



**Planning & Zoning Commission**  
**Regular Meeting Agenda**  
**City of Parkville, Missouri**  
Tuesday, December 13, 2016 @ 5:30pm  
City Hall Boardroom

1. Call to Order
2. Roll Call
3. General Business
  - A. Approve the Agenda.
  - B. Approve the minutes from the November 14, 2016 Special Meeting of the Planning and Zoning Commission meeting.
4. Public Hearing
  - A. Application for a Conditional Use Permit (CUP) for an emergency and general aviation helicopter landing facility at The Lodges At The National at the southeast corner of Birkdale Dr. and Allen Way. *Case #PZ16-13 National Helipad CUP; The National Golf Club of Kansas City, Applicant*
  - B. Application for Conditional Use Permit (CUP) to operate an office use of low traffic generation at 8904 NW Hwy 45 in Parkville, MO in an "R-1" Single-Family Residential District. *Case #PZ16-21 By The Blade CUP 8904 NW 45 Hwy; By The Blade, Applicant*
  - C. Amendment to replace Parkville Municipal Code, Title IV. Zoning Code in its entirety; repeal Title V, Chapter 505: Subdivisions; and add Section 142.040. Planning Commission to Title I, Chapter 142: Committees, Commissions, Boards And Advisors via the *Zoning Code and Subdivision Regulations Update* project. *Case #PZ16-22 Zoning Code and Subdivision Regulations Update; City of Parkville, Applicant*
5. Regular Business
  - A. Application for a Planned District Development Permit for exterior modifications in the "OTD" Old Town District at 112 Main St. – addition of a roof over an existing outdoor patio / dining area at Café Des Amis restaurant. *Case #PZ16-20 Café Des Amis Roof Addition; Guillaume Hanroit, Applicant*
6. Unfinished Business
  - A. None
7. Other Business
  - A. Upcoming meetings & dates of importance:

- Board of Aldermen Meetings: Tuesday, December 20, 2016 at 7:00 p.m. and Tuesday, January 3, 2016 at 7:00 p.m.
- Board of Zoning Adjustment Meeting: Tuesday, December 27, 2016 - Cancelled No Agenda Item
- Planning & Zoning Commission Regular Meeting: Tuesday, January 10, 2017 at 5:30 p.m.

8. Adjournment

**Minutes of the  
Planning & Zoning Commission Special Meeting  
City of Parkville, Missouri  
Monday, November 14, 2016 at  
5:30pm  
City Hall Boardroom**

**1. CALL TO ORDER**

Chairman Katerndahl called the meeting to order at 5:30 p.m.

**2. ROLL CALL**

Commissioners Present:

Dean Katerndahl, Chairman  
Keith Cary, Vice Chairman  
John Delich  
Walt Lane (absence with prior notice)  
Barbara Wassmer  
Doug Krtek  
Shane Smeed (absence with prior notice)  
Kim Verhoeven (arrived at 5:52 p.m. with prior notice)  
Michael Wright

A quorum of the Planning & Zoning Commission was present.

Staff Present:

Stephen Lachky / Community Development Director  
Alysen Abel, P.E. / Public Works Director  
Shakedra Knight / Community Development Department Assistant

**4. GENERAL BUSINESS**

**A. Approval of Planning & Zoning Meeting Agenda.**

Chairman Katerndahl called for any discussion of the proposed agenda. Seeing none Chairman Katerndahl called for a motion to approve the agenda as proposed.

**Commissioner Krtek moved to approve the agenda, Commissioner Delich seconded. Motion passed: 6-0.**

**B. Approval of the minutes from the October 11, 2016 Planning and Zoning Commission meeting.**

Chairman Katerndahl called for any discussion of the minutes or changes needed. Seeing none Chairman Katerndahl called for a motion to approve the minutes as proposed.

**Commissioner Cary moved to approve the minutes, Commissioner Wassmer seconded. Motion passed: 6-0.**

**C. Approval of the minutes from the October 11, 2016 Special Workshop meeting.**

Chairman Katerndahl called for any discussion of the minutes or changes needed. Seeing no other questions, Chairman Katerndahl called for a motion to approve the minutes as proposed.

**Commissioner Cary moved to approve the minutes, Commissioner Wassmer seconded. Motion passed: 6-0.**

Chairman Katerndahl opened the public hearing and read the application to be addressed.

#### **4. PUBLIC HEARING**

- A. Application for Final Plat for the Thousand Oaks Sixteenth Plat to extend Thousand Oaks Drive to the southeast from the previously approved Thousand Oaks Thirteenth Plat. *Case #PZ14-27 Thousand Oaks Sixteenth Plat; Forest Park Development, Applicant*

Director Lachky addressed the proposed application. He referenced the date and pointed out the application was originally submitted two (2) years prior. Lachky stated the applicant brought the original application to his attention and then he provided background information. He explained the proposed subject property was a part of the larger Thousand Oaks Estates plan and illustrated on a map. He added the property was considered for preliminary on June 8, 1998 with Platte County prior to City annexation. After City annexation the preliminary plat was approved in October 2004. Lachky attempted to point out additional illustration but was unable to due to equipment failure. He explained the thirteenth plat was approved two (2) years ago and referenced the drawings for the sixteenth plat. He detailed that the proposed plat consisted of fifty-one (51) single-family lots and three (3) tracts of open space of 9.84 acres, more or less.

Next Lachky pointed out staff considerations through review and analysis. He highlighted the primary considerations to meet the minimum subdivision regulations and standards for permitted uses, area, width, depth, setbacks, adequate utilities, grading and drainage and parkland dedication.

Permitted uses were addressed first. The subject area was zoned "R-3" Single-Family District when approved back in 2004. Director Lachky stated the drawings submitted met the minimum requirements for the "R-3" district for area, width, depth, and setbacks. He explained staff reached out to utility providers and confirmed the availability of gas, electricity, and water through signed consent. Also, Southern Platte Fire Protect District (SPFPD) service and adequate sewer and storm drainage improvement existed or could be provided was confirmed. Lachky pointed out consent was submitted in 2014 and follow up was conducted to ensure no change occurred. He stated SPFPD would recheck that grading did not exceed more than ten (10) percent; he added some minor thoroughfares and cul-de-sacs were allowed up to fifteen (15) percent. Lastly, parkland dedication was addressed. Lachky explained the amount in lieu of dedication had been calculated and listed as a condition. Lachky concluded that the application was consistent with Parkville Master Plan.

Public improvements were included. Director Abel was introduced to address those matters. Abel explained she reviewed public improvement plans for both sixteenth and nineteenth plats. She stated there were administrative requirements outlined in the memo submitted and permit approval was pending completion of those administrative items. Abel added the following steps would be public improvements and then final platting. She also stated a major concern was with the nineteenth plat connection with River Road; the area typically floods with any significant rainfall. Abel stated staff asked that the developer replace pipe to handle larger storm events. She stated current conditions covered about a two (2) year storm capacity and twenty-five years was the requirement for this type of roadway. Director Abel stated approval was contingent upon submittal of those plans and costs estimate.

Commissioner Delich asked if there was a lot layout. Chairman Katerndahl pointed out the lot layout was in the packet.

Commissioner Delich stated his concern about grading. He questioned how much of the fifteen (15) percent in the way of roads and cul-de-sacs were encountered.

Abel clarified American Public Works Association (APWA) had a maximum within their table that specified ten (10) percent. It also stated the absolute maximum was twelve (12) percent. She reiterated she was satisfied with the twelve (12) percent.

Chairman Katerndahl addressed the Commission for additional questions before inviting the applicant to speak.

Chairman Katerndahl asked if traffic would possibly increase on River Road. Director Abel replied a revised traffic study was requested to address those concerns. Director Lachky contributed additional information regarding the traffic study. He stated the original study was done in 1998 and revised in 2005. In reference to Thousand Oaks to River Road there were no substantial requirements other than a dedicated right turn lane onto River Road. He also stated that there was a condition included to address any changes over the last ten (10) years.

Chairman Katerndahl questioned if the amended study would be performed by an engineer. Director Abel answered that for consistency the study would be completed by Paul with Wilson & Company or Jeff with TranSystems.

Chairman Katerndahl invited the applicant to speak.

Jason Robbins with Aylett Survey & Engineering Company introduced himself. He stated City staff covered things well. He addressed the storm pipes and stated the developer agreed to make the improvements. He also stated the traffic

study was in the process of being done and the recommendations from TranSystems would be followed.

Chairman Katerndahl questioned when construction would begin. Robbins replied work would begin once all the necessary conditions were met.

Chairman Katerndahl asked if there were more questions of the applicant. Seeing none the Public Hearing was closed.

Commissioner Wright asked for clarification on whether the application was approved in 2014. Director Lachky explained the preliminary was for the Thousand Oaks Estates as a larger portion of land and the proposed plats were individual phases and plats within. Annexation was required for rezoning and addressed at the 2014 meeting. Lachky stated additional conditions were required then and those same conditions were included in the current staff report.

Following review, staff recommended approval of the proposed Thousand Oaks Sixteenth Plat, subject to the following conditions:

- Submission of final grading plans to the SPFPD for review.
- Submission of a *Public Improvement Permit Application* prior to issuance of a public improvement permit.
- Submission of soils compaction testing for areas graded that will become future City right-of-way prior to issuance of a public improvement permit.
- Submission of structural calculations for deep storm sewer structures prior to issuance of a public improvement permit.
- Approval of additional utility improvement plans (as required) prior to the final plat being recorded.
- Approval of any additional easements (as needed) prior to the final plat being recorded.
- Board of Aldermen acceptance of cash in lieu of park land dedication.
- Any other conditions deemed necessary by the Planning Commission.

Chairman Katerndahl addressed the Commission for additional questions. Seeing none he called for a motion to approve the Application for Final Plat as proposed.

**Vice Chair Cary moved to approve the Application for Final Plat as proposed subject to staff conditions, Commissioner Wassmer seconded. Motion passed: 6-0 with Commissioner Verhoeven abstained due to not hearing discussion.**

- B. Application for Final Plat for the Thousand Oaks Nineteenth Plat to extend Thousand Oaks Drive to the south from the proposed Sixteenth Plat and connect Thousand Oaks Drive to NW River Road.  
*Case #PZ15-23; Thousand Oaks Nineteenth Plat; Forest Park Development, Applicant*

Following review, staff recommended approval of the proposed Thousand Oaks Nineteenth Plat, subject to the following conditions:

- Submission of final grading plans to the SPFPD for review.
- Submission of a *Public Improvement Permit Application* prior to issuance of a public improvement permit.
- Submission of soils compaction testing for areas graded that will become future City right-of-way prior to issuance of a public improvement permit.
- Submission of structural calculations for deep storm sewer structures prior to issuance of a public improvement permit.
- Approval of additional utility improvement plans (as required) prior to the final plat being recorded.
- Approval of any additional easements (as needed) prior to the final plat being recorded.
- Board of Aldermen acceptance of cash in lieu of park land dedication.
- Any other conditions deemed necessary by the Planning Commission.

Chairman Katerndahl opened the floor to the public for questions. Seeing none he called for a motion to approve the text amendment as proposed.

**Vice Chair Cary moved to approve the Application for Final Plat as proposed subject to staff conditions, Commissioner Delich seconded. Motion passed: 6-0 with Commissioner Verhoeven abstained due to not hearing discussion.**

**Chairman Katerndahl closed the Public Hearing at 5:49 p.m.**

**5. REGULAR BUSINESS**

A. None.

**6. UNFINISHED BUSINESS**

A. None.

**7. OTHER BUSINESS**

**A. Upcoming Meetings & Dates of Importance:**

- Zoning Code and Subdivision Regulations update Open House #2 Mosaic Life Care Center - 6185 Jefferson Ave, Parkville Commons Lobby - November 16, 2016 from 5:30-7:30pm
- Board of Aldermen Meetings: Tuesday, December 6, 2016 at 7:00 p.m. and Tuesday, December 15, 2016 at 7:00 p.m.

- Board of Zoning Adjustment Meeting: Tuesday, November 22, 2016 - Cancelled  
No Agenda Item
- Planning & Zoning Commission Special Meeting: Tuesday, November 29, 2016  
at 5:30 p.m. – Cancelled no quorum
- Planning & Zoning Commission Regular Meeting: Tuesday, December 13, 2016  
at 5:30 p.m.

## **8. ADJOURNMENT**

Seeing no further discussion, Chairman Katerndahl called for a motion to adjourn.  
**Commissioner Krtek moved to adjourn, Vice Chair Cary seconded. Motion passed: 7-0.** Meeting adjourned at 5:59 pm.

