of 1922 and subsequent annexations after World War II suggest, many of the suburban developments of the 1920s eventually became part of the larger cities upon which they depended economically. Some resisted in order to maintain their independence while others invited annexation out of desire for improved services. But during the 1920s and the decades that followed, a growing number of suburban communities sought to retain their independence – and with it a semblance of Arcadian Village life – without giving up the municipal services to which they had become accustomed as residents of the central city. The mechanism by which this objective was achieved was incorporation. Across the country scores of new towns and villages were incorporated between 1920 and 1930, most of them located along the fringes of large metropolitan centers.

Louisville did not match other metropolitan areas in the proliferation of suburban municipalities during the 1920s. But when it did come after World War II, it came with a vengeance. Nevertheless, a handful of subdivisions were developed during the 1920s, in addition to Wellington, which eventually formed a contiguous band of sixth class cities which extends from Seneca Park, across Taylorsville Road and Bardstown Road to Lover's Lane.

The subdivisions which form four of these cities – Strathmoor Village, Strathmoor Manor, Strathmoor Gardens, and Kingsley – were primarily the responsibility of a single developer, Clarence C. Hieatt. During his seven decades as a developer, Hieatt was responsible for the construction of at least 5,000 houses and more than seventy subdivisions. Most of these projects are characterized by sidewalks, broad, tree-lined streets, deep setbacks, and individually designed homes. Such are the attributes of Strathmoor, located immediately east of Doup's Point between Taylorsville Road and Bardstown Road. Laid out by Hieatt's Consolidated Realty Company in 1920, the subdivision was incorporated as Strathmoor Village in 1928. In 1921, Hieatt's firm laid out a second section of Strathmoor between Bardstown Road and Shelly Avenue. An addition four years later extended the subdivision to Lover's Lane. In 1931 the section of Strathmoor west of Bardstown Road was incorporated as Strathmoor Manor. The addition to Strathmoor which comprises Strathmoor Gardens, located on the east side of Bardstown Road between Strathmoor Village and Hawthorne Avenue, was platted in 1923 and incorporated in 1944. The Kingsley Extension of Strathmoor, which was platted by Hieatt Brothers in 1925 and incorporated as Kingsley in 1928, extends eastward from Strathmoor Village and Strathmoor Gardens to Bon Air between Taylorsville Road and Hawthorne Avenue.

The remaining sixth class city is Seneca Gardens. Tucked into a pocket formed by Woodbourne Avenue, Carolina Avenue, Taylorsville Road, Bowman Field, and Seneca Park, Seneca Gardens in composed of four Subdivisions, whose development involved three different participants. The first

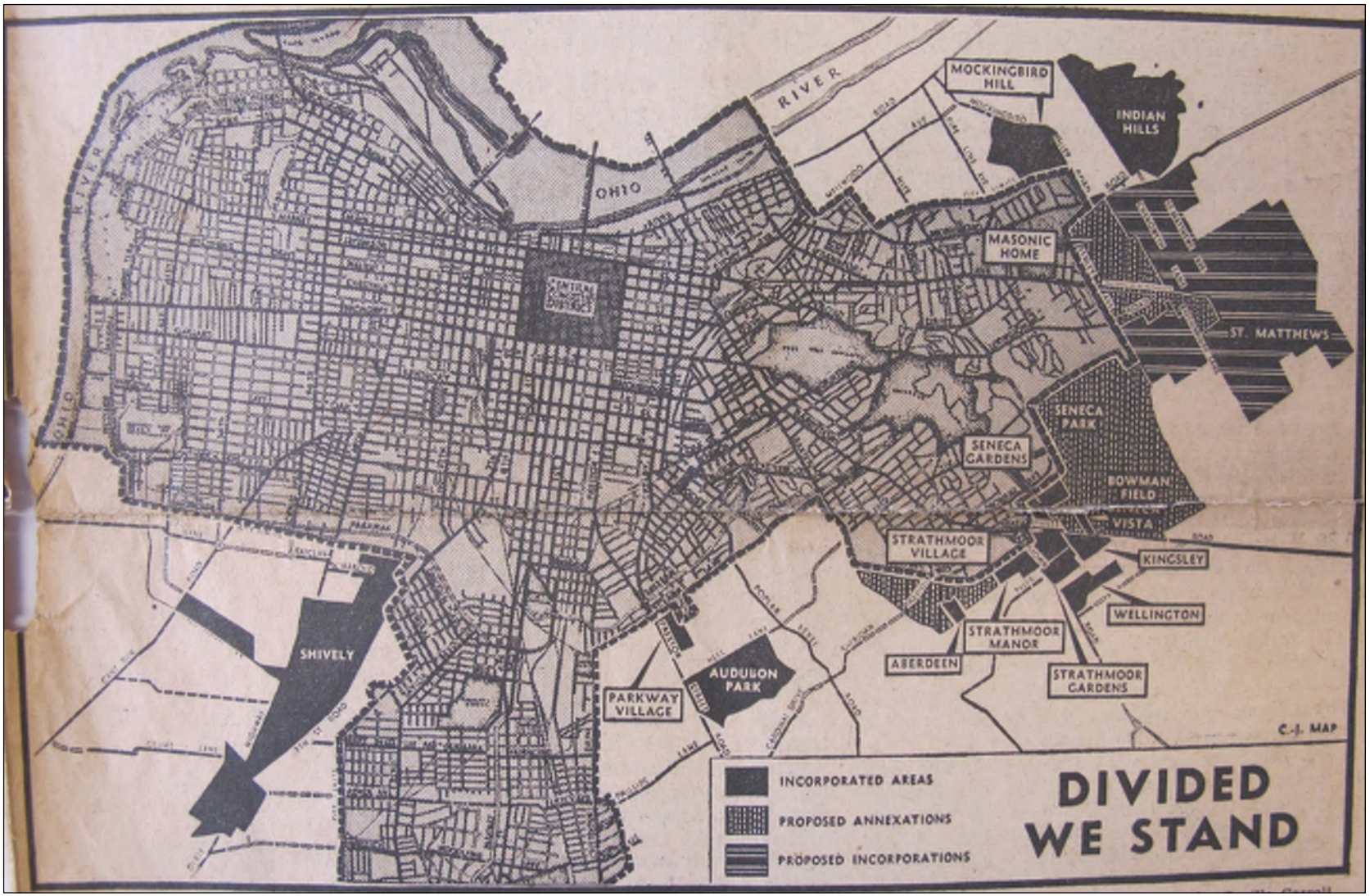

Figure 2.4 Proliferation of independent cities around Louisville's suburban fringe (*Louisville Courier*-Journal February 23, 1947).

subdivision, Broadmeade, is an irregularly shaped tract whose upper portion lies between Carolina and a line midway between Meadow Road and Valletta Road, and whose lower portion extends from Carolina to McCoy Way.

Broadmeade was platted in 1922 as a joint venture by the Discher Land Company, headed by Fred Moellein, and the Wetstein Land Company, headed by Edward F. Weigel. Each company derived its name from a family with long-standing land holdings in the area under development. In 1926 Weigel's firm laid out a second section of Broadmeade which extended the upper portion eastward to the imaginary northern extension of McCoy Way. Five years later, Weigel platted most of the remaining area north of Trevilian Way between Section 2 of Broadmeade and Seneca Park. Curiously, the only subdivision which contains the term Seneca Gardens is a small tract which borders Trevilian Way between the eastern terminus of Wetstein Avenue and Seneca Valley Road, near the Seneca Park boundary. The Seneca Gardens Subdivision was platted by Denver B. Coett in 1937. The entire area was incorporated as Seneca Gardens in 1941.

The suburban development of Eastern Louisville began during the interwar years, and saw exponential expansion following World War II [pages 112-113; 128-129; 131]:

Just as the years from 1917 through 1945 constituted a watershed in the life of the city of Louisville as a whole, so too did they mark a period of deep change in eastern Louisville. The increasing availability of the automobile and the improved personal mobility which it created contributed significantly to the dispersion of the population, a concomitant reduction in residential density, and a reorientation of commerce from the streetcar to the automobile. The advent of flight and the creation of Bowman Field vastly increased eastern Louisville's economic importance. In the area of residential architecture, historical revival modes substantially replaced the Victorian as the preferred styles among the upper middle class, and the bungalow finally replaced the shotgun house as the primary form of working class housing-demonstrating in the process that real wages had risen to the point that the transition could be made at a widely acceptable economic cost. Along with changes in both transportation and architecture, subdivision design ideology and practice began to demonstrate a greater respect for both aesthetics and topography. While confined initially to subdivisions intended for the upper middle class, the new, geomorphic forms foreshadowed what eventually would become general practice, especially after creation of the City Planning and Zoning Commission in 1930 and the promulgation of increasingly strict subdivision regulations. Of course, most of the period's growth occurred during the building boom of the twenties. The Great Depression put a quietus on development, one which continued through World War II. But the 15-year building moratorium also helped to create new pressures for growth, which would lead to a new explosion of growth during the postwar years.

The three decades that followed the end of World War II saw American cities engulfed in a wave of suburban development in which millions of acres of farmland were turned into residential subdivisions. The Louisville area was no exception. Throughout Jefferson County, once sleepy rural villages became sprawling suburban cities, while former cow pastures were subdivided and then incorporated to form vest-pocket municipalities.

Numerous forces contributed to the suburbanization of Louisville's population after World War II, but four appear to have been particularly significant in the growth of eastern Louisville. First, a soaring birth rate combined with national housing programs and taxation policies to promote home ownership. Second, actions and regulations of agencies such as the Louisville Water Company, Metropolitan Sewer District, and Louisville and Jefferson County Planning Commission promoted the dispersal of housing. Third, improvements in transportation increased the mobility of individuals and promoted the growth of certain kinds of business enterprises. Finally, a steady process of industrial suburbanization contributed to the suburbanization of employment, prompting many employees to seek new homes in the vicinity of their place of work.

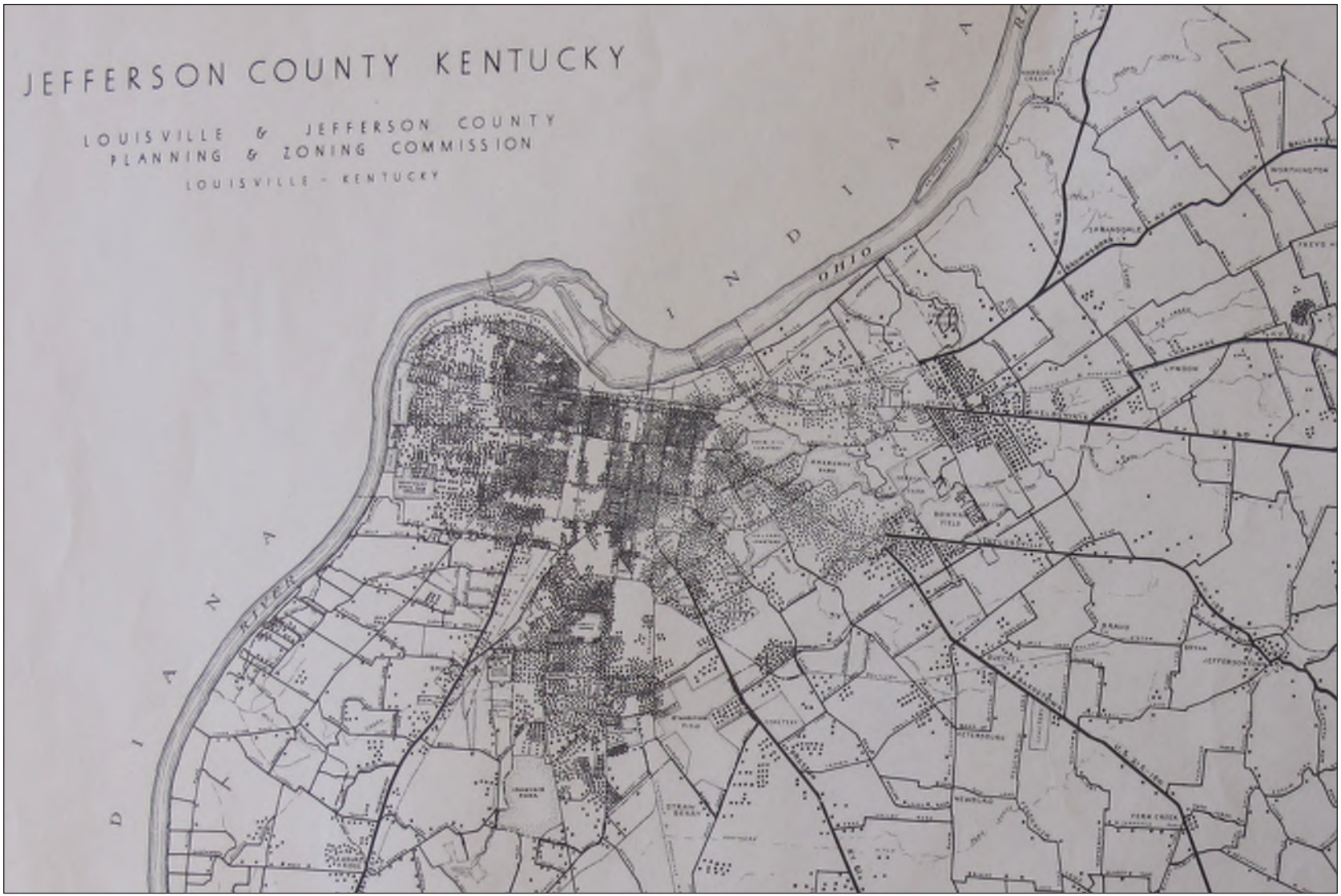

Figure 2.5 Distribution of Louisville's population, showing growth along arterial roadways, particularly south and east of the city (Louisville City Library, map collection).

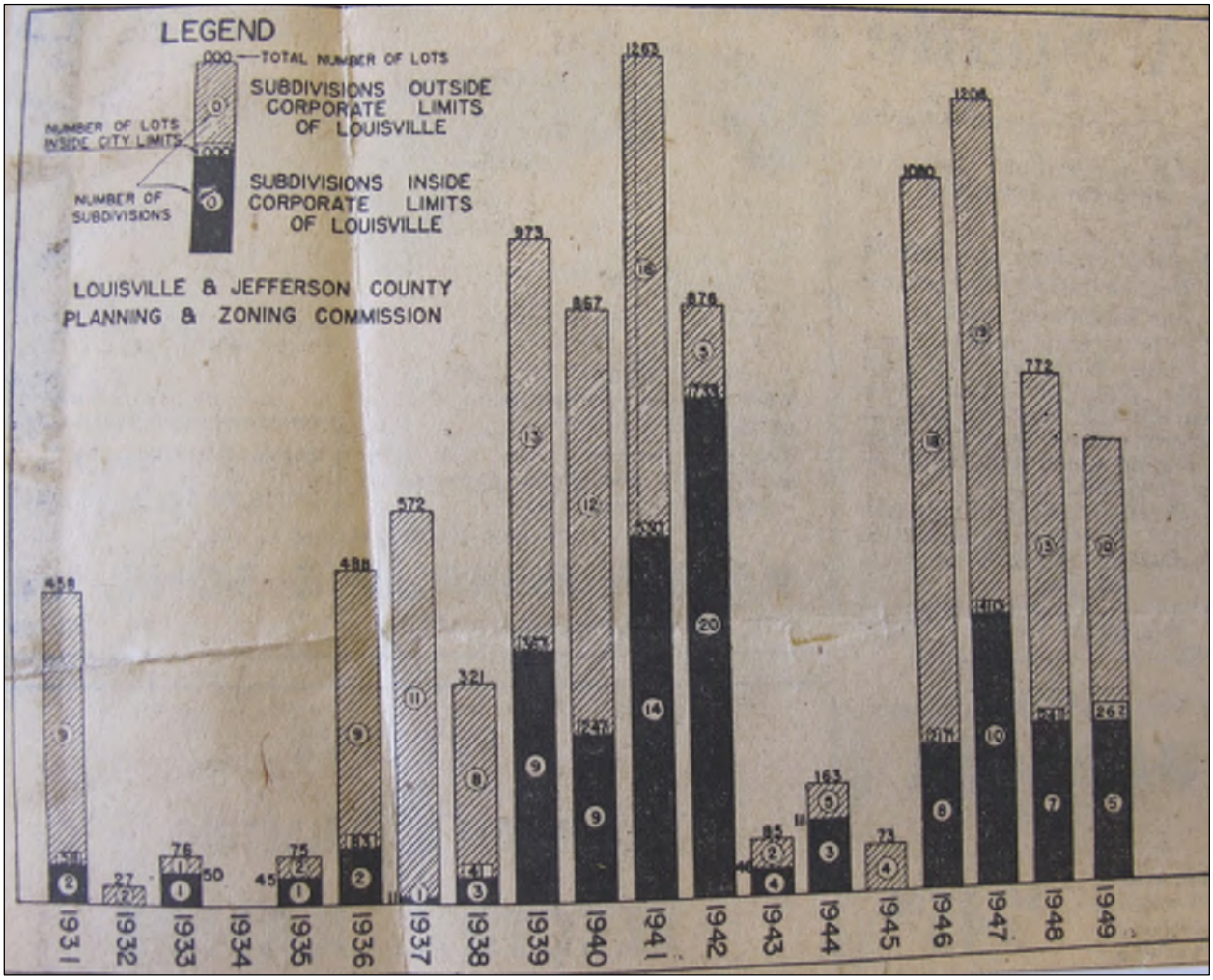

Figure 2.6 Chart showing lots and subdivisions approved by the zoning authorities from 1931 through 1949 (*Louisville Courier-Journal* November 20, 1949).

Although the circumstances of development varied from place to place, the neighborhoods which grew up along Louisville's eastern fringe after the war exhibited certain common characteristics. First of all, changes in home building technology such as mass production and standardization of building materials and rising costs of skilled labor and craftsmanship contributed directly to a high degree of uniformity in the appearance of modern residential structures. Most single family houses are built in the popular ranch, split-level, or historical revival styles, depending upon the taste of the builder and the economic market that a given subdivision was aimed. The numerous apartment complexes located along the major arterial and collector streets likewise display a high degree of similarity, with mansard-roofed apartments and historical revival fourplexes being particularly common.

Despite their basic uniformity, the subdivisions of recent vintage do betray some degree of variety in their residential architecture. This is achieved in four primary ways. The first is through variations from house to house in the placement of such elements as porches, stoops, gables, garages or carports, and doors on a given block. A second is to employ a variety of exterior building materials in the construction of houses that are otherwise quite similar in their interior structure.

Not surprisingly, most recent homes are built of brick or brick veneer, but stone, wood, and synthetic sidings are frequent as well. During the 1940s and 1950s asbestos siding was widely used, but the 1960s and 1970s [had] seen its use virtually eliminated and replaced by aluminum siding. Another frequent means of providing variety is cosmetic ornamentation, added by the home owner himself. The built-in, hand-crafted ornamentation which is commonplace in older neighborhoods is virtually

nonexistent in newer subdivisions. Finally, many developers and builders provided a degree of variety by giving homebuyers the opportunity to choose their home from among three or four basic models. In some subdivisions, the choice might be among a limited number of variations on one basic style, such as ranch or split-level, while in another the developer might provide for choices from among ranch, split-level, and historical revival styles. Conspicuously absent from such subdivisions, however, is the home that was custom designed by a professional architect, a factor that is attributable to steady inflation in the costs of architectural services and the relatively limited financial rewards for residential design, compared with those which can accrue to the architect involved in large commercial, institutional, and industrial design commissions.

[One area that grew] after World War II was the perimeter of Bowman Field Airport. Scattered development dates back to 1928, when Queenie Wathen Condon and Tess Wathen laid out the Airview Subdivision in the triangle formed by Dutchman's Lane and Taylorsville Road. Nine years later developer William F. Randolph platted Seneca Vista between Seneca Gardens and Bowman Field, immediately adjacent to the west side of the airport. For a few years Seneca Vista was a sixth-class city. In 1950 it annexed both sections of McCoy Manor Subdivision, which had been laid out along McCoy Way, between Trevilian Way and Taylorsville Road, by developer Bryan S. McCoy during 1949 and 1950. But Seneca Vista's residents voted the town out of existence in the referendum on the Mallon Plan, a scheme for government reorganization under which Louisville would have been enlarged to take in a large band of its suburban fringe. Louisville voters approved the plan overwhelmingly, but only the voters of Seneca Vista and one other incorporated suburban community approved it.

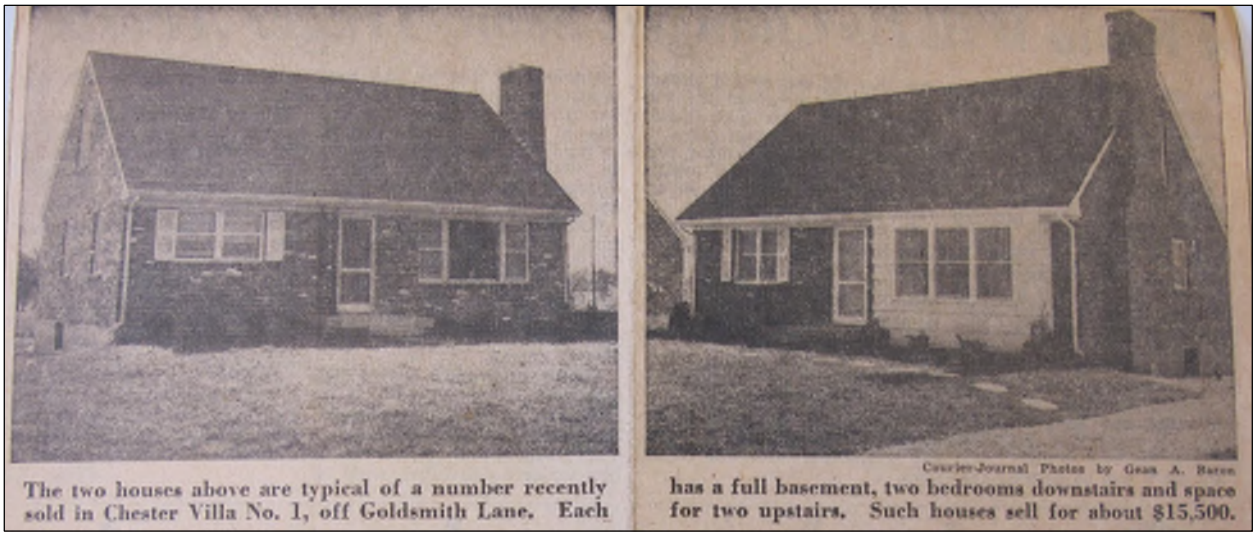

Figure 2.7 Prefabricated homes could be modified with materials or floor plans. These models, located in a subdivision off Goldsmith Lane, were simply reversed and used different siding material (*Louisville Courier-Journal,* September 14, 1952).

3.1 Results of the Architectural Survey

3.2 Overview

For the purposes of this historic architectural survey, all archival research and fieldwork focused on an Area of Potential Effect based on the nature and scope of the Safety Program. The FAA defined the APE as those geographical areas within the TERPS approach surfaces. This APE considered all direct and indirect effects of the currently proposed alternatives and mitigation measures. Archival research and a windshield reconnaissance determined that significant portions of the architectural APE are part of platted subdivisions, or are part of individual, but broader properties. Therefore, during the architectural investigations, a qualified historian reviewed areas within these neighborhoods or properties that extended beyond the approach surfaces (see Figures 1.2 through 1.6), as appropriate.

There are no previously recorded properties located within the APE, although the APE for Runway 6 clips the corner of the NRHP Listed Bowman Field Historic District (see Figure 3.1, below). The district was listed in 1988 and includes three buildings: the airport administration building, the Curtiss Flying Service Hangar, and the Army Air Corps Hangar. The Safety Program has identified no TERPS approach area penetrations within the listed NRHP district and, therefore, the program will not affect the resource.

During the field survey, an additional 13 historic architectural properties (buildings, districts, etc.) were identified for review and evaluation. These included two (2) golf courses, six (6) neighborhoods, and five (5) outparcels. The six (6) neighborhoods represent a collection of both early automobile and post-World War II suburbs. Architectural types and styles include a range of early to mid-twentieth century design, from Tudor and Colonial Revivals, to Minimal Traditional and Ranch, to mass-produced pre-fabricated housing. Each property is itemized in Table 3.1 below, is depicted on Figure 3.1, and is discussed more fully in the remainder of this chapter. The evaluations are supported by historical information and photographs (where available) as well as current photographs. Figures 3.2 through 3.8 provide year built disposition of the neighborhoods as well as a collection of historic aerial photographs showing a timeline of construction. The neighborhood evaluations are further supported by appendices containing more detailed property and mitigation information.

Table 3.1 List of architectural properties identified during the field survey.

Property Name	(Runway #) Location	Description/ Year(s) Built	NRHP Status	Safety Program Effect
Bowman Field Historic District	(6) NW of Pee Wee Reese Rd and Taylorsville Rd	Airport terminal and hangars/ 1929-1932	Listed	No Adverse Effect
Big Spring Country Club	(24) NE of Cannons Lane and Dutchman's Lane, S of I-64	Golf Course/ 1927 (alterations mid-1900s; 2003-2004)	Not Eligible	N/A
Seneca Park Golf Course	(15) NW and SE of Seneca Park Rd	Golf Course/ 1934 (alterations 1950s, 60s; ongoing)	Eligible (Criterion A)	No Adverse Effect
Seneca Vista Neighborhood	(6) N of Taylorsville Rd, including Drayton Dr, Landon Ave	1937-1950 (minimal post-1950 infill)	Eligible (Criteria A, B, C)	No Adverse Effect
McCoy Manor Neighborhood	(6) E&W of McCoy Way, between Trevillian Way and Gladstone Ave	Post-World War II suburb/ 1949-1957 (no infill)	Eligible (Criteria A, C)	No Adverse Effect
Seneca Manor Neighborhood	(6) E&W of Valetta Rd, between Trevillian Way and Taylorsville Rd	Post-World War II suburb/ 1935-1958 (no infill)	Eligible (Criteria A, C)	No Adverse Effect
Kingsley Neighborhood	(6) S of Taylorsville Road, including King's Highway, Winston Ave, Emerson Ave, Tyler Ln, and Gladstone Ave	Early automobile suburb/ 1926-1964 (minimal post-1964 infill)	Eligible (Criteria A, B, C)	No Adverse Effect
Seneca Village Neighborhood	(33) S of Taylorsville Rd, N of Ribble Rd, including Kent Rd, Seneca Blvd and Carson Way	Post-World War II suburb/ 1947-1954 (minimal post-1954 infill)	Eligible (Criteria A, C)	No Adverse Effect
Seneca Village No. 2 Neighborhood	(33) S of Ribble Rd, E of Bon Air Ave, N and W of Watterson Expy., including Carson Way, Alanmede Rd, Gardiner Ln, Wendell Ave, Betty Ln & Joan Ave	Post-World War II suburb/ 1951-1960 (minimal post-1960 infill)	Eligible (Criteria A, C)	No Adverse Effect
2615 Taylorsville Road	2615 Taylorsville Road	Commercial Bldg./ Ca. 1960s	Not Eligible	N/A
2613 Taylorsville Road	2613 Taylorsville Road	Apartment Bldg./ Ca. 1960s	Not Eligible	N/A
2609 Taylorsville Road	2609 Taylorsville Road	Apartment Bldg. / Ca. 1960s	Not Eligible	N/A
2605 Taylorsville Road	2605 Taylorsville Road	Apartment Bldg. / Ca. 1960s	Not Eligible No Effect	N/A
2542 Gladstone Avenue	2542 Gladstone Avenue	Apartment Bldg. / Ca. 1960s	Not Eligible No Effect	N/A

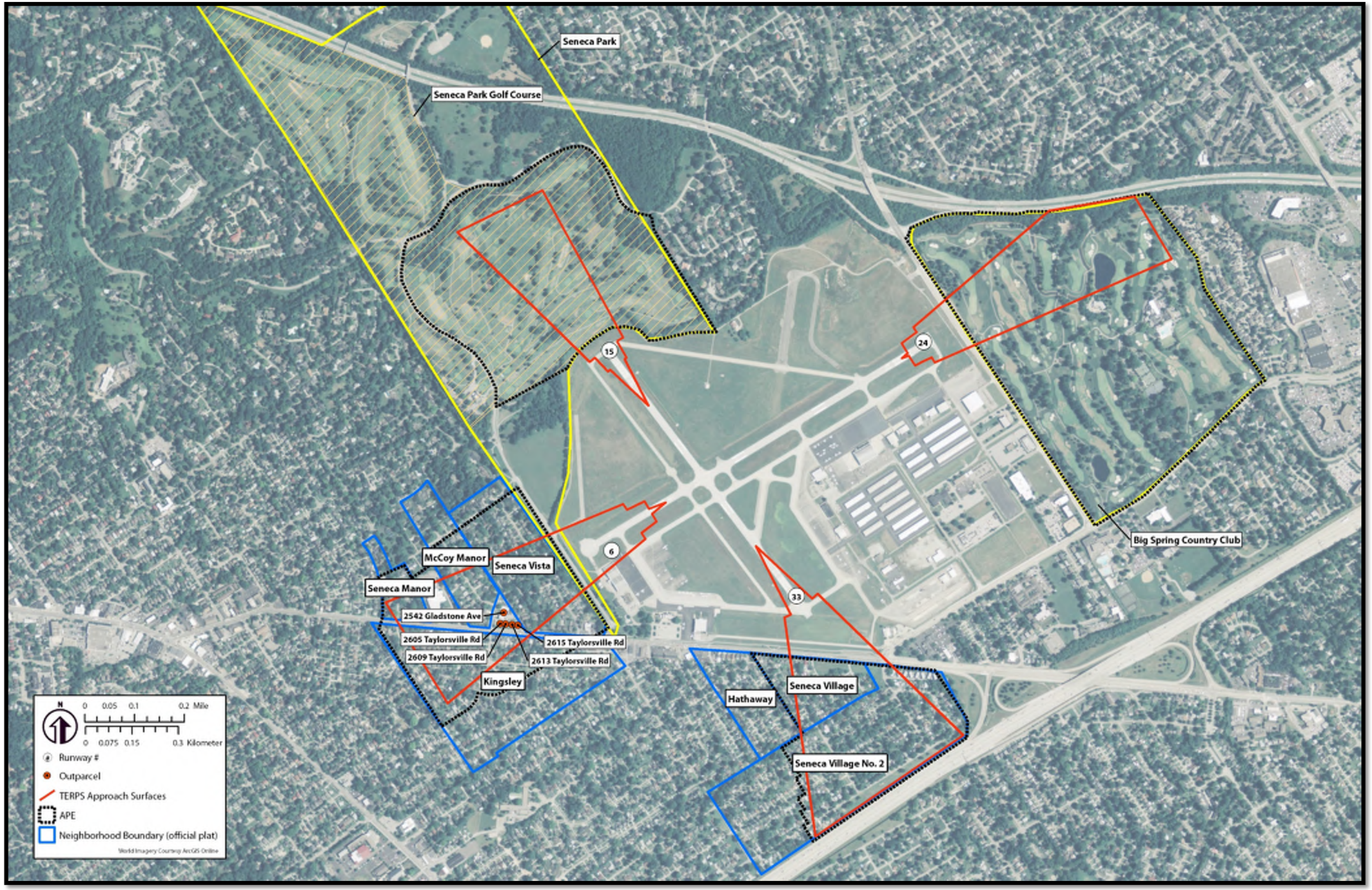

Figure 3.1 Architectural Properties identified during the field survey.

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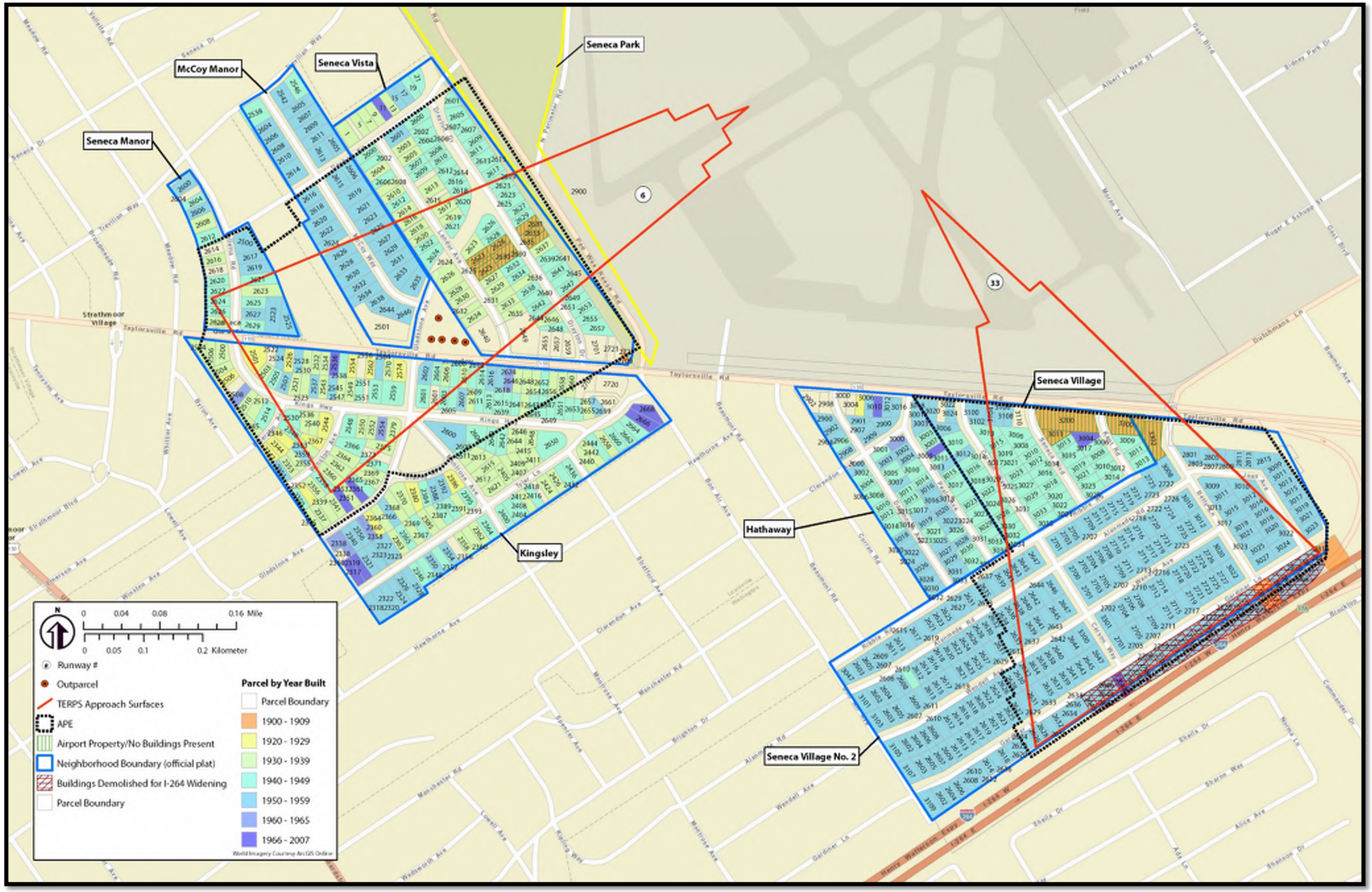

Figure 3.2 Neighborhood boundaries as shown on tax parcel map, showing years built.

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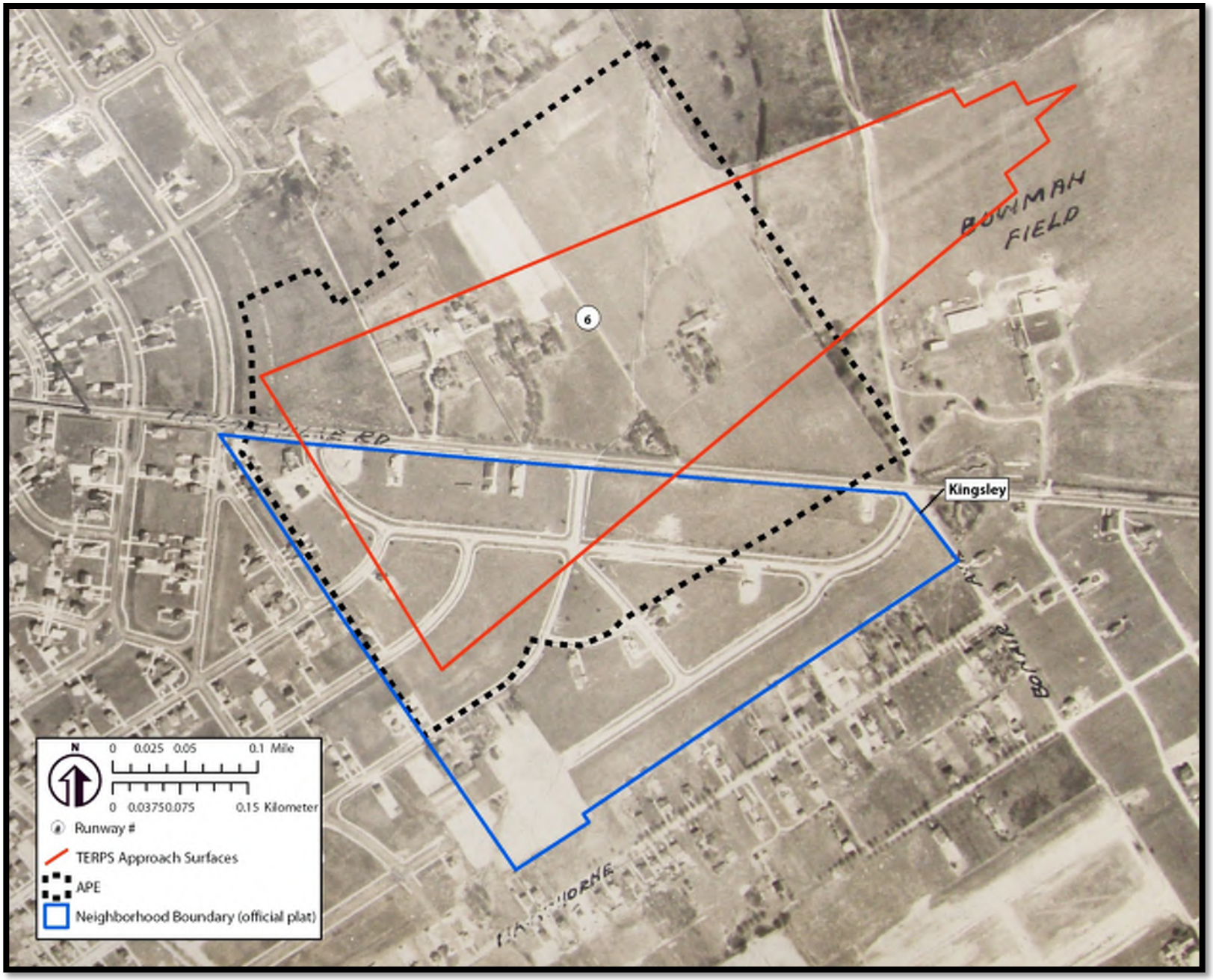

Figure 3.3 1928 aerial photograph, showing development around Bowman Field (Bowman Aero Company).

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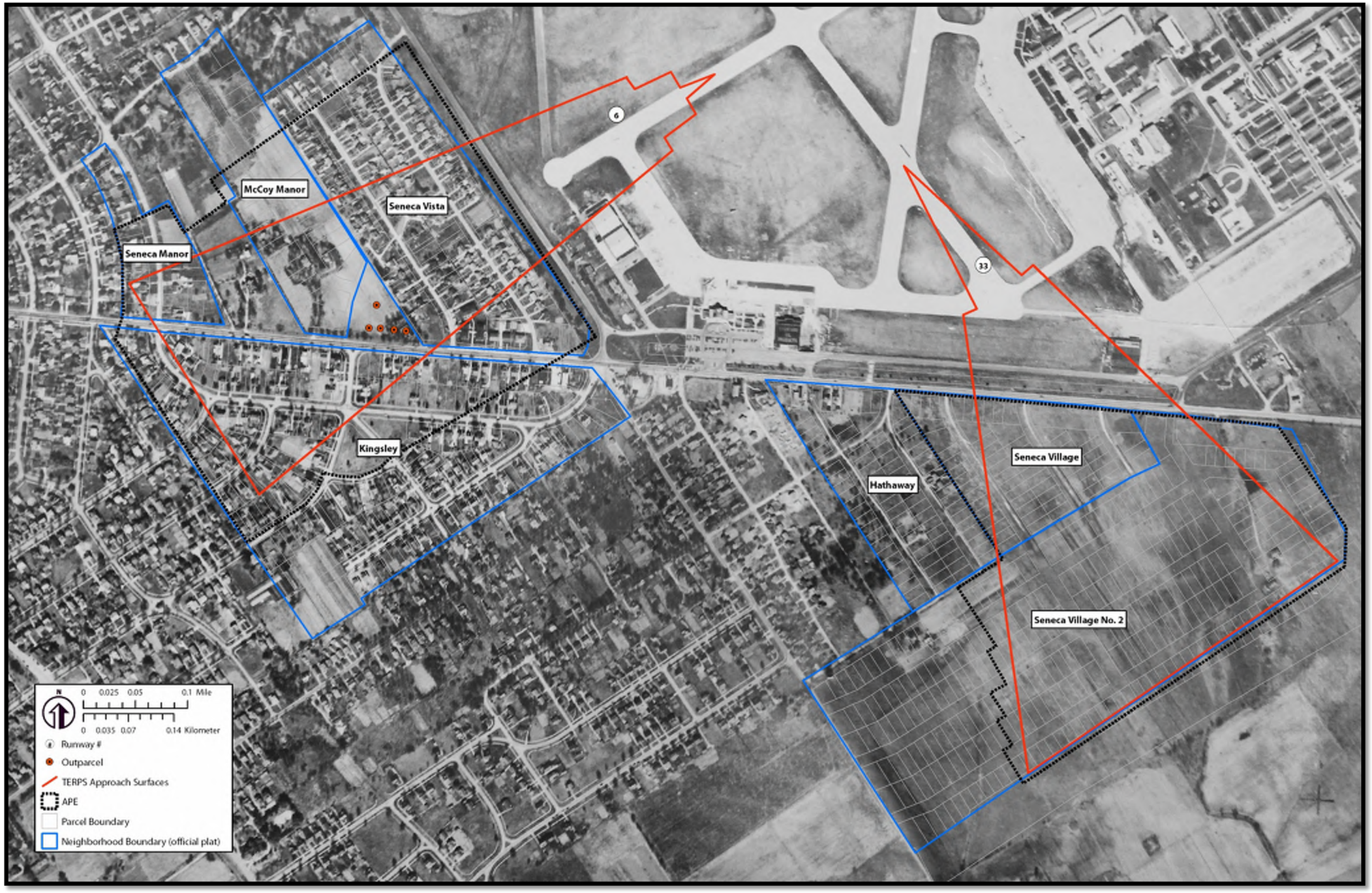

Figure 3.4 1946 aerial photograph, showing development around Bowman Field (Park Aerial Surveys, Inc.).

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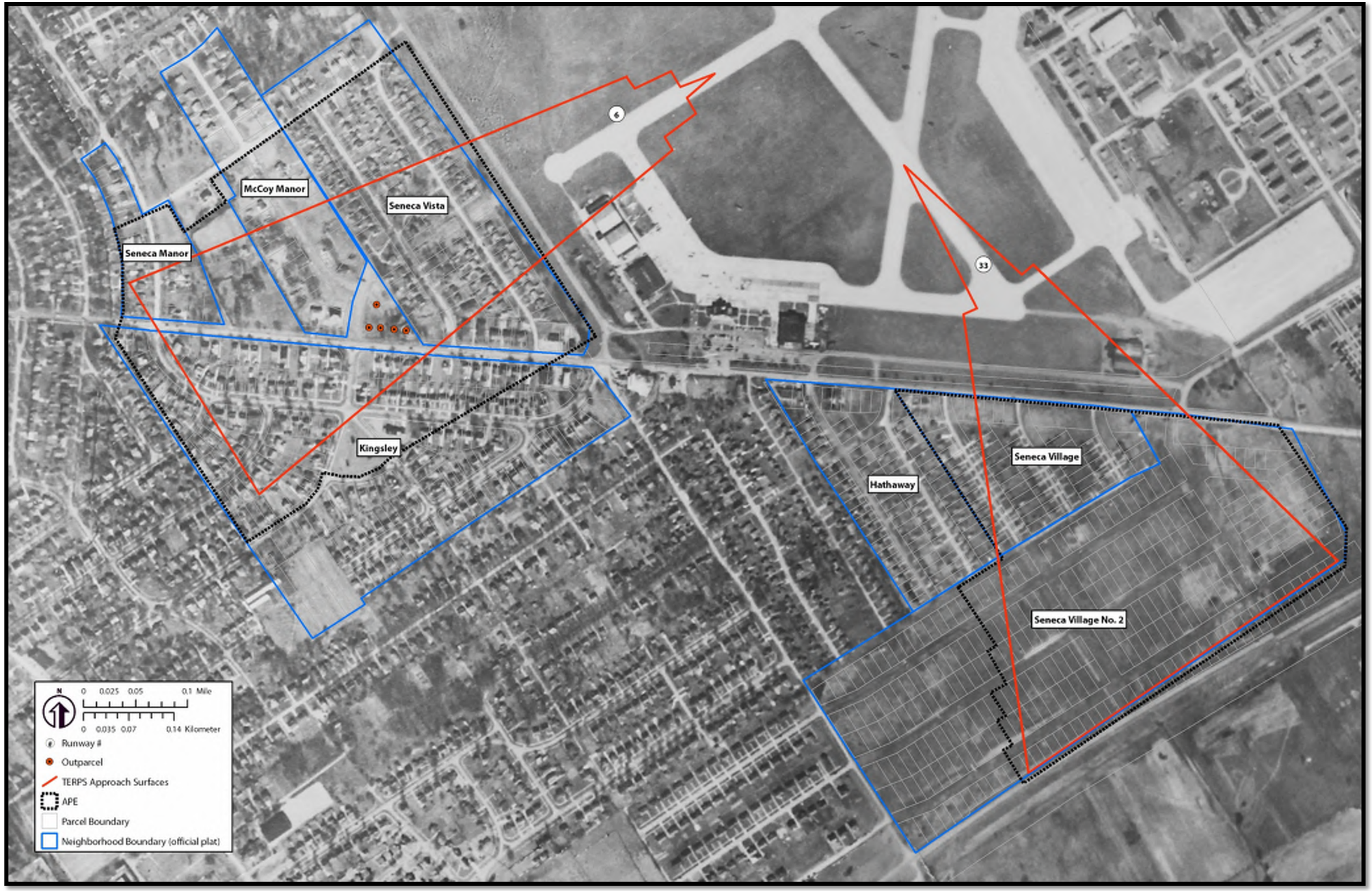

Figure 3.5 1951 aerial photograph, showing development around Bowman Field (Park Aerial Surveys, Inc.).

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Figure 3.6 1955 aerial photograph, showing development around Bowman Field (USGS).

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Figure 3.7 1959 aerial photograph, showing development around Bowman Field (USGS).

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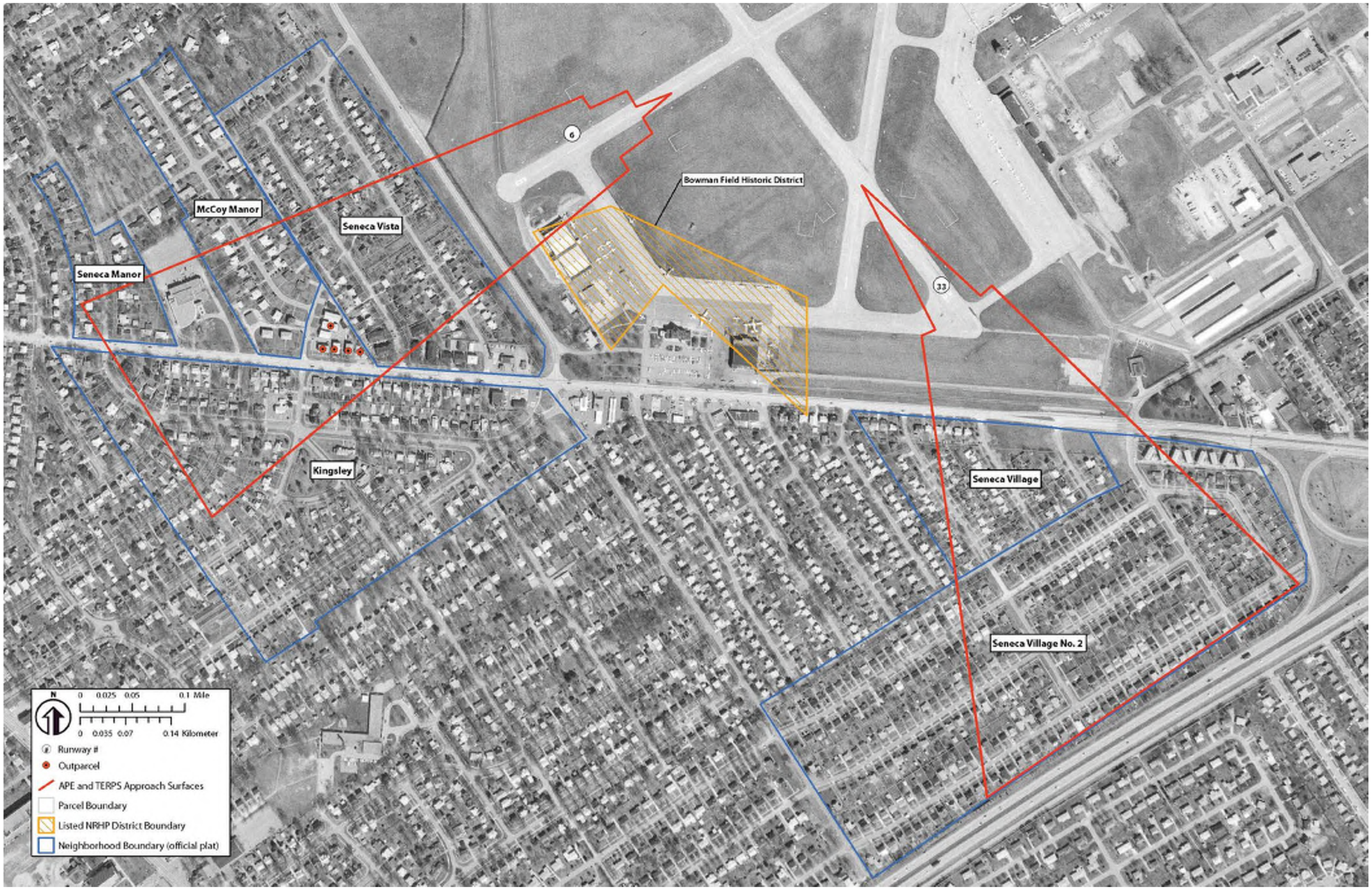

Figure 3.8 1971 aerial photograph, showing development around Bowman Field (USGS).

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3.3 Big Spring County Club

Property Type: *Golf Course*
Established: *1926; re-design 2003-2004.*
Architecture: *Casual/organic*
General Integrity: *Low*
NRHP Status: *Not Eligible*
Safety Program Effect: *N/A*

History and Landscape

Big Spring Country Club was established in 1926 by Harry Dumesnil and Alvah H. Terry. The Club was named for Beargrass Creek, which is located just below the current 13th green and runs through holes 6, 7 & 12. In 1926, the Big Spring Land Company purchased an approximate 163-acre tract from Olivia Veech Kent of Saranac Lake, New York (Jefferson County Deed Book [JCDB] 1290: 188). Mrs. Kent was bequeathed the property by her father, R.S. Veech, in 1918 (Jefferson County Will Book [JCWB] 36: 489; see Figure 2.2). According to a prospectus of the Big Spring Land Company, the "tract is one of the most fertile in Jefferson County. It has a limestone substratum, and was used for many years as a grazing farm for the blooded stock of R.S. Veech. It has over the greater portion of a deeply rooted stand of blue grass." The land company contracted with Scottish-born golf course architect Tom Winton, then living in New York, to lay out an 18-hole design. The prospectus also noted that Jefferson County was undertaking nearby road improvements, including the macadmization of Dutch Lane, as well as a water main. An existing brick house was already on the property, and "will be reconstructed or converted into a Club House, which purpose it will serve for probably several years" (Big Spring Golf Club 1926). Figure 3.9 is a 1928 photograph showing the golf course not long after construction.

The club is located on 163 acres and is roughly bounded by Cannons Lane on the west, Dutchmans Lane on the south, I-64 on the north, and a subdivision on the east (see Figure 3.1). Big Spring Country Club currently features an 18-hole championship-style golf course, driving range and practice areas, tennis complex, junior Olympic sized swimming pool, as well as a clubhouse and maintenance facilities. Big Spring Country Club has been the site of several amateur and professional events, most notably the 1952 PGA Championship (Figure 3.10), won by Jim Turnesa during a time when the tournament was competed in match play format. In 2003-2004, the golf course underwent a major redesign effort under the direction of golf course architect Rees Jones. The redesign included rebuilding all of the green complexes, adding fairway bunkers and other water hazards, and altering shot angles (Rees Jones Inc. 2014; Rogers 2014). Figures 3.11 through 3.16 provide photographs of the current layout. In April of 2014, Big Spring Country Club and the Harmony Landing Country Club (established 1952, north of Louisville) merged administratively, providing consolidated amenities for their memberships (Big Spring Country Club 2014).

No information could be located on the original clubhouse, or if the existing clubhouse was adapted from the "existing brick house" noted in the 1926 prospectus. The existing clubhouse features limited elements of the Tudor Revival architectural style, including the faux half-timbering along each elevation, suggesting inspiration for its design may have come as early as the late 1920s or the 1930s. A close review of historic aerial photographs (dating from 1928-1971; see Figures 3.3 through 3.8) suggests it originally featured a reversed L shape, with the short axis facing Dutchman's Lane. Renovations during the 1960s enclosed the rear (north) of the building and added a one-story dining room addition on the south elevation. Those photographs also indicate what was observed during the field survey, that the building appears to have been built in stages, perhaps across several decades to accommodate membership and amenity growth. In general, the building has a brick façade, a design element retained on the detached expansions and shops to the rear. Figures 3.17 through 3.21 provide current photographs of the clubhouse.

NRHP Evaluation

Golf courses are designed recreational landscapes that evolve frequently due to the modernization of the game, general course management, and other natural changes (Smead and Wagner 2000). As a *designed* landscape, Big Spring Country Club has been altered to the extent that it can no longer convey a semblance of its original design intent. The most notable changes include rerouting a majority of the original holes (only holes 1 through 4 follow their original design path), and large water hazards (at 10 and 15 greens) have been incorporated. In terms of the vegetation as part of the landscape, while there are some trees and plantings framing the holes tee to green, much of this evolved organically or at the behest of managers over time. Jack Ryan, club professional from 1946-1976, was responsible for incorporating perhaps the greatest variety of plantings (Rogers 2014). The only remaining "design element" of note during the historical period (specifically the 1950s), is a line of Osage trees lining the cart path on the eleventh hole, which is the old ninth hole. These trees are not within the Safety Program APE.

Historic aerials from the late 1920s show minimal tree cover, as would be expected on a course recently converted from agricultural fields. By the early 1950s (see Figure 3.10), the majority of tree cover is centralized in the south center of the property along the clubhouse drive, with the fairways featuring few alleys of trees. Modern aerials illustrate greater density. The clubhouse itself lacks individual distinction due to the numerous alterations and additions. In fact, the original building is difficult to discern except by reviewing its roofline in aerial photographs.

Due to these changes and alterations to the various components of the Big Spring Country Club, including the golf course and clubhouse, the property lacks its historic design integrity and is not eligible for the NRHP under Criterion C. The property was also considered for evaluation under Criterion A for its association with the rise of early twentieth century recreation around the City of Louisville in proximity to the developing suburbs. According to *National Register Bulletin 15,* properties evaluated under Criterion A must also retain integrity, specifically the "essential physical features that made up its character or appearance during the period of its association with the important event, historical pattern, or persons" (NPS 1995: 46). Key features at Big Spring Country Club include the hole routing, green complexes, bunkering, and water hazards, that make up the essence of course play. Other aesthetic changes include the modifications to the clubhouse to where its original design intent is no longer visible. Therefore, the Big Spring Country Club does not qualify for listing under either criterion.

Figure 3.9 Big Spring Country Club, 1928. At this time, the golf course had just been laid out.

Figure 3.10 Big Spring Country Club, 1952; layout on which the PGA Championship was played.

Figure 3.11 Big Spring Country Club, current layout (BlueGolf.com 2014).

Figure 3.12 Big Spring Country Club, near 5 tee facing northwest.

Figure 3.13 Big Spring Country Club, near 4 green facing northeast.

Figure 3.14 Big Spring Country Club, at 6 tee facing east.

Figure 3.15 Big Spring Country Club, near 10 tee facing south.

Figure 3.16 Big Spring Country Club, hole 11 (old number 9) face north. Note Osage trees lining cart path.

Figure 3.17 Big Spring Country Club, clubhouse entrance, facing northeast.

Figure 3.18 Big Spring Country Club, clubhouse, facing northeast.

Figure 3.19 Big Spring Country Club, clubhouse, facing north.

Figure 3.20 Big Spring Country Club, rear of clubhouse, facing west.

Figure 3.21 Big Spring Country Club, maintenance shop, facing northeast.

3.4 Seneca Park Golf Course

Property Type: *Golf Course*
Period of Significance: *1933-1964 (pre re-design)*
Architecture: *Casual, organic landscape*
General Integrity: *Medium* ***NRHP***
Status: *Eligible (Criteria A)* ***Safety***
Program Effect: *No Adverse Effect*[2]

History, Landscape, and Architecture

Seneca Park Golf Course (see Figure 3.1) was constructed on lands within the broader Seneca Park (1928), the last within the Louisville Park system to be designed by the Olmstead Brothers design firm (Kramer et al. 1988). Like Bowman Field Airport, it was located on the seized Von Zedwitz lands (see Figure 2.2). The golf course was laid out in 1933 and was completed in 1934, with its landscape and buildings constructed as part of a Works Progress Administration (WPA) effort (Figures 3.22 through 3.40). It was laid out as a public 18-hole facility and was organized with a president (Joseph S. Dickson) and other supporting officers (Seneca Golf Course 1950). Seneca was the fourth of five public golf courses sponsored by and constructed within Louisville Parks system. The others included Cherokee (1895), Crescent Hill (1925), Shawnee (1927), and Iroquois (1947).

Recreational works were an important element of the WPA program. Between 1935 and 1941, the WPA funded over $900 million recreational projects (Kennedy and Johnson 2005: 159). As noted in Kennedy and Johnson (2005: 162), public golf courses were a typical WPA project and helped transition the game's availability from the wealthy to the less affluent. The associated course structures (clubhouses, shelters, caddy shacks, etc.) generally took a "rustic appearance" and used "native materials."

Seneca Park Golf Course hosted numerous state and national level championships, including the 1950 Public Links Championship and several PGA-sanctioned Derby Opens during the 1950s. Future Golf Hall of Famer Gary Player, from South Africa, won his first PGA tour event at the course in 1958. Since the 1960s the course has been used predominately for public play.

While an original design layout could not be located, a schematic "new layout" dated 1955 (Figure 3.22) illustrates the hole routing. As compared to a current layout (Figure 3.23), there have been a number of noticeable alterations to the original routing. By and large these were the result of the late 1960s construction of I-64, which removed a portion of the golf course property. In reviewing a 1971 aerial, the reconstruction effort at Seneca Park Golf Course was still underway. Later changes to the golf course (Greenwell 2014) include mounding to the greens and the planting of trees to frame the fairways. The vegetative planting is less of an aesthetic measure than one to provide screening for errant shots. Photographs from the 1960s (see Figures 3.29 and 3.30) show an open expanse for play, with limited vegetation except along Beargrass Creek. Course-level photographs (Figures 3.33 and 3.34) also show an open style of play.

The golf course features three primary aboveground structures: the clubhouse, the old caddy shack, and the maintenance building, all of which were constructed during the 1930s by the WPA. The clubhouse (Figures 3.24 and 3.25, 3.31, and 3.35 through 3.38) is a one story building with a rusticated limestone exterior and a hipped roof. The façade consists of three bays, including an inset porch wood posts and concrete floor, and flanking front-gable projections. Windows in those projections are plate glass and each projection also contains a bullet louvered vent. The sides and rear of the clubhouse have undergone several alterations and building additions. Windows at the building rear are a combination of plate glass and glass block, none of which are original to the building. The additions are faced with stucco and have a contrastingly modern aesthetic against the original rusticated stonework. The south elevation features a 1990s addition, with the façade designed with rusticated stone, and the sides are faced with stucco. Other alterations to the building include those on the façade. The original inset porch consisted of three regularly spaced archways. Windows in the projections appear to have been casements of eight lights each. The doors within the porch were

[2] FAA identified certain inconsistencies within the text and those have been revised

wooden pairs with multiple lights. These have been replaced with modern plate glass doors and/or enclosed.

The second building on the property is the former caddy shack (Figures 3.28 and 3.39), now used for office space by Louisville Parks and Recreation. This is a small, single-story brick building, on a continuous brick foundation. The façade is the north elevation with features a shed porch with brick supporting pillars on either end, along with an arched opening. Two-thirds of the porch has been enclosed for additional office space. The building contains few windows; those present are horizontal one-over-one and are not original.

The third building is the maintenance shed (Figures 3.26 and 3.40). Constructed in the early 1930s, it is set on a brick foundation and consists of one-story aboveground and a full height-basement/maintenance area. Windows are metal framed with eight total lights, the central four of which open for ventilation. The building has a hipped roof, brick chimney, and multiple openings along the façade. There are two cargo openings and one entry door; all are of modern materials. There are additional cargo bays on the side elevations, and at the basement level.

NRHP Evaluation

As a designed landscape, the golf course possesses little degree of its original design integrity. Golf courses are usually subject to changes over time to accommodate technological changes (Mendik 2007; Smead and Wagner 2000), in the case of Seneca Park golf course, key elements have been altered: hole routing, the topographical perspective (limited mounding) around the greens, and the removal of a portion of the original golf course due to interstate construction in the 1960s. In terms of the vegetation as part of the landscape, while there are some trees and plantings framing the holes tee to green, much of this appears to have evolved organically or at the behest of managers over time. Historic aerials from the 1920s through the 1970s show few trees over the course, but current aerials show greater tree cover. As discussed with the current course professional, much planting has been done in the past three decades to provide for greater player safety between holes.

The buildings themselves retain a moderate degree of integrity. The façade of the clubhouse retains a semblance of its original "rusticated design," although replacement of the three central stonework archways with wood posts removed one of the building's original key character-defining features. The enclosure of the porch on the caddy-shack is also considered detrimental to the architectural integrity of the building. The maintenance shed was originally designed for functionality and did not utilize the "rusticated" design of the club house and does not necessarily reflect a distinctive type of design or construction.

Due to these changes and alterations to the individual components of the Seneca Golf Course, it does not possess architectural distinction and is not eligible under Criterion C for its architecture or design. However, the golf course property is eligible under Criterion A, for its association with the Works Progress Administration, a new deal program designed to employ local workers during the Great Depression. While individual features have been altered, the course still retains its park-like setting and a vernacular layout designed for public use.

Safety Program Effects

At present, approximately 34 trees have been identified as requiring replacement within this property (see Figure 1.5), due to their existing or anticipated heights exceeding the plane of safe operating airspace. As noted in the historical context for this property, the golf course's vegetative landscape developed organically. Further, the holistic golf course landscape (including hole-routing) was altered by the traversing of I-64 during the 1960s. Much of the course's early landscape is characterized by lack of vegetation or trees framing the fairways and hole routing. The planting of trees, primarily to ensure safe playing conditions, continues to this day. During the field survey, no trees were identified that would qualify as character-defining features for this golf course, and therefore, the Safety Program will have no adverse[3] effect on this NRHP eligible property.

[3] FAA identified certain inconsistencies within the text and those have been revised

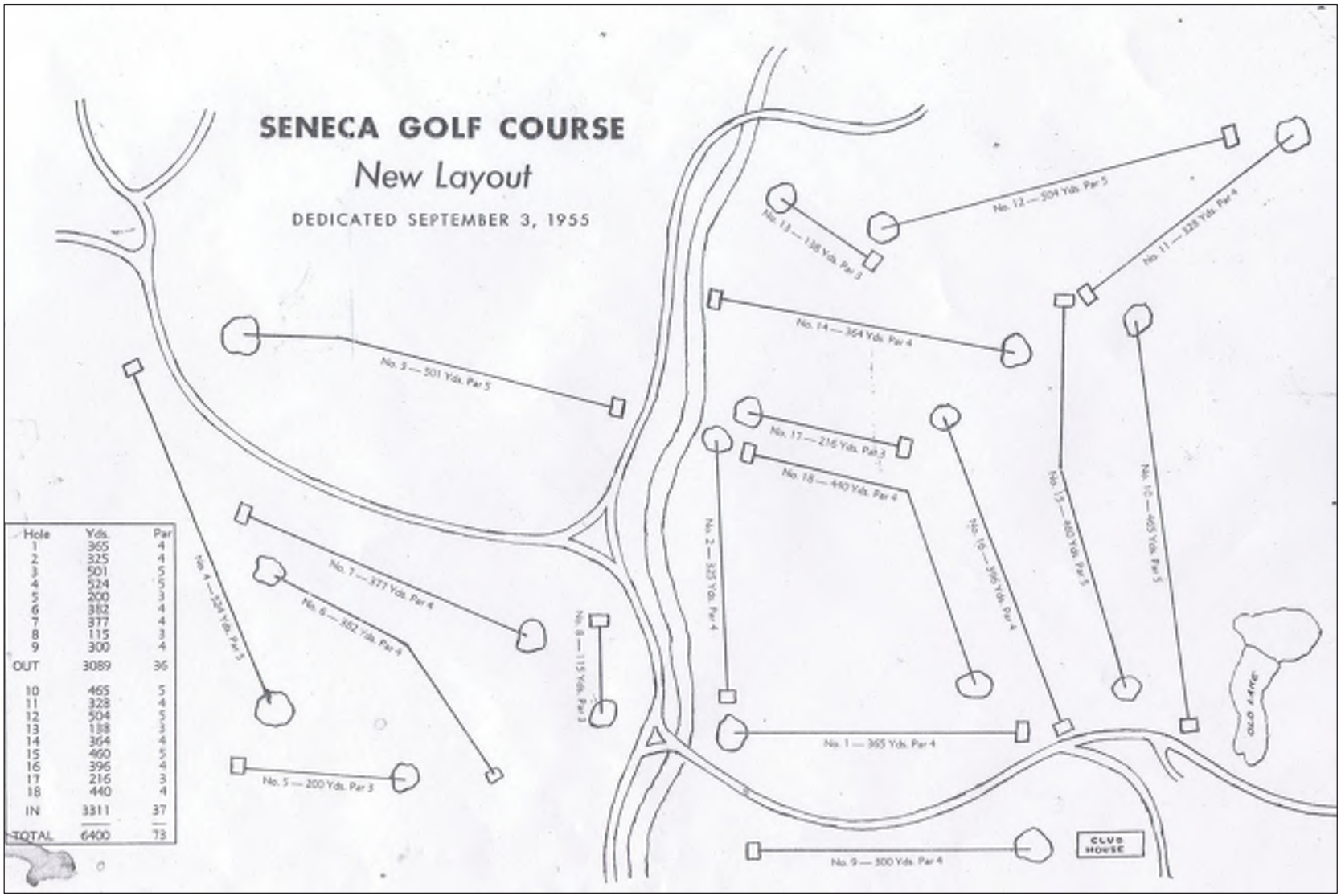

Figure 3.22 Seneca Golf Course, “new layout” dated 1955 (Seneca Golf Course Files).

Figure 3.23 Seneca Golf Course, current layout (BlueGolf.com).

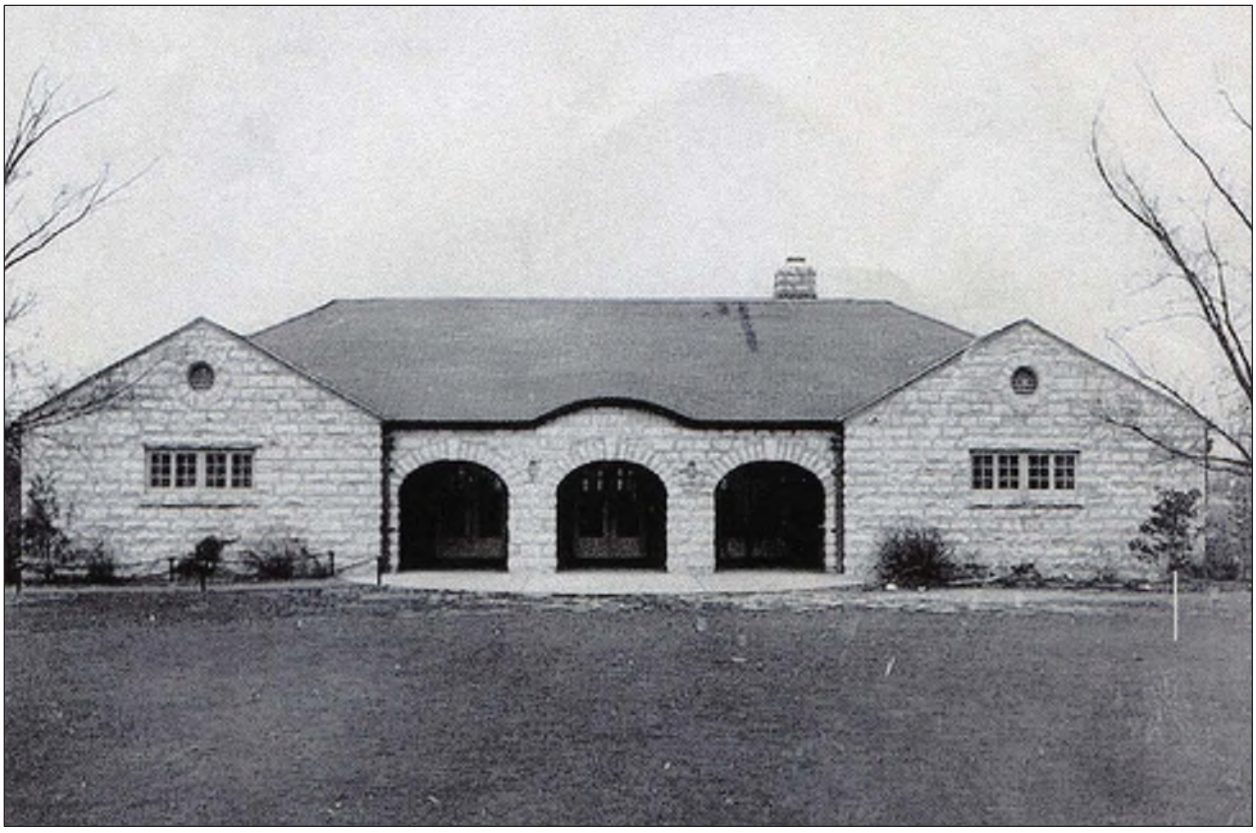

Figure 3.24 Seneca Golf Course, original clubhouse design, early 1930s (Seneca Golf Course Files).

Figure 3.25 Seneca Golf Course, original clubhouse design, early 1930s (Seneca Golf Course Files).

Figure 3.26 Seneca Golf Course, maintenance shop, early 1930s (Seneca Golf Course Files).

Figure 3.27 Seneca Golf Course, rear of clubhouse, 1968 (Seneca Golf Course Files).

Figure 3.28 Seneca Golf Course, caddy shack, 1968 (Seneca Golf Course Files).

Figure 3.29 Seneca Golf Course, facing toward clubhouse from hole 10, 1968 (Seneca Golf Course Files).

Figure 3.30 Seneca Golf Course, facing northeast along old tenth hole (now eighteenth hole) 1968 (Seneca Golf Course Files). Boundary with Bowman Field on right.

Figure 3.31 Seneca Golf Course, clubhouse remodel, 1990s (Seneca Golf Course Files).

Figure 3.32 Seneca Golf Course, current landscape view.

Figure 3.33 Seneca Golf Course, facing north on first hole (new tenth hole to right).

Figure 3.34 Seneca Golf Course, facing Bowman Field from eighteenth fairway.

Figure 3.35 Seneca Golf Course, clubhouse, facing southwest.

Figure 3.36 Seneca Golf Course, clubhouse, facing south.

Figure 3.37 Seneca Golf Course, rear of clubhouse, facing northeast.

Figure 3.38 Seneca Golf Course, clubhouse, facing north (showing 1990s south elevation addition).

Figure 3.39 Seneca Golf Course, caddy shack, facing southwest.

Figure 3.40 Seneca Golf Course, maintenance shed, facing west.

3.5 Seneca Vista Neighborhood

Property Type: *Early Automobile Suburb*
Period of Significance: *1937-1950*
Architecture: *Mid-Twentieth Century (Largely Minimal Traditional; examples of Cape Cod and Colonial Revival)*
General Integrity: *Moderate*
NRHP Status: *Eligible (Criteria A, B, and C)*
Safety Program Effect: *No Adverse Effect*[4]

History, Landscape, and Architecture

Located immediately west of Bowman Field, the Seneca Vista neighborhood (see Figure 3.1) was platted by Louisville developer William F. Randolph in 1937 (Figure 3.41). The neighborhood's primary growth occurred up through the early 1940s (Figures 3.4 and 3.42), with limited post-World War II infill. As noted in Kramer's history of eastern Louisville (Louisville CDC 1979: 131), Seneca Vista was temporarily a sixth-class city and at that time annexed both sections of McCoy Manor Subdivision. However, Seneca Vista residents "voted the town out of existence in the referendum on the Mallon Plan," a proposition by which Louisville proper would have annexed much of its suburban fringe. The neighborhood is situated between Taylorsville Road and Denham Road and includes residential buildings along Drayton Drive and Landor Avenue. Selected historic aerial photographs are provided in Figures 3.4 through 3.8. Current neighborhood photographs and year built data are provided in Figures 1.6 and 3.2. Supplemental data for the neighborhood is presented in Appendix C.

An original deed for the properties stipulates a number of covenants in regard which lots may be used for apartment or duplex purposes, and which lots may be subdivided. The covenants also stipulate setbacks and buildings lines, the need for approval (six years from 1938) of lawn grades and house elevations, the forbidding of use of stucco as a primary exterior material on houses or garages, and limitation of sign size on any lot. Of cultural history note, the covenants also forbade selling, conveying or leasing any property "to any person or persons of African descent." In the deed conveying a total of nine lots to Jefferson County for airport easements (see Figures 1.6 and 3.2), the deed stipulated that no runway shall be constructed within the neighborhood, and that "the only tree to be destroyed is the burnt one. Other [trees] shall not be trimmed lower than the top of the Evans house" (JCDB 1706: 328-329).

The neighborhood features a variety of mid-twentieth century homes, though styles are generally represented by Minimal Traditional and Cape Cod, with some examples of Colonial Revival of the two-story variety along Drayton Drive and Landor Avenue (Figures 3.43 through 3.49). Exterior cladding is generally brick with some examples of Bedford stone. Many of the homes retain original wood-framed windows or compatible fenestration modern replacements. Most homes have detached garages, or in a few instances along Drayton Drive, a front-facing basement level integrated garage. The multi-family apartment complexes on Landor Avenue (Figure 3.50) are Colonial Revival and feature details such as quoining, brick dentil work, and gable-on hip roofs. The entries have projecting front gables, and a classical doorway with triglyphs and engaged columns. The apartments facing Taylorsville Road (Figure 3.51) feature varying elements of the Colonial Revival Style; one has a two-story three-quarter length portico.

In regard to landscaping elements, Seneca Vista features no sidewalks, but does have uniform setbacks and general uniformity between the individual houses (Figures 3.52 through 3.57). Some lots along Landor Avenue are broader, and the original platted design to bisect the neighborhood with Gladstone Avenue was never employed. These areas are essentially public rights-of-way today and maintained as green space. Additionally within Seneca Vista, the LRAA owns nine (9) lots, a narrow strip within which is mown lawn. These spaces were originally purchased by Jefferson County to maintain safe airspace for Runway 6 flight paths and have always been a part of the neighborhood's landscape.

[4] FAA identified certain inconsistencies within the text and those have been revised

NRHP Evaluation

The Seneca Vista Neighborhood is eligible for the NRHP under Criteria A (community planning and development), B (association with important persons) and C (architecture and design). Seneca Vista is locally significant in the area of community planning and development as an example of an early automobile suburb in Louisville. The neighborhood is directly associated with developer William H. Randolph, whose career made a significant impact on the built environment of suburban Louisville (Louisville CDC 1979; Brother et al. 2014). Originally platted in 1937, Seneca Vista developed predominately between 1937 and 1942, with only 10 houses built after 1942. The neighborhood is a representative collection of early to mid-twentieth century residential architecture. The neighborhood retains a moderate level of architectural integrity and retains its original design elements in terms of setbacks, lot size, and general circulation. In general, the overall form of homes has not been altered. Some individual character-defining features of individual homes (windows and doors) have been replaced and some vinyl siding has been incorporated into gabled ends. These alterations are not such as to detract from the neighborhood's overall character, and other features such as dormers, front-facing gables, porches and hoods, and chimneys are still intact. The neighborhood contains two non-historic properties (11 Drayton Drive; 2721 Taylorsville Road [Figure 3.58]) and, therefore, has not been negatively impacted by a preponderance of incompatible infill. The recommended NRHP boundary for this neighborhood conforms to the legally platted subdivision bounds (see Figure 3.1), containing approximately 30 acres.

Safety Program Effects

An inventory of trees around Bowman Field the Safety Program (Beechwood Trees & Gardens, Inc. 2014) indicates a broad variety of species in the Runway 6 APE. These include hemlock, maple, hackberry, birch, redbud, dogwood, holly, juniper, mulberry, and cherry. Taller-growing trees include pine and pin oak. The majority of plantings are of the low-canopy and ornamental variety typically planted by property-owners. A lesser percentage of plantings in the neighborhood appear to have developed organically (e.g., along fence rows) or in "unmanaged areas" and represent the taller growing variety (Beechwood Trees & Gardens, Inc. 2014). This pattern was observed during the architectural field survey.

At present, there are 29 parcels within this neighborhood that have existing avigation easements (see Figure 1.6). An additional eight (8) parcels will require easements to meet the FAA's requirements of safe operating airspace within the TERPS surface approach areas for Runway 6. As noted, the airport purchased lots in Seneca Vista early in its development; these nine (9) lots bisect the neighborhood generally between Pee Wee Reese Road and Landor Avenue (see Figure 1.6 and 3.2). The lots are maintained by the airport as green space and include several trees proposed for the Safety Program. Based on a review of historic photographs and other materials, the neighborhood did not appear to be developed with a design specific to vegetation. Landscape design elements of the original platting and build out included setbacks, uniform spacing between houses, and general roadway circulation. Plantings in the neighborhood appear to have developed organically or by individual property owners over time. Neither the type nor overall height of the trees is considered to be a contributing element of the neighborhood. Therefore, tree replacement or trimming as proposed in Section 1.1.1 would be consistent with the existing composition of the neighborhood and is not considered an adverse effect.

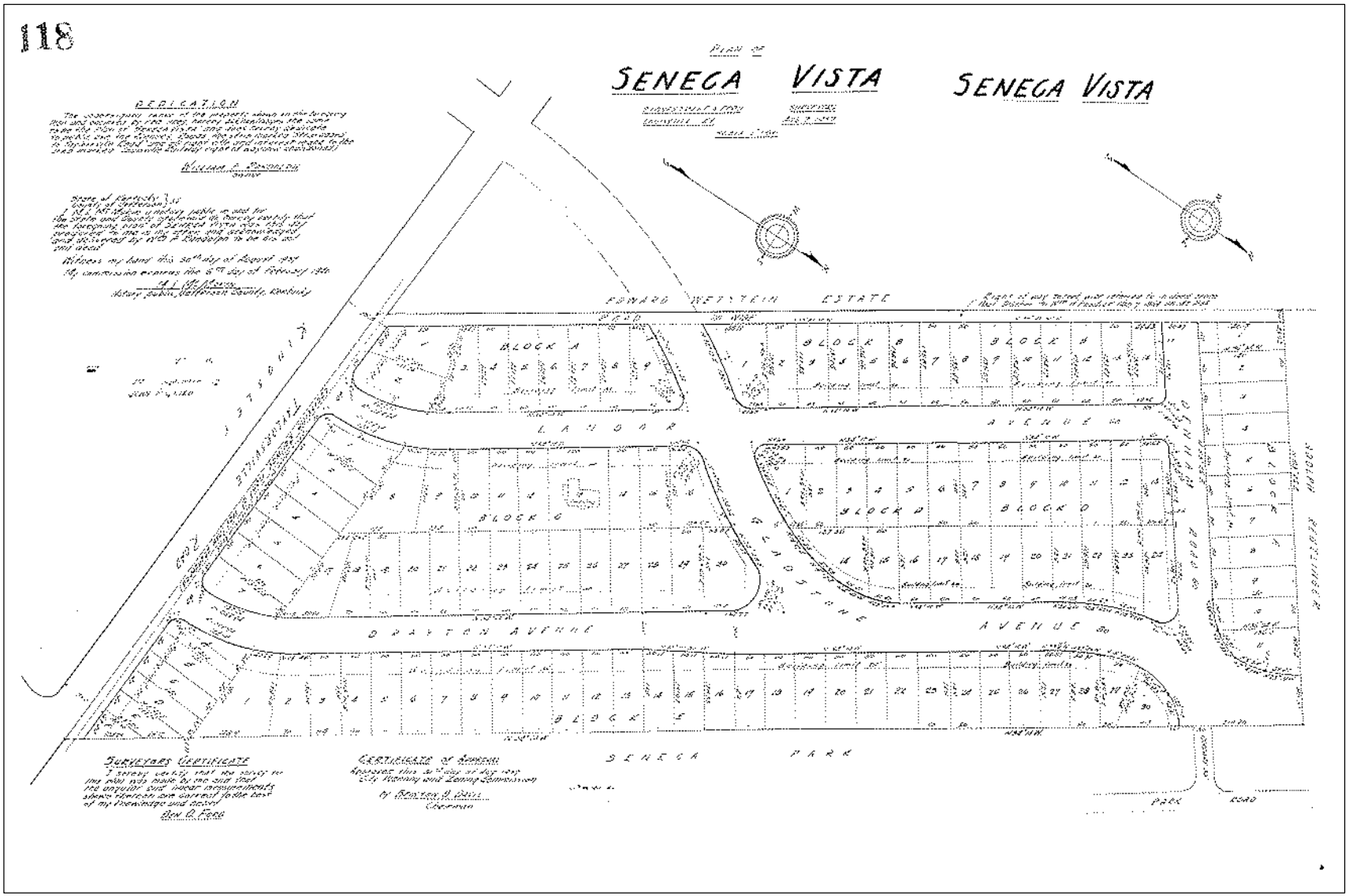

Figure 3.41 Plat of Seneca Vista, dated 1937 (Jefferson County plat book 7, pages 118-119).

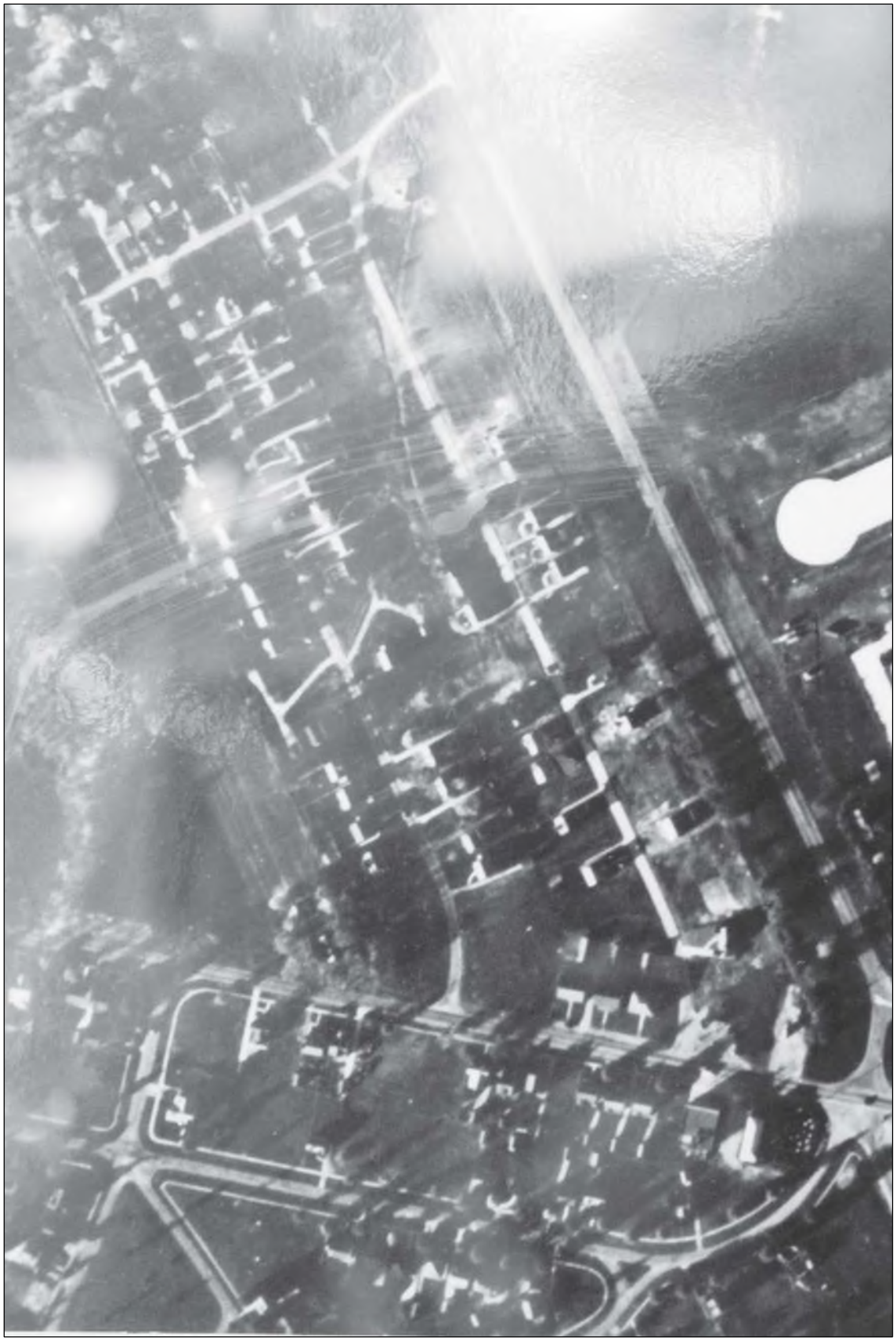

Figure 3.42 Aerial photograph dated 1942, showing building progress in Seneca Vista (Bowman Field Administration Building photograph collection).

Figure 3.43 House at 2649 Drayton Drive, facing northeast.

Figure 3.44 House at 2638 Drayton Drive, facing southwest.

Figure 3.45 House at 2632 Drayton Drive, facing southwest.

Figure 3.46 House at 2637 Drayton Drive, facing northeast.

Figure 3.47 House at 2628 Landor Avenue, facing southwest.

Figure 3.48 House at 2629 Landor Avenue, facing northeast.

Figure 3.49 House at 2622 Landor Avenue, facing southwest.

Figure 3.50 Apartments at 2640 Landor Avenue, facing west.

Figure 3.51 Apartments at 2655 to 2659 Taylorsville Road, facing east.

Figure 3.52 Airport-owned property at Drayton Drive, facing northeast toward Runway 6.

Figure 3.53 Homes along Drayton Drive, facing northwest.

Figure 3.54 Drayton Drive, facing northwest.

Figure 3.55 Median at Drayton Drive and Denham Road, facing south.

Figure 3.56 Denham Road at intersection with Drayton Drive, facing west.

Figure 3.57 Landor Avenue facing southeast.

Figure 3.58 Taylorsville Road at Drayton Drive, showing non-contributing properties.

3.6 McCoy Manor Neighborhood

Property Type: *Post-War Suburb*
Period of Significance: *1949 – 1957*
Architecture: *Mid-Twentieth Century Single and Multi-Family Residences (Examples of Ranch, Minimal Traditional, Cape Cod, and Colonial Revival)*
General Integrity: High
NRHP Status: *Eligible (Criteria A and C)*
Safety Program Effect: *No Adverse Effect*[5]

History, Landscape and Architecture

McCoy Manor neighborhood was platted in 1949 by developer Bryan S. McCoy (Figure 3.59). The neighborhood consisted of houses primarily along McCoy Way, from Trevilian Way to Taylorsville Road (see Figure 3.1). Primary development of the neighborhood occurred between 1949 and 1957. The neighborhood consists of 38 properties, the majority of which are single-family homes. Some multi-family units (near the intersection of McCoy Way and Gladstone Avenue) are also present. All of the properties are oriented toward McCoy Road, except for parcels at the intersections of Trevilian Way and Denham Roads. Selected historic aerial photographs are provided in Figures 3.4 through 3.8. Current neighborhood photographs and year built data are provided in Figures 1.6 and 3.2. Supplemental data for the neighborhood is presented in Appendix D.

The neighborhood consists of mid-twentieth century residential architecture and is heavily represented by the Ranch and Cape Cod styles of architecture with some Colonial Revival (Figures 3.61 through 3.64). Building materials generally consist of all brick, brick with Bedford stone highlighting, with a small number exhibiting all Bedford stone. The single-family homes are primarily one or one-and-one half stories in height, with the multi-family homes rising two stories. The multi-family dwellings are actually quadplexes, and feature minimalized Colonial Revival detail, such as quoining in either brick or Bedford Stone, or the corners have a single column and a small recessed full-height porch. The quadplex at 2634 McCoy Way features a full façade of Bedford Stone, with one-story porches.

McCoy Manor does not feature sidewalks, but each property does feature a driveway as well as a front walk connecting the front of the house with either the driveway or the street (Figures 3.64 through 3.66). Some of the single-family homes have integrated carports, while others have detached garages. The homes also have consistent building setbacks to the street and regular spacing between each building. The general vegetation landscape is casual and does not feature an overall design or pattern in terms of trees or shrubbery.

NRHP Evaluation

The McCoy Manor neighborhood is eligible for the NRHP under Criteria A (community planning and development) and C (architecture and design). McCoy Manor is locally significant in the area of community planning and development an example of a post-war suburb of eastern Louisville, developing due to its proximity to the major thoroughfare of Taylorsville Road during a period of booming suburban expansion. In regard to its design, the neighborhood is a collection of residential architecture reflective of the mid-twentieth century. While some character-defining features have been altered or replaced (such as windows and doors), overall the neighborhood retains a high degree of architectural integrity. It retains its street pattern, utility easements, and other design elements such as sidewalks and driveways. The recommended NRHP boundary corresponds to its legally platted boundaries (see Figure 3.1), consisting of approximately 15 acres.

[5] FAA identified certain inconsistencies within the text and those have been revised

Safety Program Effects

At present, there are no parcels in this neighborhood that require avigation easements, nor have any trees been identified as penetrating the TERPs airspace that would require replacement (see Figure 1.6). Therefore, the Safety Program will have no adverse[6] effect within the NRHP eligible McCoy Manor neighborhood.

[6] FAA identified certain inconsistencies within the text and those have been revised

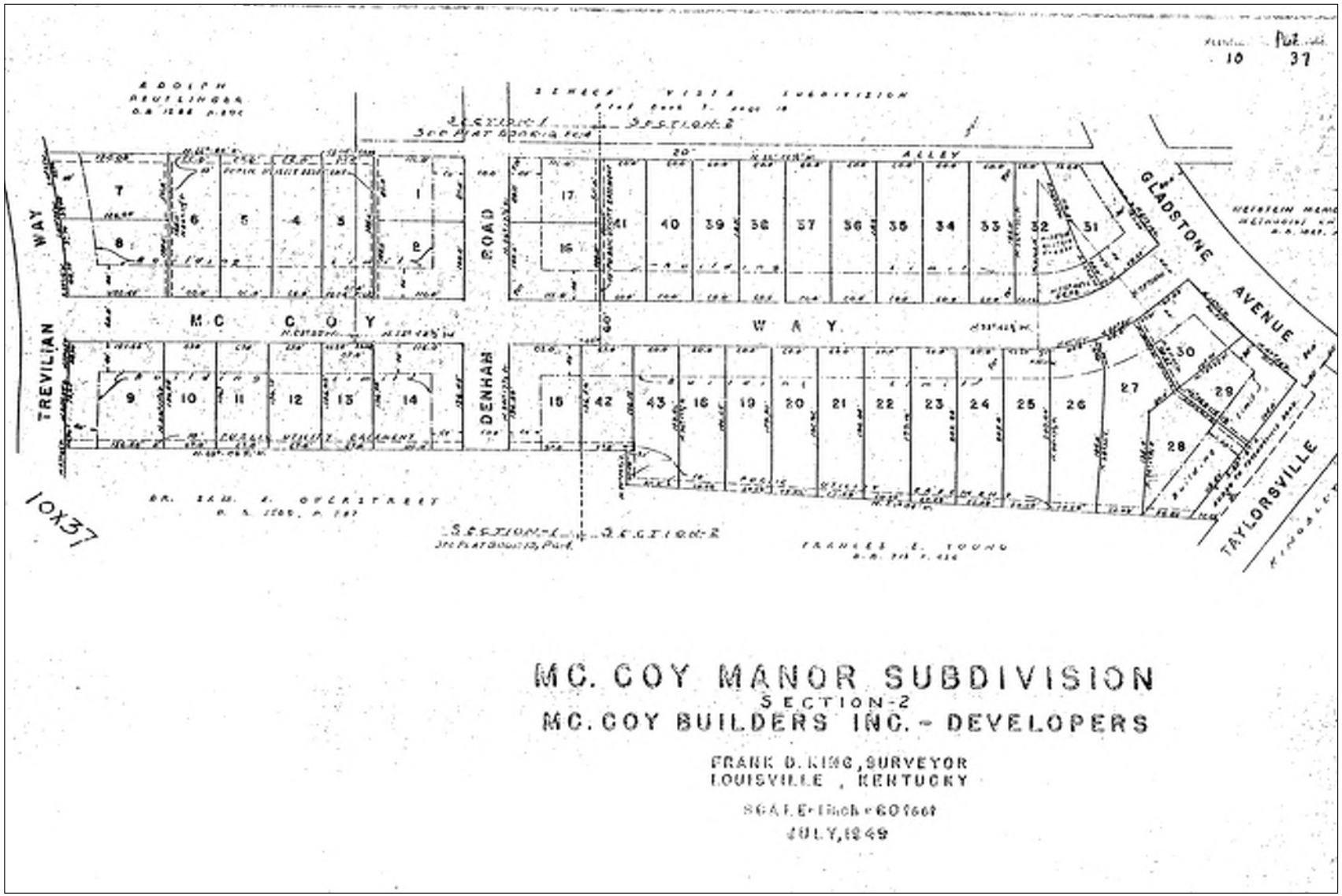

Figure 3.59 Plat of McCoy Manor neighborhood, dated 1949 (Jefferson County Plat book 10, page 37).

Figure 3.60 Sanborn Map of McCoy Manor neighborhood, dated 1961 (Louisville City Archives).

Figure 3.61 Example of a Ranch style home at 2618 McCoy Way.

Figure 3.62 Example of Cape Cod style home at 2629 McCoy Way. Note the large picture windows; this illustrates a more mid-twentieth century transition of the Cape Cod.

Figure 3.63 Quadplex at 2634 McCoy Way.

Figure 3.64 Row of homes along McCoy Way, facing northeast.

Figure 3.65 Street view of McCoy Manor, facing southeast.

Figure 3.66 Street view of McCoy Manor, facing southeast from intersection with Denham Road.

3.7 Seneca Manor Neighborhood

Property Type: *Post-War Suburb*
Period of Significance: *1937 – 1958*
Architecture: *Mid-Twentieth Century (Largely Colonial Revival, with historic infill with Ranch and Split Level)*
General Integrity: High
NRHP Status: *Eligible (Criteria A and C)*
Safety Program Effect: *No Adverse Effect*[7]

History, Landscape, and Architecture

Seneca Manor neighborhood was platted by the Embry Realty Company in 1937 and its development occurred gradually throughout the late 1930s through the mid-1950s (Figures 3.67 and 3.68). The neighborhood consists of 21 individual single-family residences, all of which are oriented on Valetta Road, except for two parcels on Taylorsville Road (see Figure 3.1). Selected historic aerial photographs are provided in Figures 3.4 through 3.8. Current neighborhood photographs and year built data are provided in Figures 1.6 and 3.2. Supplemental data for the neighborhood is presented in Appendix E.

The neighborhood consists of typical mid-twentieth century residential architecture, but heavily represented by two-story Colonial Revivals, with lesser numbers of one-story Colonial Revival homes (Figures 3.69 through 3.71). These homes are generally symmetrical in design, some with a single plane façade, others with façade projections, featuring quoining and pediments. Windows are generally wooden double-hung sash and, typical of the style, many of the doors features sidelights, transom and are topped with pediments. The lots in the immediate vicinity of Taylorsville Road include single-story Colonial Revival, and some of the later historic infill, including examples of Ranch and Split Level.

Lots are generally 60 feet in width and the depth varies; lots west of Valletta Road measure 134 feet deep and those east of Valletta Road vary between 133 and 213 feet. Spacing between homes is generally consistent along with the street setback (35 feet). This neighborhood does not feature sidewalks, but each home does feature a front walk and driveway (Figures 3.71 through 3.73). Plantings are generally casual, though there is a degree of uniformity among high-canopy oak trees on the west side of Valletta Road, just to the north of the Safety Program APE. Minor modifications have been made to individual features such as windows and doors, but overall the neighborhood has been subject to few alterations. There is no non-historic infill in the neighborhood.

NRHP Evaluation

The Seneca Manor neighborhood is eligible for the NRHP under Criteria A (historical associations) and C (architecture) at the local level of significance. The neighborhood reflects the patterns of community development and planning typical of post-World War II development in eastern Louisville. As for its design, Seneca Manor neighborhood is a collection of residential architecture reflective of the mid-twentieth century and retains a high degree of architectural integrity and has no non-contributing properties. The neighborhood also retains its street pattern, driveways, and utility easements. The recommended NRHP boundary for the Seneca Manor neighborhood corresponds to its legally platted boundary (see Figure 3.1), consisting of approximately seven (7) acres and 21 individual parcels.

Safety Program Effects

An inventory of trees around Bowman Field for the Safety Program (Beechwood Trees & Gardens, Inc. 2014) indicates a broad variety of species in the Runway 6 APE. These include hemlock, maple, hackberry, birch, redbud, dogwood, holly, juniper, mulberry, and cherry. Taller-growing trees include pine and pin oak. The majority of plantings are of the low-canopy and ornamental variety typically planted by property-owners. A lesser percentage of plantings in the neighborhood appear to have developed organically (e.g., along fence rows) or in "unmanaged areas" and represent the taller growing variety (Beechwood Trees & Gardens, Inc. 2014). This pattern was observed during the architectural field survey.

[7] FAA identified certain inconsistencies within the text and those have been revised

At present, there is one parcel within this proposed historic district that has been identified as requiring an avigation easement. This property (shown in Figure 1.6; see Figure 3.71) has one tree that has been identified as requiring replacement, due to its existing or anticipated height exceeding the plane of safe operating airspace. Based on a review of historic photographs and other materials, this neighborhood did not appear to be developed with a design specific to vegetation. Landscape design elements of the original platting and build out included setbacks, uniform spacing between houses, and general roadway circulation. Plantings in the neighborhood appear to have developed organically or by individual property owners over time, though there is some uniformity of high canopy oak trees west of Valletta Road, but just north of the Safety Program APE. Neither the type nor overall height of the trees is considered to be a contributing element of the neighborhood. Therefore, tree replacement or trimming on the one property (2625 Valletta Road) as proposed in Section 1.1.1 would be consistent with the existing composition of the neighborhood and is not considered an adverse effect.

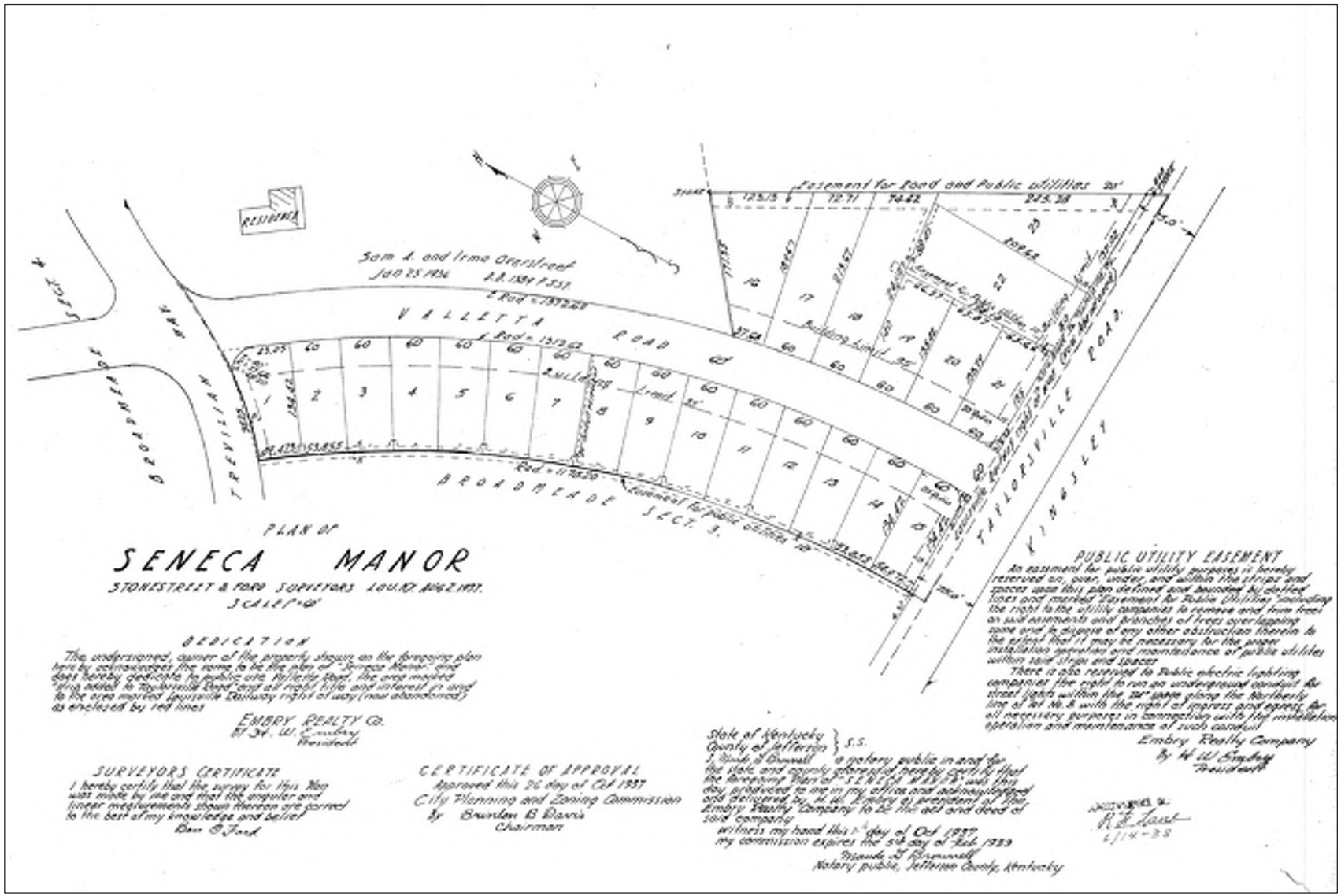

Figure 3.67 Plat of Seneca Manor, dated 1937 (Jefferson County plat book 7, page 129).

Figure 3.68 1961 Sanborn Map of Seneca manor neighborhood (Louisville City Archives).

Figure 3.69 Ranch house at 2525 Taylorsville Road.

Figure 3.70 Colonial Revival house at 2626 Valletta Road.

Figure 3.71 Facing north on Valletta Road from intersection with Taylorsville Road, showing collection of homes. Tree in left center of photograph (2625 Valletta Road) requires replacement.

Figure 3.72 Valletta Road, facing north. Note uniformity of oak trees, west of road (center left in photo).

Figure 3.73 Valletta Road, facing southeast near intersection with Trevilian Way.

3.8 Kingsley Neighborhood

Property Type: *Early Automobile Suburb*
Period of Significance: *1926 – 1964*
Architecture: *Early to Mid-Twentieth Century (Cape Cod, Craftsman, Tudor Revival, Colonial Revival, Dutch Colonial Revival; limited Ranch)*
General Integrity: High
NRHP Status: *Eligible (Criteria A, B, and C)*
Safety Program Effect: *No Adverse Effect*[8]

History, Landscape, and Architecture

The Kingsley neighborhood is a sixth class city within the City of Louisville. According to the City of Kingsley's website, it contains 175 single-family residences, two (2) apartments, and three (3) businesses. It extends eastward from Strathmoor Village and Strathmoor Gardens to Bon Air between Taylorsville Road and Hawthorne Avenue (see Figure 3.1). Selected historic aerial photographs are provided in Figures 3.3 through 3.8. Current neighborhood photographs and year built data are provided in Figures 1.6 and 3.2. Supplemental data for the neighborhood is presented in Appendix F.

A 1913 Jefferson County property map (see Figure 2.2) shows the neighborhood was developed on lands formerly belonging to Mrs. Mary E.B.C. Von Zedwitz, and contained 46.75 acres. Kingsley was one component of a broader development effort by the Hieatt Consolidated Realty Company. As early as 1920, Hieatt developed the land south and east of Doup's Point, between the Taylorsville and Bardstown Roads. Strathmoor (1920) and Strathmoor Addition (1923) both capitalized on the Louisville Interurban Electric Railway Service, which followed the two roadways and allowed residents to move away from the city center (Brother et al. 2014: 333-334). Likewise, the Kingsley neighborhood was platted by Hieatt in 1925 (Figure 3.74). It was incorporated as sixth class city in 1939 and was annexed to Louisville in the 1950s. Development of the subdivision followed the original plat, with nineteen lots added in a 1951 addition (Figure 3.75). These are located south of Gladstone and along Tyler Avenue, northwest of Lowell Avenue.

