

## Heli Air Sandton - Introduction

- Heli Air Sandton is a helicopter Airport Shuttle Company that will be offering regular airline timetable based flights between the Sandton City Helipads and OR Tambo International Airport
- Heli Air Sandton has identified a site that is perfectly suitable for a helipad, at the main sports field of Sandown High School along Rivonia Road as indicated
- Permission to apply for a permit and licensing from the Civil Aviation Authority and the City of Johannesburg for Heli Air Sandton's use as a helipad has already been granted by the school
- Heli Air Sandton expects the process to be a huge uphill task because of the background of the site
- Only a miracle will enable Heli Air Sandton to begin landing on the site by end of January 2010, so that by May/June 2010, the business and product is well established and ready for huge demand during the 2010 Soccer World Cup
- Without a miracle, the shortest possible time it will take to get all the permits and certification by following the normal rezoning channel is 24 months, if successful

## Background

- More than 2 years ago, helicopters used the Sandown High School ground facility to land
- Usage was stopped by both the Civil Aviation Authority and the City of Johannesburg after residents complained bitterly about the noise
- We suspect the following -
  - The facility as it was used 2 years ago was not formally certified; permitted or licensed for use as a helipad
  - There is no record of a formal application submitted, or any requisite consultation with all stake holders, especially residents before commencement of the landings on the site
  - There was therefore none of the following on the helipad
    - No flight path – helicopters flew from any angles, even above residences at low levels
    - No safety measures
    - No documentation of operation manual, safety and emergency measures
    - No endorsement of the helipad by the most important stakeholder – the residents
  - There was no due regard to the impact of noise to stakeholders in the area, particularly residents
  - It is proper and justifiable that the residents complained and the facility was shut down

- It is also to be expected and fully understood that any future projects of a similar kind would meet the highest possible opposition from residents
- Yet, there are scientific ways, with facts beyond any question or doubt, that a helipad can operate in the same spot with up to 80% to 90% less noise as was the case 2 years ago, in fact, exactly the same noise levels as the sustained noise of cars on Graystone Drive or Rivonia Road or both

### **The challenge**

- Consent is required from all stakeholders, particularly residents, for the City of Johannesburg to consider our unique difficult request
- Residents have such bad memories of the previous noisy landings that they will do whatever it takes to oppose or to not support the helipad, and this is perfectly understandable
- The basis of their opposition is all the wrong things that occurred in the facility two years ago, understandable ignorance of scientific facts
- There is no guarantee that even if the scientific facts are fully known by all stake holders, because some residents will oppose our initiative for the sake of it without any justifiable causes
- We would be unreasonable, irresponsible and insensitive if we assumed and concluded that residents are being unreasonable and unfair in not being open minded and progressive in supporting our initiative

### **Our approach**

We have done extensive research on what is necessary to achieve our desired objectives, and these include the following:

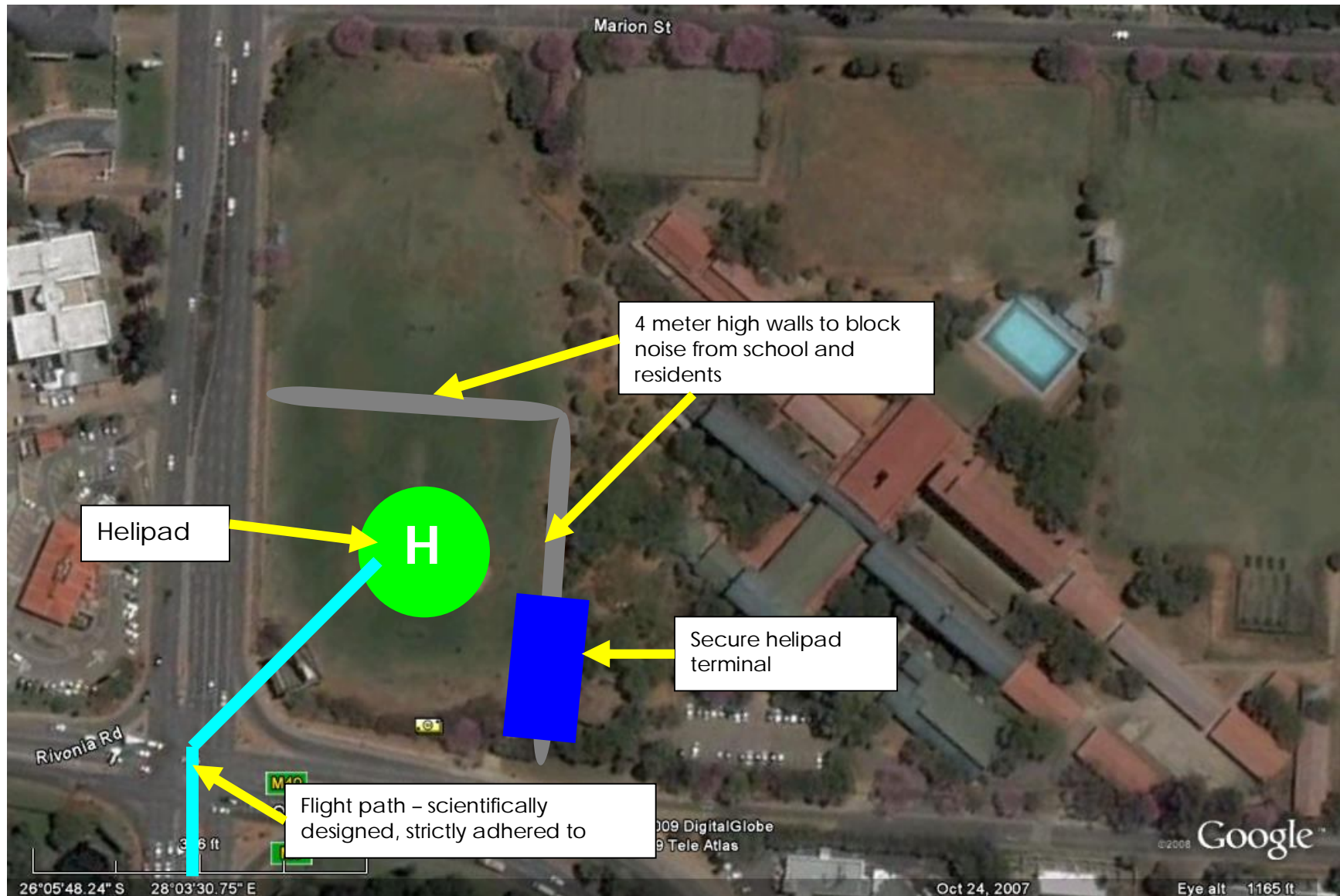
- The need to appoint an expert in the subject of establishing helipads
- The need to be as open, as honest and as inclusive as possible to all the stakeholders, particularly the residents and the City of Johannesburg of our complete process from beginning to end
- The need to facilitate as much engagement at all times with all stakeholders
- Education and information sharing sessions; case studies, statistics etc – with particular reference to the successful Heli Air Monaco and Sky Shuttle Hong Kong
- Campaigning as much for the interest and benefit of stakeholders, as for our initiative – even the slightest misalignment of common interests among all stakeholders will affect our progress

We believe that a huge, aggressive, friendly, informative and factual public information sharing platform is the only way that stakeholders in the area, particularly residents and property owners, can be brought up to date with undisputable facts. From then and only then can engagement be fair and progressive. Our presentation herein attempts to summarize some of the key facts. Our desired outcomes are as follows:

- Persuading all stakeholders, particularly residents in the area to fully support and embrace our initiative to establish a helipad in Sandton City – at Sandown High School; which support and embrace is not forced, coerced, manipulated or obtained unfairly
- A joint campaign by all stakeholders in the area, particularly residents to Council, and to all other regulatory bodies, to push for a speedy approval of a permit and license to operate a helipad in the area
- A joint campaign by all stakeholders in the area, particularly residents to Council, and to all other regulatory bodies, to push for a speedy adoption of a Spatial Development Framework that will accommodate bulk commercial rights to properties in the area
- Creation of more than 300 permanent jobs in the immediate to medium term time frame – unique jobs with high levels of brand new skills I might add – as well as huge business opportunities

**So, here we go.**

## The Helipad Infrastructure in detail



Helipad located at furthest point from most sensitive stakeholder – residents; and noise barriers – 4 meter high walls and even without our “Fly Neighbourly Program”, we will have reduced noise by more than 90%