Submitted by:

\_\_\_\_\_  
Stephen Lachky  
Community Development Director

11-14-16  
Date

\_\_\_\_\_  
Shakedra Knight  
Community Development Department Assistant

11-14-16  
Date



## Staff Analysis

- Agenda Item:**           **4.A**
- Proposal:**               An application for a Conditional Use Permit (CUP) for an emergency and general aviation helicopter landing facility at The Lodges At The National at the southeast corner of Birkdale Dr. and Allen Way.
- Case No:**                PZ16-13
- Applicant:**             The National Golf Club of Kansas City
- Owners:**               The National Golf Club of Kansas City
- Location**                Southeast corner of Birkdale Dr. and Allen Way
- Zoning:**                 “R-4” Multiple-Family Residential District
- Parcel #s:**             20-5.0-22-200-005-001.000
- Exhibits:**               A. This Staff Analysis  
B. Application for Conditional Use Permit  
C. Subject Area Property Map  
D. The Lodges At The National (Final Plat), Replat of Part of Lot 1, The National – Sixth Plat, a Subdivision in Parkville, Platte County, Missouri and Part of Section 22, Township 51, Range 34; prepared by R.L. Buford & Associates (dated 05/14/2004)  
E. National Golf Club of Kansas City Air Ambulance Emergency Heliport Feasibility & Site Selection Report – Executive Summary; prepared by HeliExperts International LLC (dated September 9, 2016)  
F. National Golf Club of Kansas City Heliport Feasibility & Site Selection Report; prepared by HeliExperts International LLC (dated September 9, 2016)
- Introduction (pg. 1)
  - Evaluation Criteria (pgs. 2-4)
  - Analysis Determinations (pgs. 5-13)
  - Recommendations (pg. 14)
  - Conclusions (pg. 16)
    - Exhibit A – Inventory of Local Airports & Heliports within 10nm (pg. 17)
    - Exhibit B – Overlay of Local Airports & Heliports within 10nm (pg. 18)
    - Exhibit C – Local Wind Pattern & Magnetic Declination (pg. 19)
    - Exhibit D – Local Airspace Overlay (pg. 20)

- Exhibit E – Supporting Airspace for VFR App/Dep Paths (pg. 21)
  - Exhibit F – Proposed Approach/Departure Paths Overlay (High Alt. View) (pg. 22)
  - Exhibit G – Proposed Approach/Departure Path Topographical Overlay (pg. 23)
  - Exhibit H – 003° / 183° Approach/Departure Path Topographical Profile (pg. 24)
  - Exhibit I – 003° / 183° Approach/Departure Path Topographical Profile (pg. 25)
  - Exhibit J – Proposed Approach/Departure Paths Overlay (Low Alt. View) (pg. 26)
  - Exhibit K – Proposed Heliport Site Orientation and Dimensional Integration (pg. 27)
  - Exhibit L – Proposed Heliport Layout (pg. 28)
  - Exhibit M – Proposed Heliport Conceptual Design (pg. 28)
  - Exhibit N – Proposed Heliport Design (pg. 30)
- G. Photos of subject property
- H. Additional exhibits as may be presented at the public hearing

By Reference:

- A. Parkville Municipal Code, Title IV, Chapter 470: *Supplementary Use Regulations – Conditional Uses* (<http://www.ecode360.com/27902588>)
- B. Parkville Municipal Code, Title VI, Chapter 425: *“R-4” Multiple-Family Residential District Regulations* (<http://www.ecode360.com/27901243>)
- C. Parkville Municipal Code, Title IV: *Zoning Code* in its entirety (<http://www.ecode360.com/PA3395-DIV-05>)
- D. Parkville Master Plan (<http://parkvillemo.gov/departments/community-development-department/master-plan/>)
- E. Hearing notice published in the Platte County Landmark newspaper
- F. Summary of Public Hearing posted on Parkville City webpage (<http://parkvillemo.gov/public-hearings/>)
- G. Hearing notice published on the Parkville City webpage ([http://parkvillemo.gov/download/public-hearing-notices/PZ16-13\\_CUPLodgesatNational112916.pdf](http://parkvillemo.gov/download/public-hearing-notices/PZ16-13_CUPLodgesatNational112916.pdf))
- H. Federal Emergency Management Agency’s (FEMA) Flood Insurance Rate Map (FIRM) #29165C0377D; titled Platte County, Missouri and Incorporated Areas (effective date April 2, 2015)
- I. U.S. Department of Transportation (USDOT), Federal Aviation Administration (FAA), Advisory Circular No. 150/5390-2C; Subject: Heliport Design (dated April 24, 2012)
- J. National Fire Protection Association (NFPA) 418: Standard for Heliports (2016 edition)
- K. Analysis of Helicopter Accident Risk Exposure Near Heliports, Airports, and Unimproved Sites, RD-90/9; prepared by FAA, Systems Control Technology, Inc., and Advanced Aviation Concepts (dated February 1992)

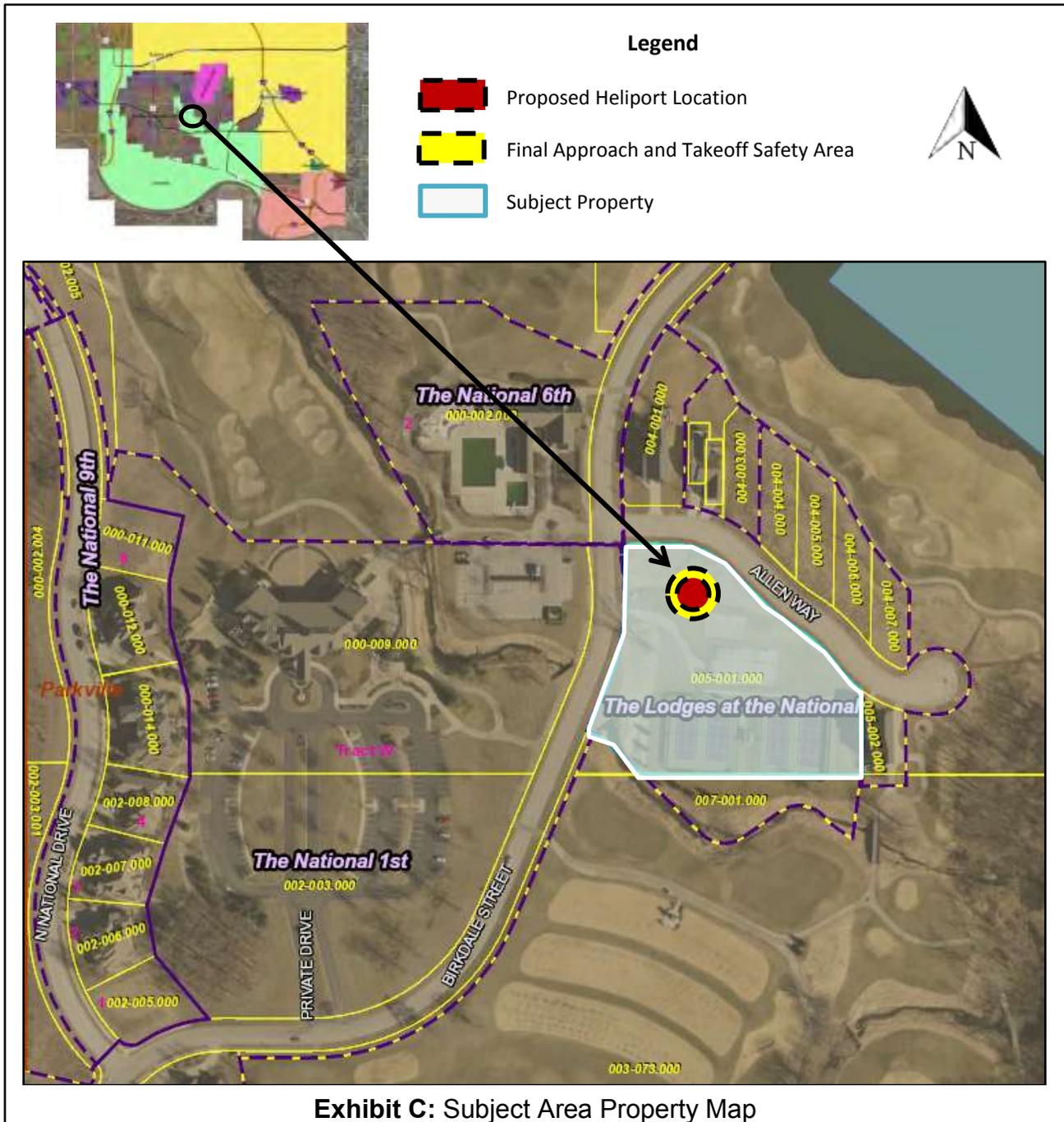
Comments

Received:

While the Community Development Department has received questions and inquiries via phone calls, no written comments have been received as of the completion of this staff analysis on November 1, 2016.

## Overview

The applicant, The National Golf Club of Kansas City, is proposing to construct an emergency and general aviation helicopter landing facility at The Lodges At The National at the southeast corner of Birkdale Dr. and Allen Way, approximately 590 ft. east of the adjacent National Golf Club's clubhouse, and immediately north of the tennis courts and adjacent parking lot. The subject property contains one parcel (#20-5.0-22-200-005-001.000) containing 2.38 acres, more or less, and is currently within a City "R-4" Multiple-Family Residential District. The proposed air ambulance emergency heliport site involves a ground base heliport, which will function as a "private" heliport with a prior permission request for conducting operations (with the exception for air ambulance emergency helicopters which will not require prior permission).



### **Location**

The proposed site was selected due to its capability to support a safe and regulatory compliant heliport, following an evaluation and analysis determination by HeliExperts International LLC, a consulting firm specializing in aviation, helicopter and heliport expertise. The firm was retained by the National Golf Club of Kansas City to conduct a feasibility study to determine site selection criteria, operation needs, local and federal regulations, impacts and safety concerns. The *National Golf Club of Kansas City Air Ambulance Emergency Heliport Feasibility & Site Selection Report* is included as Exhibits E and F.

Additionally, the centralized location within The National Golf Club of Kansas City development provides a preferred location within the confines of The National. The Lodges At The National (Final Plat), Replat of Part of Lot 1, The National – Sixth Plat (Exhibit D) was approved by the Board of Aldermen on August 12, 2004. The Lodges was intended to be an area for corporate lodges, with Tract A (2.89 acres, more or less) adjacent to Allen Way to the south to be owned and maintained by the National Golf Club of Kansas City. The consultant team from HeliExperts International LLC reviewed the FAA 5010 Airport Master Record Database and found the nearest public use aviation facility to be Kansas City International Airport (MCI) located approximately 4.7 miles to the north; and the nearest private aviation facility to be St. Luke's Northland Hospital Heliport (MO63) located approximately 3.6 miles to the northeast. There are an additional seven (7) heliports and three (3) airports within a 10-mile radius of the subject property. The proposed location does not reside directly within an FAA designated "restricted" or "prohibited" area; however, it is located under the supporting airspace for MCI. Based on early findings and assessment of the site location conducted by HeliExperts International LLC, the applicant anticipates a favorable letter of agreement with MCI.

Over the years, The National has constructed tennis courts and a parking lot on the north part of Tract A. The approximate location of the center of the heliport is estimated to be at N - 39° 13' 08.19" latitude and W - 094° 42' 35.65" longitude within Tract A. The size of the helipad structure (i.e., touchdown & liftoff area) is 46 ft. in diameter, the final approach & takeoff area is 85 ft. in diameter, and the total final approach and takeoff safety area is 115 ft. in diameter. The design of the proposed heliport meets the requirements as outlined in the FAA's Advisory Circular No. 150/5390-2C (see Exhibit I by reference), which serves as the primary evaluation guideline on the design, location and construction of new heliports. Portions of the Tract A are within the Special Flood Hazard Area (SFHA) as identified the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) #29165C0379D (See Exhibit H by reference); however, the proposed helipad structure (i.e., touchdown & liftoff area) will be located outside the SFHA.

### **FAA and NFPA Requirements**

FAA regulations primarily pertain to aviation and heliport facilities designed and operated for public-use, or publicly-funded heliports. Nevertheless, the site will be designed, constructed and operated in accordance with all pertinent Federal Aviation Administration (FAA) regulations and best practice recommendations as well as all National Fire Protection Association (NFPA) pertinent requirements as published in NFPA-418: Standard for Heliports (see Exhibit J by reference). An on-site hanger facility, fueling system or serving area is not proposed for the subject property.

The approach/departure paths identified in the *National Golf Club of Kansas City Heliport Feasibility & Site Selection Report* (Exhibit F, pgs. 20-26) were chosen in order to maximize areas surrounding the proposed heliport that are the least populated and would have the

smallest impact on the neighboring public. The FAA, upon mandatory notification by The National Golf Club of Kansas City of their desire to establish a heliport on the subject property, will initiate an airspace study of the surrounding vicinity of the proposed site. The FAA will ascertain whether the proposed heliport would have any detrimental effects upon the safe and efficient use of surrounding airspace. The federal government is responsible for a determination of the efficient use of airspace and possible air conflicts with other air traffic in the vicinity. Therefore, prior to any permits being issued by staff, a "Favorable Airspace Determination" will need to be provided by the FAA; this will be a required condition for approval. Operating procedures will be codified and published prior to helicopter operations being permitted. The National Golf Club of Kansas City will administer oversight of enforcement of said operating procedures.

### **MoDOT Requirements**

The Missouri Department of Transportation's (MoDOT) does not have a formalized application and permitting process for private heliport facilities; however, MoDOT's Multimodal Aviation Division recommends the use of the FAA's Advisory Circular No. 150/5390-2C (see Exhibit I by reference) as the primary evaluation guideline on the design, location and construction of new heliports. The design, location and proposed construction of the emergency and general aviation helicopter landing facility at The Lodges At The National meets the guidance of the FAA Advisory Circular. Additionally, because there are no direct state regulations governing private heliport oversight in the State of Missouri by MoDOT other than those for hospitals, the applicant will adhere to guidance provided in the FAA Advisory Circular.