By 1928, approximately ten residences had been completed, but by 1946 the majority of lots had been developed (see Figures 3.3 and 3.76). Only a few undeveloped lots remained by 1955 and development waned into the early 1960s. The Kingsley Neighborhood's architectural composition generally consists of detached one-to-two story single-family residences with individual or shared driveways and some detached garages. Building styles include Bungalow, Cape Cod, Colonial Revival, Tudor Revival, Minimal Traditional and Ranch (Figures 3.77 through 3.84). Building materials largely consist of brick, rusticated limestone, and some replacement vinyl siding in gabled ends. While construction of houses seems to have not taken off until the 1930s, by 1928 Hieatt had continued the road and sidewalk system of Strathmoor into Kingsley. Kingsley also featured a curvilinear road system, a centralized public park space, and planted trees along Kings Highway and within the central park located between Gladstone and Montrose Avenues (Figures 3.84 through 3.88). Lots are generally 50 feet in width with a 30 foot building setback and measure 131-140 feet in depth.

NRHP Evaluation

The Kingsley neighborhood is eligible for the NRHP under Criteria A (community planning and development), B (association with important persons) and C (architecture and design) at the local level of significance. The Kingsley neighborhood reflects the trends of early to mid-twentieth century suburban development of eastern Louisville. Kingsley was originally developed outside of the Louisville city limits during the late 1920s and saw exponential growth in the 1930s and 1940s. Building would continue into the 1950s, but the neighborhood retains the aesthetic of an early automobile suburb. Within the neighborhood, there are seven post-1964 residences that would be considered non-contributing resources. The Kingsley neighborhood is directly associated with developer C. C. Hieatt, whose career made a significant impact on the built

[8] FAA identified certain inconsistencies within the text and those have been revised

environment of suburban Louisville (Louisville CDC 1979; Brother et al. 2014). Kingsley abuts other Hieatt developments (Strathmoor and Strathmoor Addition). The Kingsley neighborhood is a representative collection of early to mid-twentieth century residential architecture. It retains its distinctive park-like setting of curvilinear streets, public spaces, sidewalks and setback. In general, the neighborhood reflects a high degree of architectural integrity with few alterations to character-defining features of individual homes. The proposed NRHP boundary for the Kingsley neighborhood corresponds to its legal corporate limits and platted boundary (see Figure 3.1), consisting of approximately 50 acres. Its period of significance dates from 1925 when it was first platted by Hieatt to 1964, the current minimum age guideline for historic properties.

Safety Program Effects

At present, there are no parcels in this neighborhood that require avigation easements, nor have any trees been identified as penetrating the TERPs airspace that would require replacement (see Figure 1.6). Therefore, the Safety Program will have no adverse[9] effect within the NRHP eligible Kingsley neighborhood.

[9] FAA identified certain inconsistencies within the text and those have been revised

Figure 3.74 Kingsley plat, dated 1925 (Jefferson County plat book 5, pages 82-83).

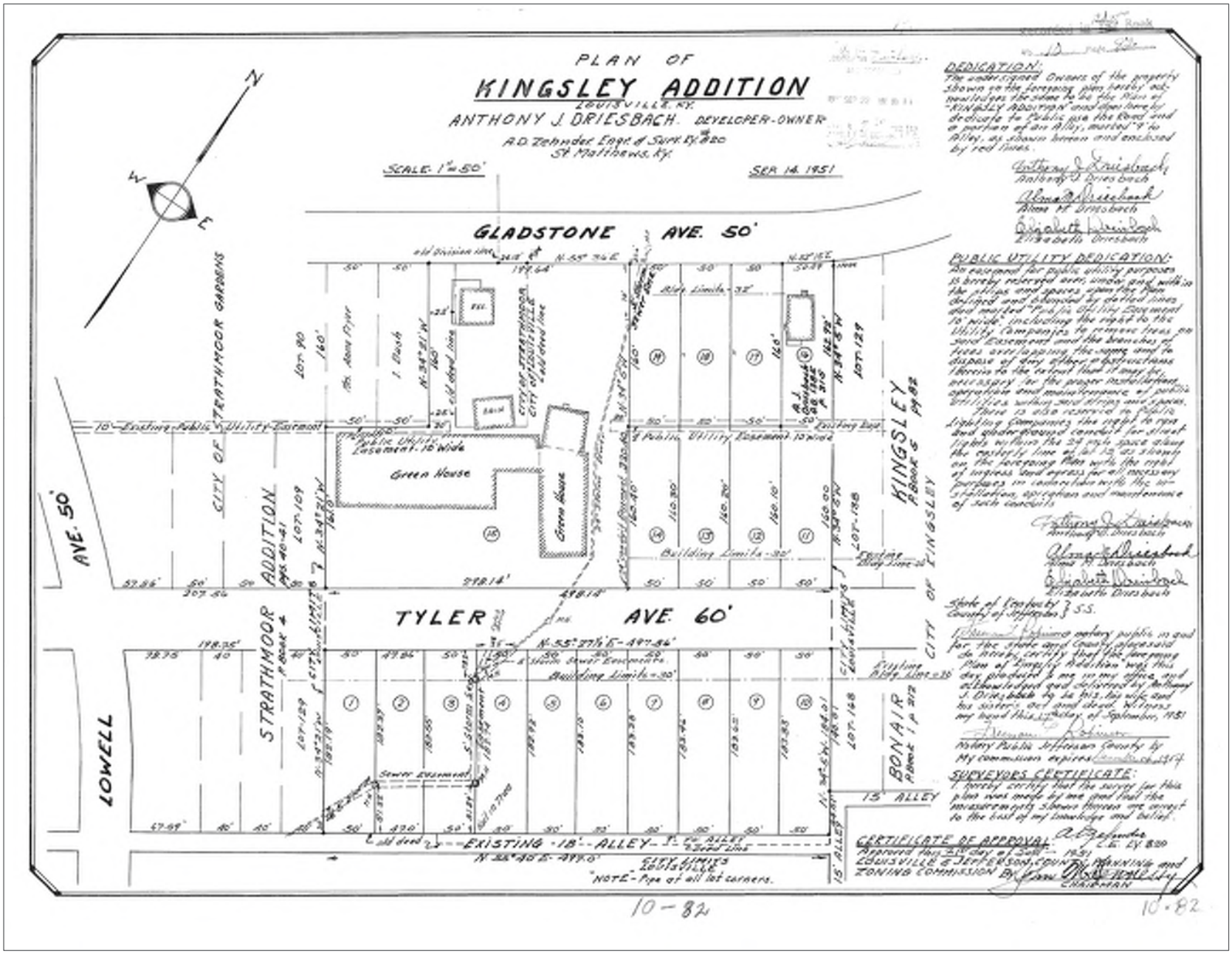

Figure 3.75 Kingsley addition plat, dated 1951 (Jefferson County plat book 10, page 82).

Figure 3.76 View of eastern Kingsley Neighborhood, photograph dated 1930 (Bowman Field Administration Building photograph collection).

Figure 3.77 Kingsley Neighborhood, house at 2548 Kings Highway, facing south.

Figure 3.78 Kingsley Neighborhood, house at 2643 Kings Highway, facing north.

Figure 3.79 Kingsley Neighborhood, house at 2440 Tyler Lane, facing east.

Figure 3.80 Kingsley Neighborhood, house at 2396 Montrose Avenue, facing south.

Figure 3.81 Kingsley Neighborhood, house at 2523 Kings Highway, facing north.

Figure 3.82 Kingsley Neighborhood, house at 2602 Taylorsville Road, facing southeast.

Figure 3.83 Kingsley Neighborhood, house at 2562 Taylorsville Road, facing south.

Figure 3.84 Kingsley Neighborhood, houses along Kings Highway west of Emerson Avenue, facing northwest.

Figure 3.85 Kingsley Neighborhood, intersection with Tyler Lane, facing east.

Figure 3.86 Kingsley Neighborhood, park at Kings Highway and Gladstone Avenue, facing south

Figure 3.87 Kingsley Neighborhood, Kings Highway, facing east.

Figure 3.88 Kingsley Neighborhood, park at Gladstone and Montrose Avenues, facing south.

3.9 Seneca Village Neighborhood

Property Type: *Post-War Suburb*
Period of Significance: *1947 – 1954*
Architecture: *Minimal Traditional*
General Integrity: *High*
NRHP Status: *Eligible (Criteria A and C)*
Safety Program Effect: *No Adverse Effect*[10]

History, Architecture, and Landscape

The Seneca Village neighborhood was platted in 1929 by W. C. Coleman's Dingle View Land Company. The neighborhood is bounded roughly by Kent Road on the east, Taylorsville Road on the north, Carson Way on the west, and Ribble Road to the south (see Figure 3.1). Though platted in 1929 (Figure 3.89), PVA data and aerial photographs indicate this neighborhood did not begin development until after 1946 and then it apparently developed rapidly, as all lots are built out in a 1951 aerial photo (Figures 3.2 and 3.5). At present, it contains a total of 64 residential buildings. Selected historic aerial photographs are provided in Figures 3.4 through 3.8. Current neighborhood photographs and year built data are provided in Figures 1.6 and 3.2. Supplemental data for the neighborhood is presented in Appendix G.

In 1948, the City of Louisville began the process of annexing neighborhoods, including several along its eastern fringe. Seneca Village, which had recently become a sixth-class city, filed suit in 1949 (*LCJ*, August 21, 1949) and had even proposed annexing the new Seneca Village No. 2 neighborhood, which was in the process of being developed by the Lupino Realty Company. Ultimately, the City did annex the neighborhood, and at an unknown date, Seneca Village dropped its sixth-class city status.

The built environment of the neighborhood consists of a solid Minimal Traditional theme, with no additional architectural types or styles (Figures 3.90 through 3.94). All of the homes feature narrow or non-existing eaves at the roofline and the homes were apparently built from a set of four or five patterns. Some patterns feature a prominent front gable (3013 Kent Road); some have no gable (3026 Carson Way); some have a gable-end chimney (3034 Carson Way); and others have a front chimney (3418 Seneca Blvd) (see Appendix G). On the whole, the district has been subject to very few incompatible alterations, either to individual homes or with infill development. Some windows and doors have been altered, and some front-facing gables have been patterned with vinyl filling. However, this does not detract from the overall house style/type patterning of the neighborhood. The only non-historic home in the neighborhood (3004 Kent Road, constructed in 2003) and is a design sympathetic to the style, size, and setback of the surrounding historic homes.

As to the neighborhood layout (Figures 3.94 through 3.97), the 74 neighborhood lots are generally fifty feet in width and 125 feet in depth. Each block of houses has a central public utility easement, and required building setbacks of 25 feet. The roads have a uniform width of 60 feet. The neighborhood was also originally designed with and retains its sidewalks. A few of the original lots were never purchased for residential building; rather, the airport purchased 11 lots along Taylorsville Road (see Figure 1.6 and 3.2). In a review of historic aerial photographs dating from 1946 to the present, it appears the airport has historically maintained these lots free of vegetation except for mown grass.

NRHP Evaluation

The Seneca Village Neighborhood is eligible for the NRHP under Criteria A (community planning and development) and C (architecture and design) at the local level of significance. Originally platted in 1929, it did not develop until immediately after World War II, and then built out rapidly in response to the post-war housing needs of Louisville. All of the historic homes were built between 1947 and 1954. The neighborhood is also a collection mid-twentieth century architecture and retains a high degree of architectural integrity. In general, the overall form of homes has not been altered. Though some individual character-defining features

[10] FAA identified certain inconsistencies within the text and those have been revised

of individual homes (windows and doors) have been replaced, the alterations are not such as to detract from the neighborhood's overall character, and other features such as dormers, front-facing gables, porches and hoods, and chimneys, are still intact. It also retains design integrity in terms of sidewalks, setbacks, lot size, and circulation. The recommended NRHP boundary for this neighborhood conforms to the legally platted subdivision bounds (see Figure 3.1), containing approximately 14 acres.

Safety Program Effects

An inventory of trees around Bowman Field for the Safety Program (Beechwood Trees & Gardens, Inc. 2014) indicates the most predominant species in the Runway 33 APE include Pear, Hackberry, Maple, and Dogwood, along with other low-canopy and ornamental type trees typically planted by property-owners. A lesser percentage of plantings in the neighborhood appear to have developed organically (e.g., along fence rows) or in "unmanaged areas" and represent the taller growing variety (Beechwood Trees & Gardens, Inc. 2014). This pattern was observed during the architectural field survey.

At present, there are four parcels within this neighborhood that have existing avigation easements (see Figure 1.6). An additional 23 parcels will require easements to meet the FAA's requirements of safe operating airspace within the TERPS surface approach areas for Runway 33. As noted, the airport purchased lots in Seneca Village early in its development; these lots are adjacent to Taylorsville Road and are maintained by the airport as green space. Based on a review of historic photographs and other materials, this neighborhood did not appear to be developed with a design specific to vegetation. Landscape design elements of the original platting and build out included sidewalks, setbacks, uniform spacing between houses, and general roadway circulation. Plantings in the neighborhood appear to have developed organically or by individual property owners over time. Neither the type nor overall height of the trees is considered to be a contributing element of the neighborhood. Therefore, tree replacement or trimming as proposed in Section 1.1.1 would be consistent with the existing composition of the neighborhood and is not considered an adverse effect.

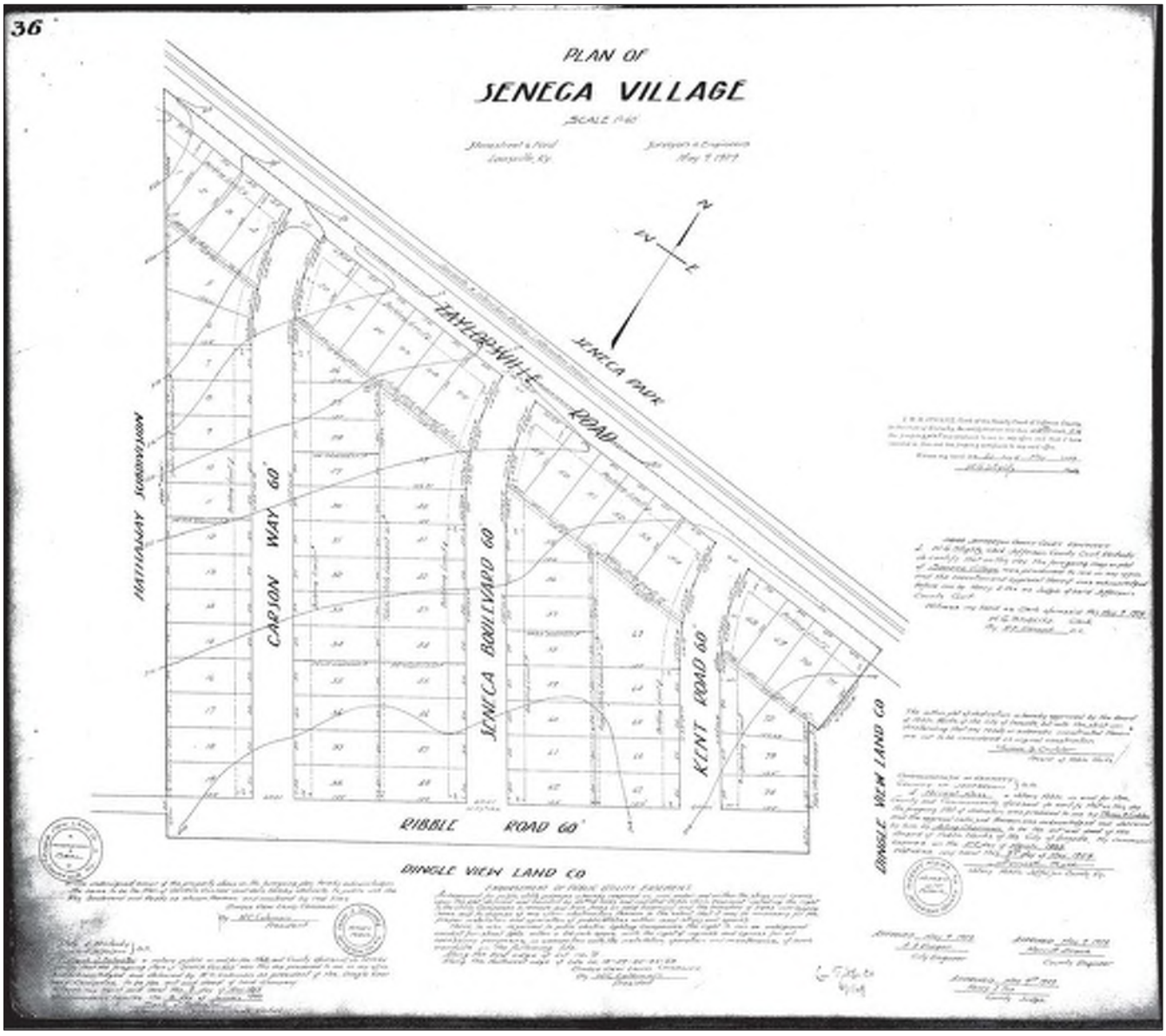

Figure 3.89 Seneca Village plat, dated 1929 (Jefferson County plat book 7, page 36).

Figure 3.90 Seneca Village, house at 3023 Carson Way, facing northeast.

Figure 3.91 Seneca Village, house at 3013 Kent Road, facing northeast.

Figure 3.92 Seneca Village, house at 3009 Kent Road, facing east.

Figure 3.93 Seneca Village, house at 3016 Seneca Boulevard, facing southwest.

Figure 3.94 Seneca Village, houses along Seneca Boulevard, facing south.

Figure 3.95 Seneca Village, houses along Carson Way, facing northeast.

Figure 3.96 Seneca Village, Seneca Boulevard at intersection with Ribble Road, facing northwest.

Figure 3.97 Seneca Village, Kent Road at intersection with Ribble Road, facing north toward Runway 33.

3.10 Seneca Village No. 2 Neighborhood

Property Type: *Post-War Suburb*
Period of Significance: *1951-1960*
Architecture: *Pre-Fabricated Housing; Multi-family Housing*
General Integrity: *Moderate*
NRHP Status: *Eligible (Criteria A and C)*
Safety Program Effect: *No Adverse Effect*[11]

History, Landscape and Architecture

Seneca Village No. 2 (see Figure 3.1) was platted and developed by Edward W. Archer's Lupino Realty Company of Louisville. The original plat dates to 1948 with revisions in 1950 and 1951. Of note, the original 1948 plat for Seneca Village No. 2 laid out approximately 158 lots; the revised 1951 plat (Figure 3.98) allowed for 285 lots. Subsequent revisions proposed an extension south of Gardiner Lane between Bon Air and Doreen Way. Construction of the Watterson Expressway halted that development and it was eventually re-platted as a separate subdivision, south of the Watterson Expressway (Louisville CDC 1979: 137). The present-day Seneca Village No. 2 follows the plan expressed in the 1951 revised plat. By 1951, the neighborhood's roads had been surveyed and partially graded at that time, but no houses had been constructed. By 1955, however, approximately three-quarters of the lots had been developed. The apartment buildings on the northeastern quadrant were not yet underway but were completed by 1959. Historic aerial photographs are provided in Figures 3.4 through 3.8. Current neighborhood photographs and year built data are provided in Figures 1.6 and 3.2. Supplemental data for the neighborhood is presented in Appendix H.

By and large, the neighborhood consists of pre-fabricated Gunnison housing, with a limited number of styles and floor plans (Figures 3.99 through 3.106). Pre-fabricated housing such as these were mass-produced, affordable, and provided "new avenues of home ownership" for an expanding national population. Produced by manufacturers such as Gunnison Homes (New Albany, Indiana), National Homes (Lafayette, Indiana) and the Lustron Corporation (Columbus, Ohio) among others, the homes were essentially packaged "kits" and were constructed of plywood, steel, and wood (Johnson and Kennedy 2006: 5-6; also Brother et al. 2014: 208-220). Neighborhoods using this type home were constructed in rapid fashion by builder-developers, as evidenced by the historical aerial photographs of Seneca Village No. 2.

The houses along Joan Avenue and Betty Lane feature brick siding (partial or whole) and somewhat larger lots. In general, the homes have a Cape Cod form, with a rectangular footprint and steeply pitched roofs allowing for an additional half-story of living space (see Figures 3.99 and 3.100, 3.108 and 3.109). Some of the houses still retain their original metal-framed windows; many however have replacement vinyl windows. Houses along Alanmede Road, Wendell Avenue, and Gardiner Lane feature a somewhat broader stylistic variety, though they still utilize a limited number of house patterns (see Figures 3.101 through 3.106, and Figures 3.113 and 3.114). Some utilize the half-story form mentioned above, but have lesser amounts of brick detailing. Many have original aluminum siding, though some include replacement vinyl siding. While the vast majority feature a horizontal street-facing footprint, there are a few examples of L-shaped designs (2641 Gardiner; Figure 3.104).

There is also a cluster of eight apartment buildings (Figure 3.107) present on the northeastern quadrant of the neighborhood, facing Taylorsville Road. The condominiums were constructed as part of the original development but reverted to another manager in the 1970s and became known as "Bowman Manor Condominiums." These are four-sided brick buildings with four units each. Two units each share a covered stoop and entry; some original metal-framed two-over-two windows remain while others have been replaced with a modern vinyl variety. The roofs are gable-on-hip. The neighborhood also features concrete sidewalks and utility easements in the center of the blocks. The neighborhood features regularly spaced lots, averaging about 135 feet deep and 51 feet wide with a uniform setback of 30 feet. Figures 3.108 through 3.114 provide landscape views of Seneca Village No. 2.

[11] FAA identified certain inconsistencies within the text and those have been revised

The neighborhood has been subject to one major alteration. Specifically, 31 of the houses along Gardiner Lane were demolished for the widening of Watterson Expressway in the late 1980s and a sound barrier wall was constructed along the right-of-way (Figures 3.2 and 3.115). This strip is currently owned by the Commonwealth of Kentucky and is generally composed of mown grass.

NRHP Evaluation

The proposed Seneca Village No. 2 historic district is eligible for the NRHP under Criteria A (community planning and development) and C (architecture and design) at the local level of significance. The neighborhood was platted during the post-World War II housing boom and developed rapidly between 1951 and 1959 in response to housing needs for the City of Louisville. The neighborhood is also representative of a particular type of development that utilized a new form of mass produced pre-fabricated housing. The district retains a moderate level of architectural and design integrity. Some character-defining features of individual homes (windows and doors) have been replaced, along with siding alterations. Other features such as dormers, porches and hoods, and dual-siding are still intact. In general, the overall form of homes has been minimally altered. In addition, the district retains sidewalks, setbacks, lot size, and circulation. The tree-lined streets, particularly along Alanmede Road and Wendell Avenue (Figure 3.112) consist of low canopy Bradford Pear trees. According to one neighborhood resident, these were planted about 1990. The proposed NRHP boundary for the neighborhood consists of its legally platted boundary (see Figure 3.1), and consists of approximately 63 acres.

Safety Program Effects

An inventory of trees around Bowman Field for the Safety Program (Beechwood Trees & Gardens, Inc. 2014) indicates the most predominant species in the Runway 33 APE include Pear, Hackberry, Maple, and Dogwood, along with other low-canopy and ornamental type trees typically planted by property-owners. A lesser percentage of plantings in the neighborhood appear to have developed organically (e.g., along fence rows) or in "unmanaged areas" and represent the taller growing variety (Beechwood Trees & Gardens, Inc. 2014). This pattern was observed during the architectural field survey.

At present, there no parcels within this neighborhood have existing avigation easements. However, nine parcels will require easements to meet the FAA's requirements of safe operating airspace within the TERPS surface approach areas for Runway 33 (see Figure 1.6). Based on a review of historic photographs and other materials, this neighborhood did not appear to be developed with a design specific to vegetation. Landscape design elements of the original platting and build out included sidewalks, setbacks, uniform spacing between houses, and general roadway circulation. The only existing vegetation design "element" is the tree lined streets, Alanmede Road and Wendell Avenue in particular, but these Bradford Pear trees were planted circa 1990. These are existing low canopy trees and are not proposed for the Safety Program's mitigation alternatives. From a historical analysis, neither the type nor overall height of the trees is considered to be a contributing element of the neighborhood. Therefore, tree replacement or trimming as proposed in Section 1.1.1 would be consistent with the existing composition of the neighborhood and is not considered an adverse effect.

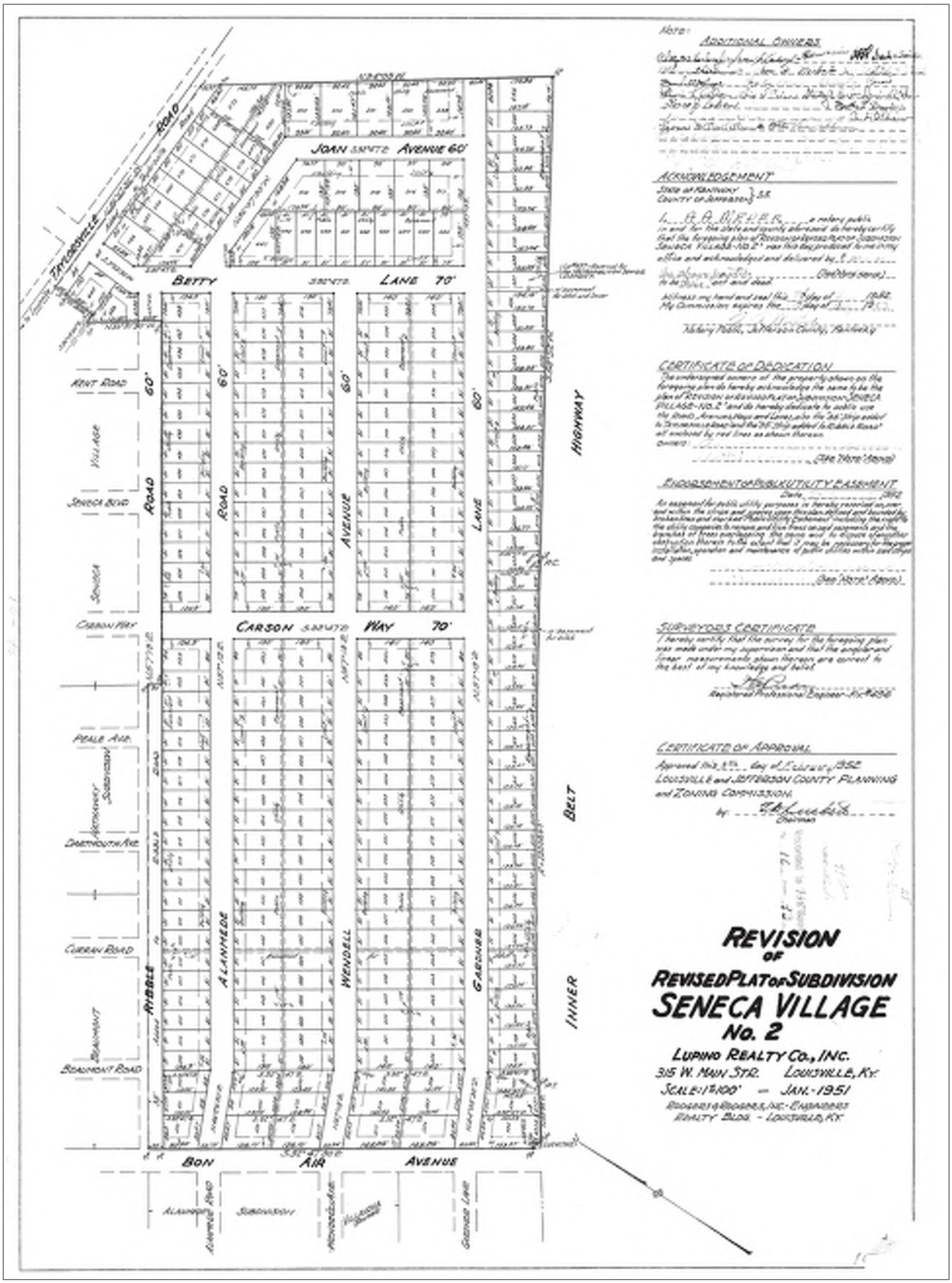

Figure 3.98 Seneca Village No. 2 plat, dated 1951 (Jefferson County plat book 10, page 93).

Figure 3.99 Seneca Village No. 2, house at 3020 Joan Avenue, facing southwest.

Figure 3.100 Seneca Village No. 2, house at 3012 Joan Avenue, facing southwest.

Figure 3.101 Seneca Village No. 2, house at 2726 Alanmede Road, facing south.

Figure 3.102 Seneca Village No. 2, house at 2711 Gardiner Lane, facing north.

Figure 3.103 Seneca Village No. 2, house at 2643 Wendell Avenue, facing north.

Figure 3.104 Seneca Village No. 2, house at 2641 Gardiner Lane, facing north.

Figure 3.105 Seneca Village No. 2, house at 2712 Wendell Avenue, facing southeast.

Figure 3.106 Seneca Village No. 2, house at 2720 Wendell Avenue, facing southeast.

Figure 3.107 Seneca Village No. 2, Bowman Manor Condominiums.

Figure 3.108 Seneca Village No. 2, Joan Avenue at Betty Lane, facing northeast.

Figure 3.109 Seneca Village No. 2, Joan Avenue facing northwest from intersection with Gardiner Lane.

Figure 3.110 Seneca Village No. 2, Alanmede Road at Betty Lane, facing northwest. Property at 3008 Betty Lane (photo center) requires easement.

Figure 3.111 Seneca Village No. 2, Alanmede Road at Carson Way, facing northeast.

Figure 3.112 Seneca Village No. 2, Wendell Avenue at Bon Air Avenue, facing northeast.

Figure 3.113 Seneca Village No. 2, Wendell Avenue at house number 2629, facing southwest, showing homes.

Figure 3.114 Seneca Village No. 2, house at 2712 Wendell Avenue (center photo) showing proposed tree for replacement.

Figure 3.115 Seneca Village No. 2, Gardiner Lane near intersection with Carson Way, showing empty lots on south side of street (houses demolished for Watterson Expressway widening).

3.11 Outparcels

During the field survey, five individual properties were identified (see Figure 3.1; Figures 3.116 through 3.120) that fell within the APE but were not constructed as part of one of the adjoining neighborhoods. These five properties are located north and east of the intersection of Taylorsville Road and Gladstone Avenue. While the properties fall within the Safety Program APE, there are no mitigation efforts proposed on any of these five parcels. They will not be affected by the Safety Program.

The property at 2615 Taylorsville Road (Figure 3.116) is a small one-story circa 1950s office building. It is constructed on a poured concrete foundation with load bearing brick walls and features a side-gable roofline. The exterior cladding is narrow bonded brick and the windows are replacement wood framed set in a long horizontal sill. The front door is a replacement with vertical sidelights, and the building features a simple concrete entry stoop. The building was constructed on an outparcel along the Taylorsville commercial corridor and not as part of one of the surrounding neighborhoods. It features simplistic detailing typical of the 1950s, and retains a moderate degree of integrity due to the window modifications on the façade. Archival research did not reveal any significant historical associations and the building does not possess significant architectural merit. It does not qualify for listing in the NRHP.

The properties at 2605, 2609, and 2613 Taylorsville Road are circa 1960s multi-family residential buildings (Figures 3.117 through 3.119). All three are two-story quadplexes constructed with similar floorplans and detailing, with minor variations in windows and brick color. Both 2609 and 2613 Taylorsville Road feature aluminum framed two-over-two windows (horizontal panes), while 2605 Taylorsville features larger plate-glass picture windows. Each quadplex also features a small concrete front stoop, a hipped porch hood supported by decorative iron supports. The roofs are gabled and covered in asphalt shingles. Through archival research, the buildings were not revealed to have any significant historical association and were constructed on available outparcels and not part of a broader development. While they retain their architectural integrity, they do not possess architectural significance that would qualify them for listing in the NRHP. The properties at 2605, 2609, and 2603 Taylorsville Road are not eligible for the NRHP.

The property at 2542 Gladstone Avenue (Figure 3.120) is another circa 1960s multi-family residential building constructed on what appears to have been an available outparcel. This is a larger complex, featuring an H-shaped floor plan with another detached rectangular building, and a covered garage on the rear of the property. The apartment complex is situated at the intersection with McCoy Avenue and the residential buildings measure two stories in height. Windows are horizontal two-over-two on the larger building; the smaller building features large plate glass windows set above a horizontal hopper window. The roofs are gabled and covered in asphalt shingles. The covered garage is a detached structure, featuring a pierced brick pattern. Through archival research, the apartment complex was not revealed to have any significant historical association and was constructed on an available outparcel and not part of a broader development. It does retain a high degree of architectural integrity, but is not considered to possess architectural significance that would qualify them for listing in the NRHP. The property at 2542 Gladstone Avenue is not eligible for the NRHP.

Figure 3.116 Property at 2615 Taylorsville Road.


Figure 3.117 Property at 2605 Taylorsville Road.

Figure 3.118 Property at 2609 Taylorsville Road.


Figure 3.119 Property at 2613 Taylorsville Road.

Figure 3.120 Property at 2542 Gladstone Avenue.

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4.0 Summary and Conclusions

Brockington and Associates, Inc. was contracted to perform a historic architectural survey for the Safety Program in support of cultural resources compliance under Section 106 of the NHPA. This Section 106 documentation will be incorporated into environmental documentation required under NEPA. The work was performed under contract to Hanson Professional Services, Inc. on behalf of the project sponsor, the Louisville Regional Airport Authority, and the lead federal agency, the Federal Aviation Administration.

Based on the nature and scope of the undertaking, the FAA defined the APE as those geographical areas within the TERPS approach surfaces. This APE contains all direct and indirect effects of the currently proposed alternatives and mitigation measures. Archival research was conducted for the APE to determine the presence of previously recorded historic properties. Only one, the NRHP listed Bowman Field Historic District, is present. The TERPS approach surface for Runway 6 clips a corner of the official Bowman Field District boundary. However, no mitigation efforts are proposed within the district and, as a result, there is no effect to this historic property.

During the weeks of August 15 and September 15, 2014, Brockington conducted a survey to identify other potential historic properties. The field survey effort resulted in the recordation of thirteen (13) architectural properties. These included two (2) golf courses, six (6) neighborhoods, and five (5) individual buildings. After evaluation of each of these properties, seven (7) are eligible for listing in the NRHP. These include the Seneca Park Golf Course and the neighborhoods of Seneca Gardens, Seneca Manor, McCoy Manor, Kingsley, Seneca Village and Seneca Village No. 2.

The Seneca Park Golf Course is NRHP eligible under Criterion A for historical associations with the New Deal's Works Progress Administration. Because it no longer possesses sufficient design integrity to qualify as a historic landscape, the proposed Safety Program mitigation efforts will not have an adverse effect on this property. The six individual neighborhoods that are eligible all qualify for listing under Criterion A for their historical associations with the suburban development of eastern Louisville and Criterion C as intact architectural representations of early to mid-twentieth century neighborhoods. Based on the archival research and field assessment, it does not appear that the proposed mitigation alternatives (see Section 1.1.1) will adversely affect key character-defining features that qualify these neighborhoods for listing.

The remaining six (6) architectural properties (Big Spring Country Club and five outparcels on Taylorsville Road and Gladstone Avenue) are not eligible for the NRHP. Therefore, no additional management considerations are required.

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References Cited

Beechwood Trees and Gardens, Inc.

2014 *Inventory of Trees Around Bowman Field.* Prepared for Hanson Engineering Beers and Lanagan

1879 *Atlas of Jefferson and Oldham Counties, Kentucky*. Beers and Lanagan, Philadelphia, Pennsylvania.

Big Spring Golf Club

1926 "Prospectus of the Big Spring Golf Club." On file at the Big Spring Country Club, Louisville, Kentucky.

Big Spring Country Club

2014 "The Club." Internet online at http://www.bigspringcc.com/The-Club.aspx. Available from August 27, 2014.

Blue Golf

2014 Course layouts for Big Spring Golf Course and Seneca Park Golf Course. Available at bluegolf.com.

Bowman Aero Company

1928 *Aerial Survey of Louisville, Kentucky*. Survey on file at the Louisville City Archives, Louisville, Kentucky.

Brother, Janie-Rice, Jennifer Ryall, and Jay Stottman

2014 *They Came, They Saw, They Bought!: The Twentieth Century Housing Boom in Louisville, Kentucky, 1920-1970*. Prepared for the Louisville Metro Department of Planning and Design Services, Louisville, Kentucky by the Kentucky Archaeological Survey, Lexington, Kentucky.

Greenwell, Kevin (PGA Professional at Seneca Park Golf Course)

2014 Personal Communication. August 19, 2014.

Kennedy, Rachel and Cynthia Johnson

2005 *The New Deal Builds: A Historic Context of the New Deal in East Kentucky, 1933-1943*. Prepared by the Kentucky Heritage Council, State Historic Preservation Office, Frankfort, Kentucky. Internet online at http://heritage.ky.gov/nr/rdonlyres/f142a86e-19c0-4ffd-8097-09474f37c9ef/0/newdealbuilds.pdf.

Kramer, Carl, Patricia A. Clare, Ronald D. Factor, and Patricia Zimmerman

1988 *Louisville's Olmsteadian Legacy: An Interpretative Analysis and Documentary Inventory*. Published by the Louisville Friends of Olmstead Parks, Louisville, Kentucky.

Johnson, Cynthia E. and Rachel Kennedy

2006 *House in a Box: Prefabricated Housing in the Jackson Purchase Cultural Landscape Region, 1900-1960*. Publication sponsored by the Kentucky Transportation Cabinet in cooperation with the Kentucky Heritage Council, State Historic Preservation Office, Frankfort Kentucky. Internet online at: http://heritage.ky.gov/nr/rdonlyres/69811bb7-b64c-43e7-ac2b-c7a83390e09d/0/houseinabox.pdf.

Louisville Community Development Cabinet (LCDC)
1979 *Louisville Survey, East Report*. Prepared by the City of Louisville Community Development Cabinet, Louisville, Kentucky. Document on file with the Louisville Metro Planning and Design Department.

Louisville-Courier Journal (LCJ)
1949 "Seneca Village Sues to Keep Independence." August 21 edition.

Louisville Title Company
1913 *New Map of Louisville and Jefferson County, Kentucky*. Compiled by the Louisville Title Company, Louisville, Kentucky.

Mendik, Kevin R.
2007 *The Challenges of Restoring a Classic American Golf Course*. Paper originally presented at "Preserve and Play: Preserving Historic Recreation and Entertainment Sites," Chicago, Illinois, May 2005. Internet online at: http://www.golfclubatlas.com/in-my-opinion/kevin-mendik-challenges-of-restoring-a-classic-american-golf-course/

National Register of Historic Places (NRHP)
1988 Bowman Field Historic District, Jefferson County, Kentucky, National Register #88002616.

National Park Service (NPS)
1997 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin 15. US Department of the Interior, National Park Service, Interagency Resources Division, Washington, DC.

O'Donnell, E.
1998 *Researching a Historic Property.* National Register Bulletin 39. US Department of the Interior, National Park Service, Interagency Division, Washington, DC.

Park Aerial Surveys, Inc.
1946 Aerial Survey of Louisville, Kentucky prepared for the Louisville Area Development Association, and Louisville and Jefferson County Planning and Zoning Commission. On file at the Louisville City Archives, Louisville, Kentucky.

1951 Aerial Survey of Louisville, Kentucky prepared for the Louisville Chamber of Commerce, and Louisville and Jefferson County Planning and Zoning Commission. On file at the Louisville City Archives, Louisville, Kentucky.

Parker, Patricia L.
1985 *Guidelines for Local Surveys: A Basis for Preservation Planning*. National Register Bulletin 24. US Department of the Interior, National Park Service, Interagency Resources Division, Washington, DC.

Rogers, Bob (Big Spring Golf Course Superintendent)
2014 Personal Communication, August 18, 2014.

Sanborn Map Company
1961 *Insurance Maps of Louisville, Kentucky: Volume Nine*. Updated from 1928 edition. Prepared by the Sanborn Map Company, New York. On file at the Louisville City Archives, Louisville Kentucky.

Sanders, Thomas N. (editor)
2006 *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports*. Issued by the Kentucky State Historic Preservation Office, Kentucky Heritage Council, Frankfort, Kentucky.

Savage, Beth L., and Sarah Dillard Pope
1998 *National Register Bulletin: How to Apply the National Register Criteria for Evaluation*. US Department of Interior, National Park Service, Interagency Resources Division, Washington, DC.

Seneca Golf Course
1950 The 25th Amateur Public Links Championship of the United States Golf Association: Seneca Golf Course, Louisville, Kentucky. Program on file at the Seneca Golf Course, Louisville.

Sherfy, M., and W.R. Luce
1996 *Guidelines for Evaluating and Nominating Properties that Have Achieved Significance Within the Past Fifty Years*. National Register Bulletin 22. US Department of the Interior, National Park Service, Interagency Resources Division, Washington, DC.

Smead, Susan E. and Marc C. Wagner
2000 Assessing Golf Courses as Cultural Resources. *Cultural Resources Magazine*, Volume 10 (2000): 16-21.

Townsend, Jan, John H. Sprinkle Jr., and John Knoerl
1993 *National Register Bulletin 36: Guidelines for Evaluating and Registering Historical Archaeological Sites and Districts*. US Department of the Interior, National Park Service, Interagency Resources Division, Washington, DC.

U.S. Geological Survey (USGS)
1955 Aerial Survey, Louisville, Kentucky dated February 15, 1955, Sheet 3-42. Available at http://earthexplorer.usgs.gov/.

1959 Aerial Survey, Louisville, Kentucky dated April 4, 1959, Sheet 2-24. Available at http://earthexplorer.usgs.gov/.

1971 Aerial Survey, Louisville, Kentucky March 31, 1971, Sheet 1-217. Available at http://earthexplorer.usgs.gov/.

Appendix A: Resume of the Principal Author

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PROGRAM MANAGER/SENIOR HISTORIAN

EDUCATION/WORKSHOPS

B.A. in History (1997), North Georgia College
M.A. in History (2002), University of Georgia
Preservation Studies Certificate (2002), University of Georgia
Advanced Section 106 Seminar, Kansas City, Missouri (2008)
Mid-Twentieth Century Architecture Seminar, Atlanta, Georgia (2009)
Applying the NEPA Process, Norcross, Georgia (2009)
Institute for Georgia Environmental Leadership (2009)
Renewable Energy Development: Impacts to Cultural Resources, Austin, TX (2012)

AREAS OF SPECIALIZATION

Archival Research
Narrative History Preparation
Architectural Documentation and Evaluation
Southern U.S. Agricultural History
Environmental History
Military History
Hydropower History

PROFESSIONAL AND COMMITTEE MEMBERSHIPS

Southern Historical Association
Agricultural History Society
Company of Military Historians
Georgia Historical Society
Board of Directors, Barrow Preservation Society (2009-present)
Historic Preservation Commission, City of Winder, Georgia, (2010-present)

PROFESSIONAL POSITION

Brockington and Associates, Inc.: History Program Manager, Senior Historian, Senior Architectural Historian (2002-present)
Shields-Ethridge Heritage Farm: Volunteer Interpreter/Guide (1998-2002)

RECENT PROJECTS, PUBLICATIONS, PRESENTATIONS AND EXPERIENCE

2014 Principal Investigator, *Historic Properties Management Plan for the Yadkin-Pee Dee Hydroelectric Project (FERC #2206), Anson, Montgomery, Richmond and Stanly Counties, North Carolina.* Prepared for Duke Energy Carolinas, LLC (in progress).

2014 Principal Investigator, *Architectural Inventory of Fort Rucker, Alabama.* Prepared for Fort Rucker and the U.S. Army Corps of Engineers, Mobile District.

2014 Principal Investigator, *Section 110 Cultural Resources Study of Three U.S. Army Reserve Centers in Minnesota* and *Section 110 Cultural Resources Study of the IA008/Creston Memorial USARC in Union County, Iowa.* Prepared for the 88th Regional Support Command and the U.S. Army Corps of Engineers, Mobile District.

2013 Principal Investigator, Independent Consulting and Review of the *Historic Properties Management Plan for the Keowee-Toxaway Hydroelectric Development, Oconee and Pickens Counties, South Carolina (FERC #2503)*. Prepared for Duke Energy Carolinas, LLC.

2013 Principal Investigator, *Architectural Survey of Five USARCs in Florida, Louisiana, Mississippi, North Carolina and South Carolina*. Prepared for the 81st Regional Support Command, Fort Jackson, South Carolina, and the U.S. Army Corps of Engineers, Mobile District.

2013 Senior Historian, *Archaeological Data Recovery at Mitchelville (38BU2301), Hilton Head Island Airport Improvements Study Area, Beaufort County, South Carolina*. Prepared for Talbert, Bright and Ellington, Inc. and Beaufort County, South Carolina.

2013 Co-Author, *The US Army Engineering and Support Center, Huntsville, Captured Enemy Ammunition and Coalition Munitions Clearance Mission, 2003-2008*. Prepared for the U.S. Army Engineering and Support Center, Huntsville.

2013 Senior Historian, *Cultural Resources Survey of the New Savannah Bluff Lock and Dam Fish Passage Tract, Aiken County, South Carolina and Richmond County, Georgia*. Prepared for Tetra Tech, Inc. and the U.S. Army Corps of Engineers, Savannah District.

2012 Author, *History of the Southeastern Power Administration, 1990-2010*. Prepared for the U.S. Department of Energy and the Southeastern Power Administration.

2012 Principal Investigator, *NRHP Evaluation of the Keowee-Toxaway Hydroelectric Development, Oconee and Pickens Counties, South Carolina (FERC #2503)*. Prepared for Duke Energy Carolinas, LLC.

2012 Principal Investigator, *Historic Properties Management Plan for the York Haven Hydroelectric Project (FERC No. 1888), York, Dauphin, and Lancaster Counties, Pennsylvania*. Prepared for the York Haven Power Company, LLC.

2012 Principal Investigator, *Mitigation for the Closure of Fort McPherson and Fort Gillem*, Prepared with Parsons Corporation for the U.S. Department of the Army and the U.S. Army Corps of Engineers, Mobile District.

2012 Co-Author, *History of the U.S. Army Corps of Engineers, South Atlantic Division, 1945-2012*. Prepared for the U.S. Army Corps of Engineers, South Atlantic Division and Mobile District.

2011 Principal Investigator, *Mitigation for the Charles E. Kelly Support Facility*, Allegheny County, Pennsylvania. Prepared with Parsons Corporation for the C.E. Kelly Support Facility and the U.S. Army Corps of Engineers, Mobile District.

2011 with Scott Butler

Cultural Resources Survey of the Sullivan's Island Elementary School Tract, Charleston County, South Carolina. Prepared for Cummings and McCrady, Inc. and the Charleston County School District.

2011 Principal Investigator, *Cultural Resources Evaluation of the Proposed SR43 Alternatives, Hancock and Pearl River Counties, Mississippi*. Prepared for ABMB, Inc. and the Mississippi Department of Transportation (multi-phase project, ongoing).

2011 Principal Investigator, *Cultural Resources Assessments of five U.S. Army Reserve Centers in the States of Vermont, Pennsylvania, and West Virginia*. Prepared for Ageiss, Inc., the 99th Regional Support Command, and the U.S. Army Corps of Engineers, Mobile District.

2011 Principal Investigator, *Architectural Survey of 28 US Army Reserve Centers in the States of Oklahoma, Texas, Arkansas and New Mexico*. Prepared for the US Army Corps of Engineers, Mobile District and the 63rd Regional Support Command.

2011 Principal Investigator, *Architectural Survey and Inventory of the Newport Chemical Depot, Vermillion County, Indiana*. Prepared for the U.S. Army Corps of Engineers, Mobile District and the Newport Chemical Depot.

2011 Principal Investigator, *Cultural Resources Study of the York Haven Hydroelectric Project (FERC No. 1888), York, Dauphin, and Lancaster Counties, Pennsylvania*. Prepared for the York Haven Power Company, LLC.

2010 *Archival and Photographic Documentation of the Former Clarksville Base Nuclear Storage Site, Fort Campbell, Kentucky*. Prepared for the US Army Corps of Engineers, Louisville District and the Department of the Army, Fort Campbell, Kentucky.

2010 *Integrated Cultural Resources Management Plan of the Anniston Army Depot, Calhoun County, Alabama. Update 2010-2015*. Prepared for the Anniston Army Depot and the U.S. Army Corps of Engineers, Mobile District.

2010 "Point Peter and Georgia's Forgotten Role in the War of 1812." Presentation for the Society for Historical Archaeology Annual Conference. Amelia Island, Florida, January 2010.

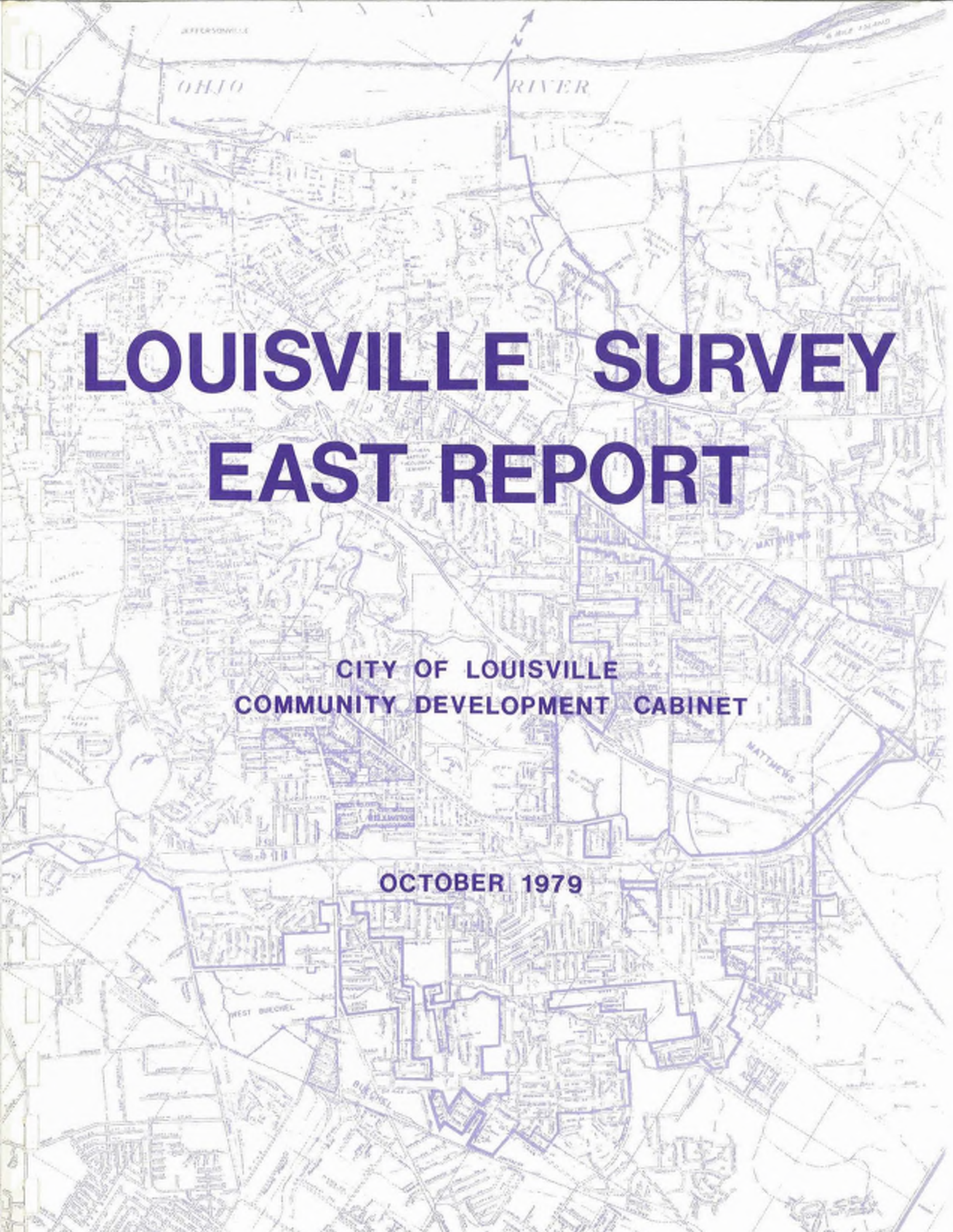
2010 *Cultural Resources Assessment for Base Realignment and Closure Actions (BRAC) at the Camp Kilmer U.S. Army Reserve Center in Edison, New Jersey*. Prepared for Ageiss, Inc. and the 99th Regional Support Command, Fort Dix, New Jersey.

2010 *Cultural Resources Assessment for Base Realignment and Closure Actions (BRAC) at the North Penn U.S. Army Reserve Center in Norristown, Pennsylvania*. Prepared for Ageiss, Inc. and the 99th Regional Support Command, Fort Dix, New Jersey.

2009 Co-Author, *One Door to the Corps: Historical Update of the U.S. Army Engineering and Support Center, Huntsville, 1998-2007*. Prepared for the U.S. Army Engineering and Support Center, Huntsville.

2009 "From Shermans to Strykers: The Historical Narrative as Creative Mitigation." Presentation for the Sustaining Military Readiness Conference. Phoenix, Arizona, August 2009.

Appendix B: Louisville Survey East



LOUISVILLE SURVEY EAST REPORT

CITY OF LOUISVILLE
COMMUNITY DEVELOPMENT CABINET

OCTOBER 1979

LOUISVILLE SURVEY EAST

CITY OF LOUISVILLE

WILLIAM B. STANSBURY, MAYOR
WILLIAM B. GATEWOOD, DIRECTOR
COMMUNITY DEVELOPMENT CABINET
HELEN ABELL, CHAIRMAN
HISTORIC LANDMARKS AND PRESERVATION DISTRICTS COMMISSION

MAY 1980

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City of Louisville
Kentucky

Office of the Mayor

WILLIAM B. STANSBURY
MAYOR

May 1980
116.7AH

Dear Louisvillian:

The Louisville Survey East is the result of more than a year of field work and research by persons under contract to the City's Landmarks Commission and under the guidance of Landmarks Commission staff. The survey is the last of three to be completed serially with Housing and Community Development Act funds. Louisville Survey West was completed in April 1977 under a contract with Preservation Alliance, and Louisville Survey Central and South was completed in May 1978 by staff of the Landmarks Commission. Now that the last report has been completed, every blockface in the entire city has been surveyed, photographed, and evaluated as to environmental quality, general condition, and architectural quality regardless of age.

The Louisville Survey will be used for citywide and small area planning and land use decisions made by both public agencies and by individual neighborhoods. It is the most intense geographically comprehensive look we have ever taken at our building stock, and it will be invaluable as an element of decisionmaking.

We believe we have taken the first step toward participation in development of what could well become a national conservation and reinvestment strategy for the built environment, made imperative by rising costs of construction; scarcity of adequate housing, and depletion of the natural environment. The City of Louisville is proud to have been able to make the Louisville Survey possible.

Sincerely,

William B. Stansbury
Mayor

WBS/brb

FOREWORD

The Housing and Community Development Act (HCDA) of 1974 eliminated several federal categorical grant programs in favor of a block grant to eligible local governments to spend, within the context of the Act, to meet local needs. Guidelines required expenditure decisions to be made with the participation of citizens and in light of their views.

To help decide how to spend its first-year entitlement of $8.6 million and to begin to formulate longer-term plans for similar entitlements in subsequent years, the City of Louisville established the Community Development Task Force in late 1974. The task force was composed of the combined memberships of a number of committees, each formed to reflect a goal specified in the HCDA. Heads of the most closely related departments of city government generally acted as committee organizers and chairmen. Thus, to me was delivered the challenge of chairing the Restoration and Preservation Committee, still active as the Preservation/Conservation Advisory Committee.

There was little time to organize before committee deliberations were to begin. Of necessity, the task fell primarily to those from both the public and the private sectors who were already working full time in related disciplines--preservation and rehabilitation administration, architecture, architectural history, planning, neighborhood organization, and housing rehabilitation. It will never be possible to thank adequately those who turned many hours of their time, their nearly boundless energy, and (thank heavens) their exceptionally fertile minds to the work that was necessary.

The task force was asked to devise a detailed game plan for the first year's expenditure and a broader-brush plan for the five following years. The process consumed several weeks rather than the expected several days; it was a grueling experience. Nonetheless, I believe it to have been the fulcrum for forging a powerful and effective, if occasionally surprising, coalition in favor of sound urban planning, strengthening of neighborhoods, and careful husbandry of our resources.

Since housing rehabilitation was clearly the principal thrust of the HCDA, pure preservation activities, although specifically eligible under the Act, were seen to be corollary to housing. It was not at all difficult, however, to put "preservation of our historic resources" on the back burner and relate, instead, to "conservation of our existing housing stock." Louisville's housing stock is, after all, mostly Victorian and, therefore, of natural interest to the preservationist. Having witnessed the excesses of Urban Renewal, it seemed imperative to maximize rehabilitation and minimize demolition--to shore up the housing stock of value, old or new, without destroying its character, and to demolish only that which is truly unsalvageable.

Discovering full agreement as to goals, the Restoration and Preservation Committee put most of its eggs in the Housing Committee's basket and, together, won acceptance of a proposal to spend about $4 million in HCDA money on housing rehabilitation. Almost $300,000 of that figure was for preservation activities related to the housing program or otherwise to neighborhood revitalization.

The Louisville Survey was first proposed by the Restoration and Preservation Committee to identify structures with architectural significance or historical association sufficient to require that they by preserved. It soon became apparent, however, that an appalling lack of data about the quality and condition of Louisville's building stock, in general, required a study of much broader scope. For the proposed rehabilitation program to have a positive effect on the community, it would be necessary to identify the stock of value throughout the city, evaluate its condition, and determine its character-giving elements.

Although the original intent of the survey is also served, the project has evolved into an effort to take a look at all building stock currently standing in the community in order to assess its conservation potential. This analysis, alone, reveals assests and liabilities in bricks and mortar and begins to suggest programs for their intelligent treatment while providing a rational foundation for decisions relating to land use, urban growth, neighborhood revitalization, and housing rehabilitation.

The Louisville Survey is being compiled so that it can be useful to many agencies. It can, for instance, become integral to the updated Comprehensive Land Use Plan. It can serve as a guide to development and implementation of Louisville's Housing Assistance Plan and its Economic Development Strategy. It can be used to build a sensible code-enforcement program. It can assist in making decisions about maintenance and development of open space and in site selection for new industry.

Potential uses for the Louisville Survey are almost limitless. We dedicate it to our mutual future in a revitalized but a characteristically Louisvillian City of Louisville.

ANN S. HASSETT
Executive Director, Landmarks Commission
Chairman, Preservation/Conservation Advisory Committee

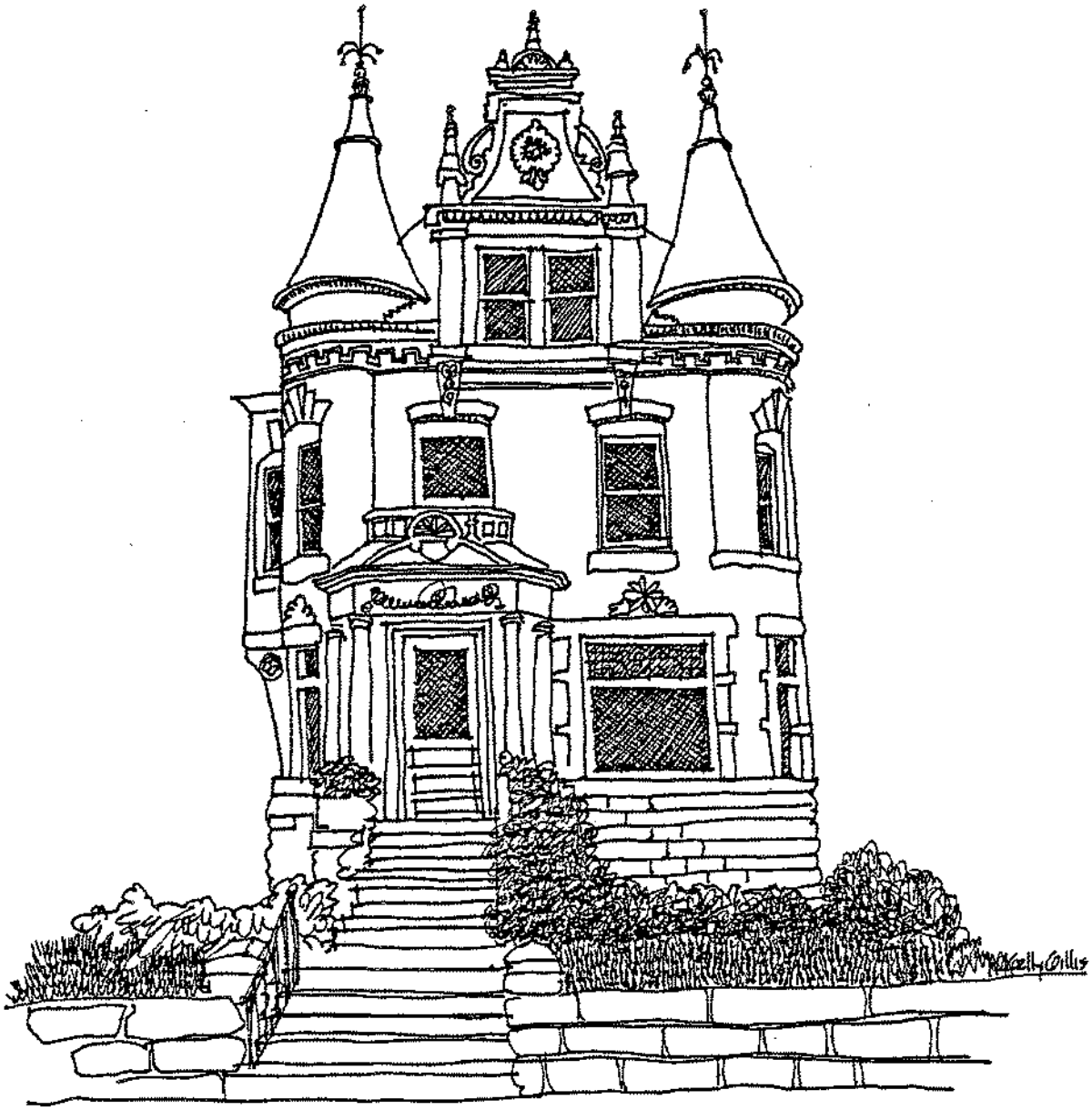
ACKNOWLEDGEMENTS

I would like to acknowledge the adivce and help of Elizabeth F. Jones, Project Director for the Louisville Survey Central and South. In addition, I would like to thank the Department of Geography and Professor William Dakin at the University of Louisville for their assistance in allowing Gray Zender and Mary Lou Corrigan to work as student interns.

The photography work for the Survey East was greatly facilitated due to the assistance of the University of Louisville for lending the camera equipment. I would also like to thank Tom Harden and the Courier-Journal for their assistance in processing the film.

Numerous other persons generously gave of their time and talent in various aspects of the project. Though not mentioned here, their help is greatly appreciated.

Marty Poynter Hedgepeth
Project Director



INTRODUCTION

INTRODUCTION

The Louisville Survey East is the third part of a three-part citywide survey. The first part, Louisville Survey West was completed under a contract between the Community Development Cabinet and the Preservation Alliance of Louisville and Jefferson County, Inc. The Survey Central and South was completed by the Historic Landmarks and Preservation Districts Commission. The Survey East was also completed by the Historic Landmarks and Preservation Districts Commission. With the completion of the Survey East, all city blockfaces will have been surveyed, evaluated and photographed.

The purpose of the survey is to provide a planning tool to be used by governmental bodies, public and private agencies, and neighborhoods. The Louisville Survey East encompasses the area bounded by the Ohio River on the north, Beargrass Creek and Newburg Road on the west and the city limits on the south and east.

The procedure used in the Louisville Survey West and Central and South was adopted for the Louisville Survey East. Modifications needed to be made to fit special situations or peculiarities. For example, Sanborn maps do not exist for the entire area being evaluated; thus Real Estate maps were used. However, they do not show the outlined structures, as the Sanborns. In general, the format established by the Louisville Survey West and Louisville Survey Central and South was followed for the East. The same type of survey forms were used and the evaluation system was adopted. The Survey East has one atlas with 81 Sanborn and Real Estate Maps.

The material in this report on the survey process is based, in great detail, on the report for the Louisville Survey West and the Survey Central and South, especially the information on the survey forms, the evaluation rating code, and the mapping since, for the sake of consistency, the same format was adopted. The history section is a well researched, well documented analysis of the political, economic, sociological and developmental aspects of the east section of Louisville for the past two hundred years. The annexation map and subdivision map give an excellent graphic representation of the development of our city.

Within the report on the Louisville Survey West is a detailed analysis of neighborhood revitalization and recommendations and methods of achieving a revitalized neighborhood. This material has not been repeated in the Louisville Survey Central and South or the Louisville Survey East. The Louisville Survey has a variety of uses that can be utilized by public and private agencies as well as individuals.

Work products are available to interested individuals at the Historic Landmarks and Preservation Districts Commission on the fourth floor of the Museum of History and Science, 727 W. Main Street, Louisville, Kentucky 40202.

Copies of the report will be located at the following locations:

LIBRARIES

Kentucky Division, Louisville Free Public Library
301 West York Street, 40203

Highland Branch Library
1000 Cherokee Rd., 40204

Crescent Hill Branch Library
2762 Frankfort Avenue, 40206

Eline Branch Library
4210 Church Way, 40207

Shelby Branch Library
600 E. Oak St., 40204

Bon Air Branch Library
2816 Del Rio Place, 40220

Outer Highland Branch Library
2225 Bardstown Rd., 40205

Filson Club
118 W. Breckinridge, 40203

University of Louisville Library
2301 S. Third St., 40208

Spalding College Library
851 S. Fourth St., 40203

Bellarmine College
2000 Norris Place, 40205

Jefferson Community College
201 East Broadway, 40202

GOVERNMENT AGENCIES

Mayor's Office
City Hall, 40202

Louisville Board of Aldermen
City Hall, 40202

Community Development Cabinet
727 W. Main St., 40202

KIPDA
914 E. Broadway, 40204

Department of Economic Development
727 W. Main, 40202

Metro Parks Department
1297 Trevilian Way, 40213

Neighborhood Development Office
City Hall, 40202

Jefferson County Planning Commission
Fiscal Court Building, 40202

Historic Landmarks and Preservation Districts Commission
727 W. Main, 40202

Jefferson County Office of Historic Preservation
Fiscal Court Building, 40202

AGENCIES

National Trust for Historic Preservation
740 Jackson Place N.W.
Washington, D.C. 20017

Preservation Alliance of Louisville and Jefferson County
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University of Louisville
Department of Geography
2301 S. Third St., 40202

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Highland Neighborhood Association
Mr. Bob Speith
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Highland-Douglass Neighborhood Association
Mr. Barry Wise
2108 Village Drive, 40205

Tyler Park Neighborhood Association
Ms. Madge Adams
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Clifton Community Council
Mr. Charles Ferris
130 South Pope, 40206

Clifton Heights Community Council
Mr. Kenny Plance
3207 University Avenue, 40206

Crescent Hill Community Council
Ms. Stephanie Miller
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Irish Hill Neighborhood Association
Mr. Mike Thomas
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Louisville Inter-Neighborhood Coalition
Mr. Jim Segrest
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United Crescent Hill Ministries
Ms. Sue Gentry
1860 Frankfort Avenue, 40206

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Ms. Fredia Goreham
2909 Arden Road, 40220

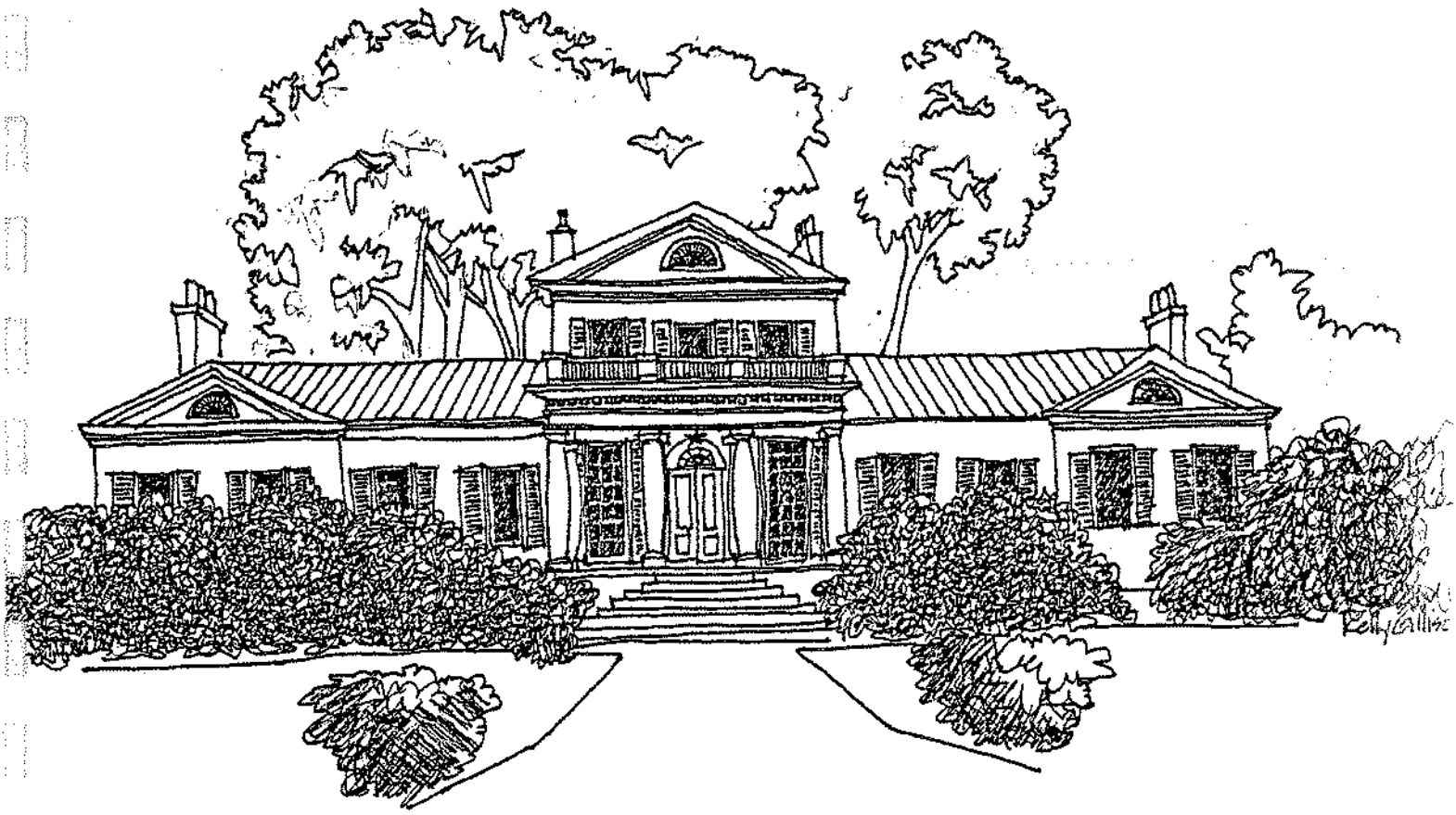
Bonnycastle Homestead Neighborhood Association
Mr. George Holmes
2138 Alta Avenue, 40205

Cherokee Triangle Association
Ms. Carol Toner
1265 Cherokee Road, 40204

Dundee-Hayfield Neighborhood Association
Mr. Tom Burke
1702 Calder Court, 40205

Gardiner Lane Neighborhood Association
Mr. Paul Schulte
2161 Winston Avenue, 40205

German-Paristown Neighborhood Association
Ms. Edna Schaad
910 Vine Street, 40204



RESULTS & RECOMMENDATIONS

Results and Recommendations

The area encompassed by the Louisville Survey East has a number of different types of neighborhoods - both old and new - including commercial, light industrial, and residential areas. Planning for any type of change in these diverse areas will need to take into account all of the factors in the area. Certain areas have been indicated on the Recommendations Maps as proposed conservation areas, core areas for proposed districts to be nominated to the National Register of Historic Places, a preservation district under the aegis of the Historic Landmarks and Preservation Districts Commission of the City of Louisville, districts listed on the National Register of Historic Places and districts pending listing on the National Register of Historic Places.

The Louisville Survey East is characterized by large areas of conservable housing stock. Numerous distinct areas of housing types and age comprise the various neighborhoods of the East. A large portion of the housing is newer than found in the other surveyed areas of the city. On the whole, it is well maintained with a large number of dwellings presumed to be owner occupied. The majority of the residential neighborhoods are cohesive in terms of architectural quality and condition and should be conserved as residential sections. Because of the large amount of housing stock which was rated lower-middle blockface and above, no attempt was made on the Recommendations Maps to delineate the conservable residential districts by neighborhoods.

Several large green spaces are important factors in the positive aspects of the residential areas of the East. These include Cherokee Park (part of the Olmsted-designed Park System), Seneca Park, Cave Hill Cemetery and Crescent Hill Reservoir (all unrated on the Recommendations Maps), all of which provide recreational and scenic open spaces. Five of the important institutions in the East are also situated in large open spaces. These include the Baptist Theological Seminary, the Presbyterian Theological Seminary, Sacred Heart Campus, the Masonic Widows and Orphans Home and the Veterans Hospital. All are enhancements to the residential areas in their vicinity.

Notable interruptions to the residential neighborhoods are the major transportation arteries. Lower ratings have resulted around Interstates 71, 64, 264 and sections of roads such as Taylorsville and Bardstown, which have become more commercial in nature. Bowman Field and the military installations located there also received lower ratings than their adjacent neighborhoods.

NATIONAL REGISTER OF HISTORIC PLACES

Under the Preservation Act of 1966 historic districts may be nominated to the National Register of Historic Places. Specific criteria for nomination have been established by the Department of Interior. One district already exists within the boundaries of the east survey. This is the Cherokee Triangle District. For a delineation of the boundaries of this district see the Recommendations Map.

Other districts are eligible to be nominated or could be nominated in the near future under new federal criteria and programs. This includes areas of the Highlands, Clifton Heights and Crescent Hill.

Being listed on the National Register of Historic Places makes a property owner eligible to apply for 50-50 matching restoration grants from the Department of Interior. These grants are administered by the Kentucky Heritage Commission. In addition, property owners are eligible to take advantage of the tax incentives in the Tax Reform Act of 1976 provided for historic properties which are income-producing and which can meet the certification requirements.*

PRESERVATION DISTRICTS

Under ordinance 58 Series 1973, the City of Louisville established the Historic Landmarks and Preservation Districts Commission. This commission has the statutory responsibility to identify, preserve, protect, and perpetuate neighborhoods, areas, places, structures, and improvements which have architectural, historical, cultural, archaeological, or aesthetic significance to the city, the commonwealth, or the nation.

The method of achieving the objectives listed above is the creation of preservation districts. These districts must be approved by the Board of Aldermen. Any exterior change in these districts is controlled by the commission through an application process. The commission can permanently deny exterior changes or demolition. Creation of a district can help retain the historical and architectural character of a neighborhood. The district under the aegis of the Historic Landmarks and Preservation Districts Commission within the boundaries of the Louisville Survey East is the Cherokee Triangle Preservation District.

*For a detailed analysis of the Tax Reform Act of 1976 and section 2124, see the Tax Reform Act Supplement to Preservation News, available from local sources, the Kentucky Heritage Commission in Frankfort and the National Trust for Historic Preservation, 740 Jackson Place NW, Washington, D. C. 20006.

Also in the survey area are individual landmarks designated by the Historic Landmarks and Preservation Districts Commission. The landmarks and their landmark sites within the boundaries of the Louisville Survey East are listed below.

1. Peterson-Dumesnil House
   301 S. Peterson Avenue

2. Peterson Avenue Hill
   Peterson Avenue

The preservation district indicated on the map is under the aegis of the Historic Landmarks and Preservation Districts Commission of the City of Louisville. The district is:

Cherokee Triangle Preservation District

A number of structures listed individually on the National Register are within the Louisville Survey East boundaries. The following is a list of those structures, objects or sites.

1. Crescent Hill Reservior
   Reservoir Avenue

2. Schuster Building
   1500-12 Bardstown Rd.

3. Spring Station
   3241 Trinity Rd.

4. Louisville Water Company Pumping Station
   1 River Road

5. Peterson-Dumesnil House
   301 S. Peterson

6. Selema Hall
   2837 Riedling Dr.

7. Howard-Getty House
   1226 Bates Court

8. Nicholas Finzer House
   1212 Hull Street

9. Jacob Hikes House
   2806 Meadow Drive

10. Cave Hill Cemetery
    701 Baxter Avenue

11. Peterson Avenue Hill
    Peterson Avenue

The following structures are pending in Washington for listing on the National Register:

1. Bray Place
   2227 Bashford Manor Lane

2. Hayfield
   1809 Tyler Lane

3. Olmsted-designed Parks and Parkway System
   Cherokee Park, Shawnee Park, Iroquois Park and connecting parkways

As evidenced by the information on the preceding pages, the area in the Louisville Survey East is extremely diverse and rich in man-made resources. The cohesive areas indicated on Recommendations Maps East are sections of the City of Louisville which should be conserved and maintained for the future.

THE POTENTIAL OF NEIGHBORHOOD REVITALIZATION PROGRAMS

Within the scope of neighborhood revitalization there are many possibilities which exist to give a renewed vigor to an urban neighborhood. All of the methods toward revitalization require a strong commitment from the citizens of the area. Often the implementation of certain programs involves some type of partnership with another entity either governmental or private. In the following section some of the potential partnerships will be discussed.

NEIGHBORHOOD HOUSING SERVICES

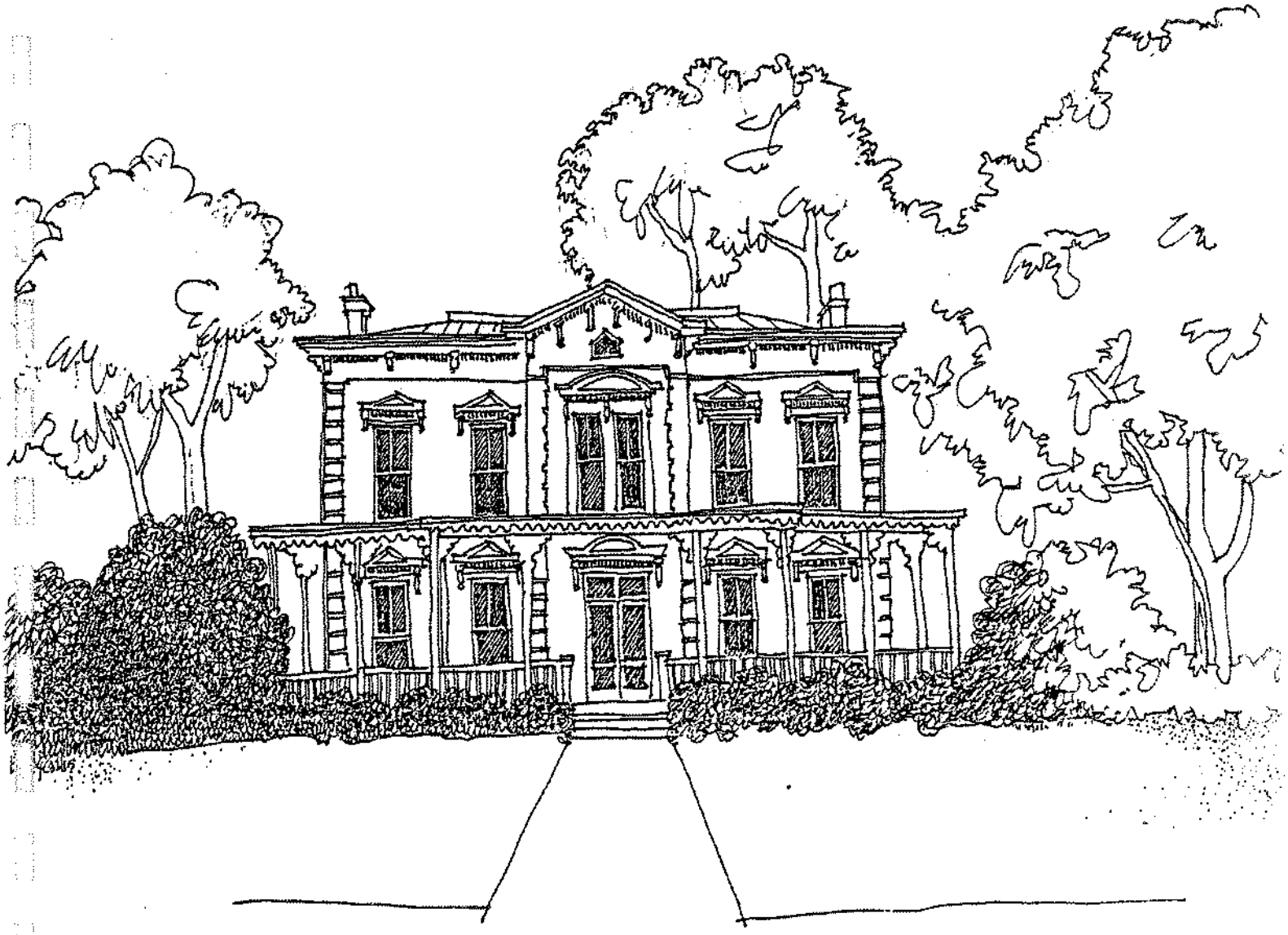
The Neighborhood Housing Services programs are aimed at a private-public-resident partnership which fosters the stabilization and improvement of a neighborhood. The Neighborhood Housing Services is being implemented on the national level by the Urban Reinvestment Task Force and is a joint effort of the federal financial regulatory agencies including the Federal Home Loan Bank Board, the Federal Deposit Insurance Corporation, the Comptroller of the Currency and the United States Department of Housing and Urban Development. The purpose of Neighborhood Housing Services is to stimulate reinvestment in the urban neighborhood. In Louisville the program has begun first in the Shawnee neighborhood. This neighborhood was selected after much study and deliberation by the Neighborhood Housing Task Force.*

Hopefully, more Louisville neighborhoods will become involved with the Neighborhood Housing Services program in the future.

NEIGHBORHOOD GROUPS

Louisville has an unusual number of active neighborhood goups. A number of these have been in existence for many years. Yet, many new groups have been formed under stimulation from the Neighborhood Development Office of the City of Louisville. Neighborhood associations can have a great effect on the quality of the neighborhood. There exist many models to choose from in the Louisville area. A list of neighborhood organizations in the east sections of the city is found in the Introductory chapter of this report. In addition the history and development of some neighborhood groups are chronicled in the history chapters of this report.

*For a complete analysis of Neighborhood Housing Services, see Journal of Housing, January 1976, Vol. 33, No. 1.



SURVEY PROCESS

SURVEY PROCESS

This survey measured in a systematic way the difficult-to-measure qualities of our physical environment, such as architectural significance, physical condition, and urban design.

Since this is the first time the enormous task of surveying the whole city's building stock has been undertaken, individual buildings have not been surveyed; rather, only the sides of blocks, hereafter called "blockfaces," were surveyed. The blockface was thus considered as a whole unit composed of urban design elements. The work of surveying individual buildings could then be undertaken at a later date with the assurance that at least the qualitative characteristics of whole districts had been considered. Most of the survey data is new information and provides both city agencies and neighborhood organizations with a tool they can use in conjunction with existing city information to plan more intelligently for their neighborhoods.

Criteria

At the beginning of the Louisville Survey West, the first part of a three part survey, several decisions were made to insure consistency of the data recorded:

1. All blockfaces would be evaluated from the street side.
2. The surveyor would perform the survey from an automobile.
3. The United States Census system of numbering tracts and city blocks would be used by the survey to insure compatibility of data with existing data of the various offices of city and county government.
4. One survey form would be used per blockface.
5. All survey fieldwork would be performed by one person to insure consistency of the evaluation.

Survey Form Design

The survey forms were designed for clarity and ease of use (see Appendix). Categories were devised which described the various urban design qualities of a block. The form, arranged into locational, inventory, and evaluation information, is described here briefly and later in more detail.

Locational Information: The upper left-hand corner of the survey form contains information used to locate a given blockface: census tract number, street name, photographic roll, and frame number. The space marked "UTM" was left unused. UTM, or the Universal Transverse Marcator system, is a coordinate developed by the U.S. Army in the late 1940s. It allows convenient and direct measurement from U.S. Geological Survey maps and has been adapted recently by the National Register of Historic Places as their system for locating structures listed in the Register. However, the UTM space on the form was left unused because of the excessive time needed to devise coordinates for each block and because the U.S. Census system provides adequate locational information.

Inventory Information: The left half of the survey form contains inventory information for a given blockface. In other words, it states in shorthand fashion what exists on that blockface in terms of:

a. Land use

b. Scale (story height of buildings)

c. Rhythm (proportional relationship of distance between buildings)

d. Roof (roof types)

e. Elements (design elements - meaning the presence of porches or fences only)

f. Materials (exterior materials of walls and roofs)

g. Setback (a building's distance from the street)

h. Environment (the presence of street trees, lawns, or decorative sidewalks)

Evaluation Information: The right half of the survey form contains evaluation information for a given blockface. In other words, it rates what exists on a blockface in terms of "relative compatibility" or in terms of "excellent," "good," "fair," or "poor." The categories of evaluation information are threefold: "Area," "Block," and "General." Each category is broken down into the following parts to be evaluated:

a. Area

    1. Adjacent Blocks

    2. Neighborhood

b. Block

    1. Land Use

    2. Scale

    3. Rhythm

    4. Roof Shape

    5. Design Elements

    6. Materials

    7. Setback

    8. Environment

c. General

1. Overall Condition

2. Development

3. Architectural Quality

Form Types

The categories described above are those of the standard form (Form No. 1), designed for the typical blockface containing buildings. A variation of the standard form, Form No. 2 was developed to survey those blockfaces which contained two buildings or less. Form No. 2 was thus used for a park, a school yard, a parking lot, a side street containing residential garages, and in general an undeveloped blockface. A sample of Form No. 2 can be seen in the Appendix A, Exhibit 2. The minor difference between Forms No. 1 and No. 2 will be discussed in the following section.

INVENTORY INFORMATION

The purpose of this section is to explain why the survey categories of urban design elements were selected and the way in which the surveyor used the forms. In general, the categories selected describe the palette of commonly accepted urban design elements. Urban design elements can be arranged to create an attractive blockface. Similarly, the actual number of elements available is not as important as the manner in which they are arranged. The following section discusses each design element in relation to the urban design character of the blockface seen as a whole.

FORM NO. 1

After the surveyor filled in the appropriate locational information, he placed one or more check marks in the boxes which most accurately described the existing situation for a given blockface.

Land Use: Proceeding from left to right the first category to consider is the "land use" on the blockface in question. Land-use categories are: Residential, Commercial, Institutional, and Industrial. In keeping with the architectural nature of the study and since existing land-use information is available through the Louisville and Jefferson County Planning Commission, "land use" here means the original use of the structures. That is, the surveyor recorded his judgement of the original design intent of the structures. A house, even though it may now be used as a beauty shop or tax service, was considered residential. An institutional activity, such as a church or boys' club, in a building designed as a store, was still considered commercial. However, one should note that almost all of the structures surveyed still retain their original use, so a discrepancy seldom exists between the original land use checked on the survey form and the present land use.

Scale: For the purpose of this study, "scale" means the story height of buildings on a given blockface. A check was given for each story height represented on the blockface. A write-in box allowed beights over three stories to be recorded. On a blockface having buildings of several story heights, the most common height was circled on the form.

Rhythm: This category can be thought of as the "horizontal rhythm" of a blockface and deals with the proportional relationship of building widths and lot widths. The surveyor categorized a given blockface in terms of "regimented," "varying," or "broken." "Regimented" means that the proportional relationship between structure widths and/or lot widths is completely regular and unchanging. A "varying" classification was given for a blockface displaying an irregular spacing of building width and/or widths. This pattern is typical of blockfaces with structures built in different areas and on different width lots. "Broken" was checked when lots occurred in a blockface to such an extent that the original layout of buildings was no longer intact, or was broken. Such a disruption of buildings on a blockface has often been compared to "missing teeth in a smile." If only minor disruption to the pattern of width had occurred, "broken" was checked along with either "varying" or "regimented." If many buildings on a blockface had been torn down leaving a situation where lots without buildings rivaled those with buildings, only "broken" was checked.

Roof Shapes: This category, abbreviated to "roof" on the form, refers to the type of roof used over the major portion of the structure. Provision was made for the three most common types, gable, hipped and parapet, to be checked, whereas others, such as gambrel, mansard, jerkinhead or shed, were written in.

Design Elements: The category, abbreviated to "Elem," on the form, refers to man-made design elements that have the potential to enhance the blockface. Two of the most prevalent and important elements considered were: porches, because of their potential to provide additional rhythms and pleasing intricacies to the visual character of the blockface, and fences, because of their potential to provide a unifying effect. These classifications were checked only if a noticeable number of structures possessed these elements. The category was not checked if a blockface had only one porch or a fence on one lot.

Materials: This category was divided into two parts for the purpose of defining the materials used for the wall construction and roof construction. Walls constructed of wood, stone, brick, and stucco could be indicated by a checkmark. A space after the sub-category allowed the noting of other materials such as concrete block, perma stone, etc. Some structures had asphalt sheeting applied to the exterior, either by original intent or alteration. These walls were checked "wood" to indicate the material of the structure and original cladding. Roofs covered with shingles, metal, slate, or tile were checked as such.

Setback: This category describes the distance from the street curb to the building facade. In an urban design sense, the setback of buildings on a blockface displays another kind of rhythm to the passerby. The space of the street is expanded or compressed depending on the distance of buildings from the street and the height of facades. The surveyor would check "small" setback if the distance from curb to facade was the same as or less than the facade height. "Medium" setback would be checked if the distance was one or two times the facade height. "Large" setback would be checked

if the distance was greater than two facade heights. Multiple checks would be given if a blockface had more than one obvious setback distance; however, for most blocks surveyed only one setback category was checked.

Environment: This category, abbreviated to "Environ," on the form, describes the most obvious elements of the landscape which have the potential to enhance a blockface, that is street trees, lawns, and sidewalks. The category of "street trees" refers to trees located between the sidewalk and curb. Lawn trees are excluded. This category was checked if enough trees were distributed along a whole blockface to create a visual screen or row. The category of "lawns" encompasses grass areas between the sidewalk and building facade and also includes ornamental plantings, hedges, and lawn trees. A blockface received a check for "lawns" when lawns and plantings occurred in sufficient number and quality to contribute to the appearance of the blockface as a whole. The category of "sidewalk" was checked when the sidewalk material of a blockface was unusual or visually interesting. Brick or, possibly, hexagonal concrete block sidewalks most often fell into this category. No check would be given for typical poured-concrete sidewalks or where sidewalks did not exist.

FORM NO. 2

As previously mentioned, Form No. 2 was developed as an adjunct to Form No. 1, and was used for surveying blockfaces containing two buildings or less. Since this form was used most often for land containing few if any buildings, the following building-related categories were removed: Rhythm, Roof Shape, and some subcategories of Material. However, the following categories were added:

Adjacent Land Use: This category is the same as "Land use" on Form No. 1 except that it also considers land use adjacent to the blockface being surveyed. The reasoning behind this expansion was that in instances where a No. 2 form was used, the blockface might be a parking lot or vacant land which could not easily be categorized as either residential, commercial, institutional or industrial. Also, the use of such parcels of land is greatly influenced by the land use and activities nearby. Therefore, this category includes the land use of the blockface being evaluated plus the three closest blockfaces of the block immediately across the street from the blockface being surveyed.

Blockface Use: The category was added to describe the presence or lack on structures on the blockface described by Form No. 2. This was necessary because one can no longer assume, as in the case of Form No. 1, that structures exist on the blockface. Possible categories are "Individual Structure(s)", "Nonarchitectural," and "Open Space." The category of "Individual Structures" was checked when only one building existed. An "s" in brackets was added to the category and checked if the blockface contained two structures. Nonarchitectural was checked if the blockface contained no structures or only minor structures, such as garages, or side (secondary) elevations of corner structures. Front (primary) elevations of corner buildings are considered on forms of adjacent blockfaces. When the blockface contained no structures, a notation such as "parking lot" or "junkyard" was written in the blank to explain the most obvious blockface use. Where surveyed, back alleys were noted as such here. Back alleys were occasionally considered where the census block being surveyed was divided in such a way as to be bounded by an alley rather than by a regular city street.

NOTE:

The category of "setback" was inventoried in a slightly modified fashion on No. 2 forms where no buildings occurred. In this situation either the category was desregarded or an obvious spacial barrier, such as a line of trees, was treated as a building facade.

EVALUATION INFORMATION

The process of evaluating the inventory information, by filling in the right-hand side of the Louisville Survey East forms, was a pain-staking and time-consuming task. Also, for the sake of consistency, the work had to be performed by one person. In this way any personal biases which might occur would be equalized and made consistent for the whole survey area.

The right-hand side of the survey form evaluates the many types of categories inventoried in terms of relative degrees of "compatibility." As seen in the upper right-hand corner of the form, the degree of greatest compatibility of categories being considered is termed "consistent," which means ". . .the same and consistent with...." The middle degree of compatibility is termed "compatible" and means ". . .different but compatible with. . ." The term of least compatibility is "poor," which means ". . .incompatible with. . ." For example if we use the No. 1 form, the category of "land use" considers land use in terms of inventory information. If the inventory information was checked only "residential" then land use was evaluated "same and consistent." If two kinds of land use exist on a blockface, they were evaluated "different but compatible." If indeed they were compatible land uses. "Poor" was used if the land uses were incompatible. The following section will explain this evaluation system in more detail for each category.

FORM NO. 1

The thirteen categories of evaluation information are divided into three groups: "Area," "Block," and "General." Each group represents a different way to look at a given blockface. The "general" group is most important, followed by "block" and then "area," Space is provided to evaluate each category using check marks. A final column allows space for a numerical rating of each category. Spaces for subtotals are appropriately located.

Area

This group refers to how the land use of a blockface relates to the land use of (1) Adjacent Blocks, and (2) the Neighborhood.

Adjacent Blocks: The four blockfaces to be considered in this category are the blockface being surveyed, blockface sharing the corners of the blockface being surveyed, and the blockface across the street from the one beng surveyed. "Consistent" was checked when the land use of the three adjacent blockfaces was the "same and consistent with" the blockface being surveyed. "Compatible" was checked when several land uses were present but compatible. "Poor" was checked only when there was an obvious incongruity of land use such as a playground next to a junkyard or a few houses surrounded by industrial structures.

Neighborhood: Blockfaces considered in the category of neighborhood are those in about a five-block radius from the one being surveyed. Within such an area, a variety of land uses is needed and desirable. "Consistent," therefore, was most often checked since the land use(s) of a blockface being surveyed would usually fall into the group of desirable neighborhood land uses. "Compatible" was checked when the land use(s) of the survey blockface were different but compatible with land uses in the neighborhood area. "Poor" was rarely checked.

Block

In this group, the inventory categories of urban design elements previously described are presented for evaluation.

Land Use: As previously described, if only one land use was checked in the inventory category, the rating of "consistent" was given. If several uses were present but not conflicting, "compatible" was checked. "Poor" was checked if the uses conflicted.

Scale: "Consistent" was checked if all structures on the blockface were about the same height (variations within one-half of a story were allowed). "Compatible" was checked if buildings were different story heights but the overall visual affect, or rhythm, was harmonious. "Poor" was checked when building heights were grossly incompatible and visually jarring, such as when a large building (over four stories) abutted a one-story house.

Rhythm: "Consistent" was checked when the blockface was inventoried as "regimented." "Compatible" was checked when the blockface was inventoried as "varying" or when both "regimented" and "broken" were checked, but the break was not so severe as to noticeably affect the visual continuity of the blockface. "Poor" was checked when breaks in the blockface noticeably affected its continuity.

Roof Shapes: "Consistent" was checked if all the roof types were the same. This situation seldom occurred since there is a potential for noticeable variation within any given category of shapes. For example, even in a blockface of all gable roofs, the ridge lines might run in different directions causing "different but compatible" to be the best description. Therefore, "Compatible" roof shapes was the category most often checked. "Poor" was rarely checked.

Design Elements: This is a quantitative category and was evaluated according to the number of checks received in the "elements" category of the inventory side. If either inventory category ("porches" or fences") received one check, the rating of "Compatible" would be checked. If both inventory categories were checked, then the rating of "consistent" would be checked. One may see that this procedure is a departure from the way categories were usually checked (usually one inventory category checked received a "consistent rating"). "Design Elements" and also "environment" were treated this way because of the hierarchical nature of the three ratings of compatibility which would be reflected in points assigned to each category in the next step of the survey process (see Evaluation Findings). Thus, a blockface with both porches and fences is more desirable and was to be assigned a higher point value than a blockface with only porches or only fences checked. Therefore, the most desirable category here was placed in the "Consistent" column.

Materials: "Consistent" was rarely checked because of the possible visual variations even within one category, such as variations in brick color or types of asphalt shingles. "Compatible," therefore, was most often checked. "Poor" was seldom checked and only when obvious visual incompatibilities of materials existed.

Setback: "Consistent" was checked when the setback distance of buildings on the blockface was all the same. The Sanborn maps proved useful in checking the setback line of buildings. "Compatible" was checked when various setback distances occurred within one inventory classification. "Poor" was checked when one or more buildings displayed a setback which was disruptive to the rhythm and visual continuity of the facade line.

Environment: Similar to "design elements," this is a quantitative category. Since "sidewalks" was almost never checked, "street trees and lawns" were generally evaluated. If both were present, "Consistent" would be checked. If only one was present, "Compatible" was checked. If none was present, "Poor" was checked.

General: This group refers to the general aspects of a blockface, of its overall physical condition, the era in which it was constructed, and its overall architectural quality. Since these characteristics are among the most important when considering the overall conservation value of a blockface, this group is the most important of the three evaluation categories.

Overall Condition: This category assesses the overall physical condition of all structures on a blockface in terms of "excellent," "good," "fair," or "poor" condition. An in-depth assessment of a building's structure and interior condition was not within the scope of this survey and is being under-taken by the city's Department of Housing Inspection. This survey provides a generalized assessment of the average physical condition of buildings on a blockface. The surveyor based his assessment on the appearance of a building's exterior surfaces visible from the street.

To the architecturally experienced eyes of the surveyor, the exterior surfaces of a building can reveal the building's physical condition. The sagging lines of roofs or walls reveal some degree of structural deterioration as do diagonal cracks in brick walls and stone foundations. The condition and maintenance of wall and roof materials are readily observable. Water stains and sagging cornices reveal the condition of gutters. The details of a building such as windows and trim not only reveal their condition but the amount of maintenance or "face-lifting" the building has experienced.

Most of the survey forms were checked "good" or "fair" overall condition. "Poor" was moderately checked, and "excellent" was almost never checked.

Developmental Period: This category records the approximate construction eras of buildings on the blockface, based on the architectural style(s) of buildings on a blockface. The surveyor checked one or more of the following categories of construction eras: "Ante-Bellum" (before 1860); "Victorian" (1860-1890); "Classical" (1890-1920); "Post World War I" (1920-to present).

Architectural Quality: Given the nature of the survey, this category is extremely important. It provides an assessment of the average level of architectural quality of the blockface.

Since the survey was conducted from the streetside and since most older buildings put most if not all architectural emphasis on their facades, this category primarily rates the architectural quality of facades. The term "architectural quality" for the purposes of this survey means the level of artistic excellence of a facade. The term includes all artistic aspects of a facade from the craftsmanship displayed by details such as decorative woodwork at cornices and porches, to the placement of windows, to the sculptural composition of building masses. Although many of the preceding categories relate to architectural quality, the surveyor attempted to rank the blockface either "excellent," "good," "fair;" or "poor," irrespective of other blockface characteristics. Nevertheless some influence of other categories is impossible to eliminate, such as when structures on a blockface are in such poor repair that architectural details are missing. The fact that the original design of a facade had been altered was not, in itself, regarded negatively. Each facade was judged on its own merits. Although no individual buildings were surveyed, beautiful or unusual structures which caught the surveyor's eye were noted by circling the "yes" designation under Architectural Quality and writing in the street address on the form.

Human bias and subjectivity are always present in any work which attempts to assess "quality." For the purpose of this city-wide survey, the blockfaces were compared to the average level of architectural quality for the City of Louisville.

FORM NO. 2

As with inventory information, the information on the evaluation side of the No. 2 form is a modification of similar information on the No. 1 form described above. The evaluation side of the No. 2 form contains twelve categories of information arranged in four groups: "Area," "Adj." (Adjacent Area); "Block," and "General." The categories of "Rhythm," "Roof Shape," and some subcategories of "Material" omitted on the Form No. 2 inventory were necessarily also omitted on the evaluation. However, the following two categories under "Adjacent Area" were added:

Adjacent Land Use: This category evaluates the land use of the four blockfaces inventoried (see Adjacent Land Use, page C-8). "Consistent" was checked when only one land use was present. "Compatible" was checked when multiple land uses were present and compatible. "Poor" was checked if multiple land uses were present and incompatible.

Block Use: Assuming the No. 2 blockface usually exists among No. 1 blockfaces, "Consistent" was checked if "individual structures" received an inventory check, that is, the blockface contained structures as did surrounding blockfaces. "Compatible" was checked if "nonarchitectural" received an inventory check. The "poor" category was left unused.

Block: In this group the quantitative categories of "design elements" and "environment" were evaluated using the same procedure as that used with Form No. 1. For the qualitative categories of "scale," "setback," and "materials," a modification to this procedure was used. That is, the area of comparison was expanded to include the four blockfaces considered under "adjacent land use." Since the No. 2 blockface was often vacant or undeveloped land, this blockface was compared not only to itself (Form No. 1 procedure) but also to the three closest blockfaces of the block immediately across the street. Other than the expanded area of consideration, the evaluation procedure was the same as previously described for No. 1 forms and need not be repeated here. One should note that an effect of this expanded area was that the rating of "consistent" rarely occurred because the scale, setback, or materials for four blockfaces were rarely the same. "Compatible" was the rating most often given.

General: This group was evaluated using the same procedure as that used with Form No. 1. Even with vacant lots or parks, "overall condition" and "architectural quality" can be evaluated, though the latter becomes more an evaluation of landscape architecture. For such land without buildings, "development period" was usually omitted from evaluation.

Rating Code

In evaluating the data from the Louisville Survey East, the same rating code developed for the Louisville Surveys West and Central and South was used in order to achieve consistency in the product. For a detailed discussion of the development of the rating code see the Louisville Survey West Final Report, pp. C-18 and 19.

An approach was devised which established categories of conservation significance in advance so that every possible combination of evaluation would fall into one district category or another. The premises of that approach were:

1. the "General" group was judged most important, then "Block," and then "Area;"

2. the subtotal of each group was treated as a discrete unit having its own nomenclature; and

3. the rating code was to allow reconstruction of the essential elements of the evaluation side of each survey form.

General

Within the "General" group, combinations of "Architectural Quality" and "Overall Condition" were devised to produce five groupings of conservation significance. Although it can be easily reconstructed for historic preservation purposes, the category of "Developmental Period" was omitted from consideration to facilitate use of the data for general planning. The five groupings devised were:

High: Excellent/Good Quality with Excellent/Good Condition

Endangered High: Excellent/Good Quality but Fair/Good Condition

Upper Middle: Fair/Poor Quality with Excellent/Good Condition

Lower Middle: Fair/Poor Quality with Fair Condition Only

Low: Fair/Poor Quality with poor Condition Only

Even eliminating "Developmental Period" from consideration, the four possible categories each of "Condition" and "Quality" produce a possible sixty-four combinations--obviously too many to be usefully described on a map. It was felt that no more than six categories of conservation significance could be mapped and easily understood by the general public. Therefore, since the evaluation of "excellent" was not used extensively for either "Quality" or "Condition," "excellent" was combined with "good" to produce a more significant category of highest conservation value.

Also, since differentiating between "fair" and "poor" architectural quality was of only minor importance, these two categories were grouped together. Differentiating between "fair" and "poor" condition, however, became increasingly important as the quality of a blockface declined, hence these categories of condition were left separate in the middle and low groups, while they were combined in the high group. In short, the two composite groups of quality were combined with three groups of condition to produce the five groupings of conservation significance described above.

BLOCK (Urban Design)

The range of possible points in the "Block" group was from zero to ninety. Points were assigned according to previously described priorities and appeared as follows:

	Consistent	Compatible	Poor
Landuse	10	8	0
Scale	15	10	0
Rhythm	15	10	0
Roof Shapes	10	7	0
Design Elements	5	4	0
Materials	10	7	0
Setback	15	10	0
Environment	10	5	0
Maximum Possible Points:	90	61	0

One should note that "Compatible" occupies a value above the mid-point of each category. This was done primarily to compensate blockfaces containing buildings from several areas. In such blockfaces, little chance of consistency is possible but the whole often has a dynamic and attractive urban design character which must be rewarded.

AREA

To differentiate the "Area" group, alphabetical instead of numerical nomenclature was used as follows:

	Consistent	Compatible	Poor
Adjacent Blocks	a	b	c
Neighborhood	a	b	c

Rating Code

A sample of the master sheet for the rating code system may be seen in the Appendix A, Exhibits 1 and 2. Survey forms were grouped and mapped for each of the five established categories. The following combinations of the first two digits of the rating code correspond to categories of "architectural quality" and "physical condition" previously described.

Category	Rating Code Series
"High"	: 44,000/43,000/34,000/33,000
"Endangered High"	: 42,000/41,000/32,000/31,000
"Upper Middle"	: 24,000/23,000/14,000/13,000

"Lower Middle"	: 22,000/12,000
"Low"	: 21,000/11,000

Example:

Let us select an imaginary rating code of "32,658 ba" for examination. Based on the values shown on the master sheet, we can reconstruct the evaluation side of the survey form for this imaginary blockface. The numeral three (3) in the first place means the "Architectural Quality" was "good". Two (2) in the second place means that "condition" was "fair." (We can also see that this is a 32,000 series rating code, which places it in the "Endangered High" category.) Six (6) in the third place means the "Developmental Period," or construction era, of buildings on the blockface was "Classical" (1890-1920) and "Victorian" (1860-1890). Fifty-eight (58) in the fourth and fifth places means that the urban design character of the blockface was about average, falling about midway in the subtotal range. The letters "b" and "a" in the sixth and seventh places mean that the land use of the blockface was different but compatible with surrounding land use and consistent with neighborhood land use.