Reciprocal reward to stakeholders – massive increase in value of properties in the area around the helipad



### **Sandton Helipad**

- Designated for exclusive use by Heli Air Sandton's helicopter landing and take off
- No support facilities such as fuel or hangaring or attendants.
- These are located at Grand Central Airport

### **Size**

- Touchdown area sizes will be 33m by 33m

### **Private Facility**

- A Prior Permission Required *PPR* facility - privately owned and operated, privately funded
- Not open to general public use because
  - Our pilots will receive special training of pilots to follow scientifically designed flight path
  - Our pilots will under go special training for the important "Fly Neighbourly Program" – maneuvers to reduce helicopter noise to acceptable levels
  - Our fleet consists exclusively of Performance Class One helicopters which are not only modern and safe, but are significantly quieter
- The guarantee we make to residents and all other local stake holders is to keep noise at acceptable levels – not a decibel louder than the noise from the Rivonia Road and Graystone Drive; a key condition of establishment of the helipad

### **Security and Amenities**

- Passenger waiting and ticketing areas
- High security associated with direct linking of helicopters to major airlines at OR Tambo International Airport - it is a helicopter airport
- We hope to secure facilities opposite the helipad spot, which facilities are just perfect for typical terminal facilities, including our offices
- Hanger facilities are located at Grand Central Airport

### **Helipad structure - Construction**

- A 60m diameter cement helipad flush with ground level
- Lush green lawn all around

- A sound barrier wall at right angle, and parallel to Rivonia Road

### Regulation

- The CAA will assure that the landing area meets the general requirements for the safe and efficient use of airspace including interfacing with current or planned aeronautical or other use of the subject airspace if any
- The City of Johannesburg will issue license/permit based on its Spatial Development Framework and area zoning codes
- Many municipalities have specific references to Heliports in their land-use regulations; many authorities have included and permitted landing areas as accessory uses of a primary land use.

Yet others require a Conditional Use Permit to operate a heliport, which is a permitting process similar to receiving a building permit, the case with the City of Johannesburg.

### Benefits of the Helipad in the area

#### Economic

- Attracts major corporates
- Increases security in the area
- Hugely increases value of properties in the area, particularly if the City of Johannesburg agrees to our recommendation to plan this area as a major commercial center of Sandton City
- The escalated property values in the area will create a brand new whirlwind of value, new commercial opportunities, and new job opportunities
- Its no coincidence that the wealthiest locations in the US and Europe have helipads; and which came first is always debated, but irrelevant to the point that life is good there, and for all stakeholders
- The City of Johannesburg would benefit from new and additional revenue streams of rates and taxes

#### Emergency/Disaster Relief Support area

- An emergency system of landing/staging areas
- In the event of a local or regional disaster, helicopters can be immediately available for saving lives and property.

- Use by public safety agencies (i.e., fire, law enforcement; resource management authorities) use helicopters and associated heliports. Many such agencies credit their use of helicopters with the very ability to do their missions effectively.

#### Medical Use

- The use of helicopters as aerial ambulances
- An essential part of the total patient-care system, which has resulted in thousands of lives saved.

#### News Gathering/Reporting, Traffic and Safety

- Local TV and radio stations will use helicopters to provide up-to-the second news, traffic reports and, in some cases, lifesaving information to the public

#### Equipment at the Helipad

- Wind indicator
- Some markings
- Fire equipment
- Perimeter and obstruction lighting
- Extensive lighting and ground equipment
- Satellite-based global positioning system (GPS)
- All-weather capability
- Interface with the current airspace structure, air traffic control
- Automated weather observation systems (AWOSs).
- Ground equipment (differential receivers)
- Category I precision instrument for approaches directly to the helipad