### ***Emergency Operations***

The National Golf Club of Kansas City will collaborate with local first responders to permit helicopter air ambulance providers access and use of their proposed helicopter landing facility. This will be coordinated through the operating procedures for emergency operations, which will be codified by the National Golf Club of Kansas City and published prior to helicopter operations being permitted. On-site, hands-on safety training is proposed to be conducted between first responders, helicopter operators and National Golf Club of Kansas City staff on an annual basis.

The most common helicopters in the region for air medical transport purposes are smaller than the "Design Helicopter" used in determining the size of the proposed heliport (Exhibit F, pgs. 27-30). Further, the majority of potential helicopter types and models currently in use in the air ambulance, along with civilian and corporate industries within the region, will be capable of safely operating at this facility. The helipad structure is designed for a larger capacity "Design Helicopter" in order to ensure the heliport does not become antiquated or obsolete in the future; for example, if larger emergency helicopters were to operate in the future or become common in the Kansas City region.

### ***Flight Path***

The approach/departure path is the flight track helicopters will follow when landing at or departing from the heliport. The applicant proposes an East and South approach/departure path based on predominant wind readings for the area provided by the National Oceanic and Atmospheric Administration (NOAA). A functional secondary approach/departure path has been identified to the east by the consultant team, should varying wind conditions occur (see Exhibit F, pgs. 26-30). An approach/departure path must have the approach/departure surface (i.e., 8:1 plane starting at the edge of the final approach and takeoff [FATO] and extending out to 4,000 ft. horizontally to an altitude 500 ft. above the horizontal FATO plane)

and transitional surface (i.e., surfaces extending outward and upward from the lateral boundaries of the heliport) kept free of obstructions to meet FAA airspace criteria according to the FAA Advisory Circular (See Exhibit F, pgs. 12-13). The proposed location is capable of meeting FAA's flight path standards for private-use heliport facilities. Due to vegetation under the secondary approach/departure path not meeting the 8:1 flight path guideline, the FAA will need to determine a nonstandard approach/departure path. This requires helicopter pilots to verify they have Hover Out of Ground Effect (HOGE) power available before utilizing this approach/departure path.

### ***Lighting***

For nighttime operations, the FAA requires that the heliport and the windsock be lighted. In order to limit any potential intrusion caused by the heliport lighting, pilot controlled lighting will be used in lieu of lighting that remains on during the hours of darkness. Pilot controlled lighting is lighting that the pilot can turn on only when he/she requires it, utilizing his or her onboard radio. The lighting is designed to only be on during the time the pilot needs it to be and is programmed to automatically turn off after 15 minutes.

### ***Noise***

Helicopters utilizing the proposed heliport facility would produce noise levels less than trains, jet airliners, tractors, lawn equipment, and motorized vehicles. The helicopter types and models currently in use in the air ambulance, and by civilian, corporate and executive helicopter transportation companies, are much more lightweight, efficient, and quieter than older or heavier military helicopters. Additionally, the relative distance and height above the ground and sound attenuation factors of terrain will impact noise levels. For a landing or takeoff on the subject property, the entire sound event lasts approximately 45-60 seconds. And at any one point along the flight path route, providing the observer is close enough to hear or notice it, the helicopter will typically only be heard for about 20 seconds or less.

### ***Safety***

In addition to meeting compliance with the City of Parkville's adopted local building codes and standards, components of the heliport will need to meet or exceed recognized safety standards of the FAA. One concern of the use and operation of a general aviation helicopter landing facility is the possibility of a helicopter accident or crash in the flight path. The FAA completed a report titled, "Analysis of Helicopter Accident Risk Exposure Near Heliports, Airports, and Unimproved Sites" (see Exhibit K by reference). The results of the study statistically derived there is a once in every 432-year probability exposure of a helicopter accident in a community where a heliport is located. This was based upon National Transportation Safety Board (NTSB) historical data on over 40 years of safety records for properly-designed and operated private use heliports, similar to the proposed heliport.

### ***Security***

In order to maintain a secure location for helicopter operations, the area surrounding the heliport structure will incorporate a security fence. The fence will be installed in such a manner to restrain/prevent any pedestrians, curious bystanders or other hazards in The National Golf Club of Kansas City from interfering with helicopter operations and trespassing on the heliport structure.

### ***Climatology***

While prevailing winds, cloud cover and horizontal visibility are the greatest climatological considerations for the use and operation of a general aviation helicopter landing facility, there appear to be no significant issues during normal weather conditions. If weather

conditions pose a threat to the public's health, safety and welfare, then flights will either be turned down prior to acceptance or canceled enroute by the pilot in command.

### **General Review and Analysis**

Parkville Municipal Code, Title IV, Chapter 470: *Supplementary Use Regulations – Conditional Uses* permits the use of "Airports and landing fields" in City districts via a Conditional Use Permit (CUP), "*When found to be in the interest of the public health, safety, morals, and general welfare of the community.*" Preliminary plans in sufficient detail — and a statement as to the proposed use of the buildings, structures, and premises — are required to be submitted and presented to the Planning and Zoning Commission for consideration. The Commission is required to hold a public hearing and review such plans and statements, and after a careful study thereof, submit a recommendation to the Board of Aldermen within thirty (30) days following said hearing. Per Section 470.010, "*Following receipt of the Commission's report, the Board of Aldermen may, within the specification herein provided, permit such buildings, structures, or uses where requested, provided that the public health, safety, morals, and general welfare will not be adversely affected, that ample off-street parking facilities will be provided, and that necessary safeguards will be provided for the protection of surrounding property, persons, and neighborhood values.*"

This application has been reviewed against Parkville's Zoning Code regulations, including the applicable CUP regulations, "R-4" district requirements, and *Parkville Master Plan* and its adopted future land use projections. Per Section 483.030, a notice of public hearing was published in a newspaper in general circulation in the City, surrounding property owners within one-hundred and eight-five (185) ft. of the subject property were notified of the time, place and nature of the public hearing via certified mail, and a sign was posted on the subject property (in view from the public right-of-way) announcing the time, place and nature of the public hearing. While the Community Development Department has received questions and inquiries via phone calls, no written comments have been received by the Community Development Department as of the completion of this staff analysis on November 1, 2016.

### **CUP Matters for Consideration**

Although the Parkville Municipal Code does not define how the Planning and Zoning Commission shall determine if a proposed CUP is appropriate, the Commission has previously considered the following matters as a guide, as advised by staff and legal counsel. The following are staff's findings and conclusions.

#### **1. The character of the neighborhood and the zoning and uses of nearby properties.**

The subject property, Tract A of The Lodges At The National, is located at the southeast corner of Birkdale Dr. and Allen Way on land owned and maintained by The National Golf Club of Kansas City, approximately 590 ft. east of their clubhouse. The subject property is immediately north of the tennis courts and adjacent parking lot and is zoned "R-4" Multiple-Family Residential District. The general character of the surrounding area is the master-planned National Golf Club of Kansas City and surrounding residential properties.

To the north are townhomes part of The Lodges At The National (zoned "R-4"); and further north is the National Golf Club recreational use golf course and Adkison Lake (zoned "R-2" Single-Family Residential District). To the east is a parking lot and open space owned and maintained by The National Golf Club of Kansas City (zoned "R-2"); and further east is the Duece at The National Golf Club recreational use golf course (zoned "R-2"), and single-family residential properties in the Meadow Brook Addition of

unincorporated Platte County. To the south are tennis courts; and further south is The National Golf Club recreational use golf course (zoned "R-2"). To the west is The National Golf Club of Kansas City's clubhouse and parking lot (zoned "R-2"); further west are single-family residential properties in The National 9<sup>th</sup> Plat (zoned "R-2"), and mostly undeveloped land in unincorporated Platte County.

Aside from attaining a CUP permitting the use of airports and landing fields in City districts, the only zoned district in the City that explicitly permits the proposed use is the "B-P" Business Park District. The proposed use of a general aviation helicopter landing facility is not out of character with the existing uses immediately adjacent to the subject property, due to the context of The National Golf Club of Kansas City and the immediately adjacent recreational amenities including, but not limited to, tennis courts, The National Golf Club golf course, and clubhouse. Additionally, the proposed use is not out of character to being used as an amenity by The National Golf Club of Kansas City for its general and emergency operations.

**2. The suitability of the subject property for the uses to which it is restricted and the extent to which allowing the proposed use through a CUP may affect nearby properties.**

Tract A of The Lodges At The National is land owned and maintained by The National Golf Club of Kansas City; currently there are four (4) tennis courts and a parking lot on the tract. The subject property is within close proximity to The National's clubhouse and main parking lot to the west, and buffered by The National Golf Club golf course to the south and open space to the east. The properties immediately adjacent to the proposed helicopter landing facility are suitable to the proposed use; however, the use will also impact properties beyond that are within the approach/departure flight path. HeliExperts International LLC indicated the approach/departure paths were identified to fully maximize the areas surrounding the heliport that are least populated in order to have the least impact on the public. Additionally, the consultant team evaluated several sites throughout The National Golf Club of Kansas City and determined the proposed location was the most logical and had the least negative impacts on the community.

Potential impacts include sound/noise and lighting effects. The helicopter models that will use the facility are lightweight and quieter air ambulance, civilian and corporate/executive helicopters as opposed to military helicopters. These helicopters would produce noise levels less than trains, jet airliners, tractors, lawn equipment, and motorized vehicles. For a landing or takeoff on the subject property, the impacts of sound to immediately adjacent properties would last approximately 45-60 seconds; and at any one point along the flight path route (providing the observer is close enough to hear or notice), the helicopter will typically only be heard for about 20 seconds or less.

In terms of lighting, during the nighttime the FAA requires the heliport and windsock be lighted; however, in order to limit any potential intrusion caused by the lighting, pilot controlled lighting will be used in lieu of lighting that remains on throughout hours of darkness. Pilot controlled lighting is lighting that the pilot can turn on only when he/she requires it, utilizing his or her onboard radio. The lighting is designed to only be on during the time the pilot needs it to be and is programmed to automatically turn off after 15 minutes.

Staff does not feel vegetative screening of the proposed heliport facility is necessary, as impacts to surrounding properties are minimal; furthermore, adding vegetative screening

may cause safety impacts to the touchdown & liftoff area, final approach & takeoff area, and outer safety areas around the helipad. The applicant proposes to incorporate a security fence around the heliport structure in order to restrain/prevent any pedestrians, curious bystanders or other hazards in The National Golf Club of Kansas City from interfering with helicopter operations and trespassing on the heliport structure.

**3. The relative gain to the public's health, safety and welfare as compared to the hardship of the individual property owner of the subject property.**

The proposed Conditional Use Permit does not appear to have any impacts on other public health, safety and welfare considerations, including the ability to respond with public and emergency services including police and fire and the ability to maintain the peace. Further, The National Golf Club of Kansas City and public would gain an aviation facility that could be utilized for emergency response operations and training.

As part of its review process, staff contacted the Southern Platte Fire Protection District (SPFPD) staff to receive comments/feedback regarding their awareness of the project, potential service limitations, adequacy of proposed easements and other issues that need to be addressed. SPFPD said they have no issues and would be able to utilize the facility for their emergency operations; however, said usage for emergency operations would only be during extreme circumstances or rare cases (e.g., natural disaster, mass casualty incident). This is due to the response time that ambulances can travel from The National Golf Club of Kansas City to the nearest emergency medical center (i.e., North Kansas City Hospital) compared to helicopters. An ambulance has around a 20-minute travel time, compared to a 30-minute travel time for an emergency medical service (EMS) helicopter — 15-minute travel time from the hospital to The National, and then a 15-minute travel time back.

SPFPD contacted LifeFlight Eagle of Kansas City, Mo. to review HeliExperts International LLC's site selection and feasibility study (see Exhibit F) for review and comments. LifeFlight Eagle responded the proposed site can accommodate a helipad compliant with FAA Advisory Circular 150/5390-2C (see Exhibit I by reference), and there will be no limitations to LifeFlight Eagle's operations provided FAA's guidance is followed. LifeFlight Eagle also said that any deviations from the preliminary plans has the potential to significantly impact safe operations at the location. SPFPD said that during emergencies, LifeFlight Eagle helicopters typically land at the immediate site of the incident, such as in the middle of the roadway for a traffic crash. Thus, they believe LifeFlight Eagle would too utilize the heliport only during extreme circumstances or rare cases. It should be noted that, during instances where SPFPD or LifeFlight Eagle utilize the helicopter landing facility for emergency purposes, only trained fire, EMS and law enforcement personnel will be allowed in the landing zone.

One concern regarding the use and operation of a general aviation helicopter landing facility is the possibility of a helicopter accident or crash in the flight path. The FAA completed a report titled, "Analysis of Helicopter Accident Risk Exposure Near Heliports, Airports, and Unimproved Sites" (see Exhibit K by reference). The results of the study statistically derived there is a once in every 432-year probability exposure of a helicopter accident in a community where a heliport is located. This was based upon National Transportation Safety Board (NTSB) historical data on over 40 years of safety records for properly-designed and operated private use heliports, similar to the proposed heliport. SPFPD commented that, if a helicopter does crash midflight, there's no way to pinpoint the exact location along the flight path where it will land, similar to an airplane.