MAPPING

Once a survey form was given a rating code, the code was transferred to the corresponding blockface on a Sanborn map or Real Estate map and coded with a distinctive color according to its group as follows:

Category	Color
"High"	= Purple
"Endangered High"	= Red
"Upper Middle"	= Blue
"Lower Middle"	= Green
"Low"	= Yellow

RECOMMENDATIONS MAP

From the Sanborn and Real Estate maps, the sides of blocks were averaged. The average color, or rating, of each block was recorded on the Recommendations Maps, an overall map showing the entire survey area. In order to average blocks accurately, each color was assigned on "averaging value" as follows:

Category	Color	Averaging Value	Range
"High"	= Purple	= 5	= 5.0 to 3.5
"Endang'd High"	= Red	= 5*	= 5.0 to 3.5
"Upper Middle"	= Blue	= 3	= 3.4 to 2.5
"Lower Middle"	= Green	= 2	= 2.4 to 1.5
"Low"	= Yellow	= 1	= 1.4 to 1.0

*Red was coded as purple on the Recommendations Maps because red occurred so infrequently.

To be as generous as possible in a 50-50 situation, the devised system gave a block the highest rating possible. For example, a block with two green blockfaces and two blue blockfaces would be colored blue since the total averaging value is 10 (2+2+3+3).

One should note that a square block with three blockfaces of one color and one blockface of a higher color would receive the predominant color except if the highest color were purple; in this case, the whole block would be colored purple in order to give purple blocks the greatest possible benefit of the doubt since "good" or "excellent" ratings in "Architectural Quality" were so seldom given. This benefit does not occur, however, if the block has any fewer than three blue sides. For example, a block with one purple, two blue, and one green side yields a blue block color.

ODDLY SHAPED BLOCKS

A block with more or fewer than four sides was color-coded according to the average score of its sides. The range of average scores yielding a given color is listed above. Thus, for example, a three-sided block with one green side (2) and two yellow sides (1+1) yields an average score of 4÷3 or 1.33, which falls in the 1.4 or 1.0 range, causing the block to be colored yellow.

RATINGS MAPS

The Ratings Maps are maps showing all blockfaces unaveraged as they appear on the Sanborn and Real Estate maps. The advantage of the Ratings Maps is "Endangered High" blockfaces that were made invisible by the averaging process used on the Recommendations Maps are brought to view.

RECOMMENDATIONS MAP

The color code of the Recommendations Maps has been translated into a black and white code on the reduced maps in the Appendix.

UNSURVEYED AREAS

When looking at the Recommendations and Ratings Maps one may identify blockfaces not surveyed since they were left-uncolored. This was due to the limited access of certain areas because of Interstate 71. Within these unsurveyed areas are few, of any structures.

SURVEY WORK PRODUCTS

As previously mentioned, in addition to this report, the work-products of this survey are survey form booklets, one atlas, an index, and photographic proofsheets and negatives. This section is written as a guide on the use and interrelationship of these work products.

Survey Form Booklets

All Survey forms have been organized and bound by census tract. They provide the user with the most detailed information on a given blockface this survey has to offer. The significance of the categories was discussed under the survey process.

Atlas

The Atlas for Louisville Survey East consists of a title sheet with a table of contents, an index map*, an overlay map, a recommendations map, a ratings map, Sanborn and Real Estate maps, an annnexation map, a subdivision map, and a subdivision index. The index map is an important tool for the user to understand. As stated on the legend of the index map, bold black numerals represent the U.S. census tracts with boundaries outlined by a black dashed line. Small black numerals underlined in red are the numbers of the Sanborn maps with boundaries outlined by a solid red line. Small black numerals underlined in green are the numerals of the Real Estate maps with boundaries outlined by a solid green line. Within each census tract, the U. S. Census Bureau has numbered each census block. Block numerals with asterisks indicate the census block is composed of several conventional city blocks and thus often has more than four blockfaces. In order to locate a given blockface, the user must refer to the index map. Once the user has discovered on which census tract and Sanborn or Real Estate map the blockface appears, he or she may then proceed to the Sanborn or Real Estate map, the index, or the survey form booklet for that tract. The numeral of each Sanborn and Real Estate maps appears in the lower right-hand corner of the sheet. Numerals for each block appear near the center of each block. Each blockface on the block has its rating code written in red ink adjacent and parallel to it, followed by its form number. In the last part of each Atlas, the user will find an annexation map and subdivision map with a subdivision index, all of which are explained in the History Section of this report.

*This map was made using a DIME File print provided by the Kentuckiana Regional Planning and Development Agency (KIPDA), 505 W. Ormsby Av., Louisville, Ky.

Index

The index is a ringed notebook organized by census tract and block number. For each blockface it lists the street name associated with that blockface; the survey form number used (1 or 2); the compass direction of the blockface in terms of North (N), West (W), South (S), and East (E); the rating code for that blockface; the Sanborn or Real Estate map on which the block may be found; the photographic proofsheet roll and frame number; and notes.

The users should familiarize themselves with the index format and also with the abbreviations explained in the abbreviation key on the first page of the index.

Photographic Proofsheets and Negatives

For every survey form there is a corresponding set of photographs showing the blockface surveyed. This tool allows the user to verify survey information without traveling to the blockface. It also provides, for the first time, a photographic record of Louisville which can only increase in value as the years go by.

These photographs are on a 16"x20" sheet. They are in a 35mm format which has been enlarged. In order to find photographic frames of a given blockface, the user locates the blockface in the index*. The user then reads the tract and roll number, for example, "6/13" stands for census tract 6, roll 13. The user also identifies the corresponding frame numbers: For example, "12-14" stands for frames numbered 12-14 on the proofsheet. The user then opens the proofsheet box holding census tract 6 photographs and looks in the upper left-hand corner of the proofsheet for 6/13. Once this proofsheet has been located, the user finds frames 12-14. Frame 12 shows the left-hand end of the blockface, frame 13 shows the middle,and frame 14 shows the right-hand end of the blockface.

*Roll and frame numbers are also listed on survey forms.

A HISTORY OF EASTERN LOUISVILLE

BY CARL E. KRAMER

CHAPTER I

THE FORMATIVE YEARS

Viewed from the historical perspective of the urbanization process, the East End is by any measure the youngest section of the City of Louisville. For reasons relating largely to topography and physical proximity to the original town of Louisville and the Falls of the Ohio, the area east of the South Fork of the Beargrass Creek did not begin to show signs of urban development until just before the Civil War. In several important respects, however, the history of eastern Louisville, like that of the rest of the city, begins even before the settlement of Corn Island by George Rogers Clark in May 1778.

Early in 1773, ten years after the end of the French and Indian War, Lord Dunmore, Royal Governor of Virginia, began issuing certificates for grants of unclaimed western lands to private individuals as payment for services rendered to the British crown during the conflict. Two of the recipients were Dr. John Connolly, a British army medical officer, and Charles DeWarrensdorff, a prominent Pennsylvanian, who received adjacent 2,000 acre tracts roughly bounded today by the Ohio River on the north and west, Broadway on the south, and Preston Street on the east. Shortly after issuance of the Connolly-DeWarrensdorff certificates, William and Mary College commissioned Captain Thomas Bullitt to lead a surveying expedition to Kentucky. Bullitt also was authorized informally to survey the Connolly-DeWarrensdorff claims.

After his return to Virginia, Bullitt presentsd his surveys to Colonel William Preston, surveyor of Fincastle County, which included all of Kentucky. Preston, however, issued patents only for the Connolly-DeWarrensdorff claims, noting that he had not personally authorized Bullitt to survey the William and Mary claims. In depositions taken five years later, assistant surveyors John Floyd and James Douglas testified that Preston privately felt that Bullitt's surveys of the Connolly-DeWarrensdorff claims were illegal because land in the area of the falls had not yet been cleared of Indian treaty rights and that Preston signed the surveys only because he was ordered to do so by Lord Dunmore, a close friend of the recipients.

The situation took a new turn in February 1774 when DeWarrensdorff sold his claim to Connolly and John Campbell, a Philadelphia merchant and Indian trader. Shortly thereafter in an apparent effort to eliminate any question about the legality of several Kentucky land claims, Colonel Preston sent to the falls a large surveying party headed by John Floyd. In less than a month the party charted over 40,000 acres, including a resurvey of the Connolly-DeWarrensdorff-Campbell claims. Among the 30 surveys completed by the Floyd group were several which would later constitute eastern Louisville. These included a 1,000 acre grant to Colonel Preston, bounded on the north by the Ohio River, on the west by Connolly's line, on the south by present day Calvary Cemetery, and on the east by present day Baxter Avenue. Immediately to the east, incorporating the western half of Cave Hill Cemetery, was a similar 1,000 acre grant to Hancock Taylor, surveyor and brother of Richard Taylor, the father of President Zachary Taylor. To the southeast of the Preston and Taylor grants lay two 1,000 acre grants to James McCorkle and William Byrd, respectively.

The largest single grant was a 6,000 acre award to James Southall and Richard Charlton, roughly bounded on the west by the common eastern line of the Taylor, McCorkle, and Byrd grants, on the north by the river, on the east by Zorn Avenue and its imaginary extension to Cannon's Lane at the Watterson Expressway, and on the south by a line paralleling the Watterson, from a point midway between Newburg Road and Bardstown Road to Taylorsville Road. Immediately to the east of the Southall-Charlton tract from the river to the present southern city limits lay a series of four 1,000 acre grants awarded to Hugh Mercer, John Floyd, and Hugh Allen. Skirting the eastern edge of the present city limits from the river to Regis Park was a band of 1,000 acre awards to Hancock Eustace, William Peachey, William Southerland, William Christian, John Ware, and Henry Harrison.

Even before the validity of their claim had been settled, Connolly and Campbell initiated a grandiose town-planning scheme at the falls. But their efforts were retarded by a conflict between Lord Dunmore and the Pennsylvania proprietors over claims to Fort Pitt. In the meantime, the American Revolution erupted and Connolly became involved in anti-Revolutionary activities which resulted in his arrest and imprisonment. As a consequence, his claim at the falls reverted to the State of Virginia.

The Revolution itself was the chief contributing factor in the creation of Louisville. In 1778 Lieutenant Colonel George Rogers Clark, under a commission from Virginia Governor Patrick Henry, descended the Ohio with a rag-tag force of some 175 soldiers and a few families determined to capture the British forts at Vincennes, Kaskaskia, and Cahokia. Clark landed his force on a small island opposite the present site of downtown Louisville and, in an apparent attempt to conceal his intentions from the British, established a small settlement with the families in his party. To make the ruse more convincing, the settlers planted a crop of corn, thus the source of the name, Corn Island.

In the spring of 1779, even before Clark's return, the settlers moved to the southern bank of the Ohio where they built a stockade called Fort-on-Shore and began the process of formally organizing a town. But not all the settlers remained in the new town, nor did all of the new arrivals, who had followed the Ohio River or the Wilderness Road into Louisville, make their homes in the immediate vicinity of the fort. Between the fall of 1779 and the spring of 1780 numerous pioneers began settling in and around small forts or stations to the east of town along the Middle and South forks of Beargrass Creek.[1]

The first station established along the Middle Fork was Floyd's Station or "Woodville," built by John Floyd on a low ridge on the west side of the present Breckinridge Lane, now the site of the Jamestown Apartments. The land was part of Floyd's 1774 survey claim, but when at the site in November 1779 he found two cabins built by squatters. A second fort located on Floyd's property was Hogland's Station, built approximately 2,000 feet down the stream from Floyd's Station in the spring of 1780. The founders of the station are unknown, but within a few years, Edmund Taylor, a cousin of Hancock Taylor, the surveyor, and Richard Taylor, father of Zachary Taylor, had erected a cabin in the settlement. About the same time as the establishment of Hogland's Station, a group of Dutch pioneers created the Dutch or New Holland Station on a section of Floyd's land where the present Brown's Lane crosses the Middle Fork.

Sometime between 1780 and 1784, John Floyd built Spring Station near a large spring which formed the source of Beal's Branch. Located at the edge of the Southall-Charlton tract, about 800 feet south of the present Lexington Road near Cannon's Lane, the fort included a stockade which extended from the main walls to the spring. In the spring of 1780, Peter A'Sturgus built A'Sturgus's or Sturgus's Station on a piece of land owned by Colonel William Christian. The fort was located about two miles above Floyd's Station and one mile northeast of New Holland Station near the present Oxmoor Center. Construction of a sixth station on the Middle Fork was begun in March 1780 by William Lynn. At the time, however, Lynn did not know that his enterprise was being built upon land owned by Henry Harrison under Floyd's survey of 1774. In 1787, Colonel Richard C. Anderson purchased the Lynn Station tract and built the home called Soldier's Retreat.[2]

While pioneers such as John Floyd and Peter A'Sturgus were building along the Middle Fork of Beargrass Creek, others were planting settlements along the South Fork. In the spring of 1780, James Sullivan initiated construction of what became known as Sullivan's Old Station in the vicinity of present-day Bardstown Road and Goldsmith Lane. Sullivan built on land which he supposedly had purchased from Richard Chenoweth, a military officer who was instrumental in building Fort Nelson, the fortification which replaced Fort-on-Shore. But after Sullivan had completed his station, he learned that the land was part of the Southall and Charlton tract and that he could not claim legal ownership. Therefore, he purchased a 340 acre section of the original James McCorckle survey tract from Payton Short and built another settlement, which became known as Sullivan's New Station. The tract lay east of present day Norris Place between Eastern Parkway and Trevilian Way and the fortification itself stood near what is now Deerwood Avenue. The last of the South Fork stations, erected by Moses Kuykendall in 1782, was located just south of the point where Buechel Bank Road now crosses the creek. In 1785 Kuykendall built a mill upon the site and two years later, Abraham Hite constructed a home nearby.

Life was neither easy nor secure for the intrepid pioneers who chose to venture beyond the safety of Fort-on-Shore and, later, Fort Nelson. Indian attacks were frequent, and numerous persons lost their lives in the Louisville vicinity during the first three decades of the town's existence. On April 8, 1783, Colonel John Floyd, who had been involved in several previous encounters with Indians, was mortally wounded in an ambush while on his way to Bullitt's Lick in the company of his brother , Charles, and two other men. One of the Colonel's companions died in the attack but the other two men were able to carry Floyd to the cabin of Colonel James F. Moore at the Fishpools, near Okolona, where he died two days later. The following year, Walker Daniel, Kentucky's first Attorney General, and George Keightly, a merchant, were killed by Indians on the same road about a mile from the place where the Floyd party had been ambushed. In April 1786, Colonel William Christian was killed near the present-day Jeffersonville, Indiana, after leading a small party of men across the Ohio River in pursuit of Indians who had raided his home at A'Strugus Station.[3]

One of the worst raids in Jefferson County occurred on July 17, 1789, when a band of Indians attacked the home of Captain Richard Chenoweth near Lynn's Station. Although Chenoweth had reinforced his station with a half-dozen militiamen from the troop at the falls, the defenders were over-powered, and two soldiers

and three of the Captain's children died. Chenoweth sustained a broken arm but escaped with the remaining soldiers and his surviving children. His wife was tomahawked, scalped, and left for dead. Miraculously, she was discovered alive by members of a rescue party which arrived from Lynn's Station and Soldier's Retreat the following day. She was taken to the Anderson home where she eventually recovered. The Indian attacks diminished during the 1790s and the first decade of the nineteenth century, but sporadic raids were experienced as late as 1811, when General William Henry Harrison defeated the northern tribes at the Battle of Tippecanoe.[4]

As the danger from Indian attack subsided, more and more Louisvillians ventured outside the immediate confines of the original settlement and established farms on the surrounding countryside. The rolling hills and plateaus along the forks of Beargrass Creek were especially inviting. By 1800 Louisville's leading families had begun to develop large estates and farms and to build handsome country homes. Tobacco, hemp, and corn were produced on these farms, and much of the work of cultivation was performed by slave labor.

During the early 1790s the rear portion of the home known as Hayfield is believed to have been built. Located on Tyler Lane between Bardstown Road and Newburg Road, the structure received its name about 1834, when Colonel George Hancock, an aristocratic Virginian, acquired the property and, with the assistance of two English architects, added the brick, Greek Revival front portion with its single story, pillared porch.[5]

In 1791, about the same time that the first section of Hayfield was being built, a former Revolutionary War officer named George Hikes arrived in Jefferson County and purchased a 400 acre tract situated in the Triangle formed today by Bardstown Road, Taylorsville Road, and Hikes Lane. There he established saw, grist and cording mills, and built the first church in the area. Shortly after his arrival, Colonel Hikes also built a stone house to which he added a three-bay, two-story stone section several years later. The original portion was torn down in 1901 because of foundation problems, but the newer part remains today, having served as a Hikes family residence until 1960, when it was purchased by the St. Michael Eastern Orthodox Congregation to serve as a rectory.[6]

As his three children reached maturity, the Colonel gave each one a piece of his original land, and between 1820 and 1830, three more homes were constructed on Hikes family property. About 1820, the eldest son, Jacob, received a portion of the land northwest of the original homestead, upon which he built a imposing five-bay, two-story brick house with corbelled-topped interior brick chimneys. The location of the structure is today 2806 Meadow Lane. The same year, George Hikes, Jr., received the parcel which included his father's grist mill. Much like his brother's, George's home was a plain, two-story, Federal-style brick ell with five bays and end chimneys. Years later, two "directly-scaled" Victorian porches were added to the front and side of the house, but these add rather than detract from its quality. The home today stands at 2834 Hikes Lane. A decade after Jacob and the younger George Hikes constructed their homes, the third brother, John, built a home which almost matched those of his brothers. The address is 4118 Taylorsville Road. Together, the four Hikes homes represent a rare and outstanding group of early stone and brick Federal-style houses associated with a single family.[7]

One of early Louisville's handsomest houses was Spring Station, which took its name from the log fort which once stood on the same site. Neither the exact builder nor the precise date of construction of Spring Station can be identified with certainty, but it was built for a member of the Beale family, possibly

Samuel, a merchant, or his son Norborne, probably about 1802. In its basic plan, Spring Station is a long, one-room deep structure, composed of a central block with pavilions. It is likely that the original house consisted of the two-story main block, with the connecting wing and terminal blocks being added later. An oral tradition which connects the structure's design to Thomas Jefferson cannot be substantiated and is probably erroneous. However, the gabled roofs of the wings and the pediments over the end blocks were used by Jefferson, and features such as the triple hung windows on the lower story of the main block of Spring Station were employed in the construction of Monticello.[8]

Another of Louisville's truly outstanding early homes, constructed in 1810, is Farmington. Adapted from a design by Thomas Jefferson, the structure was built by Judge John Speed for his second wife, Lucy Gilmer Fry, a Virginian whose family had long ties with Jefferson. Located today at 3033 Bardstown Road, the home is of Federal design with a fairly narrow, high rectangular block. It has a hipped roof, simple classical cornice, and a half-recessed, tetra-style portico with slender columns. The gable of the portico roof has a semi-circular fan window, a motif which is repeated over the front door. Inside, the center of the house contains two octagonal rooms--a parlor and a dining room - giving this home a true Adamesque quality.[9]

In addition to having been designed by Jefferson for one of Louisville's leading nineteenth century patriarchs, Farmington gained significance from its association with Abraham Lincoln. A close friend of Joshua Fry Speed, son of John and Lucy, Lincoln spent three weeks at Farmington while he courted Mary Todd and later appointed another Speed son, James, as United States Attorney General, during his second administration.[10]

As Louisville's population and commerce expanded during the early and middle nineteenth century, so did the number of country estates. In 1820, Joshua B. Speed, a manufacturer and relative of Judge John Speed of Farmington, built Chatsworth, a large Colonial style mansion in the Crescent Hill area near what is now Peterson Avenue. A few years later, John Burk built a handsome home along present-day Cannons Lane and Bowman Field. Set deep in a grove of beech trees and built of brick manufactured on the site, the house combined Gothic Revival elements such as an asymmetrical arrangement, lacy bargeboard, and a square central tower with such Italian motifs as tall, round-headed windows. Renovated by the Crescent Hill Women's Club to serve as a library for soldiers at Bowman Field during World War II, the structure has since been demolished.[11]

One of Louisville's early homes whose origin is most obscure is the Howard-Gettys House on Bates Court, just west of Barrett Avenue in the Tyler Park area. Located on land which was once part of the original William Preston military survey grant of 1774, the site was acquired in 1832 by John Howard, Jr., and Samuel K. Page, two local brickmakers, from Colonel Preston's granddaughter and her husband, Sophonisba and Robert Jefferson Breckinridge. The following year, Howard and Page subdivided the land and the former took the lot composing Bates Court. Available records do not state specifically when, by, or for whom the home was constructed, but the best inference attributes it to Howard, sometime between 1836 and 1840. In any case, the Howard-Getty House is an excellent and rare example of vernacular Kentucky architecture showing a transition from the Federal style to the Greek Revival. Federal characteristics include a fanlighted door-

way, raised basement, and a portico of rather delicate scale, while the corner pilasters and recessed panels of the facade bespeak the influence of the Greek Revival style. Among the home's many owners was James Guthrie, Louisville financier and Secretary of the Treasury under the administration of President Franklin Pierce, although there is no evidence that Guthrie ever lived in the house.[12]

A most important country home insofar as it demonstrates the continuum of local architectural history is Selema Hall, located northwest of the intersection of Brownsboro Road and Zorn Avenue near the northeastern edge of Louisville. Although once part of the Southall-Charlton tract, the site of Selema Hall changed ownership approximately a half-dozen times before being acquired in 1838 by wholesale dry goods merchant David Chambers, to whom construction is attributed. Although apparently built sometime between 1838 and 1842, the house boasts such Federal motifs as a raised basement, found in Farmington and the Howard-Gettys House, while the two-story main block and the coupled columns of the portico are definite Greek Revival characteristics. The source of the name "Selema Hall" is unknown, but that name appears in the 1880 will of Mildred Ann Thompson, whose family acquired the property from Chambers in 1842.[13]

Several other outstanding homes were built to the east of the city during the 1840s. In 1842, a local lumber man and land speculator named Colonel Joshua Bowles moved out of the city into a three-story Italianate mansion between what are now Frankfort Avenue and Brownsboro Road. He named the structure "Clifton," a name which was given to the surrounding neighborhood when it began to develop during the latter years of the nineteenth century.[14] Regrettably, the house was demolished several years ago.

About the same time as Bowles was building Clifton, Dr. Thomas S. Kennedy was building a home called "Fair View," near the Fairgrounds on the northside of Frankfort Avenue in the area later known as Crescent Hill. The symmetrical main block of the handsome two-story structure combined such Italianate features as a bracketed cornice and a central octagonal turret with Gothic-Revival motifs such as a steep gabled roof and lacy bargeboards. During the years preceeding the Civil War, the abolitionist Kennedy family used the house as a way station on the Underground Railroad, and during the Civil War, Union troops camped on the adjacent Fairgrounds frequently enjoyed treats from the Kennedy wine cellar and kitchen. Later known as "The Turrets," the Kennedy house remained a center of social life in Crescent Hill for decades to come. The house was demolished, subsequent to an unsuccessful effort to save it, after being seriously damaged by the Tornado of 1974.[15]

Demonstrating nineteenth century Louisville's continuing fascination with classical styles is "Beechland," located on Rebel Road, just north of Brownsboro Road between Crescent and Hillside avenues. Until 1846, the Beechland property was owned by Mrs. Gibson Taylor, sister-in-law of General Zachary Taylor. The original Beechland home was a two-story log cabin with a central hall. It was here that General Taylor's daughter, Sarah Knox, married Jefferson Davis, later president of the Confederacy. Sometime between 1846 and 1848 Beechland was purchased by a Captain Anders, owner of a steamboat line that operated between New Orleans and Louisville. Captain Anders moved to the log house and replaced it with a two-story gray brick Greek Revival home which stands on the site today.[16]

A major factor in promoting urbanization east of Louisville during the city's first half dozen decades was the development of a turnpike network which tied Louisville to surrounding cities such as Bardstown, Taylorsville, and Shelbyville. These early roads tended to follow the old hard-packed trails which had been created years before by buffalo herds and migrating Indians. The best known was the Wilderness Road, which began in Virginia, passed through the Applachians, and entered Kentucky at the Cumberland Gap. From here it wound its way to Harrodsburg and eventually terminated at the Falls of the Ohio, the final leg serving as a vital supply line for the settlement at Fort Nelson.[17]

The Wilderness Road's route through Jefferson County and into Louisville approximated the present day paths of Blue Lick Road and Preston Highway. But as traffic into the area increased, branches developed to such Beargrass settlements as Sullivan's Old Station, Kuykendall's Station, and Floyd's Station, following closely in some places the present route of Old Shepherdsville Road.[18]

The first main route through eastern Louisville was Bardstown Road. On April 10, 1784, the Jefferson County Court authorized Davis Cox, Charles Polk, Andrew Vaughn, Jr., and Thomas Cunningham to "view and search out the nearest and most convenient way from Col. Issac Cox's to Beard's Town, and report accordingly. As outlined on John Filson's Map of 17B4, the route approximated the present-day path of Bardstown Road.[19] But major construction would be delayed for more than four decades.

In early 1817 the Commonwealth of Kentucky embarked upon an era of internal improvements with the General Assembly's passages of a bill to incorporate the Lexington and Louisville Turnpike Road Company and the Lexington and Maysville Road Turnpike Company. Two years later the legislature incorporated the Louisville Turnpike Company "to make a turnpike road from Louisville ten miles towards Bardstown." The legislation authorized the sale of 1,000 shares of stock, to be sold at $100 per share, and vested in commissioners Frederick W. S. Grayson, Archibald Allen, and Peter B. Ormsby the powers necessary to carry out the company's mandate.[20]

But immediate construction was prevented by the panic of 1819 and the turnpike company eventually passed out of existence. In 1B29 the General Assembly enacted legislation to revive the Louisville Turnpike Company and several similar corporations and empowered them to fulfill the obligations set forth in their original charters. In March 1B32, after three more years of delay, the board of directors of the Louisville Turnpike Company ordered construction of a turnpike road extending from "the south side of the Beargrass Creek at the end of the bridge on the present Barstown (sic) road . . . to the point of Speed's Lane (Farmington) near his gate." The board also designated Samuel Forwood, himself a board member and major stockholder, as its agent to supervise construction and appropriated $150 per mile in payment for his services.[21]

As with others that followed, Bardstown Pike was given a macadamized surface, although it did not take long for the road to become riddled with pot holes and gullies that turned into muddy quagmires in wet weather. The first toll gate was located on the intersection of Beargrass Creek and Baxter Avenue. But as the city grew, the gate was moved again and again, first to the site of Church of the Advent parish house near Cave Hill Cemetery, later to Slaughter Avenue now Patterson. By 1873 it had reached Eastern Parkway. When the turnpike company sold out to Jefferson County in 1901, the gate was at Speed Avenue. The second

toll gate was located permanently near the present Bashford Manor Shopping Center.[22]

In 1818, the legislation which the year before had created the Lexington and Louisville Turnpike Company and authorized it to "make an artificial road on any part of the route from Shelbyville to Louisville" was repealed. In its place, the General Assembly vested that responsibility in a new Shelbyville and Louisville Turnpike Company. As was the case with the Bardstown Pike, construction was stymied by the panic of 1819.[23] But when recovery set in, the company was revived and the Shelbyville and Louisville Turnpike was completed, creating a hard surface road which began at Story Avenue on the eastern edge of Louisville and followed the present course of Frankfort Avenue and Shelbyville Road into the heart of eastern Jefferson County.

Together, the Bardstown and Shelbyville and Louisville Turnpikes would form the two major radial axes for urban development in eastern Louisville and Jefferson County for more than a century to come. But turnpike construction did not cease with these two roads. In 1836, the General Assembly incorporated the Taylorsville and Louisville Turnpike Company and empowered it to build a turnpike from Taylorsville, in Spencer County, to an intersection with Bardstown Pike. A year later the Assembly did precisely the opposite, incorporating the Louisville and Taylorsville Road Company and authorized it to construct a macadam road from Louisville through Jeffersontown to Taylorsville. Apparently nothing came of the venture, probably because of the panic of 1837. But similar legislation was passed again in 1848, this time specifying a route "from or near George Doup's on the Bardstown Turnpike . . . by way of Jeffersontown . . . to Taylorsville."[24] That highway later became known as Taylorsville Road.

Several other turnpike roads were authorized and completed during the last dozen years before the Civil War. In 1849, the Gnereal Assembly incorporated the Louisville and Oldham Turnpike Company and empowered it to built a macadam road from Geiger's Ferry Road near Butchertown through Harrod's Creek to Bedford in Trimble County, following a route which approximates River Road. The same year, the legislators approved creation of the Jefferson and Brownsboro Turnpike Company and authorized it to build a road from the intersection of Westport Road and the Shelbyville and Louisville Turnpike at Gilman's (St. Matthews) to Brownsboro in Oldham County. A year later, the Assembly amended this act to change the origin of the road to "any point on the Shelbyville and Louisville Turnpike Road between... Westport Road...and the limits of the city of Louisville or at any point in the eastern line of said city, between the river and the Shelbyville and Louisville Turnpike Road." As a result of this legislation, the route which is now Brownsboro Road originated at Beargrass Street (now Story Avenue) just east of the origin of the Shelbyville and Louisville Turnpike (Frankfort Avenue). Finally, in 1851 the General Assembly empowered the Shelbyville and Louisville Turnpike Road Company to build a branch line from some point on its existing line "to enter Louisville at the extension of Market Street or suitable nearby point" to allow travellers who so desired to avoid the Louisville and Frankfort Railroad, which was being completed along the turnpike's main route.[25] Today the branch line is known as Lexington Road.

Complementing the turnpike system as an impetus for urban growth in eastern Louisville was the completion of the Louisville and Frankfort Railroad along the route of the Shelbyville and Louisville Turnpike. The road was originally conceived in the late 1820s as part of a scheme by several Lexington promoters and businessmen to built a railroad from Lexington to the Ohio River. With the assistance of some Louisvillians, who hoped that their city would become the line's western terminus, the General Assembly incorporated the Lexington and Ohio Railroad Company on January 27, 1830. Less than two months later, the company's board of directors authorized a preliminary survey of a proposed route from Lexington to Louisville via Frankfort and Shelbyville. Despite severe financial and construction problems, service between Lexington and Frankfort opened in January 1834. The line that resulted became known as the Lexington and Frankfort Railroad Company.[26]

It was a different story, however, between Louisville and Frankfort. Work lagged behind, despite the fact that after the Lexington and Frankfort lines opened, the city of Louisville levied a real estate tax of one percent annually for four years to support construction. In 1838, a section from western Louisville to Portland began operations, but legal challenges instigated by local citizens who did not want a railroad built through the center of town stymied further construction within the Louisville limits. Meanwhile, the entire Lexington and Ohio Railroad Company suffered serious financial reversals in the wake of the panic of 1837. The company failed to make interest payments due the State between 1838 and 1841. During the latter year, the General Assembly passed legislation authorizing the state auditor to sell the road and its franchise at public auction, a sale which transpired in January 1842. The purchaser was the Commonwealth, which in turn leased the line to a private firm until 1848, when it was resold to a newly organized Lexington and Frankfort Railroad Company. As a result of the Lexington and Ohio's financial woes, work on the Louisville to Frankfort project was suspended.

Finally, on March 1, 1847, the General Assembly chartered the Louisville and Frankfort Railroad Company to complete the road as originally planned from Frankfort to the Ohio River at Louisville. The following year, the charter was amended to require that the road be constructed to "one point" on the Ohio River and to "one point" within the City of Louisville. By the fall of 1841 new surveys had been completed, and construction began in March 1849. Despite intervening financial problems, solved with a $1 million loan from the City of Louisville, construction was completed between Louisville and Frankfort in June 1852. During the following July and August, the Louisville and Frankfort and the Lexington and Frankfort were connected to form a single line. Six years later, after two years of joint operation, the two lines were consolidated, creating the Lexington, Frankfort and Louisville Railroad.[27] After the Civil War the line became known as the Louisville, Cincinnati and Lexington Railroad.

As late as 1858, urbanization remained largely confined to the area west of Beargrass Creek, but the turnpike network played a pivotal role in demarcating the division of property east of the city. During the decades that followed the Civil War, these same property lines would be important in the process of subdividing the area for residential development.

Despite the rather slow pace of residential subdivison east of Louisville, numerous industrial and institutional activities had taken root in the area by the mid 1850s. As a consequence of the abundant quantities of high quality limestone that undergirded the city, numerous stone quarries dotted the landscape along the Shelbyville and Louisville Turnpike and its southern branch, now Lexington Road. These quarries no doubt accounted in part for the decision in 1850 to move the city's workhouse from its original location on Chestnut Street between Eight and Ninth streets to a new site in the vicinity of Payne Street and its present intersection with Lexington Road near Cave Hill Cemetery. Because of its proximity to the Bourbon Stockyards, near Butchertown, the same area also was the site of numerous pork houses.[28]

One of Louisville's most beautiful institutions, by any standard, is Cave Hill Cemetery. Bounded roughly by Baxter Avenue and Cherokee Road, Grinstead Drive, Lexington Road, and Payne Street, Cave Hill was chartered by the General Assembly in 1848. Its original grounds, including the beautiful Preston's Woods, consisted of 40.6 acres. Subsequent additions have expanded the cemetery to nearly 300 acres. Although its hundreds of grave sites, including the city's elite and humble alike, would be sufficient to establish Cave Hill's significance, its glory is enhanced by both its park-like landscape architecture and its built architecture. Responsible for Cave Hill's superb design was David Ross, a Scottish landscape architect and horticulturalist whose plan for the cemetery grounds is still followed today. As the cemetery's first superintendent, Ross drew a plan which not only took advantage of the site's topographical assets, but which made "virtues out of its disadvantages," such as sinkholes. In 1856 David Ross turned his post over to his brother, Robert, who previously had worked on the Duke of Devonshire's beautiful estate at Chatsworth in Derbyshire, England. Adding to Cave Hill's magnificance is its entranceway and campanile, designed in a lavish Renaissance style by William H. Redin and built in 1887. Among the distinguished figures buried in Cave Hill are George Rogers Clark and many of his family; Geroge Keats, nineteenth-century businessman and brother of English poet John Keats; and architect Gideon Shryock, who designed the Jefferson County Court House.[29]

Immediately northwest of and adjacent to Cave Hill is Eastern Cemetery, which is enclosed by Baxter Avenue and Payne Street. The 15 acre burial ground originally consisted of two seven-and-a-half acre plots owned by Samuel Schwing and Samuel K. Richardson respectively. In the early 1850s, Schwing and Richardson deeded their tract to representatives of the Fourth Street and the Brook Street Methodist Episcopal Churches. In March 1854, the two tracts were formally merged through the incorporation as Eastern Cemetery by an act of the General Assembly. In 1935 Eastern Cemetery became the site of Louisville's first crematorium.[30]

The East End also was the site of Kentucky's first state fair. In 1853 the Southwestern Agricultural and Mechanical Association sponsored an exhibition on a section of land in Crescent Hill near Crescent Avenue now occupied by St. Joseph's Catholic Orphans Home and adjacent to the old Kennedy Home, "Fair View." The fair ran for five days and ended with a "Grand Cavalcade" at the Galt House. Four years later the United States Agricultural Society held a huge fair on the same grounds. According to a description in Harper's Weekly, the grounds included a large livestock display arena, a one-mile elliptical race track, a beautiful octagonal exhibition hall for fruits and flowers, and display areas for agricultural machinery and household implements.[31]

Another of Louisville's early architectural treasures located in the East End was the Kentucky School for the Blind. The third oldest such school in the United States, it was created by an act of the General Assembly in May 1842 and opened in a building on Sixth Street between Walnut and Chestnut Streets. A decade later a decision was made to move to a suburban location east of the city along the Shelbyville and Louisville Turnpike. In 1883, the school commissioned architect Francis Costigan, of Madison, Indiana, to design a new building. Costigan designed a monumental Greek Revival structure having a five-story main block with a three-story, four-column portico and topped with a white-domed roof and a cupola. The building opened in 1855. During the Civil War, the Union army used the school as a hospital, and in 1898, two four-story wings were added. Unfortunately, the ravages of time and changing educational techniques had made the building obsolete by the mid 1950s. When State officials began discussing the possibility of razing the structure and replacing it with a modern building, a movement developed to preserve it. Organizations such as the Filson Club, the American Institute of Architects, and the Society of Architectural Historians developed plans for renovation and alternate use. The preservation movement stalled demolition for several years, but in the end, the effort was futile, and the building was razed in 1967.[32]

Finally, the antebellum years witnessed the advent of Louisville's water system, and with it, the construction of the magnificient pumping station at Zorn Avenue and the Ohio River. In 1854 the General Assembly chartered the Louisville Water Company. Original plans called for the water works to be in operation by 1857, but administrative and financial problems prevented the initiation of construction until the following year. In September 1858, the cornerstone was laid for the 169-foot-high stand pipe tower, which, along with the adjacent engine room, was executed in an exuberant Classical Revival style. The engine room imitates a Corinthian temple and the standpipe takes the form of a triumphal Roman column. The ornamentation is of terra cotta and cast iron. Although attributed in some historical works to Gideon Shryock, Lousiville's premier exponent of Greek Revival architecture, all available contemporary evidence suggests that both engineering and architectural work must be credited to Theodore R. Scowden, the company's chief engineer. When completed and equipped in 1860, the station housed two beam Cornish engines, two pairs of duplex steam engines, and two batteries of boilers containing three Cornish boilers each, providing a daily pumping capacity of 16 million gallons. Construction began on a second pumping station with a capacity of 18 million gallons per day in 1885 and was completed in 1893. In the meantime, the standpipe was knocked down by the tornado of March 27, 1890. It was re-erected by Chief Engineer Charles Hermany, who had been Scowden's assistant at the time of its construction three decades earlier.

Although taken out of operation several years ago, the original standpipe and pumping station have been well maintained by the Louisville Water Company.[33] Recently the two structures were leased to the Art Center Association and both are being adapted for use as office, studio, and gallery space.

While residential development did not particularly accompany the establishment of institutional and industrial activities along the turnpikes which entered Louisville from the east, some residential subdivision did begin to emerge along the east side of the South Fork of Beargrass Creek during the 1850s. In 1853, Susan Preston Christy, daughter of Major William Preston, and her husband, Howard F. Christy, of St. Louis, subdivided a portion of the original Preston military grant south of Broadway bounded today by Bardstown Road on the east, Barret Avenue on the west, the alley between DeBarr and Breckinridge on the north, and the alley between Morton and Highland Avenues on the south. The tract was named Christy and Johnston's Subdivision is honor of Susan Preston Christy and Henrietta Preston Johnston, Susan's sister, who was married to Albert Sidney Johnston, later a distinguished Confederate general who lost his life at the battle of Shiloh. Now part of the Highland neighborhood, the subdivision was known at the time of the Civil War as New Hamburg because of its predominantly German population.[34]

Lying to the north of Highland is the neighborhood which is today known as Irish Hill. It is bounded on the west by Baxter Avenue, which in the mid-nineteenth century was part of Bardstown Pike, on the south by Eastern Cemetery, on the north by Beargrass Creek, and on the east by the Clifton neighborhood. Once known locally as Billy Goat Hill, after the hundreds of goats which grazed the hillside on Whaley's goat farm, the neighborhood's first dated subdivision was Adams and Hull's Addition, which was laid out in 1859 by Benjamin J. Adams and John C. Hull. Bounded on the north by Lexington and by Payne Street on the south, this single subdivision forms the heart of the neighborhood. In 1864, Ward Payne subdivided the land between Eastern Cemetery and the street that bears his surname, and in 1884 William Schneikert and George Schuele resubdivided the lots in Adams and Hull's Addition demarcated by Cooper Street, Hull Street, Pine Street, and Lexington Road.[35]

Like other districts in the vicinity, nineteenth-century Irish Hill had its local slaughter house, known as the Beargrass Pork House, located on a lot bounded by Work House Road (now Lexington Road), Baxter Avenue, Hull Street and Cooper Street. But it was primarily a residential neighborhood, consisting mostly of frame shotgun houses with a scattering of brick homes along the north side of Payne Street between Cooper and Pine streets and along the west side of Baxter Avenue between Hull and Payne.[36]

The largest house in the neighborhood is a handsome Renaissance Revival structure built around 1869 for Louisville Tobacco merchant Nicholas Finzer. Located at 1212 Hull Street, the Finzer house is a two-story brick structure of symmetrical arrangement with a central entry way flanked by two windows on either side of the first floor. Finzer himself arrived in Louisville in 1853, having emigrated from Switzerland with his parents and four older brothers. In 1866 the brothers

established the Five Brothers Tobacco Works. Although the initial operation was small, it prospered quickly and grew steadily. Twenty-three years after the company was founded, Nicholas Finzer succeeded to the presidency, and under his leadership the firm became one of the largest manufacturers of plug and smoking tobacco in the United States. Also a prominent financial and civic leader, Nicholas Finzer was a director of the German Insurance Bank and a member of the school board. His special interest in education was the establishment of night schools, and it was through his personal financial assistance that the Third Ward School on East Broadway was employed as a free night school for Finzer's employees. The building was later named Nicholas Finzer School in the tobacco merchant's honor.[37]

Even through the area east of the city remained sparsely settled before the Civil War, this did not stop the city from extending its boundaries eastward. In 1854 the General Assembly enacted legislation which annexed to Louisville a large tract south of the forks of Beargrass Creek, embracing Irish Hill, Phoenix Hill, New Hamburg, and Germantown east of the creek, as well as most of Cave Hill Cemetery. Two years later the legislature added the area to the north bounded by the Ohio River on the north and the forks of the Beargrass Creek on the south, Preston's Enlargement on the west and the Beargrass Creek cut-off on the east.[38]

Between 1860 and 1865 the attention of most Louisvillians was focused upon the political and military conflict between North and South. Because it controlled access to the lower Ohio and Mississippi Rivers and served as the northern terminus of the Louisville and Nashville Railroad, Louisville was of strategic importance to both sides. From Fort Sumter to Appomattox, Louisville was controlled by forces friendly to the Union. During most of the war it was occupied by Federal troops and soon became an important supply, hospital, and prison center. Although never attacked outright by invading Confederate armies, Louisville was threatened in the fall of 1862 by troops under the command of General Braxton Bragg. The invasion was finally turned back by the Union forces of General Don Carlos Buell at the bloody encounter at Perryville in Boyle County on October 7 and 8. Louisville was never again threatened by a major Confederate invasion. But periodic raids in the vicinity by Southern cavalry units, such as those led by General John Hunt Morgan in 1863, and by guerilla bands led by notorius Sue Mundy (Jerome Clark), Henry C. Magruder, and William C. Quantill continued to strike fear in the souls of many citizens.

The fear of Confederate attacks prompted continual calls from Louisvillians for the construction of a defense network around the city. One of the most vocal in this regard was George D. Prentice, editor of the Louisville Journal. Finally, in July 1864, after much agitation and a June raid by Morgan, local and federal officials began seriously to discuss plans for an extensive system of forts to ring the city. In early August the General Council instructed the mayor to advertise for 400 persons to serve as laborers on the forts. During the next few months, a chain of 11 forts and two artillery batteries was completed, taking the form of a ten-and-one-quarter mile arc which stretched around the city's eastern and southern perimeter from Brownsboro Turnpike on the east to Upper Paddy's Run on the west.

The main approaches to the city from the east were protected by a network of four forts and a battery. Fort Elstner, located in the vicinity of what are now Bellair, Vernor, and Emerald avenues, commanded the area from the Beargrass Creek cutoff at the river to the Shelbyville and Louisville Turnpike. Located somewhat to the southwest, Fort Engle guarded access via the Louisville and Lexington Railroad and the Shelbyville Branch Turnpike (Lexington Road). Directly to the south, in the center of what is now part of Cave Hill Cemetery, was Fort Saunders, which was intended to thwart an overland advance between Shelbyville Branch Turnpike and the Bardstown Turnpike. The fourth of these fortifications was Fort Hill, which overlooked the first bend in the Newburg Turnpike Road. Reinforcing it was Battery Camp, located somewhat to the north at the present vicinity of Baxter and Rufer avenues.[39] But within months after their construction, the war ended and the Louisville forts never were put to the test.

During the first nine decades of Louisville's history, development in what is now the city's East End was minimal. Economically, the area was devoted primarily to agriculture, which was symbolized by the numerous outstanding country homes which dotted the area. But during the three decades which preceeded the Civil War, the development of a radial transportation network and the establishment of several industrial and institutional activities foreshadowed the urbanization which was to come. With the end of the Civil War and the advent of the streetcar, eastern Louisville would burst outward, setting off a chain reaction of urban development which would continue, with only brief interruptions, for more than a century.

CHAPTER II

URBAN PARKS AND STREETCAR SUBURBS

During the half-century between the end of the Civil War and American entry into World War I, Louisville burst at its seams, moving outwardly to the west, south, and east. The earliest and most intensive growth occurred in the West End and South End, both of which had more flat land than the East End. But, it also was during this period that eastern Louisville experienced its first major spurt of suburban development. This growth took place along two primary radial axes. To the east and northeast, development spread out from Frankfort Avenue, forming the neighborhoods of Clifton, Crescent Hill, and Clifton Heights. Both Brownsboro Road and Lexington Road served as important secondary arteries of development in this area. By the same token, development to the southeast followed the general direction of Bardstown Road, centering in the neighborhoods of Phoenix Hill, the Paristown section of Germantown, Highland, Cherokee Triangle, Tyler Park, Deer Park, and Bonnycastle.

The development of eastern Louisville can be attributed to three basic forces, which together made it possible not only to overcome the barriers of topography which once hindered growth, but to use these natural features to promote development. The first of these factors, which conquered the problem of distance, was the invention of the street car. Until the latter years of the Civil War, personal and public transportation in the city was limited to foot-power or slow, clumsy, and expensive horse-drawn hackney coaches and omnibuses. But in February 1864, the Kentucky General Assembly chartered the Louisville City Railroad Company and authorized it to construct and operate "a single or double track railway...within the present or future city limits of the city of Louisville..." The legislation empowered the corporation's directors to subscribe a capital stock of $300,000. The company's first president was General Jeremiah T. Boyle, commander of the Union garrison at Louisville. The first line followed Twelfth Street from Rowan to Main and then turned eastward, running along Main to Wenzel. Service on the horse-drawn street railway went into effect in November 1864.[1] Over the next two decades, street car companies and service franchises proliferated to the point that almost every resident of the city soon lived within easy walking distance of a street car stop.

The first line created in the East End was the Beargrass Railway, incorporated by the General Assembly in 1867. Its charter allowed the company to build a single or double track railroad from Beargrass Creek to the Fair Grounds along either the Shelbyville Turnpike (Frankfort Avenue) or the adjacent Louisville, Cincinnati, and Lexington Railroad. Fifteen years later, the General Assembly created the Crescent Hill Railway Company, which operated along Hamilton Avenue and Payne Street. By 1887 Louisville was served by approximately 125 miles of streetcar and inter-urban railroad lines. The eastern section of the city was served by the East Walnut Street line, which ran from Fourth and Walnut streets to Baxter Avenue and Bardstown Road; by a central Louisville line to Cave Hill Cemetery; and another which ran to Story Avenue and Frankfort Avenue.[2]

During the 1880s a movement emerged to consolidate the city's competing streetcar lines. The process culminated in 1890 when the Louisville City Railway Company and the Central Passenger Railroad Company, the two largest surviving corporations, adopted the name of the Louisville Railway Company, a smaller outfit which the former firms had owned jointly. Nine years later the entire consolidation process ended when the Louisville Railway Company absorbed the Crescent Hill Railway Company. The primary motivation behind consolidation was the need for a reordered capital structure in order to electrify the street car system. The electric street railroad was first introduced in Louisville in 1889, just one year after the first such system was perfected by Frank J. Sprague in Richmond, Virginia. Over the next several years, electric trolley cars gradually replaced the city's mule cars. In the east, the Market Street line was extended from the Bourbon Stockyards out Story Avenue through Butchertown to Crescent Hill via Walnut and Payne Streets. Finally, trolley lines from the western parts of the city joined the Bardstown Road line, which was extended to Douglass Boulevard in 1912.[3]

By making it more accessible, the streetcar also made suburban land more marketable for residential development. This increased land values somewhat, but the street car's primary effect was to encourage a pattern of low density development, which prevented real estate prices from rising to levels comparable to those in the older parts of the city. As the demand for suburban land grew, the second new force in the development process emerged - the simultaneous professionalization of the real estate business and the proliferation of building and loan associations.[4]

Before the Civil War, the buying and selling of land was a game played primarily by the heirs of original patentees and well to do business and professional men who regarded speculation in land as a mark of respectability and status. In addition, land often was subdivided by the courts as a means of dividing an estate, especially if the heirs did not have enough cash to settle the estate's financial obligations or if the survivors could not come to an acceptable arrangement in the absence of a will.

The amateurs did not by any means abandon the field after the war, but as the century wore on, the proliferating real estate and land companies came to dominate the business. Sheer numbers alone facilitate the process. In 1866 the city could claim a mere 15 professional real estate agents. Within four years the figure had increased to 23 and by 1880 that figure had doubled. And as the booming land business grew during the 1800s, so did the number of realtors, rising to 95 by 1890.[5]

Once they had completed their legal obligation to survey a tract and had recorded the plat of lots, along with the layout of streets, avenues, alleys, and public grounds, in the county clerk's offices, real estate agents and land companies would engage in vigorous campaigns to market their lots. All kinds of glittering superlatives were employed to attract potential homeowners and investors. Some sellers stressed the beauty and elegance of suburban settings; others promised cures for, or safety from, consumption or malaria; and still other advertised the advantages of a location close

to the amenities of the city while being removed from its social and environmental ills. Naturally, all the necessities of urban life - utilities, schools, churches and stores - were promised as well.[6]

Such advertising clearly was oriented toward a mass audience, not an inappropriate marketing approach in an age when growing middle and working classes were being created by Louisville's expanding commercial and industrial economy. But few buyers had the ready cash neceesary to purchase a lot and build a home in quick order. A system of easy payment for a lot and improvements was essential, therefore, for a successful sales campaign. Thus, land companies quickly adopted the tactic of advertising long credit and low payment terms, usually meaning a note payable in six years and interest due every six months at six percent.[7]

Facilitating this credit system were the building and loan associations, which sought to aid potential "homestead" buyers by encouraging them to develop a regular savings program. The objective of these institutions, according to Caron's 1874 city directory, was "the accumulation of a fund derivable from monthly contributions and fines, premiums on loans and interest on investment for the benefit of members affording them a safe depository for monthly savings and to facilitate them in the acquisition of homesteads or other property." In mid 1879, 13 building and loan associations already were operating within the City of Louisville. Between 1886 and 1892, 18 such institutions were organized.[8]

For the average homebuyer, the particular advantage offered by the building and loan association was the opportunity to borrow up to 66 percent of the appraised value of one's property, compared with a limit of 50 percent of appraised value for a commercial mortgage. To an enthusiastic advocate of suburban development such as The Critic, a local journal which combined political muckraking and social gossip, the building and loan associations performed a social function nearly equivalent to that of the church. At one point, indeed, the paper observed, "There is no more efficient agent for bettering the condition of men outside of agencies moral and religious." While the associations were not so bold as to clothe themselves in such moral rhetoric, they did promise that for an investment of 60 cents a month, a thrifty laborer could one day own his own home, and that one could repay a loan in monthly installments which approximated one's existing rent. Such terms had enabled growing numbers of Louisville's middle and working classes to become homeowners and, in the process, had hastened significantly the suburban exodus between 1865 and 1917.[9]

The third force promoting euburban development in eastern Louisville was the creation of the park system, primarily Cherokee Park, and to a lesser extent, Tyler Park. In their efforts to market suburban land, speculators frequently appealed to the city dwellers to leave the dirt and confinement of the city for a natural refuge in the country. One way in which sellers tried to meet this appeal was to give their subdivisions a parklike atmosphere through such artificial means as planting trees along broad streets, platting deep lots, and giving their subdivisions parklike names. Early subdividers in the Highlands and Crescent Hill areas capitalized

upon the beauties of the nearby Cave Hill Cemetery and the Crescent Hill Reservoir.[10]

During the late 1880s, however, a movement emerged to establish a publicly owned and financed park system. The movement was centered in the Salmagundi Club, an organization of business and professional men who banded together to promote the public welfare and increase the city's commercial growth. Particularly involved in the park effort were John Mason Brown, Thomas Speed, Andrew Cowan, and Charles Hermany. In 1890, with assistance from the Commercial Club, the Salmagundians persuaded the General Assembly to enact legislation enabling the city to create a Board of Park Commissioners which could issue bonds to acquire, improve and manage park property.[11]

In the meantime, the efforts to develop a carefully designed parks plan were temporarily short-circuited by the politically astute Mayor Charles D. Jacob, who took it upon himself in the fall of 1888 to buy "Burnt Knob," a towering tract of rugged forest land four miles south of the city. A short time later, he sold the land to the city for $9,800 and started planning a "grand" boulevard from the city limits to the park site. The city's initial effort to develop Burnt Knob as a park was washed out by severe rains, however, and under an ordinance passed in November 1890 the city transfered all of its land for parks, parkway, and boulevards to the newly created Board of Park Commissions. Burnt Knob was named Jacob Park and later renamed Iroquois Park. Early in 1891 the Commissioners purchased large tracts in the western and eastern parts of the city, which became Shawnee and Cherokee parks, respectively.[12]

The advantages of such sylvan environments for urban residents were explained by Frederick Law Olmsted, the Boston landscape architect commissioned to layout the entire park system, as "simply the healthfully soothing and refreshing effect which experience proves is exercised upon people escaping from the splendor and bustle, the confinement and disturbance of town into the midst of spacious scenery." For land speculators, the benefits of urban parks were more pragmatic: they could advertise lots on the basis of proximity to a publicly financed amenity rather than having to go to the expense of artifically creating the appearance of such an attraction. Recognizing the financial advantages which would accrue to them as the result of such a location, land owners such as C.S. Longest and Mrs. H.C. Bonnycastle eagerly donated sizeable tracts of land for development of landscaped drives leading into Cherokee Park. Property owners in its vicinity did not overestimate Cherokee Park's impact upon land values. After 1891, land prices soared, sometimes doubling or tripling in a short period of time. Increased demand encouraged the extension of trolley cars and utilities, and by the mid-1890s, an address on Cherokee Road, Cherokee Avenue, or Cherokee Parkway was a mark of high social and economic status.[13]

The first center of development along the Frankfort Avenue axis after the Civil War was the Clifton neighborhood. Actually, land subdivision in Clifton began as early as 1850, when William F. and Sarah Schwing, Samuel Schwing, Menanda Owings, and J. M. Delph, a former Louisville mayor,

laid out Schwing and Owings Division, which lay along either side of Reservoir Avenue (Mellwood) between Spring Street and Frankfort Avenue. Five years later, James Guthrie, local attorney, businessman, and politician, platted his Eastern Addition, which took in most of the area bounded by Beargrass Creek on the west, Schwing and Owing's line on the north, Charlton on the east, and the Middle Fork of Beargrass Creek on the south. Because this area was bisected by the Lexington, Frankfort, and Louisville Railroad, it soon became a center of both industrial and residential development. By 1884, numerous frame houses, along with a scattering of brick dwellings, stood along Reservoir Avenue between Brownsboro Road and the railroad tracks and along the streets southwest of Charlton between Reservoir and Lexington Road. At the same time, the banks of the Middle Fork between the railroad tracks and Lexington Road became the focus of a thriving distilling business, with such enterprises as the R. P. Pepper Distillery, the American Distilling Company, and the Newcomb-Buchanan Company, distillers and wholesale whiskey merchants, as well as a cattle stable and several warehouses.[14]

The nearest thing to a major development in Clifton during the Civil War was a suit in Louisville Chancery Court which initiated the division of a large tract bounded by the LC&L tracks, Charlton Avenue, Lexington Avenue, and Bellaire Avenue, owned by the estate of Norton Q. Pope. Two more transactions, including another court case, were required before the division process of Pope's heirs drew to a close in 1874.[15]

In addition to the last two subdivisions carved out of Norton Q. Pope's land 11 more subdivisions were platted in Clifton during the 1870s and 1880s. In 1872, J.M. Bryant subdivided a small tract bounded today by the L & N (former LC&L) tracks and Haldeman, Frankfort, and State avenues. The same year, the Beechland Subdivision was platted in the former Charles D. Pope Addition, demarcated roughly by Brownsboro Road, Mill Street, Frankfort Avenue, and an alley between State and Pope streets.[16]

The most important development thrust was initiated in 1873 when his heirs, primarily James W. Bowles, began to divide the country estate of the Louisville banker, Colonel Joshua B. Bowles. The first tract subdivided was Bowles' Third Addition, a small triangular tract formed by Frankfort Avenue, Bellaire Avenue, and the railroad tracts. Two years later, a huge section bounded by Brownsboro Road, Bellaire Avenue, Frankfort Avenue, and Jane Street was subdivided as a consequence of a Chancery Court suit brought by the estate's executor against Colonel Bowles' heirs. In 1877, James W. Bowles and James Bridgeford laid out Cavewood Park Subdivision on a southern portion of the estate, whose perimeter was formed generally by the L & N tracks and Frankfort Avenue, Bellaire Avenue, Beargrass Creek, and Clifton Avenue. The following decade witnessed a series of subdivisions by James W. and F. Pope Bowles, Jacob L. Smyser, and Theodore Harris of a western tract somewhat to the west of the main estate, bounded roughly by Frankfort Avenue on the north, the railroad tracks on the south, Bryant's Subdivision on the east, and Charlton, Schwing and Owing's Subdivisions on the west.[17]

In the meantime, Adolph Rammers subdivided what is now the northern half of the grounds of the Kentucky School for the Blind in 1874. Eight years later, David Frantz, Jr., laid out a one-block subdivision across State Street from the School for the Blind. And in 1889, William Pope and John Edwards subdivided their small Southall Tract on a pocket of land bounded roughly by Frankfort Avenue on the north, Reservoir Avenue (Mellwood Avenue) on the west, and Smyser and Harris's division of the Bowles land on the south and east.[18]

A dozen more subdivisions were platted in Clifton after 1890, but the majority were small, consisting primarily of a few remaining lots which had not yet been developed in older subdivisions. The only new subdivisions of any consequence were a group of three tracts laid out by Charles Fust and Joseph Rastetter between 1898 and 1905 and roughly bounded today by Frankfort Avenue on the north, Jane Street on the east, Interstate 64 on the south, and Clifton Avenue on the west.[19]

Although the subdivision process in Clifton peaked during the 1880s and the suburb of Crescent Hill, immediately to the east along Frankfort Avenue, had just begun to emerge. Several factors played major roles in the development of Crescent Hill. In the first place, the Louisville, Cincinnati and Lexington Railroad and the Crescent Hill Railway Company's streetcar line along Payne Street provided suburban commuters with direct access to downtown businesses and offices. Eventually the L C & L stopped for commuters at Crescent Hill Grove at North Hite Avenue, and Reservoir Park near Eastover Court.[20]

Another salient element in Crescent Hill's development was its topography. In contrast with the flat land of much of central, western, and southern Louisville north of Iroquois Park, the rugged hillsides and deep valleys of Crescent Hill offered the possibility of a suburban lifestyle which seemed truly Arcadian in character. At the same time, geological attributes which seemed to make Crescent Hill a sylvan retreat, removed from the hustle and bustle of the city, also affected the neighborhood's physical configuration. Thus, while subdivisions in most older Louisville neighborhoods were platted according to a fairly rigid gridiron pattern, the vast majority of those in Crescent Hill were laid out in an irregular fashion, including some winding roads, short courts, and dead end streets while preserving scenic vistas and open spaces. Finally, development was encouraged by the park-like setting created by the Fair Grounds and the Louisville Water Company's Crescent Hill Reservoir. By 1880, the Fair Grounds had been a Louisville institution for more than a quarter of a century, but the Reservoir and its accompanying gatehouse and general superintendent's house were another matter.[21]

During the mid 1870s it had become apparent that the water company had to increase pressure and expand its storage capacity if the growing city's need for water was to be met in the future. In the fall of 1876 the Water Company purchased two tracts of land between Frankfort Avenue and Brownsboro Road. The larger of the tracts, consisting of 100 acres, was purchased from Z. M. Sherley, at a cost of $60,000 while a smaller tract of 10 acres was acquired from members of the Arterburn family for $8,000. Construction on the reservoir began in April 1877. When completed two years later, the facility included two storage basins with a total capacity in excess of 100

million gallons. Moreover, the new reservoir, built at an elevation of 179 feet above the low water mark of the Ohio River, was 33 feet higher than the existing 10 million gallon facility. This rise in elevation increased water pressure from 35 pounds to 48 pounds per-square inch.[22]

The architectural highlights of the reservoir are the gate-house and general superintendent's house, both of which were designed by Chief Engineer Charles Hermany in a rich High Victorian Gothic style. Built of rusticated limestone, the one and a half story gate-house has rich exterior walls which are pierced by recessed, attenuated windows which are capped by solid-looking, smooth stone hood molds. What makes the gatehouse particularly striking is its skyline, which is composed of steeply-pitched gabled roofs, highlighted by carved stone pitchers and of iron decorative railings which accent the roof crests. Likewise, the one-story superintendent's house is built of rusticated limestone set upon a basement level. The structure includes simple, segmentally-arched windows and recessed, rectangular window pairs separated by smooth stone, engaged columns with foliated capitals. The steeply-pitched roof was shingled with slate, and like the gatehouse, the roof crests include pointed, cast-iron railings, which were designed and manufactured by the local firm of F. W. Merz and Company.

Formally designed, beautifully landscaped, and carefully maintained, the Crescent Hill Reservoir attracted community attention from the beginning. Its grassy embankment, topped by a grand promenade of flagstones and a continuous cast-iron railing, created the impression of a neat sloping lawn and attracted Sunday sightseers in droves. Such an attraction was not lost upon land developers, who recognized that the reservoir's large open spaces helped to provide and maintain the open, rural character which made suburban living so attractive. Indeed, a long-standing tradition suggests that it was the beauty of the reservoir and its setting that provided the name of Crescent Hill. According to the legend, Mrs. Thomas S. Kennedy was driving her carriage through the grounds of the still unfinished reservoir when she observed that the hill and lake where the basins are located formed the shape of a Crescent.[23] The image caught on and before long the name Crescent Hill was in common usage.

But the subdivision process itself, which consisted largely of the inexorable partition by heirs of the original pre-Civil War estates which dotted the area, began much earlier in the 1870s. The initial focus of development was the Fair Grounds. In 1871, John T. Thatcher, through realtor S. S. Meddis, partitioned, promoted, and sold the tract known as Glenwood, which lay east of Stilz Avenue between Frankfort Avenue and Hermany Court on land that is today owned by the Louisville Water Company. Contributing to the lands saleability was the fact that it overlooked the Fair Grounds. Depending upon location and degree of improvement, land in Glenwood brought prices that ranged from $750 to $1,000 per acre for some improved lots to more $12,500 for nine and one-half acre tracts of improved land. Approximately four years after Thatcher's Glenwood Subdivision was platted, Lewis Lentz laid out his Fairview Subdivision on a tract of land north of Frankfort Avenue opposite the Thomas Kennedy estate along either side of Crescent Avenue.[24]

Lentz's Fair View Subdivision also ushered in a nine year moratorium on new land subdivision in Crescent Hill, a hiatus which one historian attributes to the depressing effects of the panic of 1873. Between 1875 and 1884, the only major project was construction of the Crescent Hill Reservoir.

Nevertheless, by 1884 enough people had constructed homes in the area to convince the General Assembly to incorporate the Town of Crescent Hill. The charter authorized certain taxes and improvements, but, as a testimony to the town's limited municipal status, it deprived the trustees of any power to interfere in the operation of the Louisville Water Company or involve itself in the management and conduct of the railroad and streetcar lines within the town's corporate limits. But incorporation did help to create a sense of community spirit and individual responsibility in the growing town. The town hired a night watchman to guard property, but most "crimes" were investigated by residents themselves and the charter mandated that each adult inhabitant participate in volunteer fire services. Schools, churches, and Sunday schools developed quickly, frequently meeting initially in private homes. Permanent buildings would be constructed once funds became available. The first community project was construction of a school, which also served as a weekend social gathering place, as a town hall, and as a church for Methodists and Presbyterians until their own edifices were completed.[25]

Along with incorporation came a new surge of subdivision development. As if to underscore the changing state of affairs, 1884 witnessed the platting of the first subdivision to carry the name of Crescent Hill. The developer was George K. Speed, and the subdivision was Crescent Hill Subdivision No. 1, an irregularly shaped tract between Brownsboro Road and Frankfort Avenue. Like numerous other Crescent Hill property owners, Speed named the streets for members of his family, in this case, his children. Thus, the tract is bounded on the west by Jane Street, on the east by Ewing Avenue, and is bisected north to south by Keats Avenue. In a manner befitting its shape, the subdivision was platted according to an irregular grid pattern. Most lots measured 50 by 200 feet, and the average lot sold for $500. Advertisements boasted of the neighborhood's beauty and prestige as well as its picturesque altitude, healthfulness, and favorable transporation connections.[26]

Five years after Speed laid out his subdivision, heirs began to partition Thomas Kennedy's Fair View estate, with Kennedy's Crescent Hill Subdivision being staked out along both sides of Kennedy Court between Frankfort Avenue and present day Grinstead Drive. The following year, S. S. and Jennie Hite recorded a subdivision called Crescent Hill Park along either side of Hite Avenue north of Frankfort Avenue.[27]

The tempo of growth picked up considerably during the 1890s and continued strongly into the early decades of the twentieth century. Between 1890 and 1917, some 25 new subdivisions were laid out and recorded in Crescent Hill. In 1890, M. E. Galt and T. G. Galt laid out Galt's Subdivision in Crescent Hill, located between Peterson Avenue and S. S. Hite's Crescent Hill Park. A major surge of development began the following year, when three new subdivisions were laid out on the south side of Frankfort Avenue between Jane Street on the west and the Kennedy estate on the east. On the western end, A. W. Randolph staked out Raymond's Subdivision, which extended from Jane Street to Peterson Avenue between Frankfort Avenue and Grinstead Drive. Two blocks to the east, Valentine and Fredrick Franck platted Valentine Franck's Subdivision which extended along either side of Franck Avenue from Frankfort Avenue almost to Longview Avenue. Somewhat further to the east, Martin and John Faust, along with realtors S. S. Meddis and Charles Southwick, platted Faust's Morning Side Addition, an irregularly shaped tract which stretched along both sides of Bayly Avenue from Frankfort Avenue to Grinstead Drive.[28]

But development in 1891 was not confined to the south side of Frankfort Avenue. The largest single subdivision platted that year was Reservoir Park, a nearly triangular tract on the north side of Frankfort Avenue between the reservoir and Fenley Avenue. The developer was the Reservoir Park Company, which appears to have been associated with the Mechanics Trust Company.[29]

The boom continued into 1892, when Jennie E. Speed subdivided Chatsworth, the former estate of manufacturer Joshua B. Speed. The tract included most of the land adjoining Peterson, Ewing, and Calvin avenues north of Frankfort Avenue. The following year, the Columbia Finance and Trust Company platted Aubindale, a subdivision demarcated generally by Frankfort Avenue on the south, the Fair Grounds on the west, Field Avenue on the north, and Linden on the east.[30] But the creation of Aubindale marked the beginning of another break in Crescent Hill's development, precipitated this time by the panic of 1893 and the severe depression that followed.

Despite the lull in development, Crescent Hill had grown enough since its incorporation that Louisville officials began to look upon the suburb with a longing eye. In 1893, the General Assembly enacted legislation which authorized first class cities to annex surrounding territory, including smaller incorporated towns, unless 75 percent of the citizens of the affected territory could demonstrate that annexation would "materially retard the prosperity of the [annexing] city and of the owners of real estate in and inhabitants of the territory sought to be annexed." The following year, the General Council passed an ordinance to annex Crescent Hill and two other suburbs on the city's fringe. Louisville sought through annexation to enlarge its population and broaden its tax base. But many residents of Crescent Hill and the other satellite towns fought to maintain their independence. For some it was a matter of snobishness. As one Crescent Hill resident recalled decades later, "We thought we were too good to belong to the city." For others, it was a matter of maintaining home rule and avoiding payment of higher taxes. On the other hand, some newer residents of the community favored annexation out of a desire for better urban services and a belief that being a resident of the growing, larger city was in itself a mark of pride and prestige.[31]

Opponents of annexation apparently out-numbered proponents, however, and in Feburary 1894 the town of Crescent Hill filed suit in the Common Pleas Division of Circuit Court, maintaining that 75 percent of the town's residents favored maintenance of the status quo. The petition further questioned Louisville's need for the land because "there is now within the corporate limits a vast territory of land unimproved and many thousands of vacant lots." But the fight against annexation failed, and in June 1894 Crescent Hill dropped its suit and yielded to annexation.[32]

As economic recovery set in during the late 1890s, Louisville experienced a new wave of suburban land development. Much of the new activity was in Crescent Hill. In 1899, James E. and Carrie Bell platted J. E. Bell's Subdivision in Crescent Hill. Located upon a small tract on the south side of Frankfort Avenue between Kennedy's Crescent Hill's Subdivision and Thatcher's Glenwood Subdivision, it was the last development platted in the neighborhood during the nineteenth century. Two years later, Nancy Jane Birch began subdividing the farm of George Birch, who had been a prominent livestock dealer at the Bourbon Stock-

yards. Beginning with the northern half of the tract along Birchwood between Faust's Morning Side Addition and Kennedy's Crescent Hill Subdivision, she replatted the subdivision in 1913 to take in all of the Birch property between Frankfort Avenue and Grinstead Drive.

In 1902, Peter Ellwanger, executor of the will of D. F. Ellwanger, subdivided an irregular tract of his family's land lying along the southern part of Hite Avenue between Frankfort Avenue and Hillside Avenue. The following year, Samuel English resubdivided a section of Lewis Lentz's Fair View Subdivision along English Avenue between Crescent Avenue and Stilz Avenue north of Frankfort. That same year, Charles D. Adams initiated development of the Inglenook Addition to Crescent Hill. Constituting the easternmost subdivision in the neighborhood, Inglenooks's first section lay along the south side of Ingle Avenue between McCready Avenue and Cannons Lane approximately midway between Frankfort Avenue and Lexington Road. Four years later, surveyor Ben Ford, Fred Diefenbach, Jr., and Hy Tobe added a second section immediately to the south along Richard Avenue.[34]

Only one subdivision was laid out in Crescent Hill during 1906, and it was nothing more than a resubdivision of a section of Keats Avenue in Raymond's Subdivision of 1891. The subdivider was J. H. G. Wallbaun. But in 1907, three new subdivisions were laid out, besides the addition to Inglenook. The largest of the three was Blue Grass Addition, developed by realtor Charles M. Phillips and located along either side of Pennsylvania Avenue between Brownsboro Road and Frankfort Avenue. Captitalizing upon its distant suburban location, Phillips called Blue Grass Addition "The Crown of Crescent Hill," and advertised as the place where one could build a "modern Bungalow." Prices, he added, were "so low up here . . . that you can buy enough ground to spread out and have a garden, fruit trees, and chickens, etc., etc." The year 1907 also witnessed the initiation of Cherokee Heights, one of the first subdivisions developed in Crescent Hill by a land company. Developed by the Cherokee Heights Land Company, this small tract is located on the north side of Lexington Road between Stilz Avenue and Cherry Lane.[35]

The smallest, but possibly most heavily advertised development of 1907 was Eastover Park, a one-block tract bounded by Frankfort Avenue, Sacred Heart Lane, Gardner Avenue, and Crestwood Avenue. Owned by A. McVaw, the subdivision was developed by realtor Clarence Gardiner. In a 1908 advertisement, Gardiner & Co., described Eastover Park as

> the expression of a conceit - an effort to prove a theory. It is the work of a man who insists that beauty is by no means the exclusive possession of the rich, who believes that we can have beautiful homes for the same money we are spending for ugly, commonplace houses, and that houses of good architecture...hold their values permanently if well placed in a proper environment, for the effect of the most beautiful house is lost if placed upon a crowded lot in a narrow street.[36]

To attract the middle-class buyer to Eastover Park, Gardiner advertised a broad boulevard guarded by a classic gateway and lined by concrete gutters, curbs and sidewalks; colonial, patio, and bungalow type homes designed by such local architects as Arthur R. Smith; deep lots and 95 foot setbacks; and payment terms that were better than rent.

New subdivisions were laid out on an almost annual basis until 1916, although no single year witnessed so many new projects as 1907. Among these new subdivisions were several developed by professional land companies. In 1908, Crescent Hill reached its southern-most point when the Eastern Realty Company, headed by banker Attilla Cox, platted a subdivison called Eastleigh. Located upon a scenic tract that lay between Grinstead Drive and Lexington Road, Eastleigh provided a bridge which united Crescent Hill with the northern edge of Cherokee Park. But the highlight of Eastleigh is its site plan. Apparently in an attempt to treat the land as sensitively as possible, the developers took advantage of the tract's hills and ravines to lay out such narrow winding ways as Cross Hill, Upland, Top Hill, and Foot Hill roads.[37]

In 1909, the Cherokee Heights Land Company platted Hill Crest, its second Crescent Hill subdivision, which was laid out along Hill Crest Avenue between Lentz's Subdivision of Fair View and Blue Grass Manor. The following year, Harry and Eliza Dumesnil recorded the Dumesnil and Rowland Subdivision, bounded by Frankfort, Peterson, and Galt avenues and Grinstead Drive. In 1910, George Stilz, president of Stilz Realty, developed Stilz Subdivision, one of the period's largest such enterprises, upon a tract of family land bounded today by Stilz Avenue, Grinstead Drive, Lexington Road, and the grounds of Southern Baptist Theological Seminary. The only subdivision recorded in the neighborhood between 1911 and 1915 was Nancy Jane Birch's 1913 resubdivision of Birchwood. But in 1915, two more very small tracts were laid out-Shippen's Subdivision by E. S. and Ada Shippen, between Hollywood Trail and Field Avenue west of Birchwood Avenue, and Weisser Addition, by F. D. Weisser, near the southwest corner of the intersection of Frankfort Avenue and Cannons Lane. The last activity in Crescent Hill before World War I to resemble a subdivision was Ambrose and Annie E. Burner's dedication of several streets which overlapped the southern portions of Faust's Morning Side Addition and Ellwanger's Subdivision.[38]

Although most of the land available for residential development in Crescent Hill had been subdivided by 1917, more than a dozen additional subdivisions were recorded during the interwar period. Most were small and several were merely replattings of older subdivisions. But a handful of new subdivisions deserve note. Between 1921 and 1927, three new subdivisions - Hollywood in 1921, Ridge-Dale in 1923, and Idlewylde in 1927 - filled in most of the available space along Brownsboro Road between Ewing and Birchwood avenues. In 1921, the Wheeler Company, Inc., headed by Blakemore Wheeler, platted the Upland Field "Cherokee" Subdivision between Eastleigh and the Southern Baptist Theological Seminary campus. Finally, the ten-year period between 1922 and 1932 saw the creation of four small subdivisions along the south side of Frankfort Avenue between Eastover Park and Cannons Lane. After 1932, as a consequence of the depression in the housing industry and the general unavailability of undeveloped land, not a single subdivision was laid out in Crescent Hill between Jane Street on the west and Fenley Avenue and Cannons Lane on the east.[39]

In 1908 the president of the Crescent Hill Improvement Club asked realtor Clarence Gardiner to explain why he operated in Crescent Hill. In his response, Gardiner placed appropriate stress upon such technical innovations as the electric streetcar, which made suburban land more valuable and suburban living more accessible to the central city. But the main purpose of his statement was to underscore Crescent Hill's true uniqueness:

> Crescent Hill stands alone in this regard - it is our only suburban district, and it will remain suburban. Crescent Hill, for the most part, is laid out on the village plan, with wide streets and big yard, with the tendency to open the new streets even wider than the old, until the district has taken on a character so thoroughly suburban that no amount of increased population can ever change the suburban atmosphere of the place, and with the increasing demand for room, and yet more room, that comes with education in the better things of life, Crescent Hill will continue to grow in popularity and value, for it is the only suburb of to-day that is not the city of tommorrow,- its suburban character is too firmly fixed to ever be changed,- the family seeking the joys of the country with the conveniences of the city has nowhere else to go.[40]

Nearly half a century later, local journalist Grady Clay noted quite logically that most of Gardiner's praise for Crescent Hill "sounds like optimistic poppycock today." By the late 1950s, Clay noted, Crescent Hill had indeed become "engulfed by Louisville." It was "no longer a separate suburb, but an old city neighborhood," with many of the attendant features which that label frequently connotes - closely built homes, large houses which had been converted to apartments, and a nearly complete turnover in population since World War II. And yet, with a degree of chauvinism befitting a resident of the neighborhood of which he was writing, Clay demonstrated that Crescent Hill had indeed maintained a large measure of the uniqueness and stability of which Gardiner had spoken 48 years earlier.[41]

Central to that uniqueness was, of course, the influence of Crescent Hill's terrain, which already has been discussed at some length. Equally important is the variety of housing styles which is found in the neighborhood. In addition to the remaining antebellum mansions are several large homes built by affluent Crescent Hill residents after the Civil War. Most notable are the Peterson and Field Houses. Located at 301 South Peterson Avenue, the former structure was built about 1870 for tobacco merchant Joseph Peterson. The design, attributed to the distinguished Louisville architect Henry Whitestone, combines the blockiness and severity of the pre-Civil War Greek Revival mode with the much more timely features of the Italianate style. Set upon a limestone foundation, the two-story brick structure has the asymmetrical massing and central tower characteristic of the Italian villa style, along with such other appropriate features as a bracketed cornice and tall, segmental-arched windows topped with cast-iron hoods. As if to say it is a Louisville home, each window hood has a modified fleur-de-lis motif in the center. Of similar stature is the Judge Emmett Field House, located at 2909 Field Avenue. Built around 1870 and purchased by Judge Field in 1886, this two-story country villa also has strong Italianate features such as a bracketed cornice, a low gabled central hall, quoined corners, and window pediments which are broken and straightened at each end.[42]

But more important than such gems as the Peterson and Field houses in shaping the residential character of Crescent Hill is the variety of solid middle and working class homes which line the neighborhood's streets and courts. Unlike

many other Louisville neighborhoods, there are very few streets in Crescent Hill where one is confronted with block after block of homes having similar, or even identical, massing and materials. The vast majority of houses in the neighborhood are of frame construction, no doubt because wood was cheaper than brick or stone, but the neighborhood also has its share of brick, stone, and stucco homes. Likewise, most streets have a variety of styles, mixing the Queen Anne and other Victorian styles with shotgun cottages, bungalows, and historical revival houses. The result, especially when combined with the neighborhood's topography, is a strong sense of exuberance and vitality. This is all the more striking when one realizes that houses in Crescent Hill are devoid of the sumptuous ornamentation frequently found on structures in Old Louisville and Cherokee Triangle.

Another vital factor in preserving Crescent Hill's uniqueness is the continued presence of large institutions, which have helped to maintain stability and provide green space. At one time, Crescent Hill was the site of three large orphanages, two of which still remain. Woodrock Hall, built by the Episcopal church about 1870 and located on Crestwood Avenue at the southwest corner of Crabbs Lane and Gardiner Avenue, operated as a home for boys until 1955, the structure was sold in 1961 to the Ursuline Order for use as a dormitory by Ursuline College.[43]

The second orphanage to locate in Crescent Hill, where it remains today, was St. Joseph's Catholic Orphan's Home. Founded in 1849 by German Catholics, the home first operated in the old Jefferson Seminary at Eighth and Grayson (Cedar) streets. During the mid-1850s it moved into the large Colonial style home of Colonel Jason Rogers at the corner of Jackson Street and Fehr Avenue near St. Boniface Church. There the institution remained, in quarters later enlarged, until 1885, when it moved to its present location on the north side of Frankfort Avenue at Crescent Avenue on part of the old Fair Grounds land. Architects for the stately, two-story building were Cornelius Curtin, William Redin, and Charles D. Meyer.[44]

Finally, in 1927, the Masonic Widows and Orphan's Home of Kentucky moved into its new quarters, located on a 126-acre tract on the north side of Frankfort Avenue between Fenley Avenue and Sprite Road. Organized in 1867, the institution had operated since 1871 in quarters located on the east side of Second St. between Bloom and Avery streets, south of the central business district. By World War I, the existing facilities had become inadequate. In 1919, the Board of Directors inititated a Million Dollar Committee to raise the funds necessary to build a new facility. By 1921, over $900,000 had been subscribed. The following year, the directors commissioned the Louisville architectural firm of Joseph and Joseph to begin drawing plans for the institution's new buildings including a school and auditorium, administration building, laundry and powerhouse, widows' dormitory, infirmary, industrial plant, kitchen and dining room space, and children's dormitories. By late 1923, the Million Dollar Fund had been oversubscribed, and more than half a million dollars had been collected. The cornerstone was laid in October 1925 and the new home was dedicated in October 1927.[45]

Crescent Hill also is the locus of important educational institutions. Among these, in addition to the area's numerous public and parochial schools, are Southern Baptist Theological Seminary, and the former Ursuline College, now headquarters of several of the order's other educational programs. Organized in 1857, Southern Seminary operated in Greenville, South Carolina for two decades. In 1877, it moved to Louisville, and developed a campus of four buildings at Fifth and Broadway. But during the early twentieth century

the noise and bustle which accompanied the movement of the city's main business area toward Broadway had begun to intrude upon the serenity of academic inquiry. By 1910 the trustees had begun to search for a setting more conducive to educational life. But it was not until 1921 that they purchased a 53-acre tract on Lexington Road in Crescent Hill. Ground was broken in 1923 for Norton Hall, the main administrative and academic building. Two years later, construction began on Mullins Hall, a men's dormitory. Finally, in March 1926, the Seminary abandoned its downtown campus and moved into its $2 million Crescent Hill facilities.[46]

One of the most distinguished architectural sites in eastern Louisville, the Seminary campus was planned and its initial buildings were designed in the Neo-Colonial style by architect Arthur Loomis, in association with the prominent New York firm of James Gamble Rogers. Subsequent additions by the Louisville firm of Nevin, Morgan, and Kolbrook maintained the design concept of Loomis and Rogers. Built during an era in which Neo-Colonial architecture was particularly popular, Southern Seminary takes on added significance because of its critical praise. Architectural historian Rexford Newcomb, for example, found the institution's red brick buildings "particularly pleasing" and suggested that Norton Hall, "with its Adamesque portico and terraced tower, is eminently characteristic" of the Federal style.[47]

Ursuline College was established during the late 1930s by the Ursuline Order of Roman Catholic nuns, which already operated its Mother House and Sacred Heart Academy, a preparatory school for girls, on grounds between Stilz Avenue and Cannons Lane east of Southern Seminary. In 1940, the sisters broke ground for Brescia Hall, a science facility, which also housed classrooms and administrative offices. Designed and executed in the Colonial style by Louisville architect Walter Wagner, Brescia Hall was the first of several academic and dormitory buildings which would be erected upon the order's sylvan campus. Ursuline College continued to operate at its Lexington Road campus until 1968 when it merged with Bellarmine College and eventually moved all its operations to the latter institution's campus on Norris Place. The Ursuline Order continues to operate its other educational and religious activities at the Lexington Road campus.[48]

For all its variety, Crescent Hill has a sense of cohesion which is in stark contrast to its rather nondescript neighbor to the north - Clifton Heights. Encompassed by the triangle formed by Brownsboro Road, Mellwood Avenue, and Zorn Avenue, Clifton Heights possesses a rugged terrain similar to Crescent Hill's, and like the latter neighborhood, has an irregular street pattern. What it seems to lack is the kind of uniform mix of housing styles and the central artery, such as Frankfort Avenue, which together give Crescent Hill a sense of unity in the midst of variety and vitality.

The first subdivision recorded in Clifton Heights was Summit Park, platted in 1892 by the Kentucky Excelsior Manufacturing Company, whose president was John Drescher. This irregularly-shaped tract extends from Mellwood Avenue to Brownsboro Road along Delmont Avenue and Drescher Bridge Avenue. Three years later, Agnes N. Anderson laid out Thompson Park, located immediately to the north of Summit Park along Thompson Avenue. Most of the houses in these subdivisons are of one and two-story frame construction, although occasionally small brick and stucco houses can be found.[49]

The neighborhood takes its name from Clifton Heights, a large, roughly shaped triangle bounded by Brownsboro Road on the south, Birchwood avenue on the east, and an irregular line between Lindsay Avenue and Kenilworth Road to the northwest. Clifton Heights was subdivided initially by Gottlieb Letterle's Clifton Land Company in 1895, but numerous smaller sections have been resubdivided since then, and its development pattern has been quite uneven chronologically, spatially, and qualilatively. The older gridion streets - Pryor, Fleming, and Hite avenues and Cleveland Boulevard - are lined with a mixture of modest one and two-story frame cottages and houses and a sprinkling of brick and stucco bungalows of varying size, age, and quality. Along the lower section of Lindsay Avenue between Brownsboro Road and Mount Holly Avenue are several garden apartments and low rise condominums of recent vintage. Nearby, between Mount Holly Avenue and Hite Avenue, are a number of boxy frame houses with aesbestos siding which appear to have been built shortly after World War II. At the lower end of Hite Avenue near Brownsboro Road are a few small but substantial brick houses, while along the west side of the adjacent Chickasaw Avenue there is a row of aging, extremely narrow, frame shotgun houses set back upon a hillside overlooking the street.[50]

The first replatting of a section of Clifton Heights came in 1950, when developer Ben F. Swindler, president of the Lindsay-Hite Company, Inc., laid out the Lindsay-Hite Subdivision, a series of one-story frame houses with aesbestos siding arranged in the form of a square around Kenilcourt, a narrow residential street which branches off of Kenilworth Road. Also located in Clifton Heights are LeBlanc Court and Honey Suckle Hill, two garden apartment complexes, the former developed by James C. Irvin Jr., and the latter by Irwin Weyer, both in 1964. On the east side of Hite Avenue, bounded by Chickasaw, Pryor, Fleming, and Zorn Avenues are two more recent subdivisions in old Clifton Heights. Moran Place, a series of brick garden apartment buildings, was laid out along Ridgedale Road by J. J. Coyle in 1952. Somewhat larger is Birchwood Manor, located immediately to the east along Thistlewood Avenue and Riedling Road. Nearly all the homes on the Thistlewood section are neat, red brick ranch style homes, while those on Riedling are four-unit apartment buildings. The developer of Birchwood Manor was Fred T. Hafendorfer's Highland Investment, Inc.[51]

Located between Summit Park and Thompson Park on the west and Clifton Heights on the east are three subdivisions whose dates of initiation range from 1905 to 1957. The single factor which unifies these complexes is Kenilworth Road. The oldest is Belcourt, a strip of brick and stucco bungalows and one and two-story brick historical revival structures developed by James E. and Carrie Bell. Immediately to the north is Indianola, a resubdivision of an apparently unrecorded subdivision called Anderson Park, laid out in 1910 by Warren C. Callahan, Orville Stivers, Albert Forester, and J. H. Schlangenotto. Suggesting a sluggish pace of development, this subdivision included an interesting mixture of aging two-story frame structures, a scattering of two-story Colonial style brick homes, and numerous post-World War II one-story brick and stone ranch houses. Much more homogenous is Mellwood Heights, which branches off to the northwest along Edith and Emily roads between Kenilworth Road and Mellwood Avenue. Recorded in 1957 by Ben Swindler, Mellwood Heights is characterized almost entirely by small, one-story red brick ranch homes.[52]

The eastern-most of the early subdivisions in the Clifton Heights neighborhood is University Place, laid out in 1911 between Birchwood Avenue and Zorn Avenue, then known as Pipe Line Avenue, which followed the Louisville Water Company pipeline from the River Road pumping station to the Crescent Hill Reservoir. The initial developers were Andrew J., Lewis B., and John J. Zehnder and the Louisville Building Company, headed by G. H. McAlister. Most of the houses are of frame construction, many with tin roofs. There are also numerous bungalows and an occassional two-story structure with historical revival motifs. Along Birchwood Avenue are an assortment of brick ranch houses, stucco bungalows, and wood frame structures whose size and quality decline steadily as the narrow street moves northward.[53]

The most architecturally distinctive section of the Clifton Heights area is Riedlonn. Initiated by R. D. Riedling in 1926, with additions in 1931 and 1946, Riedlonn is characterized by its large two-story historical revival homes. Most are two-story brick structures, although several are of stone construction. The prevailing style is Neo-Colonial, reflecting the local popularity of that motif during the 1920s, but numerous Tudor, English and Dutch Colonial Revival houses also can be found.[54]

Two factors appear to explain the lack of unity and cohesion in Clifton Heights' development pattern. The first is the lack of street car lines, which had helped to spur growth in Clifton and Crescent Hill between the Civil War and World War I. Without the street car, Clifton Heights remained isolated until widespread availability of the automobile made the area accessible by Brownsboro Road and Mellwood Avenue. A second factor is the shortage of major institutional spaces. Aside from several relatively unassuming churches, the primary institution quartered within the heart of the neighborhood is the powerful Mose Green Democratic Club, whose modest clubhouse is located on Hite Avenue opposite its intersection with Lindsay Avenue. However, the Mose Green Club is not neighborhood-based. It draws its members from all parts of Louisville and Jefferson County, but there is little organic relationship between the organization and the neighborhood which surrounds it.

In addition to the Mose Green Club, Clifton Heights has two other major institutions, both of which are located at one of the areas major peripheral intersections and one of which is so new that it could have had only minimal impact upon the neighborhood's development. Anchoring the intersection of Mellwood Avenue and Brownsboro Road is the Fischer Packing Company, one of eastern Louisville's larger industrial concerns. The firm was founded in 1909 by Henry Fischer, a German immigrant who had arrived in Louisville in 1892. Apprenticed to a locksmith before coming to the United States, Fischer's first position in this country was a $5 a week job washing windows, cleaning spittons, currying mules, and carrying water in a Pennsylvania coal mine. When the mine closed, he moved to Louisville and went to work for Ahrens and Otts, a local brass foundry. After being dismissed by that firm, ne became an apprentice meat cutter at a grocery. The young man saved his money for five years and purchased a wholesale meat route in 1899. For the next decade, Fischer sold meat during the day and engaged in meat preserving and processing experiments at night. In 1909 he developed a smoke-flavored, boneless cooked ham, which became the basis for a slaughtering and packing business which now employs more than 500 workers.[55]

The second and more recent of the large institutions which anchors Clifton Heights is the Veteran's Administration Hospital, located on a bluff overlooking the Ohio River at the southwest corner of Mellwood Avenue and Zorn Avenue. During the years immediately after World War II, the Veterans Administration operated the old Nichols General Hospital in the South End. In the meantime, plans moved forward for a new facility in the East End. In 1946 the Zorn Avenue site was selected by the V A after the Louisville Water Company agreed to transfer a 45-acre tract formerly occupied by its old reservoir. Initial plans called for a 750-bed facility, but the economy-minded Truman Administration trimmed that figure to 500 in early 1949. About the same time, an abortive movement developed to have the facility located downtown near General Hospital. Support for this location came primarily from the Louisville Area Development Association, the University of Louisville Medical School, Mayor Charles Farnsley, and Aldermanic President Dann C. Byck, all of whom hoped that a downtown location would help spur slum clearance and promote creation of a centrally located medical center. But the proposal came under attack from veterans groups, and the V A declined to change its plans.[56]

Construction began in late 1949, following delays created by a long street strike, and was completed in the spring of 1952. Original plans were drawn by Sam Hannaford and Son, of Cincinnati, and E. T. Hutchings, of Louisville, under the supervision of the Louisville District of the U. S. Corps of Engineers. But after the project was cut to 500 beds, these plans were scrapped and the hospital was redesigned by the V A's Construction Division in Washington. Since its completion, the nine-story, rad brick hospital has been expanded through the addition of an out-patient clinic, a central kitchen, two intensive care units, and new laboratory facilities.[57]

About a dozen small subdivisions have been completed in Clifton Heights since the construction of Veterans Hospital, but there does not appear to have been any significant causal connection between the hospital and residential development in the area. Most of the subdivisions are well removed physically from the hospital, and none is located immediately adjacent to it. It is more likely that similar factors of available land and transportation improvements coincided to promote both construction of the hospital and residential development in the neighborhood nearby.

Summarizing the development process along the Frankfort Avenue axis, it appears that the neighborhood in which the influence of streetcar, parks, and the professional land development process coincided most directly was Crescent Hill. Clifton felt the influence of the street car, but it was only slightly influenced by park development and professional land developers. Clifton Heights was significantly affected by the professional developers, especially after World War I, but growth was limited between the Civil War and World War I, because of the absence of the streetcar and parks. Crescent Hill, on the other hand, was well served by streetcar lines, as well as by the railroad and Frankfort Avenue. Only parts of the neighborhood benefitted directly from Cherokee Park, but large institutional spaces such as the Crescent Hill Reservoir, the Fair Grounds, St. Joseph Orphanage, the Ursuline Order grounds, and the Southern Baptist Seminary provided substitutes for public parks. Finally, more subdivsions in Crescent Hill were developed by individuals than by professsional realtors; nevertheless,

professionals such as A. W. Randolph, S. S. Meddis, and Charles Southwick operated in the neighborhood as early as 1891, and such activity increased during the twentieth century with the participation of such real estate agents and firms as River-Payne Development Company; G. V. Hieatt, of the Cherokee Land Company; V. F. Kimbel, of the Longview Land Company; Attilla Cox, of the Eastern Realty Company; Blakemore Wheeler, of the Wheeler Company, Inc.; D. C. Clarke, of the Louisville Real Estate and Development Company; and C. C. Hieatt and Helm Bruce.

Along the Bardstown Road axis, the area also known as "the Highlands," seven neighborhoods saw major development between the Civil War and World War I. Of these, Phoenix Hill and Germantown seem to have been least affected, if at all, by the combined influences of urban parks, the streetcar, and the professional real estate business, primarily because the subdivision process was already well underway in those two neighborhoods before the new forces began to coalesce. Highland, on the other hand, appears to have been impacted significantly by the streetcar. All three factors appear to have played significant roles in Cherokee Triangle, Tyler Park, Bonnycastle, and Deer Park.

The largest section of Germantown lay to the west of the South Fork of Beargrass Creek. Just before the Civil War, however, some development began to appear in the section known as Paristown, which stretches approximately from Broadway to Ellison Avenue between the creek and Barret Avenue. Named for its once predominantly French Huguenot population, Paristown straddled parts of the William Preston and Arthur Campbell land grants of 1774.

The eastern section of Paristown, which lies along both sides of Vine Street, remained in the elder Preston's possession until his death in 1811. As a result of a memorandum of agreement dividing Preston's land between his sons, Francis and William, the former brother received the tract which included the Paristown land and part of Tyler Park. In February 1832, Francis Preston sold this land to his son-in-law, Robert Jefferson Breckinridge. Two months later, Breckinridge sold it to brickmakers John Howard Jr., and Samuel K. Page, who divided the land between themselves evenly. After suffering some financial reverses, Howard sold part of his land to financier James R. Guthrie in 1849. A short time later, Guthrie sold most of his land, including a lot between Vine Street and Barret Avenue at Broadway, to Thomas Y. Brent, a former Paris, Kentucky landowner, who had moved to Louisville in 1850. In 1854, he subdivided the land as T. Y. Brent's South Eastern Addition.[58]

Page subdivided most of the remaining land in the Howard-Page tract in 1870, while three smaller tracts were recorded by John B. Castleman, Susan E. Higgins, and Samuel Hutchings between 1888 and 1896. In 1898, Mary E. Caperton, Sarah J. Smith, and Anna C. Norton, daughters of James R. Guthrie, subdivided 12 acres of a lot of the original Howard and Page tract straddling Ellison. In 1923, the Rivers-Yeager Company, Inc., headed by R. H. Rivers, subdivided the remaining area between the Page and Caperton, Smith and Norton subdivisions.[59]

The remaining portion of Paristown, which took the shape of a triangle formed by Preston's Line and a sharp bend in the South Fork of Beargrass Creek, was part of the Arthur Campbell tract. Colonel Campbell died in 1811, leaving 1,000 acres to his daughter with the stipulation that the land be sold for no less than $20 per acre. Because the demand for outlying land was not strong enough to bring the minimum price required by Campbell's will, the property remained undeveloped for nearly four decades. Finally, in 1850, Mary

Campbell Beard successfully challenged her father's will in court. Shortly thereafter, local speculators flocked to purchase the Campbell land. One of these was James R. Gutbrie, whose Southeastern Enlargement encompassed the area bounded by Preston's line on the northeast, Shelby Street on the west, and St. Catherine Street on the south. It was not until 1870, however, that Guthrie's land, along with a small section of the Howard and Page tract between Oak and Kentucky streets, was laid out in lots by two of Guthrie's daughters and their husbands.[60]

As in the rest of Germantown, the predominant housing style in Paristown is the frame shotgun in its many variations, including the simple one-story cottage and the camel-back, with its rear second story. Older sections along Vine and Brent street are lined with shotguns, no two of which are exactly alike in detail. Newer parts of the neighborhood, along Julia , Crown, and Rufer streets, are dominated by bungalows, which during the early twentieth century replaced the shotgun as the primary working class housing style in Louisville. Only along a major artery such as Breckinridge Street can an occaseional large frame Victorian house be found.

The largest institution in the Paristown section today is Highlands Baptist Hospital, which occupies most of Thomas Y. Brent's original subdivision. Planning for the facility, known as Kentucky Baptist Hospital until 1978, began as early as 1906. But nothing of significance happened until 1917, when the General Association of Baptists in Kentucky organized a hospital Board of Trustees and appointed the Rev. Dr. M. P. Hunt to conduct a hospital fund raising drive. By October 1918, the Louisville architectural firm of Joseph and Joseph had been hired to design the hospital, a five acre site on the west side of Barrett Avenue two blocks south of Broadway had been acquired from the estate of the late Dr. Eusebirus Hutchings, and some $100,000 already had been pledged toward the facility's projected $300,000 construction cost.