## **The Helipad and Noise**

- The sound levels of helicopters are far below that of many accepted noise-producers in our environment
- Trains, lawnmowers, vacuum cleaners, hairdryers, motorcycles, jet planes, buses, trucks, boats and cars all regularly produce noise levels higher than that which the average person would perceive from a helicopter
- The relative distance, nature and intensity of the noise generated, height above the ground, model of the aircraft and 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 modern, light, efficient and much quieter civil helicopters utilized in the vast majority of corporate and executive helicopter aviation
- Typical Helipad activity produces an extremely transitory sound. The entire sound event lasts for only approximately 45 seconds 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 be heard for only 20 seconds or less. This compares very favorably to sounds already found in most neighborhoods. This is quite unlike other transportation uses such as streets, highways, interstate road systems, commuter and freight railroads and certain waterways, where the sound production is almost constant in many circumstances. These freeways, highways, railroads and waterways, in addition to providing enough ambient sound to shield aircraft sounds, also offer an area of relatively unobstructed airspace that is likely to be long-lived.
- We will also reduce the sounds of the helicopter significantly by the use of engineered sound-reduction techniques developed by essentially all the helicopter manufacturers.

## **Scientific Facts – Helicopter Noise – Fly Neighbourly Program**

See “Fly Neighbourly Guide” attached

## **Exhaust Emissions from helicopters**

- Helicopter engines are powered by gas turbine engines which produce very few pollutants

## **Safety**

- Per scientific study, a helipad accident has the frequency of occurring once every 432 years
- Information and historical data reveal that typical helipad have a *perfect* safety record relative to any deaths or injuries to the general public.

### **Impact on property values for adjacent or nearby properties**

- Historical studies as well as real estate appraisal guidelines indicate that property values are not negatively affected due to the proximity of a heliport
- One of the highest per capita income areas in the country, Somerset County, New Jersey, has a large number of private and corporate heliports within some of the finest and costliest estates in the county

### **Steps necessary to develop our Heliport**

- Airspace study from the CAA - Heliport Design Advisory Circulars (AC 150/5390-2B and AC 150/5390-3 respectively)
- An airspace review
- Numerous surveys, extensive field experience and recent case studies

### **Critical factors in heliport development**

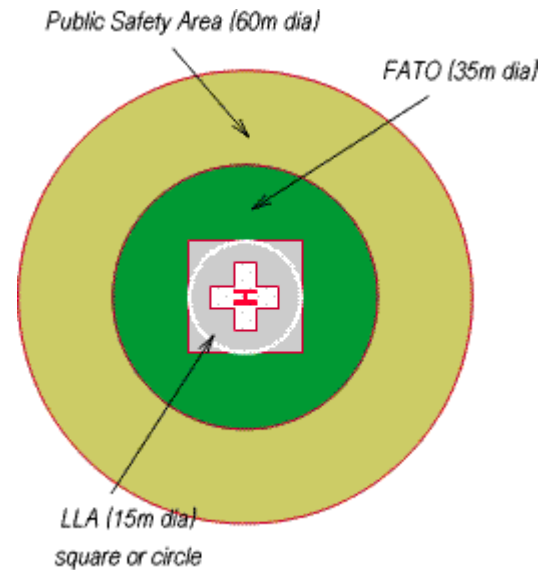
- Local government approval of the project - almost all failed applications occur at this level
- Local governments are highly influenced by voters, and the primary concerns voiced by the citizens are safety, noise, pollution, property value and quality of life
- These issues need to be addressed from the very beginning of any project
- The planning, community effect mitigation and public education process needs to be an integral part of the developmental process
- There is no guarantee of success even for a professionally prepared heliport
- Many failed applications had fatal errors in their planning, design and presentation.

### **Design Issues - Physical Characteristics - Heliport Elements**

- A Landing and Lift-Off Area (LLA), which is capable of supporting the helicopter during normal operations
- A minimum size of the LLA is 15 metres diameter. This area allows for the safe loading and unloading of the helicopter.
- The Final Approach and Take-Off Area (FATO) is the area over which the final phase of the approach to hover or land is completed and from which the take-off manoeuvre is commenced. The FATO surface needs to be capable of supporting the helicopter in the unlikely event that a forced landing occurs. The minimum size of the FATO area is 35 metres diameter.

- A Safety Area surrounding the FATO is an obstacle free area for helicopters accidentally diverging from the FATO. The safety area also includes the separation requirements between public areas and the helipad. The Safety Area must have a minimum diameter of 60 metres unless equivalent public safety is provided by alternative means.