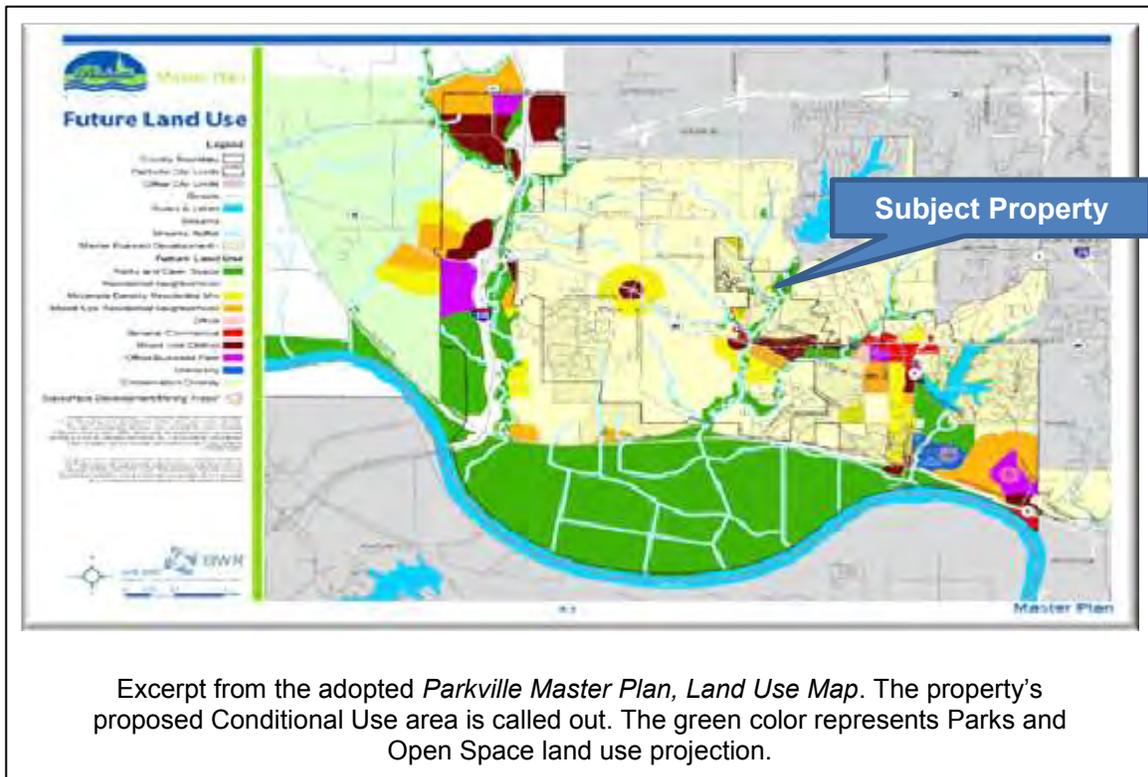
If the proposed use is warranted, there appears to be a hardship to the property owner if required to locate the heliport in a different location within The National Golf Club of Kansas City. This is due to the due diligence by the HeliExperts International LLC consultant team evaluating several sites within The National in their feasibility and site selection report (see Exhibit F) in order to determine the most logical location. The report determined the proposed location based on feasible approach/departure paths and flight paths having the least impact on neighboring properties and the community.

**4. The adequacy of public utilities and other needed public services**

The proposed emergency and general aviation helicopter landing facility does not require the extension of water or sewer utilities. Electricity will need to be provided in order for the heliport and windsock to be lighted during nighttime operations. Staff contacted Kansas City Power & Light (KCP&L) for their awareness of the project, potential service limitations, adequacy of proposed easements and other issues that need to be addressed; and did not receive any comments/feedback. Police protection and fire protection are already provided for The National Golf Club of Kansas City and the proposed use of the subject property should not have a significant impact on these services.

**5. Consistency with the City’s adopted master plan and applicable City Code.**

The City’s adopted Master Plan projects Parks and Open space future land use in the location of the subject property. This land use is primarily intended for public or private land reserved for active and passive parklands, trails, recreation uses, environmentally sensitive areas, natural resources, or any other lands reserved for permanent open space purposes.



Although airports and landing fields are not specifically addressed in individual land use projection categories within the *Parkville Master Plan*, including the Parks and Open Space land use projection, they [airports and landing fields] can play a role serving as an amenity for emergency service operations. Additionally, the proposed use and location, in the context of The National Golf Club of Kansas City and its recreational amenities (e.g., tennis courts, The National Golf Club golf course, clubhouse), can serve as an amenity for The National, its members and guests.

### **Staff Conclusion and Recommendation**

Staff concludes that: The application for CUP meets or exceeds the minimum applicable standards and regulations; the proposed use of an emergency and general aviation helicopter landing facility is not out of character with the existing uses within The National Golf Club of Kansas City, nor out of character with the existing uses immediately adjacent to the subject property; the properties immediately adjacent to the proposed helicopter landing facility are suitable to the proposed use, however, the use will also impact properties beyond that are within the approach/departure flight path; the proposed use does not appear to have any impacts on other public health, safety and welfare considerations, including the ability to respond with public and emergency services including police and fire and ability to maintain the peace; the proposed helicopter facility does not require the extension of water or sewer utilities and electricity will need to be provided in order for there to be proper lighting during nighttime operations; and although airports and landing fields are not specifically addressed in individual land use projection categories within the *Parkville Master Plan*, the proposed use can serve as an amenity for emergency service operations, The National Golf Club of Kansas City, its members and guests.

Following review, staff recommends approval of the CUP based on the merits of the application and the findings and conclusions in this report. Additionally, staff recommends approval of the CUP, subject to the following conditions:

- Compliance with all federal and state laws and requirements — including all pertinent Federal Aviation Administration (FAA) regulations and guidance, and International Building Code, International Fire Code, and National Fire Protection Association (NFPA) requirements, standards and criteria — with regards to the use and operations of the emergency and general aviation helicopter landing facility. This includes nighttime operations.
- A “Favorable Airspace Determination” made by the FAA, prior to staff issuance of permits.
- The National Golf Club of Kansas City codifying and publishing operating procedures — including emergency operations procedures — for the use of the emergency and general aviation helicopter landing facility, and administering oversight of enforcement of said procedures, prior to helicopter operations being permitted.
- Any other conditions the Planning and Zoning Commission determines are necessary.

It should be noted that the recommendation contained in this report is made without knowledge of facts, public comments or any additional information which may be presented during the public hearing. For that reason, the conclusions herein are subject to change as a result of evaluating additional information; additionally, staff reserves the right to modify or confirm the conclusions and recommendations herein based on consideration of any additional information that may be presented.

**Necessary Action**

Following consideration of the CUP, supporting information, associated exhibits, factors discussed above and any testimony presented during the public hearing, the Planning and Zoning Commission should recommend approval (with or without conditions), denial, or postpone the application for further consideration. If approved subject to conditions, the conditions should be noted for the record. Unless postponed, the Planning and Zoning Commission's action will be forwarded to the Board of Aldermen on December 20, 2016 for final action.

*End of Memorandum*



11-01-2016

Stephen Lachky, AICP  
Community Development Director

Date



Application #: PZ16-13  
Date Submitted: 09-09-16  
Public Hearing: 11-08-16  
Date Approved: \_\_\_\_\_

**CITY OF PARKVILLE • 8880 Clark Avenue • Parkville, MO 64152 • (816) 741-7676 • FAX (816) 741-0015**

**Application for Conditional Use Permit (CUP)**

**1. Applicant / Contact Information**

**Applicant(s)**

Name: The National Golf Club of Kansas City  
Address: P.O. Box 14146  
City, State: Parkville, MO 64152  
Phone: (816) 505-4297 Fax: \_\_\_\_\_  
E-mail: daleb@fivestarlifestyles.com

**Owner(s), if different from applicant**

Name: (Applicant)  
Address: \_\_\_\_\_  
City, State: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_

**Engineer / surveyor(s) preparing legal desc.**

Name: HeliExperts  
Address: 28 Baruch Drive  
City, State: Long Branch, New Jersey 07740  
Phone: (732) 870-8883 Fax: \_\_\_\_\_  
E-mail: rex@heliexp.com

**Contact Person**

Name: Dale Brouk  
Address: P.O. Box 14146  
City, State: Parkville, MO 64152  
Phone: (816) 505-4297 Fax: \_\_\_\_\_  
E-mail: daleb@fivestarlifestyles.com

We, the undersigned, do hereby authorize the submittal of this application and associated documents and certify that all information contained therein is true and correct. We acknowledge that rezoning in the City of Parkville is subject to the Municipal Code of the City of Parkville. We do hereby agree to abide by and comply with the above-mentioned codes, and further understand that any violations from the provisions of such or from the conditions as stated herein shall constitute cause for fines, punishments and revocation of approvals as applicable.

**Applicant's Signature (Required)** [Signature] Date: 9-9-16  
**Property Owner's Signature (Required)** [Signature] Date: 9-9-16

**2. Proposed Conditional Use (see also Checklist of required submittals)**

Proposed use: Helicopter Landing Facility Requested length of permit Permanent  
Description: Emergency and General Aviation Helicopter Landing Pad  
Proposed days and hours of operation: Available for use 7 days a week.

**3. Property Information (see also Checklist of required submittals)**

Property address / general location: South East corner Birkdale and Allen Way  
Parcel ID Number: 20-5.0-22-200-005-001.000 Zoning: R4  
Present use of the property: Vacant  
Length of use (or vacancy): Vacant

**5. Neighboring land uses and zoning**

Describe the existing land use and zoning on the surrounding properties:

<u>Existing Land Use</u>	<u>Existing Zoning</u>
North: <u>Single Family/ Duplex</u>	<u>R4</u>
South: <u>Golf Course</u>	<u>R2</u>
East: <u>Golf Course</u>	<u>R2</u>
West: <u>Golf Course</u>	<u>R2</u>

Attach a narrative addressing: the general character of the surrounding properties; the effects of the proposed use on nearby property; the suitability of the site for the proposed use; adequacy of area roads, public utilities and public services necessary to serve the use; consistency with the City's adopted Master Plan; and any other information relevant to the application.

**5. Checklist of required submittals**

- Completed application, including all required details and supporting data.
- Nonrefundable application fee of \$300.00. Separately, the applicant will be billed to recover costs for required publication and certified notice to adjacent property owners.
- List of names and addresses of all property owners within 185' of the property. See sheet 5 of 5
- Complete written and graphical legal description of subject property in paper and electronic formats, an area map showing the subject property and surrounding major features including roads.
- A site plan showing property boundaries, existing and proposed topography, structures, parking utilities, landscaping, signage, facades and other site features related to the proposed CUP.
- Authorized signature of the applicant and property owner. See Sheets 1 of 5

**For City Use Only**

Application accepted as complete by: Stephen Lachky, Community Development Director 09/09/2016  
Name/Title Date

Application fee payment:  Check # 8697  M.O.  Cash  
 Final reimbursable costs paid (if applicable). Date of Action: \_\_\_\_\_

**Planning Commission Action:**  Approved  Approved with Conditions  Denied Date of Action: \_\_\_\_\_  
Conditions if any: \_\_\_\_\_

**Board of Aldermen Action:**  Approved  Approved with Conditions  Denied Date of Action: \_\_\_\_\_  
Conditions if any: \_\_\_\_\_

# Exhibit D

(FINAL PLAT)

## THE LODGES AT THE NATIONAL REPLAT OF PART OF LOT 1, THE NATIONAL - SIXTH PLAT A SUBDIVISION IN PARKVILLE, PLATTE COUNTY, MISSOURI AND PART OF SECTION 22, TOWNSHIP 51, RANGE 34