But construction was delayed by World War I, and costs rose rapidly during the years after the war. By January 1923, the projected cost for a six-story, 132-bed hospital had risen to approimately $600,000 with the price tag for the first phase of construction estimated at $400,000. When bids for the first phase came in, the lowest was $40,000 over the estimate. After discussions with architects had convinced them that no part of the project could be eliminated without imparing the quality of care provided by the hospital, the Board of Trustees decided to proceed with construction without delay, despite the higher costs. Construction began in the late winter of 1923, with the expectation of completion by the end of the year. But sbortages and other problems intervened and the building was not completed and dedicated until November 1924. The hospital has been expanded numerous times since 1924 and now has a capacity of more than 250 beds.[61]

Located directly to the north of Germantown, most of the Phoenix Hill Neighborhood consists of Preston's Enlargement, a portion of the Preston land grant of 1774, which was annexed to Louisville in 1827. Subdivision development in Preston's Enlargement began in the 1830s, and by the Civil War it was one of the City's most populous areas. German immigrants made up a large element of the neighborhood's population. The one portion of present-day Phoenix Hill

which remained undeveloped at the time of the Civil War was a triangular area formed by Beargrass Creek, Baxter Avenue, and Broadway. On the eastern edge of this tract, bounded by Baxter, Barret, Hill and Rubel avenues was Phoenix Hill, itself, the scenic knoll from which the neighborhood derives its name. A subdivision plan for part of the triangle was recorded in 1849, but the promentory remained essentially undisturbed until 1865. At that time it was acquired by Philip Zang, Philip Schillinger, and Gottfried Miller, who constructed Phoenix Hill Brewery and Park.[62]

Louisville's brewers were a competitive lot, who typically furnished their establishments with a beer garden and saloon. But the canny Phoenix Hill proprietors did not intend simply to match their competitors. In addition to a beer garden and bandstand, their establishment included a lovely picnic ground dotted with scores of tables shaded by large trees, a fountain set in beautiful terraced gardens, and an immense pavillion with a dance floor, bowling alleys, a stage, and a roller rink. But its feature attraction was a 111-foot bar, across which were several millions of glasses of Phoenix Hill "Bohemian and lager beers." Phoenix Hill Park soon became not only a center of activity for the local German community, but a mecca for millions of pleasure seekers from city, state, and nation. Musical organizations such as the local Liederkranz Society and the world famous band of John Phillip Sousa played there. Private groups such as the Delmont Club and the Mose Green Democratic Club made it the site of big annual meetings, and national figures including Theodore Roosevelt, William Howard Taft, Woodrow Wilson, Charles Evans Hughes, and William Jennings Bryan delivered political orations at the park. It remained a local entertainment center until 1919 when the brewery was closed as a result of Prohibition. In 1938, the decaying remains were torn down and much of the hill was used for landfill. Today only a few stones from cellars, and stables remain as tangible reminders of Phoenix Hill's past glory.[63]

Despite Phoenix Hill Park's popularity, it was not until the last decade of the nineteenth century that the surrounding area came under residential development. Dates can be found for only two of the three subdivisions platted in the Phoenix Hill triangle east of Beargrass Creek, but the structural similarity of the residence suggest that the entire area was developed during a rather narrow span of years. In 1891, Susan Preston Hepburn, William Preston Johnston, and Henrietta Preston Johnston laid out a section of William Preston's military grant bounded by Barret, Baxter, Rubel, and Broadway. Three years later, the Tarascon Woolen Mills Company subdivided the neighboring northern half of the narrow strip bounded by Hamilton and Barret Avenue between Broadway and Baxter. The undated Rogers and Barr's Subdivision consists of the triangle formed by Barret and Rubel avenues and Broadway. Most of the houses along the north side of Broadway between Barret and Baxter are large, two and three-story Victorian and Italianate structures, while smaller frame dwellings, including many shotgun cottages with Carpenter's Gothic motifs, prevail on the surrounding streets.[64]

The most outstanding architectural and institutional structure in the Phoenix Hill triangle is Concordia Lutheran Church at 1127 East Broadway. Built in 1930, this structure is a rare small work by the distinguished architect Ralph Adams Cram, whose previous commissions included St. Thomas Episocipal Church

on Fifth Avenue in New York City and several buildings for the U. S. Military Academy at West Point. In Concordia Church, Cram retained the usual elements of the Gothic parish church nave, transepts, separate chancel, baptistry and sacristry. But as architectural historian Walter Langsam has observed, Cram combined them "in a form both simple and dignified by means of an exquisitely adjusted sense of proportion and his usual respect for the nature and quality of materials." The church's reduced size apparently reflects a conscious effort to respect the scale and setback of the adjacent residential structures, but this is accomplished without compromising the structure's aesthetic quality. Again, as Langsam notes, "the delightful bell-cote suffices for a tower, enforced by the angles of the buttress; a strongly molded recessed door substitutes for a narthex; and the delicate tracery of the single large window on the facade sustains the integrity of the finely laid masonry surface."[65]

While Phoenix Hill was becoming one of Louisville's favorite entertainment centers, residential development was proceeding apace in the Highland neighborhood, known before the Civil War as New Hamburg. In 1869, Sidney J. Rogers, son of Captain Jason and Josephine Preston Rogers, subdivided the property which fronted on both sides of Hepburn Avenue between Barret and Baxter avenues. Two years later, the Central Passenger Company received the franchise for a horse-drawn street car line to Highland Avenue, a line which later followed Bardstown Road to Douglass Loop. While it did not serve all of Highland directly, the streetcar nevertheless helped to make the neighborhood more immediatley assessible to the city dwellers and made living and working in the area more desirable.[66]

The first subdivision laid out after the coming of the streetcar was William Hughes Addition, located between Sidney Rogers' Subdivision and St. Louis Cemetery. Formerly owned by Susan Preston Christy, the land was sold to Hughes by H. P. Hepburn, who had married Susan Preston Christy following the death of her first husband, Howard F. Christy. The tract was subdivided in 1875 by E. C. Bohne's Teutonia Real Estate and Building Company, to whom Hughes had sold half the land. A decade later former Confederate General William Preston and his sister, Maria Preston Pope, dedicated the streets and alleys within the area bounded by Broadway, Barret, Rubel (then Overhill), and an alley between DeBarr and Howard streets and began to sell lots randomly. In 1891, William Preston Johnston subdivided the tract lying along either side of Highland Avenue between Christy and Johnston's Subdivision on the north and Sidney Rogers' Subdivision on the south. The subdivision process in Highland climaxed in 1896, when the heirs of J. Watson Barr and Susan Rogers Barr, grandaughter of Major William Preston, platted the Barr Subdivision, which takes in the area bounded by Broadway, Baxter Avenue, Rubel Avenue, and Christy and Johnston's Subdivision.[67]

The vast majority of houses in Highland were constructed between 1860 and 1895, with the strongest surge coming during the last 15 years of the period, when more than 600 homes were put up. For the most part, the dwellings built between 1860 and 1884 were located along Breckinridge (formerly Howard), Christy, Baxter, and Barret. Those erected between 1884 and 1895, however, were scattered throughout the neighborhood. As with the surrounding residential neighborhoods, Highland has a rich mixture of residential architecture. A

few structures, such as 1411 Highland Avenue and 1420 Hepburn Avenue, are distinguished by their size and sumptuous Victorian ornamentation. Most, however, are of a more modest scale, built for working class people of average means. The most common form of worker housing is the frame shotgun, although a few are of brick. But the variety of decoration among these structures is incredible, with virtually every home having some notable feature. Some builders expressed their individuality through ornate carpentry, stained glass, or fancy brickwork, while others employed layered and heavily ornamented cornices or unique porches and dormers.[68]

The largest single institution in the Highland neighborhood, St. Anthony's Hospital, was founded in 1901 by the Poor Sisters of St. Francis Seraph of of the Perpetual Adoration, an order of Roman Catholic nuns that headquartered Lafayette, Indiana. The first hospital was located on an elevated triangle of land lying between St. Anthony's Place (formerly Wickliffe Avenue) and Barret Avenue. A northeast wing, which included a chapel and refectory, was built in 1911. By the early 1920s, the patient load averaged about 1,000 annually, and the sisters determined that it was again necessary to expand. They engaged the Louisville firm of D. X. Murphy and Bro. to design a new, four-story addition that would increase capacity by approximately 100 beds. Construction began early in 1923, and the new addition opened in April 1924. A nursing school was added while construction was still in process. An east wing was erected in 1948. By the mid-1960s, capacity had reached 225 beds, but the patient population frequently reached 240 to 260. This led to the replacement of the hospital's original section with a $7 million, seven-story addition, which allowed for an expansion of capacity to 374 beds and provided for a new X-ray laboratory, emergency rooms, and administrative and service areas.[69]

In 1976, St. Anthony Hospital embarked upon a unique new venture when it joined with Kentucky Baptist Hospital, (now Highland Baptist) located across Barret Avenue, to form the Highlands Medical Center. Implemented through a series of skyways across Barret Avenue, the project is intended to promote cost savings through the sharing of certain facilities and programs. While both hospitals retain their administrative autonomy, the ecumenical program is believed to have been at its inception, the only such example of a joint program between Southern Baptists and Roman Catholics in United States.[70]

The East End neighborhood where the combined effects of the streetcar, urban parks, and the professional land development business had their most pronounced impact was undoubtedly the Cherokee Triangle, a roughly shaped area bounded by Baxter Avenue and Bardstown Road on the southwest, Cave Hill Cemetery and Grinstead Drive on the north, Cherokee Parkway on the east, and Eastern Parkway on the southeast. Originally part of the 6000-acre Southall and Charlton military grant of 1774, the land changed hands numerous times during the first six decades of the nineteenth century. In 1863, most of the land which is today Cherokee Triangle was purchased by George Douglass. His residence, which was located at the corner of Dearing Court (formerly Douglass Place) and Dudley Avenue near the present home of the Cave Hill superintendent, now is included in the cemetery grounds. Six years after purchasing the tract, Douglass sold approximately 135 acres to realtors James Henning and Joshua Speed for 135,000.[71]

Both Henning and Speed were established members of Louisville's civic and business elite. Each one reported an income in excess of $20,000 for 1867, and Speed was an early supporter of the Louisville and Nashville Railroad and an incorporator of the Citizens Passenger Railway. But their primary enterprise was real estate speculation and development, a business in which they had been partners since 1846. But when they purchased the Douglass property, the gentlemen did so with the intention of establishing residences for themselves and other members of their families. Consequently, they took special pains to create the best possible environment of suburban living.[72]

In 1870, the two real estate men laid out Henning and Speed's Highland Addition. Its boundaries were Bardstown Road, Highland Avenue, Slaughter Avenue (now Patterson), and Forest Hill, a wooded area adjacent to Cave Hill Cemetery. In some respects, the Highland Addition was quite modest in scope. It contained only 150 lots, which averaged 60 by 180 feet. The streets were rather narrow, with such prestigious arteries as New Broadway (now Cherokee Road) and Bardstown Road measuring only 80 and 70 feet in width, respectively. And unlike Crescent Hill, where an irregular street pattern was the rule, Highland Addition was laid out in a basic gridiron.[73]

But the subdivision also had some advantages which offset some of its more ordinary features. Cave Hill Cemetery, developed by and meticulously cared for by brothers David and Robert Ross and their successor, Robert Campbell, provided a rural, parklike retreat which historian J. Stoddard Johnston called a "Mecca for the living" as well as a final resting place for the dead. Moreover, the presence of Cave Hill brought together streetcar, water, and sewer lines at the intersection of Baxter Avenue and Broadway. Henning and Speed apparently were so convinced of the desirability of their subdivision that they refrained from advertising the sale of lots. Instead, they sold them quietly to family members, friends, and business associates. Indeed, the first house in the neighborhood, located on a three-lot tract at the corner of Transit Avenue (now Grinstead Drive) and East Broadway, was built by Henning in 1871 as a wedding present for his daughter, Maria, and her husband, J. J. B. Hilliard.[74]

Henning and Speed's business in the Highland Addition flourished between 1870 and 1873, with lots selling for a average of $1,200 throughout the subdivision. But during the latter year, the United States was hit with its worst depression since the 1850s, and in Louisville as elsewhere, land development came to a virtual standstill. A few lots were sold in the Highland Addition, and in 1878 the trustees of the estate of H. I. Craycroft subdivided a small tract bounded roughly by Baxter and Highland Avenue and Cave Hill Cemetery near the cemetery entrance. Otherwise the doldrums remained until the opening of Louisville's Southern Exposition in 1883 set off a new wave of residential development.[75]

Although the exposition had its most immediate impact in Old Louisville, it also stimulated the real estate business somewhat in the Highlands. In 1884, the year after the exposition opened, Clayton Longest and the Louisville Savings Investment Association subdivided a portion of the Longest family property bounded by Longest Avenue, Bardstown Road,

Cherokee Parkway, and a line extending from Basset Avenue between Longest and Cherokee Parkway. Like Henning and Speed, Longest promoted the sale of his lots almost exclusively through personal contact rather than through newspaper advertising. However, both Longest and the firm of Henning and Speed suffered a similar problem during the exposition era. For the most part, land prices were not only a good deal lower than during the early 1870s, they also fluctuated sharply, with some parcels on New Broadway selling for as little as $500.[76]

Neither Henning nor Speed lived to see a price resurgence in their neighborhood. Both men lived until the late 1880s, but the real estate business remained at somewhat a modest if steady level until 1890. In that year, wholesale cola dealer Thomas James dedicated and laid out lots along Douglass Avenue, a short court which connects Everett and Dudley avenues just north of Grinstead Drive. Some lots were sold over the next five years and in 1895 James recorded the street and the abutting lots as a subdivision. Douglass Avenue later became known as Dearing Court after Charles Dearing, a book merchant and publisher who lived on nearby Everett Avenue. But there is no official record of the street's name ever officially having been changed.[77]

The one factor which more than any provided a new impetus for land development in the Triangle was the creation of Cherokee Park in 1891. Because of the beauty and prestige which was attached to home sites near the park and its approaching boulevards, land owners rushed to take advantage of the inevitable increase in land values. A major factor in the new wave of development was the Eastern Park Land Company, incorporated in 1891 by W. R. Ray, Anne E. Barrett, John B. McFerran, Oscar Fenley, John D. Taggart, R. Minefort, and John Stites, with the latter as president. Organized with a capital stock of $150,000, the company was empowered to engage in the "buying and selling of real estate in Jefferson County, Kentucky, and the laying in and improving of streets, alleys, and ways."[78]

The company's first project, initiated in 1891, was the development of Bassett and Henry Longest's Subdivision, a tract bounded by Bardstown Road, Longest Avenue, Bassett Avenue and the imaginary extension of Ransdell Avenue between Bassett Avenue and Bardstown Road. Five years later, the company turned its attention to a section of the Longest family property east of Bassett Avenue between Cherokee Parkway on the south and the alley between Glenmary and Ransdell avenues on the north. The subdivision was officially recorded in 1905, following the dedication of streets in 1896.[79]

Like Henning and Speed, the Eastern Park Land Company employed the gridiron street pattern. By the same token, lots averaged 60 by 160 feet, although sizes varied to fit the contours of the hilly landscape. Similarly, the Eastern Park Land Company sold many lots through personal business, and family connections rather than through public advertising campaigns. The most significant difference between the experiences of the two companies appears to have been in lot prices. While Henning and Speed's lots sold for a uniform average of $1,200 before dropping to $400 or $500 in the late

1870s and 1880s, prices for lots in the Eastern Park Company's Subdivision might range from as high as $1,950 for prestigious lots along Cherokee Road to as low as $750 for half lots along Willow Avenue. The latter Company also took special pains to preserve the high status of Cherokee Road, using deed restrictions to regulate setback lines and to limit the value of homes to a minimum of $5,000.[80]

A fascinating and little-known aspect of the history of Cherokee Triangle is the Town of Enterprise, which embraced most of the Longest family-Eastern Park Land Company during the second half of the 1880s and the first half of the 1890s. Enterprise was incorporated in 1884, with Henry and Clayton Longest being among the first trustees. Like other suburban towns, Enterprise used incorporation to keep taxes low and to keep liquor out. Among the towns's chief institutions was Enterprise School, a two-room, white frame structure which faced Cherokee Parkway. Indicative of the town's affluence, its charter provided for fines of $20 for violations of certain ordinances, a fee schedule twice that of Parkland, a less affluent suburban town in the West End. But the growth triggered by the creation of Cherokee Park soon resulted in pressure upon the city of Louisville to annex the village. Especially vocal were members of the Board of Park Commissioners, who realized that the presence of the city's parks was contributing to higher land values in the suburban subdivisions and who hoped to tax such property and thereby recapture some of the added value for the city.[81]

In January 1894, the General Council passed an ordinance proposing annexation of Enterprise, seeking additional tax revenues and the prestige of larger territory and population. Like nearby Crescent Hill, Enterprise resisted the annexation through court action and in so doing postponed the inevitable for a year or so. But the court ruled in favor of Louisville, finding that the failure to annex Enterprise would "materially retard the prosperity of the City of Louisville and of the owners and inhabitants of the territory sought to be annexed." The city completed action on the annexation in 1896.[82]

The impact of Cherokee Park was hardly limited to the Longest estate. Also in 1891, John E. Norris purchased a piece of the Baringer property bounded by Bardstown Road, Cherokee Parkway, and Everett and Edgeland avenues and subdivided it as Norris's Highland Addition. Fifteen years later, the remainder of the Baringer Land, bounded by Bardstown Road, Edgeland Avenue, Everett Avenue, Cherokee Road and Eastern Parkway was subdivided by the Baringer Land Company, headed by realtor Edward F. Peter.[83]

Cherokee Park also figured in the subdivision of the Slaughter land located to the north between the Longest-Eastern Park subdivision and the Henning and Speed Addition. This tract, which extends eastwardly from Bardstown Road almost to the intersection of Grinstead Drive and Cherokee Parkway, was involved in a 1884 suit and may have been subdivided in the process, but no plat of such a subdivision has been located. However, in 1907, Fannie L. Slaughter platted a small section bounded by Patterson, Everett, and Willow avenues, and the Longest property line. Fourteen years

later, the Glenmary Land Company, headed by W. Wallace McDowell, subdivided the portion of the Slaughter tract on either side of Glenmary between Willow and the intersection of Glenmary and Grinstead. Finally, in 1908, Henry S. Barker subdivided a small piece of his family homestead on the eastern fringe of the Eastern Park Land Company Subdivision along the north side of Ransdell Avenue. Seven years later, he revised and enlarged the subdivision, extending it to Glenmary and the intersection of Grinstead and Ransdell.

Architecturally, the Cherokee Triangle is one of the most significant neighborhoods in the city. As a haven of Gilded Age and early twentieth century affluence, its residences display a rich combination of historical revivalism and Victorian eclecticism. The earlier houses along Cherokee Road encompass a mixture of styles including Victorian Gothic, Italianate Revival, Richardsonian Romanesque, and Queen Anne. The Stick and a modified Shingle styles are present on Everett Avenue. Numerous houses built during the 1880s and after were executed in the popular Colonial Revival style, while many structures built after 1900 show the influence of the Arts and Crafts, Art Nouveau, Beaux-Arts, and Wrightian Praire movements.[84]

This display of artistic exuberance includes the works of a panoply of Louisville's leading late nineteenth century and early twentiery century architects. Among the architects who executed commissions in Cherokee Triangle were D. X. Murphy and Bro., Mason Maury, John Hutchings, E. T. Hutchings, George Gray, Arthur Loomis, Arthur Smith, Val P. Collins, Joseph and Joseph, Charles J. Clarke, Drach and Thomas, C. S. Mergell, Kenneth McDonald, J. J. Gaffney, Hugh Nevin, and Hieatt Brothers, Builders. In addition, important contributions were made by such out of town architects as Fredrick Withers and Karl Ziegler.[85]

But the Cherokee Triangle's residential architecture is not limited to single family structures. Among the neighborhood's excellent buildings are several large apartment houses built between 1900 and 1930. The oldest is the Belvoir, built before 1905 and located at Cherokee Parkway and Willow Avenue. One of its residents in 1905 was architect J. J. Gaffney, designer of the nearby Besten Apartments, built by Henry Besten in 1905 and located at the circle formed by the intersection of Cherokee Parkway and Cherokee Road, where it overlooks sculptor Enid Yandell's equestrian statue of General John B. Castleman. Across the Parkway from the Besten Apartments are the Parkview Apartments, and located on the south side of the same street between Cherokee Road and Everett Avenue are the Pennington Apartments, designed by architect George Gray. In the fall of 1911, suites at the Pennington were used as classrooms by pupils of Louisville Country Day School while construction of their new building was being completed.[86]

Located nearby on Willow Avenue between Baringer and Edgeland are two excellent examples of the apartment architecture of the Louisville firm of Joseph and Joseph. Willow Terrace, an eight-story structure built in 1924, is located at 1412 Willow. The Dartmouth, at the conner of Baringer and Willow, is an 11-story structure. Representative of a form of luxury "high-rise" living which was coming into vogue during the 1920s, these Neo-Classical structures feature stained-glass windows, brass doors, boxed-inlaid floors, 10-foot ceilings and elaborate tile work.[87]

Like the apartment houses that border Cherokee Park, the Cherokee Triangle's churches reflect the area's affluence. Perhaps the most architecturally distinguished religious edifice in the neighborhood is the Church of the Advent at 901 Baxter Avenue. One of Louisville's first modern suburban churches, this Episcopal congregation dates to 1870, when Mr. and Mrs. William Babb started a Sunday School on East Broadway for their own and some neighbor's children. A small building was erected in 1872 and a parish organized in 1880. The present structure, built in 1887-88, was designed by Frederick C. Withers, a prominent New York architect. During his distinguished career, Withers was associated with landscape architect Frederick Law Olsmsted and also designed many Victorian Gothic public and religious buildings throughout the United States. The Church of the Advent is described by architectural historian Walter Langsam as "a rambling, informal complex punctuated at unexpected points by modest wooden belfries and dormers. The long, low slate roofs hug the ground over sturdy irregularly buttressed walls of local stone. Various sympathetic additions have only intensified these qualities so that the casual cluster still preserves a picturesque romantic flavor.[88]

The Presbyterians organized their first congregation in the area, Highland Presbyterian Church, in 1876, with the construction of a small frame chapel. It was replaced in 1887 with the present edifice at 1001 Cherokee Road. The original architect was C. S. Mergell, but subsequent enlargements in 1904 and 1908 were designed by John Bacon Hutchings. Six years after completion of the first phase of Highland Presbyterian, some of the area's Southern Baptists organized Highland Baptist Church. The first edifice, executed in a Victorian style, was replaced in 1914 by the existing building at the corner of Cherokee Road and Grinstead Drive. That structure was designed by Louisville architect Hugh Nevin. A third Cherokee Road church, Highland Methodist, located at 1140 Cherokee Road, was built in 1895 as the Lander Memorial Methodist Church.[89]

While the Cherokee Triangle is probably the most prominent of the suburban neighborhoods which emerged during the early twentieth century, development in the neighboring Tyler Park, Deer Park, and Bonnycastle areas was even more intensive. Just as in the Triangle, the urbanization process in these neighborhoods involved the interplay of the lure of the park system, the Bardstown Road streetcar line, and the activities of professional real estate interests.

The westernmost of these neighborhoods, Tyler Park, developed in three distinct sections between 1873 and 1952, with the preponderance of growth coming between 1880 and 1930. The neighborhood takes its name from Tyler Park, a city park bounded by Park Drive, Edenside Avenue, Baxter Avenue and Castlewood. It was created in 1910. The earliest locus of growth was a triangle formed by Bardstown Road, Baxter Avenue, and Eastern Parkway, the section of the neighborhood nearest the streetcar line.

Tyler Park's first subdivision, laid out in 1873 by John H. Tucker, is bounded by Bardstown Road, Edenside Avenue, Baxter Avenue and a line midway

between present day Windsor Place and Tyler Parkway. But the subdivision did not develop quickly and it was replatted during the first decades of the twentieth century by Mary Herp and realtor Charles M. Phillips. It was during the 1880s and 1890s that the processes of development began to take hold. In 1882, J. S. Longest laid out a seven and one-half acre subdivision along Lucia Avenue between Baxter Avenue and Bardstown Road. Seven years later, Harry Stuck platted the Highland Grove Addition along Beechwood Avenue. Also in 1889, realtors S. S. Meddis and Charles F. Smith subdivided Ridgeland Addition, a section of Rosewood Avenue immediately to the south of Beechwood. Two more subdivisions were platted in 1891, when Clinton W. Forwood platted the tract between Grinstead Drive and J. S. Longest's Subdivision and Joseph Oeschli laid out the eastern half of his Edenside Subdivision, bounded by Edenside, Bardstown Road, Eastern Parkway, and Tyler Parkway.[90]

One of the smallest subdivisions in Tyler Park, but one of the most interesting in its history, is Zehnder Garden, located at the junction of Bardstown and Baxter Avenue north of Grinstead Drive. During the 1890s the tip of this triangular piece of land was the site of a popular beer garden operated by Anton Zehnder. It was known for its tree-shaded tables, white-washed cedar trees, and band concerts. The wide end of the garden was sliced off when the Louisville Water Company purchased it for use as a water main easement that would run between Bardstown Road and Baxter Avenue to Hepburn Avenue. After the pipeline had been completed, residents began using the easement as a shortcut. Finally, they convinced the Water Company to pave the strip with a concrete sidewalk which became known as Zehnder's Walk. But in 1903, the owner demolished the garden and the entire tract was subdivided the following year. A service station stands today at the intersection of Bardstown Road and Baxter Avenue, but Zehnder's walk still can be seen behind the station.[91]

The last subdivision platted in the eastern section of Tyler Park was Windsor Place. Laid out between Meddis and Smiths' Ridgeland Addition on the north and the original line of Tucker's Subdivision on the south, this three-block tract was developed by the Highland Realty Company, whose president was Henry M. Johnson. At the time of its development in 1910, Windsor Place included the latest improvements that could be built into a modern, middle-class residential subdivision. Deed restrictions limited builders to the use of brick veneer, stone, or stucco in exterior construction; prohibited any kind of apartment, duplex, or commercial building; and stipulated a minimum cost of $8,000 for any house built for the street. Lots were laid out to be no less than 50 feet in width and sewer, water, gas, electrical, and telephone connections were provided to each lot. To the extent that it was physically possible, rear alley utility easements were employed to prevent wires from marring the view of the street. After the street was opened, maple trees were planted 40-feet apart in grassy plots on both sides of the street.[92]

The second section of Tyler Park encompassed the area bounded by Barret Avenue on the west, St. Louis Cemetery on the north, Baxter Avenue on the east, and Calvary Cemetery on the south. It is bisected from the northwest to the southwest by Castlewood Avenue. The upper portion of this area, whose major residential streets are Goddard and Rosewood avenues, was laid out in 1907 by Edward A. Goddard, who resubdivided an entire tract in 1913. Primarily

responsible for developing the lower section was John Breckinridge Castleman, who gained local fame as a major in John Hunt Morgan's Confederate Cavalry, as a general in the U. S. Army in the Spanish-American War, and as a leader in creating Louisville's park system. During the 1870s and early 1880s, Castleman began purchasing from its various owners the 60-acre tract of wooded hills known as Schwartz's Woods. The General originally purchased the land for his personal estate and built a small cottage on Hill Road near what later became Eastern Parkway. But he realized that the city soon would be encroaching upon the land and that it would eventually be in demand for residential development. Consequently, he took measures to insure that once development began, the area's natural beauty would be preserved.[93]

Castleman sold several lots to the Commercial Bank and Trust Company in January 1890. Included in the deeds were several restrictions, which, among other things, limited the cost of any residential improvement to a minimum of $6,000, required completion within 12 months, set a minimum setback of 35 feet, prohibited erection of any wooden fences, and demanded that all out buildings be under one roof. The deeds also stipulated that these restrictions be perpetuated in any subsequent deeds involving the property.[94]

In 1895, Castleman laid out the first section of Castlewood Addition, a strip along the south end of the tract which included the present right-of-way of Eastern Parkway. A year later, Castleman deeded to the Board of Park Commissioner's a strip of land 100 feet wide and 1,709 feet long between Baxter and Barret for the parkway. Between 1905 and his death in 1918, Castleman laid out three more sections of Castlewood, each one as a private subdivision, and without dedicating the streets to public use. The first building lot was sold in 1907 to Samuel Miller, a distillery executive who purchased a lot at the corner of Hill and Cross roads. But lots moved slowly at first, partly because of Castleman's deed restrictions, but also because of the lack of utilities. The latter problem had been relieved by 1910, however, with the extension of water, electrical, and sewer service to Castlewood. With the Barret Avenue streetcar line and increasingly, the automobile, providing accessibility to downtown the deed restrictions became a positive rather than a negative feature to affluent middle-class buyers who wanted to build large homes in a quiet, stable neighborhood, away from the noise and bustle of the city.[95]

The westernmost section of Tyler Park, located between Barret Avenue and Beargrass Creek, incorporates most of the southern half of the original Howard and Page Subdivision of the Preston military grant of 1774. It also is the locus of the most recent development in the neighborhood. The earliest subdivision was the Rothchild and Taylor Subdivision, laid out along the north side of Eastern Parkway by Sylvia Rothchild in 1913. But the tract did not develop very quickly during the ensuing decade, and in 1920 its western end was resubdivided along with Dahlia Drive and Summit Avenue as part of C. R. Mengel's Hawthorn Highlands Subdivision. In 1922, businessman C. W. Gheens subdivided two sections of Castleton Subdivision, between Eastern Parkway and Calvary Cemetery.

The focus of development moved northward three years later when Winthrop Allen, a brother of Hervey Allen, author of Anthony Adverse, purchased Bates Court. This quiet cul-de-sac, which included the Federal style Howard House, which had been in the family of John H. Bates since 1885. Allen renovated the old house extensively and subdivided the property on either side of the narrow lane leading to it. In 1926, John F. Ecker dedicated Hawthorne Avenue and began selling lots along this short, wooded street, which comes to a dead end near Beargrass Creek. Development in Tyler Park was not completed until after World War II, between 1948 and 1958, when builder Al J. Schneider's Nance Realty Company platted two sections of Castle Vale Subdivision south of Eastern Parkway between Gheens's Castleton Subdivision and Beargrass Creek.[96]

The architectural mix in Tyler Park is largely a consequence of varying land uses, periods of construction, and the affluence of developers or would-be home buyers. Aside from the commercial buildings along Bardstown Road, the most notable non-residential structures in Tyler Park are its churches. The most architecturally distinguished of these is St. James Roman Catholic Church, 1818 Edenside Drive at Bardstown Road. Designed by Louisville architect J. J. Gaffney and built in 1912, this Byzantine-inspired edifice is a dramatic departure from the Gothic Revival style which dominated the nineteenth century. The asymmetrical structure's most prominent feature is a dome 56 feet wide, which contrasts strikingly with a minaret-like tower, while a brilliant exterior surface of orange glazed brick is highlighted by panels of Moorish tile and highly ornamented window openings.[97]

The residential architecture in the eastern triangle of Tyler Park exhibits broad stylistic variety. Large two-and-one-half-story Victorian frame houses predominate in the northern half of the triangle and along Baxter Avenue, Tyler Parkway, and Edgeland Avenue. But on Edenside and Windsor Place, the tendency is toward large historical revival homes and bungalows. This is especially the case on Windsor Place, which has numerous large two-and-one-half-story bungalows and Tudor Revival and Colonial Revival houses designed by Louisville architect Hugh Nevin. Neighboring Castlewood boasts a variety of historical revival structures, with two-story frame and brick Colonial Revival houses being most common. The broadest range of styles appears in the section between Barret Avenue and Beargrass Creek. On the north, along Bates Court, there are several brick, frame, and stucco houses with historical revival motifs, while the structures on Hawthorne defy description or categorization. Most of the homes along Summit Avenue are traditional two-story Colonial Revival structures while those on Royal range from Tudor Revival to postwar brick and stone ranch styles.

Deer Park, immediately to the south of the Tyler Park triangle, differs from its northern neighbor in several respects. First, it developed within a much more compact period chronologically. While 10 of the 29 subdivisions which constitute Tyler Park were platted after 1917, only six of the 24 subdivisions that made up Deer Park were developed after 1917, and the last of these had been laid out by 1935. Because of its chronological compactness, Deer Park also exhibits less diversity, and more compatibility in its range of residential architectural styles. Third, because it is contained entirely within Bardstown

Road on the east, Baxter Avenue and Newburg Road on the west, Eastern Parkway on the north, and Richmond Drive and Rutherford Avenue on the south, Deer Park is more contiguous geographically than Tyler Park.

As late as 1890, most of Deer Park was farm land and truck gardens, and much of it was heavily wooded. Indeed, the neighborhood acquired its name from the large number of deer that used to graze near the country lanes that later became Deerwood Avenue, Deer Lane, and Deer Park Avenue. All this began to change about 1889, when N. T. Lee subdivided a tract bounded approximately by present day Eastern Parkway, Fernwood Avenue, Bonnycastle Avenue, and Norris Place. Two years later, the western half of this tract was resubdivided as part of John E. Norris's Edenside Addition, which extended westward almost to Hartman Avenue.[98]

For the remainder of the 1890s and through the first decade of the twentieth century, development was concentrated between Norris Place and Bardstown Road north of Speed Avenue. In 1901 Lawrence Boreman, Talbot D. Bullock, John D. Bullock, and Florence J. Bullock platted the triangular tract formed by Bardstown Road, Fernwood Avenue, and the imaginary westward extension of Alta Avenue. The same year, the real estate firm of Meddis and Cox platted Deer Park Annex along Deerwood Avenue between Bardstown Road and Fernwood. Three years later, Albert G. Eilers, administrator of the estate of George Henry Duker, filled in Duker's Subdivision between Bullock's Highland Subdivision and Deer Park Annex. In 1902, businessman Harry Weissinger platted Deer Park Subdivision along Deer Park Avenue. The Speed Avenue barrier was breeched for the first time in 1906, when W. K. Henry, Bettie M. Henry, and Edward B. Henry platted an irregularly shaped subdivision bearing their name on the eastern half of a tract enclosed roughly by Ivanhoe Court, Bardstown Road, Alfresco Place, and Rosedale Avenue.[99]

During the same period, development was moving forward between Fernwood and Norris Place. In 1894, the Kentucky National Bank subdivided the north side of Deerwood Avenue. Nine years later, George J. Graeser laid out his subdivision on Deer Park Avenue. In 1906 Joseph W. Heeter subdivided the remaining space between Deerwood and Deer Park avenues. The following year, Henry T. Feldhouse staked out lots on the north side of Speed Avenue. The same year, Marie Gernert subdivided the space between Lee's and Norris's Eden Side subdivisions and Shady Lane.[100]

No additional subdivisions were platted in the Deer Park area between the end of 1907 and 1913. But the east tract laid out during the 1907 foreshadowed what was to come as Joseph W. Heeter staked out a five-acre tract of Andreas Hauck's land between Speed Avenue and Richmond Drive east of Newburg Road. The land had been part of Killian Allgeier's estate. Hauck's tract was removed considerably from the nearest existing subdivision, but most of the intervening space was developed between 1913 and 1935. In 1914, the Hartman Land Company, headed by George Hartman, platted most of the northern half of the family-owned property bounded by Eastern Parkway, Newburg Road, Shady Lane, and Hartman Avenue. Five years later, acting on behalf of members of his family, Hartman platted the remainder of the tract. In 1914, Caroline Ackerman

subdivided Lot 12 of Block One of the Gerlach Subdivision on the north side of the east end of Richmond Drive between Newburg Road and Norris Place. Between 1913 and 1915 Albert S. Zimlich and Leo J. Zimlich subdivided three sections of Alfresco Place, between the Henry Addition and Rutherford Avenue.[101]

Development continued into the 1920s as William F. Randolph's Wakefield-Davis Realty Company laid out Shady Lane along Deerwood and Deer Lane between Newburg Road and Norris Place in 1922. The following year, the Odom Realty Company, acting as agent for owner J. P. Wilkinson, platted the Shady Glen Subdivision immediately below Shady Lane. The year 1927 saw the beginning of development in Deer Park's largest single subdivision - Forest Park - a roughly shaped tract laid out by W. M. Randolph in the western half of the property bounded by Bardstown Road, Rutherford Avenue, Norris Place, and Speed Avenue. Oddly enough, the last subdivision platted in Deer Park abutted Heeter's Hauck tract on the east. Called Olympic Subdivision, this tract was platted in 1935 by L. Jacobson and Sons, Inc., whose president was Ben P. Jacobson.[102]

Architecturally, Deer Park has all the characteristics of a neighborhood built by and for the solid middle and working classes of the late nineteenth and early twentieth centuries. The homes in this overwhelmingly residential neighborhood exude the comfort and dignity made possible by new building technologies, the extension of utilities, and rising incomes but without the type of opulence found in the Cherokee Triangle or even some parts of Tyler Park. In fact the most elegant house in Deer Park pre-dates the neighborhood's building boom by nearly two decades. Built about 1870 and located at the intersection of Rosedale Avenue and Richmond Drive, the Yunker House is an exuberant 12-room, frame-over-brick house designed in an eclectic mode which one architectural historian has referred to as "Steamboat Baroque". The structure's general appearance, both inside and outside, he observed, evokes the "peculiarly puffed up quality...of the grand salons of the Victorian riverboats," especially with its tall, bulbous octagonal tower reminiscent of the French Second Empire style and florid posts and beams and lacy bargeboards suggestive of the Gothic Revival style.103

But the picturesque Yunker house is hardly typical of the architecture of Deer Park. For the purpose of architectural analysis, the neighborhood is easily divisable into two parts. The quadrant bounded by Eastern Parkway, Bardstown Road, Speed Avenue, and Norris Place, which generally constitutes the neighborhood's older subdivisions, contains primarily frame shotguns and two-and-one-half story Victorian frame and brick homes. The shotgun cottages are especially prevalent along Stevens and Bonnycastle while the Victorian homes prevail on the blocks to the south.

A few bungalows are mixed among the shotguns and Victorian houses, but they dominate the newer sections of the neighborhood, demonstrating a variety of sizes and decorative motifs according to the individuality and the affluence of the builder or original buyer. Hartman, Jaeger, Stevens, and Bonnycastle avenues and Shady Lane west of Norris Place contain a mixture of modest

one-and-a-half-story brick, frame, and stucco bungalows. Deerwood Avenue and Deer Lane have a similar mix of bungalows, but the former also has several brick four-unit apartment buildings with Colonial revival motifs, while the bungalows on the latter begin to show some historical revival features such as twin dormers, gambrel roofs, and pedimented door frames. Deer Park Avenue includes both bungalows and numerous brick vernacular cottages with steeply pitched, gabled roofs. The prevalence of bungalows continues below Speed Avenue along Roanoke Avenue, Richmond Drive, Alfresco Place, and Rutherford Avenue, but the structures are much larger than those on streets to the north. Many are two or two-and-one-half stories and also incorporate historical revival motifs.

While Deer Park was taking shape on the west the Bonnycastle neighborhood was being developed on the east side of Bardstown Road. Demarcated by Eastern Parkway on the north, Speed Avenue on the south, and Cherokee Park on the east, Bonnycastle's development pattern included elements of those associated with Cherokee Triangle, Tyler Park, and Deer Park. As in Cherokee Triangle, for example, development was strongly influenced by proximity to Cherokee Park. Likewise, Bonnycastle has numerous large residences, as in Cherokee Triangle and Tyler Park, but without the latter's range of styles. Again, as in Deer Park, the fairly narrow range of styles in Bonnycastle probably stems from the fact that the neighborhood developed over a relatively short period of time. It is true that 81 years elapsed between the platting of its first subdivision in 1872 and its last one in 1953. But 10 of Bonnycastle's 15 subdivisions were recorded between 1890 and 1914 and the remaining two for which exact dates are unavailable were laid out in the 1920s.

Development in Bonnycastle began with the platting of Sherwood Avenue Subdivision in 1872. But lots apparently moved slowly, because three separate sections of the street were resubdivided by J. G. Brown and N. L. Johnson in 1891, E. V. Thompson, Sr., in 1904, and A. H. Marret in 1914. But the act which triggered urban development in Bonnycastle--and which gave the neighborhood its name--came in 1900, when Mrs. Harriett E. Bonnycastle dedicated streets in and platted lots on a large, irregularly shaped tract bounded roughly by Bardstown Road on the west, Cherokee Park on the east, Bonnycastle Avenue and Cherokee Road on the north, and Speed Avenue on the south. In an effort to enhance the attractiveness of the Bonnycastle Addition to investors, she also deeded to the Board of Park commissioners several areas of nearby land to enlarge Cherokee Park and to improve accessibility to it from Bardstown Road.[104]

The same year that Mrs. Bonnycastle platted her addition, Ernest and Caldwell Norton subdivided the western end of a tract on Alta Avenue between Sherwood and Bonnycastle Avenue. A year later, they platted a tract at the east end of Alta, this one abutting Mrs. Bonnycastle's Addition on the east and the south. Several smaller tracts that either joined or which were contained within the Bonnycastle subdivision were platted over the next 14 years. But a sizeable piece of the Bonnycastle estate at the east end of Speed Avenue, adjacent to Cherokee Park, remained undeveloped until well after World War I. Finally, in 1924, W. C. Coleman's Dingle View Land Company laid out Dingle View Subdivision along Casselberry Road between Cherokee

Road and Speed Avenue, while Helm Bruce, Jr., and Earle Otis platted Sulgrave immediately to the east. The Bonnycastle neighborhood's last subdivision came 29 years later when Lovell N. Simpson platted Cherokee Hills on Gray Fox Road.[105]

The architecture of Bonnycastle reflects the prevailing stylistic tastes of Louisville during the late nineteenth and early twentieth centuries. For the most part, the houses along Sherwood and Alta, as well as Bonnycastle, Murray, Maryland and Speed, west of Cowling, constitute a mixture of Victorian and historical revival structures with a sprinkling of bungalows. Although the neighborhood west of Cowling was not as elegant as that to the east, it was often subject to deed restrictions which established minimum lot sizes and home values. Some deeds also prohibited the sale of homes to blacks.[106]

East of Cowling, along Cherokee Road, Casselberry and Sulgrave roads, and Spring Drive, lots are much larger and houses more imposing. As in General John B. Castleman's Castlewood Addition in Tyler Park, strict deed restrictions were employed to regulate development near Cherokee Park. An example of these are the restrictions imposed by the Barrett heirs when they sold Sulgrave to Helm Bruce and Earl Otis, and which the two developers included in subsequent deeds. Restrictions outlawed commercial buildings and multiple-family housing, prohibited any two families from living in the same single-family dwelling, dictated that no foreign-born person or direct descendent of a foreign-born person could live on Sulgrave Road, and prevented anyone from hanging wash outside on Sunday. On the positive side, the restrictions required that all telephone and electric wires serving homes be place underground, established a minimum home value of $12,000, and dictated that all homes be of an English type of architecture and that they be approved personally by Bruce and Otis. As a consequence, the homes on Sulgrave Road uniformly exhibit historical revival motifs characteristic of the English tradition.[107]

Although deed restrictions prohibited the construction of multiple-family dwellings in many subdivisions, a demand did exist for apartments in the vicinity of Cherokee Park. Part of this demand was filled by the apartment buildings in the Cherokee Triangle. But one of the most elegant of these was constructed in Bonnycastle. Built in 1928 on a knoll at Spring Drive and Cowling Avenue, The Commodore is an 11-story structure designed in the Neo-classical style, similar to Willow Terrace and The Dartmouth, by the firm of Joseph and Joseph. "From its massive brass entry and its splendid lobby with vaulted ceiling to its paneled elevator with crisply-uniformed operator," a 1979 advertisement read, The Commodore was "the ultimate apartment residence in Louisville" for years after its construction. As if these features were not enough, The Commodore offered a roof garden, dining rooms with inlaid oak floors and 10-foot ceiling, and corridors with leaded, stained glass panels.[108]

Between 1865 and 1917, the City of Louisville literally and figuratively burst at the seams as the pressures of population growth, economic development, and technological innovation pushed its boundaries westward almost to the Ohio River, southward to Churchill Downs, eastward along Frankfort Avenue to the Crescent Hill Reservoir and southeastward along Bardstown Road to Woodbourne Avenue. The movement of people continued beyond the city's corporate limit,

however, and by 1920, more than 40,000 persons lived in Jefferson County just outside the city limits. Most of these would be added to the city in 1922.

The magnitude of such growth is not easily measured for the period before 1910, but some insights can be derived from census data for 1910 and 1920. In 1910, Clifton and Crescent Hill were the most populous neighborhoods in the east end, with approximately 12,100 people living in an area bounded roughly by Wenzel Avenue, Washington Street, Brownsboro Road, Birchwood Avenue, Raymond Avenue, Grinstead Drive, Cave Hill Cemetery, and Baxter Avenue. Growth began to taper off in this area after 1910 while it intensified east of Raymond and Grinstead south of Frankfort Avenue.

Population growth was much more intense in the Highlands. In 1910, 3,900 persons lived in the Cherokee Triangle. By 1920, that figure had increased to 5,350. Only 550 people lived below Bonnycastle between Bardstown Road and Cherokee Park in 1910. But that figure nearly quadrupled over the next decade, standing at 2,150 in 1920. A similar pattern prevailed on the west side of Bardstown Road. In 1910, some 4,759 people resided in an area bounded by Breckinridge Street, Bardstown Road, Bonnycastle Avenue, and Barret Avenue. By 1920, the total had increased to 6,900. Likewise, the area south of Bardstown Road and east of Bonnycastle experienced a growth rate which substantially duplicated that of the corresponding area to the north, showing an increase in population from 550 to 2550 between 1910 and 1920.[109]

The boom which began in the 1890s with creation of Cherokee Park would continue, after a war-time lull, into the 1920s. In the process, the city crept further and further out Frankfort Avenue, Lexington Road, and Bardstown Road. The technology of urbanization would change, with the automobile replacing the streetcar as the primary vehicle of personal mobility, but the role of professional land development would increase and the attraction of urban parks and institutional green space would continue to be a factor in promoting the sale of lots in eastern Louisville.

CHAPTER III

GENERATION OF CRISIS

The years that spanned American entry into World War I and the end of World War II were a watershed in Louisville's history. In less than three decades, the city experienced its greatest period of industrial growth and residential development, witnessed the displacement of the streetcar by the automobile as the primary mode of personal transportation, suffered through its deepest economic depression and its severest flood, and felt the effects of two international wars. In the process the city began its evolution from an industrial city into a modern corporate metropolis, characterized by an increasing degree of local, state, and federal participation in and regulation of the urbanization process, the establishment of several large industrial plants owned by giant corporations, the inexorable transfer of much local business and industry from local to outside ownership. Some of these trends would not become immediately apparent until the 1950s or 1960s. But some of the circumstances which made them possible began to appear between 1917 and 1945. It is within this context that the development of eastern Louisville during those years will be discussed.

The declaration of war against Germany in April 1917 meant an economic boom for Louisville. In the wake of a long recession, formal American participation in the war brought a welcome flow of new orders for local factories and the creation of several new industrial firms. At the same time, local business and political leaders lobbied successfully for the establishment of a military training cantonment in Louisville. During the war years, the expansion of local industry and the construction and operation of Camp Taylor brought millions of new dollars into Louisville and added considerably to its population, if only temporarily.

But the end of the war threatened to wipe out the growth which the conflict had stimulated. The suspension of war production and military demobilization brought a sudden increase in unemployment, and strikes hit the coal and railroad industries as labor attempted to preserve gains made during the war. By 1920 Louisville was suffering from the effects of a national depression. Nevertheless, Louisville experienced considerable economic growth during the immediate postwar years. Between 1920 and 1923, for example, 192 new industries began operations, while the value of annual production locally rose from $204.5 million in 1919 to more than $311.4 million in 1922.[1]

As prosperity returned, business leaders embarked upon a new campaign to promote Louisville as a manufacturing center. Leading the way was the Louisville Industrial Foundation. The LIF had been organized in 1916, when over 3,000 citizens subscribed to stock in excess of $1 million for a "Million Dollar Factory Fund" to establish new industries, expand existing ones, and create new payrolls. Its charter allowed the organization to form a revolving fund which could make loans to promising manufacturing and commercial enterprises that could not obtain adequate capital from banks or other financial institutions. Between 1917 and 1922, the Foundation extended loans totaling $803,350 to some 18 firms, many of a relatively high risk nature. From 1923 through 1929, the organization was much more prudent in selecting the enterprises which it would support; nevertheless, it made 19 loans amounting to $824,334.[2]

While the Louisville Industrial Foundation promoted industrial development through direct financial assistance, other individuals and organizations sought to improve Louisville's image as an attractive center for enterprise. In the fall of 1924, Louisville Civic Opinion, a civic betterment journal, invited numerous spokesmen to discuss their views in a series of columns entitled "Louisville's Prospects." Several writers emphasized the city's advantages as an industrial center. Some noted Louisville's close proximity to the center of population and its outstanding railway connection, factors which combined to make the city an excellent distribution point. Others pointed to the absence of labor tension. A Board of Trade official asserted that "Louisville is freer from labor troubles than any other city in the Union." He attributed this situation to the prevalence of the American or open shop system, under which "every man and woman can secure employment without coming under the influence of the 'business agent' or national organizer. Reflecting the resurgent nativism of the 1920's the same spokesman viewed proudly the almost total absence of foreign labor from a city whose population was over 95 per cent native-born. Still other writers noted a favorable tax situation, in which factories, goods and raw materials were exempt from certain state and local levies. Attributes such as excellent social, cultural, and religious institutions, cheap real estate, a healthy construction industry, well-built streets and sewers, soundly-managed banks, a fertile agricultural hinterland, abundant coal and hydroelectric power, and neat and comfortable homes also earned frequent mention.[3]

Part and parcel of this boosterism was a good measure of local Babbitry. D.G.B. Rose, first vice-president of the Board of Trade, urged every man, woman, and child to unite with civic groups and agencies to advertise Louisville's merits as an industrial center. By becoming a salesman for the city, Rose suggested, each citizen could cash in on "his or her part of the profits to be derived by united service for the benefit of each." While affirming the ethic of service to one's self through service to the community, Rose also warned against the "'knocker', who is as dangerous a pest to the happiness and financial welfare of a city as disease-carrying insects." The most effective action that could be taken against the knocker, Rose reasoned, was to increase promotional activities, because "the 'knocker' cannot stand success and dies because he has nothing left to kick about."[4]

The combined influence of organized boosterism, financial assistance to new industry, and an unprecedented nationwide economic boom culminated in the most extensive period of industrial development that Louisville had ever experienced. From 1923 through 1927 the city gained 153 new plants, while the total number of industries increased from 715 to 790, despite the loss of numerous businesses which suspended operations through the normal attrition. During the same period the value of annual production rose 51 percent from $240.5 million to more than $364 million and total wages jumped from less than $62.5 million to nearly $66.1 million. Bank clearings, another important indicator of growth, increased from just over $1.5 billion in 1920 to nearly $1.8 billion in 1926 and almost $1.9 billion in 1927.[5]

Louisville's substantial industrial growth during the 1920s had ripple effects in the form of commercial, residential, and institutional construction. For the periods 1921 through 1925, the total value of building permits issued amounted to nearly $94 million, a fourfold increase over the approximately $18.9 million expended for construction during the previous five years. In 1926 construction totalled nearly $21 million and increased to over $23 million in 1927. Residential construction declined substantially between 1926 and 1927, but the loss was more than off-set by gains in other areas. Growth in the building of schools, stores, and office structures alone accounted for more than $2.6 million.[6]

Much of Louisville's commercial growth during the 1920s was centered in the central business district, with Fourth Street and Broadway being primary axes of development. Construction along Fourth between Guthrie and Broadway included the Speed and Marmaduke buildings and the W. K. Stewart Bookstore. In addition to these were three distinguished motion picture palaces - The Rialto, The Kentucky, and Loew's - in the 600 block. Major structures along Broadway were the Breslin (now Fincastle) and Heyburn buildings, both constructed primarily as doctors' and dentists' offices. But the climax to the entire building boom came when J. Graham Brown, the multi-millionaire lumber tycoon, horseman, and philanthropist, built the Brown Hotel and Brown Building and initiated construction of the Martin Brown Building (completed in 1955 and sold to the Commonwealth Life Insurance Company) at the north side of the intersection of Fourth and Broadway.[7]

Urban development received additional impetus from improvements in Louisville's technological infrastructure, that is, its utilities and transporation systems. Between the end of World War I and the beginning of the depression, the voters passed three sewer bond issues - one for $2 million 1919, a second for $5 million five years later, and a third for $10 million in 1928. Seventeen of the 40 projects funded by the Board of Sewer Commissioners from the 1919 and 1924 bond issues were located in the section of Louisville east of the South Fork of Beargrass Creek and its intersection with Newburg Road. Small projects were built along Mellwood Avenue in Clifton Heights, Payne Street in Clifton, Valley Avenue in Crescent Hill, Highland Avenue in Germantown, and along Eastern Parkway in Tyler Park. At the same time, one series of projects provided sanitary and storm sewers for a large section of Crescent Hill bounded roughly by Frankfort Avenue on the north, Lexington Road on the south, Ewing Avenue on the west, and the reservoir on the east, while another series of improvements provided service for a large section along both sides of Bardstown Road between Speed Avenue and Doup's Point. As a result of the 1928 bond issue, service in the Bardstown Road area was expanded by the construction of the Trevilian Way trunk line while service in Crescent Hill east of the water company was provided through the Beal's Branch trunk system.[8]

Expansion of the water system continued throughout the decade. Between 1910 and 1920 the distribution network grew from approximately 348 to 416 miles of pipe. But during the next seven years, the system grew to 572 miles of pipe. In 1922 Louisville annexed some 12 square miles of suburban territory, most of it to the south and east, including large sections of Deer Park, Bonnycastle, Belknap, Douglass, and Crescent Hill neighborhoods. During the ensuing years the Louisville Water Company faced the responsibility of supplying water to the residents of this new territory. Filling part of this need was a 48-inch main which began at the Crescent Hill Pumping Station and extended along Stiltz Avenue, Lexington Road, Cherokee Parkway, Willow Avenue, and Eastern Parkway to Third Street.[9]

The Louisville Gas and Electric Company also took measures to increase capacity and output. By the early 1920s most of the city and large parts of suburban Jefferson County already were served with gas and electrical connections. But the utility followed a vigorous growth policy, building new and larger power plants in anticipation of continued industrial and residential growth and to reduce costs to the consumer. In 1924 the new Beargrass gas plant on Upper River Road began operation. The following year the company launched a long-envisioned effort to harness the Falls of the Ohio for the production of hydroelectricity. While the Army Corps of Engineers built the necessary coffer dam, the Louisville Hydro-Electric Company, a subsidiary of LG&E, laid out $7.5 million for the first phase of an eight-turbine powerhouse, which went into production in 1927. Indicative of the demand for the electricity produced by this new facility is the steady growth in the utility's output, which rose from nearly 106 million kilowatt hours in 1920 to just over 232 million in 1927.[10]

The 1920s also witnessed the unification of Louisville's competing telephone systems. At the beginning of the decade, Louisville had two telephone companies, the Home and the Cumberland. Subscribers to one were unable to call customers of the other and callers to distant cities often encountered vexing delays. Many businesses were forced into the inefficient and inconvenient practice of engaging both systems. In 1908 the city government had attempted to force the Cumberland to renegotiate the 200-year franchise which it had obtained in an earlier merger, but this maneuver was blocked by the U. S. Supreme Court, as an attack upon the sanctity of a contract. They also appeared to sanction the Cumberland's expansive tendencies. On the other hand, a clause in the 1891 Kentucky Constitution prohibited telephone monopolies.[11]

But officials of both companies saw an opportunity for profit in a merger. In 1916 a concerted effort was initiated to achieve that objective, as each firm hired a leading attorney-politician to lobby in the General Assembly for a repeal of the anti-monopoly clause. After years of politicking, the goal finally was achieved in 1922. A few months later Mayor Huston Quin announced the proposed sale of the Home Telephone Company to the Cumberland Telephone Company. At the same time, he asked the General Council to approve a pre-sale rate increase for the Cumberland and to lend its political support to the transaction, even though this was a matter for the Supreme Court and the Interstate Commerce

Commission alone. The proposed rate increase received considerable public opposition but the legislative body eventually approved the charge. The legalities of the merger were finalized in December 1925. Six months later, the newly organized Cumberland Telephone and Telegraph Company became the Southern Bell Telephone and Telegraph Company.[12]

The 1920s and 1930s witnessed numerous advancements in the area of transportation, particularly in eastern Louisville. One which both resulted from and contributed to urban growth along Bardstown Road was the Louisville Railway Company's extension of streetcar service from Douglass Loop to Doup's Point in the early 1930s. Residents of the area, working through the City Limits Community Club, had tried unsuccessfully for some time to persuade the company to initiate the extension. But company president James P. Barnes continually insisted that the firm could not afford to provide the extension under its existing financial structure.[13]

The residents received a major boost in January 1924 when the Board of Public Works endorsed the endeavor. About the same time, City Attorney David Fairleigh announced that the Louisville and Interurban Railroad's practice of transporting passengers from Doup's Point to Douglass Loop and other points in the city at a charge of 14 cents per ride was illegal. Fairleigh told the Board of Public Works that under the law the Interurban, although a subsidiary of the streetcar company, was technically a railroad because it lacked a franchise to operate in the city and operated instead under authority of the State Railroad Commission. But the City Attorney also recognized that if the city forced the Interurban to cease passenger services between Doup's Point and Douglass Loop, it would leave area residents without any kind of public transportation. Therefore, he suggested that the streetcar company take over the Interurban lines, which it technically owned anyway, and extend streetcar service over the same rails. This could be done, Fairleigh suggested, without increasing the existing streetcar fare. But the Louisville Railway Company continued to resist the idea of an extension for more than three years.[14]

Finally, in September 1927, President Barnes announced that the company had begun planning for the requested extension, which would be put into operation as soon as a terminal could be constructed. Barnes explained that the company's decision had been based upon the tremendous growth in the area during the past few years and that there were now enough people in the vicinity to support the project financially. Unfortunately, the refusal of several land owners to give up their rights to a strip of property which served as right-of-way for Interurban tracks held up completion of the extension for several more years.[15]

The decision to extend the Bardstown Road streetcar line came in conjunction with another major development in Louisville's public transportation system - the public franchising of bus service. Early in 1915 the city had begun to license jitney buses, individually owned carriers that operated with a minimum of regulation and coordination in routes. Operating at five cents per ride in direct competition with the streetcar, which now charged seven cents a ride without a token, the jitneys were an economic bane to the Louisville Railway Company, which was confined to its franchised rail routes. In an effort to eliminate the jitneys, the company filed suit against a jitney operator called the People's Transit Company. The issue was eventually decided when the Court of Appeals ruled that the operation of buses was illegal without a franchise which was properly advertised and sold to the highest bidder.[16]

In early 1926 the Louisville Railway Company submitted to the Mayor and General Council a specimen ordinance that would give the company a monopoly franchise on bus service in the city. Two years of vigorous debate ensued before an ordinance finally became law. A key point of disagreement was the degree of authority which the city would retain over route designation. The company wanted a blanket monopoly which would allow it to create and alter routes as patterns changed while remaining free from pressure to lay out politically popular but economically unprofitable lines. The city administration, on the other hand, sought a franchise ordinance under which routes would be clearly delineated and riders protected from capricious changes by the company.

The city also devised a feeder system, wherein buses operating in distant neighborhoods would connect with streetcar lines serving downtown and major industrial areas, thus preventing buses from clogging traffic in heavily traveled areas. But the transit company preferred an express bus system over feeder streetcar lines. The ordinance which finally gained approval in April 1928 was a compromise between the conflicting positions. It gave the transit company a blanket monopoly over routes but provided for close supervision of the designation process by the Board of Public Works. The city, however, won its preferred feeder system as opposed to the express routes.

The measure's few opponents were primarily jitney operators and labor spokesmen who cloaked their concern for the jobs of independent bus operators in a principled statement of opposition to monopoly. Their pleas received a polite hearing from the General Council before it approved the ordinance without a dissenting vote in either house. Shortly thereafter, the Louisville Railway Company submitted its prearranged $5,000 franchise bid, and on July 1, 1928, it began bus service under its new monopoly. Under the new system, the East End was served initially by two feeder routes. In Crescent Hill, buses operating along major residential streets eventually fed into the Frankfort Avenue streetcar line, while buses operating in the Highlands transferred their passengers to the Bardstown Road line. [17]

Expansion and rationalization of the city's public transportation significantly enhanced personal mobility during the 1920s and 1930s. But to an ever increasing degree, much of public transit's role began to be displaced by a relatively newfangled mode of personal transportation - the automobile. A portent of the automobile's importance came in 1913 when the Ford Motor Company set up an assembly plant near Third and Breckinridge streets. By the early 1920s the city had numerous auto dealerships. Some 46,000 cars were in operation; traffic accidents were becoming a serious problem; and a movement was afoot to regulate traffic and improve streets. By 1930, as a result of the combined effects of the automobile, bus service, and the Depression, streetcar service had begun to suffer a serious decline in patronage, which would eventually lead to its demise. [18]

Perhaps the most far-reaching transportation in eastern Louisville, if not the city at large, during the 1920's was the development of Bowman Field, Louisville's first airport. Bowman Field dates its origin to 1918, when, it is believed, the first aircraft touched down on a cow pasture in what was then part of the old Von Zedwitz estate near Taylorsville Road. Originally part of the John Floyd military land grant of 1774, the property passed into the hands of a descendent, Mary Elizabeth Caldwell. In the nineteenth century

she married a German nobleman, Curt Baton Von Zedwitz, and left Louisville to make her home in Germany. Both died before American entry into World War I, but after the declaration of war, the federal government seized the estate under the Alien Property Act.

In 1919, a local freight transfer operator, Abram H. Bowman, subleased 50 acres of the Von Zedwitz estate. The following year he purchased a surplus Canadian Jenny and formed a commercial flying business with pilot Robert H. Gast. The partnership dissolved a short time later, and in May 1921 Bowman went into business with W. Sidney Park, a former Louisvillian who had just come home after working for the Glenn L. Martin Company in the manufacture of bombers. The Bowman Park Aero Company was one of the first firms in the United States to specialize in aerial photography.

As local enthusiaism for flying grew, so did support for a permanent airport. In 1923, with the backing of local civic leaders, Bowman and Park persuaded the Army Air Corps to lease the Von Zedwitz property as an intermediate air-dome. Soon thereafter, an Air Corps reserve unit with 12 aircraft was arranged in Louisville. Already known informally as Bowman Field, the facility was formally dedicated as such in 1923. A year later, the Yellow Air Taxi Service Company opened Louisville's first air passenger service. In 1927, in the wake of the enthusiasm generated by Charles A. Lindbergh's nonstop flight to Paris, Louisville voters approved a $750,000 bond issue to finance the purchase of Bowman Field as a municipal airport. In 1928, the General Assembly passed legislation authorizing creation of the Louisville and Jefferson County Air Board to operate the field as a publicly-owned facility. Airline service to Louisville began the same year when Continental Airways (later American Air-lines), began mail service between Louisville and Cleveland. Three years later, Continental initiated passenger service between Louisville and Nashville.

Eastern Airlines launched service to and from Louisville in 1934. Before long, Bowman Field was handling 13,000 passengers annually on eight scheduled daily flights.[19]

While the primary function of Bowman Field was to improve Louisville's commerce, it also had the effect of adding a large new section of institutional open space to the city-scape. The Bowman Field purchase comprised 552 acres, much more land than necessary for the airport. Inasmuch as the land was purchased not by the air board but by the parks commissioners, the excess land was developed as Seneca Park. Plans for the park were drawn by Olmsted Brothers, successor to the firm of Frederick Law Olmsted, the original designer of Louisville's park system. During the two years that followed the purchase, roads were built and a four-acre tract was purchased from R.S. and C.K. Reynolds to join Seneca and Cherokee parks into a dual unit described by the Louisville Herald-Post as "second to none for beauty and accessibility."[20] In practical terms, Seneca Park and Bowman Field provided a new sylvan magnet for residential develop-ment along both the Bardstown Road and Frankfort Avenue axes.

A substantial portion of the residential development which occurred in eastern Louisville as a consequence of the technological improvements of the 1920s took place along the city's suburban fringe. But most of it was within the city limits, especially the large section annexed in 1922.[21] From 1917 through 1929, 89 subdivisions were platted within the bounds of present day eastern Louisville. Of these, 55 were located in one of eight neighborhoods which began

to experience substantial development during the 1920s. The majority of the remaining subdivisions were laid out in neighborhoods such as Tyler Park, Deer Park, and Bonnycastle, which already had reached their peak of development.

Along the Frankfort Avenue axis, the subdivision process was concentrated in Braeview, Cherokee Gardens, and the southern part of Mockingbird Valley within the city and the St. Matthews area on the suburban fringe.

Residential development in Braeview and Cherokee Gardens was foreshadowed during the first quarter of the twentieth century by the construction of several large houses along the south side of the Lexington Road and Alta Vista Road by certain members of the city's economic and social elite. In 1923 brewer Frank Fehr built Sunnyview on Lexington Road west of Braeview. Designed by the firm of Joseph and Joseph, this Tudor Revival home resembles Kosair Children's Hospital on Eastern Parkway, which was designed by the same firm. Located nearby at 2800 Lexington Road is the imposing Colonial Revival home designed by E. T. Hutchings and constructed in 1915 for Mrs. T. U. Dudley, widow of the former Episcopal Bishop of Kentucky. Several large historical revival houses were erected along both sides of Alta Vista on the eastern fringe of Cherokee Park. The former home of hotelman Louis Seelbach, located at 715 Alta Vista, was designed by the Louisville firm of McDonald and Dodd and built around 1911. Further south, at 1001 Alta Vista, is the former home of Allen R. Hite, the businessman who endowed the University of Louisville Department of Fine Arts.

The largest and most impressive home on Alta Vista is Gardencourt, built in 1906 by the daughter of financier George W. Norton and designed by the Boston firm of Shepley, Rutan, and Coolidge. Perhaps the most distinguished home in the area is Rostrevor, located near the south end of Alta Vista Road between Cherokee and Seneca Parks. Built between 1908-1910 for James Ross Todd, this mansion which resembles a fifteenth century Italian villa, was designed by the prominent New York firm of John Carrere and Thomas Hastings. They were associated in the project with Louisville architects Arthur Loomis and Julius Hartman, although it is unclear what role the local architects played in the commission. Finally, one of the best examples of a Neo-Colonial Revival style in the area is the home of the late William S. Speed, president of the Louisville Cement Company. Located at 2828 Lexington Road (the driveway is now Altagate), the Speed home was built in 1925 after a design by New York architect Charles Platt.[22]

But large estates of this type were expensive to operate. In some cases, there were no heirs to inherit them, or the heirs were not interested enough or financially able to assume the responsibility for maintaining them. Frequently, they had enough excess land that the owner found it profitable to subdivide it for residential purposes. During the 1920s and the decades that followed, the land around several of these large estates was carved up into residential lots. The vast majority of the houses built on these lots was executed in one of the historical revival styles, complementing the original estate homes. The residential subdivision of Braeview was initiated in 1924 by the Frank Fehr Realty Company. The following year, he resubdivided and enlarged the tract, extending it all the way back to Beal's Branch Road between Fehr Avenue and a short court just west of Alta Vista Road. The remaining section of Braeview, located between Fehr and Cherokee Park, was subdivided in 1972, under the name Lexington Place by Louisville automobile dealer William H. Collins.[23]

About the same time that Fehr was beginning to develop Braeview, William S. Speed had begun to lay out neighboring Cherokee Gardens. In 1925 he platted the Fairfield Unit, laying out lots on Fairfield Drive, Primrose Way, and the western half of Rainbow Drive. Three years later, realtors C.C. Hieatt and Helm Bruce, Jr., began platting the largest single section of Cherokee Gardens, bounded roughly by Lexington Road, Beal's Branch Road, Sunnyside Drive, and Speed's Fairfield section. Numerous homes were built during the years that followed, but there was no further subdivision until 1955, when the Louisville and Jefferson County Planning and Zoning Commission approved R.J. Stewart and Walter Wayne, Jr's., Crossbrook Subdivision located on Crossbrook Drive between Sunnyside Drive and Briar Hill Road.

Five years later, the Cambron-Kendall Company, a development firm headed by Joseph W. Cambron, Jr., began subdividing Daneshall, located between Beal's Branch Road and Seneca Park. Finally, in 1969, developers William B. Clem and William A. Nunnelley, Jr., and the Dahlem Realty Company received Planning Commission approval to begin development of Cherokee Gardens west, located on the grounds immediately surrounding the William S. Speed home.[24]

A third neighborhood which experienced major development during the 1920s was Mockingbird Valley, the area bounded by Zorn Avenue on the west, Brownsboro Road on the south, the sixth-class city of Mockingbird Valley on the east, and Mellwood Avenue on the north. Actually, the first subdivision platted in the area was the Jutte Subdivision which was laid out by Jane C. Jutte along the north side of Brownsboro Road between Zorn Avenue and Jarvis Lane in 1912.[25] In the character of its street pattern and residential construction, however, Jutte Subdivision has a greater affinity for Crescent Hill than it does for Mockingbird Valley.

No further development occurred in the area until 1926, when the development firm of Bushnell and Ivins laid out Mockingbird Hill Subdivision on a rolling 54-acre tract bounded by Mockingbird Valley Road, Brownsboro Road, Jarvis Lane, and Overbrook Road. Located near the prestigious Louisville Country Club, the subdivision was intended by its developers to be a residential showplace. The smaller lots, those facing Jarvis Lane, measured 100 feet by 150 feet while the larger lots, which faced Brownsboro and Mockingbird Valley roads, ranged from four-fifths to two and one-half acres each. A highly flattering story in the Louisville Herald-Post described the activities which were planned for the development. "Improvements of every sort to make this subdivision as beautiful and as convenient as possible are underway," the paper observed. "Paved drives have been platted and city water, gas and electricity will be brought through the property. Building lines have been so planned as to enable every residence to command a view of the entire surrounding countryside." Finally, the story concluded, "restrictions that assure a harmonious environment are planned so that Mockingbird Hill will be a beautifully blended whole."[26] During the remainder of the 1920s and through the 1940s, 1950s, and 1960s, numerous impressive historical revival homes were built upon the lots in Mockingbird Hill.

Taking a cue from Bushnell and Ivins, the Lightfoot Land Company began in 1927 to develop Green Hills Subdivision on a somewhat smaller tract immediately east of Mockingbird Hill between Mockingbird Valley Road and Lightfoot Road.

Although somewhat more modest in scale than those in the neighborhood subdivision, the residences in Green Hills tend to reflect a similar historical revival influence.[27]

As a result of the depression and World War II, Mockingbird Valley experienced a development hiatus during the 1930s and 1940s. But the moratorium ended in 1953, when real estate man Paul Semonin, Jr., received Planning Commission approval to begin development of Ridgewood on a tract immediately north of Jutte Subdivision between Zorn Avenue and Jarvis. During the next two years, the commission certified developer Edgar W. Archer's plans for both sections of the Greenleaves Subdivision, located along Zorn Avenue between Semonin's development and Mellwood Avenue. Construction in both Ridgewood and Greenleaves occurred at a fairly leisurely pace, stretching into the 1970s.[28] As a consequence, the homes reflect the combined influences of the historical revival styles that were prevalent during the 1920s and the ranch style which became popular after World War II.

The primary area of subdivision along the suburban fringe of the Frankfort Avenue axis during the 1920s was St. Matthew's. Development was concentrated for the most part along Frankfort Avenue and Lexington Road to Gilman's Point, where Frankfort Avenue, Lexington Road, Westport Road, Chenoweth Lane, and Breckinridge Lane converge. Gilman's Point is named for Daniel Gilman, who moved out of Louisville in 1840 and opened a combination tavern and general store at the five-way intersection. A few years later, a small Episcopal congregation called St. Matthew's was organized, and it built a small church near Gilman's business establishment. Before long, the name St. Matthew's was used interchangeably with Gilman's Point to describe the surrounding area. In 1854 the first post office in the vicinity was given the name St. Matthew's and some time later, the railroad station received the same name. The simultaneous use of both names stemmed from the fact that the area was not incorporated and therefore had no official name.[29]

Throughout the nineteenth century St. Matthew's was little more than a rural village, which served as a collection and exchange point for area farmers. The major crop was potatoes. Indeed, by 1910, St. Matthew's boasted of being the largest single shipping point for Irish potatoes in the United States. Among the community's larger businesses were two potato exchanges - the St. Matthew's Produce Exchange, run by R. W. Hite, and the Worthington Produce Association, operated by H. H. Simcoe.[30]

During the last decade of the nineteenth century and the first decade of the twentieth, land developers began to push back the potato farms to lay out subdivisions, and to sell building lots. In 1893, John A. Fisher and R. H. Thompson, president of the Suburban Home Company, platted the Cherokee Court Subdivision on a tract bounded by Cannon's Lane, Grandview Avenue, Macon Avenue, and the survey line between Dayton and Nanz avenues. Fourteen years later, E. T. Schmitt subdivided a small piece of ground along either side of Bauer Avenue between Frankfort Avenue and Lexington Road. In 1910 the Komus Realty Company laid out the subdivision on a tract immediately west of Schmitt's Subdivision between Iola Road and Bauer Avenue. Development moved to the east of Breckinridge Lane in 1912 when Mary Nanz platted Maplewood Subdivision on a tract bounded by Shelbyville Road, Breckinridge Lane, Nanz Avenue, and Fairfax Avenue. A year later, Louisa Newner and F. A. and Sallie Kraft platted the piece of ground immediately to the south between Nanz and Grandview avenues as Magnolia Subdivision.[31]

Between 1924 and 1926, six new subdivisions were platted in the St. Matthew's vicinity, nearly all of them by professional real estate developers. In 1924 developer Frank Eline and a group of associates laid out a small plat called Eline's Subdivision at the northeast corner of Cannon's Lane and Lexington Road. The following year, William F. Randolph and his Wakefield-Davis Realty Company, one of Louisville's most active firms during the 1920s, began staking out lots in Fairlawn Subdivision, immediately east of Eline's Subdivision between Lexington Road and Frankfort Avenue. Four new tracts were subdivided in 1926. Stewart W. Allen platted Cannonside Subdivision on the western two-thirds of the block bounded by Cannon's Lane, Beverly Road, Fairlawn Road, and Richard Avenue. A much larger enterprise was Lexington Manor, which stretches from Cannon's Lane almost to Bauer Avenue between Lexington Road and Willis Avenue. The developer was the United States Realty Associates, Inc., headed by president Ralph C. Phillips. Finally, J. C. Turner initiated development of the remaining land between Lexington Manor and Gilman's Point when he recorded both sections of Breckenridge Villa on a tract formerly owned by potato farmer and realtor Henry Holzheimer.[32]

As in other neighborhoods, St. Matthew's experienced a lull in development during the 1930s and early 1940s. But after World War II ended, the community faced a wave of rapid development as realtors and builders turned more farm land into subdivisions to meet the demand of returning veterans for new homes. In 1946, Edgar W. Archer, who would be one of Louisville's most active suvdivision developers after the War, laid out Nanz Subdivision, which extended from Cannon's Lane to Macon Avenue between the Cherokee Court Subdivision and Grandview Avenue. Two years later, the city of Louisville annexed Archer's development, and in 1957 the city took in most of the St. Matthew's business district along Frankfort Avenue and Breckinridge Lane. The same year, Louisville annexed a large section of farmland roughly bounded today by Beaucamp Road, Interstate 64, the sixth-class cities of Broad Fields and Plymouth Village, and Hycliffe Avenue. The land was owned by hotelman J. Graham Brown, whose Broadway and Fourth Avenue Realty Company developed it as two sections of Broad Fields Subdivision in 1958 and 1959.[33]

The houses in the St. Matthew's area reflect the styles which prevailed at the time their subdivisions were developed. Those in the tracts laid out between 1893 and 1926 consist primarily of modest brick bungalows and frame houses while those in subdivisions of more recent vintage tend to be a comtemporary ranch style.

Development was even more prolific in the Highlands during the 1920s than it was along Lexington Road. During that decade more than 40 subdivisions were platted in the area between Speed Avenue and Bowman Field north of Bardstown Road and Taylorsville Road and bounded by Rutherford Avenue, Newburg Road, and the present day Watterson Expressway (except for the Hayfield - Dundee area), south of Bardstown and Taylorsville roads. This area encompasses the Douglas, Belknap, Gardiner Lane, and Hawthorne neighborhoods and the sixth-class cities of Seneca Gardens, Strathmoor Manor, Strathmoor Village, Strathmoor Gardens, Kingsley and Wellington.

One of the largest of these is the Douglass neighborhood, located immediately below Bonnycastle and bordered by Cherokee Park, Seneca Park and Seneca Gardens. The original core of the neighborhood was "Woodbourne," an estate of approximately 200 acres assembled during the 1830s by Starks Fielding, a Mississippi

cotton planter. The focal point of the estate was an imposing, white-columned Southern Colonial mansion, located today between Woodford Place and Douglass Boulevard adjacent to Douglass Boulevard Christian Church. The home was purchased by the church in 1949, renamed Brinley, a former pastor, and now serves as a religious education facility.[34]

In 1870, Woodbourne was purchased by George L. Douglass, an executive of Western Union. Upon Douglass's death, the estate passed into the hands of his daughter, Mrs. S.R. Carter. Shortly after the creation of Cherokee Park, she donated several acres of the estate to the Board of Parks Commissioners as part of the park. Included in the donation was Big Rock, one of the park's most popular features. But the vast majority of the property was laid out during the early twentieth century as Douglass Park Subdivision. In 1901, a small tract was subdivided on the north side of Douglass Boulevard between Ellerbe Avenue and Millvale Road. Two years later, a large irregular section bounded by Ellerbe, Woodford Place, Dorothy Avenue, Douglass Boulevard, Bardstown Road, and Woodbourne Avenue was platted as the Addition to Douglass Park Subdivision. An even larger section between Ellerbe and Seneca Park was subdivided in 1904.[35]

The combination of large historical revival and Victorian houses and apartment buildings located along Woodford Place, Douglass Boulevard, and Woodbourne Avenue between Bardstown Road and Ellerbe Avenue suggest that the western half of Douglass Park Subdivision developed at a fairly rapid pace. A major factor in this development was no doubt the extension of the Bardstown Road streetcar line to Douglass Blvd. early in the 20th century. By the mid 1920s the Douglass Loop was a thriving commercial district. The eastern half, however, did not grow rapidly. A few older historical revival homes attest that some residential development did occur before the depression. But most of the area was resubdivided into six smaller units between 1938 and 1952. Particularly active as developers were Lewis J. and Standiford D. Gorin, William C. Embry, and the Fidelity and Columbia Trust Company, which developed two subdivisions in a role as trustee for two of its other property owners.[36] The numerous resubdivisions of the eastern portion of Douglass Park help to explain the mixture of historical revival and contemporary brick and stone ranch houses located along Valetta Lane, Moyle Hill Road, Millvale Road, and the eastern end of Douglass Boulevard.

Several other parcels of land near the Douglass estate were subdivided between 1906 and 1914. In the former year, Arthur E. Muellen, president of the Kaelin Land Company, platted Kaelin's Subdivision at Doup's Point, the intersection of Bardstown Road and Taylorsville Road. In 1907, Henry M. Johnson's Highland Realty Company platted Kenilworth, a small subdivision at the intersection of Speed Avenue and Bardstown Road. Kenilworth Place, the subdivision's main street, intersects Bardstown Road at a right angle. Its entrance is flanked by two stone pillars and the street is lined with large two and one-half and three story frame and brick, closely placed Victorian houses.

One block east of Bardstown Road, Kenilworth meets Hampden Court. Immediately opposite the intersection is one of the neighborhood's showcases - an impressive two-story, brick Italianate mansion with a tall central tower, bracketed cornice, and window hoods. The date of construction is unknown, but its design suggests that the residence was built before the Civil War. The lot was owned as early as 1827 by businessman and banker William H. Pope. As late as 1848, when it was

transferred to Emery Lower, the structure was owned jointly by Pope's estate and Larz Anderson, politician and son of Richard Clough Anderson, Sr., of Soldier's Retreat. Later owners included Joseph Monks, a director of the ill-fated Louisville and Portland Railroad during the 1850s, and Dennis Long, operator of the Dennis Long Foundry at Ninth and Mix Streets, one of the nation's leading producers of water pipe during the late nineteenth century.[37]

In 1911, the Louisville Trust Company platted Woodbourne Heights on a small tract bounded by Woodbourne, Wallace Avenue, Wrocklage Avenue, and Bardstown Road. Three years later, Ben S. Talbott laid out a small development on the east side of Wallace Avenue between Wetstein Avenue and Trevilian Way. The residences in these areas consist primarily of frame Victorian houses and small bungalows.

Like most other neighborhoods in eastern Louisville, the Douglass area experienced a moratorium in development during World War I, which was followed by a building boom during the 1920s. More than a dozen new subdivisions were laid out in the Douglass neighborhood during the first half of the postwar decade. The first and largest of these was Lauderdale, laid out in 1920 by William F. Randolph, a prominent land developer. Bounded roughly by Speed Avenue, Kenilworth Subdivision, Bardstown Road, Village Drive, and a survey line perpendicular to Speed Avenue between Lauderdale and Castleberry Road, the subdivision was redivided later the same year with the section between Spring Drive and Bardstown Road being recorded immediately, and the one east of Spring being recorded the following year. Also is 1920, Weber's Heirs Subdivision was laid out on the tract demarcated by Weber and Wallace Avenues, and Bardstown and Taylorsville Road adjacent to Doup's Point.[38]

Other than the resubdivision of the eastern section of Lauderdale, only one other new subdivision was laid out in Douglass during 1921. In that year, Isaac F. Starks, president of the Starks Realty Company, staked out the tract bounded by the Lauderdale development on the north and Douglass Park on the south, Dorothy Avenue on the east and Bardstown Road on the west, and recorded it as Woodbourne Subdivision. But 1922 was a banner year for new development, with four more subdivisions being recorded. The largest was Cherokee Village, laid out by Clarence C. Hieatt's Consolidated Realty Company upon the remaining area bounded by Woodford Place on the south and east, by Speed Avenue on the north, and by Lauderdale on the west. The three smaller subdivisions lay to the south of Woodbourne Avenue. Located between Woodbourne Heights and Weber's Heirs Subdivision and terminated by Bardstown Road on the west and Wallace Avenue on the east, Meyer's subdivision was platted by George W. Meyer. Thirteen lot owners formally recorded William Talbott's subdivision of Lot No. 5 in Matilda Talbott's Division, located on the east side of Talbot Avenue between Woodbourne and Wetstein Avenue, while James H. Davis platted the small subdivision which carried his name on the tract on the west side of Talbot between Woodbourne and Wetstein.[39]

With the exception of the resubdivision of the north western corner of Hieatt's Cherokee Village, which involved the addition of several more acres near Lauderdale and Speed Avenue, no new subdivisions were platted in the Douglass neighborhood during 1923. The only subdivision platted in 1924 was a tiny tract on the east side of the intersection of Woodbourne and Wallace, which carried the surname of its developer, Joseph DeSopo. The last subdivision recorded

during the decade was F. G. Von Roenn's Addition, laid out along both sides of Talbott Avenue between Wetstein Avenue and Taylorsville Road by Fred G. Von Roenn, L. B. Von Roenn, and Annie Backer in 1925.[40]

The housing styles found in the subdivisions developed during the early 1920s are indicative of the socioeconomic character of the neighborhood's residents during the period. North of Douglass Boulevard, large, expensive, historical revival style homes, especially the Colonial, English, Tudor, and Dutch revival are dominant, suggesting that the area had - and to a considerable extent retains - a heavily upper middle class population. By the same token, the homes south of Woodbourne, along such streets as Wrocklage, Weber, Wallace, and Talbott are primarily brick and frame bungalows, suggesting a comfortable but not highly affluent working class populace. In addition to the obvious differences in the residential style in the different parts of the neighborhood, Douglass also indicates some prophetic departures in its street patterns. As early as the 1870s and 1880s, developers in such neighborhoods as Crescent Hill and Cherokee Triangle were forced to discard the gridiron pattern when dealing with difficult topography. But for the most part, the grid prevailed. It was not uncommon for developers to cut down hills and fill in valleys in an attempt to make the land fit the traditional street pattern. In fact, most of the Douglass neighborhood south of Douglass Boulevard reflects the traditional devotion to the gridiron, regardless of its period of development. But to the north, in the upper middle class subdivisions laid out by William F. Randolph and C. C. Hieatt, the street pattern exhibits an assortment of loops, curves, and circles calculated to respect the natural contours of the land. The same is true for the newer subdivisions which border Cherokee and Seneca parks.

This respect for the landscape was not, however, the coincidental expression of a newly-found ecological or aesthetic sensitivity on the part of subdivisions. It was instead the reflection of a growing belief among professional developers across the United States that the use of a subdivision design formula which employed large lots, served natural greenery and topography, fostered good architecture, and removed through traffic from residential streets - even at the cost of lowering density - was more profitable in the long run than a repetitive checkerboard pattern, especially when appealing to the more affluent home buyers.[41]

At the same time that the Douglass neighborhood was undergoing development on the east side of Bardstown Road, the Belknap neighborhood was emerging on the west side. An irregularly-shaped area approximately the same size as Douglass, Belknap is demarcated by Rutherford Avenue and Richmond Avenue on the north; Newburgh Road on the west; Dundee Road, Emerson Avenue and Strathmoor Manor on the south; and Bardstown Road on the east. The name is derived from Belknap Elementary School, located on Sils Avenue between Page and Wibben avenues, and one of the neighborhood's central institutions since its construction in c1910.[42]

As in other neighborhoods in the Highlands, the earliest development in Belknap occurred along Bardstown Road. The first subdivisions were laid out in 1901 when realtor Victor N. Meddis recorded both sections of Zimlich Addition on a tract which began at the intersection of Rutherford Avenue and Bardstown Road and extended southward to Overlook Terrace between Dundee Road and the alley east of Boulevard Napoleon. Six years later, John H. Sils platted Sils Addition

on a section of the land which once had belonged to Daniel Doup, bounded roughly by Bardstown Road, Dundee Avenue, Page Avenue and Wrocklage Avenue. In 1916 the Cherokee Land Company, then headed by president John H. Sale, laid out the first section of Cherokee Plaza, a five-block strip of land which lay along both sides of Boulevard Napoleon between Rutherford and Overlook Terrace. Three years later the same firm, now headed by Fred J. Drupler, platted an additional block to the south of Overlook Terrace. The last subdivision in Belknap before the United States joined World War I was the first section of University Park, laid out in 1917 on a tract immediately to the west of Cherokee Plaza and bordered on the north by Rutherford Avenue, on the west by Sewanee and on the north by Harvard Drive. Unlike most other local subdivisions, University Park was developed by an out-of-town firm, International Realty Associates, of St. Louis County, Minnesota.[43]

The street patterns and housing styles in these early Belknap subdivisions are quite similar to those in parts of the adjacent Deer Park and Douglass neighborhoods. Each of the half-dozen subdivisions was laid out on a traditional gridiron. However, the physical relaionship between the individual tracts is highly irregular, with Dundee Road forming a link between Sils addition on the east and Zimlich Addition, Cherokee Plaza, and University Park on the west. The residences along the south side of Rutherford Avenue, Princeton Drive, and Harvard Drive between Sewanee on the west and Bardstown Road and Dundee Road on the east consist of a mixture of large, closely-placed historical revival structures and bungalows similar to those along Alfresco Place and the north side of Rutherford in Deer Park. Further to the south along Boulevard Napoleon, historical revival homes on larger lots prevail. In Sils Addition, however, the homes are more modest, consisting primarily of smaller bungalows, frame houses, and a few older Victorian dwellings with a minimum of ornamentation.

After World War I, the gridiron was abandoned entirely, while some form of historical revival style became virtually the only acceptable form of architectural expression in Belknap. Not until after World War II, with the advent of the contemporary ranch and split level styles, did an occasional builder challenge the hegemony of the historical revival mode. Primarily responsibile for the abandonment of the gridiron was William F. Randolph, who earlier had developed the Lauderdale subdivisions across Bardstown Road in the Douglass area. Deeply influenced by the back-to-nature movement, Wakefield-Davis Realty Company and its successor firms platted eight sections of the Aberdeen and Tecomah subdivisions between Rutherford Avenue on the north and Dundee Road on the south. Not only did Randolph's developments incorporate winding, curvilinear streets which followed scenic natural contours, many of the streets were given Arcadian names such as Valley Vista, Forest Hill Road, and Sylvan Way.[44]

Other developers quickly followed Randolph's lead. When International Realty Associates added a second section of University Park between Harvard Drive and Trevilian Way in 1923, Yale Drive and Overlook Terrace were laid out with sweeping curves. Typical perhaps of this new type of subdivision was Lakeside, platted in 1923 by W.L. Wheeler's Auction Company and designed by Olmsted Brothers, the successor firm to Frederick Law Olmstead, Sr., of Brookline, Massachussetts. Bordered approximately by Bardstown Road, Sil's Addition, Woodbourne Avenue, and the City of Strathmoor Manor, Lakeside was described at the time it was platted as having been "so arranged and planned that it will be one of the show places of the city". Among the subdivision's amenities, described in the journal Civic Opinion, were a three-acre lake which provided opportunities for swimming, canoeing, and other recreational activities; two main drives, Trevilian Way and Lakeside Drive, each one 60 feet wide, which formed boulevards 120 feet wide when combined with 30 feet building setback lines; deed restrictions which confined business activities to a few lots on Bardstown Road; and the availability of city water, gas, and electricity. Summing up, the announcement suggested that upon completion of Lakeside Drive "there will be few short drives in the city which will offer better roads, better views, and more enjoyable surroundings."[45]

While new development in the Highlands during the 1920s was concentrated primarily in the Douglass and Belknap neighborhoods within the city of Louisville, a good deal of subdivision activity occured along the city's fringe. Included in this fringe area was a section of Belknap south of Trevilian Way, but the major areas of suburban development were the Gardiner Lane and Hawthorne areas - which were annexed by Louisville during the 1950s - and the sixth class cities.

Generally encompassing the eastern half of the area south of Belknap and bordered on the east by Bardstown Road, the west by Newburg Road, and the south by Gardiner Lane, the Gardiner Lane neighborhood consists of 16 subdivisions, all of them recorded between 1913 and 1950. Six were laid out during the 1920s, while three more were platted between 1939 and 1941.[46]

Until the early twentieth century most of the land in the Gardiner Lane vicinity was devoted to agriculture. In 1913 several adjacent landowners dedicated Tremont Drive between Tyler Avenue and the westward extension of Dahlia Avenue. Four years later, the Fidelity and Columbia Trust Company, acting as trustee of the will of E.D. Briscoe, laid out Briscoe Subdivision Number 1 on a small tract bounded by Gladstone, Eleanor, and Tyler avenues, and Bardstown Road. The subdivision was revised and extended to the northside of Winston Avenue in 1922. During 1923 and 1924 Louis and Mary Hoock participated separately with Charles and Amelia Kurz and Nicholas and Annie Schmidt in the development of three adjacent subdivisions which included most of the area bounded by Tyler Lane, Tremont Drive, Dahlia Avenue, and Bardstown Road.[47]

The year 1924 witnessed the platting of two subdivisions which eventually culminated in the development of most of the land bounded by Emerson Avenue, Lover's Lane, Tyler Lane, and Eleanor Avenue. Responsible for Glendale Subdivision, a small tract on the east side of Lover's Lane between Gladstone Avenue and Tyler Lane, was the Kentucky Real Estate and Development Company, headed by George W. Yeager. To the northeast, near the corner of Emerson and Eleanor, Frank Simon's Louisville and Jefferson County Land Company platted Villula Park. Fifteen years later, the same firm, now headed by Alfred J. Simons, resubdivided most of Villula Park, extended it southward toward the imaginary extension of Gladstone Avenue, and renamed it Winston Forest. The following year, the firm recorded a second section of Winston Forest, which extended the subdivision along both sides of Winston Avenue to Lover's Lane. Finally, in 1941, Edgar W. Archer platted Gladstone Addition on the west side of Eleanor opposite Gladstone Avenue between Eleanor and Bardstown Road.[48]

By the beginning of American participation in World War II, virtually all of the available land between Emerson and Dahlia avenues had been subdivided. No new subdivisions were platted during the war. But activity resumed in 1946, this time between Dahlia and Gardiner Lane. The first new subdivision was Sherbrooke, which embraced both Sherbrooke Road and Eleanor Avenue between Dahlia and Gardiner Lane. The developer was Lee Pruitt. The following year, Sidney and Rose Schneider initiated development of the first of three sections of Carol Acres, which encompassed the area between Sherbrooke and Tremont Drive. The last subdivision developed in the Gardiner Lane area was Welbrooke Avenue, laid out between Sherbrooke and Bardstown Road by Harry Taylor in 1950.[49]

Located on land which was once part of Judge James Speed's Farmington estate, the Hawthorne neighborhood is bounded generally today by the cities of Strathmoor Manor and Kingsley, Bardstown Road, the Watterson Expressway, and Taylorsville Road. It consists of 13 subdivisions, six of which were laid out during the 1920s, including two which make up the sixth class city of Wellington.

Development began in 1909 when A.V. Thompson platted the Bon Air Subdivision on the eastern half of a parcel which lay along Hawthorne and Clarendon avenues between Bardstown Road and Bon Air Avenue. Five years later, George W. Holland recorded the western portion of Clarendon Avenue between Bardstown Road and Bon Air Subdivision as the Lancashire Subdivision. But development remained dormant until 1925, when William F. Randolph's Wakefield-Davis Realty Company platted two sections of Beaumont on a tract bounded by Taylorsville Road, Bon Air Avenue, Rubble Road, and a line between Curran Road and Dartmouth Avenue. The following year, developer J.C. Turner laid out Hathaway Subdivision between the Beaumont developments and a line between Peale Way and Carson Way. Three years later, the triangular tract formed by Taylorsville Road, Rubble Road and Hathaway Subdivision was platted by W.C. Coleman's Dingle View Land Company as the first section of Seneca Village. A second section which stretches from Bon Air Avenue to Taylorsville Road between Rubble Road and Gardiner Lane, was laid out in 1948 and revised in 1950 by Edgar W. Archer's Lupino Realty Company.[50]

Until Section 2 of Seneca Village was platted in 1948, the largest subdivision in Hawthorne was Wellington, which became a sixth class city in 1946. Wellington actually consists of two subdivisions. The first, Herndon Place, was laid out along Manchester Road and Brighton Drive between Montrose and Bel Air avenues by W.C. Coleman in 1925. Three years later, however, C.C. Hieatt's Consolidated Realty Company took over Herndon Place, added a larger parcel between Montrose and Bardstown, and resubdivided the entire tract as the Wellington Extension of Strathmoor. The year after World War II ended, Edgar W. Archer platted Alanmeade Subdivision on a parcel immediately south of Wellington, bounded on the east by Bon Air Avenue, on the south by Gardiner Lane, and on the west by Montrose. Two years later, M.C. Elliott and Ada M. Delhomer platted Hawthorne's final subdivision, Villanova, located directly south of Alanmeade between Gardiner Lane and what is now the Watterson Expressway.[51]

The eventual incorporation of Wellington underscores a phenomenon which became endemic not only to Louisville but to the United States as a whole. The residential building boom which occurred along Lexington and Bardstown roads during the 1920s was representative of suburban explosion which occurred throughout the nation. As the sweeping annexation of 1922 and subsequent annexations after World War II suggest, many of the suburban developments of the 1920's eventually became part of the larger cities upon which they depended economically. Some resisted in order to maintain their independence while others invited annexation out of desire for improved services. But during the 1920s and the decades that followed, a growing number of suburban communities sought to retain their independence - and with it a semblance of Arcadian Village life - without giving up the municipal services to which they had become accustomed as residents of the central city. The mechanism by which this objective was achieved was incorporation. Across the country scores of new towns and villages were incorporated between 1920 and 1930, most of them located along the fringes of large metropolitan centers. 52

Louisville did not match other metropolitan areas in the proliferation of suburban municipalities during the 1920s. But when it did come after World War II, it came with a vengeance. Nevertheless, a handful of subdivisions were developed during the 1920s, in addition to Wellington, which eventually formed a contiguous band of sixth class cities which extends from Seneca Park, across Taylorsville Road and Bardstown Road to Lover's Lane.

The subdivisions which form four of these cities - Strathmoor Village, Strathmoor Manor, Strathmoor Gardens, and Kingsley - were primarily the responsibility of a single developer, Clarence C. Hieatt. During his seven decades as a developer, Hieatt was responsible for the construction of at least 5,000 houses and more than seventy subdivisions. Most of these projects are characterized by sidewalks, broad, tree-lined streets, deep setbacks, and individually designed homes. Such are the attributes

of Strathmoor, located immediately east of Doup's Point between Taylorsville Road and Bardstown Road. Laid out by Hieatt's Consolidated Realty Company in 1920, the subdivision was incorporated as Strathmoor Village in 1928. In 1921, Hieatt's firm laid out a second section of Strathmoor between Bardstown Road and Shelly Avenue. An addition four years later extended the subdivision to Lover's Lane. In 1931 the section of Strathmoor west of Bardstown Road was incorporated as Strathmoor Manor. The addition to Strathmoor which comprises Strathmoor Gardens, located on the east side of Bardstown Road between Strathmoor Village and Hawthorne Avenue, was platted in 1923 and incorporated in 1944. The Kingsley Extension of Strathmoor, which was platted by Hieatt Brothers in 1925 and incorporated as Kingsley in 1928, extends eastward from Strathmoor Village and Strathmoor Gardens to Bon Air between Taylorsville Road and Hawthorne Avenue.[53]

The remaining sixth class city is Seneca Gardens. Tucked into a pocket formed by Woodbourne Avenue, Carolina Avenue, Tyalorsville Road, Bowman Field, and Seneca Park, Seneca Gardens in composed of four subdivisions, whose development involved three different participants. The first subdivision, Broadmeade, is an irregularly shaped tract whose upper portion lies between Carolina and a line midway between Meadow Road and Valletta Road, and whose lower portion extends from Carolina to McCoy Way. Broadmeade was platted in 1922 as a joint venture by the Discher Land Company, headed by Fred Moellein, and the Wetstein Land Company, headed by Edward F. Weigel. Each company derived its name from a family with long-standing land holdings in the area under development. In 1926 Weigel's firm laid out a second section of Broadmeade which extended the upper portion eastward to the imaginary northern extension of McCoy Way. Five years later, Weigel platted most of the remaining area north of Trevilian Way between Section 2 of Broadmeade and Seneaca Park. Curiously, the only subdivision which contains the term Seneca Gardens is a small tract which borders Trevilian Way between the eastern terminus of Wetstein Avenue and Seneca Valley Road, near the Seneca Park boundary. The Seneca Gardens Subdivision was platted by Denver B. Cornett in 1937. The entire area was incorporated as Seneca Gardens in 1941.[54]

The attractions of incorporation compared to annexation for suburban residents were pointed out by writer James Speed in a September 1933 article in the Louisville Herald Post. While driving one day from Strathmoor Village into Louisville, he immediately noticed that the streets in the smaller municipality were well maintained and that the grass on vacant lots was neatly cut, while many streets in Louisville were full of potholes and many vacant lots were full of high weeds. He decided to investigate. What he found was typically the experience of most small municipalities then and now. During the early years of construction, municipal services such as the installation and maintenance of streets, street lights, fire hydrants and park areas and the collection of garbage and ashes were provided by the developer. But once all of the lots had been sold, responsibility for such matters fell upon the property owners themselves.55

With Hieatt out of the picture, residents formed a community club, with the hope that a volunteer organization could maintain local services. But the effort proved unsuccessful, as have most such bodies which do not have power to coerce residents to become members and pay dues and service assessments. With the failure of volunteer action, a number of residents applied to the Jefferson Circuit Court for incoporation as a sixth class city. Upon certification that the required number of property owners had signed it, the judge granted the petition and appointed trustees, who were empowered to lay and collect the taxes necessary to maintain the services which Hieatt had provided. As Charles B. Jenkins, chairman of the board of trustees, put it, "The Village was created for the express purpose of maintaining the property in such condition as to make it appear something like a handsome estate."[56] And the cost in taxes was considerably less than what the residents would have paid to Louisville.

If one looks carefully at the Highlands neighborhoods discussed here with an eye for comparison, several striking similarities and dissimilarities emerge. The most obvious similarity is the predominant taste for historical revival houses. Specifics such as size, value and architecrural quality may vary from place to place, depending upon the market at which the structures in a given neighborhood or subdivision were aimed. But the preference of middle class Louisville home buyers for Colonial, English, Tudor and Dutch revival homes during the years before World War II appears to have been overwhelming. By the same token, deviations from the historical revival schools reflect other styles which were representative of their particular period. Thus, bungalows and nondescript frame houses abound on Winston Drive, Gladstone Avenue, Hoock Avenue, and other such streets where most of the homes were erected before World War II, while ranch houses and other contemporary structures can be found along Tyler Lane, Gardiner Lane, and other streets in subdivisions which were platted after World War II.

The major inconsistency seems to have been a tendency of developers to vacillate between the acceptance and rejection of the gridiron. While numerous developers in Douglass, Belknap, and the sixth class cities rejected the gridiron, those who platted the Gardiner Lane and Hawthorne areas employed it consistently, albeit in a somewhat irregular manner. If one looked only at Gardiner Lane, he might be tempted to attribute this situation to a lower degree of professional sophistication on the part of the developers. But this judgement is negated by the fact that experienced developers such as William F. Randolph, C.C. Hieatt, and W.C. Coleman, all of whom avoided the gridiron in Belknap and Douglass, used it in the subdivisions which they developed in Hawthorne. Another hypothesis would suggest that topographic factors explain the divergence. Belknap and Douglass are laid out upon rolling hills which would be difficult to adapt to a gridrion. Such is not the case with Gardiner Lane and Hawthorne, where the terrain if not prefectly level, is much more gentle in its contours. Yet, there is not much difference between the terrain of Gardiner Lane and Hawthorne on the one hand and the sixth class cities, all of which have curvilinear streets, on the other.

This leads to a third hypothesis, which seems to be the most plausible: there was a direct relationship between the street patterns of the communities discussed here and the home buying markets at which developers

aimed their sales strategies. For the most part, the large homes in the attractive well-landscaped subdivisions in Belknap, Douglass north of Douglass Boulevard, and the sixth-class cities were targeted for an upper middle class market. The houses in Gardiner Lane and Hawthorne, on the other hand, are stylistically compatible with, but somewhat more modest than those in the former communities, suggesting that these structures were aimed at a less affluent market. By the same token it cost the developer less to build straight streets in a gridiron pattern than to construct looping, winding, or circular streets. To developers in search of solid middle and working class home buyers, it was hardly sensible to increase the price of their lots and houses by building disproportionately expensive streets.

Although land development and residential construction in eastern Louisville continued throughout the 1920s, the building boom peaked in 1925. Over the next four years, the number of subdivisions recorded and the value of new construction declined substantially. The East End experience is consistent with the city as a whole. In 1925 the value of new construction reached an estimated $28 million. The figure plummeted sharply over the next two years, and with a strong rally in 1928, managed to rise only to 23.4 million. Providing a harbinger of what lay ahead, as the market continued to diminish, the value of new building permits in 1929 dropped to 11.3 million, a mere 40.4 percent of the record figure for 1925.[57]

In October 1929 the New York Stock Exchange crashed and the United States plunged into the worst depression in its history. Louisville soon began to feel the effect of the economic crunch as softened demand forced numerous industries to curtail production and lay off employees. Thirteen months after the Wall Street disaster, Louisville suffered its own crash when the National Bank of Kentucky, the largest bank in the commonwealth, collapsed in the wake of a history of reckless management by president James B. Brown. Indicative of the city's continuing economic slide, the value of new construction dropped to a pitiful $5.9 million in 1930. Over the six year period from 1925 through 1930, the total number of building permits issued fell from 4,646 to 1,107, a 76.2 percent decline in authorized construction activity.[58]

The impact of the depression upon urban development in the East End is immediately apparent in the area of subdivision development. During the entire decade of the 1930s only 20 new subdivisions were recorded within the present-day confines of that part of the city, compared with 89 during the previous decade. Most of the subdivisions which were recorded during the 1930s, moreover, were laid out during the latter years of the decade, after recovery had begun to set in. By the same token, these subdivisions were scattered throughout existing neighborhoods rather than being located on land in previously underdeveloped areas.

Among these new subdivisions was Green Tree Manor, a controversial multi-unit apartment complex built on the north side of Frankfort Avenue between Fenley Avenue and the Masonic Widows and Orphans Home in Crescent Hill during 1937 and 1938. Green Tree Manor was only one of several large apartment projects constructed in the United States under loans insured by the New Deal-inspired Federal Housing Administration. The source of the controversy which surrounded the complex was the question of whether the land upon which the project was constructed had been properly valuated for the purpose of obtaining the FHA insured loan.

On July 31, 1937, according to deeds in the Jefferson County Court House, the Walter Butler Building Company, a St. Paul, Minnesota concern incorporated in Delaware, paid approximately $40,000 to John C. and Elizabeth L. Fenley for the 25.5 acre tract upon which Green Tree Manor was to be built. On the same date, the Butler firm sold the property to one of its subsidiaries, the Kentucky Development Corporation, for a price of approximately $100,000. Later the FHA insured a 25 year, $1 million loan by the New York Life Insurance Company to the Kentucky Development Corporation and accepted the project's completed aggregate value of nearly $1.4 million. But the project came under attack by the Louisville Real Estate Board, which criticized the FHA for insuring a $60,000 write-up in the value of the project site and an inflated total project cost, which, the real estate organization charged, could not have been more than $752,285, given local construction costs.[59]

The matter became a public issue in April 1939 when The Courier-Journal reported the affair in the wake of passage in the House of Representatives of an amendment to prohibit any kind of write-up on a project's value for insurance purposes. Leaning heavily upon the calculations by the Real Estate Board, The Courier-Journal and The Louisville Times printed editorials highly critical of what it considered the FHA's imprudent action of insuring a highly profitable deal for a private developer while the public "held the bag" if the project failed. FHA administrator Stewart McDonald responded defensively that his agency had approved the loan only after obtaining "reasonably accurate" estimates by "competent construction experts and appraisers." He added further that the Kentucky Development Corporation was a limited dividend corporation which had to "limit and defer" its profits and which risked loss of its entire investment if the project collapsed. In the meantime, such projects provided jobs for "skilled mechanics and common laborers" at good wages and supplied better housing for many families at lower rentals than they otherwise would pay.[60]

But The Courier-Journal remained unconvinced, responding that nowhere had McDonald explained the $60,000 "write-up," nor had he ever specifically refuted the Real Estate Board's charge that Green Tree Manor had been over-valued by more than $643,000. If Green Tree Manor was not worth any more than $752,285, the paper affirmed, it would "persist in its fear that the taxpayers of the United States are going to be 'holding the bag' for $643,750 of that million-dollar loan which become due and payable August 2, 1962."[61]

Other than Green Tree Manor, the New Deal had a minimum of impact upon the physical configuration of eastern Louisville. Indeed, by the time that Green Tree Manor had been completed, a new East End neighborhood was beginning to develop. In 1939 James T. Clark began to carve up the grounds around Spring Station when he platted the first section of Woodland Subdivision along the west side of Cannons Lane and the south side of Lexington Road. Two more sections in 1940 and 1941 extended the subdivision's boundaries to take in land along Natchez Lane, Trinity Road, McCready Avenue, and Morningside Drive.[62]

Further development around the splendid Federal mansion was delayed until well after World War II. But in the summer of 1952, Helm Bruce, Jr., announced his intention to develop a 20-lot tract called Spring Station Subdivision on an 11.5 acre parcel of the James T. Clark estate. Part of the original Beall family land holdings, the subdivision embraced the land along Cloverleaf Road and the western end of Trinity Road north of Rock Creek Road. In 1954 C.H. Keeling laid out Propinquity Lane Subdivision along Dublin Avenue, a cul-de-sac which extends west from Dover Road. The following year, William M. Harris, an associate in the Spring Station Subdivision, and R.N. Wathen laid out Penwood Subdivision along Penwood Road between Briar Hill and Dover roads. The last and largest of the subdivisions platted on the Spring Station grounds was Cannonshire, laid out along Rock Creek Road and Beal's Branch Road between Cannons' Lane and Whitfield Place in 1956. The developers were the Galt Avenue, Baxter Avenue, Ellwood Avenue, and Glenmary Avenue realty companies, all presided over by developer Joshua Adams.[63]

As in other nearby neighborhoods, most of the homes in the vicinity of Spring Station are large structures built in some form of historical revival style. In a manner consistent with the topography and prevailing subdivision site design ideology, developers in the Spring Station area generally preferred curvilinear streets and cul-de-sacs over the gridiron pattern. While the primary impact of World War II on eastern Louisville was to hinder new development, there was one major center of military activity in that part of the city - Bowman Field. Anticipating that the airport would soon be needed for defense purposes, the Army Air Corps assumed control of the facility in August 1940. The Quartermaster Corps began to build additional runways and about 120 buildings. Once the United States entered the war, Bowman Field served as an Air Corps supply and replacement depot, combat glider and air evacuation training center, and base of the Air Corps Personnel Distribution Command.[64]

The building boom of the 1920s and the hiatus of the 1930s had a tremendous impact upon the population distribution in eastern Louisville. Between 1920 and 1930, the population of that part of the city grew from approximately 36,000 to more than 51,000 for an increase of nearly 42 percent. But the growth was hardly uniform. In the Clifton, Germantown, and Highland neighborhoods, population either remained stable or declined slightly, while a modest increase occurred in the older sections of Crescent Hill, Tyler Park, Cherokee Triangle, and parts of Bonnycastle and Deer Park. But substantial increases, ranging from 100 to 200 percent were experienced in the census districts which included newer sections of Clifton Heights and Crescent Hill and the St. Matthews, Braeview, Cherokee Gardens, Douglass, and Belknap neighborhoods.[65]

As a consequence of a comprehensive realignment of census districts between 1930 and 1940, neighborhood by neighborhood comparisons are exceedingly difficult. It is evident, however, that the population in eastern Louisville stabilized during the depression decade, growing from about 51,000 in 1930 to just over 56,000 in 1940, an

increase of less than 10 percent. The tendency toward stabilization was particularly apparent in older neighborhoods, many of whose residents simply did not have the financial resources necessary to move into newer areas. Likewise, the growth rate dropped considerably in the newer subdivisions and neighborhoods, although Belknap and the area to the east and north of Cherokee Park continued to grow substantially. It must not be overlooked that by 1940 more than 12,600 persons resided in such suburban fringe areas as Gardiner Lane, Hawthorne, Strathmoor Village, Strathmoor Gardens, Strathmoor Manor, Kingsley, Seneca Gardens, St. Matthews, and Mockingbird Valley. Much of this fringe area would later be annexed by Louisville, and the five sixth class cities in the Bardstown Road-Taylorsville Road area would eventually be totally surrounded by the largest city.[66]

But the growth of eastern Louisville involved more than a mere increase in population and housing units. It also entailed a steady decrease in density. With the improved personal mobility provided by the automobile it became possible to erect homes upon larger lots laid out upon suburban land that was relatively less expensive than land in the central city. As a result, the population became more broadly dispersed as it grew in numbers.

A major facilitating factor in the dispersion of the population throughout Louisville was the city's radial arterial system, which follows the old turnpike routes. Especially important in this respect is Bardstown Road. Perhaps no other arterial street played so singular a role in the development of a large section of the city over so long a period of time as Bardstown Road. By the same token, the physical and economic changes which Bardstown Road has endured testify to the changing needs, lifestyles, and tastes not only of the residents in the neighborhoods which stretch out along it but of the residents of the entire metropolitan area. Because of its unique significance in the life of the Highlands neighborhoods, Bardstown Road warrants special discussion. It will be recalled that throughout the nineteenth century modern-day Bardstown Road and Baxter Avenue from Beargrass Creek to Highland Avenue formed the Bardstown Turnpike. In 1901, the Louisville Turnpike Company, which operated the road, sold it to the Jefferson County Fiscal Court for $48,000 and then went out of business following payment of a liquidation dividend. By that time the present Baxter Avenue section was a well developed residential and commercial area, which includes many structures which remain today.

Between 1880 and 1900, large numbers of one story and camel-back shotgun houses and large two and one-half story late Victorian frame houses were constructed between Broadway and Highland Avenue. The construction of Victorian houses continued well into the first decade of the twentieth century. Approximately a score of these homes still stand in the 1200 block of Bardstown Road between Patterson Avenue and Longest Avenue. But residential construction was not confined to single family houses. Several apartment structures, such as Cherokee Flats and the Inez Apartment Building, also were built during the early twentieth century. Cherokee Flats, built in 1906, is an attractive, three-story brick building whose first floor was designed for commercial use. The Inez Apartment Building, located at 1231 Bardstown Road and constructed in 1911, is another handsome, three-story brick building. Its dominating characteristic is a series of wrought iron-decorated central porches flanked on all three floors by large bay windows.[67]

From an early date, Bardstown Road was as important as a commercial street as it was a residential thoroughfare. While the street's commercial role was almost inevitable, simply because of its arterial character, the concentration of business activity was no doubt intensified by deed restrictions which prohibited the development of commercial enterprises in residential subdivisions. As a consequence, such typical neighborhood businesses as grocery stores and taverns were confined to Bardstown Road. By the early twentieth century, numerous saloons, blacksmith shops, barber shops, grocery stores, and drug stores, among other enterprises, were doing business along Baxter Avenue and Bardstown Road. Styles varied, but the typical commercial building was a two or three-story structure which had business space on the ground floor and residential space above. Likewise, as the demand for commercial space increased, particularly during the 1920s, some residential structures were converted to business use with the addition of stone fronts and the alteration of some interior space to accomodate the needs of the business.

As subdivision activity in the neighborhoods along Bardstown Road accelerated between 1910 and the depression, so did commercial development. By the mid-1920s, the commercial boom had reached Eastern Parkway. The year 1927 saw the construction of the Schuster Building at the southwest corner of Bardstown Road and Eastern Parkway. Designed in the Colonial Revival style by the prominent Louisville firm of Nevin, Wischmeyer and Morgan, this two and one-half story structure, topped by an open cupola, was built to house shops and offices. Some of the store fronts have been modified, while others retain their original facades. The entry ways are characterized by paneled doors, engaged columns, and fanlights. Among the businesses in the Schuster Building is the Uptown Theatre.

