**MEMORANDUM**

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| **To:** | William Castillo, DY Consultants |
| **From:** | Ted Baldwin, HMMH |
| **Date:** | July 16, 2012 |
| **Subject:** | Potential Noise Abatement Benefits of the East Hampton Air Traffic Control Tower |
| **Reference:** | HMMH Project No. 305330 |

DY Consultants has asked HMMH to prepare a “white paper” on the potential benefits of the recently commissioned seasonal air traffic control tower at the Town of East Hampton Airport. This memorandum presents a draft for your consideration. It is based on: (1) HMMH’s familiarity with airport operations, noise issues, noise abatement procedures, and related matters from our prior and ongoing work at the airport (both directly for the Town and through DY Consultants); (2) HMMH experience working on noise-abatement issue at similar airports with and without towers; and (3) review of available documentation related to the planning for and assessment of the tower.

**Potential Noise-Related Benefits of the
Town of East Hampton Airport Air Traffic Control Tower**

On Friday, June 29, 2012, a seasonal air traffic control tower initiated operation at the Town of East Hampton Airport (HTO). Prior to that date, the Federal Aviation Administration (FAA) officially designated HTO a “nontowered” airport. Going forward, the tower will be staffed from 7 a.m. to 11 p.m. through the peak traffic season, which ends in late October. At night during that period the airport will continue to operate as a nontowered facility.[[1]](#footnote-1)

The primary mission of a control tower at any airport is ensuring safe operations. However, experience at other airports, FAA guidelines, and the nature of operations and noise abatement measures at HTO provide significant bases for concluding that the tower will enhance the implementation and effectiveness of the airport’s existing voluntary noise abatement procedures.

Some major factors are summarized below.

1. **An air traffic control tower promotes simultaneous achievement of safety and noise abatement objectives.**

At a nontowered airport, pilots use visual observations and radio transmissions to maintain safe separation in the traffic pattern and on approach and departure.[[2]](#footnote-2) In the absence of a central entity coordinating activity, it is only natural for pilots to operate conservatively, potentially at the expense of reduced compliance with noise abatement procedures. However, in the presence of a tower, safety margins are increased when pilots adhere precisely to controllers’ instructions.

The HTO tower staff monitor and direct all traffic within a 4.8 nautical-mile-diameter, 2,500-foot-high cylinder centered on the airport. Pilots must establish radio contact with the tower prior to entering, operating within, or transiting the airspace. The controllers monitor the operations via those radio communications and visual observation, and provide specific directions to pilots regarding runway use, takeoff and landing approvals, altitudes, routings, and coordinating aircraft in the traffic pattern and on arrival and departure routes.

Controllers and other aircrews assume that each pilot will adhere to tower instructions; to do otherwise would be contrary to federal regulations and safe operation. The HTO noise abatement procedures – including altitudes, arrival and departure routes, and helicopter takeoff and landing locations – are one of the primary bases on which the controllers will direct aircraft. *Therefore, safe operation is enhanced by compliance with noise abatement procedures*.

1. **Most noise abatement procedures will benefit from direct controller involvement.**

There are five primary voluntary noise abatement procedures at HTO in effect during the hours of tower operation: (1) recommended helicopter arrival and departure routes, (2) a minimum recommended helicopter cruise altitude of 2,500 feet above mean sea level (MSL), with further recommended minimum altitudes at specific geographic reference locations (as opposed to the FAA guidelines which do not set any minimum altitude for helicopter operations), (3) discouragement of repetitive training operations during the busy summer season, (4) recommended jet use of National Business Aviation Association (NBAA) departure procedures, and (5) a minimum recommended jet pattern altitude of 1,500 feet MSL (500 feet above the FAA standard).[[3]](#footnote-3)

Normal tower control practices directly relate to, and are compatible with, implementation of these measures. For example, assigning helicopters to preferred arrival and departure routes, and assigning helicopters and jets to preferred altitudes ensures that the aircraft are at known positions, enhancing safe separation with reduced need for radio communication. The NBAA departure procedures can affect the rates at which jets climb and accelerate; controllers will ensure that consecutive departures are properly spaced to eliminate conflict. Because repeated training operations can impact efficient operations; during busy traffic periods, controllers at most airports routinely request that pilots either refrain from these operations altogether, minimize repetitions, or conduct them at another location or time, to avoid interference with arrival and departure activity.

1. **An air traffic control tower is particularly valuable for promoting understanding of and adherence to non-standard elements of preferred procedures.**

The helicopter minimum altitudes and jet pattern altitudes at this airport are examples of elements of this airport’s noise abatement program that differ from routine FAA guidance; tower operations will improve implementation of these measures. The town, airport, and Eastern Region Helicopter Council, which collaborated in developing the procedures, continue to pursue ambitious actions to advertise and promote compliance with the helicopter procedures. However, clear and direct instructions from controllers will assist in maximizing compliance, by assuring pilots that the procedures are being implemented in a consistent and coordinated fashion.

1. **An air traffic control tower enhances effective communication of preferred noise abatement procedures.**

While many pilots operate into and out of the airport frequently, some pilots may only operate there occasionally. Less-frequent operators will not be as familiar with specific procedures and visual reference points that they utilize, such as local geographic features. The controllers’ elevated, central position, familiarity with the area, and ability to judge the an aircraft’s location based on experience gained while observing and guiding regular operators provides them with the ability to verbally instruct less-familiar pilots on where to look for and how to recognize landmarks. In addition, they can point out other aircraft operating in the area that the pilots should follow, and provide guidance to ensure that the aircraft maintain safe spacing along the preferred routes. Providing improved information to pilots enhances their ability to comply with noise abatement procedures.