PROPERTY DESCRIPTION  
CONTAINING 259,199 SQUARE FEET OR 5.95 ACRES

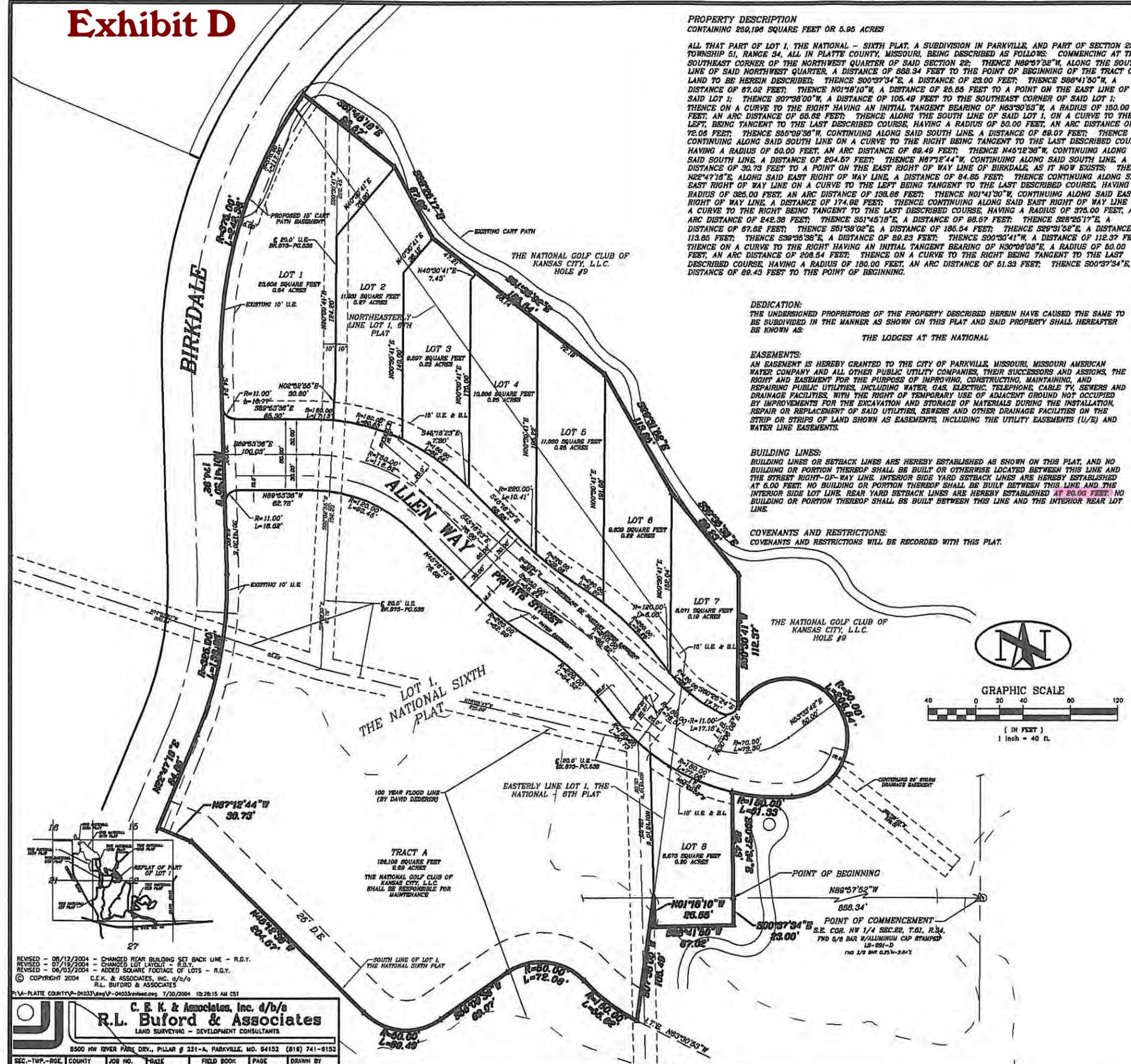
ALL THAT PART OF LOT 1, THE NATIONAL - SIXTH PLAT, A SUBDIVISION IN PARKVILLE, AND PART OF SECTION 22, TOWNSHIP 51, RANGE 34, ALL IN PLATTE COUNTY, MISSOURI, BEING DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHEAST CORNER OF THE NORTHWEST QUARTER OF SAID SECTION 22; THENCE N89°57'52"W, ALONG THE SOUTH LINE OF SAID NORTHWEST QUARTER, A DISTANCE OF 888.34 FEET TO THE POINT OF BEGINNING OF THE TRACT OF LAND TO BE HEREIN DESCRIBED; THENCE S00°37'34"E, A DISTANCE OF 23.00 FEET; THENCE S88°41'50"W, A DISTANCE OF 67.02 FEET; THENCE N01°16'10"W, A DISTANCE OF 25.65 FEET TO A POINT ON THE EAST LINE OF SAID LOT 1; THENCE S07°38'00"W, A DISTANCE OF 105.49 FEET TO THE SOUTHEAST CORNER OF SAID LOT 1; THENCE ON A CURVE TO THE RIGHT HAVING AN INITIAL TANGENT BEARING OF N63°50'53"W, A RADIUS OF 150.00 FEET, AN ARC DISTANCE OF 65.82 FEET; THENCE ALONG THE SOUTH LINE OF SAID LOT 1, ON A CURVE TO THE LEFT, BEING TANGENT TO THE LAST DESCRIBED COURSE, HAVING A RADIUS OF 50.00 FEET, AN ARC DISTANCE OF 72.06 FEET; THENCE S55°08'38"W, CONTINUING ALONG SAID SOUTH LINE, A DISTANCE OF 69.07 FEET; THENCE CONTINUING ALONG SAID SOUTH LINE ON A CURVE TO THE RIGHT BEING TANGENT TO THE LAST DESCRIBED COURSE, HAVING A RADIUS OF 50.00 FEET, AN ARC DISTANCE OF 69.49 FEET; THENCE N45°12'38"W, CONTINUING ALONG SAID SOUTH LINE, A DISTANCE OF 204.67 FEET; THENCE N87°12'44"W, CONTINUING ALONG SAID SOUTH LINE, A DISTANCE OF 30.73 FEET TO A POINT ON THE EAST RIGHT OF WAY LINE OF BIRKDALE, AS IT NOW EXISTS; THENCE N22°47'18"E, ALONG SAID EAST RIGHT OF WAY LINE, A DISTANCE OF 84.86 FEET; THENCE CONTINUING ALONG SAID EAST RIGHT OF WAY LINE ON A CURVE TO THE LEFT BEING TANGENT TO THE LAST DESCRIBED COURSE, HAVING A RADIUS OF 325.00 FEET, AN ARC DISTANCE OF 138.86 FEET; THENCE N01°41'30"W, CONTINUING ALONG SAID EAST RIGHT OF WAY LINE, A DISTANCE OF 174.82 FEET; THENCE CONTINUING ALONG SAID EAST RIGHT OF WAY LINE ON A CURVE TO THE RIGHT BEING TANGENT TO THE LAST DESCRIBED COURSE, HAVING A RADIUS OF 376.00 FEET, AN ARC DISTANCE OF 242.38 FEET; THENCE S61°45'18"E, A DISTANCE OF 88.67 FEET; THENCE S28°25'17"E, A DISTANCE OF 67.62 FEET; THENCE S51°38'02"E, A DISTANCE OF 186.64 FEET; THENCE S29°31'52"E, A DISTANCE OF 113.85 FEET; THENCE S39°35'38"E, A DISTANCE OF 89.23 FEET; THENCE S00°30'41"W, A DISTANCE OF 112.37 FEET; THENCE ON A CURVE TO THE RIGHT HAVING AN INITIAL TANGENT BEARING OF N30°06'08"E, A RADIUS OF 60.00 FEET, AN ARC DISTANCE OF 208.64 FEET; THENCE ON A CURVE TO THE RIGHT BEING TANGENT TO THE LAST DESCRIBED COURSE, HAVING A RADIUS OF 180.00 FEET, AN ARC DISTANCE OF 61.33 FEET; THENCE S00°37'34"E, A DISTANCE OF 89.43 FEET TO THE POINT OF BEGINNING.

DEDICATION:  
THE UNDERSIGNED PROPRIETORS OF THE PROPERTY DESCRIBED HEREIN HAVE CAUSED THE SAME TO BE SUBDIVIDED IN THE MANNER AS SHOWN ON THIS PLAT AND SAID PROPERTY SHALL HEREAFTER BE KNOWN AS:  
**THE LODGES AT THE NATIONAL**

EASEMENTS:  
AN EASEMENT IS HEREBY GRANTED TO THE CITY OF PARKVILLE, MISSOURI, MISSOURI AMERICAN WATER COMPANY AND ALL OTHER PUBLIC UTILITY COMPANIES, THEIR SUCCESSORS AND ASSIGNS, THE RIGHT AND EASEMENT FOR THE PURPOSE OF IMPROVING, CONSTRUCTING, MAINTAINING, AND REPAIRING PUBLIC UTILITIES, INCLUDING WATER, GAS, ELECTRIC, TELEPHONE, CABLE TV, SEWERS AND DRAINAGE FACILITIES, WITH THE RIGHT OF TEMPORARY USE OF ADJACENT GROUND NOT OCCUPIED BY IMPROVEMENTS FOR THE EXCAVATION AND STORAGE OF MATERIALS DURING THE INSTALLATION, REPAIR OR REPLACEMENT OF SAID UTILITIES, SEWERS AND OTHER DRAINAGE FACILITIES ON THIS STRIP OR STRIPS OF LAND SHOWN AS EASEMENTS, INCLUDING THE UTILITY EASEMENTS (U/E) AND WATER LINE EASEMENTS.

BUILDING LINES:  
BUILDING LINES OR SETBACK LINES ARE HEREBY ESTABLISHED AS SHOWN ON THIS PLAT, AND NO BUILDING OR PORTION THEREOF SHALL BE BUILT OR OTHERWISE LOCATED BETWEEN THIS LINE AND THE STREET RIGHT-OF-WAY LINE. INTERIOR SIDE YARD SETBACK LINES ARE HEREBY ESTABLISHED AT 6.00 FEET; NO BUILDING OR PORTION THEREOF SHALL BE BUILT BETWEEN THIS LINE AND THE INTERIOR SIDE LOT LINE. REAR YARD SETBACK LINES ARE HEREBY ESTABLISHED AT 20.00 FEET; NO BUILDING OR PORTION THEREOF SHALL BE BUILT BETWEEN THIS LINE AND THE INTERIOR REAR LOT LINE.

COVENANTS AND RESTRICTIONS:  
COVENANTS AND RESTRICTIONS WILL BE RECORDED WITH THIS PLAT.



- SURVEY NOTES:
- THE FOLLOWING STANDARD MONUMENTATION WILL BE SET UPON COMPLETION OF CONSTRUCTION BUT NOT TO EXCEED 12 MONTHS AFTER THE FILING OF THIS PLAT AT THE NOTED LOCATION UNLESS INDICATED OTHERWISE ON THIS DRAWING:  
SEMI-PERMANENT MONUMENTATION:  
1/2" IRON BAR WITH PLASTIC CAP STAMPED "LS-291-D" SET AT ALL LOT CORNERS AND OTHER CORNERS MARKED "O".  
PERMANENT MONUMENTATION:  
5/8" IRON BAR WITH ALUMINUM CAP STAMPED "LS-291-D" SET AT ALL CORNERS MARKED "A".
  - THE POSITION OF EXISTING MONUMENTATION AS INDICATED BY AN "O", "O" OR "Δ", IF NOT THE TRUE CORNER, IS BY DIFFERENCES IN COORDINATES OR AT RIGHT ANGLES TO THE PROPERTY LINE AT THE NOTED DISTANCE FROM THE NEAREST BOUNDARY CORNER.
  - THE SOURCE OF THE DESCRIPTION USED FOR THIS SURVEY WAS DERIVED FROM THE NATIONAL - SIXTH PLAT, A SUBDIVISION IN PARKVILLE, PLATTE COUNTY, MISSOURI.
  - THE BEARINGS AND COORDINATES SHOWN HEREON ARE BASED UPON THE MISSOURI COORDINATE SYSTEM 1983, WESTERN ZONE, AT KANSAS CITY METRO CONTROL MONUMENTS PL-18 TO PL-15 (1989 ADJUSTMENT).
  - THIS SURVEY MEETS OR EXCEEDS THE ACCURACY STANDARDS OF AN URBAN PROPERTY SURVEY AS DEFINED BY THE MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS.

IN TESTIMONY WHEREOF:  
THE NATIONAL GOLF CLUB OF KANSAS CITY, L.L.C., A MISSOURI LIMITED LIABILITY COMPANY AND R.P. GOLF, L.L.C. A MISSOURI LIMITED LIABILITY COMPANY HAVE CAUSED THESE PRESENTS TO BE EXECUTED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

FOR: THE NATIONAL GOLF CLUB OF KANSAS CITY, L.L.C.  
JAMES R. WATSON, MANAGING DIRECTOR      JAMES S. ALLEN JR., MANAGING DIRECTOR  
FOR: R.P. GOLF, L.L.C.  
JAMES R. WATSON, MANAGING DIRECTOR      JAMES S. ALLEN JR., MANAGING DIRECTOR

NOTARY CERTIFICATION:  
STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) SS:  
BE IT REMEMBERED THAT ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, APPEARED JAMES R. WATSON AND JAMES S. ALLEN, JR., TO ME KNOWN TO BE THE PERSONS DESCRIBED HEREIN AND WHO BEING DULY SWORN BY ME, DID ACKNOWLEDGE THAT THEY ARE THE MANAGING DIRECTORS OF SAID THE NATIONAL GOLF CLUB OF KANSAS CITY, L.L.C. AND R.P. GOLF L.L.C., AND THAT THIS INSTRUMENT WAS SIGNED IN BEHALF OF AND IS THE FREE ACT AND DEED OF SAID COMPANY.  
IN WITNESS WHEREOF:  
MY COMMISSION EXPIRES: \_\_\_\_\_ NOTARY PUBLIC

CITY OF PARKVILLE, MISSOURI  
THIS IS TO CERTIFY THAT THIS FINAL PLAT,  
THE LODGES AT THE NATIONAL  
WAS SUBMITTED TO, CONSIDERED AND APPROVED BY THE PARKVILLE  
BOARD OF ALDERMAN THIS \_\_\_\_\_ DAY  
OF \_\_\_\_\_, 20\_\_\_\_.  
KATHRYN DUSENBURY, MAYOR      BARBARA J. LANCE, CITY CLERK

SURVEYOR'S CERTIFICATION:  
I HEREBY CERTIFY THAT WE HAVE MADE A SURVEY OF THE PREMISES HEREIN DESCRIBED WHICH MEET OR EXCEED THE CURRENT MISSOURI MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS AS JOINTLY ESTABLISHED BY THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, DIVISION OF GEOLOGY AND LAND SURVEY AND THE MISSOURI BOARD FOR ARCHITECTS, PROFESSIONAL ENGINEERS AND LAND SURVEYORS, AND THAT THE RESULTS OF SAID SURVEY ARE REPRESENTED ON THIS DRAWING TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF.  
CHARLES E. RUTZ, PLS-2376      DATE \_\_\_\_\_

REVISED - 06/12/2004 - CHANGED REAR BUILDING SET BACK LINE - R.G.Y.  
REVISED - 07/19/2004 - CHANGED LOT LAYOUT - R.G.Y.  
REVISED - 06/03/2004 - ADDED SQUARE FOOTAGE OF LOTS - R.G.Y.  
© COPYRIGHT 2004 C.E.K. & ASSOCIATES, INC. d/b/a  
R.L. BUFORD & ASSOCIATES  
PL-VA-PLATTE COUNTY P-01033 Rev 7/20/2004 10:26:15 AM CST

**C. E. K. & Associates, Inc. d/b/a**  
**R.L. Buford & Associates**  
LAND SURVEYING - DEVELOPMENT CONSULTANTS  
8500 HW RIVER PARK DR., PILLAR # 231-A, PARKVILLE, MO. 64152 (816) 741-6152

SEC - TWP - RGE.	COUNTY	JOB NO.	DATE	FIELD BOOK	PAGE	DRAWN BY
22-51-34	PLATTE	P-04033	02/17/2004			R.G.Y.