While the depression put a damper on economic growth, it did not kill the development of new business entirely, especially those activites which supplied basic personal services. Thus, in 1940, a student at the University of Louisville, writing an essay about his Tyler Park neighborhood, counted over 100 small businesses in the vicinity of Bardstown Road and Baxter Avenue between Highland Avenue and Windsor Place. These enterprises included 32 garages and three service stations - but not blacksmith shops - and 11 antique stores, as well as lesser numbers of restaurants; grocery, drug and liquor stores; beauty and barber shops; dry cleaning and laundry establishments; hardware and drygoods stores; repair shops; an electrical appliance dealership; three tourist homes; and a funeral parlor. Nearly all of the businesses had been established within the past 15 years and many were located in former residences. "If the steady use in business continues," the student predicted, "this fine old residential district will be nothing but a business section."[68]

But Bardstown Road was not limited to residential and commercial activity. Numerous churches in varying styles built along the street are still in use. Heywood Memorial Chapel, a Romanesque Revival edifice, was built by Unitarians at 1036 Bardstown Road in 1908. Highland Church of Christ, a simple Gothic Revival structure at 1275 Bardstown Road, was erected as a small country church in 1899. Another Gothic Revival religious structure, Edenside Christian Church, was built at 1415 Bardstown Road in 1909-1910. One of Louisville's few churches modeled after the early Christian basilica, St. Brigid's Roman Catholic Church at 1000 Baxter Avenue, was designed by the prominent local architect, Cornelius Curtin.[69]

For many years, one of the best known institutions along Bardstown Road was the German Protestant Orphan's Home. Founded in 1851 by several members of St. Paul's Evangelical Church, the home spent its first 51 years on a site at Nineteenth and Jefferson streets. In 1902, it moved into a new three-story, T-shaped building on a ten-acre site between Beechwood and Rosewood avenues in Tyler Park. There the facility remained until 1961, when it moved into new quarters farther out Bardstown Road at Goldsmith Lane. The aging structure at 1234 Bardstown Road already had been sold in 1959 to Mid-City Development Associates, Inc. After the orphans' home was vacated, the structure was demolished and replaced by the Mid-City Mall.[70]

Just as the streetcar was an important force in urban growth generally, it also contributed to development along Bardstown Road in particular. Commercial development was especially strong around the loops where individual street car lines terminated. Until 1912, the Bardstown Road line ended at Bonnycastle Avenue. When the line was extended to Douglass Boulevard, the land which had served as the Bonnycastle Loop right-of-way was deeded back to the adjacent property owners from whom it had been leased. Soon the property owners began to sell the land, and commercial enterprises proliferated during the next 25 years. By 1939 the intersection of Bardstown Road and Bonnycastle Avenue was a thriving neighborhood shopping district, anchored by two super markets, two drug stores, several barber and beauty shops, a bakery, a couple of cleaning establishments, a fish shop, and numerous other stores and shops.[71]

A similar, though not identical, pattern of commercial development occurred around the Douglass Boulevard Loop. The main difference was that at the Douglass Loop, businessmen took immediate advantage of the accessibility provided by the streetcar, rather than waiting for abandonment of the loop to purchase the right-of-way, as at Bonnycastle Avenue. Thus, the growth of the Douglass Loop business district accompanied the residential development in the neighborhood and occurred almost simultaneously with the establishment of the Bonnycastle Loop business district. By the late 1930s, the Douglass Loop district included, according to an essay by a University of Louisville, "several groceries, three drug stores, a bank, a garage and automobile supply store, a florist shop, two restaurants, a hardware store, two bakers, and the ever-present Sears-Roebuck store." But the district's main feature was the recently constructed modernistic branch of Steiden's Grocery Company, in the center of the streetcar loop. In addition to the commercial businesses, numerous doctors and dentists operated from private homes in the vicinity.[72]

Despite the influence of the streetcar in shaping the commercial configuration of the loop business districts, the automobile was gradually becoming the dominant mode of transporation along Bardstown Road during the 1930s. As early as 1930, an editorial in The Courier-Journal bemoaned the "undesirable situation between Douglass Boulevard and Doup's Point on Bardstown Road" and suggested the need for implementing the remedial measures contained in the major street plan which recently had been proposed by Harland Bartholomew and Associates, a St. Louis planning firm.

The extent of problems caused by the automobile were suggested by U of L student J.S. Moulton. "The greatest disadvantage of transporation in the Highlands," Moulton observed in 1938, "is the traffic congestion encountered on Bardstown Road due to its narrowness and popularity as a means of access to the Highlands from downtown Louisville." He added optimistically that the congestion was "being overcome by the opening of new routes to the downtown district." But his optimism was premature. Congestion grew ever worse during the years that followed World War II. As new suburban development continued outward along Bardstown and Taylorsville roads, vast shopping centers and other commercial enterprises with parking lots designed to accomodate hundreds of cars, were scattered along both thoroughfares, creating sprawling commercial strips. At the same time, numerous residential and commercial buildings along the older section of Bardstown Road were modified or removed to provide parking lots and driveways for service stations, drive-in-banks, fast food businesses, super-markets, and a host of other enterprises in an increasingly auto-oriented society.[73]

Just as the years from 1917 through 1945 constituted a watershed in the life of the city of Louisville as a whole, so too did they mark a period of deep change in eastern Louisville. The increasing availability of the automobile and the improved personal mobility which it created contributed significantly to the dispersion of the population, a concomitant reduction in residential density, and a reorientation of commerce from the streetcar to the automobile. The advent of flight and the creation of Bowman Field vastly increased eastern Louisville's economic importance. In the area of residential architecture, historical revival modes substantially replaced the Victorian as the preferred styles among the upper middle class, and the bungalow finally replaced the shotgun house as the primary form of working class housing-demonstrating in the process that real wages had risen to the point that the transition could be made at a widely acceptable economic cost. Along with changes in both transportation and architecture, subdivision design ideology and practice began to demonstrate a greater respect for both aesthetics and topography. While confined initially to subdivisions intended for the upper middle class, the new, geomorphic forms foreshadowed what eventually would become general practice, especially after creation of the City Planning and Zoning Commission in 1930 and the promulgation of increasingly strict subdivision regulations. Of course, most of the period's growth occurred during the building boom of the twenties. The Great Depression put a quietus on development, one which continued through World War II. But the 15-year building moratorium also helped to create new pressures for growth, which would lead to a new explosion of growth during the postwar years.

CHAPTER IV

THE METROPOLITAN EXPLOSION

The three decades that followed the end of World War II saw American cities engulfed in a wave of suburban development in which millions of acres of farmland were turned into residential subdivisions. The Louisville area was no exception. Throughout Jefferson County, once sleepy rural villages became sprawling suburban cities, while former cow pastures were subdivided and then incorporated to form vest-pocket municipalities. More than any other part of the city, eastern Louisville was caught in the vortex of the suburban explosion. By 1950, further growth in western Louisville was blocked by the Ohio River, the growing suburb of Shively, and the sprawling Rubbertown industrial complex. Considerably more growth occurred along the city's southern fringe, especially below Iroquois Park, on Kenwood Hill, and between Standiford Field and Preston Highway. But the most attractive land lay to the east, and it was here that Louisville experienced its most intensive and extensive new growth during the postwar years.

The dimensions of postwar growth are most apparent in local census data for the decades 1940 through 1970. Between 1940 and 1950 the population of Jefferson County grew from 385,392 to 484,615, an increase of 25.7 percent. This trend continued during the 1950's and in 1960 the census counted nearly 611,000 residents in Jefferson County, an increase of 26.1 percent over the previous enumeration. The rate of increase dropped to 13.8 percent during the 1960s, with the total population standing at 695,055 in 1970. The population of Louisville continued to grow as well during the 1940s and 1950s, although at a lower rate than the country as a whole. Between 1940 and 1950, the city's population grew from 319,077 to 369,129, an increment of 15.7 percent. During the 1950s, however, the city's growth rate fell a mere 5.3 percent, reflecting a numerical increase of only 21,510, despite the annexation of a large expanse of territory during the decade. Perhaps the most dramatic indication of the suburban trend appears in a comparison of the census data for 1960 and 1970, which shows a decline from 390,639 to 361,472 residents, or a 7.5 percent decrease in the city's population at the same time the population of the county at large had grown by nearly 14 percent.[1]

Numerous forces contributed to the suburbanization of Louisville's population after World War II, but four appear to have been particularly significant in the growth of eastern Louisville. First, a soaring birth rate combined with national housing programs and taxation policies to promote home ownership. Second, actions and regulations of agencies such as the Louisville Water Company, Metropolitan Sewer District, and Louisville and Jefferson County Planning Commission promoted the dispersal of housing. Third, improvements in transportation increased the mobility of individuals and promoted the growth of certain kinds of business enterprises. Finally, a steady process of industrial suburbanization contributed to the suburbanization of employment, prompting many employees to seek new homes in the vicinity of their place of work.

The soaring birth rate in the United States during the decade or so which followed the war sent thousands of middle and lower middle class Louisville families with young children into the single family housing market for the first time. Unable to find adequate housing within the city, they formed a huge pool of demand for local homebuilders. The deep-seated desire of these home seekers to achieve the American dream of a private home was facilitated by several federal policies and programs which fostered home

ownership in preference to renting. During the war years, 80 percent of the new houses constructed in Louisville had been financed through mortgages insured by the Federal Housing Administration. Such loans could be obtained with relative ease by builders erecting homes for war production workers. In 1944, Congress passed the Servicemen's Readjustment Act, commonly known as the "GI Bill-of-Rights." One section of the act guaranteed up to 60 percent of the amount of a loan up to $7,500 to an eligible veteran for the purchase, construction, alteration, repair, or improvement of a house or farm dwelling. Together, the FHA and VA mortgage insurance programs made home owners of many people otherwise unable to obtain mortgages through commercial banks, savings and loan associations, mutual savings banks, and other sources of conventional loans.

But these federal programs usually favored new homes constructed on previously undeveloped suburban land over older inner city homes. Guided by the banker's principle of "economic soundness," the federal agencies frequently refused to insure mortgages in neighborhoods that were blighted or which appeared subject to blight in the future. Until 1960 FHA handbooks warned against loans in racially integrated neighborhoods on the assumption that their future stability was uncertain. But most home loans obtained in Louisville after the war were not government insured. By 1960 fewer than 10 percent of all mortgages were insured by FHA and fewer yet by the VA. Instead, most mortgages were obtained through conventional sources. These institutions were even more inclined to favor suburban dwellings when extending loans, often denying loans for inner city homes upon the basis of location alone and without considering the qualtiy of the structures involved. Such practices were reinforced by federal income tax policies which still allow deductions for interest and local property tax payments, thus providing a large hidden subsidy that encouraged construction of single-family suburban dwellings.[2]

Closely related to federal housing and taxation policies in shaping suburban development patterns were the policies and actions of local government agencies. Of critical importance were zoning and subdivision regulations. The city of Louisville had had zoning and subdivision ordinances since the adoption of the first comprehensive plan in 1932. But the regulations had limited impact during the depression era building slump. The homebuilding situation improved somewhat during the late 1930s and early 1940s, but the regulations were poorly enforced, resulting in much premature speculative development along the fringe of the city, much of it occurring without adequate streets, sidewalks, and utilities. Creation of the Louisville and Jefferson County Planning and Zoning Commission in 1942 not only extended zoning and subdivision controls to the entire county, it also brought stricter enforcement of the regulations and required developers to be much more careful than before in their treatment of the landscape. The narrow lots typical of much of the central city were abandoned in favor of large lots which accommodated automobile driveways and attached garages.

While developers who built subdivisions for the upper middle class typically had provided large side yards and deep set backs for years, the establishment of subdivision regulations made this standard practice everywhere. Despite the reulations, some postwar developers laid out their tract with reckless abandon, grudgingly observing only the letter of the law. But many others took pains to make their subdivisions as attractive as possible. As Grady Clay, then The Courier-Journal's real estate editor, noted in 1952, the more sensitive developers "take advantage of contours, and emphasize natural features such as streams, pools, [and] steep slopes. Many subdivisions are well planned to fit into their neighborhoods, with shopping centers, space for churches, and plenty of off-street parking.[3]

But there was a negative side to the subdivision regulation system that mitigated some of its positive features. One problem was "wildcatting"- the platting and sale of lots without prior approval of the Planning and Zoning Commission. Wildcatting was possible because of a phrase in the state subdivision law which limited the supervision of the commission to the "applicant subdivider," meaning that the subdivider who refused to apply to the commission could subdivide their land without its control. In most cases, developers selling lots along streets dedicated to public use did apply for approval from the commission. But wildcatters laid out private roads, which were not dedicated to public use, and then sold lots according to metes and bounds descriptions with total immunity from public control. The only record of such a transaction was the deed which accompanied the sale. Often such subdivisions remained unidentified until lots began to appear on county tax rolls.

Although wildcatting was a minor problem along Louisville's eastern fringe, it reached epidemic proportions in the county at large during the early 1950s. Between January 1, 1944, and December 1, 1953, a total of 11,400 lots in 245 recorded subdivision were platted in Jefferson County. During the same period, at least 8,763 lots were laid out in 491 unrecorded or wildcat subdivisions. Others may well have been created, but failed to appear in the tax records. Wildcatting remained a severe problem until the General Assembly amended the subdivision law to make it illegal in 1954.[4]

Another problem related to zoning and subdivision regulations was the manner in which they fostered social and racial segregation. Because the regulations required larger lots than had been employed before they were imposed, they also entailed higher land costs which resulted in correspondingly larger and more expensive houses. Consequently, most new housing went to middle and upper income familes while poorer families, frequently black, were left with older homes on smaller lots in the central city. This has been especially true in eastern Louisville, where the housing market historically has been geared for the middle and upper middle classes.[5]

Contributing further to a highly scattered pattern of suburban development, as well as to wildcatting, was a lack of coordination in the extension of services by the Metropolitan Sewer District and the Louisville Water Company. During the early 1950s the former utility gradually extended its sanitary sewers into newly annexed areas. As late as mid-1954, over 7,600 acres of city land lacked sanitary sewers. On the other hand, the water company quickly extended mains to remote parts of the county. Before long, developers were leapfrogging undeveloped but increasingly expensive land along the city's fringe, building subdivisions in distant areas where water was available, and installing septic tanks and package sewerage treatment plants as substitutes for sanitary sewers. This tendency was most pronounced in the southwest and south central parts of Jefferson County along such radial arterials as Dixie Highway and Preston Highway. But it also appeared to a somewhat lesser extent along Bardstown, Taylorsville, and Shelbyville roads. Such development promoted a costly pattern of urban sprawl as it pushed up the cost of developing and providing services to fringe areas skipped by earlier developers.[6]

No other factor has been more significant in reshaping the landscape of Louisville and Jefferson County than a series of changes in the local transportation network. Since 1945 Louisville has seen the development of a costly interstate highway network, the construction of two new bridges across the Ohio, the upgrading of the radial highway system, the creation of a unified public transit system, the transfer of commercial air traffic from Bowman Field to Standiford Field, the construction of a new lock and dam system on the Ohio River, and the demise of passenger railroad service.

The transportation mode which has had the greatest impact upon eastern Louisville has been the expressway system. The expressway network was one of several projects which came out of a series of recommendations by the Louisville Area Development Association, a broadly based community betterment organzation formed in 1943 by Mayor Wilson W. Wyatt to plan for Louisville's postwar development. LADA's chief concern was surface transportation. In recent years, automobile registration in Jefferson County had ballooned. Approximately 64,000 motor vehicles were registered locally in 1930. Ten years later the figure had passed 89,000, and by 1944 it stood at more than 101,000. With the end of the war auto sales soared, and by the end of 1950 motor vehicle registration approched 150,000. As a result, a LADA report stated, "streets designed for the speed of Model-T traffic had become strangled bottlenecks."[7]

The outline of a regional highway plan had existed since the late 1920s, but its implementation was hindered by the depression and World War II. By the time the city was prepared to take action, the plan seemed obsolete. Early in 1944 LADA formed a committee of federal, state, county, and city officials to discuss a way to improve the flow of traffic and to develop a strategy to take advantage of Kentucky's share of federal highway monies. Following the committee's recommendation, the Kentucky Highway Department and the Louisville and Jefferson County Planning and Zoning Commission employed the Chicago transportation engineering firm of H.W. Lochner and Company to prepare a traffic analysis and highway plan.

By late August 1945, Lochner had completed a study that recommended two major expressway projects, one following a north-south route from the Municipal Bridge (Clark Memorial) to Standiford Field and a second following an east-west path connecting U.S. Highways 42 and 60 in eastern Jefferson County with the K & I Bridge in the West End. Lochner justified his plan as a means of improving access to and reducing congestion in the central business district. Although Lochner's plan did not receive unanimous approval, it became a major element in one phase of a comprehensive traffic improvement program - a system of limited access expressways designed to carry traffic into the central business district quickly by radial routes and to channel it around the most congested urbanized areas by circumferential highways.[8]

Although Lochner had placed primary emphasis upon the north-south and east-west expressways, city officials gave first priority to a recommendation by the LADA traffic committee that a 12.7 mile Inner Belt Highway be constructed to connect Shelbyville Road east of St. Matthews with Dixie Highway near the city limit south of Shively. As originally proposed by Harland Bartholomew and Associates in 1929, the Inner Belt would be built at grade level, using existing streets where possible and constructing connecting links where

necessary. Plans for the thoroughfare had changed considerably by the beginning of 1947, but it was still envisioned as a two-lane facility without grade separations, except for overpasses across the Illinois Central, Southern, and Louisville and Nashville railroad tracks in the South End. The initial cost was estimated at $3.5 million.[9]

In May 1947 the United States Public Roads Administration approved the use of federal funds to construct the Inner Belt, which soon would be designated the Henry Watterson Expressway at the suggestion of Mayor Charles P. Farnsley. The following March the state began to purchase right-of-way land, and in early May 1948, Kentucky Highway Commissioners Garrett L. Withers announced that first priority had been given to the construction of a 2.4 mile stretch of highway in eastern Jefferson County between Bardstown Road and Breckenridge Lane. Ground-breaking ceremonies took place in March 1949 and the first section was completed the following December. Although only two lanes wide, the expressway was built on a right-of-way 180 feet wide, and plans provided a four-lane facility with opposing traffic lanes separated by a grass median strip 20 feet wide.[10]

Construction began on phase two between Shelbyville Road and Breckenridge Lane early in 1951. Like the first section, it was only two lanes wide. By the middle of 1952, however, highway planners were campaigning to upgrade the entire facility into a fourlane limited access expressway with a grade-separated interchange at each intersection with a major radial. The planners' hopes were boosted in July when the Louisville Railroad Planning Commission, which guided the city's expressway program, endorsed the idea, as did state and federal highway officials. The decision to widen the Watterson to four lanes came after the planners realized that the traffic projections upon which the original construction had been based were woefully outdated. For example, in 1950 Deleuw, Cather and Company, a Chicago consulting firm, estimated 1970 usage of the Watterson between Bardstown Road and Breckenridge Lane at 2,200 vehicles per day. By August 1952, the same stretch was already carrying approximately 5,200 vehicles daily. Reinforcing the decision was the knowledge that the new General Electric Appliance Park near Buechel would soon begin pouring some 22,500 vehicle trips into the Watterson and other nearby roadways each day. Consequently, when construction began on the western end of the Watterson in early 1953, it was with the intention of creating a four-lane highway between Dixie Highway and Poplar Level Road. In May the Kentucky Highway Department announced that the four-lane portion would be extended to Bardstown Road and that interchanges would be substituted for grade crossing at major radials.[11]

Much of the initial construction program had been completed and most of the expressway opened by December 1955. But a shortage of funds made it impossible to construct grade separation interchanges at the Watterson's intersection with several major radials east of Bardstown Road. In September 1956 The Louisville Times compared the Watterson Expressway to "a diving suit with air holes," as stoplights slowed the flow of traffic at Taylorsville Road and the entrance to the new Kentucky Fair and Exposition Center between Preston Highway and Crittenden Drive and more signals were planned for the expressway's intersections with Brown's Lane, Breckenridge Lane, and Bon Air Avenue. The money to build the overpasses and interchanges necessary to eliminate grade crossing and to widen the Watterson to four lanes between Bardstown and Shelbyville roads finally became available in 1957 when the

expressway was incorporated into the Interstate Highway System following passage of the Interstate Highway Act of 1956. Under this legislation the federal government supplied 90 percent of the money required for an interstate highway link while state and local governments furnished the remaining 10 percent. Unfortunately, the federal money came too late to upgrade early interchanges at Taylor Boulevard, Southern Parkway, Newburg Road, Poplar Level Road, and Bardstown Road, all of which later proved to be highly accident prone, primarly as a result of inadequate design. Only the sections of the Watterson east of Bardstown Road now meet the engineering and safety standards of the Interstate Highway System. The entire expressway was completed in 1958.[12]

As the Watterson Expressway neared completion, city officials turned their efforts and resources to construction of the North-South Expressway. But a good deal of attention was given as well to determining the future route of the proposed Eastern Expressway. The matter had simmered on the back burner, occasionally coming to a boil, since 1947, when city, state, and federal officials announced agreement upon the construction of a $6 million, 12-mile freeway that would transverse the valley of the middle fork of Beargrass Creek from Shelbyville Road east of St. Matthews to Mellwood Avenue.[13] Included in the right-of-way would be the northern fringes of Cherokee Park and Seneca Park. The route had been proposed by the Chicago consulting firm of Consoer, Townsend and Associates under a 1946 contract with the Louisville Area Development Association. The Eastern Expressway was to be part of a larger system, which also would included a Southeastern Freeway. As designed by the consultant, the latter facility would begin at Bardstown Road, cross Taylorsville Road, skirt the western edge of Bowman Field and intersect with the Eastern Expressway between Cherokee Park and Seneca Park east of Alta Vista Road. The consultants cited four advantages when they recommended the Middle Fork Valley for the Eastern Expressway route. First, it had few buildings, a critical factor at the time of a severe housing shortage. Second, grade-separation problems were less severe and could be solved more easily in the valley than in the alternative locations. Third, the scenic valley location would make the users' travel more enjoyable. Finally, the location within the metropolitan area would provide a high long-term service value.[14]

In thinking primarily of engineering aspects and user benefits, the traffic consultants reflected the prevailing professional attitude. Not even the local and state officials who approved the proposed route liked the idea of an expressway slicing off sections of two of the city's most beautiful natural assets. But there were practical considerations, in addition to those pointed out by the consultants, which made the park route attractive. In the first place, one-third of the cost was to be funded by the national government, and a decision had to be made soon or else the money allotted would revert to the federal treasury. Moreover, the city already owned the parks, which would substantially reduce the cost of acquiring the right-of-way. One state highway official put the matter quite simply, "I think I can safely say that if the road can cross the parks, we will build it. If it cannot, we won't. And before we start on any of the job, we must know we won't get held up on the rest." [15]

But such engineering, financial, and political considerations did not carry much weight with the many Louisvillians who opposed any thought of an expressway encroaching upon the city's park land. Within a short time opposition began to surface. Motives of those who opposed the park route

varied. Owners of several of the large estates along Alta Vista Road feared that an expressway would reduce property values, while many others opposed the route for aesthetic reasons, holding that the parks should remain forever free of the noise, dirt, fumes and other noxious side effects of automobile traffic, regardless of the cost of the alternatives. Many park-area residents whose property interests were affected aired equally strong aesthetic opposition to the facility.

Proximity to the proposed expressway route did have some impact upon the strategy which the opponents adopted. Most residents of the park area favored legal action, arguing that deed restrictions on many of the parcels of land which comprised the park prohibited the intrusion of transportation arteries for other than park uses. The city replied correctly that such restrictions did not outweigh the right of the state to acquire such property by condemnation through the power of eminent domain. Aesthetic opponents were more philosophical. As Tom Wallace, Louisville Times editor emeritus and columnist, noted, "The purpose of creating parks was to provide places of retreat from the hurly-burly of cities, and recreation grounds for persons who like outdoor exercise or outdoor games, amid pleasing surroundings. Space and quiet are sought in behalf of those who like space and quiet."[16]

Because of the growing opposition to the park route, city works officials proposed that the expressway be constructed on the L & N's Frankfort Avenue right-of-way. But railroad executives resisted the idea, as did other city and state officials. The day after the plan was unveiled in October 1947, the Board of Aldermen received a bill providing for the condemnation and purchase of an Eastern Expressway right-of-way. On Christmas Eve, the Board passed the legislation, which specified the park route. Discarding the Frankfort Avenue route as impractical, the aldermen accepted the assurances of their expressway committee that "neither of the parks affected will be desecrated or destroyed and that all roads and paths in the right-of-way area will be completely and effectively landscaped."[17]

Passage of the ordinance cleared the way for the city to file condemnation suits to acquire privately owned land for the right-of-way. By early January 1948, however, the entire project was getting bogged down in red tape. While appraisers evaluated the property required for the project, opponents organized the Save the Parks League and prepared for legal action to block acquisition of the park land. In late Feburary, 116 citizens, among them some of the city's leading business and professional figures, filed suit in Jefferson Circuit Court, seeking an injunction to bar the city and the Board of Aldermen from using any part of Cherokee or Seneca parks for expressway purposes.[18]

Throughout the early months of 1948, city leaders reiterated the need for the expressway. Referring obliquely to journalist George Leighton's facetious description of Lousiville in Harper's Monthly 11 years earlier, LADA executive director K.P. Vinsel asserted, "If we can't get expressways within the next 10 years, we'll really be called the museum piece of America." Similar sentiments were expressed by Mayor Charles P. Farnsley, later a vehement opponent of the expressway, who noted that Louisville needed "the expressway to help open up our downtown section to all who want to come into it."[19]

But it was no use. In mid-April the city lost two suits which were critical in its efforts to acquire the right-of-way. Consequently, the state and federal governments refused to advance their portions of the project cost. In early June the city suspended its appeals of the adverse court ruling, and Aldermanic President Dann C. Byck admitted that the expressway could not be started "in the foreseeable future."[20]

In 1950, as a result of the collapse of the Eastern Expressway effort, the Louisville Railroad Planning Commission, the agency now reponsible for expressway planning, hired the Chicago consulting firm of DeLeuw, Cather and Company to reevaluate the entire expressway plan. After studying the matter, the consultants recommended that Eastern Expressway be built in an open cut along the north side of Frankfort Avenue. But more importantly, DeLeuw, Cather advised that for the time being all available highway money should be channelled into the Watterson Expressway and the North-South Expressway. As a consequence, the entire Eastern Expressway project remained dormant for eight years. In the meantime, the Federal Highway radically changed the entire basis of expressway financing by providing for the federal government to pay 90 percent of the cost of any element of the interstate highway system.[21]

Although the Eastern Expressway issue came up occasionally during the early and mid-1950s, it did not again become a major subject of debate until 1958. Meanwhile, the Kentucky and Indiana highway departments and the federal government employed the Newark New Jersey, transportation engineering firm of Edwards and Kelcey to make traffic studies and propose plans for the interstate highway system in the Louisville area. Included in the firm's report was the Eastern Expressway, proposed as an extension of Interstate 64. Although the consultant's plans did not specify every twist and turn in the right-of-way, a general route from St. Matthews through Cherokee and Seneca parks to a proposed Riverside Expressway and a new bridge at the Ohio River was certain. Mayor Bruce Hoblitzell's Advisory Committee on Interstate Expressways endorsed the Edwards and Kelcey scheme in early January. During the succeeding weeks the plan gained the endorsements of Mayor Hoblitzell, County Judge Bertram Van Arsdale, the Louisville Chamber of Commerce, and the Bingham newspaper, one of whose senior executives, Mark Ethridge, chaired the Louisville Railroad Planning Commission. In early May, Edwards and Kelcey followed its proposal of the Eastern Expressway route with a strong recommendation that it be accepted.[22] This set the stage for a replay of the 1947-48 battle between the expressway advocates and the park protectors. This time however, the struggle would be much more protracted.

Spearheading the opposition was the Save-Our-Parks Committee, chaired by Dr. Richard M. Kain, professor of English at the University of Louisville. This group worked not only to prevent the Eastern Expressway from invading Cherokee and Seneca parks but also to keep the proposed Interstate 264 loop from encroaching upon Shawnee Park in the West End. During the spring of 1958 the Save-Our-Parks Committee mounted a petition drive, and mid-September it had collected over 24,000 signatures from persons who opposed the proposed park routes. While Professor Kain's committee organized the grassroots opposition, Tom Wallace continued to speak out through his column in

The Louisville Times. On a couple of occasions, Wallace launched an extra salvo, quoting heated letters in opposition to the parks route from Lewis Mumford, the noted regional planner and urban theorist, and Olmsted Bro.'s successor to Fredrick Law Olmsted, whose landscape architecture firm had designed Louisville's park system nearly seven decades earlier.[23]

Strong grassroots opposition to the parks route no doubt helped to delay construction of Interstate 64 through Louisville. Among other things, it forced highway officials to consider a new alternative proposal which called for I-64 to bend to the north near the Watterson Expressway, cross Shelbyville Road and U. S. 42, and then join I-71, which could connect Louisville and Cincinnati. Barstow, Mulligan, and Vollmer, the New York consulting firm which proposed it, pointed out that the alternative route would produce a savings of $10 million dollars. However, the Consultants also estimated that the riverside route would carry only 24,000 of the 49,000 vehicles per day which it had predicted would use the Eastern Expressway through the parks. This would leave 25,000 vehicles still moving toward downtown Louisville by way of secondary streets such as Bardstown Road, Grinstead Drive, Lexington Road, and Frankfort Avenue. This problem would eventually necessitate expensive street widening projects, which would impinge upon residential neighborhoods and generate costs that would have to be borne by the city treasury rather than the federal government. In addition, an annual savings of approximately $4 million to motorists as a result of reduced distance and fuel cost would be lost. In light of the limited marginal benefits and costly disadvantages of the alternative proposal, city and state officials continued to advocate the parks route. In early April 1959, their judgement was affirmed by the United States Bureau of Public Roads.[24]

Federal approval of the parks route was a crucial step toward construction of the expressway, but major roadblocks lay ahead. The initial effort to pinpoint the right-of-way ran afoul of the Louisville Presbyterian Theological Seminary, which suddenly found the recently purchased site for its planned Lexington Road campus threatened by the expressway. Pointing out that the institution was already being forced by the North-South Expressway to leave its downtown site, seminary President Frank Caldwell hinted that the school might have to leave Louisville if it lost its eastern Louisville site. Not desiring to lose the seminary, highway planners quickly adjusted the right-of-way plans.[25]

A much stickier problem was the manner in which the expressway would be constructed through Cherokee Park. Consultants Barstow, Mulligan and Vollmer recommended that the superhighway be routed through an open cut in scenic Cochran Hill. Once completed, a tunnel would be placed over the highway and the cut would be refilled and landscaped. This approach was favored by federal highway engineers for economic reasons. But it met stiff resistance from state and local officials and private citizens who otherwise favored the park route. They almost unanimously insisted that the expressway be built through a bored tunnel, which would preserve Cochran Hill's natural beauty. Advocates of the bored tunnel included Mark Ethridge, chairman of the Mayor's Advisory Committee on Interstate Highways; The Courier-Journal and The Louisville Times; and Henry Ward, area development director for the Lousiville Chamber of Commerce and former state parks

commissioner; Wallace W. Sanders, city works director; and industrialist Archibald P. Cochran. Noting at a public hearing in May 1959 that his grandparents had planted most of the trees on Cochran Hill almost a century earlier, Cochran stated that he "would be greatly distressed to see a gash through there." As a result of such unanimity, public officials announced in June 1960 that the city would formally reject any plan which included an open cut through Cochran Hill.[26]

Significantly, the city's announcement followed by one month a statement by State Highway Commissioner Earle Clements that plans for the Eastern Expressway were being postponed for five years. The state's decision no doubt represented a minor victory for the Save Our Parks Committee and other opponents of the recommended Eastern Expressway route. But in the main, the decision was simply the most practical way to deal with a 30 percent cutback in federal appropriations for interstate highways. It made political sense to move ahead with construction of I-71 between the Watterson Expressway and Zorn Avenue and the parts of the I-264 loop which already had been agreed upon. In the meantime, Commissioner Clements's successor, Henry Ward, would have time to resolve the legal and technical problems, including the Corhran Hill issue which were blocking construction of the Eastern Expressway. The wisdom of shelving the latter project became even more evident in November 1961, when Louisville voters elected as their new Mayor an avowed opponent of the parks route, Republican William O. Cowger.[27]

In deference to the Mayor's opposition to the parks route, Ward agreed not to attempt to acquire any park land while Cowger was still in office. Meanwhile, Ward continued his efforts to resolve the Cochran Hill problem and arranged to have the park right-of-way appraised for possible condemnation proceedings. The commissioner's strategy was based in part upon the hope that Cowger's successor would be less intransigent. For a few weeks after his inauguration in December 1965, it appeared that Mayor Kenneth Schmied might at least be open to negotiation. That hope faded in mid-January 1960 when Schmied told Ward that the city would refuse to negotiate the price of the park land and force the state to condemn it.[28]

The new Mayor's position did not stop progress altogether. While its appraisers valuated the park lands, the Kentucky Highway Department proceeded with construction of I-64 through Happy Valley, a rough, wooded, swampy area along Lexington Road between Story Avenue and Grinstead Drive. In the process, the Middle Fork of Beargrass Creek was rerouted and straightened. A major impasse was broken in May 1966 when the U.S. Bureau of Public Roads agreed to fund the boring of twin tunnels to route I-64 through Cochran Hill. This was a victory for Henry Ward, who had hoped that President Lyndon B. Johnson's emphasis upon highway beautification would persuade the government to approve the tunnel.

In December, following detailed appraisals, the highway commission offered the city $575,000 for 41 acres of Cherokee and Seneca Parks. Although the city made no formal reply, Mayor Schmied stated immediately that the figure was too low. Finally, in early November 1967 the city filed an agreement with

the clerk of Jefferson County Court to allow the highway department to begin construction through the disputed park land. Accompanying the agreement was a condemnation suit, which all parties agreed was necessary in order to clear title to the land, particularly that which was affected by deed restrictions prohibiting highways. Two months later, it was revealed that city and state officials already had agreed upon a price of $734,689 for the 41 acres of land, a figure which was consistent with the estimates of both parties. With the major legal, financial, and engineering problems resolved, the state was ready to proceed with construction of the final leg of I-64. A few years later traffic was moving unimpeded between the Jefferson County line and the junction of I-65 and I-71 at the John F. Kennedy Memorial Bridge.[29]

Interstate-71, the third element of the expressway system in eastern Louisville, has played a limited role in the urbanization of the area between the Kennedy Bridge and the Watterson Expressway. This is due in part to topography. The highway right-of-way consists largely of a rugged, low-lying flood plain along the Ohio River between River Road and Mellwood Avenue. But more to point is the fact that most available land had already been put to some urban purpose by the time of the facility's construction. Most of the usable land between the expressway and the river continued to be devoted to industrial, commercial, and recreational purposes, while that appropriate for residential use long since had been developed. A similar situation existed along the controversial section of I-64 between Lexington Road and the Watterson Expressway.[30]

Otherwise, the expressway network had a deep impact upon the landscape of eastern Louisville. Along the Watterson there was a rapid conversion of farmland into residential subdivisions. As residential development increased, it was accompanied by the acceleration of commercial development at interchanges with major radials. The tendency for commercial activities to concentrate at major intersections was quite simply as a function of modern retailing practice and the design of expressway systems. Because of the heavy traffic which the expressway carried, retailers sought to locate as close to them as possible. But because the expressways also were built as limited access facilities, retailers also tried to locate near intersections with major arterials The result was a nodal development pattern, with concentrations of commercial activity at the Watterson's junction with such key radials as Newburg Road, Bardstown Road, Taylorsville Road, Breckenridge Lane, Shelbyville Road, and Brownsboro Road.[31]

Because these intersections were so attractive economically, they generally became sites for large, carefully planned, multi-unit shopping centers with parking lots. Frequently, however, these new shopping complexes were laid out near older business strips. As commercial development intensified, large discount stores, fast food restaurants, and other auto-oriented businesses filled in the gaps among the older, unplanned shopping districts and the newer regional centers. The result is a series of highly complicated linear suburban commercial districts along Shelbyville Road between Gilman's Point and Arterburn Lane, along Bardstown Road from Gardiner Lane to Buechel and along Hikes Lane and Taylorsville Road between Brown's Lane and Breckenridge Lane south of the Watterson.

The fourth and probably least significant force in stimulating the growth of eastern Louisville and Jefferson County after World War II has been the suburbanization of industry. As the previous pages suggest, persons from a variety of income levels have found homes in eastern Louisville. For many years, however, it has attracted an inordinate number of the city's most affluent citizens. These residents consistently have opposed the kinds of industrial development which might threaten their property values. Indicative of this aversion to heavy industry is the fact that in 1976 the entire area of Louisville and Jefferson County east of the South Fork of Beargrass Creek, Newburg Road, and Fegenbush Lane had barely more than a dozen manufacturing establishments which employed more than 100 workers.[32]

Possibly the most dramatic example of this area's negative attitudes toward industry appeared in early 1957 when residents succeeded in blocking a zoning change, with the help of County Judge Bertram Van Arsdale, which would have allowed the Reynolds Metals Company to build a campus-like research and development complex and fabricating plant on the old Central State Hospital farm near Anchorage. With its initial plans stymied, Reynolds took options on a 42-acre tract southeast of the Watterson Expressway and Newburg Road. In May 1957 the company obtained a zoning change which it needed for the research complex and a short time later purchased the rezoned land. But when it failed to get a second zoning change, needed for its fabricating plant, Reynolds dropped the entire plan and decided to locate its proposed "showplace for the aluminum industry" at its corporate headquarters in Richmond, Virginia.[33]

Nevertheless, that industrial development which did occur was substantial in its impact. By far the most important plant built in all of Jefferson County since 1945 was General Electric's Appliance Park. General Electric's venture in Louisville began quietly and with a touch of mystery. Early in 1951 the Louisville Chamber of Commerce received a blind telephone call requesting information on industrial sites, land costs, water supply, and other technical data. After receiving and evaluating the data, the firm which made the inquiry sent two unidentified representatives to make a secret examination of Louisville. After considering all the available information, the General Electric Company selected Louisville as the site of a new manufacturing complex. Three factors weighed heavily in this decision: the city was near the geographic center of distribution; it had a labor supply adequate to meet long term needs; and it had superior transportation facilities, combining the water transportation necessary to import large quantities of steel with the rail lines required for the shipment of finished appliances. These advantages soon would be enhanced by construction of the Watterson Expressway and Interstate I-65.[34]

In mid-1951, GE began purchasing nearly 1,000 acres in the vicinity of Buechel Bank Road and Fegenbush Lane in southeastern Jefferson County. By the end of the year land which once had been devoted to small farms was being turned rapidly into a $200 million industrial complex with more than five million square feet of manufacturing and office space. Upon completion two years later, Appliance Park employed some 10,000 residents of Jefferson County and neighboring communities in Kentucky and southern Indiana. During the years that followed, many GE employees sought suburban homes in the vicinity of their work, triggering the conversion of more farmland into subdivisions along the southeastern fringe of Louisville and in the area of such communities as Fern Creek, Okolona, and Buechel. By the same token the plant brought in, and continues to bring in, a succession of well-paid professional and managerial personnel who tend to cluster together in certain affluent eastern Jefferson County neighborhoods.[35]

Because it was such an important addition to Louisville's economic base and because it was located a good distance away from the most affluent sections of Jefferson County, Appliance Park attracted very little opposition. In this respect, it differed considerably from the later experience of the proposed Reynolds Metals facility. Although it remains difficult to establish large manufacturing plants in eastern Jefferson County, the loss of the Reynolds complex has made Louisville business leaders much more wary when citizen opposition threatens potentially lucrative industrial developments in that area. As a consequence of this vigilance, two major industrial centers have been developed in the eastern part of the county in recent years. Both are located near growing middle class residential areas. Developed by realtor L. Leroy Highbaugh and opened in 1965, the Bluegrass Research and Industrial Park, located in Jeffersontown near Hurstborne Lane and I-64, now houses some 300 firms and provides employment for over 5,000 persons. Among the facility's major tenants are Celanese Coatings and Specialties Technical Center, Chemtron Corporation's Votator Division, the Louisville Bedding Company, Jones Plastic and Engineering Corporation, and the Potlatch Corporation's Folding Carton Operations. The second recent industrial complex established in eastern Jefferson County was the Ford Motor Company truck assembly plant on Westport Road north of Anchorage. Opened in 1969, the facility employed nearly 4,000 workers by early 1977.[36]

The centrifugal movement of the population during the postwar years followed several patterns and had several effects in eastern Louisville and Jefferson County. A good portion of the population gravitated toward new subdivisions near older unincorporated suburban communities such as Buechel, Fern Creek, and St. Matthew's. But an even stronger tendency was for home buyers to purchase homes in small suburban municipalities, which proliferated rapidly. Unlike numerous other metropolitan centers, where the growth of suburban municipalities had taken off during the 1920s, Jefferson County contained only 11 municipalities in 1945. Of these, Louisville, Jeffersontown, and Anchorage were incorporated before 1900, with the remaining eight being created between 1920 and 1945. Three more were established between 1945 and 1949. But 51 new suburban cities were created during the next two decades, 29 in the 1950s and 22 in the 1960s. By the beginning of 1979, Jefferson County counted more than 80 incorporated municipalities. More than two-thirds of these are located in the eastern third of the county.[37]

The largest suburban municipalities are the fourth-class cities - Shively, created in 1938; St. Matthews, incorporated in 1950 to prevent annexation by Louisville; Jeffersontown, which advanced from fifth to fourth-class status during the mid-1960s; and St. Regis Park, located on the eastern edge of Louisville along Brown's Lane between I-64 and Taylorsville Road. St. Regis Park advanced from sixth-class to fourth-class status in 1974 after it annexed several adjacent subdivisions. But the primary vehicle of municipal organization was the sixth-class city. Under Kentucky law, an unincorporated area containing between 125 and 1,000 residents may become a city through an incorporation petition to the local circuit court. The petition must contain the signatures of at least two-thirds of the voters in the affected area, which must approximate a square at least one-half mile on each side. Opponents may attempt to prove that the proposed

city is too large or too small, or that it lacks enough people, but they may not question the wisdom of incorporation itself. If the judge finds that all legal conditions for incorporation have been met, he must grant the petition. He then must appoint at least five trustees, a police judge, a city marshall, and an assessor to serve until regualr elections can be conducted.[38]

The motives behind the creation of these "republics in miniature," as urban sociologist Scott Freer has aptly dubbed America's small suburban municipalities, may be as varied as the number of communities themselves. But in Jefferson County, three basic factors appear to have carried primary weight, regardless of the class of city that resulted. For several years, many suburban residents incorporated their subdivisions to gain the zoning powers necessary to prevent factories, service stations, and shopping centers from being constructed in their midst. But by 1964 it had become evident that to allow so many communities to exercise zoning powers made effective comprehensive planning impossible. To remedy this problem the 1964 General Assembly abolished the zoning powers of sixth-class cities and vested them in the Jefferson County Fiscal Court. Several larger sixth-class cities attempted to preserve their zoning authority by moving up to fifth-class status. But their efforts were thwarted when the 1966 General Assembly abolished the zoning powers of fifth-class cities as well. At present legislative authority for zoning is exercised only by Louisville, the fourth-class cities, and the Fiscal Court.[39]

Although the General Assembly eliminated zoning authority as a motive for incorporation, it did not remove other factors which made it attractive. One was fear of annexation by a larger city. The most obvious source of fear was Louisville, with a property tax rate two or three times that outside its corporate boundary. Because Kentucky law makes it more difficult to annex an incorporated municipality than an unincorporated land, many suburban residents found it advantageous to incorporate and set their own low tax rate rather than risk annexation. But Louisville was not the only "enemy." More than a dozen sixth-class cities are located in the vicinity of or are surrounded by the city of St. Matthews, and many suburbanites feared annexation by that community almost as much as they did annexation by Louisville.[40]

Possibly the principle motive for incorporation has been the need for tax-supported urban services. Although residents of suburban municipalities benefit from a variety of county and metropolitan agencies, such as social services and parks and recreation, many have found incorporation the cheapest and most efficient way to provide for street maintenance, street lights, police and fire protection, garbage collection, and other services. Some of these might have been obtained through the payment of dues to voluntary subdivision associations, but such organizations could not force recalcitrants to pay for services received. Moreover, municipal taxes, unlike association dues, are deductible from federal income taxes.[41]

Despite the efficacy with which the small municipalities have served the parochial interests of their creators, frequent objections to their proliferation have been voiced by individuals and organizations devoted to promoting an orderly pattern of growth and development in the Louisville area.

As early as 1947, a writer for The Courier-Journal complained that 15 "vest pocket towns" lay in the path of the city's growth, drawing a noose around Louisville. Although Louisville has not added any new territory since 1967, the writer's alarm proved to be premature. In spite of the increasing number of sixth-class cities, eastern Louisville experienced extensive physical growth during the two decades which followed World War II. The expansion of the city's legal boundaries which came with the outward movement of the population could not have happened without housing a considerable impact upon the population of eastern Louisville's older neighborhoods.[42]

Between 1940 and 1950 the population of eastern Louisville remained rather stable, reflecting limited movement during the housing shortages of the wartime and immediate postwar years. Seven of the 16 census tracts in the eastern part of the city registered losses in population, but in three of these, comprising parts of Crescent Hill, Clifton, and most of Deer Park, the loss was 20 persons or less. Somewhat heavier losses occured in Tyler Park and Douglass, but in both areas the deficit was less than 100. The heaviest declines came in the remainder of Clifton, Phoenix Hill, and Irish Hill, where the combined loss was less than 500 persons, and in Bonnycastle, which lost about 230 residents. Just as losses tended to be minimal where they occurred, so did population gains of more than 500 persons each.[43]

During the 1950s, a pattern of declining population became much more distinct as Highland, Clifton, Cherokee Triangle, and Deer Park all experienced losses of more than 500 persons, while Tyler Park and parts of Crescent Hill felt somewhat smaller declines. Bonnycastle, Braeview, Douglass, and Belknap recorded gains of fewer than 100 persons each, but Clifton Heights, Cherokee Gardens and Spring Station each gained in excess of 500 new residents as subdivisions were platted in each neighborhood.[44]

The pattern which developed during the 1950s generally continued during the following decade. By 1970 all but one of the older Highlands neighborhoods which touched Bardstown Road or Baxter Avenue between Broadway and the Watterson Expressway had lost more than 100 residents. Some of the older neighborhoods, such as Phoenix Hill, Highland, and Germantown, lost 600 or more residents. The only neighborhood which clearly gained was the Cherokee Triangle, which began to experience a resurgence during the 1960s. A substantial population increase was recorded in the census tract which includes the Gardiner Lane neighborhood, but the vast majority of that growth can be attributed to new development in the adjacent Hayfield-Dundee area, where nine subdivisions were developed during the decade. Along the Frankfort Avenue axis, Clifton continued to lose population. But for the first time, Crescent Hill also began to show a clearly discernable loss of residents throughout the neighborhood. Braeview, Cherokee Gardens and Spring Station continued to gain population, however, as previously undeveloped lots were sold and several new subdivisions were platted, particularly in Cherokee Gardens.[45]

The population losses in the pre-World War II neighborhoods of eastern Louisville were substantially, if not totally, offset by the development of several completely new residential neighborhoods after the war, particularly during the 1950s and 1960s. Until about 1945 Frankfort Avenue and Bardstown Road served as the primary axes of development in eastern Louisville. After World War II Frankfort Avenue was superceded in this respect by Shelbyville Road and Brownsboro Road. Bardstown Road continued to serve as a primary development artery, but Taylorsville Road began to play a similarly strong role. Likewise, as development intensified along these major arterial streets, the function of such collector streets as Brown's Lane, Breckenridge Lane, Hike's Lane, and Goldsmith Lane and Klondike Lane grew accordingly. But the key factor and the new line of demarcation for residential development in eastern Louisville was the Watterson Expressway. Of the 10 new neighborhoods which emerged after World War II, only four - Rock Creek, the Alta Vista Road section of Braeview Addition, Bowman Field and Hayfield-Dundee - are located inside the Watterson perimeter. The remaining six - Watterson City, Green Meadows, Bon Air, Klondike, Avondale, and Hikes Point - are situated outside the Watterson, where they form a band of development which extends from Newburgh Road on the west to I-64 on the east.

Although the circumstances of development varied from place to place, the neighborhoods which grew up along Louisville's eastern fringe after the war exhibited certain common characteristics. First of all, changes in home building technology such as mass production and standardization of building materials and rising costs of skilled labor and craftsmanship contributed directly to a high degree of uniformity in the appearance of modern residential structures. Most single family houses are built in the popular ranch, split-level, or historical revival styles, depending upon the taste of the builder and the economic market which a given subdivision was aimed. The numerous apartment complexes located along the major arterial and collector streets likewise display a high degree of similarity, with mansard-roofed apartments and historical revival fourplexes being particularly common.

Despite their basic uniformity, the subdivisions of recent vintage do betray some degree of variety in their residential architecture. This is achieved in four primary ways. The first is through variations from house to house in the placement of such elements as porches, stoops, gables, garages or carports, and doors on a given block. A second is to employ a variety of exterior building materials in the construction of houses which are otherwise quite similar in their interior structure. Not surprisingly, most recent homes are built of brick or brick veneer, but stone, wood, and synthetic sidings are frequent as well. During the 1940s and 1950s asbestos siding was widely used, but the 1960s and 1970s have seen its use virtually eliminated and replaced by aluminum siding. Another frequent means of providing variety is cosmetic ornamentation, added by the home owner himself. The built-in, hand-crafted ornamentation which is commonplace in older neighborhoods is virtually nonexistent in newer subdivisions. Finally, many developers and builders provided a degree of variety by giving homebuyers the opportunity to choose their home from among three or four basic models. In some subdivisions, the choice might be among a limited number of variations on one basic style, such as ranch or split-level, while in another the developer might provide for choices from among ranch, split-level, and historical revival styles. Conspicu-

ously absent from such subdivisions, however, is the home which was custom designed by a professional architect, a factor which is attributable to steady inflation in the costs of architectural services and the relatively limited financial rewards for residential design, compared with those which can accrue to the architect involved in large commercial, institutional, and industrial design commissions.

The subdivisions developed after World War II also exhibit the complete abandonment of the gridiron street pattern, which had characterized a substantial part of eastern Louisville's growth since the Civil War. As a consequence of the land use regulations adopted in 1932, a typical recent eastern Louisville subdivision may include winding streets, cul-de-sacs, oddly-angled intersections, and other irregular features. From an aesthetic and ecological perspective, these techniques simultaneously represent an effort to improve the appearance, design, and arrangement of residential developments and to demonstrate a growing respect for the natural contours of the land. They also had the practical effect of keeping heavy through traffic off of residential streets. Nevertheless, residential developers have all too frequently been unable to resist the temptation to overbuild on ecologically sensitive terrains such as the flood plains along Beargrass Creek or to strip a building site of all its vegetation and trees before installing streets and utilities and building homes.[46]

The final characteristic of recent residential development, dictated by the interaction of increasingly complex planning controls and building codes, rising land and construction cost, and the availability of long-term financing through governmental and private sources, is the extent to which the entire development process has become highly professionalized. Before the depression, professional real estate men such as William F. Randolph and Helm Bruce laid out carefully planned subdivisions, sold lots to individual home builders or speculators, and used deed restrictions to control the quality, value, and style of construction. But developers such as C.C. Hieatt, who also doubled as builders, were rare.

But during the late depression and mobilization years from 1938 through 1941, developers began to assume a much larger role in the subdivision process. Not only did they arrange for financing and site preparation, they gradually began to subcontract with or sell lots to professional builders who in turn built houses and arranged for their sale through real estate brokers. This tendency toward professionalization, though marked by numerous variations in form, accelerated as the entire land development process became more sophisticated during the postwar building boom. Thus, a developer might arrange for financing, hire a professional engineer to design the subdivision, supervise site preparation, and shepherd the development through approval by the Planning Commission, always with the legal advise of an attorney. Once the development had been approved, the developer might sell a block of lots to a builder--sometimes providing financial support as well--who usually entered into an agreement with a realtor to sell the completed homes. On the other hand, the developer might retain complete control of the development process by subcontracting one or more phases through his own auspices or through partnership with a realtor. Regardless of the variations, however, virtually all parties in the development process--developer, designer, builder, and seller--were professionals who eventually made the purchase of a home a "package deal" with lot, street, utilities, and completed house wrapped up into one price.[47]

One of the earliest and northernmost areas of postwar development was Rock Creek, located adjacent to St. Matthew's and bounded by Rock Creek Lane, Seneca Park, I-65, Cannon's Lane, and Beaucamp Road. Setting a pattern which would be repeated again and again during the postwar years, development in Rock Creek was carried out by professional rather than amateur developers. Five firms were responsible for the nine subdivisions which comprise the neighborhood. Moreover, four of these are wildcat subdivisions, marking Rock Creek as the only neighborhood in eastern Louisville where wildcatting was a significant phenomenon.

The first subdivision in the neighborhood came in 1949 when Martin L. Adams and Sons, Inc., a development firm headed by Joshua B. Adams, platted the first of two sections of Rock Creek Gardens. The subdivision is situated at the south end of Chamberry Drive, where it intersects with Cannon's Lane after the latter takes a 90 degree bend at its junction with Beaucamp Road. Six years later, Adams added the second section, which extended the development all the way to Rock Creek Lane. Two years after Adams platted the first section of Rock Creek Gardens, the Eline Realty Company, headed by Anthony J. Eline, platted the first section of a wildcat subdivision called Seneca Hills. Although it initially included the property along both sides of Circle Hill Road immediately east of Seneca Park, Section No. 1 was expanded in 1952 with the addition of a second wildcat subdivision in the form of a strip of land along the west side of Homestead Boulevard. Two years later the General Assembly outlawed wildcatting. This meant that when the Eline Development Company and Fred T. Hafendorfer's Highland Investment Company moved in 1955 to lay out the second section of Seneca Hills on Starlite Road and Samoa Way, they had to seek approval from the Planning Commission.[48]

In 1953, Martin L. Adams and Sons laid out its third wildcat subdivision when it began selling lots along Huntingdon Road between Rock Creek Lane and Cannons Lane. The following year, Al J. Schneider, the contractor who during the 1960s and 1970s would make his mark as a developer of hotels and bank buildings on Broadway and the downtown Riverfront, extended Huntingdon Road across Cannons Lane and began selling lots in a wildcat subdivision laid out around Chamberry Circle. In 1956 the Planning Commission approved J. Graham Brown's plat of Hollin Terrace, laid out on a section of the hotelman's farm on the west side of Beaucamp Road between Cannons Lane and the Middle Fork of Beargrass Creek. The last subdivision platted in Rock Creek was Cannonside, laid out on a small strip of undeveloped land between Huntingdon Road and Rock Creek Gardens by John R. Carpenter's Moorgate Development Company in 1958.[49]

As in nearby neighborhoods such as Spring Station and Cherokee Gardens, many of the homes in Rock Creek were built in one of the historical revival modes. Likewise, the neighborhood contains a considerable number of large ranch-style houses, which were particularly popular during the 1950s. Perhaps the most outstanding house in the neighborhood, however, is the large, aging Victorian frame house with Carpenter's Gothic ornamentation which is located on Rock Creek Lane and which serves as the club house of Rock Creek Stables.

A second area of growth after World War II was the perimeter of Bowman Field airport. Scattered development dates back to 1928, when Queenie Wathen Condon and Tess Wathen laid out the Airview Subdivision in the triangle formed by Dutchman's Lane and Taylorsville Road. Nine years later developer William F. Randolph platted Seneca Vista between Seneca Gardens and Bowman Field, immediately adjacent to the west side of the airport. For a few years Seneca Vista was a sixth-class city. In 1950 it annexed both sections of McCoy Manor Subdivision, which had been laid out along McCoy Way, between Trevilian Way and Taylorsville Road, by developer Bryan S. McCoy during 1949 and 1950. But Seneca Vista's residents voted the town out of existence in the referendum on the Mallon Plan, a scheme for government reorganization under which Louisville would have been enlarged to take in a large band of its suburban fringe. Louisville voters approved the plan overwhelmingly, but only the voters of Seneca Vista and one other incorporated suburban community approved it.[50]

During the middle and late 1950s, development was focused primarily on the strip between Dutchman's Lane and the Watterson Expressway. In 1953 the Eline Development Company platted Big Springs Garden immediately south of Big Springs Country Club. This particular subdivision is something of an anomaly, for while it is located entirely within the Louisville city limits, it is neither part of the city nor an incorporated muncipality. Having never been annexed, Big Springs Garden remains legally an unincorporated part of Jefferson County. However, its neighbor to the east, Big Spring Village, is part of the city of Louisville. This subdivision was platted in 1957 by Bon Air Estates, Inc., a development firm headed by W.E. Cox. The same year, Bryan S. McCoy's firm began developing the first section of Kiltmoor Gardens, laid out along Abigail Drive, west of the Jewish Community Center. Four years later, McCoy added a second section, located at the interchange of Taylorsville Road and the Watterson Expressway between Dutchman's Lane and the Jewish Community Center.[51]

The remaining subdivision laid out in the vicinity of Bowman Field during the 1950s was the first section of Park Hills, platted at the airport's northern tip between Seneca Park and Cannons Lane by Al J. Schneider in 1955. Seven years later Fielding H. Dickey's Anfold Corporation received approval for a second section of Park Hills along Five Oaks Place between Park Hills Drive and the airport boundary.[52]

As it had been for more than half a century, Cherokee Park remained a strong magnet for development into the 1960s. Indeed, some of the finest homes built in Louisville since the end of World War II were erected in three subdivisions developed in the Braeview Addition along the west side of Alta Vista Road between I-64 and Red Fox Road. The first such subdivision was Alta Circle, recorded in 1964 by Pruitt Built Homes, Inc., a firm headed by builder developer Lee D. Pruitt. The same developer laid out a second section of Alta Circle along Doric Court in 1968. Three years earlier, Warwick Enterprises. Inc., headed by president Robert Browne, platted Rostrevor Subdivision on the grounds surrounding the late James Ross Todd's Italian villa mansion.[53] Except for a handful of structures designed in contemporary styles, the new homes in Alta Circle and Rostrevor Subdivisions were executed in some form of historical revival mode.

During the early 1960, the Braeview area became the home of one of the city's distinguished educational institutions - the Louisville Presbyterian Theological Seminary. The seminary trustees had decided as early as 1954 to relocate, after learning that the North-South Expressway would encroach upon the downtown campus at First and Broadway. The first plan was to move the old English Gothic structure brick-by-brick to a 32-acre site on Cannons Lane overlooking Seneca Park. The tract had been purchased from William S. Speed. By early 1959 it had become apparent that this plan was neither practical nor economically feasible. So the trustees decided to sell the downtown campus and to build a new one, probably employing contemporary architecture, on the Seneca Park site. Later the same year, however, the State Highway Department announced that Interstate 64 would be routed through Seneca and Cherokee parks. The general route cut through the middle of the proposed seminary site. Again, the trustees were faced with the problem of finding a new site. In December the seminary paid $330,000 for 38 acres of land on Alta Vista Road bordering Cherokee Park. A twenty-one acre section of the "Norton Tract" was purchased from the Southern Baptist Theological Seminary and the remaining 17 acres from Al J. Schneider, who had planned to develop a subdivision on the land. Unfortunately, the divinity school had to endure a third confrontation with the highway department before it could begin construction at its Alta Vista Road site.

Commissioned to design the seminary buildings was the Louisville architectural firm of Hartstern, Louis and Henry, while Miller, Wihry and Lantz, a local landscape architecture firm, was hired to plan the site. The initial result of this collaboration was a grouping of nine buildings of Indiana limestone and contemporary architecture placed in a sylvan atmosphere, and composed of, in the words of journalist Grady Clay, "vast expanses of lawns, wooded hillsides, and the priceless boon of mature trees, many of them specimens planted half a century ago on a majestic estate and carefully allowed for in the new campus". The focal point of the campus, whose construction began in 1961, is an irregular hilltop quadrangle near the rear of the campus, composed of Caldwell Chapel, the library, and the administration and student services buildings. A nearby hill was flanked initially by three dormitories and provided space for eight additional student housing structures. The move to the new facilities began in April 1963, and the new campus was dedicated the following October.[54]

The fourth postwar neighborhood to develop inside the Watterson Expressway was Hayfield-Dundee, bounded by Dundee Road, Newburg Road, the expressway, and the Gardiner Lane neighborhood. Perhaps the most notable characteristic of the development process in Hayfield-Dundee is the extent to which a substantial number of the subdivisions were developed by a relatively small number of developers: only seven firms were responsible for the development of 13 subdivisions, and two firms which had common ownership and management developed six of these tracts. The first subdivision platted in the area was Gardiner Lane Park, a small tract laid out on the southeast side of Gardiner Lane between the South Fork of Beargrass Creek and Lake View Drive by Louis A. Arru's Gerald Realty Company in 1944. Twelve years later, Carl Besendorf platted Woodside Park along Verne Court, the first of several short cul-de-sacs which were laid out along the northwest side of Gardiner Lane near Newburg Road and Beargrass Creek. Two more such tracts, Williamsburg Village in 1964 and Larkwood in 1965, were laid out by the Hickory Lane Company, Inc., and William J. Steiner and Sons, Inc., respectively.[55]

But these small tracts are insignificant compared to the larger multi-section subdivisions which began to consume several of the area's larger farms during the 1950s and 1960s. In 1957 the Planning Commission approved the application of L.J. Harris's Sierra Land Company to subdivide the first section of Dundee Estates. Over the next three years, scores of houses valued from $30,000 and up were built along such winding streets as Tartan Way, Lamont Road, Fraser Drive, and Fordye Lane. A second section of Dundee Estates was added in 1960, with Dunbarton Wynde and Sutherland Drive serving as the primary residantial avenues. Development along Newburg Road took place in the Clarewood Subdivision, between Tartan Way and Dunbarton Wynde, which was platted in 1959 by Lawrence W. Speckman. Three years later D. Irving Long, president of a development firm called the Fourth Avenue Amusement Company and later chairman of the city'e Urban Renewal and Community Development Agency, staked out all three sections of Dell Lane Subdivision on a parcel of land in the northwest quadrant formed by the intersection of Tremont Drive and Gardiner Lane.[56]

Development of the neighborhood's central core began during the second half of the 1960s after Long and his associate, Louis Arru, purchased 61 acres of of the Hayfield Farm from contractor H.G. Whittenberg, Sr. Long and Arru paid $45D,0D0 for the historic mansion and a large parcel of rolling pasture land which previously had belonged to Colonel Robert Tyler and to Dr. Charles Wilkens Short, one of the founding professors of the University of Louisville School of Medicine. In 1966 the Planning Commission approved the application of Arru's Gerald Realty Corporation to develop two sections of Hayfield, which occupied an area roughly between Sutherland Drive in Dundee Estates and Falmouth Drive in Dell Lane. The entire development, laid out in winding lanes and culde-sacs, has about 145 building lots on which stand today a variety of historical revival style homes.[57]

One factor which attracted many families to the Hayfield-Dundee area was Atherton High School, whose modern campus on the old Clagett estate below Dundee Road between Clagett Drive and Westlake Avenue, had been opened in the early 1960s. For many of these families, Atherton eventually became the source of a major political controversy. Although operated by the former Louisville Board of Education, Atherton was physically located within the legal jurisdiction the Jefferson County Board of Education. This unique situation existed because of a 1948 court decision which froze the boundaries of the Louisville school district, preventing it from absorbing new territory which was annexed by the city during the 1950s and 1960s. Under an agreement between the two boards of education, however, parents in Hayfield-Dundee could request that their teenagers be allowed to attend Atherton, which was within walking distance of their homes. The county school board paid the tuition of such children, but the agreement was subject to revocation if the space occupied by the county students was ever needed to accommodate rising enrollment from city school districts.[58]

In 1969 enrollment at Atherton, as well as nearby Highland Junior High School and Belknap Elementary School, reached the point that revocation of the attendance agreement seemed imminent. During the summer of that year, residents of the Hayfield-Dundee and Gardiner lane areas mounted a campaign to have an area bounded roughly by Lowell Avenue, Bardstown Road, the Watterson Expressway, and Newburg Road annexed to the Louisville school district. More than 16 percent of the area's nearly 3,400 registered voters signed annexation petitions. But a transfer of jurisdiction involved complex legal and political ramifications

which could be resolved only through state legislation. In the winter of 1970 the focus of attention shifted to the General Assembly, where residents waged one of the most unusual and most intensive lobbying efforts that Frankfort had ever witnessed. Spearheaded by Mrs. Gerta Bendl, a corps of housewives popularly known as the "Dames of Dundee" tempted the legislators day-after-day with brownies, cookies, and various other baked goods.

The Assembly eventually enacted legislation which provided for annexation through referendum and which empowered the Jefferson Circuit Court to work out the logistics if the affected school boards could not negotiate an acceptable settlement within 90 days after passage of the referendum.[59]

In July 1970 the Dames of Dundee collected enough signatures to have the referendum placed on the November ballot. Although the residents approved the transfer by a handsome majority, they were dealt a major setback in June 1971, when the Kentucky Court of Appeals declared the annexation law unconstitutional. In the meantime, the city school system had ceased accepting county transfer students at Atherton, Highland, and Belknap, making the issue even more critical. Undaunted, the supporters of annexation returned to the General Assembly in 1972 in an effort to gain passage of a bill that would meet the objections of the Court of Appeals. This time the Dames of Dundee were led by new Third Ward Alderman Gerta Bendl, whose prominence in the movement had propelled her into a political career and a smashing victory in the general election of November 1971. Again, the legislature passed an annexation bill. This time, the legislation allowed school district transfers if 75 percent of either an area's registered voters or property owners signed a petition for the change. During the summer of 1973 the school boards came to accord which allowed the transfer of students.[60]

The entire issue became moot however, when two years later, the U.S. Sixth Circuit Court of Appeals in Cincinnati ordered the merger of the City and County school organizations as a prelude to the institution of a system-wide busing program for racial desegregation.

If comfortable homes and proximity to Atherton High School represented the attractive side of life for residents in Hayfield-Dundee, then the destructive potential of the South Fork of Beargrass Creek represented the negative side. Most of the time the shallow stream meanders lazily, attracting little, if any attention. During heavy rainstorms, however, it rises quickly as it collects the runoff from its watershed; limited flooding is frequent, especially in the winter and summer months. Historically, flooding along the South Fork posed only a minor threat to urbanized areas, except during the 1937 flood, when it contributed to general flooding downtown. Until recently, structures near the stream were elevated enough to be out of danger of flooding. During the 1950s and early 1960s, however, considerable development occurred in and near the flood plain between Newburg Road and Bashford Manor Lane.[61]

March 9, Beargrass Creek experienced a wave of flash flooding which sent the Trevilian Way gauge to 14.17 feet. This time the water overflowed into areas which never before had been flooded. One such area was Dundee Estates, where flooding waters swept beyond the intersection of Dunbarton Wynde and Sutherland Drive. Once the rain stopped the waters receded quickly. But as a later report by the U. S. Army Corps of Engineers noted, the flood "had clearly shown new danger areas" and had "proved how fast suburban watersheds are being urbanized - with hundreds of acres of streets, drives, sidewalks and roofs that increase the speed of rainfall runoffs." Damage along the South Fork between Eastern Parkway and Hunsinger Lane totalled $879,500 with more than $860,000 in damage to residential property. Because of the damage, the Corps of Engineers moved part of the South Fork Channel upstream between Basbford Manor Lane and Bardstown Road in 1966.[62]

While the new subdivisions in such areas as Rock Creek, Braeview, Bowman Field, and Hayfield-Dundee indicate a fair amount of urban growth inside the Watterson Expressway after World War II, the heaviest development in eastern Louisville occurred outside the Watterson, between Newburg Road and Interstate 64. Statistically, the territory encompassed by the Watterson, Newburg Road, I-64, and the city limits today includes 103 subdivisions. Ninety-six of these have been platted since the end of the war. As in Hayfield-Dundee, development in most of the neighborhoods in this area was the responsibility of a small number of professionals who laid out scores of lots in large multi-unit subdivisions.[63]

The westernmost of these recent neighborhoods is Watterson City. Bounded by Watterson Expressway, Newburg Road, Bashford Manor Lane, and Bardstown Road, the neighborhood takes its name from a large commercial complex which was built at the interchange of the Watterson and Newburg Road after most residential development had ended. The development which occurred during the 1950s consisted almost entirely of single-family subdivisions on which were built small brick and stone ranch houses and other modern vernacular dwellings. The earliest residential development in Watterson City occurred along its southern perimeter, Bashford Manor Lane. In 1952 developer Harold W. Miller laid out the first section of Bashford Manor Gardens around an oval loop formed by Tyrone Drive and Wexford Drive. Three years later he added a second section immediately to the east along Kerry Dr. While Miller was developing the east end of Bashford Manor Lane, the Manorview Subdivision to the north and west was being developed by Henry A. Hayden's Manorview Corporation and Louis A. Arru's Gerald Realty Corporation. Hayden platted the first section, along Hugh Drive, in 1952; Arru added another piece the following year along Elba Drive, and Hayden platted two more parts along Gladden and Capri drives in 1955 and 1956 respectively. Two years after Miller and Hayden initiated their tracts, Joshua B. Adams, of Martin L. Adams and Sons, Inc., platted one of the area's largest single subdivisions, Village Green, a rectangular development just off Bardstown Road and bounded by Goldsmith Lane, Summer Road, the back property line of Belmont Avenue, and an imaginary line joining Kerry Dr. and Dukehart Drive. During the second half of the 1950s, development in Watterson City was concentrated along Meadow Creek Drive and Perma Ovid, where Fielding H. Dickey laid out two sections of Meadow Creek Subdivision on land owned by B.E. Brubaker's Woodbine Enterprises, Inc.

Additional single-family residential development occurred during the early 1960s, notably Vicksburg Heights Subdivision and Vicksburg Manor Subdivision, laid out in the northeast quadrant formed by the intersection of Newburg Road and Bashford Manor Lane by Arru's Gerald Realty Company in 1965 and 1964, respectively, but most of the residential units built in Watterson City during the 1960s were in garden apartment complexes developed along Goldsmith Lane and Peabody Lane. The major force behind the construction of these apartment complexes was the development of the high rise commercial, office and residential complex called Watterson City.[64]

The developer of Watterson City was Kemmons Wilson, chairman of the board of Holiday Inns of America. "When Mr. Wilson flew over the area around 1963, you couldn't have sold a waffle for miles around," recalled Watterson City manager H.P. Stainback a dozen years later. "From the plane he looked at the site's relationship to downtown, the expressways and the airport, and realized its potential." A short time later, Wilson purchased 55 acres of a former potato farm. Over the next two years Wilson's development firm, Watterson City, Inc., divided the property into three subdivisions. In 1965 he began construction of a 10 story office tower. During the next few years, two more office towers and a high rise apartment were added between Watterson Expressway and Bishop Lane. As Watterson City grew, Wilson sold parcels of his land to other developers who erected hotels, restaurants, condominiums, and garden apartments. By the early 1970s, Watterson City was Jefferson County's largest suburban commercial center.[65]

Watterson City was also the site of a major new institutional development. In November 1959, the trustees of the Louisville Protestant Orphans Home paid the Kentucky Highway Department $16,500 for a 34-acre site at the intersection of Bardstown Road and Watterson Expressway. Earlier in the year the trustees had sold the existing site on Bardstown Road in Tyler Park to the firm which subsequently built Mid-City Mall. In July 1960, work began on the institution's new campus, designed by the Louisville architect W.T. Brau and A. Bailey Ryan. Construction moved quickly, and in late November, 26 youngsters moved into their new quarters.

After several months of operation, the trustees decided that a new name should go with the new location. Thus, in July 1961 the trustees approved a change in name to Brooklawn Childrens Home.[66]

Immediately east of Watterson City is Green Meadows, a group of subdivisions located between Goldsmith Lane and Hikes Lane and, for the purpose of this study, two small tracts along Dowling Way and Landon Drive between Hikes Lane and Six Mile Lane near Buechel. Green Meadows proper is composed of seven subdivisions, six of which are the responsibility of Joshua B. Adams. The seventh was developed by Fern Creek Heights, Inc., headed by John E. Kennedy. All seven sections of Green Meadows were recorded between 1956 and 1958. Built almost simultaneously with Green Meadows were two subdivision laid along Bardstown Road between Bray Avenue and the South Fork of Beargrass Creek. The larger of the two, which lies between Bray and Liverpool Lane, is Matthews Manor, platted in 1956 by Charles M. Matthews, president of Matthews Homes, Inc. Three years later, Cesare Bertoli platted Kathbert Subdivision in the small tract between Liverpool Lane and the South Fork. The first of the two sub-

divisions south of Hikes Lane is the second section of Chevy Chase, platted by Ben Kaplan in 1960. The second, which consists of a loop formed by Landon Drive and Bradford Drive, was initiated by Joseph D. Spalding in 1960.[67] However, because of the heavy traffic along Hikes Lane, these two subdivisions apparently have little organic relationship to Green Meadows and are discussed here only because the erratic path of the city's corporated boundary provides no other alternative.

One of the major centers of development during the postwar years was Bon Air, a large, irregularly shaped neighborhood which is bounded by the Watterson Expressway on the northwest, Taylorsville Road on the north, the eastern property line behind Dogwood Way on the east, Hikes Lane, Goldsmith Lane from Hikes Point to Bardstown Road, and Bardstown Road to the Watterson. Including a couple of fringe developments which lie primarily in the unincorporated part of Jefferson County along the south side of Goldsmith Lane between Bardstown Road and Bon Air Avenue, the neighborhood is composed of just over two dozen subdivisions. These 26 subdivisions were developed by 17 firms, the lowest ratio of subdivisions to developers of any large postwar neighborhood in southeastern Louisville. Nevertheless, nearly all of the subdivisions in Bon Air were developed by experienced professionals, not by amateurs.

The earliest subdivision in Bon Air was Wellingmoor, laid out in 1939 by Ralph Drake and bounded today by the Watterson, Bon Air Avenue, Goldsmith Lane, and Stratford Avenue. Eleven years later the Jefferson Realty Company, whose members included Jack W. Riley, Jr., William M. Riley, Avery M. Riley, Betty G. Riley, and Jack W. Riley, Sr., platted Brookfield Manor, a small tract immediately west of Wellingmoor.[68]

Wellingmoor and Brookfield are the only two Bon Air subdivisions located west of Bon Air Avenue. The remainder of the activity took place east of Bon Air Avenue and Goldsmith Lane. In 1948 Edgar W. Archer's Lupino Realty Company laid out Section No. 3 of Seneca Village, an extension of an earlier development in the Hawthorne neighborhood south of Gardiner Lane between Bon Air and Doreen Way. Shortly thereafter, the Kentucky Highway Department purchased the strip south of Gardiner Lane as right-of-way for Watterson Expressway, leaving only the eastern extension along Doreen Way and Commander Drive between the Watterson and Rio Rita Avenue. The eastern extension was revised and replatted in 1954 by Chipley Realty Company, a partnership including Paul Kapelow, Lewis I. Leader, and A.N. Kornman.[69]

Although the Watterson obviously disrupted Archer's intentions of the completion of Seneca Village, the expressway was the major catalyst for development in Bon Air following completion of the stretch from Bardstown Road to Breckinridge Lane in late 1949. Between 1952 and 1957 a dozen subdivisions, excluding revisions, were platted in the area east of Bon Air Avenue and Goldsmith Lane. The first of these was Rosedale Subdivision, laid out in 1952 at the interchange of the Watterson and Taylorsville between Radiance Road and Hendon Road by the Grandview Realty Corporation, a firm headed by realtor C. Robert Peter, Sr. The following year, developers L. Leroy Highbaugh, Sr., and L. Leroy Highbaugh, Jr., platted Wedgewood Manor Subdivision on the tract between Seneca Village, Section No. 3 and Peter's Rosedale Subdivision.[70]

One of the neighborhood's more ambitious projects was initiated in 1953, when Mr. and Mrs. W.E. Cox sold their 55-acre Tennessee walking-horse and stock farm at the Watterson Expressway and Bon Air Avenue to Bon Air Estates, Inc., a development firm headed by W.E. Cox and subdivider Roy H. Foeman. The purchase

price was $180,000, or nearly $3,275 per acre. The same year, Cox and Foeman recorded that tract as Bon Air Estates. Two years later, Kathleen E. Whittenberg, the widow of contractor H.G. Whittenberg, Sr., acting as trustee for their sons, added two more sections of Bon Air Estates. The first occupies a large tract immediately below the eastern half of Cox's subdivision between Goldsmith Lane and the western property line of Radiance Road, bounded on the south by the property line between Ramona Avenue and Talisman Road. The second included the eastern half of the tract immediately to the south from the Ramona - Talisman boundary to Beargrass Creek. But Mrs. Whittenberg was not the only one to take advantage of the momentum established by Cox. In 1954, Alexander Bush laid out the Monterey Villa, a small subdivision along the western end of Rio Rita Avenue between Goldsmith Lane and Boaries Avenue. The same year, developer Emery Kinkead platted Dell Brook Subdivision on the western half of Dell Brook between Goldsmith Lane and the Whitenberg property north of Beargrass Creek. In 1956, however, it was taken over by Cox and replatted as Section No. 5 of Bon Air Estates. In the meantime, Irwin Fred Harrod, president of H & C Developers, filled in the remaining area between Ramona Avenue and Rio Rita when he platted Goldsmith Manor, a small tract along the eastern end of Meadow Drive, in 1955.[71]

A second major development project in Bon Air, and certainly the neighborhood's most controversial, was Highgate Springs. In mid-June, 1953, Crawford Homes, Inc., a Kentucky-based subsidiary of a Louisiana development firm, called the Crawford Corporation, purchased the 230-acre Hendon farm, located south of Taylorsville Road and bounded roughly by Radiance Road, Hikes Lane, and Stanton Blvd. The company's announced intention was to develop a 1,200 home subdivision. The source of the controversy which surrounded the purchase was the Crawford firm's reputation for building modest, inexpensive homes out of materials present at and shipped from its Louisiana mills. Residents of surrounding subdivisions complained that Crawford Homes would "devalue the neighborhood", and builders feared that Crawford would "drain the town, and then leave" after absorbing the "cream" of the local market; and the building supply business feared the loss of sales since the outside firm would supply its own materials. As an indicator of feelings in the local homebuilding industry, one builder-realtor told Courier-Journal real estate editor Grady Clay, "I don't think there's a local builder who is not interested in seeing Crawford kept out of Louisville, nor any building supply house that doesn't want him kept out."[72]

In an effort to allay local fears, Crawford Homes, Inc. agreed to a deed restriction which limited homes in the vicinity of Taylorsville Road and Hendon Lane to a minimun value of $13,500. While that restriction applied to only nine lots, a company executive announced that home prices in Highgate Springs would range from $12,500 to $25,000 and that most would fall into the $14,500 to $16,500 bracket. The offical also stated the firms's intention of having 30 homes completed by October 1953 and the remaining 11,970 homes completed one year later . But plans did not move so quickly as the company had hoped. The first two sections of the subdivision were not recorded until early 1955, after the land had been sold to Breslin Construction Company, headed by developer Frank H. Breslin. Breslin's agent for the sale of lots was realtor Bryan S. McCoy, who sold building sites to a dozen different builders. But in late May, 100 lots remained unsold. Another portion of the undeveloped land between Dogwood Way and Stanton Avenue was purchased by Louisville developer Edgar W. Archer,

who platted it as Hikes Point Subdivision in 1955. The remaining undeveloped parcel of land, located along Noe Way between Radiance Road and Hikes Lane, was platted in 1960 as Highgate Manor by the Sovereign Company, Inc., a development firm owned by R.W. Marshall.[73]

As more and more subdivisions were platted in Bon Air during the first half of the 1950s, subdividers began to cast a longing eye at the farmland south of Hikes Lane, in what became known as the Klondike neighborhood. The Hikes Lane barrier was broken in early 1955 when developers Edward Butler and Chester Cooper purchased a 45-acre tract composed of the Fred Graf farm and part of the Hikes family's Midlane farm. The entire site included most of the area today encompassed by the city limits on the west, Hikes Lane on the north, and Klondike Lane on the east and south. A short time later, R. W. Marshall bought 20 acres between Klondike Lane and Six Mile Lane from Mrs. Florence G. Jackman. Although expanded by later acquisitions, these two tracts formed the core of the huge Midlane Park Subdivision, one of the largest single family residential development projects in the city's history. Initially a joint project of Butler and Cooper's Chester Villa Development Company and Marshall's Deerfield Company, Midlane park eventually entailed 15 sections in 13 separate recorded plats, developed over a 15-year period between 1955 and 1970. During the last eight years, the project also involved the participation of The Langan Corporation, headed by Richard I. Beckley. By the time of its completion, Midlane Park extended from Hikes Lane to Six Mile Lane west of Klondike Lane and Graf Drive and paralleled Hikes from Greenview Road on the west to Breckinridge Lane along the South Fork of Beargrass Creek.[74]

Midlane Park also includes two intrusions by other developers. The earliest was Klondike Manor, laid out in 1958 by Peter's Grandview Realty Company along the southern half of Jupiter Road in the quadrant formed by the 90 degree angle of Klondike Lane. The second came six years later when the Reviera Park Syndicate, Inc., a company headed by Roy F. McMahan, Sr., platted Klondike Park along Briarbridge Lane and Brinkley Way immediately south of Hikes Lane.[75]

Laying aside Klondike Manor and Klondike Park, Midlane Park accounts for 12 of the 26 recorded subdivision plats which comprise the Klondike neighborhood. But it is only the most dramatic example of dominance of large scale, multi-section development in the area. The remaining subdivision plats recorded in Klondike constituted a total of four separate developments, all of which involved two or more sections.

Two of these projects followed immediately upon the heels of Midlane Park. In 1956, Peter's Grandview Realty Company platted the first section of Roselawn Subdivision along Vogue Avenue and Roselawn Boulevard just east of Klondike Lane. Smaller additions in 1956 and 1958 by the Peter Construction and Supply Company, also owned by C. Robert Peter, extended Roselawn almost to Breckinridge Lane. Also in 1956, Frank Breslin platted the first section of Klondike Acres along Dale Ann Drive and Klonway Drive between Klondike Lane and Breckinridge. He added a second section between the western property line behind Graf Drive and the eastern property line behind Manner Dale Drive along Le Man Drive and Nepperhan the same year. Klondike Acres was completed two years later with the addition of a third section immediately south of Section No. 2 along Don Dee Road and Kaye Lawn Drive. The remaining area within the present city boundaries south of Klonway Drive between Manner Dale Drive and Breckinridge Lane was developed during 1959 and 1960 as Gatewood Subdivision, a project which involved four corporations - J. & H. Homes, Inc.; Woodgate Homes, Inc.; Gatewood Builders Supply, Inc.; and Layside Homes, Inc. - all owned and operated by Joseph F. Sprauer.[76]

The most recent project in the Klondike area is Midlane Terrace, a development in three sections located between Six Mile Lane and the Southern Railway tracks east of Crawford Avenue near Buechel. Midlane Terrace was initated in 1963 by developer Robert J. Thieneman. A second section was added in 1965. The final section, platted 1972, was the last subdivision laid out in the Klondike neighborhood.[77]

If any one of the eastern Louisville neighborhoods located outside the Watterson Expressway could be considered unique, it would be Avondale. Situated in the eastern half of the triangle formed by the expressway, Taylorsville Road, and Breckinridge Lane, Avondale was initated in 1914 by the Crown Real Estate Company. During the 1920s, however, it was taken over by C.C. Hieatt's Consolidated Realty Company. Taking advantage of the triangular-shaped subdivision's then considerable distance from the city limits, Hieatt's advertisements pictured it as a suburban retreat with city amenities. As one advertisement read:

> Avondale was designed for those desiring home sites larger than the city lot. In Avondale the lots are one-half to three acres, all of which have made streets, sidewalks, and electric lights. It would be hard to find a more delightful site for a home if you searched the whole State of Kentucky. Avondale is dotted over with mammoth forest trees, elms, beech, maple and pine. Many beautiful homes have been built and many others are building, and in prospect. As a suburban neighborhood it is considered in a class all its own.[78]

Although Avondale remained the neighborhood's largest subdivision, three smaller additions were made after World War II, between the Watterson and Essex Road, Avondale's western leg. In 1948, ten property owners platted an addition to Avondale along Arden Road. Four years later, H.C. Mann and J.J. Allgeier platted Avon Court on the northwest side of the Addition to Avondale. Finally, in 1960, developer Bryan S. McCoy, president of McCoy Builders, Inc., platted Thames Subdivision at the southeastern end of Essex Road at Thames Avenue and Henrietta Avenue.[79] As in most of the other eastern Louisville subdivisions developed during the first three decades of the twentieth century, the majority of the houses in Avondale were executed in some form of historical revival or bungaloid style. The postwar homes are mostly ranch and other contemporary styles.

Located between Avondale and Breckinridge Lane is the sixth-class city of Meadowview Estates. Formerly part of the V.V. Cooke estate it was platted in 1947 as Meadowview Estates subdivision. But in December 1952, 56 property owners petitioned Jefferson Circuit Court to give the subdivision municipal status. According to their attorney, Raymond L. Sales, the incorporators wanted safeguards against construction of cheaper homes in the fringe area. The petitioners asked the court to establish the municipality within 22 days after receipt of their request. But the decision was delayed for more than a year because of legal questions and it was not until 1954 that the court granted the petition.[80]

The last postwar neighborhood to be examined in this study is Hikes Point. This area derives its name from the triangular complex of street intersections where Taylorsville Road, Breckinridge Lane, Hikes Lane, Hunsinger Lane, Richland Avenue, and Lowe Road come together to form a complex, auto-oriented retail commerical district. Highly irregular in its configuration, the Hikes point neighborhood is made up of two parts. The first includes the triangular area south of Taylorsville Road, bounded by Dogwood Way and the city limits and the territory on either side of Hunsinger Lane to the city limits. The other part comprises the subdivision north of Taylorsville Road, bounded by Breckinridge Lane, the Watterson Expressway to I-64, and the city limits from I-64 back to Taylorsville. In addition, the neighborhood is bordered on the east by the municipalities of St. Regis Park, Lincolnshire, Cambridge Village and Houston Acres.

Although most of Hikes Point was developed after World War II, the earliest subdivision dates to 1912, when Henry S. Gering laid out Gering's Subdivision in the southeastern wedge formed by the intersection of Taylorsville Road and Hunsinger Lane. A decade later, the Wheeler Auction Corporation, Inc., agent for owner Charles W. Hibbitt, platted Melbourne Heights in the space encompassed by Taylorsville Road, Breckinridge Lane, Hikes Lane, and Stanton Drive. Apparently not all lots were sold immediately, for in 1927 about 15 lots of Melbourne Heights bounded by Rosemont Avenue, Melbourne Avenue, Midlane,[81] and Stanton Drive were resubdivided by the Wheeler Auction Company as the Zeitz Brothers Subdivision.

As in nearby neighborhoods outside the Watterson Expressway, postwar development in Hikes Point was the work of a small group of professional developers. One of the earliest was Roy F. McMahan, president of the Louisville Tool and Die Conpany. Described by journalist Grady Clay as the "sparkplug" of development in Hikes Point, McMahan entered the area in 1946, buying the Eberle farm which was located on the north side of Taylorsville east of Breckinridge Lane. Two years later, the Louisville and Jefferson County Planning Commission approved his application to rezone for commercial use some eight acres that fronted on the north side of Taylorsville Road between Richland Avenue and Breckinridge Lane. In 1950, McMahan platted the present city of Lincolnshire and Yorkshire Subdivision, the latter situated on part of the Eberle farm along Yorkshire Boulevard and Richland Avenue between Hillsbrook Drive and Taylorsville Road. Later the same year, he sold Yorkshire to Yorkshire Homes, Inc., headed by Louisville builder L.D. Paschal. Paschal paid approximately $125,000 for the property, on which he planned to build 114 brick veneer homes, with an estimated sale price of $12,000 each. In 1954 McMahan platted Sunset Terrace on the northern two thirds of the remaining tract between Breckinridge Lane and Yorkshire Subdivision along Esther Avenue.[82]

The largest single development project in Hikes Point north of Taylorsville Road was Brookhaven Subdivision, developed in seven sections by realtors L. Leroy Highbaugh, Sr., and L. Leroy Highbaugh, Jr., between 1953 and 1960. Brookhaven is located on a site of approximately 310 acres, which was formerly the Monohan family farm. The entire subdivision is bounded roughly by Watterson Expressway, Breckinridge Lane, Hillsbrook Drive, Richland Avenue, Lowe Road, and the city limits. The Highbaughs began in the early 1950s buying land from brothers Edward, James, and Thomas Monohan. The land acquistion process ended in August 1953 with purchase of a 130-acre tract along Browns Lane. Plans for the $20.6 million development scheme included 1,200 homes, a shopping center,

and sites for a church and school. The vast majority of the homes in Brookhaven Subdivision are of historical revival, ranch, split-level, and other contemporary, detached, single-family styles. However, the subdivision also included one apartment subdivision - Bowman Manor Apartments - platted by Jesse C. Bollinger at the interchange of the Watterson Expressway and I-64 in 1963 as a revision of a part of the fifth section of Brookhaven.[83]

While the Highbaughs continued to develop Brookhaven, other developers began to concentrate on the southside of Taylorsville Road. In June, 1954, the Whittenberg Construction Company, headed by H.G. Whittenberg, Sr., purchased a 27-acre tract located just east of Highgate Springs opposite the entrance to Avondale. The seller was builder-developer Malcolm Coco, who had purchased the property earlier in the year from Mrs. Katherine Vogt. The sale price was in excess of $90,000. The tract already had been recorded as Maywood Subdivision, with lots platted for approximately 110 houses. Whittenberg retained the name Maywood, but resubdivided the tract to accommodate a smaller number of somewhat larger three-bedroom homes. Because no zoning change was necessary, Whittenberg was able to begin construction immediately, and by May, 1955, most of the houses had been completed. [84]

While the finishing touches were being added to Whittenberg's Maywood Subdivision, two more significant projects were instituted nearby. Immediately below and adjoining Maywood, Edgar W. Archer platted his 270-lot Hikes Point Subdivision on the 70-acre section of the Hendon Farm which he had purchased from Crawford Homes, Inc., developer of adjacent Highgate Springs. About the same time Roy McMahan paid $143,000 for the 27-acre Phil Graf farm and the neighboring 17-acre Charles Drake farm east of Hunsinger. These tracts subsequently were platted as McMahan Village. Development in the Hikes Point area tapered off after 1955, but scattered growth did occur during the ensuing years. In 1960, McMahan platted Hill Creek Park on the southwest side of Hunsinger Lane between Breckinridge Lane and Beargrass Creek. Four years later, Joseph D. Spalding laid out Mylanta Estates between Maywood and Melbourne Heights along Mylanta Court and Diesel Way.[85]

The flurry of subdivision development in eastern Louisville between 1945 and 1970 was accompanied by a wave of annexation. Between 1948 and 1967, the city of Louisville annexed 84 parcels of land in the area east of the south fork and Newburg Road. About a dozen of these were small tracts which were annexed primarily to bring the Watterson Expressway into the city in order to eliminate jurisdictional confusion over traffic control on that highway. But the vast majority of annexations involved land which already had been subdivided or which was scheduled to be subdivided. The decade of greatest expansion was the 1950s, when the city annexed 57 pieces of territory. An additional 24 tracts were added during the 1960s, the last coming in 1967, with the annexation of a strip along Hill Creek Road, part of Roy F. McMahan's Hill Creek Park subdivision west of Hunsinger Lane.[86]

In most instances, annexation occurred with little or no public opposition. The reason for this is quite simple: annexation was most frequently initiated by developers of new subdivisions as a means of providing basic municipal services. Since few subdivisions had many homes at the time they were annexed, there were few people to remonstrate against annexation. It was frequently a different story, however, when the city tried to annex areas which already had been developed for some time, even if territory targeted for annexation was unincorporated.[87]

It took a series of protracted court battles which lasted from mid-1946 until mid-1950 for the city to annex a large section of territory which stretched from Newburg Road between Trevilian Way and Gardiner Lane on the west almost to Beals Branch Road on the east. Included in the new addition were parts of the Belknap, Hayfield-Dundee, Gardiner Lane, and Hawthorne neighborhoods, as well as Bowman Field and Seneca Park. During the same period, court action also was required to annex Green Tree Manor and the Masonic Widows and Orphans Home on the north side of Frankfort Avenue.[88]

The target of an even longer and much less successful annexaction struggle was St. Matthews. During the immediate postwar years, this suburb was the most rapidly growing community in eastern Jefferson County. By the end of 1947, its population approached 10,000, and some estimates ranked St. Matthews as the largest unincorporated town in the United States. Because of its rapid growth, most Louisville officials eyed St. Matthews covetously. They were supported in their expansionist aims, moreover, by a considerable number of St. Matthews residents who favored annexation as a means of obtaining urban services. But community sentiment was hardly unanimous. Some residents preferred incorporation to annexation, and many others opposed both alternatives and hoped to remain unincorporated.[89]

The city struck its first blow in 1946 by passing an ordinance proposing the annexation of the St. Matthews business district, comprised of Lexington Road east of Eline Avenue and the Gilman's Point area. In April 1947 the Board of Aldermen passed a second ordinance proposing annexation of the St. Matthews Sanitation District, an action which, if consummated would have extended Louisville's corporate boundary beyond Hubbards Lane north of Shelbyville Road and as far as Alcott Road and Alton Road south of Shelbyville Road. In the years to come, both actions were subjects of a succession of suits, trials, appeals, legislative measures, and vehement rhetoric from both proponents and opponents of annexation.

At first, events seemed to favor Louisville. In early 1948 the city gained a minor victory when residents of Nanz Subdivision asked the city to consummate annexation. In March an agreed judgement in Jefferson Circuit Court blocked the sanitation district annexation on what seemed to be a temporary basis. In November, however, Judge William H. Field directed a circuit court jury to find in the city's favor. The only negative aspect of the decision was a ruling that dropped the newly created sixth-class cities of Druid Hills and Richlawn from the case. Judge Field's order was a major victory for the city, or so it seemed. But in January 1950 the Kentucky Court of appeals ruled that the circuit court judgement of March 1948 had in fact foreclosed further action on the 1947 ordinance, that a new ordinance was required, and that according to the constitution, such legislation could not be introduced until late March 1950.[90]

Knowing that Louisville would reinstitute its annexation effort as soon as the time limit had expired, residents of four subdivisions in the target areas incorporated in mid-March, forming the sixth-class cities of St. Matthews, Springlee, Bellewood, Norbourne Estates. Immediately after incorporating, the city of St. Matthews initiated its own effort to annex the St. Matthews Sanitation District. The Louisville Board of Aldermen not only passed a new

ordinance to annex the same area, but also initated court action against St. Matthews, contending that certain legal requirements had not been met. The ordinance passed by St. Matthews was upheld in circuit court, but the ruling was overturned by the Court of Appeals in May 1951. In late August 1952, however, a special Jefferson Circuit Court jury decided against Louisville's annex ordinance. In mid-September special trial Judge Nolan Carter, of Lexington, denied the city's request for a new trial.[91]

The decisions of the jury and Judge Carter were a setback but not a fatal blow to Louisville's annexationist hopes. The opportunity to appeal was still open, and city officials announced their intention to do so. But at this point, the city made a fatal blunder. Under the law, Louisville had 60 days to file its appeal with the state's highest court. However, as a result of confusion over who was preparing the suit, the City Law Department inadvertently allowed the filing deadline to slip by. This meant that the jury's decision would stand and that the city would again have to wait two years before passing a new annexation ordinance. While Louisville stood inert, St. Matthews proceeded to annex more and more of the unincorporated residential territory which surrounded it. By mid-1954 St. Matthews was a fourth-class city with a population more than 6,000. For Louisville to annex St. Matthews would require approval of a majority of those voting in an annexation referendum. The first opportunity to hold such an election fell November 1954, but Mayor Andrew Broaddus was reluctant to risk a vote on such a controversial measure so soon after the constitutional moratorium against a new ordinance had expired. Two years later the citizens of St. Matthews overwhelmingly vetoed joining Louisville by their vote against the Mallon Plan.[92]

Although the adverse court decisions and the Law Department's own error stymied further attempts to annex most of the St. Matthews residential district, they opened the way for Louisville to resume its effort to annex the St. Matthews business district. By mutual agreement, settlement of the suits pertaining to annexation of the residential district had been given first priority in the courts. But the jury's decision in Judge Nolan's court and the events - or non-events - that followed cleared the docket and allowed both sides to give full attention to the business district. In 1953 the city of Louisville announced its plans to move ahead with annexation of the business district. But in October 1955 St. Matthews passed its own ordinance to annex the business district. Although businessmen who favored annexation by Louisville were startled and angry, Louisville's officials remained calm, realizing that Louisville's ordinance took legal precedence under the Court of Appeals' "first come, first served" system in hearing annexation cases.[93]

After months of delay, the suits over Louisville's annexation ordinance finally went to trial in late February 1955. Following a trial of almost two weeks duration, the jury returned a verdict against the Louisville ordinance.

When Judge Stephen Jones denied motions for a new trial the city took its case to the Court of Appeals. In October 1956 the high court reversed the decision of the jury in Judge Jones's court, clearing the way for Louisville to complete annexation of the core of the St. Matthews business district and several residential blocks which adjoined it. Six months later, on April 1, 1957, the Board of Aldermen passed a new ordinance, which was required to complete the annexation process. The day after the ordinance was signed, the City of Louisville extended police and fire protection and garbage collection services to the businesses and residents of the affected area. The annexation also touched off a new wave of litigation. Eight days after its passage, the City of St. Matthews appealed to Jefferson Circuit Court to void the annexation ordinance. Judge L. Lyne Smith did so on May 31. In the meantime, the city of Louisville suspended the services which it had extended to the business district. But the protests were to no avail. On July 11, 1958, the Court of Appeals ruled that the Louisville ordinance was valid. The 12-year battle over annexation had ended. [94]

The seemingly interminable legal battle over the annexation of St. Matthews attracted by far the most attention of any of Louisville's efforts to expand its boundaries during the 1900's. But St. Matthews was not the only place where the city lost fights to take in suburban residential territory. In December 1955 residents of the sixth-class city of Rolling Fields, which adjoins the Mockingbird Valley neighborhood north of Brownsboro Road, voted overwhelmingly against joining Louisville. This vote also ended any hope of annexing Indian Hills, immediately to the east of Rolling Fields, because the city was prohibited from annexing land not contiguous to its corporate boundary. Five years later Louisville was rebuffed after making overtures of annexation to the sixth-class cities of Wellington and Beechwood Village. Failures such as those encountered initially in St. Matthews and Rolling Fields and later in Wellington and Beechwood Village eventually discouraged Louisville mayors from attempting to annex heavily populated areas, especially incorporated suburbs, unless annexation was initiated by a substantial number of residents themselves. [95]

But a growing reluctance to tackle annexation of incorporated suburbs did not carry over to lucrative industrial areas. In the early 1950s the single most attractive industrial site in Jefferson County was General Electric's Appliance Park at Newburg Road and Beuchel Bank Road south of Bardstown Road. City officials had anticipated the possibility of annexing the giant eletrical appliance factory for some time, but they had not presented the Board of Aldermen with the necessary legislation. On December 27, 1955, however, the Broaddus Administration suggested its future intentions by introducing an ordinance to annex the new Ford Motor Company plant, which was located south of Louisville on a 20-acre tract bounded by Grade Lane, Fern Valley Road, the Kentucky Turnpike and the Northern Ditch. The campaign to annex the Ford plant was unsuccessful. But General Electric did not wait around to find out what the results would be. Instead, it took action to head off an annexation effort before the process could even begin. [96]

Working in the company's favor was the fact that to annex the plant without having to take in a good deal of burdensome residential territory the city would have to annex a narrow corridor extending from the city limits to the

plant grounds. Such "corridor" or "spot" annexation was already the subject of much public outcry. The battleground on which General Electric chose to make its fight was the 1956 session of the General Assembly. To present its case, the company hired Clifford Smith and Joseph H. Leary, two Frankfort attorneys with close political ties with Governor Albert B. Chandler. Smith and Leary prevailed upon House Majority Leader Fred H. Morgan, a Paducah Democrat, to introduce legislation to prohibit the annexation of industrial plants without the owner's consent or unless residential areas around the plant were taken in at the same time. Although described as a measure to promote industrial development by "prohibiting unfair and unreasonable annexation," the bill did not propose to "prohibit, restrict, or hamper normal expansion." But it did require that the industrial territory to be annexed be included within a "broad, comprehensive plan of annexation," that it be both compact and contiguous to the municipality which was trying to annex it and that the accompanying residential territory contain a number of registered voters equal to or in excess of 50 percent of the number of workers employed in the affected industrial plant.[97]

Morgan's bill met furious opposition from numerous sources. The Courier-Journal called it "privilege legislation." Aldermanic President William Milburn pointed out that in many cases, both locally and in other municipalities, it would be impossible to meet the legislation's residential requirements when plants were located in sparsely populated suburban fringes. This concern was echoed by Owensboro Mayor Casper A. Gardner, president of the Kentucky Municipal League, who suggested that the bill "would stymie the growth of Kentucky cities." One of the bill's most vocal opponents was Jefferson County Judge Bertram Van Arsdale. As the county's chief executive, he was responsible for providing municipal services to the residents and businesses along Louisville's urbanizing fringe. But most of Jefferson County was still rural and the government which Van Arsdale headed was not yet capable, either financially or structurally, of providing such areas with expensive street maintenance, professional fire and police protection, and other similar services. The county government depended upon the City of Louisville to provide these services, frequently through annexation. Although it stoutly opposed corridor annexation, even the Chamber of Commerce demonstrated its dismay by taking no public stand on the bill and by passing a resolution recommending the "adoption of a formula for annexation which will not unreasonably hamper a city in carrying out its comprehensive program of annexation" and opposing "any bill which does not meet these standards." Perhaps taking a cue from the Chamber, even Ford disassociated itself from the legislation. But General Electric had plotted a winning strategy. By employing Governor Chandler's allies, the company gained his support in securing the legislation's passage by the assembly. The bill completed its transit through the legislative channels late in April and the Governor affixed his signature immediately, much to the consternation of Louisville officials.[98] With passage of the "General Electric Bill," Louisville had lost all hope of ever expanding its tax base through the annexation of industrial land.

During the 1950s and much of the 1960s annexation was a dominant theme in local politics, symbolizing the city's efforts to keep up with the rapid pace of urban development. But while city officials concerned themselves with extending

services to recently annexed subdivisions on the city's expanding fringe, many residents in older parts of the city had begun seething with resentment at increasing signs of deterioration about them. The sources of irritation were numerous decaying housing, declining services, trash-littered streets and alleys, and zoning changes which allowed the construction of unwanted apartment complexes and commercial activities. As they had for decades, citizens tried to alleviate causes of distress individually, through such means as calling their alderman, the mayor, or the appropriate administrative official.

Gradually, however, it became apparent that individual initiative was not sufficient in all cases to solve community problems and that collective action was necessary. It was this growing feeling that some problems could be solved only through group effort that undergirded the emergence of the neighborhood association movement in the early 1960s. The first major neighborhood improvement organization in eastern Louisville was the Cherokee Association, formed in September 1962. At that time, the association took in an irregularly-shaped area bounded by Cherokee Road, Patterson Avenue, Glenmary Avenue, Cherokee Parkway, and Grinstead Drive. Four years later a similar organization, the Crescent Hill Community Council, was formed in the residential neighborhood north of Frankfort Avenue.[99] During the next few years the health of these and similar neighborhood organizations waxed and waned with the severity of the crises which faced each community at a given time.

Playing a pivotal role in the organization of neighborhood associations in eastern Louisville were the churches. The most outstanding example of the church-based neighborhood organizing effort is Highlands Community Ministries, Inc. HCM's roots extended back to 1963, when a group of lay people at Bardstown Road Presbyterian Church became concerned about changing conditions in the neighborhood around the church. They took their concerns to their own minister and to the ministers of five other nearby churches - Deer Park Baptist, Edenside Christian, Douglass Boulevard Christian, Calvary Lutheran, and St. Paul United Methodist. The immediate objective was to determine what needs were perceived by people in the community and what the churches could do to meet them. The Christian Action Committee of Bardstown Road Presbyterian Church surveyed Longfellow School and learned that approximately one-third of the 300 pupils had no adult supervision when they got home from school. In addition, many residents were concerned over the lack of adequate play grounds and other recreational opportunites for young people. With a major need identified, the six churches formed a cooperative ministry called the Neighborhood Play and Study Club. This organization operated until May 1970.[100]

The demise of the Neighborhood Play and Study Club reflected the sponsoring churches' growing awareness during late 1969 and early 1970 that there was a need for a more comprehensive program of social services in the Highlands community. Early in 1970 the congregations applied for and received $15,000 in seed money from the Presbytery of Louisville to establish and hire a full time director for comprehensive experimental ministry. In May the six churches incorporated Highlands Community Ministries, Inc. The organization's purpose as stated in its incorporation papers is to provide a Christian Ministry to persons in the Highlands area of Louisville, to enable them to gain a mature and meaningful self-image as God's creatures, and to provide programs and ac-

tivities that will foster human growth and development without regard to race, creed, or color. On July 1, 1970, HCM hired Stan Esterle, a social worker and former Roman Catholic priest, as its first full-time director.[101]

During the years that followed, HCM grew steadily in budget, programming and sponsonship. Between 1970 and 1973 HCM devoted most of its resources to social services, setting up programs in such areas as child care, recreation, counseling, the arts, mental health, and drug abuse. But some community needs could not be met by establishing a specific program. Rather, they required concerted neighborhood action designed to expose problems and bring pressure to bear upon the appropriate officials and agencies. Thus, in 1973 and early 1974 HCM assumed the role of neighborhood organizer. Within a few months, the organization had assisted in the development of self-help associations in such neighborhoods as German-Paristown, Highland, Tyler Park, Deer Park, Bonnycastle, Belknap, and Douglass. In addition, HCM assisted churches in Crescent Hill in the organization of a similar umbrella association called United Crescent Hill Ministries.[102]

It was one thing, however, to form a neighborhood organization and quite another to mobilize effectively to solve specific problems. Indeed, it seems that regardless of the nature or severity of the problems confronting a community, a major crisis is required to galvanize an organization into action. For many neighborhoods in eastern Louisville, that crisis came suddenly, dramatically, and painfully on a spring day in 1974.