1. **An air traffic control tower provides a basis for determining the need for adjustments to preferred procedures.**

The controller’s perspective is more comprehensive than that of individual pilots or airport staff, and provides them with an exceptional overall understanding of operations, interactions, and situations where conflicts may arise. This perspective provides a basis for assisting in evaluating and adjusting procedures and the way they are communicated, to maximize safe and effective implementation.

1. **An air traffic control tower supports effective communication of revised noise abatement procedures.**

Over time, changes in activity level, fleet mix, operating conditions, land uses, or other factors may lead to revision of noise abatement procedures; the recent agreement to cease use of the Northwest Creek inbound helicopter route is an example. An air traffic control tower will provide a basis for safely communicating the change, and effectively implementing replacement instructions. This communication may be particularly important to frequent operators who are accustomed to following previous procedures and, for less-frequent operators, in eliminating potential confusion due to out-of-date guidance materials. Once again, this tower will simultaneously achieve safety and noise abatement goals.

1. **An air traffic control tower provides a basis for investigating feedback regarding potentially noncompliant operations.**

The controllers’ overall perspective and active role in directing traffic also provides a basis for investigating apparently abnormal operations. The controllers will be aware of circumstances that may have led to the abnormality, such as unusual weather or traffic conditions, emergency operations, etc. This level of information is unavailable at a nontowered airport. The controllers’ input can help to assess whether nonconforming operations were necessary for safe operation rather than, say, the result of unfamiliarity with preferred procedures. The tower feedback can help identify the need for improved communications and training in such a situation.

1. **An air traffic control tower provides a basis for monitoring activity levels.**

The controllers will maintain a count of activity according to standard FAA classifications; such as “local” traffic that remains in the tower-controlled airspace versus “itinerant” traffic that commences from or continues beyond that airspace. This type of recorded data will permit objective, accurate, assessment of activity trends, and eliminate a potential area of uncertainty in stakeholder discussions. Controller experience will provide an additional basis for understanding airport operations.

1. **Precedent demonstrates FAA support for the role of an air traffic control tower in implementing voluntary noise abatement procedures.**

Nearly all noise abatement measures in the U.S. are voluntary. In formal noise studies, the FAA usually approves procedures on an “informal” basis, with tower assistance as “wind, weather, and traffic permit.” Furthermore, precedent indicates that FAA recognizes the value of controller involvement and supports improving compliance through changing from nontowered to towered operation.

Fort Lauderdale Executive Airport provides an example of such a situation. In a Part 150 study conducted in the late 1980s, the FAA formally and unconditionally approved a nighttime preferential runway and associated departure heading. However, the airport tower was not staffed during the overnight shift, resulting in negligible compliance. The airport and FAA subsequently entered into a reimbursable agreement for a single controller at night. Evaluations in subsequent Part 150 studies revealed that the arrangement led to high levels of compliance with preferred procedures and significant, quantifiable noise reduction. Subsequent amendments resulted in FAA approval of similarly successful noise abatement flight tracks off the non-preferential runway end.

This example demonstrates that the FAA acknowledges and supports the noise abatement benefits of an operational tower, even when it is not otherwise required under FAA criteria for safe operation.

1. **Published FAA guidance and rules recognize the agency’s direct role in balancing operational and environmental concerns, consistent with safe operations.**

FAA Advisory Circular 91-36D, Visual Flight Rules (VFR) Flight Near Noise Sensitive Areas,” states the following under its purpose: “This Advisory Circular (AC) encourages pilots making VFR flights near noise-sensitive areas to fly at altitudes higher than the minimum permitted by regulation and on flight paths that will reduce aircraft noise in such areas.” The AC goes on to note that “the FAA recognizes that there are locations in National Parks and other federally managed areas that have unique noise-sensitive values. The Noise Policy for Management of Airspace Over Federally Managed Areas, issued November 8, 1996, states that it is the policy of the FAA in its management of the navigable airspace over these locations to exercise leadership in achieving an appropriate balance between efficiency, technological practicability, and environmental concerns, while maintaining the highest level of safety.” While the land around the Town of East Hampton Airport is not a national park or federally managed, this statement shows that the FAA recognizes its responsibility to balance operational and environmental concerns in a safe manner.

In a locally relevant action, on Friday, July 6, 2012, the FAA published a Final Rule for the “New York North Shore Helicopter Route.”[[4]](#footnote-4) The rule *requires* helicopter pilots to use the route when operating along the north shore of Long Island. It specifically states that “[t]he purpose of this rule is to protect and enhance public welfare by maximizing utilization of the existing route flown by helicopter traffic one mile off the north shore of Long Island and thereby reducing helicopter overflights and attendant noise disturbance over nearby communities.” This action demonstrates that FAA will actively control aircraft for noise abatement purposes.

1. Nontowered airports are not unusual; in fact they are the norm; at present, some 20,000 airports in the U.S. are nontowered, compared to approximately 500 that have FAA towers. Ref. <http://www.aopa.org/asf/publications/sa08.pdf> (last accessed July 13, 2012). [↑](#footnote-ref-1)
2. Several specific federal regulations and FAA publications define required and recommended procedures at nontowered airports. CFR 91.113, CFR 91.126, and CFR 91.127 define basic right-of-way and traffic-flow rules. The FAA’s “Aeronautical Information Manual: Official Guide to Basic Flight Information and [Air Traffic Control] Procedures,” and Advisory Circular 90-66A, “Recommended Standards Traffic Patterns for Aeronautical Operations at Airports without Operating Control Towers,” expand on the regulations. [↑](#footnote-ref-2)
3. A sixth measure is in effect during the nontowered hours: a request for all aircraft to voluntarily refrain from operating between 11 p.m. and 7 a.m. [↑](#footnote-ref-3)
4. Federal Register, Vol. 77, No. 130, Friday, July 6, 2012, 39911. [↑](#footnote-ref-4)