***An Aeronautical Consultancy***

28 Baruch Drive, Long Branch, New Jersey 07740  
Phone (732) 870-8883 ■ Fax (732) 870-8885  
www.heliexpertsinternational.com ■ info@heliexp.com

## **National Golf Club of Kansas City Air Ambulance Emergency Heliport Feasibility & Site Selection Report**

**Provided by: HeliExperts International LLC**

**Report Date: September 9, 2016**

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### **Executive Summary**

#### **Site Selection**

At the request of the National Golf Club of Kansas City, HeliExperts International LLC evaluated several locations located on the National Golf Club of Kansas City property and has, in collaboration with executive member's input, identified a primary site for development. Standards used to evaluate the site included all applicable Federal, State and local regulatory and code criteria as well as safety, functionality, longevity and proximity to adjacent properties.

#### **Heliport Location**

The proposed Air Ambulance Emergency heliport site involves a ground based position situated on property adjacent to the National Golf Club's Club House which is located approximately 590' to the East. The approximate location of the center of the heliport is estimated to be:

- Latitude: N – 39° 13' 08.19"
- Longitude: W – 094° 42' 35.65"

#### **Heliport Dimensions**

The size of the heliport and its supporting airspace i.e. TLOF, FATO and FATO Safety Area encompasses the following dimensions as outlined by the FAA in their Heliport Advisory Circular, AC 150/5390-2C:

- Touchdown and Liftoff Areas (TLOF): 46' Diameter
- Final Approach and Takeoff Area (FATO): 85' Diameter
- FATO Safety Areas (FSA): 115' Diameter



## **Conclusions**

HeliExperts feasibility and site selection study has concluded that the selected location, with management's approval and appropriate site decisions, can lead to a safe cost-effective private ground based heliport. The required operational and safety plan and training that will be instituted at this location that will meet all Federal, State and Local requirements as well as industry best practices.

Key elements for this to be accomplished include the following:

- A properly designed site and heliport to support the prescribed dimensions and weight of the design helicopter.
- A heliport who's TLOF is slightly elevated above the surrounding area so as to allow for clear airspace within the heliports vicinity to the extent feasible.
- Adherence to all pertinent design, training and operational standards and criteria as outlined in the International Building Code, International Fire Code, and National Fire Protection Association for heliports. This includes all applicable Federal Aviation Administration regulations and guidance as well as identified industry best practices recommendations.

## **Items of Interest**

- The heliport will function as a "Private" heliport with a prior permission requirement for conducting operations with the exception for air ambulance emergency helicopters which will not require prior permission.
- Operating procedures will be codified and published prior to helicopter operations being permitted. The club will administer oversight of enforcement of said operating procedures.
- The site will be designed, constructed and operated in accordance with all pertinent Federal Aviation Administration Regulations and best practice recommendations as well as all National Fire Protection Association (NFPA) pertinent requirements as published in NFPA-418, Standard for Heliports.
- The proposed site was chosen due to its capability to support a safe and regulatory compliant heliport. This along with its centralized location makes this site the preferred location within the confines of the National Golf Club of Kansas City's property.
- Collaboration between the Club and local first responders to include helicopter air ambulance providers will be accomplished so as to provide well thought out procedures for future emergency operations. Onsite hands on safety training will



be accomplished between first responders, helicopter operators and Club staff on an annual basis.

- Prior to the project moving forward, the club has stipulated that they will require a "Favorable Airspace Determination" be provided by the FAA.
- The Approach/Departure paths that have been identified were chosen so as to fully maximize those areas surrounding the heliport that are the least populated and will have the smallest impact on the public.
- The area surrounding the heliport will incorporate a security fence to assist in maintaining a secure location for helicopter operations. The fence will be installed in such a fashion so as to not be a hazard to helicopter operations but still provide adequate restraint to the curious bystander.
- The most common helicopters in the region used for air medical transport purposes are smaller than the "Design Helicopter used in determining the size of this heliport. The heliport was designed using the larger capacity "Design Helicopter" so as to assure that the heliport does not become antiquated or obsolete at some point in the future if larger emergency helicopters ever did begin to operate in the region.
- For nighttime operations the FAA requires that the heliport and the windsock be lighted. So as to limit any potential intrusion caused by the heliport lighting, pilot controlled lighting will be used in lieu of lighting that remains on during the hours of darkness. Pilot controlled lighting is lighting that the pilot can turn on only when he/she requires it utilizing his or her onboard radio. The lighting is designed to only be on during the time that the pilot needs it and is programmed to automatically turn off after 15 minutes.

Respectfully Submitted By

Raymond A. Syms  
HeliExperts International LLC  
Aeronautical Consultant

Rex J. Alexander  
HeliExperts International LLC  
Aeronautical Consultant

# Heliport Feasibility & Site Selection Report

## National Golf Club of Kansas City

6700 North National Drive  
Parkville, MO 64118

September 9, 2016

*Produced & Provided By*



**HELIEXPERTS INTERNATIONAL LLC.**

*Formerly Raymond A. Syms & Associates*



*Veteran Owned  
and Operated*

***An Aeronautical Consultancy***

28 Baruch Drive, Long Branch, New Jersey 07740

Phone (732) 870-8883 ■ Fax (732) 870-8885

[www.heliexpertsinternational.com](http://www.heliexpertsinternational.com) ■ [info@heliexp.com](mailto:info@heliexp.com)

# The HeliExperts Team

HeliExperts International LLC was formed in January 2012 with the merging of Raymond A. Syms and Associates LLC and RJ Alexander Consulting LLC. Collectively, the HeliExperts team offers more than 75 years of highly specialized aviation, helicopter and heliport expertise and experience. Both founding members are active participants and contributors to the aviation and helicopter industries in multiple arenas of governmental rule making, regulatory policy authoring, aviation infrastructure design, technical research, education, training, safety initiatives and risk mitigation strategies. HeliExperts team members have donated thousands of hours to and actively collaborate with the Federal Aviation Administration, National Fire Protection Association, National Transportation and Safety Board, Transportation Safety Institute as well as numerous other Aviation, Safety and Trade Organization and Groups and Associations. Both members assisted the Transportation Safety Institute in Oklahoma City in the development of the current Heliport Evaluation Training Course used to train FAA Inspectors throughout the U.S. on heliport evaluation practices and procedures.



**Raymond A. Syms**  
**Managing Member**

Mr. Syms Possesses more than 45 years of military, general and commercial aviation experience as a pilot, instructor pilot, aviation manager, heliport developer, and aviation expert. Syms has qualified as an unchallenged aviation expert in federal, state and local courts in addition to official hearings and other regulatory proceedings. Additionally, Syms is the designer and primary author of the HAI Heliport/Vertiport Development Guide (a publication by the Helicopter Association International) and has spent more than 20 years serving on FAA and NFPA (National Fire Protection Association) committees that assist with authoring the FAA Heliport and Vertiport Design Advisory Circulars (the FAA's design recommendations for all heliports) and develop the NFPA Standards for Heliports (fire protection and safety standards for heliports). Syms is the current chair of the NFPA 418 Committee Standard for Heliports.

Contact Information:  
Email: [ray@heliexp.com](mailto:ray@heliexp.com)  
Phone: (732) 870-8883



**Rex J. Alexander**  
**Senior Consultant**

Mr. Alexander possesses more than 30 years of military, general, and commercial aviation experience as a pilot, instructor pilot, safety manager, aviation regional manager, airframe and power-plant technician, heliport developer, educator, trainer, and aviation expert. Alexander has served as a board member and is a former President of both the National EMS Pilots Association (NEMSPA) and the Indiana State Association of Air Medical Services. Alexander has participated in numerous industry and government initiatives to include; NEMSPA National heliport safety survey, Model Air Medical State Guidelines Task Force, Heliport Risk and Liability Assessment Toolkit, FAA National Proposed Rule Making on HEMS and helicopter operations, and the NTSB hearings on Helicopter EMS operations and accident prevention. Mr. Alexander is a well-known and respected speaker lecturing throughout the United States and has published several well recognized industry articles on air medical, helicopter and heliport operations and safety.

Contact Information:  
Email: [rex@heliexp.com](mailto:rex@heliexp.com)  
Phone: (260) 494-0891

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## **INTRODUCTION**

The following study was conducted at the request of the National Golf Club of Kansas City to analyze the feasibility of establishing an air ambulance emergency private ground based helicopter landing site on its property located at 6700 North National Drive, Parkville, Missouri 64152. The study consisted of an on-site visit and evaluation, plus interviews with Corporate Management. During this process, we considered the following elements:

- Operational capabilities and limitations of the type and model of helicopter(s) that may potentially support this location currently and in the future.
- Required onsite operational space necessary to safely support the type, model and number of helicopter(s) that may potentially service this location currently and in the future.
- Airspace requirements necessary to support a safe and compliant heliport for flight operations into and out of this location for day and night VFR operations.
- Analysis of the overlying and surrounding special use airspace for any special operational considerations for flights conducted into and out of this geographic area.
- Regulatory and safety of flight requirements for state, federal, and local government aviation authorities as they would pertain to this location.
- Review of local zoning requirements and other applicable "By-Laws" provided by the client that may prohibit, restrict or otherwise significantly limit the proposed location.
- Review of on-site conditions to identify and suggest the most practical and cost-effective methods of construction.
- General assessment of the environmental impact on the surrounding community.
- Social, economic, and political analysis of the surrounding community as it would relate to the installation of a helicopter landing site at this facility.
- Determination of the time frame required to correctly evaluate the location, to process the various applications, and to obtain the necessary approvals and ultimately construct a helicopter landing site at this location.
- Analysis of the Climatical conditions that could potentially impact the proposed facility location.



## EVALUATION CRITERIA

The site identified and recommended in this study for a potential heliport location was evaluated based on the consideration of the following criteria:

1. Safety (Ground & Air)
2. Aircraft Operational Requirements
3. Regulatory Approval Potential
4. Community Interface Considerations
5. Community Access to Emergency Air Medical Transport
6. Climatological Constraints
7. Security
8. Special Use Airspace Considerations

### 1. SAFETY (Ground & Air)

The issue of safety, not only from the standpoint of the occupants of the helicopters but also the individuals residing in the building as well as those on the ground and in the surrounding area are a primary consideration in identifying potential landing sites. While the probability of an accident occurring is very remote, it is critical to factor this possibility into every site location consideration and decision. Sound aviation practices require a very detailed and in-depth evaluation of not only the physical characteristics of the heliport itself but also the surrounding area and supporting infrastructure. Thus, a major emphasis is placed on an intensive evaluation of the available helicopter maneuvering space in addition to the availability of the required clear unobstructed approach and departure paths.

### 2. HELICOPTER OPERATIONAL REQUIREMENTS

This category takes into consideration the unique flight characteristics and requirements of the type and model of helicopters that will be employed at this site. Specific physical dimensions of the helicopters are used to determine the required size of the heliport needed as well as the maneuvering space required for safe operations. Helicopter manufacture performance charts are used to determine the climb characteristics and worst-case operational performance conditions, i.e., high ambient temperatures, high density altitude and maximum loading of the helicopter that can be expected.

The "Design Helicopter" is a value that reflects the FAA recommendations for heliports. HeliExperts can provide a separate briefing document regarding this topic. Additional information on this topic can also be found in the Federal Aviation Regulation section of this report.



### **3. REGULATORY APPROVAL POTENTIAL**

There are three primary levels of government that will, in one manner or another, influence any final site selection. The federal government is responsible for a determination of the efficient use of airspace and any possible airspace conflicts with other air traffic in the vicinity. As a state, the Missouri Department of Transportation (MoDOT) Multimodal Aviation Division recommends the use of the FAA heliport design advisory circular in locating and constructing new heliports but does not have a formalized application and permitting process for private facilities. MoDOT officials use the FAA Advisory Circular "Heliport Design" as their primary evaluation guideline on the design and location of heliport facilities. The City of Parkville and Platte County concerns will primarily be focused on zoning, fire protection, building codes, environmental and community issues.

### **4. COMMUNITY INTERFACE CONSIDERATIONS**

Through the efforts of the National Golf Club of Kansas City's planning team the general misperceptions and misunderstanding that HeliExperts has commonly witnessed over the years regarding helicopter transport from the various entities within a community have chiefly been addressed. Concerns that have arisen regarding safety, noise, environmental impact, and property values, through active education and an appropriate proactive integration plan, have, for the most part, been properly identified and dealt with before they have become public issues.