CHAPTER V

WINDS OF TERROR AND CHANCE

Wednesday, April 3, 1974, dawned much as any other early spring day in the Louisville area. The morning was cool and damp, but the forecast was for a warm day, with a possibility of rain. But as Louisvillians crawled along the expressways and streets to jobs in the city's offices and factories, forces were building up hundreds of miles away which would, within a few hours, shatter the peace of the city and change for decades to come a substantial part of its landscape. For nearly 48 hours a massive storm system had been building up over the Great Plains and the Rocky Mountains. Early Wednesday morning, the storm center began moving eastward, picking up warm, moist, Gulf air as it traveled toward the Mississippi and Ohio valleys. Soon, severe thunderstorm warnings were issued for northern Alabama and Georgia, part of Missouri, and all of Tennessee, Kentucky, Indiana, and Ohio. As the storm moved toward the northeast it encountered a mass of cold air moving southward. When the two fronts converged, violent turbulence developed. To make matters worse, the Jet Stream was moving rapidly over the Ohio Valley, pulling pressure from the path of the colliding storm systems and "acting as a suction valve to speed the storm even more swiftly on its way". Conditions were growing ripe for a severe tornado.[1]

The U.S. Weather Service at Standiford Field had begun tracking the storm before dawn. The first tornado warning was issued at 10:28 a.m. Subsequent warnings were broadcast at 1:19 and 2:34 p.m. Shortly after the third warning, the storm system began thrusting out a series of deadly tornados which would soon extend from Alabama to the Canadian border. The first sighting of a twister in the Kentuckiana area occurred about 2:45 p.m. near Palmyra, Indiana. Thought at first to have been a severe thunderstorm, the tornado apparently began about five minutes later between Marengo and Leavenworth. Speeding in a southwestwardly direction, it smashed into Depauw about 3:00 o'clock. Moving eastward with the fury of a nuclear blast, the twister clobbered Palmyra at 3:05. Ten minutes later, after briefly hitting Martinsburg, the storm crashed into Borden, reserving its heaviest blows for the Daisy Hill section. The twister moved unimpeded for approximately 30 minutes after leaving Borden, but at 3:51, it shattered the scenic campus of Hanover College, which overlooks the Ohio River near Madison. Seven minutes later it battered historic Madison, tore up the switchyard at Clifty Creek power plant, and destroyed half of Clifty Falls State Park. A short time later, the storm hit parts of northern Kentucky, before dying out as a rainstorm over Cincinnati about 4:35. In the space of one hour and 55 minutes, the storm had traveled 120 miles, destroyed hundreds of homes and business, and left with two Louisvillians dead.[2]

As the Indiana tornado sped from Hanover to Madison, Weather Service officials detected another funnel cloud near Irvington in Breckinridge County, Kentucky. A warning was broadcast immediately, but within a few minutes the twister smashed more than 60 homes, several barns, and scores of trees in the vicinity of of Irvington, Hardinsburg, and Midway. This was a mere prelude, however, to what loomed ahead. At 4:10 p.m. the tornado slammed into the small Meade County town of Brandenburg, venting its full force on the Main Street business district and adjacent residential streets. A few minutes later, 30 of Brandenburg's 1,700 residents lay dead and 150 more were injured, one of whom would die later. Although it knocked down numerous trees as it whirled away from Brandenburg, the twister had spent its force by the time it crossed the Ohio River near Valley Station and moved into Indiana.[3]

Brandenburg's ordeal was over; but Louisville's had just begun. The drama of that ordeal is described most graphically by John Ed Pearce, a writer for The Courier-Journal, in his introduction to Tornado! April 3, 1974, a commemorative book published by The Courier-Journal and The Louisville Times the following May. Pearce's description of the tornado in Louisville is quoted verbatim:

> If Louisville was unaware of the approaching danger, it was not for lack of warning. Nine times the Emergency Action Notification Signal flashed its message of possible danger at radio station WHAS. And nine times - at 10:28, 1:19, 2:34, 2:54, 3:38, 3:47, 4:02, 4:26, and 4:36 - a severe weather warning was broadcast. The last two messages made it clear that the danger was real and imminent; tornadoes were forming in the Louisville area.
>
> But for most people, it was another afternoon of business as usual. There had been sketchy reports of the tornado near Palmyra, but it seemed to be moving out of the area, and it was generally assumed that the storm was passing north of the city. At four o'clock, people began streaming out of downtown offices and into parking lots, heading for home. The storm had not yet hit Brandenburg. There had been no urgent warning of tornadoes in the immediate vicinity, and when the warnings came at 4:02 and 4:26, many people were tuned to stations that continued to play rock music while destruction approached.
>
> Then, at 4:18, officials at the Weather Service station at Standiford Field, fearing that the Brandenburg storm was heading for Jefferson County, picked up the red telephone that activated the area's Civil Defense sirens at 10 locations in Louisville and 29 in Jefferson County. Ironically, the storm picked its way, avoiding all but two areas within hearing distance of warning sirens and many merely wondered "what those sirens were going off for at this time of day."
>
> As the Brandenburg storm was blowing itself out, a few miles to the east over Kosmosdale, a sector of the humid cloud mass was beginning to revolve in the familiar counter-clockwise pattern. It dipped for a moment, then drew back into the clouds and moved over Iroquois Hill, and began lowering again as it approached the flat, open expanse of Standiford Field. It was 4:35.
>
> In his Weather Service office, John Burke, meteorologist in charge, was talking on the telephone with a WHAS radio announcer. Suddenly listeners heard Burke shout, "Good gracious sakes alive...By golly the whole thing is going. Hear it? I'm going." What Burke had seen was the violent birth of a tornado, as the storm shot its lethal tongue into a parking area in the southwest corner of the state fairgrounds. And the Louisville tornado began its grisly dance across the city.

In its beginning, and for much of its life, it was not the classic, sharp-tipped funnel, but a whirling mass, up to a quarter-mile wide, packing winds of up to 250 miles an hour. Deliberately, picking up dust, it slammed into the Kentucky State Fair and Exposition Center, almost casually ripping part of the roof from Freedom Hall, then moving majestically toward the rows of horse barns alongside the North-South Expressway. Shocked witnesses saw barn roofs suddenly lift 20 feet into the air and crash downward, shattering the buildings beneath. Eight of the 10 barns were flattened. A group of trucks and mobil homes nearby were tossed around and broken.

Swiftly, the tornado moved across Interstate 65, snarling the heavy traffic, and into the Audubon Park section where it ripped roofs from homes. It crossed Hess Lane, picking up debris as it went, and blasted into rubble one of the two wings of Audubon Elementary School. The tornado was becoming visibly more funnelshaped now, darkly defined by the dirt and debris it was picking up as it moved across the helpless city at about 50 miles an hour.

It whirled across Pindell Avenue and Delor Avenue, gouging off sides of houses, clawing away roofs, and then into George Rogers Clark Park. Huge trees fell before it, some uprooted, some snapped in two like toothpicks. An estimated 600 were destroyed, some of them giants well over a century old.

Across Poplar Level Road it roared, narrowly missing St. Xavier High School, and into the area of Eastern Parkway. Spinning across Newburg Road and smashing two-thirds of the homes on Stevens Avenue, it then leveled its fury at Bardstown Road. The main force hit in the 1500 block. Store windows exploded, cars were flung about, utility poles were hurled against or on top of buildings. In 20 seconds, the street for four long blocks was a scene of total chaos.

Inside the buildings, terrified people plunged down basement stairs, cowered under counters of tables. There were two customers in Lentini's Little Italy restaurant when the front windows popped out, and there was a terrible noise. "We just grabbed everyone and ran for the kitchen," said owner Gasper Lentini. "That's as far as we got. We just hit the kitchen floor and let the stuff fly over and around us."

Incredibly, there were no deaths on these blocks. Almost unbelieving, Shell service station operator Mel Bates watched trees and poles being snapped. "This tree," he recalled, "flattened, and I mean flattened, this brand-new car just a split second after the people in it had jumped out and run. It was as flat as a pancake."

Between Eastern Parkway and Bonnycastle Avenue a neighborhood of substantial homes and old trees felt the full fury. But along the streets on the edge of the twister, the winds wreaked their havoc, too. Cherokee Parkway, Cherokee Road, Alta, Barney, Longest, Spring Drive all suffered.

Cherokee Park now lay directly in the path of the storm. One of the oldest and most heavily-used parks in the city, and shaded by groves of towering oaks and elms and thick-trunked beeches, Cherokee

was, as a reporter wrote later, "80 years old when it died." It took the winds a little more than a minute to batter their way across the rolling hills of the park, but in that minute they destroyed an estimated 2,000 mature trees. It would be another 80 years before the park regained its beauty.

Across Cochran Hill the storm moved, mauling trees alongside and above the tunnel that carries Interstate 64 under the park. It twisted Raleigh Lane into a jumble of broken trees and homes with their roofs and sides sliced away. Across Grinstead Drive it roared, battering Barrett Junior High, smashing homes on Kennedy and Crescent courts, Bayly, Birchwood and Stiltz.

As the tornado rolled to the northeast, it dealt one of its most hurtful blows when it hit the Crescent Hill filtration and pumping plant of the Louisville Water Company. Not only did it batter the building housing pumping facilities but it demolished the electrical transformer powering the plant, causing a water shortage for 24 anxious hours. At the same time, the twister blasted Hillcrest and Pennsylvania avenues, then left Claremont Avenue in a shambles. Tommy Smith, golf pro at the Louisville Country Club, was driving on Pennsylvania Avenue toward Frankfort Avenue, on the way to pick up his son at Seneca golf course, when a roof crashed into the street and the car he was following went tumbling over him. Suddenly, Mr. Smith found his car airborne almost 10 feet. Instinctively he jammed on the brakes and clutched the steering wheel, before coming down "as if on a cushion." Switching off the ignition and diving under the dashboard, with his seat belt still in place, he endured two more flights while the car was bombarded and speared by bricks and timbers. Finally, a flying tree brought the car solidly back to earth.

One factor was working in favor of the people in the storm's path as it tore from Frankfort Avenue to Brownsboro Road; they were being warned specifically of the danger. Power was going off in much of eastern Jefferson County as utility lines were downed and substations destroyed, but many homes had battery-powered transistor radios, and most of the radio stations remained on the air. Station WAVE had a few anxious moments of waning power. WHAS lost power at its transmitter at Eastwood, but had already switched to its auxiliary generator, and those listening heard helicopter-borne traffic tracker Dick Gilbert describe the tornado at its beginning (he was about two miles away over the Watterson Expressway at the time) and then follow it through the city, giving an astonishing account of its destruction and course and providing a warning for people who lived along the path of the storm.

It was 4:50 when the storm reached Brownsboro Road, crushed a wing of Chenoweth Elementary School, ripped the rear wall from the familiar Bauer's restaurant, and began its march through three of the most expensive suburban residential areas of the county. Rolling Fields was the first to feel its wrath, as it bulldozed its way through Club Lane, Canoe Lane, Pennington and Edmond. More than 100 homes were blasted; some almost disappeared. Again, there were remarkably few casualties.

Mr. & Mrs. Charles Brooks were visiting relatives a few blocks away when the storm hit. They rushed home to 403 Country Lane to find their home devastated. But the Reverend Edwin Perry, pastor of the Broadway Baptist Church, who was making rounds at Baptist Hospital when the winds struck, hurried home to find his home wrecked and his wife trapped and injured in the wreckage. Having not heard the warning, and unable to reach the basement, Mrs. Perry had dived beneath the dining room table as the house collapsed around her. Her arm was crushed and she was a mass of cuts and bruises, many serious.

On through Indian Hills the twisting winds plowed their furrow of debris, across Indian Hills Trail and down Westwind Road. At their home at 153 Totem Road, Dr. and Mrs. Charles Pearce were watching their infant granddaughter, the maid having gone home earlier because of the storm warnings. "When the power went off, we switched to this little battery TV set we have," said Mrs. Pearce, "but we never did get the word that it was coming. All of a sudden the sky got a strange color, and I heard this roaring sound, and then it was there, and the windows sort of exploded, glass flying everywhere."

Sam Lyverse's home at 206 Travis Road was flattened. Three doors away, Moses Master was luckier. He reached home just before the wind hit, in order to be with his wife who was recovering from an illness. "It was over in seconds," he said. "We just felt this one big shudder, and it was gone. I looked out and couldn't believe that so much damage had been done in so little time. The house beside ours, the one across the street, just ruined. Blankenbaker was hit awfully hard - Hanford Smith's beautiful old place, and the Zachary Taylor home. We were lucky."

Down Knollwood and Apache the storm roared. Mrs. Bernice Orr became one of the few fatalities of the storm when, returning from market, she left her car in the driveway and ran for her home at 1824 Knollwood, hoping to find shelter. She didn't make it. The house collapsed on her before she reached the doorway. On the seat of her car, the groceries she had bought were found intact.

A few blocks away, the new Dunn Elementary School was wrecked. "It just exploded," an official said later.

Crossing Watterson Expressway, the tornado loosed its deadly barrage at Northfield. On Stannye Drive, the Clifford Marquettes had moved into their home only two days before, having come to Louisville from St. Louis, and Mrs. Marquette was in the kitchen getting things sorted out, when her husband rushed in and hurried her to the basement. They made it just as the tornado roared over. When they emerged, their new home no longer existed.

Relentlessly, the twister spun on through Lime Kiln Lane and out into more open country toward Prospect and the Oldham County line, flattening trees and ripping roofs as it went. As it moved through Oldham County, its winds decreased. It was blowing itself out. It died a few minutes later in Owen County after destroying a few trees and barns.[4]

The nightmare of Louisville ended about 20 minutes after it began. Miraculously, only two Louisvillians died from causes directly attributable to the tornado, although three more persons suffered fatal heart attacks. But the material damaged sustained during those few minutes exceeded that inflicted by the 1937 flood. More than 1800 Louisville area homes were destroyed or seriously damaged, and hundreds more suffered less severe damage. In addition, scores of businesses, especially along Bardstown Road, and boats anchored along the shore of the Ohio River were demolished.[5]

During the days that followed April 3, 1974, the immediate preoccupations were providing housing and financial assistance to tornado victims, restoring vital public services, and cleaning up the debris. The Red Cross and Salvation Army, Louisville Gas and Electric Company, the National Guard, the Louisville Department of Public Works, and numerous federal, state and local agencies, as well as many private citizens worked around the clock to help feed, clothe, and shelter the homeless and to clean trees and replace the downed power lines and poles which blocked the streets. Within a few days the vast majority of victims had located temporary shelter with friends or relatives, and vital services had been restored. By the end of April, most of the rubble had been cleared away. But as chainsaws were packed away and the huge bonfires which consumed once stately trees burned out, eastern Louisvillians turned their attention to the incredibly difficult task of rebuilding homes, businesses, institutions, and neighborhoods.

The eastern Louisville neighborhoods which sustained the major damage were Deer Park, Bonnycastle, Cherokee Triangle, and Crescent Hill. Instumental in the rebuilding efforts in these areas were their respective neighborhood associations and such ecumenical organizations as Highlands Community Ministries, Inc. and United Crescent Hill Ministries. One of the first accomplishments of these organizations was to persuade Mayor Harvey I. Sloane to issue a temporary moratorium against the issuance of building permits that would result in land use changes in the storm-damaged parts of the neighborhoods.

Most of stricken areas were made up of single family homes, duplexes, and small apartment buildings. But much of the land on which these structures were located was zoned to permit higher densities. Many residents feared that developers would purchase damaged houses, demolish them, and build larger, high-density apartment complexes. The moratorium would give the Louisville and Jefferson County Planning Commission a chance to develop a rebuilding plan which would insure preservation of the stricken neighborhoods' historic integrity and provide for the solution of other problems which had existed for a long time.[6]

The Planning Commission issued its report in early June. Its recommendations included a new zoning classification and a provision for "down-zoning" to reduce the permissible density in the tornado-damaged areas. Called R-5A, the new zoning classification would permit construction of small apartments, row houses, and single family dwellings, but would limit density to 12 dwelling units per acre. The density permitted by the new classification would be higher than that allowed by R-5, the lowest multiple-family classification, but considerably lower than the density permitted by the R-6, R-7, and R-8 classifications which existed in parts of the afflicted areas. In addition, the Planning Commission suggested several small parks, playgrounds, bicycle paths, street improvements, and tree plantings for the affected areas.[7]

Not all of the Planning Commission recommendations were implemented. But one which did win approval was the "down-zoning" proposal. Eighteen months elapsed before the Board of Aldermen passed the ordinance to create the special zoning classification. In the meantime, however, the area affected by the legislation had been expanded considerably as a result of pressure by the Bonnycastle Homestead Association. For example, the ordinance was rewritten to extend R-5 zoning to the entire Bonnycastle neighborhood. The results of the building permit moratorium and the down-zoning ordinance have been gratifying. By heading off an anticipated wave of apartment development, the measures helped to stabilize the affected areas. Since passage of the ordinance in December 1975, neighborhoods such as Crescent Hill and Bonnycastle have experience a substantial influx of young families and single persons who have purchased and recycled many of the neighborhoods' older houses. The result of this has been a steady increase in property values and the visible reversal of a pattern of decline which had been apparent in part of the Highlands and Crescent Hill for more than two decades.[8]

As important as it had become, the heightened interest in renovating old houses was not the only significant consequence of the tornado. Nor was the tornado the only stimulus of the neighborhood awakening in eastern Louisville during the past five years. Rather, the tornado provided the catalyst, indeed the crisis, which synergized several complementary impulses into a broad-ranging movement to revitalize and conserve older neighborhoods. Thus, success achieved in dealing with the immediate post-tornado crisis strengthened the self-help philosophy and encouraged neighborhood associatione to deal more forcefully with a variety of longstanding problems such as crime, inadequate trash and junk collection, the shortage of parks and playgrounds, and that oldest of bugaboos - zoning. Likewise, efforts to assuage the effects of the tornado coincided with a new concern for neighborhood organization which emanated from City Hall and with the growing local interest in historic preservation as a tool for urban conservation. At the time of the tornado, the Board of Aldermen had been debating Mayor Harvey I. Sloane's proposal for the creation of a Neighborhood Development Office within the Executive Office of the Mayor. Conceived as a means of improving communication between City Hall and citizens in the neighborhoods, NDO has served since its passage shortly after the tornado as a major stimulus for the organization of neighborhood associations. As a consequence of the continuing work of Highland Community Ministries and the efforts of NDO, approximately 26 neighborhood organizations now exist to voice the concerns of eastern Louisvillians. In the meantime, HCM has continued to expand the reach of its social service programs, a growth represented by a combined 1978-79 administrative programmatic budget in excess of $265,000.

Symbolic of the steady growth of the neighborhood association movement since the tornado was the creation in mid-1977, after some nine months of preparatory meeting, of the Louisville Inter-Neighborhood Coalition (LINC). A loose assembly of neighborhood associations, LINC was created to provide its member organizations with a means of sharing expertise on city-wide issues affecting neighborhoods. In a very real sense, LINC represents the logical culmination of former Mayor Sloane's emphasis on neighborhood development. It was he with the assistance of NDO, who assembled a group of neighborhood leaders and planted the idea of LINC. But instead of trying to keep a tight rein on the organizational process, he left the assembled activists to their own devices. The result was not, as some feared, the creation of a grassroots Sloane political machine, but a nonpartason, nonprofit coalition broad enough not to be identified with any single individual or group.[9]

Although the damage to property along Eastern Parkway, Cherokee Parkway, and Longest Avenue must not be minimized, the eastern Louisville neighborhood which felt the least direct impact of the tornado's fury was Cherokee Triangle. This was, however, the neighborhood least in need of a crisis to stimulate grass roots action. The Cherokee Association was already twelve years old and possessed of considerable experience in mobilizing support for neighborhood improvements. But Cherokee Triangle's major asset was its outstanding architecture which remains a source of pride among its own residents and of admiration from other Louisvillians. The richness of this architectural heritage was given public recognition in January 1975 when the city's Historic Landmarks and Preservation Districts Commission designated the Cherokee Triangle Area as a preservation district.[10]

While Cherokee Triangle proper escaped the brunt of the tornado, the natural feature which helped to make it one of the most popular residential neighborhoods in the city was not so lucky. Surveying the wreckage that was Cherokee Park, Parks Department forester Gerry Rau lamented, "I don't believe anyone alive today will ever see Cherokee Park as it was before the storm."[11] But local citizens and city officials were determined that Cherokee Park should be rebuilt. To prepare preliminary historical documentation for the restoration, the Metropolitan Parks and Recreation Board retained the services of Olmsted Associates, Inc., successor to the firm of Frederick Law Olmsted, Sr., the park's designer.

Two weeks after the tornado, Olmsted president Artemas P. Richardson arrived in Louisville to assess the situation. What he viewed shocked even his experienced eyes. "As far as the eye could see, trees had been twisted, maimed, splintered, smashed, uprooted, desecrated by winds which...left this beloved and beautiful park looking like a beachhead, softened by repeated artillery barrages ready for amphibious assault...What nature and sensitive planning had developed in Cherokee over more than 80 years had been destroyed in little more than an instant."[12]

Using original plans, topographic maps, annotated and field-noted prints, and schematic drawings stored in the Olmsted offices in Brookline, Massachusetts, and other documentation from the Library of Congress, the firm developed the conceptual basis of a master plan for the park restoration. Commissioned to plan and execute the park restoration itself was the Ann Arbor, Michigan, landscape architecture firm of Johnson, Johnson & Roy. The restoration was financed in large part by a grant from the United States government. The money was made available under the 1974 Disaster Relief Act, which contained a provision allowing, for the first time, the use of Federal Disaster Assistance Administration funds for park restoration. But the legislation also had important strings attached.

To be eligible for federal funds, the park had to be restored to its pre-tornado design. This requirement apparently was intended to insure an aesthetically pleasing and historically accurate restoration. Economic considerations, however, prevented the use of mature trees in the reconstruction, requiring instead that the 80 or 90-year old trees destroyed by the tornado be replaced by seedlings or saplings.[13]

The federal disaster legislation also required that the restoration be completed within two years after the tornado. Between January and April 1970, JJR supervised the planting of some 2,500 trees and 4,600 shrubs. A private, non-profit group called Trees Inc. raised approximately $100,000 to buy additional trees for the park, but such an effort could not hope to return Cherokee Park to ite earlier condition. "With proper care and maintenance," historian Allen J. Share has observed, "the park should resemble its predecessor in 25 or 30 years, although some of the wounds the tornado inflicted will take generations to heal."[14]

It's perhaps ironic, yet appropriate, that at this point a study of eastern Louisville should return full circle to one of its early points of origin - the Bardstown Road-Baxter Avenue corridor (BARBAX). In 1974, during the aftermath of the April tornado, business owners and residents in the vicinity began to exprees dissatisfaction with the quality of some of the commercial facilities in the corridor. A particular source of irritation was Mid-City Mall, in the 1200 block of Bardstown Road, where complaints about crime, poor maintenance and general deterioration were frequent. In an effort to force its management to improve conditione, the Cherokee Triangle, Tyler Park, German-Paristown, and Highland neighborhood associations along with HCM, organized an economic boycott against this shopping center in February 1975. Partly as a result of the boycott, the Republic National Life Insurance Company, which holds the mortgage on Mid-City Mall, began foreclosure and receivership proceedings in the fall of 1976. On January 1, 1977, the facility was placed into receivership by Jefferson Circuit Court Judge Charlene Anderson. Appointed to manage the mall was realtor-developer Frank Metts. The center has since been purchased by Guy Ramsey of Tell City, Indiana, but Metts's firm has retained management responsibility. Since then, significant improvements have been made at Mid-City Mall and cooperation between management and residents has replaced confrontation.[15]

Out of the succeesful action against Mid-City Mall emerged a strong community sentiment that something should be done to improve commercial conditions along the entire Bardstown Road-Baxter Avenue corridor from Broadway to Eastern Parkway. In recent years many fast-food restaurants, drive-in banks, and large self-service gas stations had located along the corridor. Moreover, numerous businesses had demolished old homes or commercial buildings to expand their facilities or provide more parking space. As a result, many residents were growing fearful that such uncontrolled, poorly planned commercial development might compound the corridor's already severe traffic congestion and noise problems and contribute to the further deterioration of the quality of life in the vicinity. In the spring of 1977, the organizations which had conducted the boycott mobilized corridor merchants and formed the Highlands Commerce Guild. Its function, according to the University of Louisville political science professor David E. Blank, was to provide "a means of advancing collective concern for the revitalization of the thoroughfare and cementing improved relationships with the residents.[16]

Once the Highlands Commerce Guild had been organized, associations began to focus upon the development of a coherent strategy for neighborhood commercial revitalization. That would require considerable professional assistance as well as volunteer effort. In late 1977 the affected neighborhood associations, Highlands Community Ministries, and the Highlands Commerce Guild formed the Bardstown Road Improvement Coalition. This new body approached the Louisville Community Design Center (LCDC) about the possibility of its providing planning and technical assistance for a

grassroots improvement effort. LCDC accepted the coalition's proposal, and immediately set out to inventory the corridor's recources and to survey merchants and residents for their ideas about what the plan should include. On the basis of the information collected, the LCDC staff advanced three policy objectives: (1) save as many of the existing older structures along the corridor as possible; (3) expand the opportunity for pedestrian access to and enjoyment of the corridor as much as possible; (3) stimulate private, commercial reinvestment in the corridor.[17]

To accomplish these objectives, LCDC advanced a two point strategy. First, it suggested creation of a Local Development Corporation, composed of 25 stockholders, including representatives of the area neighborhood associations, respected civic and business leaders from the entire city of Louisville, and Highlands area merchants. Once incorporated, the corporation would be responsible for leveraging commercial loans obtained from such sources as the city's Community Development Block Grant fund, the Small Business Administration, and local banks; for conducting market research and feasibility studies; and preparing a physical development plan which would focus on parking, street improvements, and traffic circulation. Second, LCDC recommended creation of a multiple Resources nomination under the auspices of the Naitonal Register of Historic Places. Such a measure, if approved by state and federal authorities, would make nominated properties eligible for benefits such as 60-month amortization of improvements under the Tax Reform Act of 1976 as well as federal matching funds for restoration of certain exceptional buildings.[18] The preliminary planning is complete, and the Landmarks Commission is preparing the Multiple Resources nomination. The future awaits the result.

FOOTNOTES

Chapter I

1. For the fullest account of the early surveys of Louisville, see Neal O. Hammon, "The Fincastle Surveyors at the Falls of the Ohio, 1774," The Filson Club History Quarterly, 47 (January 1973), 14-28.

2. The development of stations along Beargrass Creek is discussed in Neal O. Hammon, "Early Louisville and the Beargrass Stations, FCHQ, 52 (April 1978), 147-165.

3. Ibid, pp. 162-4.

4. Ibid, p. 165.

5. Louisville Herald, March 31, 1929; R. C. Riebel, Louisville Panorama: A Visual History of Louisville (Louisville: Liberty National Bank and Trust Company, 1956), p. 126.

6. "The Hikes Family House," National Register of Historic Places Inventory-Nomination Form. Prepared by Mary Cronan Oppel, Kentucky Heritage Commission, Frankfort, Ky., 1977.

7. Ibid; Walter Langsam, Preservation: Metropolitan Preservation Plan (Louisville: Falls of the Ohio Metropolitan Council of Governments, May 1973), p. 112.

8. "Spring Station," National Register of Historic Places Inventory-Nomination Form. Prepared by Elizabeth F. Jones, Historic Landmarks and Preservation Districts Commission, Louisville, Ky., 1977.

9. Langsam, Preservation, p. 118.

10. Ibid.

11. Courier-Journal, Oct. 18, 1936, Feb. 7, 1943.

12. "Howard-Gettys House," National Register of Historic Places Inventory-Nomination Form. Prepared by Mary Jean Kinsman, Historic Landmarks and Preservation Districts Commission, Louisville, Ky., 1977.

13. "Selema Hall," National Register of Historic Places Inventory-Nomination Form. Prepared by Elizabeth F. Jones, Historic Landmarks and Preservation Districts Commission, Louisville, Ky., 1977.

14. John C. Rogers, The Story of Louisville Neighborhoods (Louisville: The Courier-Journal and Louisville Times Company, 1955), p. 4.

15. Courier-Journal, June 15, 1924; Louisville Times, June 5, 27, 1974.

16. Louisville Times, June 28. 1938.

17. Robert E. McDowell, "The Wilderness Road in Jefferson County," Louisville, June 20, 1967, pp. 7-8; Turner W. Allen, "The Turnpike System in Kentucky: A Review of State Road Policy in the Nineteenth Century, " FCHQ, 28 (1954), 239.

18. McDowell, "Wilderness Road in Jefferson County," p. 12.

19. Minute Book No. 1, 1784-1785, Jefferson County Court, The Filson Club; Ida Symmes Coates, "The Bardstown Road in the Early Days," Unpublished paper read before the Filson Club, October 4, 1915, p. 1.

20. Allen, "The Turnpike System in Kentucky," pp. 242-3; "An Act establishing a Turnpike on the Road leading from Georgetown to Cincinnati, and for other purposes," Acts passed at the First Session of the Twenty-Seventh General Assembly for the Commonwealth of Kentucky (Frankfort: Kendall and Russells, 1819), p. 725.

21. Louisville Turnpike Company, Minute Book, March 24, 1832, p. 19, Ms., The Filson Club. "An Act to incorporate certain Turnpike Road Companies," Acts of the Thirty-seventh session of the General Assembly (Frankfort: Amos Kendall and Company, Printers, 1829), pp. 151, 160.

22. Coats, "The Bardstown Road," pp. 1-2; Anne S. Karem, The Cherokee Area: A History, Second Edition, (Louisville: The Cherokee Association, 1975), pp. 48-9.

23. "An Act to amend an act incorporating the Lexington and Louisville Turnpike Road Company," Acts...of the Twenty-Sixth General Assembly of the Commonwealth of Kentucky (Frankfort: Kendall and Russells, Printers, 1818), pp. 478-9.

24. "An Act to incorporate a company to construct a Turnpike road from Taylorsville, in Spencer County, to intersect the Turnpike road from Bardstown to Louisville," Act of the General Assembly, 1836, pp. 122-3; "An Act to establish the Louisville and Taylorsville Turnpike Road Company," Acts of the General Assembly, 1837, p. 209; "An Act to incorporate the Louisville and Taylorsville Turnpike Road Company," Acts of the General Assembly, Novermber Session, 1851, p. 427.

25. "An Act to amend the charter of the Campbell Turnpike Road Company, and for other purposes," Acts of the General Assembly, December Session, 1848, pp. 314-15; "An Act to amend the charter of the Louisville and Taylorsville Turnpike Company, and to incorporate the Jefferson and Brownsboro Turnpike Road Company, Ibid, pp. 238-9; "An Act to amend the charter of the Jefferson and Brownsboro Turnpike Road Company," Acts of the General Assembly, December Session 1849, pp. 557-8; "An Act to amend the charter of the Shelbyville and Louisville Turnpike Road Company," Acts of the General Assembly, November Session, 1851, p. 427.

26. The Lexington and Ohio Railroad saga is recounted in Thomas D. Clark, "The Lexington and Ohio Railroad - A Pioneer Venture," Register of the Kentucky State Historical Society, 9-28.

27. Ibid., pp. 24-8; "An Act to incorporate the Licking and Lexington Railroad Company, and Louisville and Frankfort Railroad Company," Acts of the General Assembly, December Session, 1846, pp. 47-48.

28. Louisville Times, Aug., 15, 1932.

29. Courier-Journal, May 29, 1932; Langsam, Preservation, pp. 162-3.

30. "An Act to incorporate the Eastern Cemetery, of Louisville," Acts of the General Assembly 1854, Vol. II, pp. 91-2; Louisville Herald-Post, December 7, 1935.

31. Riebel, Louisville Panorama, p. 149; Rev. Diomede Pohlkamp. O. F. M., The Orphans on the Fairgrounds, 1849-1949: A Centenary Historical Review of St. Joseph Orphans Society, Incorporated (Louisville, 1949), p. 23; Harper's Weekly Magazine, September 26, 1857.

32. Courier-Journal, January 7, 1945, February, 23, 25, 26, 1959, November 12, 1961; Louisville Times, May 5, October 19, 1966.

33. "Louisville Water Company Pumping Station," National Register of Historic Places Inventory-Nomination Form. Prepared by K. Brown Morton, III, National Park Service, Washington, D. C., 1971.

34. Copies of Records, Department of Public Works, City Hall; M. A. Allgeier, The History of the Highland Neighborhood, Louisville, Highland Neighborhood Association, 1979; pp. 11-15, "Map of Louisville and Its Defenses," in Samuel O. Thomas, ed., Views of Louisville since 1766 (Louisville: The Courier-Journal and the Louisville Times Company, 1971), pp. 201-2.

35. Copies of Records, DPW; Louisville Herald Post, May 7, 1930, Department of Public Works, City of Louisville.

36. Bess and Langsam, Atlas of Jefferson and Oldham County, Kentucky, 1879; G. M. Hopkins, Atlas of the City of Louisville, Ky., and Environs (Philadelphia, 1884), plate 6.

37. Louisville Herald Post, January 18, 1923; Langsam, Preservation, p. 56; "Nicholas Finzer Residence," National Register of Historic Places Inventory-Nomination Form." Prepared by Marty P. Hedgepeth, Historic Landmarks and Preservation Districts Commission, Louisville, Ky., 1978.

38. Annexation Map, Department of Public Works.

39. Robert E. McDowell, City of Conflict: Louisville in the Civil War, 1861-1865 (Louisville: Louisville Civil War Round Table, Publishers, 1962), PP. 170-76.

Chapter II

1. J. Stoddard Johnston, ed., Memorial History of Louisville from Its First Settlement to the Year 1896 (Chicago and New York: American Biographical Publishing Company, Ca. (1896), Vol. 2, p. 110.

2. Meadows, "Urban Transportation in Louisville," pp. 103,111-12.

3. Ibid., pp. 110, 115, 121-2.

4. Ibid., pp. 103-4; Judith Hart English, "Louisville's Nineteenth Century Suburban Growth: Parkland, Crescent Hill, Cherokee Triangle, Beechmont and Highland Park," (Unpublished M. A. thesis, University of Louisville, 1972) p. 49.

5. English, "Louisville's Nineteenth Century Suburban Growth, p. 49.

6. Ibid., pp. 51-3.

7. Ibid., p. 56.

8. Ibid., pp. 56-7; Caron's Directory of the City of Louisville for 1874, C. K. Caron, 1874), p. 55.

9. English, "Louisville's Nineteenth Century Suburban Growth," pp. 57-8.

10. Ibid., p. 85

11. Ibid., p. 85-86; "An Act to Provide for the Establishment of Public Parks in and near Louisville and the Improvement and Management of Same," Acts of the General Assembly, 1890, Vol. II, p. 1513.

12. English, "Louisville's Nineteenth Century Suburban Growth," pp. 85-7; First Annual Report of the Board of Park Commissioners of the City of Louisville, July 1891 (Louisville; Courier-Journal Job Printing Company, 1891), pp. 8-9.

13. English, "Louisville's Nineteenth Century Suburban Growth," pp. 93-6; First Annual Report of the Board of Park Commissioners, p. 53.

14. Copies of Records, DPW; G. M. Hopkins, Atlas of the City of Louisville, Ky. and Environs, (Philadelphia, 1884), plate 7.

15. Copies of Records, DPW.

16. Ibid.

17. Ibid.; Rogers, Louisville's Neighborhoods, pp. 4-5.

18. Copies of Records, DPW.

19. Ibid.

20. Rogers, Louisville's Neighborhoods, p. 31.

21. Grady Clay, "Crescent Hill Holds the Line," Courier-Journal Magazine, October 14, 1956 (clipping); English, "Louisville's Nineteenth Century Suburban Growth," p. 72.

22. Jefferson County, Kentucky, Deed Book 203, p. 171 (1876) Book 207, p. 558 (1876); Johnston, Memorial History of Louisville, Vol. I, p. 344; The Louisville Commercial December 15, 1879; "Crescent Hill Reservior, GAtehouse, and Superintendent's House," National Register of Historic Places Inventory-Nomination Form, Prepared by Denise E. Whittaker, Historic Landmarks and Preservation Districts Commission, Louisville, Ky., 1977.

23. English, "Louisville's Nineteenth Century Suburban Growth," pp. 70-72; Rogers, Louisville's Neighborhoods, p. 31; Clay, "Crescent Hill Holds the Line," Courier Journal Magazine, 1956.

24. Copies of Records, DPW; English, "Louisville's Nineteenth Century Suburban Growth," p. 72.

25. English, "Louisville's Nineteenth Century Suburban Growth," pp. 133-5; An Act to Incorporate the Town of Crescent Hill, in Jefferson County," Acts of the General Assembly of Kentucky, 1883-84, Vol II, pp. 166-72.

26. Copies of Records, DPW; English, "Louisville's Nineteenth Century Suburban Growth," pp. 82-3.

27. Copies of Records, DPW.

28. Ibid.

29. Ibid.

30. Ibid.

31. English, "Louisville's Nineteenth Century Suburban Growth," pp. 137-8; "An Act for the Government of Cities of the First Class," Acts of the General Assembly, 1891-93, Vol. III, p. 1265; Ordinance Book 10, pp. 141-142, 212.

32. English, "Louisville's Nineteenth Century Suburban Growth," p. 139.

33. Copies of Records, DPW.

34. Ibid.

35. Ibid.; Beautiful Crescent Hill Illustrated (Louisville: Crescent Hill Improvement Club, 1908; Reprinted Crescent Hill Community Council, 1978), p. 77.

36. Copies of Records DPW; Beautiful Crescent Hill Illustrated, pp. 60, 69.

37. Copies of Records, DPW.

38. Ibid.

39. Ibid.

40. Beautiful Crescent Hill, p. 6.

41. Clay, "Crescent Hill Holds the Line", n.p.

42. Langsam, Preservation, pp. 135-6; "The Peterson-Dumesnil House Landmark and Landmark Site Designation Report," Historic Landmarks and Preservation Districts Commission, Louisville, KY., July 1976.

43. Clay, "Crescent Hill Holds the Line," n.p.; Courier-Journal, Dec. 15, 1961.

44. "The Orphans on the Fairgrounds," pp. 17-19, 23, 27.

45. Masonic Home Journal, October 18, 1927, pp. 1-20.

46. William A. Mueller, A History of Southern Baptist Seminary, 1859-1959 (Nashville: Broadman Press, 1959), pp. 130-5, 208-9; W. E. Morrow, "The Resurgence of Louisville," Manufacturers' Record, March 25, 1926, p. 7.

47. Langsam, Preservation, p. 61.

48. Courier-Journal, Aug., 27, 1939, Oct. 20, 1940; July 13, 1967; Louisville Times, March 9, 1940, Feb. 3, 1968.

49. Copies of Records, DPW.

50. Ibid.

51. Ibid.

52. Ibid.

53. Ibid.

54. Ibid.

55. Courier-Journal, March 31, 1973.

56. Ibid., Jan. 15, 19, 1946, Jan. 22, 30, 31, Feb. 5, 1949.

57. Courier-Journal, Apr. 2, 1950; Apr. 3, 1952, Louisville Times, Aug. 16, 1965.

58. Howard-Gettys House National Register of Historic Places Nomination; Copies of Records, DPW.

59. Copies of Records, DPW; Rogers, Louisville's Neighborhoods, p. 14.

60. Louisville Times, Oct. 25, 1918, Nov. 15, 1924; Louisville Herald-Post, Nov. 16, 1930.

61. Louisville Herald, Jan. 11, 12, 1923; Louisville Times, Jan. 5, 10, 12, 1923, Nov. 15, 1924.

62. Copies of Records; Stratton O. Hammon, "Phoenix Hill Park, Louisville, Kentucky," FCHQ, 44 (April 1970), 160.

63. "Frolicking at Phoenix Hill," Phonews of Kentucky, Winter 1967-68, n.p. (clipping in Louieville Free Public Library Vertical File "Phoenix Hill") Melvelle O, Briney, "Phoenix Hill, Center of Song and Forum of Politics, "Louisville Timee, July 24, 1952.

64. Copies of Records, DPW.

65. Langsam, Preservation p. 75.

66. Ibid., Allgeier, History of the Highland Neighborhood, pp. 13-15.

67. Copies of Records, DPW.

68. Ibid.

69. Courier-Journal, Mar. 30, 1924, Jan. 19, 1964; Louisville Times, Feb. 19, 1923, Mar. 27, April 1, 1924, Apr. 27, 1927; St. Anthony Hospital, Louisville, Kentucky, 75th Anniversary, (Louisville, 1975), pp. 1-20.

70. St. Anthony Hospital 1972 Community Report, (Lousiville, 1977), p. 1.

71. Karem, The Cherokee Area, pp. 2-3.

72. English, "Louisville's Nineteenth Century Suburban Growth," p. 73.

73. Ibid., p. 75; Karem, The Cherokee Area, p. 3. Although laid out in 1870, Henning and Speed's Highland Addition was not officially recorded with the County Clerk's Office until 1885. This accounts for the apparent discrepancy between the date given here and the date of record listed in the Subdivision Index in the Appendix of this bolume.

74. English, "Louiville's Nineteenth Century Suburban Growth," pp. 74-6; Johnston, Memorial History of Louisville, II, 344-53; Langsam, Preservation, p. 134.

75. English, "Louisville's Nineteenth Century Suburban Growth," p. 81; Copies of Records, DPW.

76. English, "Louisville's Nineteenth Century Suburban," pp. 81-2.

77. Karem, The Cherokee Area, pp. 10, 20, 22; Cherokee Triangle Area Preservation District Designation Report (Louisville; Historic Landmarks and Preservation District Commission, January 1975), pp. 12, 59, Copies of Records, DPW

78. English, "Louisville's Nineteenth Century Suburban Growth," p. 105; Incorporation of Eastern Park Land Company, May 11, 1891, Corporation Book 7, p. 107, Jefferson County Court House.

79. Copies of Records, DPW: Plat of Eastern Park Land Company's Subdivision, Plat Book 1, p. 67, Jefferson County Clerk, Jefferson County Court House.

80. English, "Louisville's Nineteenth Century Suburban Growth," pp. 105-7.

81. Ibid., pp. 133-137; Karem, The Cherokee Area, pp. 53-4; Cherokee Triangle Designation Report, p. 130; Third Annual Report of the Board of Park Commissioners, (Louisville: Courier-Journal Job Printing Company, 1893), p. 67.

82. English, "Louisville's Nineteenth Century Suburban Growth," pp. 137-40; Annexation Map, Department of Public Works.

83. Cherokee Triangle Designation Report, p. 14; Copies of Records, DPW.

84. Cherokee Triangle Designation Report, p. 16-17.

85. Ibid.

86. Karem, The Cherokee Area, pp. 51-2.

87. Ibid., Barbara Hadley, "Upward and Outward," Louisville, February 1979, p. 78.

88. Langsam, Preservation, p. 70.

89. Karem, The Cherokee Area, pp. 52-3.

90. Copies of Records, DPW.

91. Ibid., Rogers, Louisville's Neighborhoods, pp. 8-9; Karem The Cherokee Area, pp. 49-50

92. Copies of Records; Sara Jones, "Windsor Place," in Elva Anne Lyons, ed., Local History Series, (Unpublished student papers, University of Louisville), 193-194 Vol. 13, pp. 97-102; Tom Stein, "Windsor Place," Ibib., pp. 103-118.

93. Copies of Records, DPW; Rogers, Louisville's Neighborhoods, p. 9.

94. Julian Hardaway, "Castlewood," in Lyons, Local History Series, Vol. 14, pp. 38-9.

95. Ibid., pp. 37-41; Copies of Records; Jefferson County Deed Book 622, p. 445, Deed Book 697, pp. 552-5, Deed Book 866, pp. 74-5; Jefferson County Plat Book 1, p. 69.

96. Copies of Records, DPW.

97. Langsam, Preservation, p. 74.

98. Copies of Records; DPW.Thelma Marie Meyers, "Fifty Acres of Land," in Lyons, Local History Series, Vol. 13, p. 167.

99. Copies of Records, DPW.

100. Ibid.

101. Ibid.

102. Ibid.

103. Langsam, Preservation, p. 138.

104. Copies of Records; DPW. English, "Louisville's Nineteenth Century Suburban Growth," p. 65.

105. Copies of Records; DPW. Dorothy Cotton, "Sulgrave Road," in Lyons, Local History

106. Ruth Strull, "The Evolution of a Neighborhood," in Lyons, Local History Series, Vol. 13, p. 267; Cotton, "Sulgrave Road," Ibid,. pp. 316-17.

107. Advertisement, Louisville, January 1979, p. 36; Hadley, "Upward and Outward," p. 78.

108. "Map of Louisville Showing Population by District," reprinted in Meadows, "Urban Transportation in Louisville," plate between pp. 131 and 132.

Chapter III

1. Directory of Manufacturers and Products, 1923 (Louisville: Louisville Industrial Foundation, Inc., 1923), p. 2; Seventh Annual Report of the Louisville Industrial Foundation (Louisville, 1923), p. 11.

2. Directory of Manufacturers, 1923, p. 2; "Louisville at the Falls of the Ohio," (pamphlet), Louisville Industrial Foundation, Inc., ca. 1923, n.p.; Forty-Third Annual Report of the Louisville Industrial Foundation (Louisville, 1959), n.p.

3. Louisville Civic Opinion, September 6, 13, 27, October 18, November 1, 8, 22, 29, December 13, 1924.

4. Ibid., Sept. 6, 1924.

5. Directory of Manufacturers, 1923, p. 2, Directory of Manufacturers and Products, 1928 (Louisville: Louisville Industrial Foundation, Inc., 1928), p. 2; Louisville: Center of American Markets (Louisville: Louisville Industrial Foundation, Inc., 1928), pp. 10-11, 13; Annual Reports of the Louisville Industrial Foundation, 1924-1926, 1928-1930.

6. William E. Morison,"The Resurgence of Louisville," Manufacturers Record, March 25, 1926, p. 6; Directory of Manufacturers, 1928, p. 3; Twelfth Annual Report of the Louisville Industrial Foundation, 1928, p. 9.

7. Commercial development on Fourth Street and Broadway is discussed at great length by the author in "Two Centuries of Urban Development in Central and Southern Louisville," Louisville Survey: Central and South Report (Louisville: Historic Landmarks and Preservation Districts Commission 1978), pp. 109-111.

8. Courier-Journal, October 14, 1928; Herald-Post, January 1, 1936.

9. Herald-Post, October 8, 1925, February 5, 1928.

10. Morison, "The Resurgence of Louisville," p. 6; Leland Johnson, The Falls City Engineers: A History of the Louisville District, Corps of Engineers, United States Army (Louisville: Louisville District, U. S. Army Corps of Engineers, 1975), pp. 177-8; Herald-Post, June 5, 1924.

11. Michael Lesy, Real Life: Louisville in the Twenties (New York: Pantheon Books, 1976), pp. 62-67.

12. Ibid., pp. 67-70; Louisville Herald, August 11, Nov. 11, 1924; Riebel, Louisville Panorama, p. 159.

13. Louisville Post, Dec. 21, 1923; Courier-Journal, Dec. 21. 1923.

14. Louisville Times, Jan. 18, 19, 21, 22, 1924; Louisville Post, Jan. 21, 1924.

15. Louisville Times, Sept. 5, 1927, July 9, 1930; Herald-Post, Sept. 5, 1927.

16. Louisville Times, March 22, 1928.

17. Courier-Journal, June 22, 1926, Jan. 21, Feb. 17, 21, 22, Mar. 21, 1928; Herald-Post, Feb. 16, Mar. 21, Apr. 3, 1928; Louisville Times, Jan. 21, 1928.

18. The Civic Journal, July 9, 1921; Louisville Civic Opinion, Feb. 24, 1923; Courier-Journal, June 28, 1930; Stewart Trisler, "Getting There Was an Adventure," Louisville, January 1979, pp. 38-9.

19. Bowman Field, 1918-1978, 60th Anniversary (pamphlet) September 1978, n.p.; Trisler, "Getting There Was an Adventure," pp. 60-1.

20. Herald Post, Sept. 8, 1928, Jan. 30, 1929, Oct. 19, 1931.

21. The politics of the 1922 annexation, which included an eight year legal battle, are recounted by the author in "Two Centuries of Urban Development in Central and Southern Louisville," Louisville Survey: Central and South, pp. 122-4.

22. Langsam, Preservation, p. 148; Louisville Evening Post April 24, 1915; "Gardencourt," (Brochure), University of Louisville Urban Studies Center; Henry F. Withey and Elsie R. Withey, Biographical Dictionary of American Architects (Deceased) Los Angeles: Hennessey & Ingalls, Inc., 1970, pp. 136-7; Walter Langsam, "Louisville Mansions from the Civil War to World War," Antiques in Kentucky, April 1974, p. 864.

23. Copies of Records.

24. Ibid.

25. Ibid.

26. Herald-Post, Oct. 17, 1920.

27. Copies of Records.

28. Ibid.

29. Herald-Post, Oct. 7, 1936.

30. Ibid.

31. Copies of Records. The discussion here of subdivision development in St. Matthews involves only those subdivisions which were later annexed, either wholly or in part, by the city of Louisville during the late 1940s and 1950s.

32. Ibid.; Herald-Post, Oct. 7, 1936.

33. Copies of Records. The city of Broad Fields is Section 1 of the subdivision of the same name. The sections platted in 1958 and 1959 were sections 2-A and 2-B.

34. Rogers, Louisville Neighborhoods, p. 7.

35. Copies of Records.

36. Ibid.

37. Beverly Selph, owner, to Ann Cooper, Louisville Times reporter, December 29, 1973. (Copy in files of Landmarks Commission), Jefferson County Deed Books 69, p. 406; 235, p. 14; Will Book 2, p. 340, Jan. 1, 1927; Copies of Records.

38. Copies of Records.

39. Ibid.

40. Ibid.

41. See Charles N. Gloab, "Metropolis and Subrub: The Changing American City," in John Braeman, et. al. eds., Change and Continuity in Twentieth Century America: The 1920s (Columbus: The Ohio State University Press, 1968), pp. 425-6.

42. Copies of Records, DPW.

43. Ibid.

44. Ibid.

45. Louisville Civic Opinion, April 21, 1923.

46. Copies of Records.

47. Ibid.

48. Ibid.

49. Ibid.

50. Ibid.

51. Ibid.

52. Gloab, "Metropolis and Suburb," pp. 404-5.

53. Courier-Journal, March 24, 1968; Copies of Records; Government Municipalities, Jefferson County, Kentucky (Louisville: Louisville Area Chamber of Commerce, 1973), n.p.

54. Copies of Records; Municipalities, n.p.

55. Herald-Post, Sept. 13, 1933.

56. Ibid.

57. For a somewhat fuller discussion of the depression in Louisville, see Kramer, "The Centuries of Urban Development in Central and Southern Louisville," Louisville Survey: Central and South, pp. 132-4.

58. Ibid., p. 132.

59. Courier-Journal, Apr. 14, 1939.

60. Ibid., Arp. 26, 1939.

61. Ibid., Apr. 27, 1939.

62. Copies of Records.

63. Ibid.; Courier-Journal, Aug. 17, 1952.

64. Carl E. Kramer, "Fortunes of War," Louisville, January 1978, p. 87.

65. "Map of Louisville, Kentucky Showing Population by District, 1910-1930."

66. Ibid.; U. S. Bureau of the Census, Census of the Population, 1940.

67. M. A. Allgeier, History of the Highland Neighborhood, pp. 29-48. See also "Historic Resources of Bardstown Road and Baxter Avenue," National Register of Historic Places Inventory-Nomination (draft), prepared by M. A. Allgeier, Louisville Historic Landmarks and Preservation Districts Commission.

68. Robert Pearce, "My Community - Slaughter Avenue," in Lyon, Local History Series, Vol. 13, p. 76.

69. "Historic Resources of Bardstown Road and Baxter Avenue."

70. Brooklawn Newsletter, Nov. 1970; Courier-Journal, June 11, 1973; Karem, The Cherokee Area, pp. 50-51.

71. Marzie Waterman. "The Highlands - Deerwood Bonnycastle," in Lyon, Local History Series, Vol. 13, pp. 161-2.

72. J. S. Moulton, "My Neighborhood," in Lyon, Local History Series, Vol. 13, pp. 297-8.

73. Ibid., p. 299; Courier-Journal (Editorial), Sept. 11, 1930.

Chapter IV

1. Department of Commerce, Bureau of the Census, Census of the Population, 1940, 1950, 1960, 1970.

2. Glenn H. Beyer, Housing and Society. (New York: The Macmillan Company, 1965), pp. 159-60; Mark Gelfond, A Nation of Cities; The Federal Government and Urban America, 1933, 1965. (New York: Oxford University Press, 1975), pp. 216-8; "Louisville Business Trends, 1950-1960," Louisville, February 20, 1960, p.11; Kathleen A. Sancomb , A Place to Live: Housing in Louisville and Jefferson County (Louisville: Louisville and Jefferson County Planning Commission, 1974), p. 171, Table 48.

3. Sancomb, A Place to Live, p. 12; Courier-Journal, Nov. 16, 1952. See also Harland Bartholomew and Associates, Comprehensive City Plan (draft), (Louisville, 1931), pp. 39-40; A. J. Stewart Proposal for Downtown Louisville, (Washington, D. C.; The Urban Land Institute, 1942), pp. 34-5.

4. Courier-Journal, Nov. 16, 1952, Sept. 12, 1954.

5. Sancomb, A Place to Live, pp. 12, 41, 87.

6. Courier-Journal, Sept. 12, 1954.

7. Action to Date: Highlights from Reports of Committees (Louisville; Louisville Area Development Association, May 1945), p. 2; "Traffic Improvements - $50 Million," Louisville, December 20, 1959, p. 45; "Louisville Business Trends," p. 9; Progress Through Planning, condensed version, (Louisville: Louisville and Jefferson County Planning and Zoning Commission, 1959), p. 15.

8. Comprehensive City Plan (draft), pp. 34-6; Action to Date, p. 7; Louisville: Five Years of Development, 1943-1948 (Louisville: Louisville Area Development Association, 1948), p. 6; Courier-Journal, Aug. 25, 1945.

9. Louisville: Five Years of Development, p. 6; Bureau of Business Research, The Effect of the Louisville Watterson Expressway on Land Use and Land Values (Lexington College of Commerce, University of Kentucky, 1920), p. 36; Courier-Journal, Aug. 24, 1952.

10. Effect of the Louisville Watterson Expressway, pp. 6, 36; Environmental and Section 4(f) Statement (draft), Interstate 264, Project 1-264-1 (48); FI 264-1(53) 17, Watterson Expressway, FHWA-Ky-ElS-73-6-D, 1973, p. 1-1; Courier-Journal, March 4, 1948, July 26, 1951.

11. Courier-Journal, July 16, 18, Aug. 24, 1952, May 2, 1953; Douglas Nunn, "The Watterson Expressway Grows Up", Courier-Journal Magazine, July 18, 1954, pp. 7ff.

12. Effect of the Louisville Watterson Expressway, p. 6; Louisville Times, Sept. 29, 1956; Environmental and Section 4(f) Statement, pp. 1-1, 13-7; John D. Rae, The American Automobile: A Brief History (Chicago: The University of Chicago Press, 1965), p. 87.

13. Courier-Journal, Jan. 18, June 15, 1947.

14. Ibid., Jan. 18, 1947.

15. Ibid., June 15, 1947.

16. Ibid., Louisville Times, Dec. 20, 1947.

17. Courier-Journal, Oct. 38, 39, Nov. 19, Dec. 24, 1947.

18. Ibid., Jan. 14, 28, Feb. 24, 1948.

19. Ibid., Mar. 4, Apr.2, 1948.

20. Ibid., June 3, 1948.

21. Ibid., Apr. 6, 1958.

22. Ibid., May 13, 1958; Louisville Times, Jan. 9, 1958.

23. Courier-Journal, May 13, June 13, Oct. 15, 1958; Louisville Times, May 9, Sept. 8, 1958.

24. Courier-Journal, Feb. 4, Apr. 3, 1959.

25. Ibid., Apr. 3, 1959; Louisville Times, Feb. 4, May 9, 1959.

26. Louisville Times, May 8, 1959, June 8, 1960; Courier-Journal (editorial), June 9, 1960.

27. Louisville Times, May 10, 1960.

28. Ibid., Mar. 11, 1965, Jan. 12, 1966.

29. Ibid., Mar. 11, 1965, May 2, Nov. 8, 1966.

30. Ibid., Dec. 21, 23, 1966, Aug. 8, Nov. 9, 1967, Jan. 10, 1968.

31. Effect of the Louisville Watterson Expressway, pp. 12-17, 19; Lindsay Anne Kruger, Commercial/Office Space Development 1976 Comprehensive Plan Revision Background Information Series (Louisville: Louisville and Jefferson County Planning Commission, 1976), pp. 3-4.

32. Large Employers in the Louisville Area (Louisville: Louisville Area Chamber of Commerce, 1976), pp. 1-5.

33. Louisville and Jefferson County Planning and Zoning Commission, Docket File 9-64-57; Ordinance 124, Series 1957, Ordinance Books, Clerk's Office, Louisville Board of Aldermen; Louisville Times, Apr. 24, 25, 1957; Effect of the Louisville Watterson Expressway, pp. 32-3.

34. "The South's Top Manufacturing Complex," Louisville, December 20, 1959, p. 13; "The Implementer," Interview with Kenneth P. Vinsal, Louisville, January 1975, p. 54; "Bold Plans and Dynamic Actions," Production and Engineering Management, July 1953, p. 69.

35. Effects of the Louisville Watterson Expressway, p. 33; "Bold Plans," p. 67; "Grow, Louisville," Production Engineering and Management, July 1953, p. 66; "The South's Top Manufacturing Complex," p. 15; "The Implementer," p. 58.

36. "The Implementer," p. 93; Hammer, Green, Siler, Associates, Economic Prespect, Problems and Policies: Falls of the Ohio Region, Jefferson County (Louisville), Kentucky, Floyd and Clark Counties, Indiana. Prepared for the Falls of the Ohio Metropolitan Council of Governments. (Washington, D. C., and Atlanta: Hammer Green, Siler Associates, April 1968), Reprinted by Urban Studies Center, University of Louisville, p. 85; Directory of Manufacturers (Frankfort: Kentucky Department of Commerce, 1977), p. 117; Large Employers in the Louisville Area, pp. 1-5. Data on Bluegrass Research and Industrial Park was supplied by Highbaugh and Highbaugh Realtors.

37. Louisville Times, Sept. 1, 1960; Robert C. Wood, Suburbia: Its People and Their Politics (Boston: Houghton Mifflin Company, 1958), pp. 69, 83; Municipalities, passim.

38. Municipalities, passim; Kentucky Revised Statutes, 81.040, 81.050, 81.060; Courier-Journal, Feb. 23, 1947, June 15, 1965, Mar. 30, 1966.

39. Kentucky Revised Statutes, 100.137 (2); Courier-Journal, June 13, 1965; Louisville Times, Jan. 28, 1966; Scott Greer, Governing the Metropolis (New York: John Wiley and Sons, 1962), pp. 83-104.

40. Courier-Journal, June 13, 1965.

41. Ibid.

42. Ibid.; Feb. 23, 1947, June 13, 1965.

43. U. S. Bureau of the Census, Census of the Population, 1940, 1950.

44. Ibid., 1950, 1960.

45. Ibid., 1960-1970; Richard T. Shogren and Carl E. Kramer, Population Report, Louisville and Jefferson County, Kentucky (Louisville: Louisville and Jefferson County Planning Commission, 1972), p. 35.

46. Courier-Journal, June 14, 1953.

47. Ibid., Nov. 16, 1952.

48. Copies of Records.

49. Ibid.

50. Ibid.; Courier-Journal, July 14, 1950, Nov. 7, 1956.

51. Copies of Records.

52. Ibid.

53. Ibid.

54. Louisville Times, Jan. 7, 1959, Apr. 5, 1963; Courier-Journal, Dec. 9, 1959, July 3, Sept. 9, 1962, Apr. 28, 1963; Invitation to Dedication of the New Seminary and Plant, October 12, 1963.

55. Copies of Records.

56. Ibid.

57. Ibid.; Courier-Journal; Joseph Phillip Shelton, "Two Mile Town," in Lyon, Local History Series, Vol. 13, pp. 239-40.

58. Courier-Journal, July 16, 1959.

59. Ibid., July 16, Dec. 30, 1969, Jan. 19, 1970, Nov. 21, 1977.

60. Ibid., July 8, 1970, Nov. 21, 1971, July 3, 1972, Aug. 9, 1973.

61. Flood Plain Inforamtion, Beargrass and Upper Mill Creeks, Jefferson County, Kentucky (Louisville: Louisville District, U. S. Army Corps of Engineers, 1969), pp. 22-31.

62. Ibid., pp. 1-3, 8, 11, 30-6.

63. Copies of Records.

64. Anne Calvert, "High-rises in the Potato Patch: the 'Uptown Downtowns'", Louisville, March 1975, p. 37.

65. Ibid., pp. 35-7.

66. Courier-Journal, Nov. 3, 1959, Feb. 20, May 8, 1960, July 1, June 7, July 14, 1961.

67. Copies of Records.

68. Ibid.

69. Ibid.

70. Ibid.

71. Ibid.; Courier-Journal, May 3, 1953.

72. Courier-Journal, June 21, 1953.

73. Ibid. June 21, 1953, May 29, 1955; Copies of Records.

74. Courier-Journal, May 29, 1955; Copies of Records.

75. Copies of Records.

76. Ibid.

77. Ibid.

78. Ibid.; Beautiful Louisville Homes (Louisville: Hieatt Brothers Home Builders, nd), n.p. Although this publication is undated, its content places it in the late 1920s.

79. Copies of Records.

80. Ibid.; Courier-Journal, Feb. 17, Dec. 19, 1952, Feb. 5, 1953; Municipalities, n.p.

81. Copies of Records.

82. Ibid.; Courier-Journal, Sept. 20, 1950, Feb. 17, 1952.

83. Louisville Times, Aug. 18, 1943; Copies of Records.

84. Courier-Journal, June 17, 1954, May 29, 1955; Copies of Reocrds.

85. Annexation Map, DPW.

86. Courier-Journal, May 26, 1957.

87. Courier-Journal, 1947-1950, passim.

88. Ibid, Nov. 12, 1947; Louisville Times, Nov. 12, 1947.

89. Courier-Journal, Nov. 25, 1948, Mar. 28, 1950; Louisville Times, Feb. 8, 1951; Christian Science Moniter, Dec. 3, 1948.

90. Courier-Journal, Mar. 25, 28, Apr. 19, 1950, May 30, 1950, Aug. 30, Sept. 24, 1952.

91. Ibid., Nov. 25, 1952, Sept. 1, 1954, June 5, 1957; Louisville Times, Nov. 25, 1952, Aug. 30, 1954.

92. Courier-Journal, Jan. 23, 1953; Louisville Times, Oct. 15, 1953.

93. Courier-Journal, Mar. 2, 3, 12, 1955, Apr. 2, June 11, 1957; Louisville Times, Oct. 20, 1956, July 11, 1958.

94. Courier-Journal, Sept. 10, 1954, Feb. 18, Mar. 6, Aug. 1, 1959; Louisville Times, Dec. 6, 1955.

95. Kramer, "Two Centuries of Urban Development in Central and Southern Louisville," p. 209.

96. Louisville Times, Feb. 4, Apr. 11, 1956; Kentucky Revised Statutes, 81.280, p. 207.

97. Louisville Times, Apr. 12, 28, 1956; Courier-Journal, Apr. 12, 20, 1956.

98. Courier-Journal, Sept. 30, 1962; Beautiful Crescent Hill, n.p.

99. Highland Community Ministeries, Eighth Annual Progress Report, Sept. 1978, p. 1.

100. Ibid.

101. Ibid., pp. 1-2.

Chapter V

1. John Ed Pearce, "Introduction," in Tornado! April 3, 1974, Samuel W. Thomas, ed. (Louisville: The Courier-Journal and The Louisville Times, 1974), pp. 8-9.

2. Ibid., pp. 9-10.

3. Ibid., p. 10.

4. Ibid, pp. 10-13.

5. Ibid., p. 4.

6. Louisville Times, May 15, 1974.

7. Courier-Journal, June 7, 1974.

8. George H. Yater, "Crescent Hill: Resisting Change," Louisville, September 1974, pp. 42-4, 75; Janet Rink, "Bonnycastle: Rebirth of a Neighborhood," Louisville Today, June 1977, p. 37-41; Dea Costelle, et. al, "Examination of the Effectiveness of the Bonnycastle Homestead Area Neighborhood Association," (Unpublished N. S. project, Institute of Community Development, University of Louisville, 1978), pp. 17-19.

9. Highland Community Ministeries, Eighth Annual Progress Report, pp. 5, 16-20; Kramer, "Two Centuries of Urban Development in Central and Southern Louisville," pp. 242-37.

10. Ann S. Hassett, "It's Official," Louisville, January 1976, p. 90.

11. Quoted in Thomas, (ed), Tornado! April 3, 1974, p. 95.

12. Artemus P. Richardson, "Report of Visit for the Review of Tornado Damage in Cherokee Park, George Rogers Clark Park, and Associated Parkways in Louisville, Kentucky, April 17-18, 1974," (xerox in metropolitan Parks and Recreation Board files) p. 1, quoted in Allen J. Share, "Restoration of a Tornado Ravaged Park," Landscape Architecture, September 1976, p. 456.

13. Ibid., p. 456.

14. Ibid., p. 462.

15. Highland Community Ministeries, Eighth Annual Progress Report, p. 6; David E. Blank, "Barbax Strategy," Bardstown Road / Baxter Avenue Corridor Study Report (Louisville: Louisville Community Design Center, September 1978), p. 1.

16. Blank, "Barbax Strategy," p. 1, 32.

17. Ibid., p. 32.

18. Ibid., pp. 32-3.

BIBLIOGRAPHY

DOCUMENTARY AND ARCHIVAL SOURCES

Catholic Archdiocese of Louisville
Cummunity Development Cabinet, City of Louisville
Department of Public Works, City of Louisville
The Filson Club
Historic Landmarks and Preservation Distrits Commission, City of Louisville
Jefferson County Archives and Records Service
Jefferson County Clerk's Office
Louisville and Jefferson County Planning Commission
Louisville and Nashville Railroad
Louisville Area Chamber of Commerce
Louisville Board of Aldermen (Clerk's Office)
Louisville Free Public Library (Kentucky Room)
Neighborhood Development Office, City of Louisville
University of Louisville Archives and Historical Records Center

LOUISVILLE NEWSPAPERS AND PERIODICALS

The Aegis and Louisville Literary Gazette, 1838
The American Democrat & Weekly Courier, 1845-46
The Critic, 1889-1893
The Courier-Journal, 1868-
Daily Journal and Focus, 1832
The Daily Louisville Times, 1852-56
The Farmer's Library of Ohio Intelligencer, 1801-07
The Focus, 1826-32
Louisville Anzeiger (German), 1849-1939
Louisville Board of Trade Journal, 1916-1950
The Louisville City Gazette, 1836-41
Louisville Civic Opinion, 1921-1930
Louisville Commercial, 1869-1902
Louisville Correspondent, 1813-17
Louisville Daily Courier, 1848-68
Louisville Daily Democrat, 1843-62
Louisville Daily Journal, 1830-68
Louisville Evening Post, 1878-1925
Louisville Gaxette and Western Advertiser, 1807-12
Louisville Herald, 1902-1925
Louisville Herald-Post, 1925-1935
Louisville Magazine, 1950-
Louisville Public Advertiser, 1818-42
The Louisville Times, 1884-
Morning Courier and American Democrat, 1845
The Weekly Louisville Times, 1855

PUBLISHED SOURCES

Allison, Young E. The City of Louisville and a Glimpse of Kentucky. Louisville: Board of Trade, 1887.

Atwater, Caleb. Remarks Made on a Tour to Prairie du Chein; Thence to Washington City in 1829. Columbus, Ohio: I. N. Whiting, 1831.

Baker, E. N., editor. A Complete Guide to Interesting Places in Louisville, Kentucky. Louisville: Brewer's Printing House, Printers and Publishers, 1883.

Brown, Robert W. Book of Louisville and Kentucky. Louisville: Louisville Convention and Publicity League, Inc., Publisher, 1915.

Bureau of Business Research, The Effect of the Louisville Watterson Expressway on Land Use and Land Values. Investigation made for the Kentucky Department of Highways in cooperation with the Bureau of Public Roads, U. S. Department of Commerce. Lexington: University of Kentucky, 1960.

Carmichael, Omer and Weldon James. The Louisville Story. New York: Simon and Schuster, Inc., 1957.

City Directories, 1832-1978.

Clarke, James Freeman. Autobiography, Diary and Correspondence. Edited by Edward Everett Hale. Boston: Houghton-Mifflin and Company, 1891.

Compilation of Basic Data, Louisville, Kentucky. Ca. 1934-35.

Crittenden, George A., compiler. The Industries of Louisville, Containing a General Description of Geographical Advantages, Manufacturing Resources, Transportation Facilities, and Commercial Relations of Louisville as a Center of Trade. Louisville: A. N. Marquis and Company, 1881.

Deering, Richard. Louisville: Her Commercial, Manufacturing, and Social Advantages. Louisville, 1849.

Dickens, Charles. American Notes. 2 Vols. London: Chapman and Hall, 1842.

Elstner, Charles E. The Industries of Louisville, Kentucky, and New Albany, Indiana. Louisville: J. M. Elstner and Company, 1886.

Hoffman, Charles Fenno. A Winter in the West. By a New Yorker. 2 Vols. New York: Harper and Brothers, 1835.

Hutchings, Thomas. The Courses of the Ohio River Taken By Lt. T. Hutchins, anno 1760, and Two Accompanying Maps. Edited by Beverly W. Bond, Jr. Cincinnati: Historical and Philosophical Society of Ohio, 1942.

Imlay, Gilbert. A Topographical Description of the Western Territory of North America. London, 1793.

Industrial and Commercial Louisville. Louisville: Louisville and Nashville Railroad, 1887.

King, Edward. The Great South Record of Journey in Louisiana...and Kentucky. Hartford: American Publishing Company, 1875.

Louisville After the Tornado, Louisville 1890.

Louisville, The Gateway to the South: The Ideal Industrial Center of the World. Louisville: Kentucky and Indiana Terminal Railway Company, 1924.

Ripple, David A. Transportation. 1976 Comprehensive Plan Revision Background Information Series. Louisville: Louisville and Jefferson County Planning Commission, 1976.

St. Anthony Hospital, Louisville, Kentucky, 75th Anniversary. Louisville: 1975.

Sancomb, Kathleen A., and others. A Place to Live: Housing in Louisville and Jefferson County. Louisville: Louisville and Jefferson County Planning Commission, 1974.

Schultz, Christian. Travels on an Inland Voyage. 2 Vols. New York: Isaac Riley, 1810.

Shogren, Richard T. and Carl E. Kramer. Population Report, Louisville and Jefferson County, Kentucky, 1970-1990. Louisville: Louisville and Jefferson County Planning Commission, 1972.

Stierlin, Ludwig. The State of Kentucky and the City of Louisville, with Special Consideration of the German Element. Louisville, 1873. Translated from German by John J. Weisert, 1976. MS at University of Louisville Archives and Historical Records Center.

The City of Louisville and Its Resources. Louisville: The Louisville Evening Post Company, 1892.

The Yearbook... of the City of Louisville. Louisville: The Commercial Club, 1898.

BOOKS

Allgeier, M. A. History of the Highland Neighborhood. Louisville: Highland Neighborhood Association, 1979.

Beautiful Crescent Hill, Illustrated. Louisville: Crescent Hill Improvement Club, 1908; Reprinted, Crescent Hill Community Club, 1978.

Briney, Melville O. Fond Recollections. Louisville: The Louisvillt Times, 1955.

Brown, Theodore M. Introduction to Louisville Architecture. Louisville: Louisville Free Public Library, 1960.

Casseday, Benjamin. The History of Louisville from Its Earliest Settlement Till The Year 1852. Louisville: Hull and Brothers, 1852. Reprinted by G. R. Clark Press, 1971

Curry, Leonard P. Rail Routes South: Louisville's Fight for the Southern Market, 1865-1872. Lexington: University of Kentucky Press, 1969.

Davenport, F. Garvin. Ante-Bellum Kentucky: A Social History. Oxford, Ohio: The Mississippi Valley Press, 1943.

Durrett, Reuben Thomas. The Centenary of Louisville. Louisville: The Filson Club, 1893.

Eaton, Clement. The Growth of Southern Civilization, 1790-1860. New York: Harper and Row, Publishers, 1961.

Filson, John. The Discovery, Settlement, and Present State of Kentucke. Wilmington: James Adams, 1784. Reprinted, Ann Arbor: University of Michigan Press, 1966.

[Ford, Henry and Kate]. History of the Ohio Falls Cities and Their Counties. 2 Vols. Cleveland: L. A. Williams and Company, 1882.

Greer, Scott. Governing the Metropolis. New York: John Wiley and Sons, 1962.

Hamlin, Talbot. Greek Revival Architecture in America: Being an Account of Important Trends in American Architecture and American Life Prior to the War Between the States, New York: Dover Publications, Inc., 1944.

Havinghurst, Walter J. River to the West: Three Centruies of the Ohio. New York: G. P. Putnam's Sons, 1970.

Herr, Kincaid A. Louisville and Nashville Railroad, 1850-1963. Louisville: Louisville and Nashville Railroad, 1964.

Hunter, Louis C. Steamboats on the Western Rivers. Cambridge: Harvard University Press, 1949.

_____. Studies in the Economic History of the Ohio Valley. Northhampton, Mass.: Smith College Department of History, n.d.

Jillson, Willard Rouse. The Great Flood of 1937 in Louisville, Kentucky. Louisville: The Standard Printing Company, Inc., 1937.

Johnson, Josiah Stoddard, editor. Memorial History of Louisville from Its First Settlement to the Year 1896. 2 Vols. Chicago and New York: American Biographical Publishing Company, ca. 1896.

Klein, Maury. History of the Louisville and Nashville Railroads. New York: The Macmillan Company, 1972.

Langsam, Walter E., editor. Preservation: Louisville Metropolitan Architectural and Historic Preservation Plan. Louisville: Falls of the Ohio Metropolitan Council of Governments, May 1973.

Lesy, Michael. Real Life: Louisville in the Twenties. New York: Pantheon Books, 1976.

McDowell, Robert E. City of Conflict: Louisville in the Civil War, 1861-1865. Louisville: Louisville Civil War Round Table, 1962.

McMurtrie, Henry. Sketches of Louisville and Its Environs. Louisville: S. Penn, 1819.

Medicine and Its Development in Kentucky. Compiled and Written by Medical Historical Research Project of the Works Projects Administration for the Commonwealth of Kentucky. Sponsored by the State Department of Health of Kentucky and Kentucky State Medical Association. Louisville: Standard Printing Company, 1940.

Mueller, William A. A History of Southern Baptist Seminary, 1859-1959. Nashville: Broadman Press, 1959.

Reps, John W. The Making of Urban America. Princeton: Princeton University Press, 1965.

Riebel, Raymond C. Louisville Panorama: A Visual History of Louisville. Louisville: Liberty National Bank and Trust Company, 1954.

Rogers, John C. The Story of Louisville Neighborhoods. Louisville: The Courier-Journal and Louisville Times Company, 1955.

Thomas, Samuel W., editor. Tornado! April 3, 1974. Louisville: The Courier-Journal and The Louisville Times, 1974.

Thomas, Samuel W., editor. Views of Louisville Since 1766. Louisville: The Courier-Journal and Louisville Times Company, 1971.

Wade, Richard C. Slavery in the Cities: The South, 1820-1860. New York: Oxford University Press, 1964.

_____. The Urban Frontier: Pioneer Life in Early Pittsburgh, Cincinnati, Lexington, Louisville, and St. Louis. Phoenix Books. Chicago: The University of Chicago Press, 1964.

Waring, George F. Report on the Social Statistics of Cities. 2 Vols. Washington: Government Printing Office, 1887. Reprinted, New York: Arno Press and The New York Times Company, 1970.

Wood, Robert C. Suburbia: Its People and Their Politics. Boston: Houghton Mifflin Company, 1958.

ARTICLES AND PROFESSIONAL PAPERS

Allen, Turner W. "The Turnpike System in Kentucky: A Review of State Road Policy in the Nineteenth Century," FCHQ, 28, (1954).

Andrews, Alfred J. "Gideon Shryock, Kentucky Architect, and Greek Revival Architecture in Kentucky," FCHQ, 18, (1944)

Brodley, William S. "Louisville." National Magazine, April 1903, pp. 120-28.

Breaux, Gustave A. "1937 Flood at Louisville." FCHQ, 11, (April 1937), p. 109-18.

Clark, Thomas D. :The Lexington and Ohio Railroad - A Pioneer Venture." Register, Vol. 31 (January 1933), p. 9-28.

Coats, Ida Symmes. "The Bardstown Road in the Early Days," Unpublished paper read before The Filson Club, October 4, 1915.

Congleton, Betty Carolyn. "George D. Prentice and Bloody Monday: A Reappraisal." Register, Vol. 63 (July 1965), p. 218-39.

Crevecoeur, Michael Guillaume St. Jean de. "History of Louisville." Louisville Monthly Magazine, January-February-March, 1879, pp. 29-35, 78-83, 121-25.

Deusner, Charles E. "The Know-Nothing Riots in Louisville." Register, Vol. 61 (April 1963), p. 122-48.

Fatout, Paul. "Canal Agitation at Ohio Falls." Indiana Magazine of History, Vol 57 (December 1961), p. 279-309.

Fugate, Robert. "The Bancokentucky Story." FCHQ, 50, (January 1976), 29-46.

Gloat, Charles N. "Metropolis and Suburb: The Changing American City," in John Brueman, et. al. eds., Change and Continuity in Twentieth Century America: The 1920s. Columbus: Ohio State University Press, (1968).

Guthrie, Blain A., Jr. "Captain Richard Chenoweth - A Founding Father of Louisville." FCHQ, 46 (April 1972), 147-60.

Hammon, Neal O. "The Fincastle Surveyors at the Falls of the Ohio, 1774." FCHQ, 44 (April 1970), 156-63.

Kramer, Carl E. "Images of a Developing City: Louisville, 1800-1830." FCHQ, 52, (April 1978) 166-90.

Leighton, George. "Louisville, Kentucky: An American Museum Piece." Harper's Monthly Magazine, September 1937, pp. 400-21.

McDowell, Robert E. "The Wilderness Road in Jefferson County," Louisville, June 20, 1967.

Morrow, W. E. "Resurgence of Louisville, Story of Municipal Progerss." Manufacturers Record, March 25, 1926, p. 1-8.

Newcomb, Rexford. "Gideon Shyrock - Pioneer Greek Revivalist of the Middle West." Register, Vol. 26 (September 1928), p. 221-35.

Powledge, Fred. "City in Transition." The New Yorker, September 9, 1974, p. 42-83.

"Through Southern Cities, Louisville, Gateway to the South." Southern Magazine, May 24, 1924, pp. 67-73.

Warner, Charles Dudley. "Cincinnati and Louisville." Harper's Monthly Magazine, August 1888, p. 435-39.

THESES, DISSERTATION, ACADEMIC PAPERS

Beyerly Garland, Virginia Clasby, Kathy Dietz, Donna Straus, and Ima Willis. "The Mayor's Neighborhood Development Office and the Germantown-Paristown Association." Unpublished M. S. project, Institute of Community Development, University of Louisville, 1976.

Chenault, Elizabeth Walker. "Development of Louisville, Town and City, from the Earliest Beginnings to 1830." Unpublished M. A. thesis, University of Louisville, 1962.

Cornell, Charlene M. "Louisville in Transition: 1870-1890." Unpublished M. A. thesis, 1970.

DeJarnette, William J., Burt J. Deutsch, and Susan Yeager. "Local Government's Role in Historic Preservation of Old Louisville - A Review and Assessment." Unpublished M. S. project, Institute of Community Development, University of Louisville, 1976.

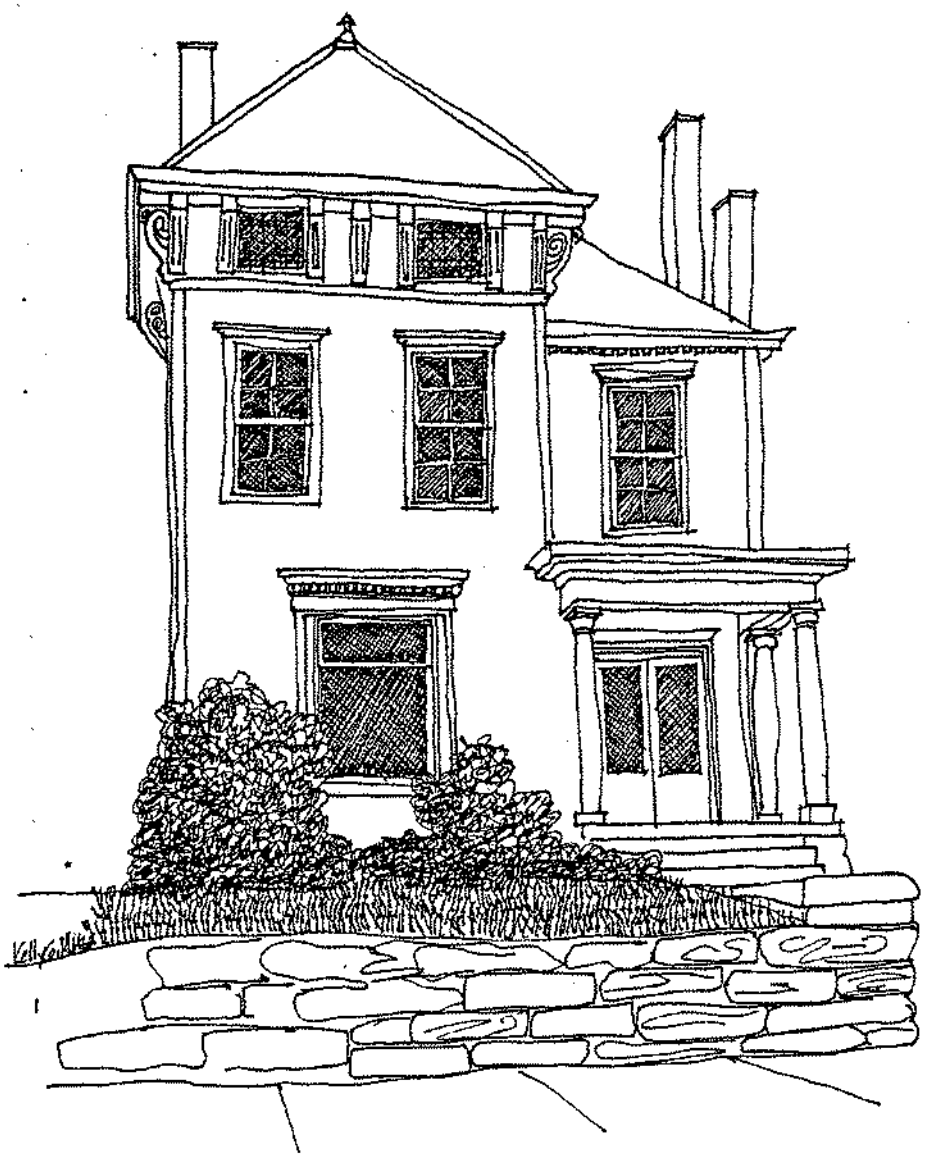
English, Judith Hart. "Louisville's Nineteenth Century Suburban Growth: Parkland, Crescent Hill, Cherokee Triangle, Beechmont and Highland Park." Unpublished M. A. thesis, University of Louisville, 1972.

Heller, John Edward. "A History of Ohio River Trade at Louisville from Its Beginning Until 1840." Unpublished M. A. thesis, University of Louisville, 1922.

Jones, Elizabeth F. "Henry Whitestone: Nineteenth-Century Louisville Architect." Unpublished M. A. thesis, University of Louisville, 1974.

Lyons, Elva Anne, editor. Local History Series. 35 Vols. Unpublished student papers, University of Louisville, 1938-1942.

Meadows, Milo M. "Urban Transportation in Louisville from 1830 to 1910." Unpublished M. A. thesis, University of Louisville, 1967.



APPENDIX

LOUISVILLE SURVEY

EAST FEBRUARY, 1978 – FEBRUARY, 1979

CITY OF LOUISVILLE COMMUNITY DEVELOPMENT CABINET

FORM 1

		CONSISTENT	COMPATIBLE	POOR	POINTS
AREA	ADJACENT BLOCKS				
	NEIGHBORHOOD				
	TOTAL				
BLOCK	LAND USE				
	SCALE				
	RHYTHM				
	ROOF SHAPES				
	DESIGN ELEMENTS				
	MATERIALS				
	SETBACK				
	ENVIRONMENT				
	TOTAL				
GENERAL	OVERALL CONDITION	EXCELLENT / GOOD / FAIR / POOR			
	DEVELOPMENT PERIOD	ANTE-BELLUM / VICTORIAN / CLASSICAL / POST WW1			
	ARCHITECTURAL QUALITY yes no	EXCELLENT / GOOD / FAIR / POOR			
	TOTAL				
EVALUATION	CATEGORY				
	TOTAL				

ADDRESS EVEN ☐ ODD ☐ FACE

LOCATION

UTM

CENSUS TRACT BLOCK

PHOTO ROLL FRAME

MAP NO.

LAND USE
- RESIDENTIAL
- COMMERCIAL
- INSTITUTIONAL
- INDUSTRIAL

SCALE
- 1 STORY
- 1½ STORY
- 2 STORY
- 2½ STORY
- 3 STORY
- STORY

RHYTHM
- REGIMENTED
- VARYING
- BROKEN

ROOF
- GABLE
- PARAPET
- HIP

ELEM.
- PORCHES
- FENCES

MATERIALS
- WALLS
- WOOD
- STONE
- BRICK
- STUCCO
- ROOF
- SHINGLE
- METAL
- SLATE
- TILE

SETBACK
- SMALL
- MEDIUM
- LARGE

ENVIRON.
- STREET TREES
- LAWNS
- SIDEWALK

LOUISVILLE SURVEY

EAST FEBRUARY, 1978 – FEBRUARY, 1979

CITY OF LOUISVILLE COMMUNITY DEVELOPMENT CABINET

FORM 2

ADDRESS EVEN ☐ ODD ☐ FACE

LOCATION

UTM

CENSUS TRACT BLOCK

PHOTO ROLL FRAME

MAP NO.

		CONSISTENT	COMPATIBLE	POOR	POINTS
AREA	ADJACENT BLOCKS				
	NEIGHBORHOOD				
	TOTAL				
ADJ.	LAND USE				
	BLOCK USE				
	TOTAL				
BLOCK	SCALE				
	DESIGN ELEMENTS				
	SETBACK				
	MATERIALS				
	ENVIRONMENT				
	TOTAL				
GENERAL	OVERALL CONDITION	EXCELLENT / GOOD / FAIR / POOR			
	DEVELOPMENT PERIOD	ANTE-BELLUM / VICTORIAN / CLASSICAL / POST WW1			
	ARCHITECTURAL QUALITY yes no	EXCELLENT / GOOD / FAIR / POOR			
	TOTAL				
EVALUATION	CATEGORY				
	TOTAL				

ADJACENT LAND USE

RESIDENTIAL		COMMERCIAL	
INSTITUTIONAL		INDUSTRIAL	

BLOCK FACE USE

INDIVIDUAL STRUCTURE		OPEN SPACE	
NON ARCHITECTURAL			

SCALE

1 STORY		1½ STORY	
2 STORY		2½ STORY	
3 STORY		STORY	

ELEM.

PORCHES	
FENCES	

SETBACK

SMALL	
MEDIUM	
LARGE	

MATERIALS

WALLS	
WOOD	
ROOF	
SHINGLE	

ENVIRON.

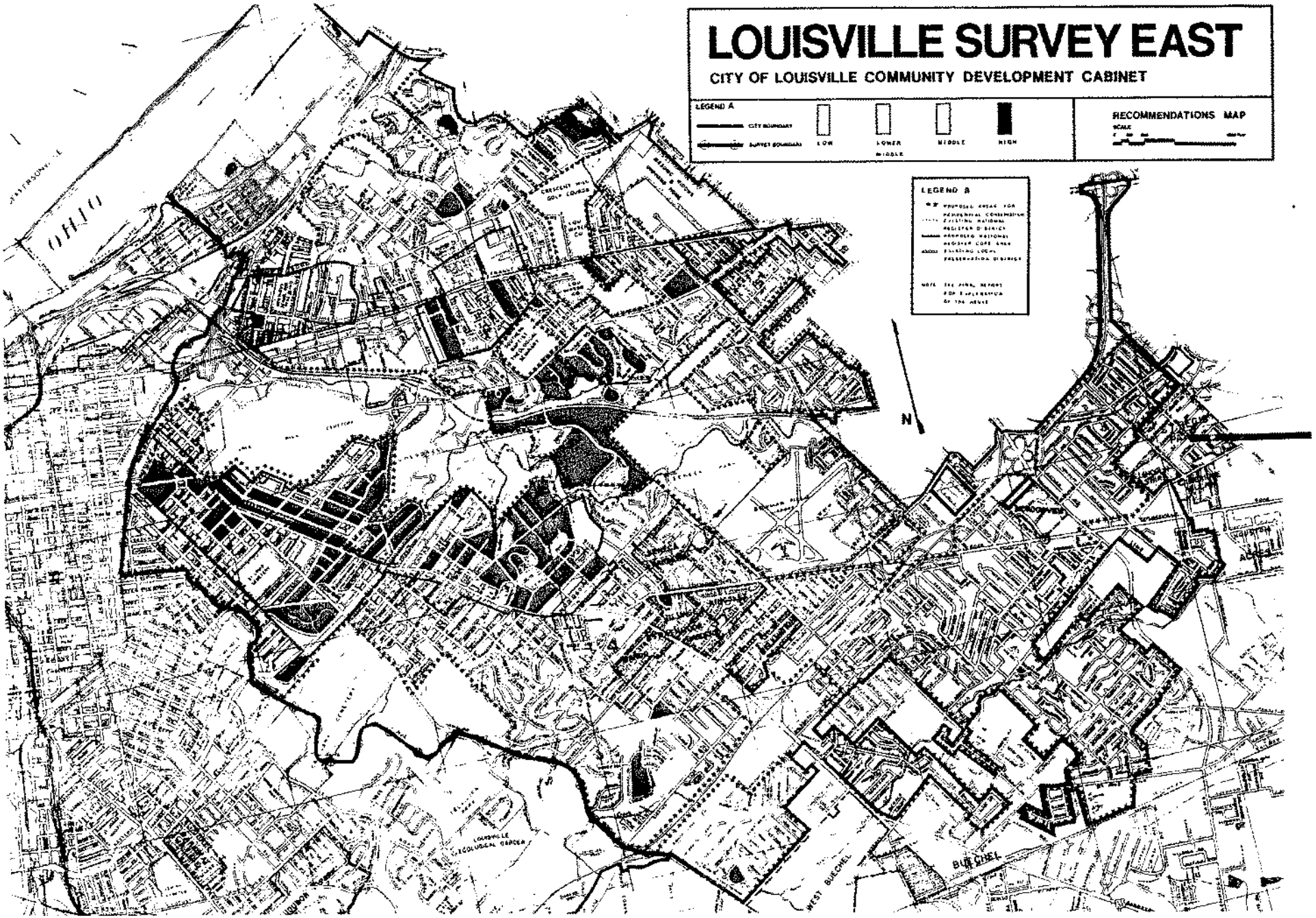
STREET TREES	
LAWNS	
SIDEWALK	

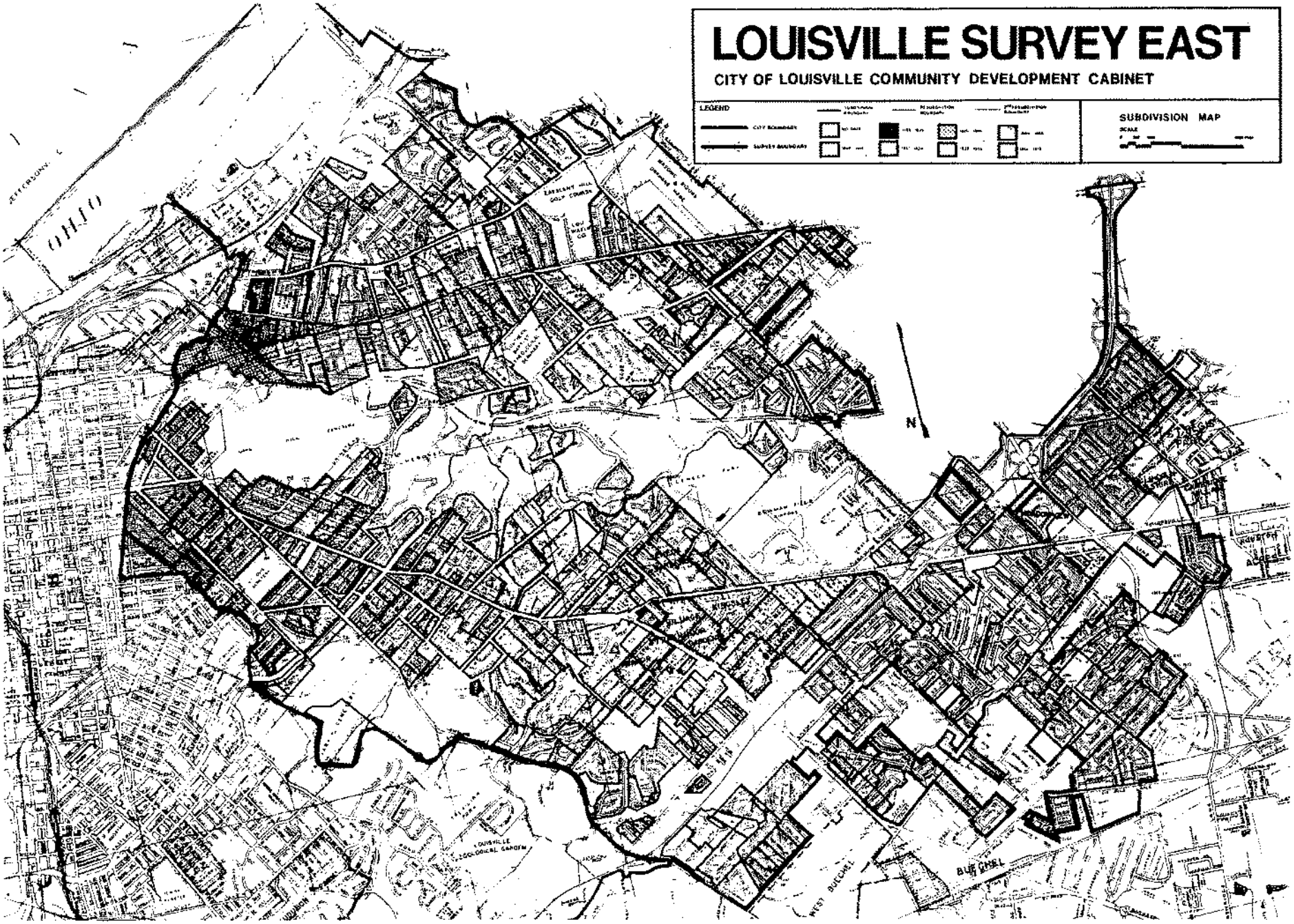
Large copies of the following Subdivision and Annexation Maps and the Recommendations Maps will be available for use at the following locations:

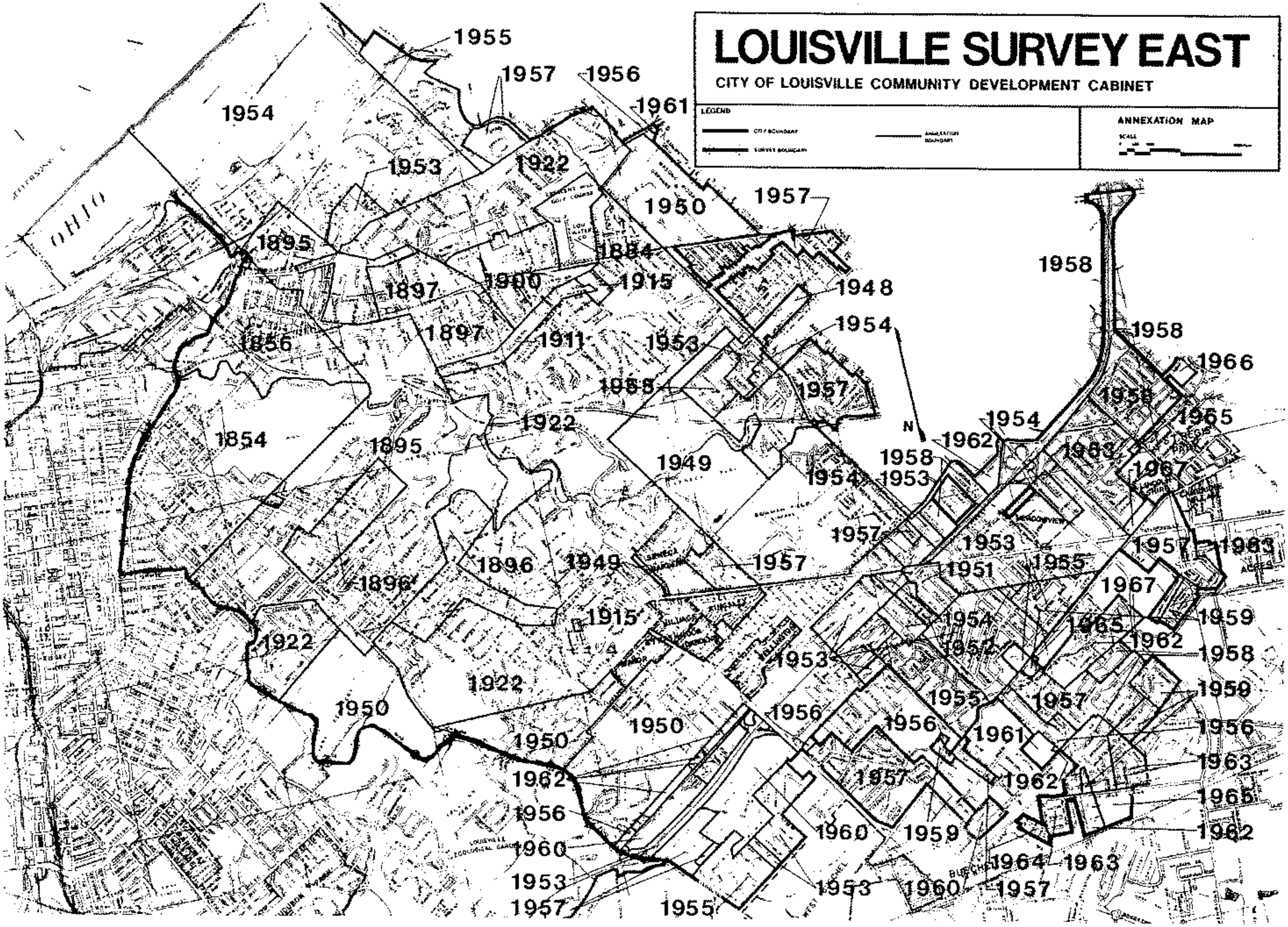
Louisville Landmarks Commission
727 West Main Street
Fourth floor - Museum of History and Science
Louisville, KY

Filson Club
118 West Breckinridge St.
Louisville, KY

The Louisville Free Public Library
Main Library
301 West York St.
Louisville, KY


LOUISVILLE SURVEY EAST
CITY OF LOUISVILLE COMMUNITY DEVELOPMENT CABINET
LEGEND A
LOW
LOWER MIDDLE
MIDDLE
HIGH
RECOMMENDATIONS MAP
LEGEND B
N
CRESCENT HILL GOLF COURSE
BUECHEL
WEST BUECHEL


LOUISVILLE SURVEY EAST
CITY OF LOUISVILLE COMMUNITY DEVELOPMENT CABINET
LEGEND
SUBDIVISION MAP
SCALE
N
LOUISVILLE ZOOLOGICAL GARDEN
WEST BUECHEL
BUECHEL


LOUISVILLE SURVEY EAST
CITY OF LOUISVILLE COMMUNITY DEVELOPMENT CABINET
LEGEND
ANNEXATION MAP
OHIO
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1955

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
		Clifton Neighborhood		
1	19	1850	Schwing and Owings Division	Wm. F. & Sara Schwing, Samuel Schwing, J. M. Delph, Menanda Owings
2	20, 20, 22	1855	Guthrie's Eastern Enlargement	
3	190	1889	William Pope & John Edwards' Southall Tract	William Pope & John Edwards
4	460	1902	W. H. Hoskins Subdivision of the Franck Tract	John L. & Clara B. Franck
5	435	1889	Smyser and Harris's Subdivision of the Anderson Tract	Jacob L. Smyser and Theodore Harris
6	435	1883	Bowles' Dedication of Prospect Avenue and adjoining alleys	James W. & Anna Bowles F. Pope Bowles
7	289	1889	Hunter, Anderson & Bowles Addition	Jacob L. Smyser and Theodore Harris
8	178	1891	Hite & Others' Corrected Plat of Smyser & Harris Subdivision	S. S. Hite, B. W. Hite, Alfred Herr Hite, John & Josephine Drescher
9	297	1872	J. M. Bryant's Subdivision	J. M. Bryant
10	465	1902	John E. Roche's Subidvision	John E. Roche
11	298	1873	Bowles' Third Addition	James W. Bowles
	622	N.D.	Pope Heirs Division	
12	622	1863	Pope Heirs Division: Ross v. Pope, Louisville Chancery Court Case No. 17, 987	
13	622	1874	Pope Heirs Division: Atkinson v. Atkinson, Louisville Chancery Court Case No.26-124	
14	622	1874	Pope Heirs Division: Henry D. Pope to Wallace Pope	
15	323	N.D.	Kate Pope's Addition	
16	471	1901	The Dennis Long Quarry Tract	Geo. J. Long, Nellie J. Long, Geo. Long, John H. Alderson, John D. Taggart, Florence L. Taggart, Katie Alderson, M. Henrietta Miller
17	356	1877	Cavewood Park	James W. Bowles & James Bridgeford, Assignee of Jas. M. Bowles
18	459	1902	Chas. W. Fust Subdivision	Chas. H. & Catherine Fust
19	459	1898	Rastetter's Subdivision	Joseph Rastetter
20	459	1905	Rastetter & Fust's Subdivision	Joseph Rastetter
21	804	1926	Balke's Subdivision No. 1	Wm. C. & Anna C. Balke
22	188/387	1872	Charles D. Pope's Addition	Charles D. Pope
23	288	1872	Beechland Subdivision in Pope's Addition	
24	434	1882	David Frantz's Addition	David Frantz, Jr.
25	399	1874	Adolph Rammers' Subdivision	Adolph Rammers
26	987	1893	Correction of Weisser's Subdivision	C. F. A. Weisser
27	501	1875	Bowles' Hill Side Addition Louisville Chancery Court Case No. 27,265	J. B. Bowles' executor v. J. B. Bowles' Heirs
28	400	1896	Hawthorn Heights	J. E. & Carrie Bell
29	574	1912	Phillip Weikel Subdivision	Phillip & Jennie Weikel Dora & John Ewald Alvina & Paul Rondi
30	2035	1962	Brownsboro Heights Section No. 1	Gilbert & Emily M. Westerfield
31	412	1884	Geo. K. Speed's Crescent Hill Subdivision No. 1	Geo. K. Speed

32	481	1892	Mrs. Jennie E. Speed's Subdivision of Chatsworth	Jennie E. Speed
33	862	1927	Idlewylde	W. E. & Jane M. Koop
34	1028	1938	Idlewylde Section No. 2	Jane M Koop
35	376	1890	Galt's Subdivision in Crescent Hill	M. E. Galt & John T. G. Galt
36	371	1889	Crescent Hill Park	S. S. & Jennie H. Hite
37	701	1923	Ridge-Dale	Riner-Payne Development Co. E. A. Hail, Gertrude B. Hail, Minnie Reimers, Wm. Bell, Sr.
38	1056	N.D.	Revision of Block "B" of Ridge-Dale	
39	647	1921	Hollywood	Fidelity & Columbia Trust Co.
40	609	1915	Shippen's Subdivision	E. S. & Ada Shippen
41	380	1893	Aubindale	Columbia Finance & Trust Co.
42	474	1875	Lewis Lentz's Subdivision of Fairview	Lewis Lentz
43	474	1903	English's Crescent Hill Subdivision	Sam English, Lyda English, Rose English, Henry G. Reynolds, Florence English Reynolds
44	984	1924	Eastland-Feldhaus Subdivision	Solon & Mary Eastland to G. G. & E. Feldhaus
45	999	1934	Dedication of Westminster Court to City of Louisville	Crescent Hill Presbyterian Church
46	563	1909	Hill Crest	Cherokee Heights Land Co. G. V. Hieatt, President
47	517	1907	Blue Grass Addition	Charles M. & Maggie M. Phillips, James C. Hoskins, Bettie R. Williams
48	543	1891	Reservoir Park Company's Subdivision	Attilla Cox, President Mechanics Trust Co.
49	430	1891	Raymond Subdivision	A. W. Randolph
50	430	1906	J. H. G. Wallbaum Subdivision of Part of the Raymond Place	J. H. G. Wallbaum
51	575	1910	Dumesnil and Rowland Subdivision	Edward & Carrie Rowland Harry & Eliza Dumesnil
52	439	1891	Valentine Franck's Subdivision	Valentine & Fredricka Franck
53	686	1923	Longview Land Company Subdivision	Longview Land Company V. F. Kimbel, Pres.
54	385	1891	Faust's Morningside Addition	Martin Faust, John Faust, S. S. Meddis, Chas. Southwick
55	385	1902	Ellwanger's Subdivision	Peter Ellwanger, executor of will of D. F. Ellwanger
56	620,621	1916	Bruner's Dedication of Streets	Ambrose & Annie E. Bruner
57	461	1901	Birchwood Addition to Crescent Hill	Nancy Jane Birch
58	493	1913	Birchwood	Nancy Jane Birch
59	461	1868	Kennedy's Crescent Hill Subdivision	
60	480	1899	J. E. Bell's Subdivision in Crescent Hill	Jas. E. & Carrie Bell
61	541	1908	Eastleigh	Eastern Realty Company, Attilla Cox, President
62	1069	1939	Avalon	J. H. & Laura Ruffin
63	649	1921	Upland Field "Cherokee" Subdivision	The Wheeler Company, Inc. Blakemore Wheeler, President
64	578	1911	Stilz Subdivision	Stilz Realty Company George Stilz, President
65	539	1871	Glenwood	E. W. Cannon, trustee for Mildred, John & Mildred Ann Thatcher