The layout of these components is shown below:



### Helipad Access

- Public access restricted as a safety measure

### Flightpath

- Definitions - normal route taken by aircraft after lift off or prior to landing  
Direction and dimensions of flightpaths to and from our helipad will be defined as part of the helipad planning process

- Flightpath defined in 3 dimensions – Height, Distance, Direction
- Our helicopters operate under the Performance Class 1 criteria will attain a height of 40 metres within 900 metres of the helipad location
- **Protecting Flightpaths**
- Flightpaths will be protected against obstacle intrusion to ensure the continued availability of the helipad  
Protection of the flightpath areas will be achieved by incorporating details of the flightpath envelopes within the relevant municipal planning schemes
- The mechanism adopted to achieve the required level of protection is the Design and Development Overlay (DDO).

### **Helipad Operations**

- Helipad and flightpaths are an asset, procedures and practices will be developed to ensure the helipad asset is maintained and operated in a manner that ensures its continued safety and availability
- Details of the helipad facility and operating procedures will be documented in a Helipad Operations Manual
- A Helipad Manager will be responsible for the continuing safe operation and maintenance of the helipad

### **Helipad Manager**

- Responsibility for the management and care of the helipad and associated flightpaths will be assigned to a Helipad Manager who will ensure the facility is suitable for helicopter use
- The Helipad Manager will also be the contact person for the municipal planning authority or owner of a helipad site (for activities such as maintenance)

### **Helipad Documentation**

A Helipad Operations Manual will be maintained, to record details of

- the helipad facility and of the flightpaths
- normal operating procedures
- security
- emergency procedures

- staff training programs
- maintenance practices

A particularly important part of normal operating procedures is the development of a communications protocol and the training of staff in this regard.

### **Helipad Inspections**

- Inspected daily to ensure the facilities are operational and suitable for use

### **General Information**

Details of the distribution of the Manual, the control and recording of amendments, contact names and numbers - the Manual will include

- General reference to the operation of the helipad and if necessary any disclaimers or restrictions relating to the availability or use of the helipad
- Details of authorized users and procedures to follow when applying for permission to use

### **Helipad details**

Operational details of the helipad including

- Location
- Latitude and longitude including the WGS84 grid
- Description and dimensions of the facilities; markings, lighting, and wind indicator
- Operational weight limits if applicable
- Access and egress details under normal and emergency conditions
- Operational restrictions such as use of Nightsun lights and "avoid" areas
- Communications frequencies
- Adjacent airspace restrictions and preferred operating directions
- Details of flightpaths and obstacles within flightpaths, including magnetic bearing, distance and height above the helipad for all significant obstacles
- Photographs from the helipad LLA and from the approaches are recommended to assist easy identification of obstacles

### **Normal Operating Procedures**

Normal operating procedures will be described and include consideration of

- Serviceability inspection of wind indicators and lights
- Staff details and responsibilities
- Procedures for notifying and responding to an arriving helicopter
- Communications between helipad and helicopter including radio operating procedures and phraseology
- Helipad ground access control including inspection and securing helipad before helicopter arrives, procedures during start-up of the helicopter and inspection of helipad after departure
- Records of helipad use, frequency and duration
- Loading and unloading procedures, including safety of personnel and equipment within helipad boundary
- Procedures for hot unloading (rotors turning)

### **Emergency Procedures**

The Emergency Procedures section of the manual will document the following information

- Definition of emergency situations
- Notification procedures in the event of an emergency
- Response procedures in the event of an emergency
- Rescue guidelines
- Fire fighting guidelines
- Accident site security procedures
- Helipad evacuation plans and routes
- Coordination arrangements with hospital emergency plans
- Personnel accounting procedures
- Emergency contacts list

### **Personnel training**

Details of the training programs for helipad staff in normal and emergency procedures including

- Safety around helicopters and the control of public in the vicinity
- Safety briefings for personnel
- Procedures to review safety measures and practices
- Training programs for new staff
- Currency training for experienced staff

- Accreditation of staff for helipad operations
- Fire fighting and evacuation drills and training

### **Helipad Maintenance**

Procedures and practices to ensure the continuing availability of the helipad, including

- Inspection and reporting procedures
- Notification to AAV in the event of the helipad not being available
- Standard markings
- Non-serviceability markings
- Details of suppliers for equipment and spares
- Details of annual approach surveys and helipad condition reports