### **5. COMMUNITY ACCESS TO EMERGENCY AIR MEDICAL TRANSPORT**

In many communities around the country, both urban and rural, air ambulance helicopters land under less than optimum conditions at off airport scene locations during all hours of the day and night. These locations are non-permanent sites that are hastily set up by first responders only minutes prior to a helicopters arrival, often during the hours of darkness. These locations are greatly influenced by weather conditions and the changing seasons, often times making them a more hazardous environment for everyone involved. To improve safety and provide a rapid means for delivering lifesaving care during times of crises, many community leaders are working locally to identify areas that will support a permanent well established site for helicopter operations during all hours of the day and night that is always ready and always prepared.

### **6. CLIMATOLOGICAL CONSTRAINTS**

The concept and practice of all helicopter operations can be significantly influenced by a region ever changing weather conditions which can prohibit safe flight operations under certain conditions. Site specific historical analysis using empirical weather data is necessary to determine the suitability of any general location to insure it encompasses the safe operational requirements necessary to assure the highest percentage of usability possible for any given day.



## 7. SECURITY

A concern expressed by many individuals is the inadvertent entry of members of the public or non-authorized persons to a secure area where a helicopter may be operating. Adequate security measures must be in place to assure the safety of the helicopter, its crew and the public as a whole. Assuming that there will be occasions that may arise wherein the helicopter will remain unattended, even for short periods of time, the project has been evaluated as to the possibility of the helicopter being exposed to anything from the curious onlookers, to vandalism and yes even terrorism.

## 8. SPECIAL USE AIRSPACE CONSIDERATIONS

In many locations throughout the United States specific areas have been designated with airspace that has been classified as "Special Use". These types of special use airspace often times pose limitations as to who may operate within their boundaries and when to the extent of requiring additional training, radio communications and written authorization up to and including refusal to entry. Types of special use airspace evaluated for the purposes of the establishment of a heliport are: Restricted Airspace, Prohibited Airspace, Military Operations Areas, Waring Areas, Alert Areas, Temporary Flight Restriction (TFR), National Security Areas, and Controlled Firing Areas.



# ANALYSIS DETERMINATIONS

## TOPICS

1. Site Selection & Operational Needs
2. Aviation Regulatory Considerations
3. Local Regulations & Zoning Requirements
4. Community Effects
5. Airspace Utilization
6. Climatological Considerations
7. Safety
8. Environmental Concerns
9. Special Use Airspace Considerations

### 1. SITE SELECTION & OPERATIONAL NEEDS

The National Golf Club of Kansas City requested an independent, qualified and unbiased professional investigation for locating a private prior permission required ground based helicopter landing site at its property located at its 6700 North National Drive in Parkville, Missouri. The heliports primary purpose is to support local emergency responders during times of crisis and emergency operations. The first criterion used in this selection was the overall suitability of the property for heliport development coupled with the basic operational needs as determined from the interviews and inventory process.

The initial heliport needs assessment also included the following items:

1. The heliport site should anticipate night operations at some point in the future.
2. An on-site hanger facility, fueling system and or servicing area for the helicopter at this location is not anticipated.
3. A helicopter will not be based at this facility.
4. Any community relationship and interface issues are to be included with the site selection criteria.
5. The potential helicopter sound and noise effects on the community and the immediately adjacent buildings need to be considered.
6. For the purposes of this study the "Design Helicopter" selected was the AgustaWestland AW-139. The AW-139 maximum gross weight potential is 14,991 pounds with a rotor diameter of 45.3' and an overall length of 54.5'. The majority of the potential helicopter types and models currently in use in the air ambulance, along with civilian, and corporate industries within the region will be capable of safely operating at this facility.



Community interface issues have the greatest potential for disruption or outright failure of any heliport regulatory approval process. This will be discussed in more detail later in the report.

## **2. AVIATION REGULATORY CONSIDERATIONS**

### **Federal Regulations**

The heliport that the National Golf Club of Kansas City is considering to establish is not covered directly by the Federal Aviation Administration Regulations, which pertain predominantly to those installations designed for Public-Use, or publicly funded heliports. The design of the heliport can, however, take full advantage of all the safety and efficiency aspects identified in the FAA guidelines. The FAA guidelines are very detailed regarding the heliport area in addition to the clear airspace which a site must possess to be considered adequate for safe helicopter operations to take place. An initial investigation of the site reveals the proposed heliport location would have the ability to meet these parameters.

The FAA will, upon the mandatory notification by the proponent of their desire to establish a heliport on or in the general area of their property, initiate an airspace study of the surrounding vicinity of the proposed site. The FAA will ascertain whether the proposed heliport, at the suggested site, would have any detrimental effects upon the safe and efficient use of the surrounding airspace. After a preliminary application of the appropriate FAA airspace criteria and existing area traffic, initial indications regarding the establishment of a heliport on the grounds of the National Golf Club of Kansas City indicates a favorable FAA determination can be anticipated.

HeliExperts recommendation is for the heliport's Touchdown and Lifftoff Area (TLOF) to be 46' x 46' and designed for a minimum helicopter gross weight of 15,000 lbs.

Upon the client's decision to proceed an FAA application can be filed rather quickly using the preliminary data from this report and other available information. The processing time and site visit from an official FAA representative varies from region to region, taking from three weeks to several months. Based on past experience, our close follow-up with the regional and local FAA offices has kept this time frame to an average of six weeks to 2 months on those projects with short time constraints.

### **State Regulations**

In so much as there are no direct regulations governing private heliport oversight in the State of Missouri by the Missouri DOT other than those for hospitals, we will adhere to their recommendation to follow the guidance provided by the FAA in the heliport design advisory circular AC 150/5390-2C. The National Golf Club of Kansas City's Heliport project plans have been found to be in compliance with the FAA standards.



### **3. LOCAL REGULATIONS AND ZONING REQUIREMENTS**

#### ***Fire Code***

Over the years the National Fire Protection Association (NFPA) has integrated numerous common sense safety criterion based on various lessons learned from historical data which have been shown to enhance overall heliport safety throughout the United States. This not only applies to the helicopter operators and their passengers but also to the general public at large. NFPA-418, Standard for Heliports, is mandatory for all new or upgraded heliports and the National Golf Club of Kansas City will adhere to and take full advantage of all pertinent code requirements pertaining to their heliport project as outlined in NFPA-418.

As of January 2011, NFPA-418 requires a heliport to meet all relevant portions of the FAA Heliport Design Advisory Circular (FAA AC 150/5390-2C) for both new and modified heliports. The local Fire Marshall and code officials will use this information as their guide on the physical plant and operational issues dealing with the heliport application. The latest revision of NFPA-418, which was released in January 2016, requires that the Emergency Response Plan be approved by the AHJ for which the National Golf Club of Kansas City intends to conform.

At an appropriate date in the future, a suitable heliport safety presentation to the local land-use and public safety officials will be scheduled. Given the unique issues present at almost all heliports and the broad range and variety of land-use regulatory responses that have been seen in the past at other sites, a collaborative well-orchestrated effort in creating a professional and well thought out safety program between all stake holders involved will be essential for success.

By experience, the indication that the National Golf Club of Kansas City heliport may be treated as an accessory use means it is essentially a permitted use heliport, and the levels of permits required is typically at the minimal level. It is however up to the local officials to determine what exact permits, public hearings or other procedures they will require. There should be no difficulty in the recommended ground level site currently being considered being fully accepted by the FAA.

### **4. COMMUNITY EFFECTS**

A very detailed and intensive inventory of the surrounding land uses and the overall nature of the area was taken. In addition, the potential impact the heliport may have on the surrounding community was also considered.

There are a substantial number of noise generating devices incorporated at all golf courses for the purposes of providing continuous care and maintenance and this location is no exception. These devices include but are not limited; leaf blowers, weed eaters, lawn mower, and various other types of equipment. An additional contributing factor to the background noise environment at this location is the continuous air traffic from the



Kansas City International Airport (KMCI) 4.7 miles North and Kansas City Downtown Airport (KMKC) 7.9 miles south. Given these preexisting conditions, a properly designed heliport location in conjunction with supporting approach/departure paths to the east and the south, should not pose any community interface issues.

Proper heliport site selection, design, and operational policies will provide for an additional reduction in any actual or perceived negative effects upon the surrounding community. A special amount of attention was given to the possible effects caused by the location proposed.

## 5. AIRSPACE UTILIZATION

### *Inventory of Current Aviation Facilities in the Vicinity*

After close review of the current FAA 5010 Airport Master Record Database, the nearest public use aviation facility to the property is the Kansas City International Airport (KMCI) which is located approximately 4.7 nautical miles to the North. The nearest private aviation facility to the property is the St Luke's Northland Hospital Heliport (MO63) which is located approximately 3.6 nautical mile to the Northeast. There are an additional 7 heliports and 3 airports listed with the FAA in the Airport Master Record Database that are located within a 10 nautical mile radius of the proposed site location. Due to the favorable location and distances from these sites, this heliport will meet all FAA requirements for airspace and there is no perceived negative impact that will be caused by a heliport established at this location.

### *Heliport Airspace Requirements*

To understand what defines the required airspace needed to safely support a heliport, Federal Regulations define three specific airspace categories for a heliport.

- **Primary Surface:** The area of the primary surface coincides in size and shape with the designated take-off and landing area. This surface is a horizontal plane at the elevation of the established heliport elevation.
- **Approach Surface:** The approach surface begins at each end of the heliport primary surface with the same width as the primary surface, and extends outward and upward for a horizontal distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8 to 1 for civil heliports.
- **Transitional Surfaces:** These surfaces extend outward and upward from the lateral boundaries of the primary surface and from the approach surfaces at a slope of 2 to 1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach surfaces.



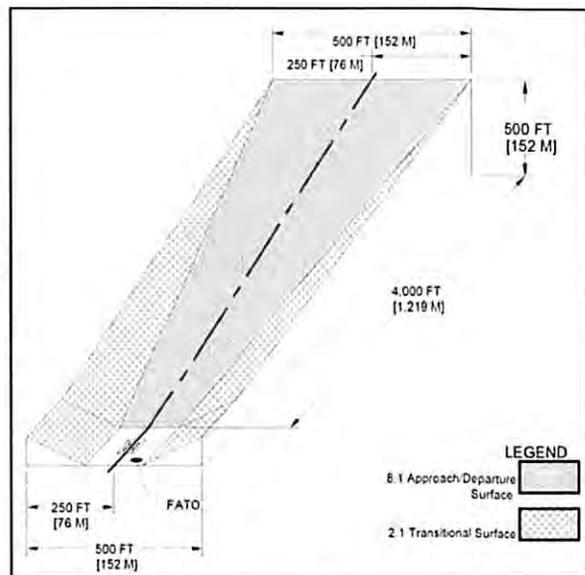
The FAA AC 150/5390-2C, Heliport Design Guide, further breaks down the “Primary Surface” into to three specific components for operational and obstruction evaluation purposes.

- **Touchdown and Liftoff (TLOF).** A load-bearing, generally paved area, normally centered in the FATO, on which the helicopter lands and/or takes off.
- **Final Approach and Takeoff (FATO).** A defined area over which the pilot completes the final phase of the approach to a hover or a landing and from which the pilot initiates takeoff. The FATO elevation is the lowest elevation of the edge of the TLOF.
- **Safety Area.** A defined area on a heliport surrounding the FATO intended to reduce the risk of damage to helicopters accidentally diverging from the FATO.

The Approach/Departure path is the flight track helicopters follow when landing at or departing from a heliport. The approach/departure paths may be straight or curved.

The two defined airspace surfaces of an approach/departure path that must be kept free of obstructions to meet FAA airspace criteria are identified in the FAA Heliport Advisory Circular, AC 150/5390 2C as the 8:1 Approach/Departure Surface and the 2:1 Transitional Surface.

The airspace surface identified as the Approach/Departure surface, is an unobstructed imaginary 8:1 (7.125°) plane starting at the edge of the FATO, at FATO height and FATO width which extends out to 4,000' horizontally to an altitude 500' above the horizontal FATO plane to a total width of 500' wide.



FAA AC 150/5390-2C Figure 2-7  
VFR Heliport Approach/Departure and Transitional Surfaces.

The airspace surface identified as the transitional surface, is an unobstructed imaginary 2:1 (26.5°) plane surrounding the FATO which starts at the edge of the FATO at FATO height extending out to 250' horizontal in a 360° arch from the center of the FATO which includes that area which is parallel to the 8:1 approach/departure surface within 250' of either side of the approach/departure center line and extends along the entire length of the 4,000 feet of the approach/departure path.



## ***Airspace Rights & Ownership***

In the United States property rights of an owner go from the ground level up to infinity. The U.S. Government, with the FAA being the designated agency, oversees all airspace not occupied by a structure. The FAA sets criteria for obstructions within airspace for the general public.

The FAA requires notice for all structures greater than 200' above ground level as well as other lower structures close to public or military facilities. The FAA "DOES NOT" require notice for structures in the vicinity of private airports and heliports with the exception of those facilities having an instrument procedure.

FAA determination related to obstacles on private property is advisory only. Hence, compliance by the FAA is "NOT" required in the cases of private facilities.

If the obstacle is a radio tower or another transmitter platform an FCC license is required. The FCC requires that applicants follow the FAA guidelines and have a "No Objection" Determination from the FAA. If the structure is allowed by the local zoning and building code authorities, (to include variances) the FAA "CANNOT" and "WILL NOT" prevent construction.

Many local land-use authorities require an FAA determination to be sought and complied with for issuing zoning and building permits. It is therefore the local authority who is the enforcer in these instances and not the FAA, but only to the extent provided for by law and local land use zoning criteria.