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
66	984	1926	Hermany Court	C. P. & Lizzie P. Jean
67	614	1907	Cherokee Heights	Cherokee Heights Land Co. G. V. Hieatt, President
68	528	1907	Eastover Park	A. McVaw
69	888	1932	Lem Realty Company's Subdivision No. 2	Lem Realty Co. Frank Short
70	861	1927	Landor Addition	Dan J. & Edna Sullivan
71	885	1928	Revision of Lots 1-10, 27, 28 in Landor Addition	Dan J. & Edna Sullivan
72	671	1922	Lightburne Subdivision of R. L. McCready Property on Cherokee Drive	Louisville Real Estate & Development Company, D. C. Clarke, President
73	1130	1942	Revision of Lots 115-121 of Lightburne Subdivision	Mildred & Thomas Vance Rose
74	798	1928	Cherokee Gardens	C. C. Hieatt & Helm Bruce
75	602	1915	Weisser Addition	F. O. Weisser
76	962	1903	Inglenook Addition to Crescent Hill	Charles D. & Anna S. Adams
77	204	1907	Inglenook Addition to Crescent Hill	Ben O. & Georgia Ford, Fred Diefenbach, Jr., H. Tobe
78	1267	1937	Green Tree Manor	Kentucky Development Corp. John J. Courtney, President
79	377	1892	Summit Park	Kentucky Excelsior Manufacturing Company, John Drescher, President
80	377	1895	Thompson Park	Agnes N. Anderson
81	450	1897	Thompson Park	Kate L., Sarah, Richard D., Jessie L. & John S. Anderson
82	1526	1957	Mellwood Heights	Swindler Construction Co. Ben F. Swindler, President
83	526	1905	Belcourt	James E. & Carrie Bell
84	572	1910	"Indianola" Resubdivision of Anderson Park	Warren C. Callahan & Orville Stivers, Albert Forester, J. H. Schlanger
85	406	1895	Clifton Heights	Clifton Land Company Gottlieb Letterle, President
86	1311	1950	Lindsay-Hite Subdivision	Lindsay-Hite Co., Inc. Ben F. Swindler, President
87	2153	1964	Honeysuckle Hill	Irwin & Marie B. Weyer
88	2084	1964	Le Blanc Court	James C. Irvin Co. James C. Irvin, President
89	1363	1952	Moran Place Subdivision Section No. 1	J. J. Coyle
90	1483	1954	Birchwood Manor	Highland Investment Co., Inc. Fred T. Hafendorfer, Pres.
91	2032	1962	Heather Hills Section No. 1	Eagles Company James W. Cambron, Jr. Pres.
92	2039	1962	Heather Hills Section No. 1 Revision of Lots 1-7	Eagles Company James W. Cambron, Jr. Pres.
93	2040	1962	Heather Hills Section No. 1 Revision of Lots 1-3 of Revision of Lots 1-7	Eagles Company James W. Cambron, Jr. Pres.
94	2055	1963	Heather Hills Section No. 2	Eagles Company James W. Cambron, Jr. Pres.
95	2610	1972	Highwood Apartment Complex	Ken State Development Co. & Riverhill Apartments, Inc.
96	940	1931	Dedication of Extension of Pryor Avenue	Joseph B. Hagen, Sr. & Ralph Stone, J. H. G. Wallbaum

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
		Clifton Neighborhood		
97	570	1911	University Place Subdivision on Pipe Line Avenue	Andrew J. & Louise Zehnder Louis B & Catherine Zehnder Louisville Building Co. G. H. McAlister, President
98	1112	1941	Don Warren Subdivision (Part of Lots 21-23 of University Place)	Don Warren
99	813	1928	McAlister's Eastern Subdivision	McAlister Land Company M. B. Pfeffer, President
100	1938	1960	Birchwood Place	Moorgate Development Co., Inc. John R. Carpenter, President
101	1486	1956	Regan Avenue Subdivision	Miller Finance Company Harold W. Miller, President
102	831	1926	Riedlonn Subdivision	R. D. Riedling
103	939	1931	Riedlonn Subdivision Section No. 2	R. D. Riedling & 10 others
104	934	1931	Riedlonn Sbudivision Section No. 3	R. D. Riedling
105	734	1924	Brownsboro Place	Paul F. Semonin
106	2401	1967	Oaklawn Subdivision	James C. Irvin Co. James C. Irvin, President
		Mockingbird Valley Neighborhood		
107	907	1912	Jutte Subdivision	Jane C. Jutte
108	1474	1955	Cherry Grove	Paul & Annabelle K. Wright
109	1430	1953	Ridgewood	Paul Semonin, Jr.
110	1426	1955	Revision of Greenleaves Subdivision Section No. 1	Zana Realty Co., Archer Distributing Co., Naomi Land Co., Matilda Land Co., Edgar W. Archer, President
111	1427	1954	Greenleaves Subdivision Section No. 2	Edgar W. Archer, President
112	853	1926	Mockingbird Hill	Bushnell & Irins Co., Fidelity & Columbia Trust Co., Lightfoot Land Co.
113	715, 716	1927	Green Hills	
		Braeview Neighborhood		
114	754	1924	Part of Braeview	Fehr Realty Co. Frank Fehr, President
115	764	1925	Braeview	Fehr Realty Co. Frank Fehr, President
116	2624	1972	Lexington Place	William H. Collins
		Cherokee Gardens Neighborhood		
117	2497	1969	Cherokee Gardens West	W. B. Clem, Wm. A. Nunnelley, Jr., & Dahlem Realty Co.
118	791	1925	Fairfield Unit of Cherokee Gardens Subdivision	William S. Speed
119	789	1928	Cherokee Gardens	C. C. Hieatt & Helm Bruce, Jr.
120	2142	1964	Daneshall	Cambron-Kendall Co. Joseph W. Cambron, Jr., Pres.
121	2327	1966	Revision of Daneshall, Lots 11, 23-25	Cambron-Kendall Co. Joseph W. Cambron, Jr., Pres.
122	1464	1955	Cressbrook Subdivision	R. J. Stewart & Walter Wagner, Sr.
		Spring Station Neighborhood		
123	1481	1955	Penwood	William M. Harris & R. N. Wathen
124	1401	1954	Propinquity Lane Subdivision	C. H. & Dorothy H. Keeling
125	1351	1952	Spring Station Subdivision	Helen B. Bruce

Sub No.	Plat No.	Year	Subdivision	Subdivider/Developer
126	1500-1501	1956	Cannonshire	Galt Avenue, Baxter Avenue, Ellwood Avenue & Glenmary Avenue Realty Cos., Joshua B. Adams, President
127	1513	1957	Revision of Cannonshire	Galt Avenue, Baxter Avenue, Ellwood Avenue & Glenmary Avenue Realty Cos., Joshua B. Adams, President
128	1066	1939	Woodland	James T. & Minnie Clark
129	1078	1940	Woodland Section No. 2	James T. & Minnie Clark
130	1110	1941	Woodland Section No. 3	James T. & Minnie Clark
		Rock Creek Neighborhood		
131	DB2787X15	1951	Seneca Hills No. 1	Eline Realty Co.
132	DB2959X245	1952	Seneca Hills Section No. 1	Eline Realty Co.
133	1857	1955	Seneca Hills Section No. 2	Eline Development Co., Anthony J. Eline, Pres. Highland Investment Co., Fred T. Hafendorfer, Pres.
134	DB3036X281	1953	Huntingdon Road	Martin Adams & Sons Co., Inc. Joshua B. Adams, President
135	1537	1958	Cannonside	Moorgate Development Co. John R. Carpenter, Pres.
136	1281	1949	Rock Creek Gardens Section No. 1	Martin L. Adams & Sons Inc.
137	1410	1955	Revision of Rock Creek Gardens Section No. 2	Martin L. Adams & Sons Inc. Joshua B. Adams, President
138	DB3131X81	1954	Chamberry Circle	Nance Realty Co. Al J. Schneider, President
139	1489	1956	Hollin Terrace	Brown Hotel Firms J. Graham Brown, President
		St. Matthews Neighborhood		
140	850	1926	Cannonside Subdivision	Stewart W. & Mildred Allen
141	733	1924	Eline's Subdivision	Frank Eline & others
142	766	1925	Fairlawn	Wakefield-Davis Realty Co., William F. Randolph, Pres.
143	552	1910	Komus Subdivision	Komus Realty Co.
144	515	1907	E. T. Schmitt's Subdivision	E. T. Schmitt
145	816	1926	Lexington Manor	United States Realty Associates, Inc. Ralph C. Phillips President
146	842	1926	Breckenridge Villa Section No. 1	J. C. & Lula M. Turner
147	851	1926	Breckenridge Villa Section No. 2	J. C. & Lula M. Turner
148	573a	1912	Maplewood Subdivision	Mary Nanz
149	573b	1913	Magnolia Subdivision	Louisa Neuner & F. A. & Sallie Kraft
150	631	1893	Cherokee Court Subdivision	Suburban Home Company & John A. Fisher by R. H. Thompson, President
151	1178	1946	Nanz Subdivision	Lupino Realty Company Edgar W. Archer, President
152	1286	1950	Revision of Nanz Subidivision	Lupino Realty Company Edgar W. Archer President
153	1525	1958	Broad Fields Section 2-A	Broadway & Fourth Avenue Realty Co., J. Graham Brown, President
154	1555	1959	Broad Fields Section 2-B	Broadway & Fourth Avenue Realty Co., J. Graham Brown President

		Irish Hill Neighborhood		
155	273	ND	Map of Hamilton Avenue	
156	32-33	1859	Adams and Hull's Addition	Benjamin J. Adams, John C. Hull
157	360	1884	Schneikert's Subdivision	William & Julia Schneikert George & Anna Schuele
158	34	1864	Payne's Addition	Ward Payne
		Phoenix Hill Neighborhood		
159	37	1891	Preston, Christy and Johnston's Subdivision of Lots 14-18	Susan Preston Hepburn, William Preston Johnston, Henrietta Preston Johnston
160	38		Rogers and Barr's Subdivision of 11 Acre Lot No. 19 in Preston's Division	
161	382	1894	Tarascon Woolen Mills Co. Plat	Tarascon Woolen Mills Co. Frank Von Borries, Pres.
		Germantown-Paristown Neighborhobd		
162	46		Campbells Original Addition	
163	47	1853	Beard & Wife v. Campbell	
164	42, 163	1854	T. Y. Brent's South Eastern Addition	T. Y. Brent
165	255	1870	Page's Subdivision of Original Howard and Page Subdivision	John Howard, Samuel Page (original plat Aug. 1833) DB KKX410
166	390	1870	Page's Subdivision of Lots Nos. 1 & 3	
167	176	1888	Castleman's Breckinridge Street Bridge Addition	
168	436	1896	Amendment of S. Hutching's Subdivision	Samuel & Kate Hutchings
169	986	1891	Dedication of Innis Court	Susan E. Higgins
170	691	1923	Subdivision of Rivers-Yeager Company, Inc., Tract	R. H. Rivers, Pres.
171	433	1898	Cuperton, Smith, and Norton's New Subdivision of Southern 12 Acres of Lot No. 4, Howard and Page's Division	Mary E. Caperton, Sarah S. Smith, and Anna C. Norton
172	309	1870	Guthrie's South Eastern Enlargement	Wm. B. & Ann A. Caldwell and S. Lawrence & Sarah Julia Smith
		Highland Neighborhood		
173	963	1885	Dedication of Broadway and Barret, Wickliffe and Randolf Avenues	William Preston & Maria Preston Pope
174	983	1885	Plat by William Preston & Maria Preston Pope	William Preston & Maria Preston Pope
175	452	1896	Barr's Subdivision	Josephine B. McFerran, Anna W. Barr, Carolyn Barr Joyes, Morton V. Joyes, Susan B. McDermott, Edward J. McDermott Elizabeth W. Barr, J. B. McFerran, Jr.
176	166	1853	Christy and Johnston's Subdivision	
177	36	1853	Christy and Johnston's Subdivision in Preston's Eastern Enlargement	H. F. Christy and S. P. Christy
178	280	1891	Wm. Preston Johnston's Subdivision of Farm Lot No. 24	Wm. P. & Henrietta Johnston
179	280	1869	Sidney Rogers' Subdivision of Farm Lot No. 25	Sidney J. & A. Belle Rogers
180	359	1875	William Hughes Addition	Teutonia Real Estate & Building Assn., E. C. Bohne, President

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
		Tyler Park Neighborhood		
181	208	1925	Bates Court	Winthrop Allen
182	849	1926	Dedication of Hawthorne Avenue	John F. & Elnora B. Ecker
183	964	1913	Rothchild and Taylor Subdivision	Sylvia Rothchild
184	845	1926	Dedication of Dahlia Drive and Summit Avenue	C. R. & Mary Mengel
185	879	1928	Hawthorne Highlands	C. R. Mengel
186	666	1922	Castleton Subdivision Section No. 1	C. W. Gheens
187	666	1922	Castleton Subdivision Section No. 2	C. W. Gheens
188	1009	1948	Castle Vale Revision	Nance Realty Co. Al J. Schneider, President
189	1315	1950	Castle Vale Addition and Revision of Lots 1-4 of Castle Vale Revision	Nance Realty Co. Al J. Schneider, President
190	1347	1952	Castle Vale Addition Section No. 2	Nance Realty Co. Al J. Schneider, President
191	513	1907	E. A. Goddard's Subdivision	Edward A. & Susan Goddard
192	603	1912	Revision of E. A. Goddard's Subdivision	Edward A. & Susan Goddard
193	1049	1926	Castlewood (PB 7X70 & DB 1234X154)	H. H. Poutch, Chas. Bright, Jr., O. Byron to Helen J. Dravo wife of E. L. Dravo
194	623, 1049	1905	Castlewood (PB 1X69 & DB 622X445)	John B. Castleman
195	623, 1049	1909	Castlewood (DB 697X552-5)	
196	623, 1049	1912	Castlewood (DB 866X74-5)	John B. Castleman
197	392	1895	Section of Castlewood Addition	John B. & Alice B. Castleman
198	209	1902	Zehnder Garden Subdivision	Anton & Josephine Zehnder
199	411	1891	Forwood's Subidvision of Schmidt's Addition	Clinton W. Forwood
200	351	1882	J. S. Longest's Subdivision of 7½ Acres	J. S. Longest
201	380	1889	Harry Stucky's Highland Grove Addition	Harry Stucky
202	373	1889	Meddis & Smith's Ridgeland Addition	S. S. Meddis & Charles F. Smith
203	542	1910	Windsor Place	Highland Realty Co., Henry M. Johnson, President
204	405	1873	John H. Tucker's Subdivision	John H. Tucker
205	374a	1906	Revision of the Highlands Subdivision	Charles M. Phillips
206	374b	1904	Mary Herp's Subdivision	
207	375	1893	Revision of S. S. Meddis's Subdivision of part of Lot No. 2 of Tucker's Addition	S. S. Meddis
208	374c	1891	Oechsli's Eden Side Subdivision	Joseph Oechsli
209	374e	1901	Meddis and Southwick's Subdivision of Part of Oechsli's Edenside Addition	Charles Southwick, S. S. Meddis
		Camp Taylor Neighborhood		
210	1201	1921	Camp Zachary Taylor Main Camp	Louisville Real Estate and Development Co., D.C. Clarke, President
		Cherokee Triangle Neighborhood		
211	358	1878	H. I. Craycroft's Subdivision	Stephen E. Jones, Trustee of H. I. Craycroft
212	468, 492	1885	Henning & Speed's Highland Addition	James W. Henning & Joshua Speed

213	468	1890	Dedication of Douglas Avenue (Dearing Court)	Thomas James
214	1098	1941	Willow Place	R. A. & Lillian Eberenz
215	492	1907	Miss Fanny L. Slaughter's Subdivision	Fanny L. Slaughter
216	747	1921	Glenmary Subdivision	Glenmary Land Company, W. Wallace McDowell
217	527	1908	Extension of Ransdell Avenue and 15 foot alley	Henry S. Barker
218	630	1915	Revision of Henry S. Baker's Subdivision	Henry S. & Kate Barker
219	186(b)	1891	Bassett & Henry Longest's Subdivision	Eastern Land Company John Stites, President
220	976(b)	1905	Bassett & Henry Longest's Subdivision	Eastern Land Company
221	186(a)	1884	Clayton Longest's Subdivision	Louisville Savings Investment Assn., John H. Sutcliffe, Pres
222	382	1894	Clayton Longest's Subdivision	Louisville Savings Investment Assn., John H. Sutcliffe, Pres
223	976(a)	1905	Clayton Longest's Subdivision Division in Louisville Chancery Court Case No. 38,204.	
224	427	1905	Eastern Park Land Co. Subdivision	Eastern Park Land Co., John Stites, President
225	469	1891	Norris's Highland Addition	John E. Norris
226	512	1906	Baringer Land Company's Subdivision	Baringer Land Company Edward F. Peter, President
		Deer Park Neighborhood		
227	594	1914	Hartman Land Company's Subdivision	Hartman Land Company George Hartman, President
228	613	1919	Maria B. Hartman's Property Adjoining Hartman's Subidvision	Anton J. Eline, Elizabeth Hartman Eline, Mary Hartman & George S. Hartman, Trustee for Pearl Ruth Hartman
229	372	1889	N. T. Lee's Subdivision	N. T. & Martha S. Lee
230	374 d	1891	Norris's Eden Side Addition	John E. Norris
231	514	1907	Marie Gernert's Addition	Marie Gernert
232	799a	1922	Shady Lawn	Wakefield-Davis Realty Co. William F. Randolph, Pres.
233	799b	1929	Revision of Block "C" of Shady Lawn	George J. Hartman
234	702	1923	Shady Glen Subdivision	Odom Realty Company, agent, S. P. Wilkinson, owner.
235	521	1907	Subdivision of Andreas Hauck's 5 Acre Tract: Lot No. 1 in Division of Killian Allgeier's Estate	Joseph W. & Margaret Heeter
236	1000	1935	Olympia Subdivision	L. Jacobson & Sons, Inc. Ben P. Jacobson, President
237	591	1914	Gerlach Subdivision, Lot No. 12, Block No. 1	Caroline Ackerman
238	441	1894	Theodore Schwartz's Beargrass Heights Subdivision	Kentucky National Bank S. S. Bockee, President
239	508a	1906	Joseph W. Heeter Subdivision on Deerwood Ave. in the Highlands	Joseph W. Heeter
240	508b	1903	George J. Graeser's Subdivision on Deer Park Avenue	George J. & Jennie Graeser
241	508c	1907	H. T. Feldhaus Addition	Henry T. & Mary Feldhaus
242	457a	1901	Bullock's Highland Subdivision	Laurance Boreman, Talbot O. Bullock, John O. Bullock & Florence J. Bullock
243	457b	1904	Duker Subdivision	Albert G. Eilers, administrator of estate of Geo. Duker

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
244	457c	1901	Deer Park Annex	Meddis & Cox
245	505a	1902	Deer Park Subdivision	Harry Weissinger
246	505b	1906	Henry Subdivision	W. K. Henry, Bettie M. Henry & Edward B. Henry
247	635	1927	Revision of Forest Park	W. M. Randolph
248	569	1914	Alfresco Place Section No. 1	Albert S. & Anna C. Zimlich Leo J. & Hannah M. Zimlich
249	596	1914	Alfresco Place Section No. 2	Albert J. Zimlich Leo J. Zimlich
250	598	1915	Alfresco Place Section No. 3	Leo J. Zimlich
		Bonnycastle Neighborhood		
251	605	1872	Sherwood Avenue Subdivision	
252	456b	1891	Johnson's Melrose Addition	J. G. & Kate Brown N. L. & Scottie L. Johnson
253	978	1914	Parkway Addition	A. H. Marret
254	991	1904	Thompson's Sherwood Avenue Subdivision	E. V. Thompson, Sr.
255	456a	1900	Caldwell & E. J. Norton's Subdivision	Ernest & F. Zorn Norton Caldwell & Nannie Norton
256	503		Dedication of Alta Avenue	
257	591	1914	Edgewood Place	Parsons Realty Company A. L. Parsons, President
258	486b	1901	Caldwell & E. J. Norton's Subdivision No. 2	Caldwell & Nannie Norton Ernest & Ferda Norton
259	486a	1900	Bonnycastle Addition	Harriet E. Bonnycastle
260	486c	1911	L. P. Kleiderer's Addition	L. P. & Florence Kleiderer
261	571	1912	Bonnycastle Homestead Subdivision	Simon N. Jones, James M. Chilton, Clarence R. Gardiner
262	990	1905	William Krankel's Addition	William Krankel & Charles Wolke
263	717	1924	Dingle View	Dingle View Land Co. W. C. Coleman, President
264	723	1924	Sulgrave	Helm Bruce, Jr.
265	1391	1953	Cherokee Hills	Lovell N. Simpson
		Douglass Neighborhood		
266	604	1907	Kenilworth	Highland Realty Co. Henry M. Johnson, President
267	638	1920	Lauderdale	William F. Randolph
268	657	1920	Lauderdale Section No. 1	William F. Randolph
269	658	1921	Lauderdale Section No. 2	William F. Randolph
270	724	1924	Dedication of Speed Avenue	Helm Bruce, Jr., Julia D. Henning, & Dingle View Land Co., W. C. Coleman, Pres.
271	655	1922	Cherokee Village	Consolidated Realty Co. C. C. Hieatt President
272	705	1923	Cherokee Village	Consolidated Realty Co. C. C. Hieatt President
273	640	1921	Woodbourne Subdivision	Starks Realty Co. Isaac F. Starks, President
274	996		Starks Place - Revision of part of Woodbourne	Kentucky Title Insurance Co. & John P. Starks, trustee of will of Sallie C. Starks
275	545	1903	Addition to Douglass Park Subdivision	Lattimore D. Carter, Trustee of will of Geo. Douglass & Sally R. Carter
276	208	1901	Lot 3 of Douglass Park Subdivision of Geo. L. Douglass Estate	
277	964	1904	Douglass Park Subdivision	Mrs. S. R. Carter
278	1107	1944	Park Acres	Fidelity & Columbia Trust Co. trustee of will of J. C. Parker

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
279	1030	1938	Millvale	Lewis S. Gorin Standiford D. Gorin
280	1089	1940	Moyle Hill	Fidelity & Columbia Trust Co.
281	1303	1950	Ingleside	William C. & Lois K. Embry
282	1352	1952	Ingleside Section No. 2	Ingleside Development Co., Inc., Wm. C. Embry, Pres.
283	1275	1949	Cherosen Hills	C. K. Reynolds
284	561	1911	Woodbourne Heights	Louisville Trust Company H. V. Loring, President
285	660	1922	Meyer's Subdivision	Elizabeth & Geo. W. Meyer
286	639	1920	Weber's Heirs Subdivision	Alois & Juliet Weber Zehnder, C. R. & Verna Weber Manemann, Alfred & Alma Grieshaber, Martin Weber, Ray D. Weber, Mrs. Bertha J. Weber, Mary Emma Weber, Bertha B. Weber
287	756	1924	DeSopo's Subdivision	Joseph DeSopo
288	644	1922	James Davis Subdivision	James H. & Virginia Davis
289	665	1922	William Talbott's Subdivision of Lot No. 5 in Matilda Talbott Division	13 lot owners
290	597	1914	Ben S. Talbott's Subdivision of Lot No. 1 in the Division of Matilda Talbott's Estate	Ben S. Talbott
291	765	1925	F. G. Von Roenn's Addition	Fred G. Von Roenn, L. B. Von Roenn, Annie Bicker
292	511	1906	Kaelin's Subdivision	Kaelin Land Company Arthur E. Mueller, Pres.
293	977	1912	Revision of Kaelin's Subdivision No. 2	Fred Kaelin
		Alta Vista Road Section of Braeview Addition		
294	466	1902	Wilson Subdivision	John A. Fulton, assignee of Mrs. Nannie M. Wilson
295	2141	1964	Alta Circle	Pruitt Built Homes, Inc. Lee D. Pruitt, President
296	2440	1968	Alta Circle Section No. 2	Pruitt Built Homes, Inc. Lee D. Pruitt, President
297	2205	1965	Rostrevor Subdivision	Warwick Enterprises, Inc. Robert Browne, President
		Belknap Neighborhood		
298	682	1923	Aberdeen	Wakefield-Davis Realty Co. Wm. F. Randolph, President
299	693	1923	Aberdeen Section No. 2	Wakefield-Davis Realty Co.
300	788	1925	Aberdeen Section No. 3	Wakefield-Davis Realty Co.
301	697	1923	Glenafon	Lyons Real Estate and Development Co., Lorenz & Katherine Allgeier
302	931	1931	Aberdeen Section No. 4	Wakefield-Davis Realty Co. Wm. F. Randolph, President
303	932	1931	Aberdeen Section No. 5	Wakefield-Davis Realty Co. Wm. F. Randolph, President
304	1032	1938	Aberdeen Section No. 7	J. H. Wakefield, owner and trustee
305	653	1922	Tecomah	Wakefield-Davis Realty Co. Wm. F. RAndolph, President
306	1018	1937	Valley Vista Section of Aberdeen & Tecomah	J. H. Wakefield, owner and trustee
307	1969	1961	Tecomah Woods	Marbar Land Company, Inc. Charles J. Bing, President
308	1076	1939	R. J. Fanelli's Subdivision	R. J. & Louise Fanelli
309	1092	1940	Revision of R. J. Fanelli's Subdivision	R. J. & Louise Fanelli, Ralph R. & Margaret Stephens, Mary C. & Emett S. Watkins

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
310	629	1917	University Park	International Realty Associates, St. Louis Co., Minn. N. J. Upham, Pres., Lewis A. Walter, Gen. Manager
311	681	1923	University Park	International Realty Assoc.
312	216	1924	Revision of a portion of University Park	International Realty Assoc.
313	874	1927	Walterdale Terrace	Lewis A. Walter
314	566	1913	Cherokee Plaza	Cherokee Land Company John H. Sale, President
315	566	1916	Addition to Cherokee Plaza	Cherokee Court Land Co. Fred J. Drupler, President
316	506	1901	Zimlich Addition No. 1	Victor N. Meddis
317	506	1901	Zimlich Addition No. 2	Victor N. Meddis
318	510	1907	Sils Addition	John H. & Mary Sils
319	683, 684	1923	Lakeside	Wheeler Auction Corporation W. L. Wheeler, President
320	642	1921	Eastview Park	Harry A. McKnight, R. H. Knopp, H. M. Walker
321	2025	1962	Trough Springs	David H. Wilson, Bobby Welsh
322	1034	1935	Pferrer's Subdivision	Gustav & Emma Pferrer
		Strathmoor-Kingsley-Seneca Gardens Area		
323	636	1920	Strathmoor (City of Strathmoor Village)	Consolidated Realty Co. C. C. Hieatt, President
324	637	1921	Strathmoor Section No. 2 (City of Strathmoor Manor)	Consolidated Realty Co. C. C. Hieatt, President
325	801	1925	Strathmoor Section No. 4 (City of Strathmoor Manor)	Consolidated Realty Co. C. C. Hieatt, President
326	678	1923	Strathmoor Addition (City of Strathmoor Gardens)	Consolidated Realty Co. C. C. Hieatt, President
327	797	1925	Kingsley Extension of Strathmoor (City of Kingsley)	Hieatt Bros. C. C. Hieatt, President
328	656	1922	Broadmeade (City of Seneca Gardens)	Discher Land Company Fred Moellein, Pres. and Wetstein Land Co. Edward F. Weigel, President
329	835	1926	Broadmeade (City of Seneca Gardens)	Wetstein Land Co. Edward F. Weigel, President
330	936	1931	Broadmeade Section 5 (City of Seneca Gardens)	Wetstein Land Co. Edward F. Weigel, President
331	1006	1937	Seneca Gardens (City of Seneca Gardens)	Denver B. & Edith Cornett
		Hayfield-Dundee Neighborhood		
332	1521	1957	Dundee Estates Section No. 1	Sierra Land Company L. J. Harris, President
333	1924	1960	Dundee Estates Section No. 2	Seirra Land Company
334	1561	1959	Clarewood	Lawrence F. & Clare W. Speckman
335	2279	1966	Hayfield Section No. 1	Gerald Realty Corp. Louis Arru, President
336	2278	1966	Hayfield Section No. 2	Gerald Realty Corp. Louis Arru, President
337	2391	1967	Hayfield Section No. 3	E. P. Dillon & Sons Co. Edward J. & David P. Dillon, partners
338	1502	1956	Woodside Park	Carl Besendorf
339	2067	1964	Williamsburg Village	Hickory Lane Company, Inc.
340	2225	1965	Larkwood	William J. Steier & Sons Charles G. Steier , William J. Steier, Jr.
341	1944	1944	Gardiner Lane Park	Gerald Realty Corp. Louis A. Arru, President

342	2041	1962	Dell Lane Section No. 1	Fourth Avenue Amusement Co. D. Irving Long, President
343	2037	1962	Dell Lane Section No. 2	Fourth Avenue Amusement Co. D. Irving Long, President
344	2038	1962	Dell Lane Section No. 3	Fourth Avenue Amusement Co. D. Irving Long, President
345	770	1925	Homelawn Subdivision on Emerson Avenue	Maddox Kinkead, Architects, Builders & Realtors Christine & Elizabeth Yann
		Gardiner Lane Neighborhood		
346	741	1924	Villula Park	Louisville & Jefferson County Land Co., Frank Simons, Pres.
347	1059	1939	Winston Forest	Louisville & Jefferson County Land Co., Alfred Simons, Pres.
348	1062	1940	Winston Forest Section No. 2	Louisville & Jefferson County Land Co., Alfred Simons, Pres.
349	1154	1941	Gladstone Addition	Edgar & Marqueritte Archer
350	626	1917	Briscoe Subdivision No. 1	Fidelity Trust Co. under will of E. D. Briscoe
351	662	1922	Revision of and Addition to Briscoe Subdivision No. 1	Fidelity and Columbia Trust Co., trustee of will of E. D. Briscoe
352	755	1924	Glendale Subdivision on Tyler Lane	Kentucky Real Estate and Development Co., George W. Yeager
353	650	1913	Tremont Drive and Cumberland Avenue Dedication	Theodore & Martha O'Toule G. L. & Marie Reuenaugh, Herman & Anna King, C. C Younger
354	711	1923	Charles Kurz Subdivision	Louis & Mary Hoock Charles & Amelia Kurz
355	731	1924	Hoock Subdivision	Louis & Mary Hoock
356	707	1923	Bonnie View Subdivision	Nicholas & Annie Schmidt Louis & Mary Hoock
357	1243	1949	Revision of Carol Acres	Sidney & Rose Schneider
358	1244	1947	Carol Acres Sections 2 & 3	Sidney & Rose Schneider
359	1269	1949	Revision of Carol Acres Section No. 3	Sidney & Rose Schneider
360	1194	1946	Sherbrooke	Lee & Emma Pruitt
361	1302	1950	Wellbrooke	Harry & Rose Taylor
		Hawthorne Neighborhood		
362	1333	1951	Kingsley Addition	Anthony J. Driesbach
363	557	1909	Bon Air Subdivision	A. V. Thomson
364	206	1914	Lancashire Subdivision	Geo. W. Holland Mrs. A. E. Holland
365A	802	1925	Herndon Place	Wm. C. Coleman
365B	833	1928	Wellington Extension of Strathmoor (City of Wellington)	Consolidated Realty Co. C. C. Heiatt, President
366	1177	1946	Alanmeade Subdivision	Edgar W. Archer
367	1263	1948	Villanova Subdivision	M. C. Elliott and Ada M. Delhommer
368	779	1925	Beaumont	Wakefield-Davis Realty Co. Wm. F. Randolph, President
369	782	1925	Beaumont Section No. 2	Wakefield-Davis Realty Co. Wm. F. Randolph, President
370	818	1926	Hathaway Subdivision	J. C. Turner, trustee
371	906	1929	Seneca Village	Dingle View Land Co. Wm. C. Coleman, President
372	1247	1948	Seneca Village Section No. 2	Lupino Realty Co., Inc. Edgar W. Archer, President
373	1308	1950	Revision of Seneca Village Section No. 2	Lupino Realty Co., Inc. Edgar W. Archer, President

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
		Watterson City Neighborhood		
374	2099	1964	Watterson City Subdivision Section No. 1-A	Watterson City, Inc. Kemmons Wilson, President
375	2161	1965	Watterson City Subdivision Section No. 2	Watterson City, Inc. Kemmons Wilson, President
376	2289	1965	Watterson City Subdivision Section No. 3	Watterson City, Inc. Kemmons Wilson, President
377	1490	1956	Meadowcreek Subdivision	Fielding H. Dicky, Developer Owner, Woodbine Enterprises, Inc., B. E. Brubaker, Pres.
378	1546	1958	Meadowcreek Subdivision Section No. 2	Woodbine Enterprises, Inc. Owner, B. E. Brubaker, Pres. Fielding H. Dicky, Developer
379	2061	1963	Meadowcreek Subdivision Section No. 3-A	Gerald Realty Corp. Louis A. Arru, President
380	2093	1964	Meadowcreek Subdivision Section No. 3-A	Gerald Realty Corp. Louis A. Arru, President
381	2383	1967	Meadowcreek Subdivision Section No. 3-C	Gerald Realty Corp. Louis A. Arru, President
382	1460	1954	Village Green Subdivision	Martin L. Adams & Sons Joshua B. Adams, President
383	2062	1963	Vicksburg Heights Subdivision	Gerald Realty Corp. Louis A. Arru, President
384	2111	1964	Vicksburg Manor Subdivision	Gerald Realty Corp. Louis A. Arru, President
385	1371	1952	Manorview Subdivision	Manorview Corp. Henry A. Hayden, Pres.
386	1482	1955	Manorview Subdivision Section No. 2	Manorview Corp. Henry A. Hayden, Pres.
387	1492	1956	Manorview Subdivision Section No. 3	Manorview Corp. Henry A. Hayden, Pres.
388	2060	1953	Manorview Subdivision Section No. 4	Gerald Realty Corp. Louis A. Arru, President
389	1374	1952	Bashford Manor Gardens	Harold W. Miller Arthur G. Miller
390	1440	1955	Bashford Manor Gardens Section No. 2	Harold W. & Mildred L Miller
		Green Meadows Neighborhood		
391	1504	1956	Green Meadows Section No. 1	Galt Avenue Realty Co. Ellwood Avenue Realty Co.
392	1505	1957	Green Meadows Section No. 2-A	Glenmary Avenue Realty Co.
393	1531	1958	Green Meadows Section No. 2-B	Baxter Avenue Realty Co. Joshua B. Adams, President
394	1536	1958	Green Meadows Section No. 2-C	
395	1544	1958	Green Meadows Section No. 2-D	
396	1506	1956	Green Meadows Section No. 3	Rock Castle Investment Co.
397	1507	1956	Green Meadows Section No. 4	Fern Creek Heights, Inc. John E. Kennedy, President
398	1509	1956	Matthews Manor	Matthews Homes Inc. Chas. M. Matthews, President
399	1556	1959	Katbert Subdivision	Kathleen & Cesare Bertoli
400	1807	1959	Chery Chase Section No. 2	Ben and Florence Kaplan
401	1933	1960	Landan Subdivision	Joseph D. & Doris M. Spalding
402	1312	1950	Brookfield Manor	Jefferson Realty Company Jack W. Riley, Jr., Lillian M. Riley, Avery M. Riley, Betty G. Riley, Jack W. Riley
403	1123	1939	Wellingmoor	Ralph & Tabitha Drake
404	1254	1948	Revision of Strathmoor Park	Madison E. Douglas, Sr. and Madison E. Douglas, Jr.

405	1376	1953	Chester Villa Section No. 2	Chester Villa Corp. Chester Looper, Sec.-Treas.
406	1388	1953	Bon Air Estates	Bon Air Estates, Inc. W. E. Cox, President
407	1466	1955	Bon Air Estates Section No. 2	Kathleen E. Whittenberg, Trustee for H. G. Whittenberg, Jr., Walton D. Whittenberg, & William T. Whittenberg
408	1467	1955	Bon Air Estates Section No. 3	Kathleen E. Whittenberg
409	1484	1956	Revision of Lots 69-78 of Bon Air Estates Section No. 3	Whittenberg Engineering & Const. Co., Inc. H. G. Whittenberg, Jr., Pres.
410	1417	1954	Dell Brooke Subdivision	Emery Kinkead, Inc. Emery Kinkead, President
411	1498	1956	Bon Air Estates Section No. 5 (Supercedes Dell Brooke Sub.)	Bon Air Estates, Inc. W. E. Cox, President
412	1488	1955	Goldsmith Manor	H & C Developers, Inc. Irvin Fred Harrod, President
413	1423	1954	Monterey Villa Section No. 1	Alexander & Elizabeth Bush
414	1943	1960	Golden Heights	Chester Villa Development Co., Inc., Edw. Butler, President
415	1522	1956	Glen Oak	Gatewood Builders Supply Inc. Joseph F. Spraver, Jr., Pres.
416	1523	1957	Revision of Lots 26-35 of Glen Oak	Gatewood Builders Supply, Inc. Joseph F. Spraver, Jr., Pres.
417	1256	1948	Seneca Village Section No. 3	Lupino Realty Co., Inc. Edgar W. Archer, President
418	1411	1954	Second Revision of Seneca Village No. 3	Chipley Realty Company, Paul Kapelow, Lewis I. Leacher, & A. N. Kornman, partners
419	1385	1953	Wedgewood Manor Subidvision	L. Leroy Highbaugh, Sr. & Jr., Developers, Marquette Realty Co. & Hiawatha Realty Co., T. L. Corcoran, Pres. owner
420	1339	1952	Revision of Rose Dale Subdivision	Grandview Realty Corp. L. Robert Peter, Pres.
421	1398	1954	Revision of Lots 106-125 of Revision of Rose Dale Sub.	Grandview Realty Corp. & Peter Const. & Supply Co., Robert Peter, President
422	1409	1954	Revision of Lots 85-105 of Revision of Rose Dale Sub.	Grandview Realty Corp. C. Robert Peter, President
423	1396	1954	Revision of Highgate Springs Section No. 1	Crawford Homes, Inc.
424	1397	1954	Revision of Highgate Springs Section No. 2	Crawford Homes, Inc.
425	1454	1955	Highgate Springs Section No. 3	Breslin Construction Co. Frank H. Breslin, Pres.
426	1919	1960	Highgate Manor	The Sovereign Co., Inc. R. W. Marshall, President
427	1946	1960	Revision of Lots 1-3 of Highgate Manor	The Sovereign Co., Inc. R. W. Marshall, President
		Klondike Neighborhood		
428	1470	1955	Midlane Park Section No. 1	Chester Villa Development W. Edward Butler, President
429	1471	1955	Midlane Park Section No. 2	The Deerfield Co., Inc. R. W. Marshall, President
430	1529	1958	Midlane Park Section No. 3	Chester Villa Development Edward Butler, President
431	1541	1958	Midlane Park Section No. 4	Chester Villa Development Edward Butler, President

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
432	1545	1958	Midlane Park Sections 5 & 6	The Deerfield Co., Inc. R. W. Marshall, President
433	1992	1961	Midlane Park Section No. 7	The Deerfield Co., Inc. R. W. Marshall, President
434	2033	1962	Midlane Park Section No. 8	Chester Villa Development Co. Edward Butler, President The Langan Corporation Richard I. Beckley, President
435	2286	1965	Midlane Park Section No. 9-A	Chester Villa Development Co. Edward Butler, President The Langan Corporation Richard I. Beckley, President
436	2034	1962	Midlane Park Section No. 9-B	Chester Villa Development Co. Edward Butler, President The Langan Corporation Richard I. Beckley, President
437	2124	1964	Midlane Park Section No. 9-C	Chester Villa Development Co. The Langan Corporation
438	2520	1970	Midlane Park Section No. 9-D	Chester Villa Development Co. The Langan Corporation Edward Butler, President
439	2085	1964	Midlane Park Sections 10 & 11 and Redivision of Lots 218, 219, 248, & 249 in Section No. 7	Deerfield Co., Inc. R. W. Marshall, President
440	2080	1964	Midlane Park Section No. 12	Ed Butler Construction Co. Edward Butler, President
441	2064	1963	Midlane Terrace Section No. 12	Midlane Terrace, Inc. Robert J. Thieneman, Pres.
442	2204	1965	Midlane Terrace Section 2-A	Midlane Terrace, Inc. Robert J. Thieneman, Pres.
443	2649	1972	Midlane Terrace Section 2-B	Midlane Terrace, Inc. Robert J. Thieneman, Pres.
444	1538	1958	Klondike Manor	Grandview Realty Co., Inc. L. Robert Peter, Sr., Pres.
445	2113	1964	Klondike Park	Reviera Park Syndicate, Inc. R. F. McMahan, Sr., Pres.
446	1508	1956	Roselawn Subdivision Section No. 1	Grandview Realty Corp. L. Robert Peter, Sr. Pres.
447	1549	1958	Roselawn Subdivision Section No. 2-A	Peter Construction & Supply Co., C. Robert Peter, Pres.
448	1550	1956	Roselawn Subdivision Section No. 2-B	Peter Construction & Supply Co., C. Robert Peter, Pres.
449	1510	1956	Klondike Acres Subdivision Section No. 1	Breslin Construction Co. Frank H. Breslin, President
450	1511	1956	Klondike Acres Subdivision Section No. 2	Breslin Construction Co. Frank H. Breslin, President
451	1542	1958	Klondike Acres Subdivision Section No. 3	Breslin Construction Co. Frank H. Breslin, President
452	1557	1959	Gatewood Subidvision Section No. 1	
453	1910	1960	Gatewood Subidvision Section No. 2	J & H Homes, Woodgate Homes Inc., Gatewood Builders Supply, Inc., Layside Homes Inc., Joseph F. Spraver, Pres.
		Bowman Field Neighborhood		
454	1453	1955	Park Hills	Al J. Schneider
455	2026	1962	Park Hills Section No. 2	Anfold Corporation Fielding H. Dickey, Pres.
456	1278	1949	McCoy Manor Subdivision	McCoy Builders, Inc. Bryan S. McCoy, President

Sub. No.	Plat No.	Year	Subdivision	Subdivider/Developer
457	1301	1950	McCoy Manor Subidvision Section No. 2	McCoy Builders, Inc. Bryan S. McCoy, Pres.
458	1013	1937	Seneca Vista	Wm. F. Randolph
459	892	1928	Airview	Queenie Wathen Condon & Tess Wathen Somes
460	1516	1957	Kiltmoor Gardens Section No. 1	Bryan S. McCoy, Inc. Bryan S. McCoy, Pres.
461	1952	1961	Kiltmoor Gardens Section No. 2	Bryan S. McCoy, Inc. Bryan S. McCoy, Pres.
		Avondale Neighborhood		
462	1475	1953	Big Springs Garden (County)	Eline Development Co., Inc. A. J. Eline, Sr., Pres.
463	1534	1957	Big Springs Village	Bon Air Estates, Inc. W. E. Cox, President
464	587	1914	Avondale	Crown Real Estate Co.
465	1260	1948	Addition to Avondale	10 property owners
466	1936	1960	Thames Subdivision	Bryan S. McCoy, Jr. Co. Bryan S. McCoy, President
467	1348	1952	Avon Court	A. C. Mann A. J. Allgeier
468	1241	1947	Meadowview Estates (City of Meadowview)	M. C. & Virginia Noe Alford
		Hikes Point Neighborhood		
469	1402	1954	Sunset Terrace	R. F. McMahan Sr. & Jr.
470	1309	1950	Yorkshire	R. F. & Mary McMahan
471	1408	1953	Brookhaven Subdivision Section No. 1	Highbaugh Realty Co. L. LeRoy Highbaugh Sr. & Jr.
472	1461	1955	Brookhaven Subdivision Section No. 2-A	Highbaugh Realty Co. L. LeRoy Highbaugh Sr. & Jr.
473	1476	1955	Brookhaven Subdivision Section No. 2-B	Highbaugh Realty Co. L. LeRoy Highbaugh Sr. & Jr.
474	1503	1956	Brookhaven Subdivision Section No. 3	L. LeRoy Highbaugh Sr. & Jr.
475	1554	1958	Brookhaven Subdivision Section No. 4	L. LeRoy Highbaugh Sr. & Jr.
476	1558	1959	Brookhaven Subdivision Section No. 5	Highbaugh Realty Co. L. LeRoy Highbaugh Sr. & Jr.
477	2069	1963	Revision of Part of Brookhaven Subdivision Section No. 5	Bowman Manor Apts., Inc. Jeffe C. Bolhinger, President
478	1532	1960	Brookhaven Subdivision Section No. 6	L. LeRoy Highbaugh Jr.
479	1412	1954	Maywood	Whittenberg Construction Co. Inc., H. G. Whittenberg
480	2126	1964	Mylanta Estates	Mylanta Estates, Inc. Joseph Daniel Spalding, Pres.
481	1455	1955	Hikes Point Subdivision	Archer Construction Co., Inc. Kent Land Co. Inc, Archer Supply Corp, Inc., Evola Realty Co. Inc - Edgar W. Archer, President; Southern Dry Wall Co., Inc. G. B. Johnston, Pres.
482	1207	1922	Melbourne Heights	Agent - Wheeler Auction Corp. Owner - Chas. W. Hibbitt
483	1206	1927	Zeitz Bros. Subdivision of Lots 71-81 & Lots 134-139 of Melbourne Heights	Wheeler Auction Corp., Inc. agents.
484	1911	1912	Gering's Subdivision	Henry S. & Anna Gering
485	1518	1955	Revision of McMahan Village	McMahan Company, Inc. R. F. McMahan, President
486	1899	1960	Hill Creek Park	Roy F. McMahan & Alice McMahan

Appendix C: Seneca Vista Neighborhood

Supplemental Data for Seneca Vista Neighborhood

Neighborhood Summary: Located immediately west of Bowman Field, the Seneca Vista neighborhood developed by William F. Randolph in 1937. The neighborhood's primary growth occurred up through the early 1940s, with limited post-World War II infill. Seneca Vista is situated between Taylorsville Road and Denham Road and includes residential buildings along Drayton Drive and Landor Avenue. The neighborhood features a variety of mid-twentieth century homes, though styles are generally represented by Minimal Traditional and Cape Cod, with some examples of Colonial Revival of the two- story variety along Denham Road and Landor Avenue. Colonial Revival style condominiums are located along Landor Avenue and Taylorsville Road. Seneca Vista features no sidewalks, but does have uniform setbacks and general uniformity between the individual houses.

Photographs are provided of all properties within the TERPS approach surfaces; if needed, other properties were photographed to capture the architectural aesthetic of the neighborhood. Data is also provided in regard to Safety Program mitigation requirements or if easements already exist. The construction dates are drawn from the Jefferson County PVA.

Table Key
DC – District Contributing
NC – District Non-Contributing
NC (<50 yrs) – District Non-Contributing, less than 50 years old

Table C-1. Properties Within the Seneca Vista Neighborhood (Original Plat Dated 1937)

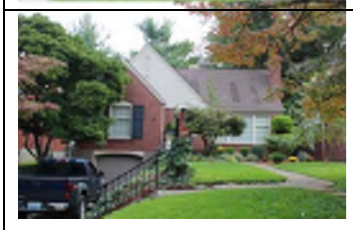
Image	Address	Date	NRHP	Within TERPS/ Safety Program
	2619 Drayton Dr	1942	DC	Yes/No
	2620 Drayton Dr	1941	DC	Yes/ Existing Easement
	2621 Drayton Dr	1942	DC	Yes/ Easement Required
	2623 Drayton Dr	1942	DC	Yes/ Existing Easement

Table C-1. Properties Within the Seneca Vista Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2625 Drayton Dr	1941	DC	Yes/ Existing Easement
	2626 Drayton Dr	1942	DC	Yes/ Existing Easement
	2627 Drayton Dr	1941	DC	Yes/ Existing Easement
	2628 Drayton Dr	1941	DC	Yes/ Existing Easement
	2628 H Drayton Dr	N/A	NC	Yes/ Airport Property
	2629 Drayton Dr	1941	DC	Yes/ Existing Easement
	2630 Drayton Dr	N/A	NC	Yes/ Airport Property
	2630 H Drayton Dr	N/A	NC	Yes/ Airport Property
	2631 Drayton Dr	N/A	NC	Yes/ Airport Property
	2632 Drayton Dr	1941	DC	Yes/ Existing Easement
	2633 Drayton Dr	N/A	NC	Yes/ Airport Property

Table C-1. Properties Within the Seneca Vista Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2634 Drayton Dr	1941	DC	Yes/ Existing Easement
	2635 Drayton Dr	N/A	NC	Yes/ Airport Property
	2636 Drayton Dr	1938	NC	Yes/ Existing Easement
	2637 Drayton Dr	1939	DC	Yes/ Existing Easement
	2638 Drayton Dr	1942	DC	Yes/ Existing Easement
	2639 Drayton Dr	1940	DC	Yes/ Existing Easement
	2640 Drayton Dr	1940	DC	Yes/ Existing Easement
	2641 Drayton Dr	1941	DC	Yes/ Existing Easement

Table C-1. Properties Within the Seneca Vista Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2642 Drayton Dr	1941	DC	Yes/ No
	2643 Drayton Dr	1941	DC	Yes/ Existing Easement
	2644 Drayton Dr	1941	DC	Yes/ No
	2645 Drayton Dr	1942	DC	Yes/ Existing Easement
	2647 Drayton Dr	1942	DC	Yes/ Easement Required
	2649 Drayton Dr	1942	DC	Yes/ No
	2616 Landor Ave	1939	DC	Yes/ No
	2617 Landor Ave	1939	DC	Yes/ Easement Required

Table C-1. Properties Within the Seneca Vista Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2618 Landor Ave	1939	DC	Yes/ Existing Easement
	2619 Landor Ave	1939	DC	Yes/ No
	2620 Landor Ave	1938	DC	Yes/ No
	2621 Landor Ave	1941	DC	Yes/ Existing Easement
	2622 Landor Ave	1946	DC	Yes/ Easement Required
	2623 H Landor Ave	N/A	NC	Yes/ Airport Property
	2623 Landor Ave	1938	DC	Yes/ Existing Easement
	2624 Landor Ave	1941	DC	Yes/ Existing Easement
	2625 H Landor Ave	N/A	NC	Yes/ Airport Property
	2625 Landor Ave	N/A	NC	Yes/ Airport Property

Table C-1. Properties Within the Seneca Vista Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2626 Landor Ave	1938	DC	Yes/ Existing Easement
	2627 Landor Ave	1938	DC	Yes/ Existing Easement
	2628 Landor Ave	1938	DC	Yes/ Existing Easement
	2629 Landor Ave	1938	DC	Yes/ Existing Easement
	2630 Landor Ave	1939	DC	Yes/ No
	2631 Landor Ave	1939	DC	Yes/ Existing Easement
	2632 Landor Ave	1939	DC	Yes/ Partial Easement/ Partial Required
	2633 Landor Ave	1939	DC	Yes/ Existing Easement

Table C-1. Properties Within the Seneca Vista Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2634 Landor Ave	1939	DC	Yes/ Existing Easement
	2635 Landor Ave	1939	DC	Yes/ Easement Required
	2640 Landor Ave	Ca. 1940s	DC	Yes/ Easement Required
	2649 Taylorsville Rd	Ca. 1940s	DC	Yes/ Easement Required
	1 Denham Rd	1938	DC	No
	11 Denham Rd	1998	DC	No
	13 Denham Rd	1938	DC	No
	15 Denham Rd	1950	DC	No
	17 Denham Rd	1950	DC	No
	19 Denham Rd	1942	DC	No
	21 Denham Rd	1941	DC	No
	5 Denham Rd	1938	DC	No
	7 Denham Rd	1937	DC	No
	9 Denham Rd	1938	DC	No
	2600 Drayton Dr	1940	DC	No
	2601 Drayton Dr	1940	DC	No
	2602 Drayton Dr	1941	DC	No
	2604 Drayton Dr	1940	DC	No
	2605 Drayton Dr	1940	DC	No
	2606 Drayton Dr	1942	DC	No
	2607 1/2 Drayton Dr	1942	DC	No
	2607 Drayton Dr	1942	DC	No
	2608 Drayton Dr	1942	DC	No
	2609 Drayton Dr	1942	DC	No
	2610 Drayton Dr	1942	DC	No
	2611 Drayton Dr	1942	DC	No
	2612 Drayton Dr	1941	DC	No

Table C-1. Properties Within the Seneca Vista Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2613 Drayton Dr	1942	DC	No
	2614 Drayton Dr	1946	DC	No
	2615 Drayton Dr	1942	DC	No
	2616 Drayton Dr	1943	DC	No
	2617 Drayton Dr	1942	DC	No
	2618 Drayton Dr	1941	NC	No
	2646 Drayton Dr	1939	DC	No
	2648 Drayton Dr	1942	DC	No
	2651 Drayton Dr	1941	DC	No
	2653 Drayton Dr	1943	DC	No
	2655 Drayton Dr	1942	DC	No
	2657 Drayton Dr	1941	DC	No
	2600 Landor Ave	1942	DC	No
	2601 Landor Ave	1950	DC	No
	2602 Landor Ave	1941	DC	No
	2603 Landor Ave	1936	DC	No
	2604 Landor Ave	1939	DC	No
	2605 Landor Ave	1939	DC	No
	2606 Landor Ave	1941	DC	No
	2607 Landor Ave	1941	DC	No
	2608 Landor Ave	1938	DC	No
	2609 Landor Ave	1947	DC	No
	2610 Landor Ave	1938	DC	No
	2612 Landor Ave	1948	DC	No
	2613 Landor Ave	1938	DC	No
	2614 Landor Ave	1938	DC	No
	2615 Landor Ave	1939	DC	No
	2655 Taylorsville Rd	Ca. 1940s	DC	No
	2657 Taylorsville Rd	Ca. 1940s	DC	No
	2659 Taylorsville Rd 1	Ca. 1940s	DC	No

Table C-1. Properties Within the Seneca Vista Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2701 Taylorsville Rd	Ca. 1960s	NC	No
	2721 Taylorsville Rd	Ca. 1990s	NC	No

Appendix D: McCoy Manor Neighborhood

Supplemental Data for McCoy Manor Neighborhood

***Neighborhood Summary*:** McCoy Manor neighborhood was platted in 1949 by developer Bryan S. McCoy. The neighborhood consisted of houses primarily along McCoy Way, from Trevillian Way to Taylorsville Road. Primary development of the neighborhood occurred between 1949 and 1957. The neighborhood consists of 38 properties, the majority of which are single-family homes. Some multi-family units (near the intersection of McCoy Way and Gladstone Avenue) are also present. The neighborhood consists of mid-twentieth century residential architecture and is heavily represented by the Ranch and Cape Cod styles of architecture with some Colonial Revival. Building materials generally consist of all brick, brick with Bedford stone highlighting, with a small number exhibiting all Bedford stone. The single-family homes are primarily one or one-and-one half stories in height, with the multi-family homes rising two stories. The neighborhood does not feature sidewalks, but each property does feature a driveway as well as a front walk connecting the front of the house with either the driveway or the street. Some of the single-family homes have integrated carports, while others have detached garages. The homes also have consistent building setbacks to the street and regular spacing between each building.

Photographs are provided of all properties within the TERPS approach surfaces; if needed, other properties were photographed to capture the architectural aesthetic of the neighborhood. Data is also provided in regard to Safety Program mitigation requirements or if easements already exist. The construction dates are drawn from the Jefferson County PVA.

Table Key
DC – District Contributing
NC – District Non-Contributing
NC (<50 yrs) – District Non-Contributing, less than 50 years old

Table D-1. Properties Within the McCoy Manor Neighborhood (Original Plat Dated 1949)

Image	Address	Date	NRHP	Within TERPS/ Safety Program
	2501 Gladstone Cir	Ca. 1950s	DC	Yes/No
	2625 McCoy Way	1953	DC	Yes/No
	2626 McCoy Way	1951	DC	Yes/No

Table D-1. Properties Within the McCoy Manor Neighborhood (Original Plat Dated 1949)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2627 McCoy Way	1951	DC	Yes/No
	2628 McCoy Way	1953	DC	Yes/No
	2629 McCoy Way	1951	DC	Yes/No
	2630 McCoy Way	1955	DC	Yes/No
	2631 McCoy Way	1952	DC	Yes/No
	2632 McCoy Way	1953	DC	Yes/No
	2633 McCoy Way	1953	DC	Yes/No
	2634 McCoy Way	1953	DC	Yes/No

Table D-1. Properties Within the McCoy Manor Neighborhood (Original Plat Dated 1949)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2635 McCoy Way	1953	DC	Yes/No
	2638 McCoy Way	1953	DC	Yes/No
	2644 McCoy Way	1953	DC	Yes/No
	2646 McCoy Way	1957	DC	Yes/No
	2605 Denham Rd	1951	DC	No
	2606 Denham Rd	1951	DC	No
	2604 McCoy Way	1950	DC	No
	2605 McCoy Way	1950	DC	No
	2606 McCoy Way	1950	DC	No
	2607 McCoy Way	1950	DC	No
	2608 McCoy Way	1950	DC	No
	2609 McCoy Way	1950	DC	No
	2610 McCoy Way	1950	DC	No
	2611 McCoy Way	1950	DC	No
	2613 McCoy Way	1951	DC	No
	2614 McCoy Way	1951	DC	No
	2615 McCoy Way	1955	DC	No

Table D-1. Properties Within the McCoy Manor Neighborhood (Original Plat Dated 1949)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2616 McCoy Way	1955	DC	No
	2618 McCoy Way	1950	DC	No
	2619 McCoy Way	1950	DC	No
	2620 McCoy Way	1951	DC	No
	2621 McCoy Way	1951	DC	No
	2622 McCoy Way	1951	DC	No
	2623 McCoy Way	1951	DC	No
	2624 McCoy Way	1951	DC	No
	2538 Trevilian Way	1949	DC	No
	2542 Trevilian Way	1950	DC	No
	2546 Trevilian Way	1949	DC	No

Appendix E: Seneca Manor Neighborhood

Supplemental Data for Seneca Manor Neighborhood

***Neighborhood Summary*:** Seneca Manor neighborhood was platted by the Embry Realty Company in 1937 and its development occurred gradually throughout the late 1930s through the mid-1950s. The neighborhood consists of 21 individual single-family residences, all of which are oriented on Valetta Road, except for two parcels on Taylorsville Road. The neighborhood consists of typical mid-twentieth century residential architecture, but heavily represented by two-story Colonial Revivals, with lesser numbers of one-story Colonial Revival homes. These homes are generally symmetrical in design, some with a single plane façade, others have façade projections, featuring quoining and pediments. Windows are generally wooden double-hung sash and, typical of the style, many of the doors features sidelights, transom and are topped with pediments. The lots in the immediate vicinity of Taylorsville Road include single-story Colonial Revival, and some of the later historic infill, including examples of Ranch and Split Level. The neighborhood features no sidewalks, but general uniformity in setbacks and spacing between homes.

Photographs are provided of all properties within the TERPS approach surfaces; if needed, other properties were photographed to capture the architectural aesthetic of the neighborhood. Data is also provided in regard to Safety Program mitigation requirements or if easements already exist. The construction dates are drawn from the Jefferson County PVA.

Table Key
DC – District Contributing
NC – District Non-Contributing
NC (<50 yrs) – District Non-Contributing, less than 50 years old

Table E-1. Properties Within the Seneca Manor Neighborhood (Original Plat Dated 1937)

Image	Address	Date	NRHP	Within TERPS/ Safety Program
	2523 Taylorsville Rd	1955	DC	Yes/No
	2525 Taylorsville Rd	1954	DC	Yes/No
	2621 Valletta Rd	1940	DC	Yes/No

Table E-1. Properties Within the Seneca Manor Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2623 Valletta Rd	1938	DC	Yes/No
	2624 Valletta Rd	1940	DC	Yes/No
	2625 Valletta Rd	1940	DC	Yes/ Easement Required
	2626 Valletta Rd	1947	DC	Yes/No
	2627 Valletta Rd	1958	DC	Yes/No
	2628 Valletta Rd	1935	DC	Yes/No
	2629 Valletta Rd	1940	DC	Yes/No
	2500 Denham Rd	1953	DC	No
	2600 Valletta Rd	1954	DC	No
	2604 Valletta Rd	0	DC	No
	2604 Valletta Rd	1940	DC	No

Table E-1. Properties Within the Seneca Manor Neighborhood (Original Plat Dated 1937)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2606 Valletta Rd	1951	DC	No
	2608 Valletta Rd	1938	DC	No
	2612 Valletta Rd	1940	DC	No
	2614 Valletta Rd	0	DC	No
	2616 Valletta Rd	1939	DC	No
	2617 Valletta Rd	1954	DC	No
	2618 Valletta Rd	0	DC	No
	2619 Valletta Rd	1951	DC	No
	2620 Valletta Rd	1947	DC	No
	2622 Valletta Rd	1945	DC	No

Appendix F: Kingsley Neighborhood

Supplemental Data for Kingsley Neighborhood

***Neighborhood Summary*:** The Kingsley neighborhood is a sixth class city within the City of Louisville. It extends eastward from Strathmoor Village and Strathmoor Gardens to Bon Air between Taylorsville Road and Hawthorne Avenue. Kingsley was one component a broader development effort by the Hieatt Consolidated Realty Company and was platted in 1925. Development occurred regularly through the 1930s and into the 1950s. The Kingsley Neighborhood's architectural composition generally consists of detached one-to-two story single-family residences with individual or shared driveways and some detached garages. Building styles include Bungalow, Cape Cod, Colonial Revival, Tudor Revival, Minimal Traditional and Ranch. Building materials largely consist of brick, rusticated limestone, and some replacement vinyl siding in gabled ends. The neighborhood also features a system of curvilinear streets, sidewalks, uniform setbacks and spacing, and a park-like aesthetic.

Photographs are provided of all properties within the TERPS approach surfaces; if needed, other properties were photographed to capture the architectural aesthetic of the neighborhood. Data is also provided in regard to Safety Program mitigation requirements or if easements already exist. The construction dates are drawn from the Jefferson County PVA.

Table Key
DC – District Contributing
NC – District Non-Contributing
NC (<50 yrs) – District Non-Contributing, less than 50 years old

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)

Image	Address	Date/ Style	NRHP	Within TERPS/ Safety Program
	2348 Emerson Ave	1948	DC	Yes/ No
	2351 Gladstone Ave	1995	NC (<50 yrs)	Yes/ No
	2353 Gladstone Ave	1935	DC	Yes/ No
	2361 Gladstone Ave	1989	NC (<50 yrs)	Yes/ No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2365 Gladstone Ave	1945	DC	Yes/ No
	2367 Gladstone Ave	1936	DC	Yes/ No
	2369 Gladstone Ave	1936	DC	Yes/ No
	2371 Gladstone Ave	1945	DC	Yes/ No
	2373 Gladstone Ave	0	DC	Yes/ No
	2375 Gladstone Ave	1936	DC	Yes/ No
	2379 Gladstone Ave	1938	DC	Yes/ No
	2501 Kings Hwy	1921	DC	Yes/ No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2503 Kings Hwy	1938	DC	Yes/ No
	2505 Kings Hwy	1948	DC	Yes/ No
	2507 Kings Hwy	1950	DC	Yes/ No
	2521 Kings Hwy	1937	DC	No
	2523 Kings Hwy	1938	DC	Yes/ No
	2530 Kings Hwy	1945	DC	Yes/ No
	2536 Kings Hwy	1938	DC	Yes/ No
	2537 Kings Hwy	1953	DC	Yes/ No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2540 Kings Hwy	1938	DC	Yes/ No
	2543 Kings Hwy	1939	DC	Yes/ No
	2544 Kings Hwy	1926	DC	Yes/ No
	2545 Kings Hwy	1951	DC	Yes/ No
	2547 Kings Hwy	1936	DC	Yes/ No
	2548 Kings Hwy	1940	DC	Yes/ No
	2549 Kings Hwy	1939	DC	Yes/ No
	2550 Kings Hwy	1936	DC	Yes/ No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2551 Kings Hwy	1948	DC	Yes/ No
	2552 Kings Hwy	1938	DC	Yes/ No
	2553 Kings Hwy	1949	DC	Yes/ No
	2554 Kings Hwy	1962	DC	Yes/ No
	2559 Kings Hwy	1946	DC	Yes/ No
	2601 Kings Hwy	1940	DC	Yes/ No
	2603 Kings Hwy	1946	DC	Yes/ No
	2605 Kings Hwy	1946	DC	Yes/ No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2522 Taylorsville Rd	Empty Lot	NC	Yes/ No
	2524 Taylorsville Rd	1951	DC	Yes/ No
	2526 Taylorsville Rd	1928	DC	Yes/ No
	2528 Taylorsville Rd	1953	DC	Yes/ No
	2530 Taylorsville Rd	1939	DC	Yes/ No
	2532 Taylorsville Rd	1934	DC	Yes/ No
	2534 Taylorsville Rd	1934	DC	Yes/ No
	2536 Taylorsville Rd	2003	NC (<50yrs)	Yes/ No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2538 Taylorsville Rd	1940	DC	Yes/ No
	2554 Taylorsville Rd	1926	DC	Yes/ No
	2556 Taylorsville Rd	Empty Lot	NC	Yes/ No
	2562 Taylorsville Rd	1926	DC	Yes/ No
	2564 Taylorsville Rd	1956	DC	Yes/ No
	2570 Taylorsville Rd	1938	DC	Yes/ No
	2574 Taylorsville Rd	1928	DC	Yes/ No
	2602 Taylorsville Rd	1953	DC	Yes/ No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2604 Taylorsville Rd	1949	DC	Yes/ No
	2606 Taylorsville Rd	1939	DC	Yes/ No
	2608 Taylorsville Rd	1942	DC	Yes/ No
	2610 Taylorsville Rd	1936	DC	Yes/ No
	2612 Taylorsville Rd	1941	DC	Yes/ No
	2614 Taylorsville Rd	1946	DC	Yes/ No
	2358 Winston Ave	1947	DC	Yes/ No
	2359 Winston Ave	1952	DC	Yes/ No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2360 Winston Ave	1938	DC	Yes/ No
	2362 Winston Ave	1938	DC	Yes/ No
	2363 Winston Ave	1936	DC	Yes/ No
	2364 Winston Ave	1936	DC	Yes/ No
	2366 Winston Ave	1941	DC	Yes/ No
	2367 Winston Ave	1926	DC	No
	2342 Emerson Ave	1928	DC	No
	2344 Emerson Ave	1926	DC	No
	2345 Emerson Ave	1930	DC	No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2346 Emerson Ave	1929	DC	No
	2335 Gladstone Ave	1937	DC	No
	2337 Gladstone Ave	1937	DC	No
	2338 Gladstone Ave	1960	DC	No
	2338 H Gladstone Ave	Off-street ½ Lot	NC	No
	2339 Gladstone Ave	1937	DC	No
	2340 Gladstone Ave	1952	DC	No
	2341 Gladstone Ave	1937	DC	No
	2356 Gladstone Ave	1952	DC	No
	2358 Gladstone Ave	1961	DC	No
	2360 Gladstone Ave	1928	DC	No
	2364 Gladstone Ave	1931	DC	No
	2366 Gladstone Ave	1953	DC	No
	2368 Gladstone Ave	1936	DC	No
	2370 Gladstone Ave	1936	DC	No
	2500 Kings Hwy	1934	DC	No
	2504 Kings Hwy	1939	DC	No
	2506 Kings Hwy	1928	DC	No
	2508 Kings Hwy	1963	DC	No
	2510 Kings Hwy	1937	DC	No
	2512 Kings Hwy	1939	DC	No
	2514 Kings Hwy	1948	DC	No
	2600 Kings Hwy	1950	DC	No
	2606 Kings Hwy	1940	DC	No
	2607 Kings Hwy	1950	DC	No
	2609 Kings Hwy	1938	DC	No
	2611 Kings Hwy	1946	DC	No
	2613 Kings Hwy	1940	DC	No
	2615 Kings Hwy	1949	DC	No
	2639 Kings Hwy	1949	DC	No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2640 Kings Hwy	1945	DC	No
	2641 Kings Hwy	1949	DC	No
	2642 Kings Hwy	1940	DC	No
	2643 Kings Hwy	1939	DC	No
	2644 Kings Hwy	1932	DC	No
	2645 Kings Hwy	1940	DC	No
	2646 Kings Hwy	1935	DC	No
	2647 Kings Hwy	1940	DC	No
	2648 Kings Hwy	1931	DC	No
	2649 Kings Hwy	1940	DC	No
	2650 Kings Hwy	1940	DC	No
	2651 Kings Hwy	1940	DC	No
	2653 Kings Hwy	1948	DC	No
	2655 Kings Hwy	1948	DC	No
	2657 Kings Hwy	1939	DC	No
	2658 Kings Hwy	1933	DC	No
	2659 Kings Hwy	1955	DC	No
	2660 Kings Hwy	1948	DC	No
	2661 Kings Hwy	0	DC	No
	2662 Kings Hwy	1948	DC	No
	2664 Kings Hwy	1940	DC	No
	2666 Kings Hwy	1978	NC (<50 yrs)	No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2668 Kings Hwy	1977	NC (<50 yrs)	No
	2609 Montrose Ave	1940	DC	No
	2611 Montrose Ave	1930	DC	No
	2613 Montrose Ave	1932	DC	No
	2615 Montrose Ave	1938	DC	No
	2617 Montrose Ave	1937	DC	No
	2621 Montrose Ave	1937	DC	No
	Montrose Ave	0	DC	No
	2380 Sydney Ave	1929	DC	No
	2384 Sydney Ave	1946	DC	No
	2388 Sydney Ave	1951	DC	No
	2392 Sydney Ave	1959	DC	No
	2396 Sydney Ave	1928	DC	No
	2504 Taylorsville Rd	1939	DC	No
	2506 Taylorsville Rd	1935	DC	No
	2616 Taylorsville Rd	1957	DC	No
	2618 Taylorsville Rd	1950	DC	No
	2624 Taylorsville Rd	1964	DC	No
	2646 Taylorsville Rd	1930	DC	No
	2648 Taylorsville Rd	1937	DC	No
	2652 Taylorsville Rd	1931	DC	No
	2654 Taylorsville Rd	1947	DC	No
	2656 Taylorsville Rd	1939	DC	No
	2658 Taylorsville Rd	1939	DC	No
	2660 Taylorsville Rd	1939	DC	No
	2700 Taylorsville Rd	Ca 1920s	NC	No
	2720 Taylorsville Rd	Ca 1950s	NC	No
	2317 Tyler Ln	1979	NC (<50 yrs)	No
	2318 Tyler Ln	1953	DC	No
	2319 Tyler Ln	1979	NC (<50 yrs)	No
	2320 Tyler Ln	1952	DC	No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2321 Tyler Ln	1953	DC	No
	2322 Tyler Ln	1952	DC	No
	2323 Tyler Ln	1952	DC	No
	2324 Tyler Ln	1952	DC	No
	2325 Tyler Ln	1953	DC	No
	2326 Tyler Ln	1956	DC	No
	2327 Tyler Ln	1953	DC	No
	2328 Tyler Ln	1954	DC	No
	2346 Tyler Ln	1946	DC	No
	2348 Tyler Ln	1946	DC	No
	2350 Tyler Ln	1950	DC	No
	2352 Tyler Ln	1943	DC	No
	2354 Tyler Ln	1951	DC	No
	2356 Tyler Ln	Empty Lot	NC	No
	2358 Tyler Ln	1936	DC	No
	2360 Tyler Ln	1938	DC	No
	2362 Tyler Ln	1938	DC	No
	2363 Tyler Ln	1938	DC	No
	2364 Tyler Ln	1949	DC	No
	2365 Tyler Ln	1945	DC	No
	2367 Tyler Ln	1937	DC	No
	2369 Tyler Ln	1949	DC	No
	2385 Tyler Ln	1938	DC	No
	2387 Tyler Ln	1938	DC	No
	2389 Tyler Ln	1941	DC	No
	2391 Tyler Ln	1940	DC	No
	2393 Tyler Ln	1938	DC	No
	2395 Tyler Ln	1941	DC	No
	2400 Tyler Ln	1946	DC	No
	2404 Tyler Ln	1946	DC	No
	2405 Tyler Ln	1938	DC	No
	2407 Tyler Ln	1938	DC	No
	2408 Tyler Ln	1941	DC	No
	2409 Tyler Ln	1935	DC	No
	2411 Tyler Ln	1935	DC	No
	2412 Tyler Ln	1939	DC	No
	2415 Tyler Ln	1938	DC	No
	2416 Tyler Ln	1941	DC	No
	2418 Tyler Ln	Empty ½ Lot	NC	No
	2424 Tyler Ln	1937	DC	No
	2426 Tyler Ln	1938	DC	No
	2432 Tyler Ln	1947	DC	No
	2436 Tyler Ln	1940	DC	No

Table F-1. Properties Within the Kingsley Neighborhood (Original Plat Dated 1925)				
Image	**Address**	**Date/ Style**	**NRHP**	**Within TERPS/ Safety Program**
	2440 Tyler Ln	1938	DC	No
	2442 Tyler Ln	1939	DC	No
	2444 Tyler Ln	1945	DC	No
	2350 Winston Ave	1941	DC	No
	2351 Winston Ave	1951	DC	No
	2352 Winston Ave	1928	DC	No
	2353 Winston Ave	1937	DC	No
	2355 Winston Ave	1936	DC	No
	2356 Winston Ave	1936	DC	No

Appendix G: Seneca Village Neighborhood

Supplemental Data for Seneca Village Neighborhood

***Neighborhood Summary*:** The Seneca Village neighborhood is composed of a neighborhood platted in 1929 by the by W.C. Coleman's Dingle View Land Company. Development did not begin until after 1946 and then it developed rapidly, as all lots were built out by 1951. The neighborhood is bounded roughly by Kent Road on the east, Taylorsville Road on the north, Carson way on the west, and Ribble Road to the south. At present, it contains a total of 64 residential buildings. The built environment consists of a solid Minimal Traditional theme, with no additional architectural types or styles. All of the homes feature narrow or non-existing eaves at the roofline and the homes were apparently built from a set of four or five patterns. On the whole, the district has been subject to very few incompatible alterations, either to individual homes or with infill development. The only non-historic home in the neighborhood (3004 Kent Road, constructed in 2003) and is a design sympathetic to the style, size, and setback of the surrounding historic homes.

Photographs are provided of all properties within the TERPS approach surfaces; if needed, other properties were photographed to capture the architectural aesthetic of the neighborhood. Data is also provided in regard to BFAA Safety Program mitigation requirements or if easements already exist. The construction dates are drawn from the Jefferson County PVA.

Table Key
DC – District Contributing
NC – District Non-Contributing
NC (<50 yrs) – District Non-Contributing, less than 50 years old

Table G-1. Properties Within the Seneca Village Neighborhood (Original Plat Dated 1929; construction began 1946)

Image	Address	Date	NRHP	Within TERPS/ Safety Program
	3013 Carson Way	1947	DC	Yes/ No
	3015 Carson Way	1947	DC	Yes/ No
	3017 Carson Way	1947	DC	Yes/ No

Table G-1. Properties Within the Seneca Village Neighborhood (Original Plat Dated 1929; construction began 1946)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3019 Carson Way	1947	DC	Yes/ No
	3021 Carson Way	1947	DC	Yes/ No
	3022 Carson Way	1948	DC	Yes/ No
	3023 Carson Way	1947	DC	Yes/ Easement Required
	3024 Carson Way	1948	DC	Yes/ No
	3025 Carson Way	1947	DC	Yes/ Easement Required
	3026 Carson Way	1948	DC	Yes/ No
	3027 Carson Way	1947	DC	Yes/ Easement Required

Table G-1. Properties Within the Seneca Village Neighborhood (Original Plat Dated 1929; construction began 1946)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3028 Carson Way	1948	DC	Yes/ No
	3029 Carson Way	1947	DC	Yes/ Easement Required
	3030 Carson Way	1948	DC	Yes/ No
	3031 Carson Way	1947	DC	Yes/ No
	3032 Carson Way	1948	DC	Yes/ Easement Required
	3033 Carson Way	1947	DC	Yes/ Easement Required
	3034 Carson Way	1948	DC	Yes/ Easement Required
	3035 Carson Way	1947	DC	Yes/ Easement Required

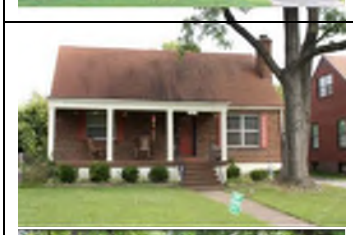
Table G-1. Properties Within the Seneca Village Neighborhood (Original Plat Dated 1929; construction began 1946)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3004 Kent Rd	2003	NC (<50 yrs)	Yes/ Easement Required
	3006 Kent Rd	1948	DC	Yes/ Existing Easement
	3008 Kent Rd	1948	DC	Yes/ No
	3009 Kent Rd	1948	DC	Yes/ No
	3010 Kent Rd	1948	DC	Yes/ Easement Required
	3011 Kent Rd	1948	DC	Yes/ Easement Required
	3012 Kent Rd	1948	DC	Yes/ Existing Easement
	3013 Kent Rd	1948	DC	Yes/ No

Table G-1. Properties Within the Seneca Village Neighborhood (Original Plat Dated 1929; construction began 1946)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3014 Kent Rd	1948	DC	Yes/ Easement Required
	3006 Seneca Blvd	1948	DC	Yes/ Existing Easement
	3008 Seneca Blvd	1948	DC	Yes/ Easement Required
	3010 Seneca Blvd	1948	DC	Yes/ Easement Required
	3011 Seneca Blvd	N/A	DC	Yes/ Airport Property
	3012 Seneca Blvd	1948	DC	Yes/ No
	3013 Seneca Blvd	1948	DC	Yes/ No
	3014 Seneca Blvd	1948	DC	Yes/ Easement Required

Table G-1. Properties Within the Seneca Village Neighborhood (Original Plat Dated 1929; construction began 1946)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3015 Seneca Blvd	1948	DC	Yes/ Existing Easement
	3016 Seneca Blvd	1948	DC	Yes/ Easement Required
	3017 Seneca Blvd	1948	DC	Yes/ No
	3018 Seneca Blvd	1948	DC	Yes/ Easement Required
	3019 Seneca Blvd	1948	DC	Yes/ No
	3020 Seneca Blvd	1948	DC	Yes/ Easement Required
	3021 Seneca Blvd	1948	DC	Yes/ No
	3022 Seneca Blvd	1948	DC	Yes/ Easement Required

Table G-1. Properties Within the Seneca Village Neighborhood (Original Plat Dated 1929; construction began 1946)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3023 Seneca Blvd	1948	DC	Yes/ Easement Required
	3024 Seneca Blvd	1948	DC	Yes/ No
	3025 Seneca Blvd	1948	DC	Yes/ Easement Required
	3104 Taylorsville Rd	1952	DC	Yes/ No
	3106 Taylorsville Rd	1952	DC	Yes/ Easement Required
	3108 Taylorsville Rd	1952	DC	Yes/ Easement Required
	3110 Taylorsville Rd	1952	NC	Yes/ Easement Required
	3200 Taylorsville Rd	N/A	NC	Yes/ Airport Property
	3300 Taylorsville Rd	N/A	NC	Yes/ Airport Property
	3006 Carson Way	1950	DC	No
	3010 Carson Way	1948	DC	No

Table G-1. Properties Within the Seneca Village Neighborhood (Original Plat Dated 1929; construction began 1946)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3012 Carson Way	1950	DC	No
	3014 Carson Way	1948	DC	No
	3016 Carson Way	1948	DC	No
	3018 Carson Way	1948	DC	No
	3020 Carson Way	1948	DC	No
	3018 Taylorsville Rd	1951	DC	No/ Existing Easement
	3020 Taylorsville Rd	1951	DC	No/ Existing Easement
	3022 Taylorsville Rd	Ca. 1951	DC	No
	3024 Taylorsville Rd	1952	DC	No
	3100 Taylorsville Rd	1954	DC	No
	3102 Taylorsville Rd	1952	DC	No

Appendix H: Seneca Village No. 2 Neighborhood

Supplemental Data for Seneca Village No. 2 Neighborhood

***Neighborhood Summary*:** Seneca Village No. 2 was platted and developed by Edward W. Archer's Lupino Realty Company of Louisville. The original plat dates to 1948 with revisions in 1950 and 1951. Development occurred rapidly between 1951 and 1955, and the apartment buildings in the northern quadrant were completed by 1959. By and large, the neighborhood consists of pre-fabricated Gunnison housing, with a limited number of styles and floor plans. The houses along Joan Avenue and Betty Lane feature brick siding (partial or whole) and somewhat larger lots. In general, the homes have a Cape Cod form, with a rectangular footprint and steeply pitched roofs allowing for an additional half-story of living space. Some of the houses still retain their original metal-framed windows; many however have replacement vinyl windows. Houses along Alanmede Road, Wendell Avenue, and Gardiner Lane feature a somewhat broader stylistic variety though they still utilize a limited number of house patterns. Some utilize the half-story form mentioned above, but have lesser amounts of brick detailing. Many have original aluminum siding, though some include replacement vinyl siding. The neighborhood features regularly spaced lots, setbacks, and sidewalks. Major alterations include the demolition of 31 of houses along Gardner Lane for the widening of Watterson Expressway in the late 1980s.

Photographs are provided of all properties within the TERPS approach surfaces; if needed, other properties were photographed to capture the architectural aesthetic of the neighborhood. Data is also provided in regard to BFAA Safety Program mitigation requirements or if easements already exist. The construction dates are drawn from the Jefferson County PVA.

Table Key
DC – District Contributing
NC – District Non-Contributing
NC (<50 yrs) – District Non-Contributing, less than 50 years old

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)

Image	Address	Date	NRHP	Within TERPS/ Safety Program
	2636 Alanmede Rd	1952	DC	Yes/ No
	2638 Alanmede Rd	1952	DC	Yes/ No
	2640 Alanmede Rd	1952	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2641 Alanmede Rd	1952	DC	Yes/ No
	2642 Alanmede Rd	1952	DC	Yes/ No
	2643 Alanmede Rd	1952	DC	Yes/ No
	2644 Alanmede Rd	1952	DC	Yes/ No
	2645 Alanmede Rd	1952	DC	Yes/ No
	2646 Alanmede Rd	1953	DC	Yes/ No
	2647 Alanmede Rd	1953	DC	Yes/ Easement Required
	2700 Alanmede Rd	1953	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2701 Alanmede Rd	1954	DC	Yes/ No
	2702 Alanmede Rd	1952	DC	Yes/ No
	2703 Alanmede Rd	1951	DC	Yes/ No
	2704 Alanmede Rd	1952	DC	Yes/ No
	2705 Alanmede Rd	1951	DC	Yes/ No
	2706 Alanmede Rd	1952	DC	Yes/ No
	2707 Alanmede Rd	1951	DC	Yes/ Easement Required
	2708 Alanmede Rd	1952	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2709 Alanmede Rd	1951	DC	Yes/ No
	2710 Alanmede Rd	1952	DC	Yes/ No
	2711 Alanmede Rd	1951	DC	Yes/ No
	2712 Alanmede Rd	1952	DC	Yes Yes/ No
	2713 Alanmede Rd	1951	DC	Yes/ Easement Required
	2714 Alanmede Rd	1952	DC	Yes/ No
	2715 Alanmede Rd	1951	DC	Yes Yes/ No
	2716 Alanmede Rd	1952	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2717 Alanmede Rd	1951	DC	Yes/ No
	2718 Alanmede Rd	1952	DC	Yes/ No
	2719 Alanmede Rd	1951	DC	Yes/ No
	2720 Alanmede Rd	1952	DC	Yes/ No
	2721 Alanmede Rd	1951	DC	Yes Yes/ No
	2722 Alanmede Rd	1952	DC	Yes/ No
	2723 Alanmede Rd	1951	DC	Yes/ No
	2724 Alanmede Rd	1952	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2725 Alanmede Rd	1951	DC	Yes/ No
	2726 Alanmede Rd	1952	DC	Yes/ No
	2727 Alanmede Rd	1951	DC	Yes/ No
No Photo	3008 Betty Ln	1955	DC	Yes/ Easement Required
	3009 Betty Ln	1953	DC	Yes/ No
	3010 Betty Ln	1955	DC	Yes/ No
	3011 Betty Ln	1953	DC	Yes/ No
	3012 Betty Ln	1955	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3013 Betty Ln	1953	DC	Yes/ No
	3015 Betty Ln	1953	DC	Yes/ No
	3017 Betty Ln	1953	DC	Yes/ No
	3019 Betty Ln	1953	DC	Yes/ No
	3020 Betty Ln	1955	DC	Yes/ No
	3021 Betty Ln	1953	DC	Yes/ No
	3022 Betty Ln	1954	DC	Yes/ No
	3023 Betty Ln	1953	DC	Yes/ No Yes/
	3025 Betty Ln	1953	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3027 Betty Ln	1953	DC	Yes/ No
	3300 Carson Way	1955	DC	Yes/ No
	3301 Carson Way	1955	DC	Yes/ No
	2624 Gardiner Ln	1955	DC	Yes/ No
	2626 Gardiner Ln	1955	DC	Yes/ No
	2628 Gardiner Ln	1955	DC	Yes/ No
	2629 Gardiner Ln	1954	DC	Yes/ No
	2630 Gardiner Ln	1955	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2631 Gardiner Ln	1954	DC	Yes/ No
	2632 Gardiner Ln	1955	DC	Yes/ No
	2633 Gardiner Ln	1954	DC	Yes/ No
	2634 Gardiner Ln	1955	DC	Yes/ No
	2635 Gardiner Ln	1954	DC	Yes/ No
	2636 Gardiner Ln	1955	DC	Yes/ No
	2637 Gardiner Ln	1954	DC	Yes/ No
	2638 Gardiner Ln	1955	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2639 Gardiner Ln	1954	DC	Yes/ No
	2640 Gardiner Ln	1954	Demolished	Yes/ No
	2641 Gardiner Ln	1954	DC	Yes/ No
	2642 Gardiner Ln	1955	Demolished	Yes/ No
	2643 Gardiner Ln	1954	DC	Yes/ No
	2644 Gardiner Ln	1955	Demolished	Yes/ No
	2645 Gardiner Ln	1954	DC	Yes/ No
	2646 Gardiner Ln	1955	Demolished	Yes/ No
	2647 Gardiner Ln	1954	DC	Yes/ No
	2648 Gardiner Ln	1968	Demolished	Yes/ No
	2700 Gardiner Ln	1955	Demolished	Yes/ No
	2701 Gardiner Ln	1954	DC	Yes/ No
	2702 Gardiner Ln	1955	Demolished	Yes/

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
				No
	2703 Gardiner Ln	1954	DC	Yes/ No
	2704 Gardiner Ln	1955	Demolished	Yes/ No
	2705 Gardiner Ln	1954	DC	Yes/ No
	2706 Gardiner Ln	1955	Demolished	Yes/ No
	2707 Gardiner Ln	1954	DC	Yes/ No
	2708 Gardiner Ln	1955	Demolished	Yes/ No
	2709 Gardiner Ln	1954	DC	Yes/ No
	2710 Gardiner Ln	1955	Demolished	Yes/ No
	2711 Gardiner Ln	1954	DC	Yes/ No
	2712 Gardiner Ln	1955	Demolished	Yes
	2713 Gardiner Ln	1954	DC	Yes/ No
	2714 Gardiner Ln	1955	Demolished	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2715 Gardiner Ln	1954	DC	Yes/ No
	2716 Gardiner Ln	1955	Demolished	Yes/ No
	2717 Gardiner Ln	1954	DC	Yes/ No
	2718 Gardiner Ln	1955	Demolished	Yes/ No
	2719 Gardiner Ln	1954	DC	Yes/ Easement Required
	2720 Gardiner Ln	1955	Demolished	Yes/ No
	2721 Gardiner Ln	1954	DC	Yes/ No
	2722 Gardiner Ln	1955	Demolished	Yes/ No
	2723 Gardiner Ln	1954	DC	Yes/ No
	2724 Gardiner Ln	1955	Demolished	Yes/ No
	2725 Gardiner Ln	1954	DC	Yes/ No
	2726 Gardiner Ln	1955	Demolished	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2727 Gardiner Ln	1954	DC	Yes/ No
	2728 Gardiner Ln	1955	Demolished	Yes/ No
	2730 Gardiner Ln	1954	DC	Yes/ No
	2732 Gardiner Ln	1955	Demolished	Yes/ No
	2800 Gardiner Ln	N/A	Never Built	Yes/ No
	2802 Gardiner Ln	N/A	Never Built	Yes/ No
	2804 Gardiner Ln	1953	Demolished	Yes/ No
	2806 Gardiner Ln	1953	Demolished	Yes/ No
	2808 Gardiner Ln	1953	Demolished	Yes/ No
	2810 Gardiner Ln	1953	Demolished	Yes/ No
	2812 Gardiner Ln	1953	Demolished	Yes/ No
	2814 Gardiner Ln	1953	Demolished	Yes/ No
	2816 Gardiner Ln	N/A	Never Built	Yes/ No
No Photo	2801 Joan Ave	1955	DC	Yes/ No
No Photo	2803 Joan Ave	1955	DC	Yes/ No
No Photo	2805 Joan Ave	1955	DC	Yes/ No
No Photo	2807 Joan Ave	1955	DC	Yes/ No
No Photo	2809 Joan Ave	1955	DC	Yes/ No
	3010 Joan Ave	1953	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3012 Joan Ave	1953	DC	Yes/ No
	3014 Joan Ave	1953	DC	Yes/ No
	3016 Joan Ave	1953	DC	Yes Yes/ No
	3018 Joan Ave	1953	DC	Yes Yes/ No
	3020 Joan Ave	1953	DC	Yes/ Easement Required
	3022 Joan Ave	1953	DC	Yes/ No
	3023 Joan Ave	1953	DC	No
	3024 Joan Ave	1953	DC	Yes

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	Taylorsville Rd/ Bowman Manor Apts	Ca 1950s	DC	Yes/ No
	2630 Wendell Ave	1955	DC	Yes/ No
	2632 Wendell Ave	1955	DC	Yes/ No
	2634 Wendell Ave	1955	DC	Yes/ No
	2635 Wendell Ave	1955	DC	Yes/ No
	2636 Wendell Ave	1955	DC	Yes/ No
	2637 Wendell Ave	1955	DC	Yes/ No
	2638 Wendell Ave	1955	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2639 Wendell Ave	1955	DC	Yes/ No
	2640 Wendell Ave	1955	DC	Yes/ No
	2641 Wendell Ave	1955	DC	Yes/ Easement Required
	2642 Wendell Ave	1955	DC	Yes/ No
	2643 Wendell Ave	1955	DC	Yes/ No
	2644 Wendell Ave	1955	DC	Yes/ No
	2645 Wendell Ave	1955	DC	Yes/ No
	2647 Wendell Ave	1955	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2701 Wendell Ave	1955	DC	Yes/ No
	2702 Wendell Ave	1955	DC	Yes/ No
	2703 Wendell Ave	1955	DC	Yes/ No
	2704 Wendell Ave	1955	DC	Yes/ No
	2705 Wendell Ave	1955	DC	Yes/ No
	2706 Wendell Ave	1955	DC	Yes/ No
	2707 Wendell Ave	1955	DC	Yes/ No
	2708 Wendell Ave	1955	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2709 Wendell Ave	1955	DC	Yes/ No
	2710 Wendell Ave	1955	DC	Yes/ No
	2711 Wendell Ave	1955	DC	Yes/ No
	2712 Wendell Ave	1955	DC	Yes/ No
	2713 Wendell Ave	1955	DC	Yes/ No
	2714 Wendell Ave	1955	DC	Yes/ No
	2715 Wendell Ave	1955	DC	Yes/ No
	2716 Wendell Ave	1955	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2717 Wendell Ave	1955	DC	Yes/ No
	2718 Wendell Ave	1955	DC	Yes/ No
	2719 Wendell Ave	1955	DC	Yes/ No
	2720 Wendell Ave	1955	DC	Yes/ No
	2721 Wendell Ave	1955	DC	Yes/ No
	2722 Wendell Ave	1955	DC	Yes/ No
	2723 Wendell Ave	1955	DC	Yes/ No
	2724 Wendell Ave	1955	DC	Yes/ No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2725 Wendell Ave	1955	DC	Yes/ No
	2726 Wendell Ave	1955	DC	Yes/ No
	2727 Wendell Ave	1955	DC	Yes/ Easement Required
	2602 Alanmede Rd	1952	DC	No
	2603 Alanmede Rd	1953	DC	No
	2604 Alanmede Rd	1952	DC	No
	2605 Alanmede Rd	1953	DC	No
	2606 Alanmede Rd	1952	DC	No
	2607 Alanmede Rd	1953	DC	No
	2608 Alanmede Rd	1952	DC	No
	2609 Alanmede Rd	1953	DC	No
	2610 Alanmede Rd	1946	DC	No
	2611 Alanmede Rd	1953	DC	No
	2612 Alanmede Rd	1952	DC	No
	2613 Alanmede Rd	1953	DC	No
	2614 Alanmede Rd	1952	DC	No
	2615 Alanmede Rd	1953	DC	No
	2616 Alanmede Rd	1952	DC	No
	2617 Alanmede Rd	1953	DC	No
	2618 Alanmede Rd	1952	DC	No
	2619 Alanmede Rd	1953	DC	No
	2620 Alanmede Rd	1952	DC	No
	2621 Alanmede Rd	1953	DC	No
	2622 Alanmede Rd	1952	DC	No
	2623 Alanmede Rd	1953	DC	No
	2624 Alanmede Rd	1952	DC	No
	2625 Alanmede Rd	1953	DC	No
	2626 Alanmede Rd	1952	DC	No
	2627 Alanmede Rd	1953	DC	No
	2628 Alanmede Rd	1952	DC	No
	2629 Alanmede Rd	1953	DC	No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	2630 Alanmede Rd	1953	DC	No
	2631 Alanmede Rd	1953	DC	No
	2632 Alanmede Rd	1952	DC	No
	2633 Alanmede Rd	1953	DC	No
	2634 Alanmede Rd	1952	DC	No
	2635 Alanmede Rd	1953	DC	No
	2637 Alanmede Rd	1953	DC	No
	2639 Alanmede Rd	1952	DC	No
	3047 Bon Air Ave	1953	DC	No
	3101 Bon Air Ave	1954	DC	No
	3103 Bon Air Ave	1954	DC	No
	3105 Bon Air Ave	1954	DC	No
	3107 Bon Air Ave	1952	DC	No
	3109 Bon Air Ave	1954	DC	No
	2602 Gardiner Ln	1955	DC	No
	2603 Gardiner Ln	1954	DC	No
	2604 Gardiner Ln	1955	DC	No
	2605 Gardiner Ln	1954	DC	No
	2606 Gardiner Ln	1955	DC	No
	2607 Gardiner Ln	1954	DC	No
	2608 Gardiner Ln	1955	DC	No
	2609 Gardiner Ln	1954	DC	No
	2610 Gardiner Ln	1955	DC	No
	2611 Gardiner Ln	1954	DC	No
	2612 Gardiner Ln	1955	DC	No
	2613 Gardiner Ln	1954	DC	No
	2614 Gardiner Ln	1955	DC	No
	2615 Gardiner Ln	1954	DC	No
	2616 Gardiner Ln	1955	DC	No
	2617 Gardiner Ln	1954	DC	No
	2618 Gardiner Ln	1955	DC	No
	2619 Gardiner Ln	1954	DC	No
	2620 Gardiner Ln	1955	DC	No
	2621 Gardiner Ln	1954	DC	No
	2622 Gardiner Ln	1955	DC	No
	2623 Gardiner Ln	1954	DC	No
	2625 Gardiner Ln	1954	DC	No
	2627 Gardiner Ln	1954	DC	No
	2811 Joan Ave	1955	DC	No
	2813 Joan Ave	1955	DC	No
	2815 Joan Ave	1955	DC	No
	3009 Joan Ave	1953	DC	No
	3011 Joan Ave	1953	DC	No
	3013 Joan Ave	1953	DC	No
	3015 Joan Ave	1953	DC	No

Table H-1. Properties Within the Seneca Village No. 2 Neighborhood (Original Plat Dated 1948; revised 1951)				
Image	**Address**	**Date**	**NRHP**	**Within TERPS/ Safety Program**
	3017 Joan Ave	1953	DC	No
	3019 Joan Ave	1953	DC	No
	3021 Joan Ave	1953	DC	No
	2602 Wendell Ave	1955	DC	No
	2603 Wendell Ave	1955	DC	No
	2604 Wendell Ave	1955	DC	No
	2605 Wendell Ave	1955	DC	No
	2606 Wendell Ave	1955	DC	No
	2607 Wendell Ave	1955	DC	No
	2608 Wendell Ave	1955	DC	No
	2609 Wendell Ave	1955	DC	No
	2610 Wendell Ave	1955	DC	No
	2611 Wendell Ave	1955	DC	No
	2612 Wendell Ave	1955	DC	No
	2613 Wendell Ave	1955	DC	No
	2614 Wendell Ave	1955	DC	No
	2615 Wendell Ave	1955	DC	No
	2616 Wendell Ave	1955	DC	No
	2617 Wendell Ave	1955	DC	No
	2618 Wendell Ave	1955	DC	No
	2619 Wendell Ave	1955	DC	No
	2620 Wendell Ave	1955	DC	No
	2621 Wendell Ave	1955	DC	No
	2622 Wendell Ave	1955	DC	No
	2623 Wendell Ave	1955	DC	No
	2624 Wendell Ave	1955	DC	No
	2625 Wendell Ave	1955	DC	No
	2626 Wendell Ave	1955	DC	No
	2627 Wendell Ave	1955	DC	No
	2628 Wendell Ave	1955	DC	No
	2629 Wendell Ave	1955	DC	No
	2631 Wendell Ave	1955	DC	No
	2633 Wendell Ave	1955	DC	No

Appendix I: Supplement to the Cultural Resources Evaluation

Supplement to the Cultural Resource Evaluation

Bowman Field Airport Area Safety Program

Prepared for:
Louisville Regional Airport Authority

Prepared by:
Hanson Professional Services Inc.

April 2016

HANSON
Engineering | Planning | Allied Services

SUPPLEMENT TO THE CULTURAL RESOURCE EVALUATION

Project Overview and Description

The Louisville Regional Airport Authority (LRAA) initiated the Bowman Field Airport Area Safety Program (Safety Program) to comply with the current Federal Aviation Administration (FAA)-required object clearing standards. Under the direction of the FAA and LRAA, Hanson Professional Services, Inc. (Hanson) is preparing an Environmental Assessment (EA) for the re-establishment and protection of runway approaches and airfield characteristics as defined by the Airport Layout Plan (ALP) that was accepted by FAA and approved by the LRAA in February 2012.

In July 2012, the LRAA contracted with Hanson to conduct the Safety Program. The first step in the Safety Program included an aerial survey of the airport and surrounding properties to determine the height of manmade and natural objects. Survey results were then submitted to the FAA for review and validation. The Flight Standards and Flight Procedures branches of the FAA then compared the data with the mandatory airspace surfaces based on current airport capabilities applicable to each runway at Bowman Field Airport. The result was a list of individual trees and tree clusters that *penetrate or are within ten feet of penetrating* the critical Terminal Instrument Procedure (TERPS) or the Federal Aviation Regulation (FAR) Part 77 approach surfaces[1] as determined by the FAA procedures in effect in February 2012. All penetrations to these FAA-defined critical approach surfaces have been determined to be trees – *no manmade objects penetrate these surfaces*. The Safety Program EA will assess feasible and prudent alternatives and identify a preferred alternative to comply with FAA standards; specifically the alternative *must maintain the airfield operating capabilities in effect as of February 2012*. The EA will assess the program details and eligibility for federal funding of the Safety Program. The Safety Program's current activities include:

- Establish priorities to address the most critical areas first (based on property location and existing tree canopy conditions);
- Acquisition of avigation easements[2] over necessary properties to gain airspace protection. Offers will be based on market value appraisals conducted by licensed and certified property appraisers following strict federal guidelines. Appraisals will then be sent to review appraisers for confirmation purposes;
- Trees on the new easement properties will be assessed by a certified arborist. The homeowner, in consultation with the arborist, will decide whether individual trees can be trimmed *or* is recommended for removal and replacement.
- If a tree is removed, the homeowner may select up to two replacement trees from a list compiled by a certified arborist for use in this climate. Replacement trees will be subject to parameters for maximum growth (height) potential in order to comply with safe operating airspace. The maximum allowable height will vary according to location of the easement.

[1] The approach surfaces are horizontal planes of safe operating air space that vary according to topography, but they generally increase in elevation away from the runway ends on a 20 to 1 slope.

[2] To be eligible for the federal grant, FAA requires that easements be purchased for properties on which obstructions are to be removed in order to maintain the operable airspace.

The Safety Program requires the acquisition of 44 avigation easements[3] (shaded pink in attached Exhibit 1) on private residential properties and a private golf course; a public golf course; and a portion of a public park. On these easements are 104 trees that are currently penetrating or are within ten feet of penetrating the approach surfaces. As noted, trees that have been identified as current or near term obstructions will be assessed for trimming or replacement. If trimming is not an option, the FAA has developed guidance for the removal and replacement process:

- If trimming is not an option or if the homeowner opts to remove the tree, the primary tree being replaced on the easement property will be located in its relative setting (e.g. front yard, back yard, etc.) where feasible. The second tree's placement will be determined by the property owner.
- The replacement trees will be selected by the property owner from a list compiled by a licensed landscape architect and a certified arborist for use in this climate. These trees will be subject to the parameters for maximum growth (height) potential in order to comply with safe operating airspace and the height will vary from 20 – 100 feet above the ground according to location of the easement.
- Physical destruction of other landscape features such as curbing, gutters, pavement, sidewalks, etc., will be avoided or restored, if damaged.
- If a tree is removed in a vegetative landscaped area the homeowner will be eligible for a re-landscaping allowance of up to $2,500 over and above the cost of replacement trees;
- The LRAA will administer tree trimming and/or removal, stump removal and yard restoration;
- All new plants will carry a one-year warranty; replacement trees will carry a two-year warranty.

The approach surfaces for Runway 6 (southwest) and Runway 33 (southeast) are located largely over residential neighborhoods. The approach surface for Runway 15 (northwest) is located over Seneca Park (specifically the golf course) and the approach surface for Runway 24 (northeast) is over Big Spring Country Club. The number of identified obstructions (e.g. trees) within each runway varies as does the maximum height (based on surface elevation) allowed for each tree to be trimmed, or removed and replaced. In total, the Safety Program currently includes 106 obstructions (trees) across the four approach surfaces. The existing height of these trees, as well as the maximum allowable growth heights for their potential replacements, varies according to location.

The number of trees on the proposed easement properties identified for trimming or removal and replacement is summarized in the table below. The CRE identified 14 historic architectural resources and the summary table provides a breakdown of the relationship between the easements, penetrations, and the resources. Attached Tables 1-4 provide a more detailed itemization of specific trees identified for trimming or removal and replacement and Exhibit 2 provides locational information. The attached tables provide data collected during a 2012 and 2014 tree inventory, including information on current height, species, age, growth characteristics, and the maximum allowable growth height based on its location relative to the approach surfaces.

[3] Airspace protection over of Seneca Park and Golf Course (Runway 15 and a portion of Runway 6) will be afforded in a Memorandum of Agreement between the LRAA and the Metro Louisville Parks.

Summary of Safety Program Easement Acquisitions and Current or Near Term Penetrations.

	Required Easement Acquisitions	Current or Near Term Penetrations (to be addressed under grant)	Trees to be Planted (if owners elect not to trim)
Runway 6 (SW)	9	18	36
Seneca Park @ Pee Wee Reese	*MOA w/Parks*	*7*	*14*
Seneca Vista	*8*	*10*	*20*
McCoy Manor	*0*	*0*	*0*
Seneca Manor	*1*	*1*	*2*
Kingsley	*0*	*0*	*0*
Various Outparcels	*0*	*0*	*0*
Runway 15 (NW) *Seneca Park Golf Course*	*MOA w/Parks*	31	62
Runway 33 (SE)	34	38	76
Seneca Village	*25*	*28*	*56*
Seneca Village No.2	*9*	*10*	*20*
Runway 24 (NE) *Big Springs CC & GC*	1	17	34

The Area of Potential Effect (APE)

Based on the proposed activities listed above, and the existing characteristics of the obstructions, the FAA has defined the APE for cultural resources investigations as illustrated in Exhibits 1-2. For historic architectural resources, the FAA defined the APE as those geographical areas within the approach surfaces, which contains all proposed easements to be purchased by the grant and all obstructions (e.g., trees) to be trimmed or removed and replaced through grant funding, as well as a buffer area. During a June 24, 2015 Section 106 Consulting Party meeting, comments were made regarding the location and size of the APE and potential indirect effects of the Safety Program on the affected neighborhoods (as identified in Chapter 3 of the CRE). The FAA adjusted the APE to account for potential indirect effects, including loss of canopy or shade of adjacent properties and viewshed. A canopy and land cover analysis has also been prepared to assist in confirming the APE (see Exhibits 3-11).

At the June 24 meeting, the Consulting Parties also requested the FAA consider "property devaluation" as a potential indirect effect. There are currently more than 70 easements held by the LRAA in the potentially affected areas and new easements will be based on market value appraisals conducted by certified property appraisers following federal guidelines. Therefore, the FAA determined that property devaluation did not constitute an indirect effect. Similarly, Consulting Parties requested that the FAA consider "increased noise" as a potential indirect effect. The Safety Program will result in the trimming or removal and replacement of less than two percent of the trees within the APEs. The removal or trimming and replacement of these trees will not alter the airport approach procedures that are currently in place and were in place in February 2012. In addition, the Safety Program will not result in changes to the airfield operating characteristics or capabilities. No change in aircraft operation is anticipated as a result of the Safety Program so no noise increases are contemplated. FAA has determined the undertaking will have no direct or indirect noise effects.