## ***Airspace Protection***

To protect the airspace of a private use heliport the owner has two general courses of action at their disposal. The first being the adoption of local zoning rules by the local regulatory body that would restrict the height of any future building/object construction within the designated supporting airspace of the heliport in question. General guidance on drafting an ordinance that would limit building and object heights can be found in FAA Advisory Circular AC 150/5190-4, A Model Zoning Ordinance to Limit Height of Objects Around Airports.

The second option to protect private use airspace is the adoption of air rights and property or "Avigation Easements". An Avigation Easement is a conveyance of airspace over another property for use by the heliport. The owner of an easement-encumbered property (servient property) has restricted use of their property subject to the heliport sponsor's easement (dominant property) for overflight and other applicable restrictions on the use and development of the servient parcel.

Easement rights acquired typically include the right-of-flight of aircraft; the right to cause noise, dust, etc.; the right to remove all objects protruding into the airspace together with the right to prohibit future obstructions or interference in the airspace; and the right of



ingress/egress on the land to exercise the rights acquired. The avigation easement on the property shall “run with the land” and any future owner’s use of the servient parcel is also restricted as described in the avigation easement.

It is the same basic legal agreement one would use for a driveway or other easement but in this case it deals with a three-dimensional corridor in the air and not on the ground.

The grantor of the easement in this case does not control the airspace, only the FAA is allowed to control airspace in the U.S. for the benefit of the general public. The easement is an agreement that the owner of the property will not erect any structure(s) within that desired airspace, hence waiving their right to the development of said airspace.

The use of air rights and property easements are viable options that can help to “Reserve” a heliports supporting airspace to prevent the encroachment of obstacles in the vicinity at a future date.

## **6. CLIMATOLOGICAL CONSIDERATIONS**

Of primary importance in selecting an appropriate site for an aeronautical facility are the prevailing winds, cloud cover and horizontal visibility. The prevailing winds greatly influence the approach and departure routes to and from a facility. The general orientation of the touchdown area is, to some degree, also related to the prevailing wind direction. The historic wind data for the general area indicates the suggested heliport sites and plans are compatible with the prevailing winds.

Cloud cover and visibility can, of course, affect the operation significantly. The location and design of the heliport take advantage of these Climatological considerations and no problems are perceived in this area. If the weather conditions are such to pose a safety or comfort issue, flights will either be turned down prior to acceptance or canceled enroute by the pilot in command.

## **7. SAFETY**

The proposed location possesses all of the components which meet or exceed the recognized safety standards of the FAA, State of Missouri, Kansas City and the aviation industry in general. This includes the complete compliance with the NFPA-418 and adopted local building codes and standards.

The FAA completed a study in August of 1991 entitled “Analysis of Helicopter Accident Risk Exposure at Heliports, Airports and Unimproved Sites” FAA /RD 90/9. The results of this study statistically derived that there is a once in every 432-year probability exposure of a helicopter accident in a community where a heliport is located. Using NTSB (National Transportation Safety Board) and FAA real-life historical heliport safety data on over 40 years of records for properly designed and operated private use heliports of the type considered here; those facilities have had a PERFECT safety record as it relates to



physical risk to any members of the general public or anyone in the surrounding community.

## 8. ENVIRONMENTAL CONCERNS

### Exhaust Emissions, Dust and Lights

Today's modern aircraft, such as the helicopters that would operate at the proposed facility, are powered by gas turbine engines which produce very few pollutants. Much of this is due to the engine's high combustion temperatures and its ability to burn fuel very efficiently.

Due to the low amount of emissions from helicopter turboshaft engines, the most widely used, these engines are exempt from Engine Emission Certification requirements of the Federal Aviation Administration and Foreign Civil Aviation Authorities specified in the Federal Aviation Regulations (FARS) and the International Civil Aviation Organization (ICAO) Annex 16 Volume II.

In layman's terms, the exhaust of the helicopter is essentially invisible and due to the temperature difference with the surrounding air it rises and dissipates very rapidly. Another major factor is the natural dispersal of helicopter exhaust both by the helicopter's relative distance from members of the general public and the subsequent effect the rotor system has on the exhaust itself.

While there is minimal odor associated with the exhaust, it is detectable only while the helicopter is on the heliport and then only within a few feet of the helicopter. Under all proposed conditions, no member of the surrounding community would be normally aware of any odors or effects from the exhaust emissions during the operation of the proposed heliport.

While helicopter exhaust is an issue that needs to be inventoried in regards to a buildings HVAC system, there is methodology within conventional HVAC technology that has had success in mitigating the helicopter exhaust ingestion issue when necessary. This is an issue that all elevated or even ground based heliports in close proximity to buildings need to take into account.

The approach/departure paths for the helicopter at an average climb/approach speed of 70 mph has the helicopter spending less than 45 seconds in the climb out or approach phase of normal flight. A truck would need about two minutes for travel by roads to cover the same approximate distance providing there were no stops for traffic or traffic signals.

The helicopter does not discharge or leak any oil or fuel in the normal course of operation. The likelihood of any fuel spill is very remote. All of the fuel discharges on records of the FAA and NFPA have been associated with fueling or maintenance operations, which will not occur at this location.



There are no lights associated with the heliport that will create a beam of light offsite. The windsock lights, obstruction lights and lights around the heliport are designed to be glare-free and not produce any direct “beams” of light for illumination off the heliport. The heliport lights will be limited to the small period of time the heliport is actually in use.

### **Noise & Acoustic Considerations**

The sound level of the helicopter that would utilize the proposed facility is far below that of many accepted noise producers in the surrounding environment. Trains, jet airliners, ships, lawn equipment, leaf blowers, chain saws, tractors, irrigation pumps, vacuum cleaners, hair dryers, motor cycles, buses, trucks, and cars all regularly produce noise levels higher than that which the average person would perceive when they hear a helicopter.

The relative distance, nature and intensity of the noise generated, height above the ground, type and vintage of the aircraft, sound attenuation factors of the terrain between the source and the receptor are all factors in the way sound is perceived. Older, heavier military helicopters are very different from the more modern, light, efficient and much quieter civil helicopters utilized by the vast majority of air ambulance, corporate and executive helicopter transport community.

It must be kept in mind that the proposed helicopter activity represents an extremely transitory sound in nature. The entire sound event only last for approximately 45-60 seconds either on landing or takeoff. At any one point along the flight route, providing the observer is close enough to hear or notice it, the helicopter will typically only be heard for about 20 seconds or less. This compares very favorably with sounds already found in most metropolitan, urban and neighborhood settings. The sounds from a well-planned landing area that have appropriately factored in distances in its site selection can result in the sound level at sensitive receptors being typically equal to or less than the current sounds already in the community.

There are few active recreational or transportation activities in the modern world that are completely silent. Historically, the vast majority of heliports do not have any detrimental quality of life issues with the neighboring land-uses.

### **9. Special Use Airspace Considerations**

While the proposed location at the National Golf Club of Kansas City does not reside directly within an FAA designated Restricted or Prohibited area it is however located under the supporting airspace for the Kansas City International Airport. Based on early findings and our assessment of the site location, a favorable letter of agreement with the FAA facility at the Kansas City International Airport is anticipated.



# RECOMMENDATIONS

## SUMMARY

The following is an Executive Summary pertaining to the feasibility and site selection study and design considerations conducted by HeliExperts International LLC for a proposed Private-Use, ground based, Prior Permission Required heliport to be incorporated on the grounds of the National Golf Club of Kansas City located at 6700 North National Drive, Parkville MO 64118.

## SITE SELECTION

At the request of the National Golf Club of Kansas City, HeliExperts International LLC evaluated several locations located on the National Golf Club of Kansas City property and has, in collaboration with executive member's input, identified the primary site for development. Standards used to evaluate the site included all applicable Federal, State and local regulatory and code criteria as well as safety, functionality, longevity and proximity to adjacent properties.

## HELIPORT LOCATION

The proposed heliport site involves a ground based position situated on property adjacent to the National Golf Club's Club House which is located approximately 590' to the East. The approximate location of the center of the heliport is estimated to be:

- Latitude: N – 39° 13' 08.19"
- Longitude: W – 094° 42' 35.65"

## HELIPORT DIMENSIONS

The size of the heliport and its supporting airspace i.e. TLOF, FATO and FATO Safety Area encompasses the following dimensions as outlined by the FAA in their Heliport Advisory Circular, AC 150/5390-2C:

- Touchdown and Liftoff Areas (TLOF): 46' Diameter
- Final Approach and Takeoff Area (FATO): 85' Diameter
- FATO Safety Areas (FSA): 115' Diameter

*\*Note: Nothing is allowed to penetrate the horizontal plane that constitutes the TLOF/FATO horizontal surface area except the heliport perimeter lighting, which can only extend to a maximum height of 2" above the horizontal TLOF/FATO plane.*



## HELIPORT AIRSPACE

The proposed site location is entirely capable of supporting one fully compliant standard approach/departure flight paths to the south which meets the requirements set forth by the FAA for private-use heliport facilities. A functional secondary approach/departure path has been identified to the east which will help assure expanded utilization capabilities during varying wind conditions. Due to vegetation under this flight path this approach/departure path will not meet the 8:1 guideline for a standard approach/departure path but is within the criteria for an FAA determination for a nonstandard approach/departure path. This nonstandard flight path will require the implementation of a power limitation such that helicopter pilots will need to verify that they have what is known as Hover Out of Ground Effect (HOGE) power available before utilizing this approach/departure path.

The predominant winds, based on readings provided by the National Oceanic and Atmospheric Administration (NOAA) taken between 2002 and 2011 at the Kansas City International Airport show specific concentrated directions from the S, SSE, SSW and the NNW. This will favor an East and South approach/departure path.

The prospective ground based heliport located on the National Golf Club of Kansas City property presents an excellent location which will allow for excellent access to emergency vehicles and first responders as well as the main club house and other surrounding local amenities.

Historically, the longest lead times for heliport approvals has been with the local land-use authorities and the aviation approvals with the FAA have always fallen nicely within the minimal time frames. Once the sites preliminary design studies have been completed HeliExperts can suggest using one of its proven strategies for acceptance and hopefully support from the local public safety officials.



## CONCLUSION

HeliExperts feasibility and site selection study has concluded that the selected location, with management's approval and appropriate site decisions, can lead to a safe cost-effective private ground based heliport. The required operational and safety plan and training that will be instituted at this location that will meet all Federal, State and Local requirements as well as industry best practices.

Key elements for this to be accomplished include the following:

- A properly designed site and heliport to support the prescribed dimensions and weight of the design helicopter.
- A heliport who's TLOF is slightly elevated above the surrounding area so as to allow for clear airspace within the heliports vicinity to the extent feasible.
- Adherence to all pertinent design, training and operational standards and criteria as outlined in the International Building Code, International Fire Code, and National Fire Protection Association for heliports. This includes all applicable Federal Aviation Administration regulations and guidance as well as identified industry best practices recommendations.

Respectfully Submitted By

Raymond A. Syms  
HeliExperts International LLC  
Aeronautical Consultant

Rex J. Alexander  
HeliExperts International LLC  
Aeronautical Consultant

# National Golf Club of Kansas City Feasibility & Site Selection Report: 9/8/2016

## Exhibit-A: Inventory of Local Airports and Heliports Within 10NM

There are 8 Heliports and 4 Airports (Public, Private and Military) on record and listed in the FAA 5010 Airport Master Record database located within a 10 nautical mile radius of the National Golf Club of Kansas City proposed heliport site located at:

Address: National Golf Club of Kansas City  
6700 N National Dr  
Parkville MO 64118

Coordinates: Latitude: N – 39° 13' 08.19"  
Longitude: W – 094° 42' 35.65"

ID	CITY	AIRPORT/HELIPORT NAME	WHERE
<b>MO63</b>	KANSAS CITY, MO	ST LUKE'S NORTHLAND HOSPITAL HELIPORT	3.6 nm NE
<b>72MU</b>	KANSAS CITY, MO	EXECUTIVE HILLS POLO CLUB HELIPORT	4.1 nm NE
<b>06MO</b>	WALDRON, MO	NOAH'S ARK AIRPORT	4.4 nm W
<b>MCI</b>	KANSAS CITY, MO	KANSAS CITY INTERNATIONAL AIRPORT	4.7 nm N
<b>19MO</b>	KANSAS CITY, MO	NORTH PATROL DIV STATION HELIPORT	5.8 nm ENE
<b>6KS9</b>	KANSAS CITY, KS	PROVIDENCE MEDICAL CENTER HELIPORT	6.6 nm SSW
<b>SN79</b>	KANSAS CITY, KS	MUNICIPAL OFFICE BLDG HELIPORT	7.5 nm SSE
<b>MKC</b>	KANSAS CITY, MO	CHARLES B WHEELER DOWNTOWN AIRPORT	7.9 nm SE
<b>83MO</b>	NORTH KANSAS CITY, MO	NORTH KANSAS CITY HOSPITAL HELIPORT	8.5 nm ESE
<b>SN60</b>	LANSING, KS	LCF HELIPORT	9.0 nm WNW
<b>SN01</b>	LEAVENWORTH, KS	DWIGHT EISENHOWER VA MEDICAL CENTER HELIPORT	9.1 nm WNW
<b>79MU</b>	SMITHVILLE, MO	DUNHAM PRIVATE AIRPORT	9.8 nm NE