During the consulting party meetings of June 24 and August 15, 2015, inquiries were made regarding the potential to install lighting as an alternative in the NEPA process and, therefore, whether it should be considered in determining the extent of the APE. In its response to a consultation letter regarding the revised APE dated October 9, 2015, the KYSHPO also raised this question. Lighting has been dismissed as an EA alternative because lights would need to be installed at the apex of each penetrating obstruction, thus not removing the obstructions to provide safe air space. Therefore, this alternative did not meet the need and purpose of the project. It was not considered a viable alternative in the EA and will not be studied as part of the Section 106 process.

The FAA has determined that the APE, as defined on the attached exhibits, contains all direct and indirect effects of the currently proposed Safety Program.[4]

Attachments:

Table 1 - Runway 6, Current or Near Term Penetrations
Table 2 - Runway 15, Current or Near Term Penetrations
Table 3 - Runway 24, Current or Near Term Penetrations
Table 4 - Runway 33, Current or Near Term Penetrations
Exhibit 1 - Bowman Field Safety Program, showing APE, required and existing easements, and current or near term obstructions on the required easements
Exhibit 2 - Tree inventory conducted for Safety Program, showing APE, easements, and current or near term obstructions on the required avigation easements
Exhibits 3-11 - Canopy and Land Cover Analysis

[4] For archaeological resources, the APE is anticipated to be limited to areas that may require ground-disturbing activities (i.e., stump grinding), once such areas are finalized.

Table 1. Runway 06, Current or Near Term Penetrations

Tree PT#	Address/Location	Subdivision/ Neighborhood	Common Name	*Botanical name*	Estimated Age	Maximum Allowable Height for Repl.	Current Tree Height	Maximum Species Growth Height	Current Condition
1019	2617 Landor Av.	Seneca Vista	Pin oak	*Quercus palustris*	41-80	78	75	115	Healthy/Some Decay or Weakness
1105	2635 Landor Av.	Seneca Vista	Red maple	*Acer rubrum*	31-35	69	71	111	Healthy/Healing
1112	2649 Taylorsville Rd.	Seneca Vista	Ginkgo	*Ginkgo biloba*	36-40	69	63	100	Healthy
1119	2649 Taylorsville Rd.	Seneca Vista	Pin oak	*Quercus palustris*	41-80	63	69	115	Healthy/Some Decay or Weakness
1150	2640 Landor Av.	Seneca Vista	Foster holly	*Ilex crenata*	5-15	74	74	45	Healthy
1163	2640 Landor Av.	Seneca Vista	Flowering dogwood	*Cornus florida*	16-20	73	71	44	Healthy
1175	2632 Landor Av.	Seneca Vista	Silver maple	Acer sacharinum	41-80	77	77	106	Healthy/Some Decay or Weakness
1227	2622 Landor Av.	Seneca Vista	Pin oak	*Quercus palustris*	41-80	78	88	115	Healthy/Some Decay or Weakness
5717	2621 Drayton Dr.	Seneca Vista	Red maple	*Acer rubrum*	31-35	66	79	111	Healthy/Healing
5770	2647 Drayton Dr.	Seneca Vista	Red maple	*Acer rubrum*	26-30	60	51	111	Healthy
6184	2625 Valletta Rd.	Seneca Manor	Pin oak	*Quercus palustris*	80+	119	117	115	Healthy
7029	Pee Wee Reese Rd.	Seneca Park	Southern magnolia	*Magnolia grandiflora*	36-40	53	60	75	Healthy
7034	Pee Wee Reese Rd.	Seneca Park	White pine	*Pinus strobus*	31-35	51	52	145	Healthy/Some Decay or Weakness
7050	Pee Wee Reese Rd.	Seneca Park	Black cherry	*Prunus serotina*	36-40	51	67	103	Healthy
7053	Pee Wee Reese Rd.	Seneca Park	Hackberry	*Celtis occidentalis*	36-40	50	72	94	N/A
7062	Pee Wee Reese Rd.	Seneca Park	Black cherry	*Prunus serotina*	41-80	52	58	103	Healthy
7080	Pee Wee Reese Rd.	Seneca Park	Hackberry	*Celtis occidentalis*	36-40	50	50	94	Healthy
7088	Pee Wee Reese Rd.	Seneca Park	American yellowwood	*Cladrastis kentukea*	16-20	49	53	58	Healthy

Table 2. Runway 15, Current or Near Term Penetrations

Tree PT#	Location	Common Name	*Botanical name*	Estimated Age	Maximum Allowable Height for Repl.	Current Tree Height	Maximum Species Growth Height	Condition
3011	Golf Course	Flowering dogwood	*Cornus florida*	5-15	11	13	44	Healthy
3001	Golf Course	Scotch pine	*Pinus sylvestris*	26-30	20	16	90	Healthy/Healing
3002	Golf Course	Pin oak	*Quercus palustris*	26-30	22	48	115	Healthy
3003	Golf Course	Redbud	*Cercis canadensis*	5-15	23	16	45	Healthy
3018	Golf Course	Scotch pine	*Pinus sylvestris*	16-20	24	26	90	Healthy/Healing
3009	Golf Course	Sugar maple	*Acer sacharum*	26-30	25	38	108	Healthy
3007	Golf Course	Ash	*Fraxinus sp.*	21-25	26	48	106	Healthy
3027	Golf Course	Honeylocust	*Gleditsia triacanthos*	5-15	35	31	99	Healthy
3028	Golf Course	Chinese juniper	*Juniperous chinensis*	21-25	35	38	60	Healthy
3026	Golf Course	Scotch pine	*Pinus sylvestris*	26-30	36	31	90	Healthy
2001	Golf Course	Eastern redcedar	*Juniperous virginiana*	26-30	37	36	60	Healthy/Some Decay or Weakness
2002	Golf Course	Honeylocust	*Gleditsia triacanthos*	26-30	37	44	99	Declining
2004	Golf Course	Tulip poplar	*Liriodendron tulipifera*	26-30	41	60	158	Healthy
2005	Golf Course	Tulip poplar	*Liriodendron tulipifera*	36-40	43	59	158	Healthy/Some Decay or Weakness
2036	Golf Course	Tulip poplar	*Liriodendron tulipifera*	50-80	44	69	158	Healthy
2035	Golf Course	Willow oak	*Quercus phellos*	26-30	45	55	101	Healthy
2034	Golf Course	Red maple	*Acer rubrum*	26-30	46	49	111	Healthy
2044	Golf Course	Tulip poplar	*Liriodendron tulipifera*	31-35	47	55	158	Healthy
2045	Golf Course	Little Leaf linden	*Tilia cordata*	36-40	48	49	85	Healthy
2018	Golf Course	Sugar maple	*Acer sacharum*	21-25	49	54	108	Healthy
2008	Golf Course	Sugar maple	*Acer sacharum*	26-30	49	44	108	Healthy
2009	Golf Course	Red maple	*Acer rubrum*	26-30	49	58	111	Healthy
2032	Golf Course	Pin oak	*Quercus palustris*	31-35	49	53	115	Healthy
2033	Golf Course	Black cherry	*Prunus serotina*	36-40	49	56	103	Healthy
2027	Golf Course	Red maple	*Acer rubrum*	36-40	54	48	111	Healthy
2026	Golf Course	Pin oak	*Quercus palustris*	36-40	57	73	115	Healthy
2025	Golf Course	Pin oak	*Quercus palustris*	36-40	58	64	115	Healthy

2028	Golf Course	Black cherry	*Prunus serotina*	31-35	61	68	103	Healthy/Healing
3156	Golf Course	Black cherry	*Prunus serotina*	26-30	78	78	103	Healthy/Healing
3158	Golf Course	American elm	*Ulmus americana*	21-25	69	60	114	Healthy
3159	Golf Course	Black cherry	*Prunus serotina*	26-30	67	73	103	Healthy

Table 3. Runway 24, Current and Near Term Penetrations

Tree Pt#	Location	Common Name	*Botanical name*	Estimated Age	Maximum Allowable Height for Repl.	Current Tree Height	Maximum Species Growth Height	Current Condition
437	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	24	NA	45	Healthy
438	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	24	NA	45	Healthy
433	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	26	NA	45	Healthy
434	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	26	NA	45	Healthy
435	Big Spring GC	Blue spruce	*Picea pungens*	15-20	26	NA	95	Healthy
436	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	26	NA	45	Healthy
182	Big Spring GC	Eastern white pine	*Pinus strobus*	30+	39	20	145	Healthy/Healing
30	Big Spring GC	White Pine	*Pinus strobus*	30+	51	47	145	Healthy/Some Decay or Weakness
31	Big Spring GC	Red maple	*Acer rubrum*	30+	52	46	111	Healthy/Healing
413_2	Big Spring GC	Eastern white pine	*Pinus strobus*	25-30	78	68	145	Healthy
604_2	Big Spring GC	Pin oak	*Quercus palustris*	30+	90	87	115	Healthy
583_2	Big Spring GC	Pin oak	*Quercus palustris*	30+	94	88	115	Healthy/Healing
582_2	Big Spring GC	Pin oak	*Quercus palustris*	30+	100	93	115	Healthy
230	Big Spring GC	Pin oak	*Quercus palustris*	30+	104	97	115	Healthy/Healing
581_2	Big Spring GC	Pin oak	*Quercus palustris*	30+	106	102	115	Healthy/Healing
580_2	Big Spring GC	Yellow poplar	*Liriodendron tulipifera*	30+	109	101	158	Healthy/Healing
403	Big Spring GC	Hackberry	*Celtis occidentalis*	5-15	113	NA	94	Declining

Table 4. Runway 33, Current or Near Term Penetrations

Tree PT#	Address/Location	Subdivision/ Neighborhood	Common Name	*Botanical name*	Estimated Age	Maximum Allowable Height for Repl.	Current Tree Height	Maximum Species Growth Height	Current Condition
715	3106 Taylorsville Rd.	Seneca Village	Crabapple	*Malus sp.*	5-15	32	30	50	Healthy
720	3108 Taylorsville Rd.	Seneca Village	White spruce	*Picea alba*	26-30	35	29	80	Healthy
719	3108 Taylorsville Rd.	Seneca Village	Pin oak	*Quercus palustris*	41-80	35	30	115	Healthy
5460	3110 Seneca Blvd.	Seneca Village	Siberian Elm	Ulmus pumila	36-40	42	51	70	Healthy/Healing
5477	3010 Seneca Blvd.	Seneca Village	Red maple	Acer rubrum	31-35	51	45	111	Healthy
5474	3008 Seneca Blvd.	Seneca Village	Red maple	*Acer rubrum*	36-40	48	76	111	Healthy
5160	3023 Carson Wy.	Seneca Village	Bradford pear	*Pyrus calleryana*	21-25	52	45	55	Healthy
5159	3023 Carson Wy.	Seneca Village	Tulip poplar	Liriodendron tulipifera	26-30	52	61	158	Healthy
742	3004 Kent Rd.	Seneca Village	Ash	*Fraxinus sp.*	36-40	54	61	106	Declining
5155	3025 Carson Wy.	Seneca Village	Red maple	*Acer rubrum*	31-35	56	57	111	Healthy
5484	3014 Seneca Blvd.	Seneca Village	Hackberry	*Celtis occidentalis*	31-35	58	58	94	Healthy
5195	3026 Carson Wy.	Seneca Village	Tulip poplar	Liriodendron tulipifera	16-20	59	93	158	Healthy
5153	3027 Carson Wy.	Seneca Village	Box Elder	*Acer negundo*	36-40	60	52	95	Healthy/Healing
5486	3016 Seneca Blvd.	Seneca Village	Sugar maple	*Acer sacharum*	31-35	61	51	108	Healthy/Some Decay or Weakness
5148	3029 Carson Wy.	Seneca Village	Sugar maple	*Acer sacharum*	31-35	64	64	108	Healthy
5492	3018 Seneca Blvd.	Seneca Village	Sweetbay magnolia	Magnolia virginiana	5-15	65	72	35	Healing/Some Decay or Weakness
5493	3020 Seneca Blvd.	Seneca Village	Red maple	*Acer rubrum*	36-40	67	67	111	Healthy
5146	3033 Carson Wy.	Seneca Village	Silver maple	*Acer sacharinum*	36-40	68	60	106	Healthy
5140	3035 Carson Wy.	Seneca Village	Silver maple	Acer sacharinum	31-35	69	73	106	Healthy
5204	3032 Carson Wy.	Seneca Village	Sugar maple	*Acer sacharum*	36-40	69	70	108	Healthy/Some Decay or Weakness
812	3012 Kent Rd.	Seneca Village	Red maple	*Acer rubrum*	41-80	70	64	111	Healthy/Some Decay or Weakness
5495	3022 Seneca Blvd.	Seneca Village	Siberian Elm	Ulmus pumila	80+	70	77	70	Healthy
5145	3035 Carson Wy.	Seneca Village	Silver maple	*Acer sacharinum*	36-40	71	69	106	Thriving
5205	3034 Carson Wy.	Seneca Village	Tulip poplar	*Liriodendron tulipifera*	36-40	71	88	158	Healthy
847	3023 Seneca Blvd.	Seneca Village	Norway Spruce	*Picea abies*	36-40	72	63	120	Healthy/Some Decay or Weakness
788	3011 Kent Rd.	Seneca Village	Red maple	*Acer rubrum*	36-40	72	64	111	Healthy

822	3014 Kent Rd.	Seneca Village	Pin oak	*Quercus palustris*	41-80	72	85	100	Healing/Some Decay or Weakness
850	3025 Seneca Blvd.	Seneca Village	Sugar maple	*Acer sacharum*	36-40	74	68	108	Healthy
849	3025 Seneca Blvd.	Seneca Village	Sugar maple	*Acer sacharum*	36-40	75	71	108	Healthy/Some Decay or Weakness
5129	2713 Alanmede Rd.	Seneca Village No. 2	Siberian Elm	*Ulmus pumila*	41-80	78	72	70	Healthy
5043	2647 Alanmede Rd.	Seneca Village No. 2	Siberian Elm	Ulmus pumila	41-80	79	73	70	Healthy
5131	2707 Alanmede Rd.	Seneca Village No. 2	Pin oak	*Quercus palustris*	41-80	79	81	106	Healing/Some Decay or Weakness
5108	3008 Betty Ln.	Seneca Village No. 2	Pin oak	*Quercus palustris*	41-80	88	87	115	Healthy
94	2712 Alanmede Rd.	Seneca Village No. 2	Pin oak	*Quercus palustris*	80+	90	92	115	Healthy
156	2727 Wendell Av.	Seneca Village No. 2	Silver maple	*Acer sacharinum*	80+	97	87	106	Healthy
219	2641 Wendell Av.	Seneca Village No. 2	Pin oak	*Quercus palustris*	41-80	98	94	115	Healthy
5385	3020 Joan Av.	Seneca Village No. 2	Red oak	*Quercus rubra*	80+	104	103	120	Healthy
588	2719 Gardiner Ln.	Seneca Village No. 2	Red maple	*Acer rubrum*	31-35	107	100	111	Healthy

Table 4. Runway 33, Current or Near Term Penetrations

Tree PT#	Address/Location	Subdivision/ Neighborhood	Common Name	*Botanical name*	Estimated Age	Maximum Allowable Height for Repl.	Current Tree Height	Maximum Species Growth Height	Current Condition
715	3106 Taylorsville Rd.	Seneca Village	Crabapple	*Malus sp.*	5-15	32	30	50	Healthy
720	3108 Taylorsville Rd.	Seneca Village	White spruce	*Picea alba*	26-30	35	29	80	Healthy
719	3108 Taylorsville Rd.	Seneca Village	Pin oak	*Quercus palustris*	41-80	35	30	115	Healthy
5460	3110 Seneca Blvd.	Seneca Village	Siberian Elm	Ulmus pumila	36-40	42	51	70	Healthy/Healing
5477	3010 Seneca Blvd.	Seneca Village	Red maple	Acer rubrum	31-35	51	45	111	Healthy
5474	3008 Seneca Blvd.	Seneca Village	Red maple	*Acer rubrum*	36-40	48	76	111	Healthy
5160	3023 Carson Wy.	Seneca Village	Bradford pear	*Pyrus calleryana*	21-25	52	45	55	Healthy
5159	3023 Carson Wy.	Seneca Village	Tulip poplar	Liriodendron tulipifera	26-30	52	61	158	Healthy
742	3004 Kent Rd.	Seneca Village	Ash	*Fraxinus sp.*	36-40	54	61	106	Declining
5155	3025 Carson Wy.	Seneca Village	Red maple	*Acer rubrum*	31-35	56	57	111	Healthy
5484	3014 Seneca Blvd.	Seneca Village	Hackberry	*Celtis occidentalis*	31-35	58	58	94	Healthy
5195	3026 Carson Wy.	Seneca Village	Tulip poplar	Liriodendron tulipifera	16-20	59	93	158	Healthy
5153	3027 Carson Wy.	Seneca Village	Box Elder	*Acer negundo*	36-40	60	52	95	Healthy/Healing
5486	3016 Seneca Blvd.	Seneca Village	Sugar maple	*Acer sacharum*	31-35	61	51	108	Healthy/Some Decay or Weakness
5148	3029 Carson Wy.	Seneca Village	Sugar maple	*Acer sacharum*	31-35	64	64	108	Healthy
5492	3018 Seneca Blvd.	Seneca Village	Sweetbay magnolia	Magnolia virginiana	5-15	65	72	35	Healing/Some Decay or Weakness
5493	3020 Seneca Blvd.	Seneca Village	Red maple	*Acer rubrum*	36-40	67	67	111	Healthy
5146	3033 Carson Wy.	Seneca Village	Silver maple	*Acer sacharinum*	36-40	68	60	106	Healthy
5140	3035 Carson Wy.	Seneca Village	Silver maple	Acer sacharinum	31-35	69	73	106	Healthy
5204	3032 Carson Wy.	Seneca Village	Sugar maple	*Acer sacharum*	36-40	69	70	108	Healthy/Some Decay or Weakness
812	3012 Kent Rd.	Seneca Village	Red maple	*Acer rubrum*	41-80	70	64	111	Healthy/Some Decay or Weakness
5495	3022 Seneca Blvd.	Seneca Village	Siberian Elm	Ulmus pumila	80+	70	77	70	Healthy
5145	3035 Carson Wy.	Seneca Village	Silver maple	*Acer sacharinum*	36-40	71	69	106	Thriving
5205	3034 Carson Wy.	Seneca Village	Tulip poplar	*Liriodendron tulipifera*	36-40	71	88	158	Healthy
847	3023 Seneca Blvd.	Seneca Village	Norway Spruce	*Picea abies*	36-40	72	63	120	Healthy/Some Decay or Weakness
788	3011 Kent Rd.	Seneca Village	Red maple	*Acer rubrum*	36-40	72	64	111	Healthy

822	3014 Kent Rd.	Seneca Village	Pin oak	*Quercus palustris*	41-80	72	85	100	Healing/Some Decay or Weakness
850	3025 Seneca Blvd.	Seneca Village	Sugar maple	*Acer sacharum*	36-40	74	68	108	Healthy
849	3025 Seneca Blvd.	Seneca Village	Sugar maple	*Acer sacharum*	36-40	75	71	108	Healthy/Some Decay or Weakness
5129	2713 Alanmede Rd.	Seneca Village No. 2	Siberian Elm	*Ulmus pumila*	41-80	78	72	70	Healthy
5043	2647 Alanmede Rd.	Seneca Village No. 2	Siberian Elm	Ulmus pumila	41-80	79	73	70	Healthy
5131	2707 Alanmede Rd.	Seneca Village No. 2	Pin oak	*Quercus palustris*	41-80	79	81	106	Healing/Some Decay or Weakness
5108	3008 Betty Ln.	Seneca Village No. 2	Pin oak	*Quercus palustris*	41-80	88	87	115	Healthy
94	2712 Alanmede Rd.	Seneca Village No. 2	Pin oak	*Quercus palustris*	80+	90	92	115	Healthy
156	2727 Wendell Av.	Seneca Village No. 2	Silver maple	*Acer sacharinum*	80+	97	87	106	Healthy
219	2641 Wendell Av.	Seneca Village No. 2	Pin oak	*Quercus palustris*	41-80	98	94	115	Healthy
5385	3020 Joan Av.	Seneca Village No. 2	Red oak	*Quercus rubra*	80+	104	103	120	Healthy
588	2719 Gardiner Ln.	Seneca Village No. 2	Red maple	*Acer rubrum*	31-35	107	100	111	Healthy

Table 1. Runway 06, Current or Near Term Penetrations

Tree PT#	Address/Location	Neighborhood	Common Name	*Botanical name*	Est. Age	Max. Allowable Ht. for Repl.	Current Tree Ht.	Max. Species Growth Ht.	Curent Condition
1019	2617 Landor Av.	Seneca Vista	Pin oak	*Quercus palustris*	41-80	78	75	115	Healthy/Some Decay or Weakness
1105	2635 Landor Av.	Seneca Vista	Red maple	*Acer rubrum*	31-35	69	71	111	Healthy/Healing
1112	2649 Taylorsville Rd.	Seneca Vista	Ginkgo	*Ginkgo biloba*	36-40	69	63	100	Healthy
1119	2649 Taylorsville Rd.	Seneca Vista	Pin oak	*Quercus palustris*	41-80	63	69	115	Healthy/Some Decay or Weakness
1150	2640 Landor Av.	Seneca Vista	Foster holly	*Ilex crenata*	5-15	74	74	45	Healthy
1163	2640 Landor Av.	Seneca Vista	Flowering dogwood	*Cornus florida*	16-20	73	71	44	Healthy
1175	2632 Landor Av.	Seneca Vista	Silver maple	Acer sacharinum	41-80	77	77	106	Healthy/Some Decay or Weakness
1227	2622 Landor Av.	Seneca Vista	Pin oak	*Quercus palustris*	41-80	78	88	115	Healthy/Some Decay or Weakness
5717	2621 Drayton Dr.	Seneca Vista	Red maple	*Acer rubrum*	31-35	66	79	111	Healthy/Healing
5770	2647 Drayton Dr.	Seneca Vista	Red maple	*Acer rubrum*	26-30	60	51	111	Healthy
6184	2625 Valletta Rd.	Seneca Manor	Pin oak	*Quercus palustris*	80+	119	117	115	Healthy
7029	Pee Wee Reese Rd.	Seneca Park	Southern magnolia	*Magnolia grandiflora*	36-40	53	60	75	Healthy
7034	Pee Wee Reese Rd.	Seneca Park	White pine	*Pinus strobus*	31-35	51	52	145	Healthy/Some Decay or Weakness
7050	Pee Wee Reese Rd.	Seneca Park	Black cherry	*Prunus serotina*	36-40	51	67	103	Healthy
7053	Pee Wee Reese Rd.	Seneca Park	Henry Maple	*Acer henryi*	<5years	51	72	35	Healthy
7062	Pee Wee Reese Rd.	Seneca Park	Black cherry	*Prunus serotina*	41-80	52	58	103	Healthy
7080	Pee Wee Reese Rd.	Seneca Park	Hackberry	*Celtis occidentalis*	36-40	50	50	94	Healthy
7088	Pee Wee Reese Rd.	Seneca Park	American yellowwood	*Cladrastis kentukea*	16-20	49	53	58	Healthy

Table 2. Runway 15, Current or Near Term Penetrations

Tree PT#	Location	Common Name	*Botanical name*	Age	Max. Allowable Ht. For Repl.	Current Tree Ht.	Max. Ht. of Species	Condition
3011	Golf Course	Flowering dogwood	*Cornus florida*	5-15	11	13	44	Healthy
3001	Golf Course	Scotch pine	*Pinus sylvestris*	26-30	20	16	90	Healthy/Healing
3002	Golf Course	Pin oak	*Quercus palustris*	26-30	22	48	115	Healthy
3003	Golf Course	Redbud	*Cercis canadensis*	5-15	23	16	45	Healthy
3018	Golf Course	Scotch pine	*Pinus sylvestris*	16-20	24	26	90	Healthy/Healing
3009	Golf Course	Sugar maple	*Acer sacharum*	26-30	25	38	108	Healthy
3007	Golf Course	Ash	*Fraxinus sp.*	21-25	26	48	106	Healthy
3027	Golf Course	Honeylocust	*Gleditsia triacanthos*	5-15	35	31	99	Healthy
3028	Golf Course	Chinese juniper	*Juniperous chinensis*	21-25	35	38	60	Healthy
3026	Golf Course	Scotch pine	*Pinus sylvestris*	26-30	36	31	90	Healthy
2001	Golf Course	Eastern redcedar	*Juniperous virginiana*	26-30	37	36	60	Healthy/Some Decay or Weakness
2002	Golf Course	Honeylocust	*Gleditsia triacanthos*	26-30	37	44	99	Declining
2004	Golf Course	Tulip poplar	*Liriodendron tulipifera*	26-30	41	60	158	Healthy
2005	Golf Course	Tulip poplar	*Liriodendron tulipifera*	36-40	43	59	158	Healthy/Some Decay or Weakness
2036	Golf Course	Tulip poplar	*Liriodendron tulipifera*	50-80	44	69	158	Healthy
2035	Golf Course	Willow oak	*Quercus phellos*	26-30	45	55	101	Healthy
2034	Golf Course	Red maple	*Acer rubrum*	26-30	46	49	111	Healthy
2044	Golf Course	Tulip poplar	*Liriodendron tulipifera*	31-35	47	55	158	Healthy
2045	Golf Course	Little Leaf linden	*Tilia cordata*	36-40	48	49	85	Healthy
2018	Golf Course	Sugar maple	*Acer sacharum*	21-25	49	54	108	Healthy
2008	Golf Course	Sugar maple	*Acer sacharum*	26-30	49	44	108	Healthy
2009	Golf Course	Red maple	*Acer rubrum*	26-30	49	58	111	Healthy
2032	Golf Course	Pin oak	*Quercus palustris*	31-35	49	53	115	Healthy
2033	Golf Course	Black cherry	*Prunus serotina*	36-40	49	56	103	Healthy
2027	Golf Course	Red maple	*Acer rubrum*	36-40	54	48	111	Healthy
2026	Golf Course	Pin oak	*Quercus palustris*	36-40	57	73	115	Healthy
2025	Golf Course	Pin oak	*Quercus palustris*	36-40	58	64	115	Healthy

Table 2. Runway 15, Current or Near Term Penetrations

2028	Golf Course	Black cherry	*Prunus serotina*	31-35	61	68	103	Healthy/Healing
3156	Golf Course	Black cherry	*Prunus serotina*	26-30	78	78	103	Healthy/Healing
3158	Golf Course	American elm	*Ulmus americana*	21-25	69	60	114	Healthy
3159	Golf Course	Black cherry	*Prunus serotina*	26-30	67	73	103	Healthy

Table 3. Runway 24, Current and Near Term Penetrations

TreePt#	Location	Common Name	*Botanical name*	Age category	Max Allowable Ht.	Current Tree Ht.	Max Ht. of Species	Condition
437	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	24	NA	45	Healthy
438	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	24	NA	45	Healthy
433	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	26	NA	45	Healthy
434	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	26	NA	45	Healthy
435	Big Spring GC	Blue spruce	*Picea pungens*	15-20	26	NA	95	Healthy
436	Big Spring GC	Arborivitae	*Thuja sp.*	15-20	26	NA	45	Healthy
182	Big Spring GC	Eastern white pine	*Pinus strobus*	30+	39	20	145	Healthy/Healing
30	Big Spring GC	White Pine	*Pinus strobus*	30+	51	47	145	Healthy/Some Decay or Weakness
31	Big Spring GC	Red maple	*Acer rubrum*	30+	52	46	111	Healthy/Healing
413_2	Big Spring GC	Eastern white pine	*Pinus strobus*	25-30	78	68	145	Healthy
604_2	Big Spring GC	Pin oak	*Quercus palustris*	30+	90	87	115	Healthy
583_2	Big Spring GC	Pin oak	*Quercus palustris*	30+	94	88	115	Healthy/Healing
582_2	Big Spring GC	Pin oak	*Quercus palustris*	30+	100	93	115	Healthy
230	Big Spring GC	Pin oak	*Quercus palustris*	30+	104	97	115	Healthy/Healing
581_2	Big Spring GC	Pin oak	*Quercus palustris*	30+	106	102	115	Healthy/Healing
580_2	Big Spring GC	Yellow poplar	*Liriodendron tulipifera*	30+	109	101	158	Healthy/Healing
403	Big Spring GC	Hackberry	*Celtis occidentalis*	5-15	113	NA	94	Declining

Table 4. Runway 33, Current or Near Term Penetrations

Tree PT#	Address	Subdivision	Common Name	*Botanical name*	Est. Age	Current Tree Ht.	Max. Allowable Ht. For Repl.	Max. Species Ht.	Condition
715	3106 Taylorsville Rd.	Seneca Village	Crabapple	*Malus sp.*	5-15	30	32	50	Healthy
720	3108 Taylorsville Rd.	Seneca Village	White spruce	*Picea alba*	26-30	29	35	80	Healthy
719	3108 Taylorsville Rd.	Seneca Village	Pin oak	*Quercus palustris*	41-80	30	35	115	Healthy
5460	3110 Seneca Blvd.	Seneca Village	Siberian Elm	Ulmus pumila	36-40	51	42	70	Healthy/Healing
5477	3010 Seneca Blvd.	Seneca Village	Red maple	Acer rubrum	31-35	45	51	111	Healthy
5474	3008 Seneca Blvd.	Seneca Village	Red maple	*Acer rubrum*	36-40	76	48	111	Healthy
5160	3023 Carson Wy.	Seneca Village	Bradford pear	*Pyrus calleryana*	21-25	45	52	55	Healthy
5159	3023 Carson Wy.	Seneca Village	Tulip poplar	Liriodendron tulipifera	26-30	61	52	158	Healthy
742	3004 Kent Rd.	Seneca Village	Ash	*Fraxinus sp.*	36-40	61	54	106	Declining
5155	3025 Carson Wy.	Seneca Village	Red maple	*Acer rubrum*	31-35	57	56	111	Healthy
5484	3014 Seneca Blvd.	Seneca Village	Hackberry	*Celtis occidentalis*	31-35	58	58	94	Healthy
5195	3026 Carson Wy.	Seneca Village	Tulip poplar	Liriodendron tulipifera	16-20	93	59	158	Healthy
5153	3027 Carson Wy.	Seneca Village	Box Elder	*Acer negundo*	36-40	52	60	95	Healthy/Healing
5486	3016 Seneca Blvd.	Seneca Village	Sugar maple	*Acer sacharum*	31-35	51	61	108	Healthy/Some Decay or Weakness
5148	3029 Carson Wy.	Seneca Village	Sugar maple	*Acer sacharum*	31-35	64	64	108	Healthy
5492	3018 Seneca Blvd.	Seneca Village	Sweetbay magnolia	Magnolia virginiana	5-15	72	65	35	Healing/Some Decay or Weakness
5493	3020 Seneca Blvd.	Seneca Village	Red maple	*Acer rubrum*	36-40	67	67	111	Healthy
5146	3033 Carson Wy.	Seneca Village	Silver maple	*Acer sacharinum*	36-40	60	68	106	Healthy
5140	3035 Carson Wy.	Seneca Village	Silver maple	Acer sacharinum	31-35	73	69	106	Healthy
5204	3032 Carson Wy.	Seneca Village	Sugar maple	*Acer sacharum*	36-40	70	69	108	Healthy/Some Decay or Weakness
812	3012 Kent Rd.	Seneca Village	Red maple	*Acer rubrum*	41-80	64	70	111	Healthy/Some Decay or Weakness
5495	3022 Seneca Blvd.	Seneca Village	Siberian Elm	Ulmus pumila	80+	77	70	70	Healthy
5145	3035 Carson Wy.	Seneca Village	Silver maple	*Acer sacharinum*	36-40	69	71	106	Thriving
5205	3034 Carson Wy.	Seneca Village	Tulip poplar	*Liriodendron tulipifera*	36-40	88	71	158	Healthy
847	3023 Seneca Blvd.	Seneca Village	Norway Spruce	*Picea abies*	36-40	63	72	120	Healthy/Some Decay or Weakness
788	3011 Kent Rd.	Seneca Village	Red maple	*Acer rubrum*	36-40	64	72	111	Healthy

Table 4. Runway 33, Current or Near Term Penetrations

822	3014 Kent Rd.	Seneca Village	Pin oak	*Quercus palustris*	41-80	85	72	100	Healing/Some Decay or Weakness
850	3025 Seneca Blvd.	Seneca Village	Sugar maple	*Acer sacharum*	36-40	68	74	108	Healthy
849	3025 Seneca Blvd.	Seneca Village	Sugar maple	*Acer sacharum*	36-40	71	75	108	Healthy/Some Decay or Weakness
5129	2713 Alanmede Rd.	Seneca Village No. 2	Siberian Elm	*Ulmus pumila*	41-80	72	78	70	Healthy
5043	2647 Alanmede Rd.	Seneca Village No. 2	Siberian Elm	Ulmus pumila	41-80	73	79	70	Healthy
5131	2707 Alanmede Rd.	Seneca Village No. 2	Pin oak	*Quercus palustris*	41-80	81	79	106	Healing/Some Decay or Weakness
5108	3008 Betty Ln.	Seneca Village No. 2	Pin oak	*Quercus palustris*	41-80	87	88	115	Healthy
94	2712 Alanmede Rd.	Seneca Village No. 2	Pin oak	*Quercus palustris*	80+	92	90	115	Healthy
156	2727 Wendell Av.	Seneca Village No. 2	Silver maple	*Acer sacharinum*	80+	87	97	106	Healthy
219	2641 Wendell Av.	Seneca Village No. 2	Pin oak	*Quercus palustris*	41-80	94	98	115	Healthy
5385	3020 Joan Av.	Seneca Village No. 2	Red oak	*Quercus rubra*	80+	103	104	120	Healthy
588	2719 Gardiner Ln.	Seneca Village No. 2	Red maple	*Acer rubrum*	31-35	100	107	111	Healthy

Seneca Golf Course
Seneca Park
Seneca Vista
McCoy Manor
Seneca Manor
Hathaway
Kingsley
Seneca Village No. 2
Seneca Village
Big Spring Golf Course
15
24
6
33

Exhibit 1

N

0 0.05 0.1 0.2 Miles

0 0.0750.15 0.3 Kilometers

(#) Runway #

Area of Potential Effect (APE)

Program Tree

Outparcel

Seneca Golf Course

Approach Surface

Existing Easement

Easements/MOA Required

Airport Property/No Buildings Present

Neighborhood Boundary (official plat)

Draft

Seneca Golf Course
Seneca Park
Seneca Vista
McCoy Manor
Seneca Manor
Seneca Village
Hathaway
Kingsley
Seneca Village No. 2
Big Spring Golf Course
15
24
6
33

Exhibit 2

N

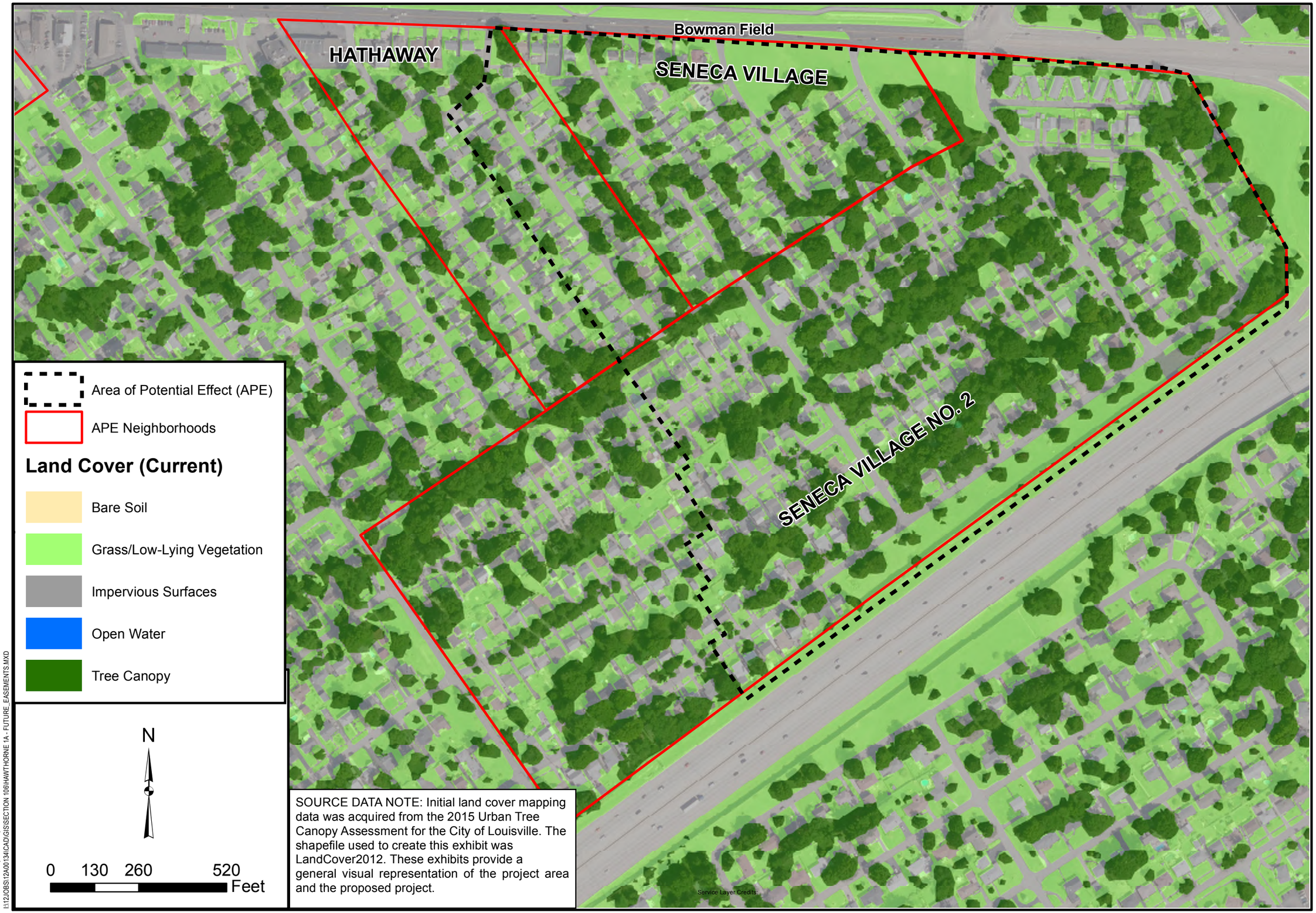
0 0.05 0.1 0.2 Miles

0 0.0750.15 0.3 Kilometers

- (#) Runway #
- Tree Inventory*
- Outparcel
- Program Tree
- Area of Potential Effect (APE)
- Airport Property/No Buildings Present
- Existing Easement
- Easements/MOA Required
- Approach Surface
- Seneca Golf Course
- Neighborhood Boundary (official plat)

Draft

* Due to the dynamic nature of the private and public golf courses the revised APE has not been surveyed to the full extent.



SOURCE DATA NOTE: Initial land cover mapping data was acquired from the 2015 Urban Tree Canopy Assessment for the City of Louisville. The shapefile used to create this exhibit was LandCover2012. These exhibits provide a general visual representation of the project area and the proposed project.

WEDNESDAY, MAY 25, 2016 8:43:41 AM GIBBS01521
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BOWMAN FIELD

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BOWMAN FIELD AIRPORT AREA SAFETY PROGRAM

SECTION 106 COORDINATION

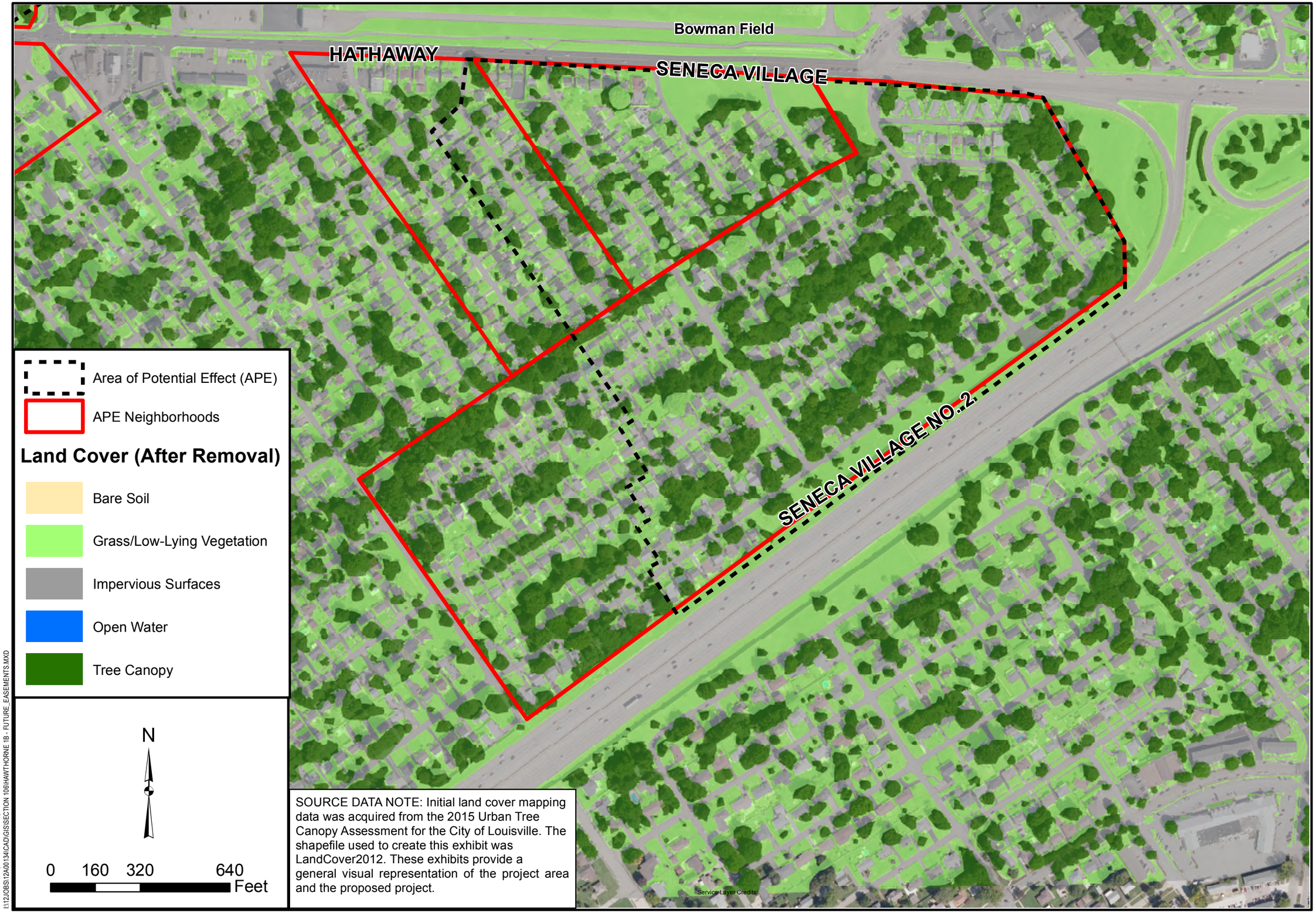
NO.	DATE	DESCRIPTION		
		LAY	DWN	REV

ISSUE:
12A00134
CAD FILE:
LAYOUT BY:
DRAWN BY: KBS
REVIEWED BY: TSH

SHEET TITLE

HAWTHORNE NEIGHBORHOOD LAND COVER - CURRENT CONDITIONS

EXHIBIT 1A



SOURCE DATA NOTE: Initial land cover mapping data was acquired from the 2015 Urban Tree Canopy Assessment for the City of Louisville. The shapefile used to create this exhibit was LandCover2012. These exhibits provide a general visual representation of the project area and the proposed project.

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CAD FILE:
LAYOUT BY:
DRAWN BY: KBS
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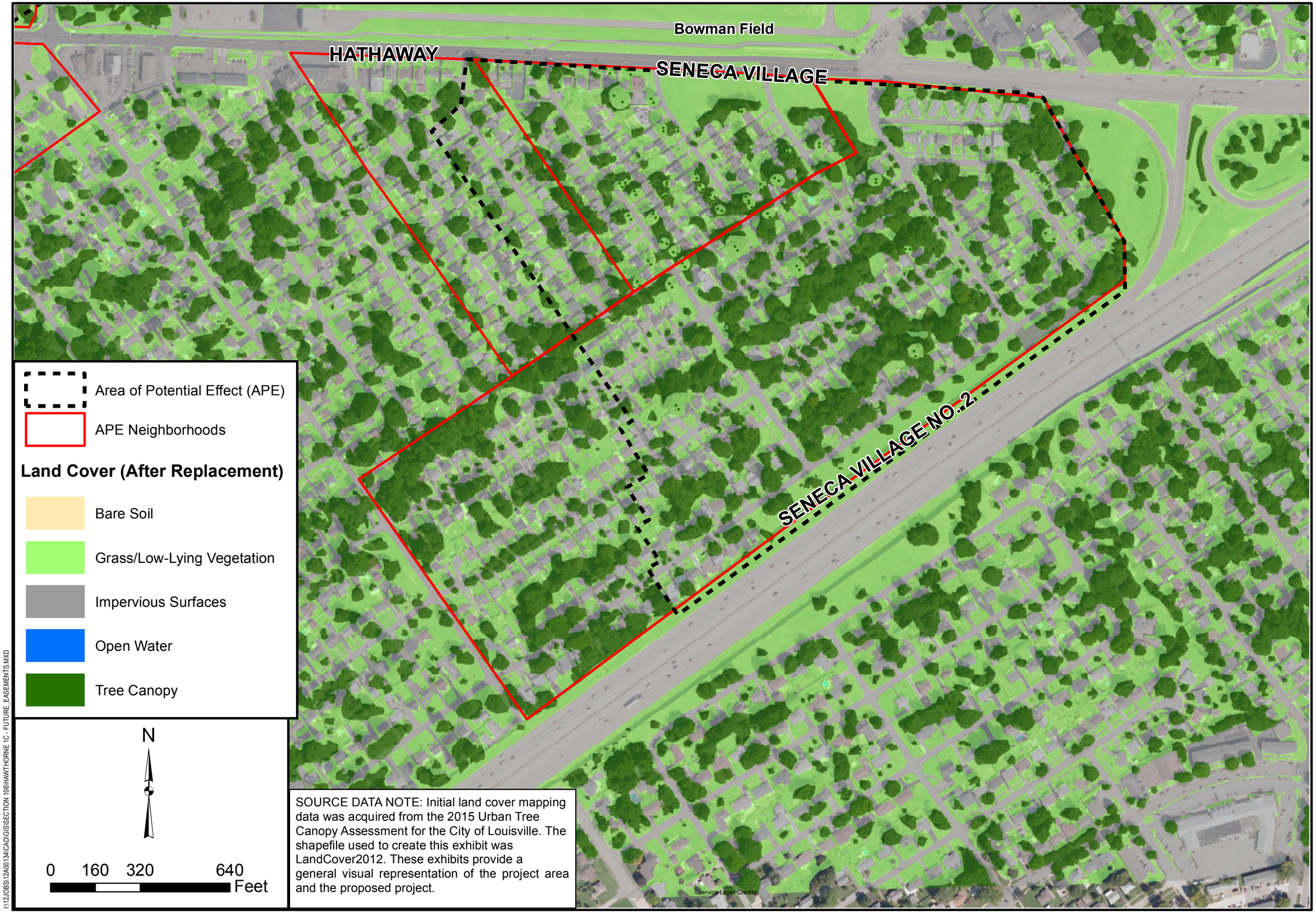
SHEET TITLE

HAWTHORNE NEIGHBORHOOD LAND COVER - AFTER REMOVAL

EXHIBIT 1B



SOURCE DATA NOTE: Initial land cover mapping data was acquired from the 2015 Urban Tree Canopy Assessment for the City of Louisville. The shapefile used to create this exhibit was LandCover2012. These exhibits provide a general visual representation of the project area and the proposed project.

THURSDAY, FEBRUARY 11, 2016 11:34:09 AM GIBBS01521
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ISSUE:
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DRAWN BY: KBS
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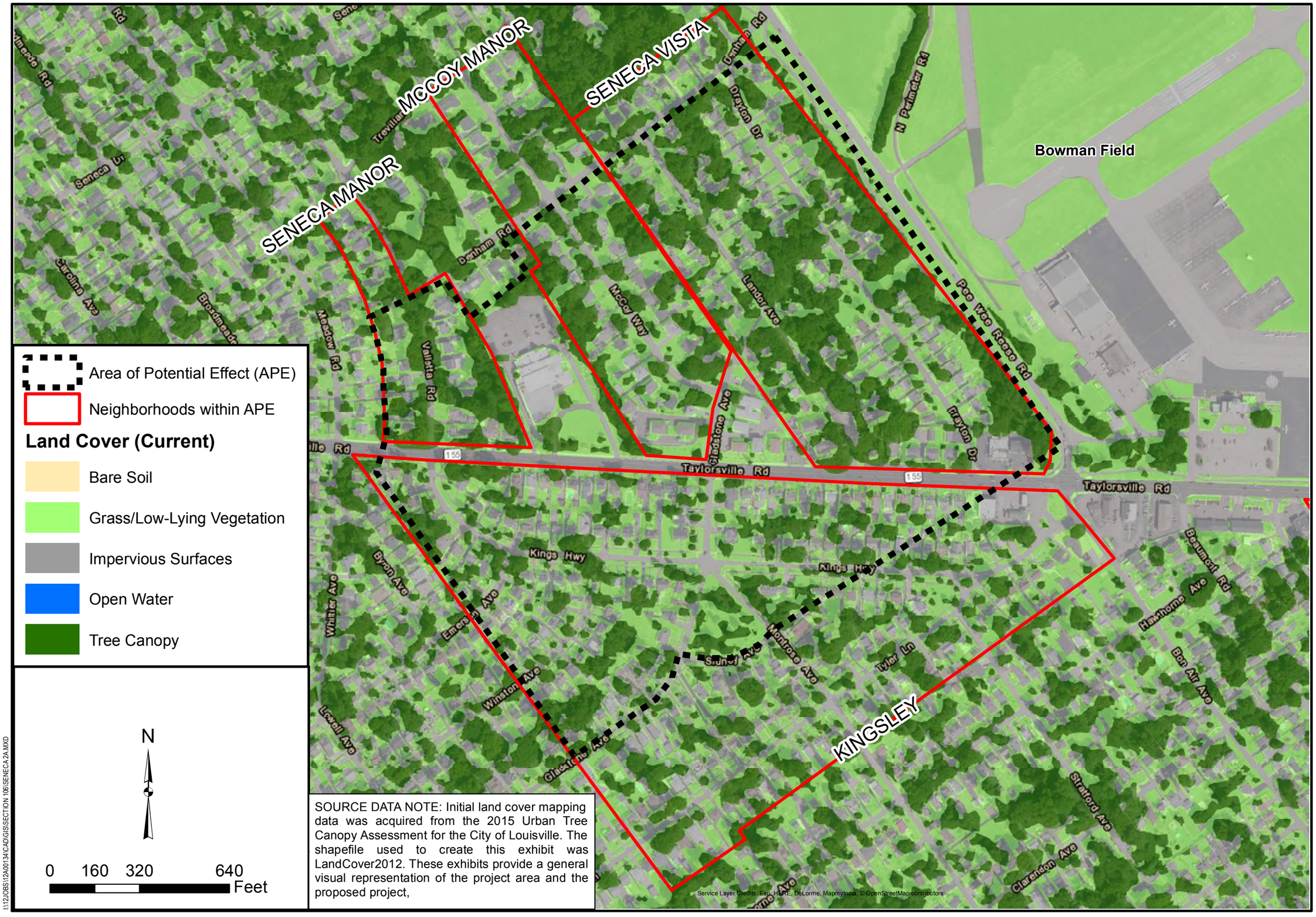
SHEET TITLE

HAWTHORNE NEIGHBORHOOD LAND COVER - AFTER INITIAL REREPLACEMENT

EXHIBIT 1C



SOURCE DATA NOTE: Initial land cover mapping data was acquired from the 2015 Urban Tree Canopy Assessment for the City of Louisville. The shapefile used to create this exhibit was LandCover2012. These exhibits provide a general visual representation of the project area and the proposed project,

THURSDAY, FEBRUARY 04, 2016 11:45:37 AM GIBBS01521
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SECTION 106 COORDINATION

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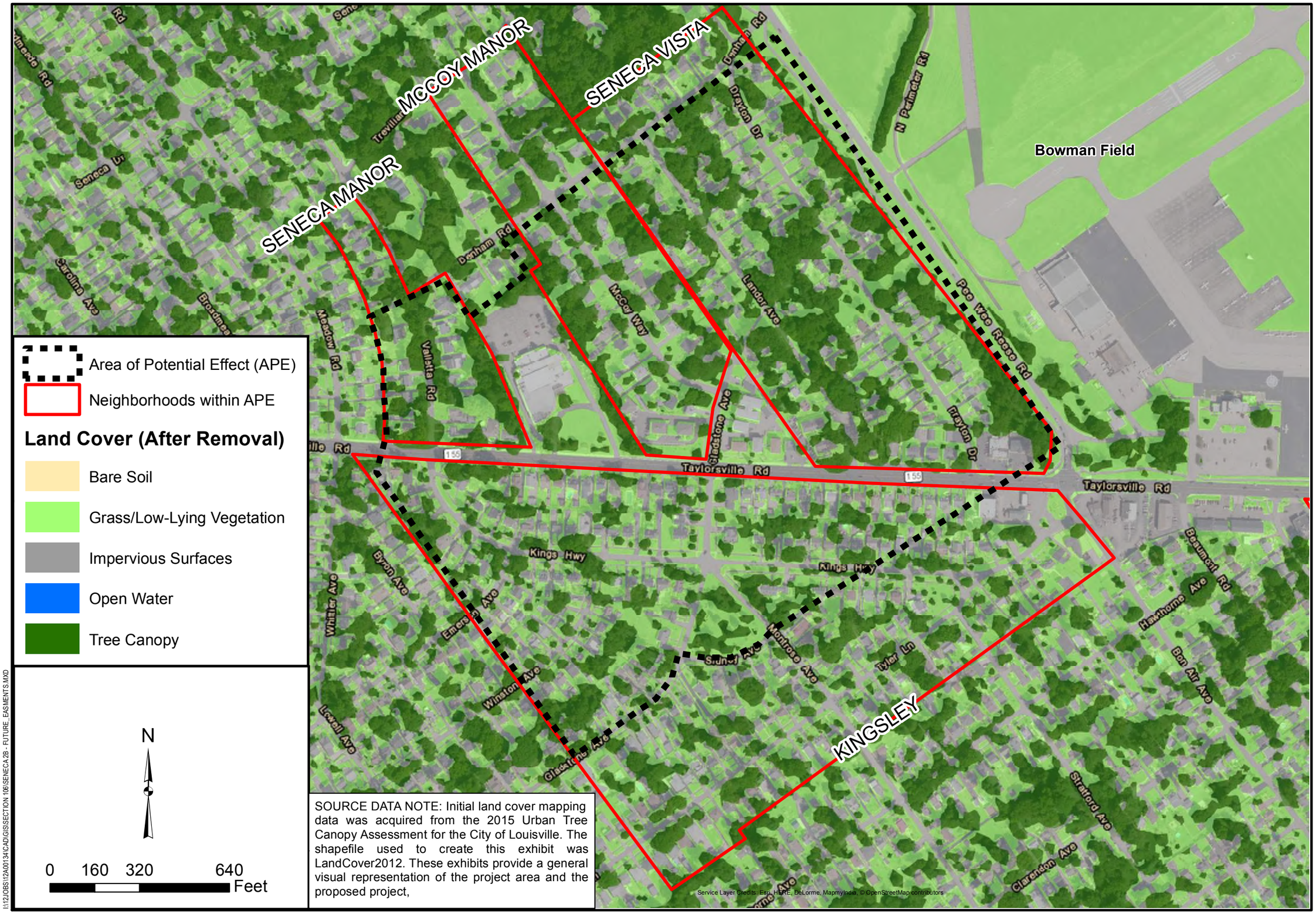
SHEET TITLE

SENECA NEIGHBORHOOD LAND COVER - CURRENT CONDITIONS

EXHIBIT 6



Area of Potential Effect (APE)

Neighborhoods within APE

Land Cover (After Removal)

Bare Soil

Grass/Low-Lying Vegetation

Impervious Surfaces

Open Water

Tree Canopy

N

0 160 320 640 Feet

SOURCE DATA NOTE: Initial land cover mapping data was acquired from the 2015 Urban Tree Canopy Assessment for the City of Louisville. The shapefile used to create this exhibit was LandCover2012. These exhibits provide a general visual representation of the project area and the proposed project,

WEDNESDAY, FEBRUARY 10, 2016 1:02:01 PM GIBBS01521
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ISSUE:
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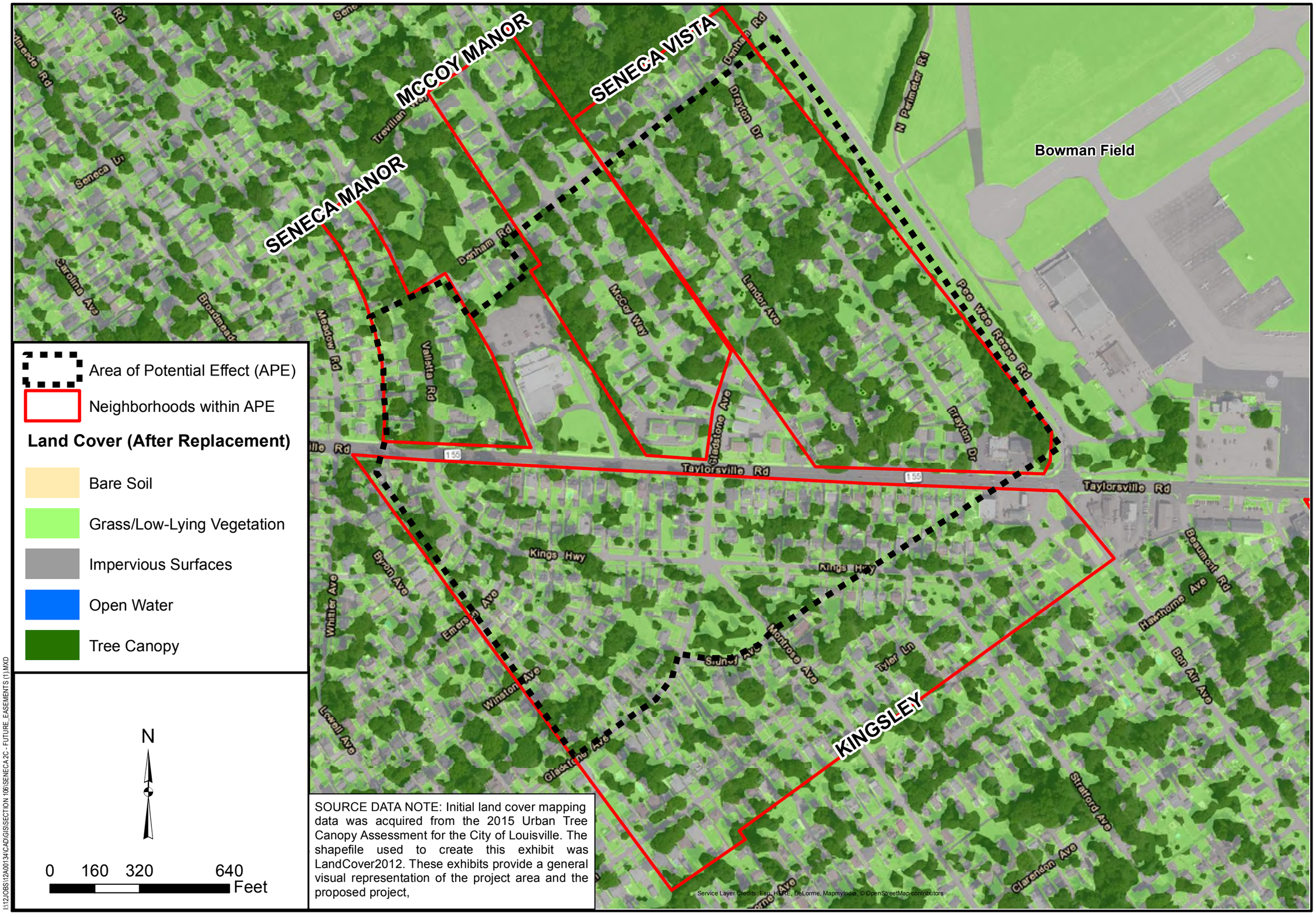
CAD FILE:
LAYOUT BY:
DRAWN BY: KBS
REVIEWED BY: TSH

SHEET TITLE

SENECA NEIGHBORHOOD LAND COVER - AFTER REMOVAL

EXHIBIT 7



SOURCE DATA NOTE: Initial land cover mapping data was acquired from the 2015 Urban Tree Canopy Assessment for the City of Louisville. The shapefile used to create this exhibit was LandCover2012. These exhibits provide a general visual representation of the project area and the proposed project,

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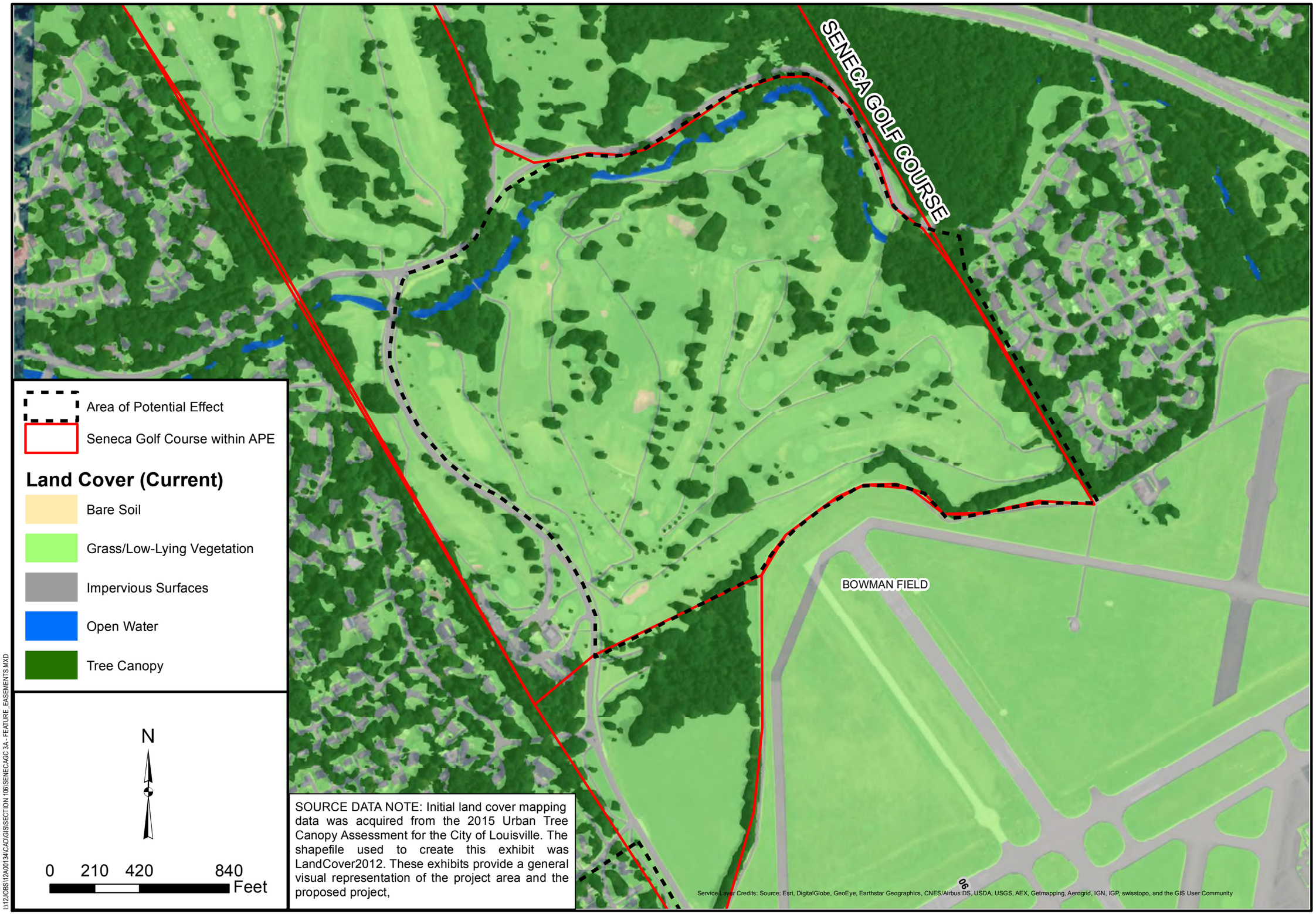
SHEET TITLE

SENECA NEIGHBORHOOD LAND COVER - AFTER INITIAL REPLACEMENT

EXHIBIT 8



Area of Potential Effect

Seneca Golf Course within APE

Land Cover (Current)

- Bare Soil
- Grass/Low-Lying Vegetation
- Impervious Surfaces
- Open Water
- Tree Canopy

N

0 210 420 840 Feet

SOURCE DATA NOTE: Initial land cover mapping data was acquired from the 2015 Urban Tree Canopy Assessment for the City of Louisville. The shapefile used to create this exhibit was LandCover2012. These exhibits provide a general visual representation of the project area and the proposed project,

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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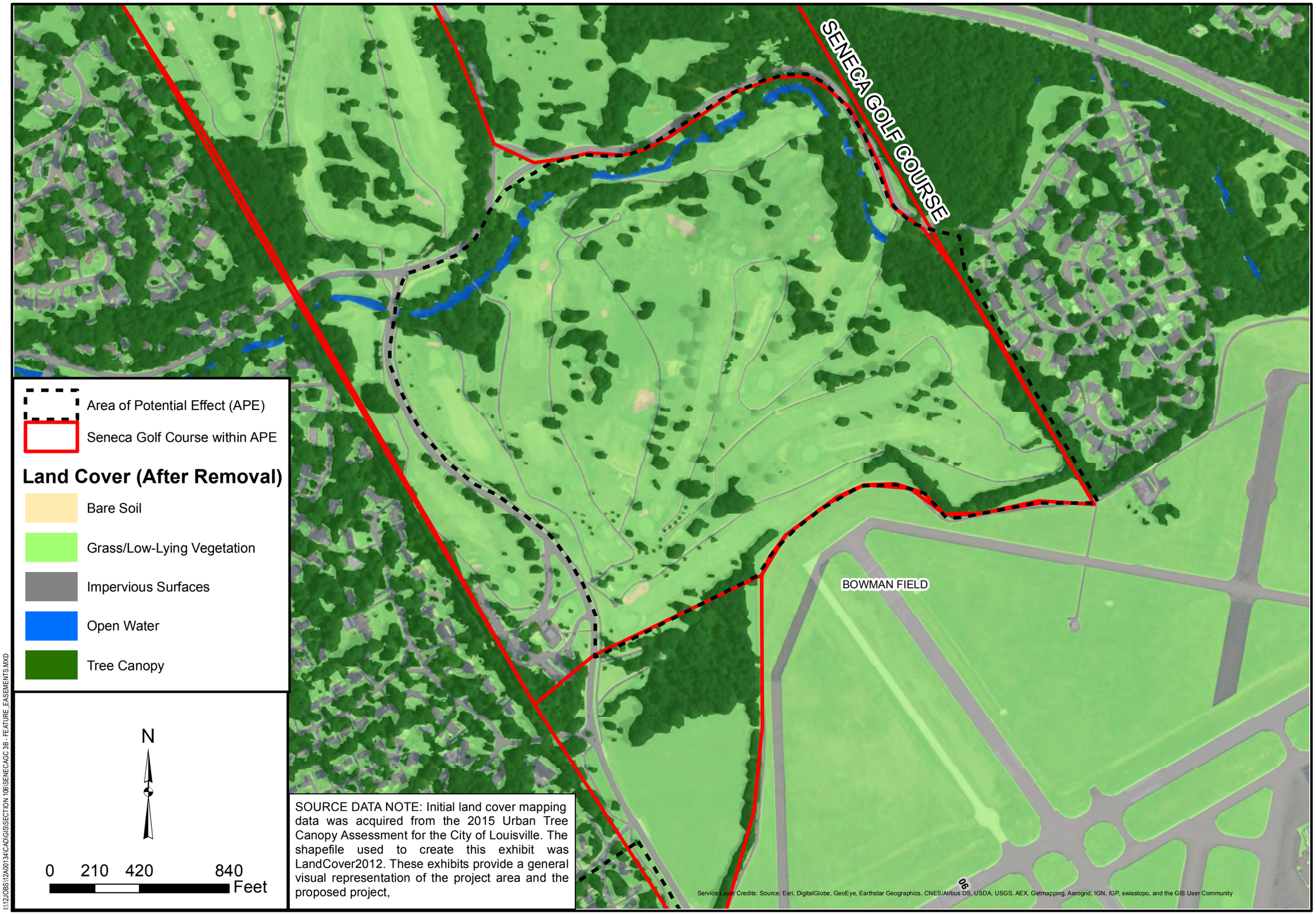
SHEET TITLE

SENECA GOLF COURSE LAND COVER - CURRENT CONDITIONS

EXHIBIT 9



SOURCE DATA NOTE: Initial land cover mapping data was acquired from the 2015 Urban Tree Canopy Assessment for the City of Louisville. The shapefile used to create this exhibit was LandCover2012. These exhibits provide a general visual representation of the project area and the proposed project,

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DRAWN BY: KBS
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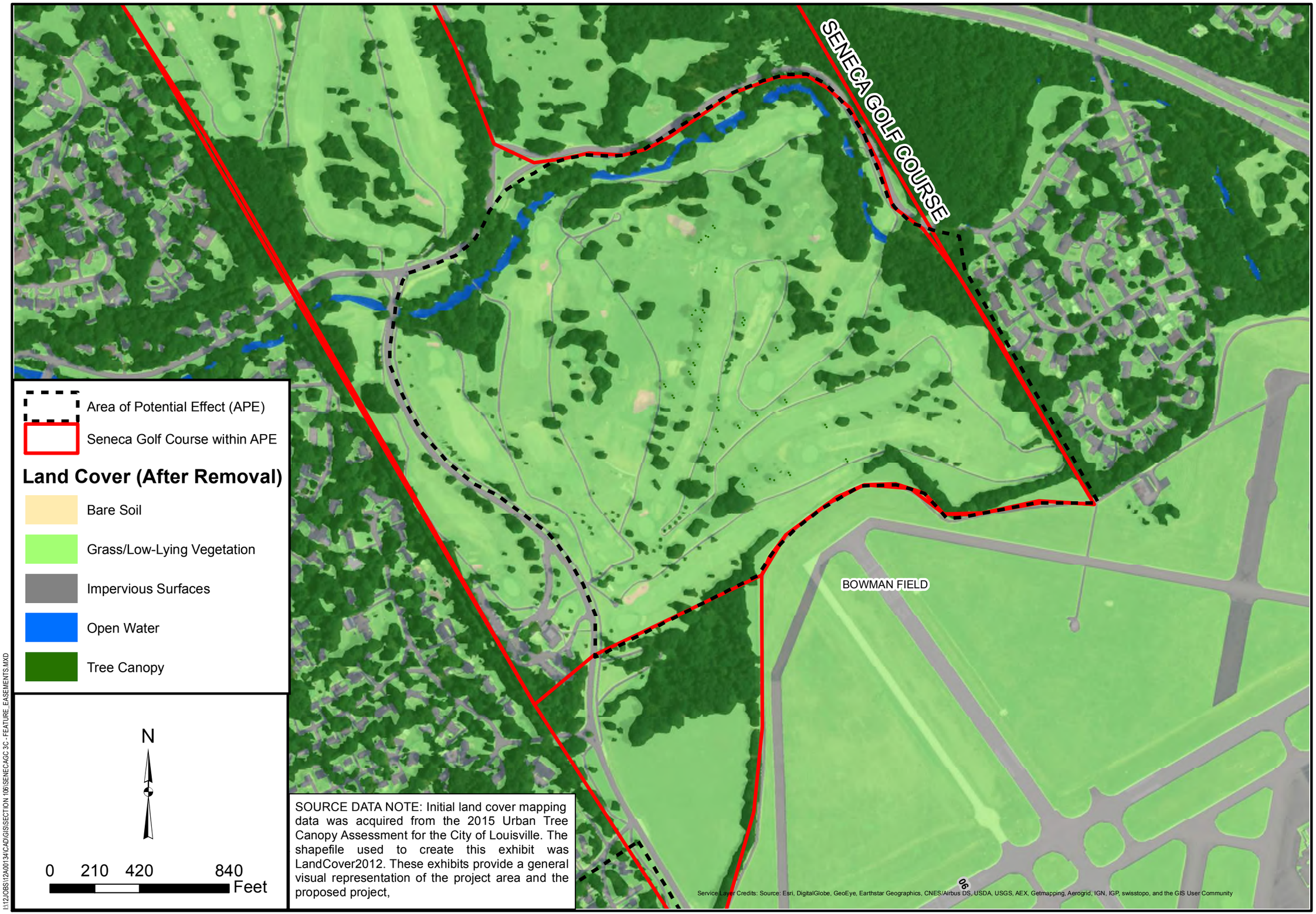
SHEET TITLE

SENECA GOLF COURSE LAND COVER - AFTER REMOVAL

EXHIBIT 10



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SHEET TITLE

SENECA GOLF COURSE LAND COVER - AFTER REMOVAL

EXHIBIT 11

APPENDIX C -
AGENCY
COORDINATION

U.S. Department
of Transportation
Federal Aviation Administration

Memphis Airports District Office
2862 Business Park Dr, Bldg G
Memphis, TN 38118-1555
Phone: 901-322-8180

March 21, 2012

Mrs. Karen Scott
Deputy Executive Director, Planning & Engineering
Louisville Regional Airport Authority
P.O. Box 9129
Louisville, KY 40209

Dear Mrs. Scott:

Re: Bowman Field (LOU)
Louisville, KY
Conditional Airport Layout Plan Approval

The Federal Aviation Administration (FAA) conditionally approves your Airport Layout Plan (ALP) for Bowman Field Airport, dated December 18, 2008 and signed February 27, 2012. This approval is subject to the condition that the proposed airport development listed below requires environmental processing and may not be undertaken without the FAA's prior written environmental approval.

- Future Northeast, Northwest and Southeast Airport Development
- Taxiway "A" Removal
- Taxiway "B" Removal

The ALP depicts Runway 6-24 with a length of 4,357 ft. while the Airport Master Record indicates a length of 4,326 ft. Upon completion of the proposed Aeronautical Survey the sponsor should submit a revised ALP to this office.

FAA approval of your ALP means that the proposed airport development shown on the plan and noted above, was reviewed on the basis of safety, utility and efficiency.

However, our approval does not represent a commitment to provide federal financial assistance to implement any development or air navigation facilities shown on the plan, nor does it mean that we find funding of the proposed airport development justified.

The proposed airport development shown below and on the ALP is not adequately justified for planning purposes based on the FAA's most recent Terminal Area Forecast (TAF).

- Future Dual Parallel Taxiway
- Future Taxiway "K"

We do not concur with the area designated as Future Non-Aviation Development. Any proposal for Non-Aviation land uses should be reviewed and approved by this office.

Please be aware that you are required to notify this office at least 60 days prior to the start of any construction on the airport. You must submit proper notification to our office and receive FAA airspace approval. Furthermore, the design and location of any storm water retention/detention facilities on or near the airport must comply with FAA Advisory Circular 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports", and must be approved on the ALP prior to construction.

We look forward to working with you in the continued development of your airport.

Sincerely,

Stephen Wilson

Stephen Wilson
Community Planner

Enclosure

cc:

AJW-E22; Stephanie Gadson
AJW-E15C; Shafat Ahmad
AJV-E24; Joe Burkhardt
SDF-ATCT; David Senechal

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BOWMAN FIELD AIRPORT AREA SAFETY PROGRAM

DRAFT ENVIRONMENTAL ASSESSMENT

NO.	DATE	DESCRIPTION		
			LAY	DWN	REV

ISSUE: MONTH DAY, YEAR
12A00134
CAD FILE:
LAYOUT BY:
DRAWN BY: SKG
REVIEWED BY: RHA

SHEET TITLE

FEDERAL AVIATION ADMINISTRATION - CONDITIONAL ALP APPROVAL CORRESPONDANCE

EXHIBIT 1

ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
300 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-2150
FAX (502) 564-4245
www.dep.ky.gov

Leonard K. Peters
Secretary

R. Bruce Scott
Commissioner

December 9, 2014

Melissa A. Jenkins, PE
Project Engineer
Hanson Professional Services Inc.
2700 Moran Avenue, Suite B
Louisville, KY 40205

Re: SERO 2014 – 33
Early Coordination Associated with
Environmental Review for Easement
Acquisition and Tree Removal /Trimming
at Bowman Field Airport, Louisville, KY

Ms. Jenkins,

The Energy and Environment Cabinet serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection coordinates the review for Kentucky state agencies.

We received your letter dated December 4, 2014 requesting the departments input on potential environmental impacts related to the easement acquisition and tree removal /trimming at Bowman Field Airport, Louisville, KY. As you develop your draft environmental assessment, the following comments provided by the cabinet should be considered.

- Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne.

Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://air.ky.gov/Pages/OpenBurning.aspx.

- Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Brochure located at http://air.ky.gov/Pages/OpenBurning.aspx.

- The Division would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of Kentucky.

  § Utilize alternatively fueled equipment.

  § Utilize other emission controls that are applicable to your equipment.

  § Reduce idling time on equipment.

- All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered they must be properly addressed. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

- The Division of Water recommends that in the implementation of the project Best Management Practices (BMPs) be utilized to prevent nonpoint-sources of water pollution and, thereby, control stormwater runoff and sediment damage to water quality and aquatic habitat. For technical assistance on the kinds of BMPs most appropriate for this type of construction, please contact the local Soil and Water Conservation District or the Division of Conservation of the Environmental and Public Protection Cabinet. The Division of Water, also, has available BMP construction manuals.

- If the project is in a karst area, BMPs should be used to mitigate any potential impacts to groundwater, especially from excess sediment. The appropriate Groundwater Protection Plan should also be followed and should include spill protection for any on-site fuel storage. Appropriate

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BOWMAN FIELD AIRPORT AREA SAFETY PROGRAM

DRAFT ENVIRONMENTAL ASSESSMENT

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			LAY	DWN	REV

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DRAWN BY: SKG
REVIEWED BY: RHA

SHEET TITLE

KENTUCKY DEPARTMENT OF ENVIRONMENTAL PROTECTION COORDINATION

EXHIBIT 2A

measures need to be followed to ensure that any wells or springs are not impacted, especially those that may be used for domestic water supplies.

- If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) stormwater discharge permit from Division of Water.

- The Kentucky Airport Zoning Commission has jurisdiction for issuing permit on and around all public use airports. Information on airport zoning laws and regulations may be found at: http://transportation.ky.gov/Aviation/zoning.htm.

The response provided is based upon the information that was provided by the applicant; an does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations.

If you should have any questions, please contact me at (502) 564-2150, ext. 3125.

Sincerely,

Ronald T Price

Ronald T. Price
Kentucky Department for Environmental Protection

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DRAWN BY: SKG
REVIEWED BY: RHA

SHEET TITLE

KENTUCKY DEPARTMENT OF ENVIRONMENTAL PRTECTION COORDINATION

EXHIBIT 2B

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Kentucky Ecological Services Field Office
330 West Broadway, Suite 265
Frankfort, Kentucky 40601
(502) 695-0468

December 3, 2014

Mr. Timothy Haskell
Senior Aviation Planner
Hanson Professional Services, Inc.
53 Century Blvd., Suite 160
Nashville, Tennessee 37214

Re: FWS 2015-B-0058; Federal Aviation Administration (FAA), Louisville Regional Airport Authority Obstruction Removal for Runway Approaches 6, 15 and 33 Project at Bowman Field Airport, Jefferson County, Kentucky

Dear Mr. Haskell:

The U.S. Fish and Wildlife Service (Service) has reviewed your October 31, 2014 request for the above-referenced project. The request has been prepared on behalf of the Louisville Regional Airport Authority (LRAA). The Service offers the following comments in accordance with the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Indiana bat

The Indiana bat (*Myotis sodalis*) is the only federally listed species that the Service believes has the potential to occur within the proposed action area. The proposed project area is located within potential Indiana bat habitat. We believe that forested areas in the vicinity of and on the project area may provide potentially suitable summer roosting and foraging habitat for the Indiana bat. Our belief that potentially suitable habitat may be present is based on the information provided in your correspondence, the fact that much of the proposed project area and/or surrounding areas contain forested habitats that are within the natural range of this species, and our knowledge of the life history characteristics of the species.

From approximately mid-March through mid-October, Indiana bats utilize a wide array of forested habitats, including riparian forests, bottomlands, and uplands for both summer foraging and roosting habitat. During this time of year, Indiana bats typically roost under exfoliating bark, in cavities of dead and live trees, and in snags (*i.e.*, dead trees or dead portions of live trees). Trees in excess of 16 inches diameter at breast height (DBH) are considered optimal for maternity colony roosts, but trees in excess of 9 inches DBH appear to provide suitable maternity roosting habitat. Male Indiana bats have been observed roosting in trees as small as 5 inches DBH. By definition a "potential Indiana bat roost tree" is a tree that is greater than 5-inches DBH and exhibits one or more of the following characteristics: exfoliating bark, cracks, crevices, dead portions, and cavities. Projects involving the removal of forested areas (trees) within potential Indiana bat habitat could result in direct, indirect and/or cumulative effects to Indiana bats through changes to the landscape and the removal of potential foraging and roosting habitat.

Direct effects
According to your correspondence, the proposed project would result in the loss or trimming of approximately 300 individual trees. The proposed project area is situated entirely within an urban environment. Based on the field assessment and photos of the project area, some of the trees that would be removed and trimmed are likely "potential Indiana bat roost trees" as previously defined. LRAA would schedule all project-associated tree removal and tree trimming to occur between the dates of October 15th and March 31st, the time of year when Indiana bats are not likely to be present. The Service believes that this approach would avoid direct effects to Indiana bats that may be utilizing habitat within the project area during the time-frame when the species is anticipated to be present.

Indirect effects
The Analysis indicates that the approximately 300 individual trees that would be removed or trimmed comprise 8% of the available Indiana bat potential summer habitat within the surrounding area. Additionally, the Service believes that the project would not result in significant fragmentation of potential Indiana bat habitat because of the urban setting of the project area. Based on this information, the Service believes that the project's indirect effects to the Indiana bat would be insignificant and/or discountable.

Cumulative effects
The purpose of the project is to maintain the existing aircraft flight operating conditions and to comply with FAA safety criteria. The project is not intended to result in an increase in development or lower approach surface elevations. Considering the project's purpose, the Service believes that it is unlikely that the project would result in cumulative effects to Indiana bats.

Northern long-eared bat

The northern long-eared bat (*Myotis septentrionalis*) is currently proposed for federal listing under the ESA. Although species proposed for listing are not afforded protection under section 9 of the ESA, when a species is listed, the prohibitions against jeopardizing its continued existence and unauthorized take are effective 30 days after publication of the final rule, **regardless of an action's stage of completion**. Federal action agency(s) are required to confer with the Service on an agency action that is likely to jeopardize the continued existence of proposed species or result in the destruction or adverse modification of critical habitat proposed to be designated (Section 7 (a)(4) of the ESA). You and/or the lead federal action agency may also voluntarily confer with the Service if the proposed action may affect the northern long-eared bat. At this time, no designated critical habitat has been proposed for the northern long-eared bat.

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BOWMAN FIELD

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BOWMAN FIELD AIRPORT AREA SAFETY PROGRAM

DRAFT ENVIRONMENTAL ASSESSMENT

NO.	DATE	DESCRIPTION		
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U.S. FISH AND WILDLIFE SERVICE COORDINATION

EXHIBIT 3A

The proposed action area is considered potential habitat for the northern long-eared bat. During the summer, northern long-eared bats typically roost singly or in colonies in a wide-variety of forested habitats, where they seek shelter during daylight hours underneath bark or in cavities/crevices of both live trees and snags, including relatively small trees and snags that are less than 5 inches in diameter at breast height (DBH). Northern long-cared bats have also been documented roosting in man-made structures (i.e., buildings, barns, etc.) during the summer. According to current winter occurrence data, northern long-eared bats predominately winter in hibernacula that include caves, tunnels, and underground mine passages.

The proposed project would result in the removal and trimming of approximately 300 individual trees which comprise about 8% of available northern long-eared bat potential summer habitat within the surrounding area. Due to the seasonal tree clearing measure, as described for the Indiana bat, we believe that the project would not likely have direct effects to potential northern long-eared bat summer habitat. Additionally, the project would not likely significantly affect northern long-cared bat potential hibernacula habitat. Therefore, the Service believes that the proposed project would not likely jeopardize the continued existence of the northern long-eared bat.

Please note that the final rule to list the northern long bat or not is expected to be published by April 2, 2015. If the project-associated construction activities continue after April, 2015, and the northern long cared bat is listed as threatened or endangered, the federal action agency (FAA) is required to consult with the Service if it is determined that the proposed project may affect the northern long-eared bat. The Service may recommend additional minimization and mitigation measures to ensure that the proposed project is in full compliance with the ESA relative to the northern long-eared bat.

In summary of these findings, the Service concurs that the proposed project would not likely adversely affect the Indiana bat. The Service believes that the requirements of section 7 of the Endangered Species Act have been fulfilled for this project. The obligations under section 7 must be reconsidered; however, if: (1) the seasonal tree clearing measure is not adhered to., (2) new information reveals that the proposed action may affect listed species in a manner or to an extent not previously considered., (3) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (4) new species are listed or critical habitat designated.

Thank you again for your request. Your concern for the protection of endangered and threatened species is greatly appreciated. If you have any questions regarding the information that we have provided, please contact James Gruhala at (502) 695-0468 extension 116.

Sincerely,

Virgil Lee Andrews, Jr.
Field Supervisor

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U.S. FISH AND WILDLIFE SERVICE COORDINATION

EXHIBIT 3B

STEVEN L. BESHEAR
GOVERNOR

DEPARTMENT FOR LOCAL GOVERNMENT
OFFICE OF THE GOVERNOR
1024 CAPITAL CENTER DRIVE, SUITE 340
FRANKFORT, KENTUCKY 40601-8204
PHONE (502) 573-2382 FAX (502) 573-2939
TOLL FREE (800) 346-5606
WWW.DLG.KY.GOV

TONY WILDER
COMMISSIONER

December 16, 2014

Ms. Melissa Jenkins
Hanson Professional Services
2700 Moran Ave., Suite B
Louisville, KY 40205

RE: Bowman Field Airport Area Safety Program
SAI# KY20141113-1134
CFDA# 20.106

Dear Ms. Jenkins:

The Kentucky State Clearinghouse, which has been officially designated as the Commonwealth's Single Point of Contact (SPOC) pursuant to Presidential Executive Order 12372, has completed its evaluation of your proposal. The clearinghouse review of this proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Therefore, the State Clearinghouse recommends this project be approved for assistance by the cognizant federal agency.

Although the primary function of the State Single Point of Contact is to coordinate the state and local evaluation of your proposal, the Kentucky State Clearinghouse also utilizes this process to apprise the applicant of statutory and regulatory requirements or other types of information which could prove to be useful in the event the project is approved for assistance. Information of this nature, if any, concerning this particular proposal will be attached to this correspondence.

You should now continue with the application process prescribed by the appropriate funding agency. This process may include a detailed review by state agencies that have authority over specific types of projects.

This letter signifies only that the project has been processed through the State Single Point of Contact. It is neither a commitment of funds from this agency or any other state of federal agency.

The results of this review are valid for one year from the date of this letter. Continuation or renewal applications must be submitted to the State Clearinghouse annually. An application not submitted to the funding agency, or not approved within one year after completion of this review, must be re-submitted to receive a valid intergovernmental review.

If you have any questions regarding this letter, please feel free to contact my office at 502-573-2382.

Sincerely,

Lee Nalley

Lee Nalley
Kentucky State Clearinghouse

Attachments

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KENTUCKY CLEARINGHOUSE; DEPARTMENT FOR LOCAL GOVERNMENT COORDINATION

EXHIBIT 4A

The Housing, Building, Construction has made the following advisory comment pertaining to State Application Identifier Number KY201411131134
no comments

The Labor Cabinet has made the following advisory comment pertaining to State Application Identifier Number KY201411131134

STATE PW RATES MAY APPLY TO PROJECTS EXCEEDING $250,000.00. CONTACT KY LABOR CABINET AT 502 564 3534

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY201411131134

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications, or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

Kentucky Division for Air Quality Regulation 401 KAR 63:010 Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm.

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm.

The Division suggests an investigation into compliance with applicable local government regulations.

All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered they must be properly addressed. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

The Division of Water recommends that in the construction of the project Best Management Practices (BMPs) be utilized to prevent nonpoint-sources of water pollution and, thereby, control stormwater runoff and sediment damage to water quality and aquatic habitat. For technical assistance on the kinds of BMPs most appropriate for this type of construction, please contact the local Soil and Water Conservation District or the Division of Conservation of the Environmental and Public Protection Cabinet. The Division of Water, also, has available BMP construction manuals.

If the project is in a karst area, BMPs during construction and operation of the facility should be followed to mitigate any potential impacts to groundwater, especially from excess sediment. The appropriate Groundwater Protection Plan should also be followed and should include spill protection for any on-site fuel storage. Appropriate measures need to be followed to ensure that any wells or springs are not impacted, especially those that may be used for domestic water supplies.

If the proposed project site is in a designated flood hazard area, application must be made to the Division of Water for a floodplain construction permit. Permission, or exemption, depends upon design and the exact site.

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) stormwater discharge permit from Division of Water.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

A groundwater survey of the site and vicinity should be conducted prior to construction, and any wells or springs located should be inspected and mapped and records filed with the Groundwater Branch, Division of Water. If any water wells on-site need to be abandoned, state regulations require that they be properly plugged by a Kentucky certified water well driller.

Transportation Cabinet Kentucky Airport Zoning Commission
The Kentucky Airport Zoning Commission has jurisdiction for issuing permit on and around all public use airports. Information on airport zoning laws and regulations may be

The KIPDA has made the following advisory comment pertaining to State Application Identifier Number KY201411131134
no comments

The Heritage Council has made the following advisory comment pertaining to State Application Identifier Number KY201411131134

The applicant must ensure compliance with the Advisory Council on Historic Preservation's Rules and Regulations for the Protection of Historic and Cultural Properties (36CFR, Part 800) pursuant to the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, and Executive Order 11593.

Please note, these comments should not be construed as consultation under Section 106 of the National Historic Preservation Act of 1966 (as amended). It is our understanding the FAA is not conducting Section 106 and NEPA concurrently for this project. The FAA has not initiated Section 106 consultation with our office at this time. Therefore, our agency, as the State Historic Preservation Office for the Commonwealth of Kentucky, reserves the right to issue formal comments in the role prescribed for us in the Section 106 process under 36 CFR Part 800 when that process is underway. This review is solely intended to serve the purpose outlined in the project description, which is to provide preliminary comments for environmental documentation related to development of an EA under NEPA.

SAI # KY201411131134 describes the project as including avigation easement acquisition to accommodate obstruction removal. The following comments presume the acquisition of easements is not by itself the proposed action; rather the action includes obstruction removal and easements. If our understanding is incorrect, please contact our office, as these comments under NEPA for the EA may need to be revised.

EA documents typically address the affected human environment in some way. Historic, archaeological and cultural resources can be components of the human environment. One of the Kentucky Heritage Council's duties and functions under KRS 171.381 (apart from the duties of the State Historic Preservation Officer) is to "maintain an inventory or survey of Kentucky's resource of historic buildings, sites, structures, and other landmarks..." Without information on a project area, we cannot speak specifically to the presence/absence of historic, archaeological and cultural resources, but our current records indicate there has been almost no systematic study of the area immediately surrounding Bowman Field. Many resources in this area are of an age that they could be considered "historic," and thus be culturally valued aspects of the human environment.

The proposed action has the potential for direct, indirect and cumulative impacts to these types of resources. To ensure adequate/appropriate scoping for these resources in the preparation of an EA or related NEPA documents, we encourage coordination with individuals, organizations and agencies that have knowledge of the history and development of the area, including but not limited to the Louisville Metro Historic Preservation Officer, Preservation Louisville, long-time local residents, etc., to supplement any archival research which may also be conducted.

If you have questions regarding these comments, please contact Jill Howe at 502-564-7005, ext. 121.

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KENTUCKY CLEARINGHOUSE; DEPARTMENT FOR LOCAL GOVERNMENT COORDINATION

EXHIBIT 4B

The KY State Fish & Wildlife has made the following advisory comment pertaining to State Application Identitier Number KY20t411131134

We request that you coordinate the proposed project with the U. S. Fish & Wildlite Service Kentucky Field Office at 502-695-0468 to address potential impacts to Federally Listed Threatened/Endangered Species. The U. S. Fish & Wildlite Service will be able to help in the development of a plan to minimize impacts to federally listed species during construction of the proposed project. To reduce impacts to tree-roosting bat species, a seasonal tree-cutting restriction (November t5th March 3tst) will likely be requested.

To minimize impacts to the aquatic environment the Kentucky Dept. of Fish & Wildlife Resources recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed. Please contact Dan Stoelb @ 502-564-7109 ex. 4453 or Daniel.Stoelb@ky.gov if you have further questions or require additional information.

The KY Dept. ot Transportation has made the tollowing advisory comment pertaining to State Application Identitier Number KY201411131134

Hickerson (D5), Judi: Any firm, individual, or government agency, that wants access to a road on the state highway system or wants to conduct any type ot work on the right ot way, must obtain a permit from the Department ot Highways. For turther information, contact Mohamad Abdol, Encroachment Permits, Traffic Operations, KYTC District 5 at (502) 210-5456.

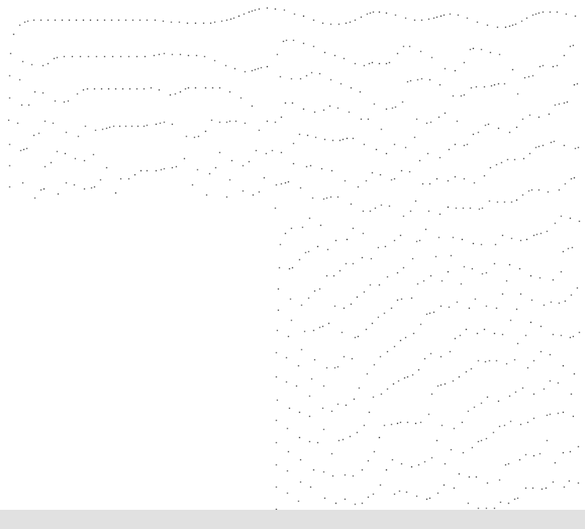

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EXHIBIT 4C

APPENDIX D -
APPLICABLE
REGULATORY
STATUTES

D.1 Applicable Regulatory Statutes

D.1.1 – The Airport and Airway Safety and Capacity Expansion Act of 1987 (P.L. 100-223)

The Airport and Airway Improvement Act of 1982, as amended by the Airport and Airway Safety Capacity Expansion Act of 1987, established the Airport Development Assistance Program. This Act states that a project may not be approved unless the Secretary of the Department of Transportation is satisfied that the project is reasonably consistent with objectives (existing at the time of approval of the project) of planning agencies for the development of the area in which the Airport is located. Each Airport development project must also "provide for the protection and enhancement of the natural resources and the quality of the environment of the Nation."

D.1.2 – Federal Aviation Act of 1958, (P.L. 85-726) now recodified as Subtitle VII, Title 49 U.S. Code – "Aviation Programs," (Section 40101 et. Seq.)

The Federal Aviation Act of 1958 replaced Civil Aeronautics Administration and established the FAA. In addition, the Act transferred the authority to set aviation regulations from the Civil Aeronautics Board to the FAA. This Act grants the FAA sole responsibility for the nation's civil-military system of air navigation and air traffic control. Today, the aviation regulations are known as the Federal Aviation Regulations (FAR PART 77s). The CFR Title 14 – "*Aeronautics and Space*", Chapter, Parts 77, 91, 157, 151 and 152 provides a codification of the general and permanent rules published in the Federal Register by the FAA. The following parts establish regulations affecting the Airport, particularly airspace and navigation aids:

- Part 77 - Objects Affecting Navigable Airspace;
- Part 91 - General Operating and Flight Rules; and
- Part 157 - Notice of Construction, Alteration, Activation and Deactivation of Airports.

Additionally, the following parts establish regulations affecting the Airport, with regard to funding airport development:

- Part 151 - Federal Aid to Airports; and
- Part 152 - Airport Aid Program.

D.1.3. The National Environmental Policy Act 1969 (NEPA)

Public Law 91-190, U.S.C 4321, et seq., established a broad national policy to improve the relationship between humans and the environment, and established policies and goals to insure that environmental considerations are given careful attention and appropriate weight in all decisions of the Federal Government.

D.1.4 – Department of Transportation Act of 1996, Section 4 (f), Recodifies 49 U.S.C. 303c

Section 303c of the DOT Act provides that the secretary shall not approve any program or project which requires the use of any public owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land of an historic site of national, state, or local significance as determined by the officials having jurisdiction thereof unless there is no feasible and prudent alternative to the use of such land and such program or project includes all possible planning to minimize harm resulting from the use.

D.1.5 – The Farmland Protection Policy Act of 1981, 7 U.S.C. 4201, et seq.

The Federal farmland Protection Policy Act in part directs Federal agencies to take into account the adverse effects of proposed actions on the preservation of farmland, and to consider appropriate alternatives that could lessen adverse effects.

D.1.6 – Clean Water Act of 1972, 33 U.S.C 1251, et seq.

The CWA sets the basic structure for regulating discharges of pollutants to waters of the United States. The law gave the EPA the authority to set effluent standards on an industry basis (technology-based) and continued the requirements to set water quality standards for all contaminants in surface waters. The CWA makes it unlawful for any person to discharge any pollutant from a point source into navigable waters unless an NPDES Permit is obtained under the Act. The CWA also focuses on toxic substances, contains citizen suit provisions, and funds sewage treatment plants under the Construction Grants Program. The CWA provides for the delegation by EPA of many permitting, administrative and enforcement aspects of the law to state governments. In states with the authority to implement CWA programs, EPA still retains oversight responsibilities. Section 404 of the CWA also prohibits the discharge of dredged or fill material into waters of the United States without a permit from the U.S. Army Corps of Engineers (USACOE). As defined by the CWA, waters of the U.S. include all waters and wetlands that could be important for interstate commerce purposes. Section 404 also has provisions that exempt certain activities from the permitting process. These activities include normal farming, ranching, and silviculture activities; maintenance and emergency reconstruction of damaged structures; construction of stock ponds, irrigation ditches, or temporary sedimentation basins; and construction of farm, forest, or temporary roads. Efforts that may be regulated under the Section 404 provision include land clearing efforts, stream channelization, bridge piling operations, and discharges subject to other authorities. The USACOE administers the Section 404 permit program.

D.1.6 – The Clean Air Act of 1970, 42 U.S.C 4701, et seq.

The Clean Air Act (CAA) is the comprehensive Federal law that regulates air emissions form area stationary and mobile sources. This law authorizes that U.S. Environmental Protections Agency (USEPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The goal of the Act was to set and achieve NAAQS in every state by 1975. The setting of maximum pollutant standards was coupled with directing the states to develop State Implementations Plans applicable to appropriate industrial sources in the state. The Act was amended in 1977, primarily to set new goals (dates) for achieving attainment of NAAQS since many areas of the County had failed to meet the deadlines. The 1989 Amendments to the CAA, in large part, were intended to meet unaddressed or insufficiently-addressed problems such as acid rain, ground-level ozone, stratospheric ozone depletion, and air toxics.

D.1.7 – The Endangered Species Act 1973, 16 U.S.C 1531, et seq.

The Endangered Species Act provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The U.S. Fish and Wildlife Service (USFWS) of the Department of the Interior (DOI) maintain the list of endangered and threatened species. Species include birds, insects, fish, amphibians, reptiles, mammals, crustaceans, flowers, grasses, and trees. Anyone can petition USFWS to include a species on this list. The law prohibits any action, administrative or real, that results in a "taking" of a listed species or adversely affects habitat. Likewise, import, export, interstate, and foreign commerce of listed species are all prohibited.

D.1.8 – The Airport Noise and Capacity Act of 1990 (P.L. 101-508)

The Airport Noise and Capacity Act of 1990 (ANCA) was enacted on November 5, 1990, The ANCA requires a phased elimination of operations of Stage 2 airplanes over 75,000 lbs. by December 31, 1999 in the contiguous United States and the District of Columbia. It also contains provisions regarding noise and access restrictions by local Airports, including those in United States-controlled areas outside the contiguous United States and the District of Columbia. The ANCA also contained specific requirements for notice and approval of Airport noise and access restrictions for aircraft, regardless of weight. The procedures and limitations are designed to ensure that proposed restrictions receive adequate notice, opportunity for comment, and sufficient time for planning and implementation.

D.1.9 - Coastal Zone Management Act of 1972, 16 USC 1451, et. seq.

The Coastal Zone Management Act establishes a voluntary National program within the Department of Commerce (DOC) to encourage coastal States to develop and implement Coastal Zone Management Plans. Funds were authorized for cost-sharing grants to States to develop their programs. Subsequent to Federal approval of their Plans, grants would be awarded for implementation purposes. In order to be eligible for Federal approval, each State's Plan was required to define boundaries of the coastal zone, to identify uses of the area to be regulated by the State, the mechanism (criteria, standards, or regulations) for controlling such uses, and broad guidelines for priorities of uses within the coastal zone. In addition, the 1972 law established a system of criteria and standards for requiring that Federal actions be conducted in a manner consistent with the Federally-approved plan. The standard for determining consistency varied depending on whether the Federal action involved a permit, license, financial assistance, or a Federally-authorized activity. A National system of estuarine sanctuaries was also authorized to establish National field laboratories with 50/50 cost-sharing grants for coastal states.

D.1.10 – National Historic Preservation Act of 1966, 16 S.U.C 470, et seq.

The National Historic Preservation Act of 1966 provides for preservation of significant historical features (buildings, objects, and sites) through a grant-in-aid program to that states. It establishes a National Register of Historic Places and a program of matching grants under the existing National Trust for Historic Preservation. The Act established an Advisory Council on Historic Preservation, which was made a permanent independent agency in Public Law. That Act also created the Historic Preservation Fund. Federal agencies are directed to take into account the effects of their actions on items or sites listed or eligible for listing in the National Register.

D.1.11 – Wild and Scenic Rivers Act of 1968, 16 U.S.C 1271, et seq.

The Wild and Scenic Rivers Act established a National wild and Scenic River System, and prescribes the methods and standards through which additional rivers may be identifies and added to the system. The Act authorizes the Secretary of the Interior and the Secretary of Agriculture to study areas and submit proposals to the President and Congress for addition to the system. It describes procedures and limitations for control of lands in Federally-administered components of the system, and for dealing with disposition of lands and minerals under Federal ownership. Rivers are classified as wild, scenic, or recreational, and hunting and fishing are permitted in components of the system under applicable Federal and State laws.

D.1.12 – Land and Water Conservation Fund Act of 1965, 16 U.S.C 4600-5, et seq.

Section 6(f) of the Land and Water Conservation Fund Act (LAWCON) of 1965, or Public Law 88-578, defines these special lands as property that has been purchased or developed with assistance from this fund. Properties acquired or developed with assistance under this section shall NOT, without approval from the Secretary of the Interior, be converted to other than public outdoor recreation uses. The Secretary of the Interior shall approve such conversion only if it is found to be in accordance with the then existing Statewide Comprehensive Outdoor Recreation Plan, and only upon such conditions as deemed necessary to assure the

substitution of other recreation properties of at least equal fair market value and of reasonable equivalent usefulness and location. The authority to approve Section 6(f) land conversions has been delegated to the Regional Directors of the National Park Services.

D.1.13 – Costal Barrier Resources Act, 16 U.S.C. §3501 et seq.

The Costal Barrier Resources Act designated various undeveloped coastal barrier island, as depicted by specific maps, for inclusion in the Coastal Barrier Resources System (System). Areas so designated were made ineligible for direct and indirect Federal financial assistance that might support development, expect for life saving activities. In 1990, the Coastal Barrier Improvement Act included in the System areas along the Great Lakes.

D.1.14 -- National Flood Insurance Act of 1968, 42 U.S.C § 4001 et seq.

The National Flood Insurance Act of 1968 identified the need for a nationwide flood insurance program to be administered by the Federal government with assistance of the private insurance industry. The Act also identified the need for the program to provide the public protection against future flood losses and encourage sound land use in flood prone areas. Specifically, the Act encourages state and local governments to make appropriate land use adjustments to constrict the development of land which is exposed to flood damage and authorize continuing studies of flood hazards in order to provide for constant reappraisal of the flood insurance program and its effect on land use requirements.

D.1.15 – Flood Disaster Protection Act of 1973, 42 U.S.C §4002, et seq.

The purpose of the Flood Disaster Protection Act of 1973 is to substantially increase the limits of coverage authorized under the national flood insurance program. The Act also provides for the expeditious identification of, and the dissemination of information concerning, flood-prone areas. The Act requires state and local communities, as a condition of future Federal financial assistance, to participate in the flood insurance program and to adopt adequate flood plan ordinances with effective enforcement provisions consistent with Federal standards to reduce or avoid future flood losses; and requires the purchase of flood insurance by property owners who are being assisted by Federal programs or by Federally supervised, regulated, or insured agencies or institutions in the acquisition or improvement of land or facilities located or to be located in identifies areas having special flood hazards.

D.1.16 – Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC Section 4601, *et. seq.*)

The purpose of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 is to protect property owners. This act ensures that owners of real property to be acquired for Federal and federally-assisted projects are treated fairly and consistently, to encourage and expedite acquisition by agreements with such owners, to minimize litigation and relieve congestion in the courts, and to promote public confidence in Federal and federally-assisted land acquisition programs. It also ensures that persons displaced as a direct result of Federal or federally-assisted projects are treated fairly, consistently, and equitably so that such displaced persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Finally, the act allows that FAA to implement these regulations in a manner that is efficient and cost effective.