February 28, 2014

Memorandum to: Councilwoman Kathee Burke-Gonzalez

From: Airport Planning Committee, Noise Sub-committee

Re: Preliminary Findings and Recommendations - Practices and Projects

At its second meeting, held on February 24, 2014, the Airport Planning Committee, Noise Sub-committee, discussed with Jim Brundige, East Hampton's airport manager, various projects of immediate safety concern. As a result of that discussion, and with a view to ensuring the safe operation of the airport while conserving its resources, the subcommittee has certain preliminary findings and recommendations that it wishes to bring to the attention of the Board, the aviation community, and the general community for discussion and comment. We think it necessary to bring these matters to the attention of the Board promptly because safety should be addressed without delay, but, to the extent possible, in a manner that does not complicate planning alternatives that are yet to be considered.

This memorandum is designated preliminary to elicit comment and criticism from all interested parties before proceeding, or not, to make definitive recommendations.

We request that you circulate our memorandum to the members of the Town Board, the airport manager, the members of the Aviation Sub-committee of the Airport Planning Committee, and any other parties you may think can usefully comment.

1. Contracting Procedure: The procedure for contracting for airport projects should not take as their default that the Town's retained airport engineering consultant,

DY Consulting, will be either the project designer or manager. Project design and management should be put out to bid with competent firms. In particular, for matters that are not highly aviation-technical (e.g., deer fencing), consideration should be given to RFP's or bid packages that are for "design and build." If a bid is to be awarded or proposal accepted, it is then appropriate for the retained airport engineering consultant to confirm specifications.

Discussion: The Town's retained airport engineering firm, DY Consulting, like many firms that practice in the aviation field, is accustomed to operating in an FAA-dominated business environment. As the FAA pays 90% of the costs for projects that it funds with airport improvement grants, the FAA is the *de facto* client of consultants and engineers for projects that it funds. The airport sponsor often has a secondary role or minimal role that does not go beyond approving or disapproving the project although it is formally the client. Whatever the FAA is willing to pay is thus by definition what the market will bear. The FAA in turn is not necessarily interested in the most cost-effective approach. Apart from having deep pockets, it is useful to the FAA to have a roster of consultants and engineers with whom it regularly works and who are responsive to its institutional and technical needs. It is willing to pay for this.

On projects that East Hampton is paying for out of airport resources, this system does not well serve East Hampton's need for the best design and construction and the best price. The best way to achieve that result is a fully competitive system of bidding/RFPs that does not accord to any vendor, including the retained airport engineering consultant, an inside track on town business. The necessary and proper role

of the retained engineer should be to assist the town in achieving the optimal outcome. To the extent that the retained engineer is the default vendor of design and engineering services, this constitutes a conflict of interest to be avoided.

Many projects have only modest requirements of a specialized aviation nature. Whereas it may be appropriate to have specialized aviation engineering and/or design firms supervise projects that have a significant technical aviation component, many projects do not. For such projects, it may suffice and be much more cost-effective to have competent firms bid for both design and construction with the town's aviation engineering consultant confirming specifications. Even for such matters as paving, specification of load-bearing strength and related technical elements may suffice without need of specialized aviation engineering supervision.

2. <u>AWOS</u>: The Town should continue for the 2014 year to use Sound Aviation to provide FAA-certified weather during hours when the ATC is in operation, as Councilwoman Burke-Gonzalez has indicated the Town is inclined to do.

Discussion: The design of the current AWOS was de-certified by the FAA, although the equipment is only seven years old. The AWOS is a level 2 system. The airport manager would like to buy a level 3 system at a cost in the neighborhood but upward of $250,000.

FAA-certified weather is required for operation of the ATC. However, Sound Aviation has provided this service and can continue to do so at a reasonable cost. The future of air traffic at East Hampton is part of the subject matter of the current planning

effort and is therefore yet to be determined. For that reason, the ultimate need for a seasonal tower has yet to be determined. The permanent AWOS need, and the priority it should be given among other capital projects, is therefore uncertain at this time.

Insofar as FAA requirements and safety needs can be met currently at an acceptable cost that is surely not greater than the cost of a level 3 AWOS when taking into account both finance charges and depreciation, it is appropriate to defer the matter of the AWOS to completion of the full set of proposals for airport operations, finances, capital, and noise control.

3. <u>Deer and security fencing</u>: The town should complete the enclosure of the airport with fencing of the same type as the current deer fence that will exclude deer from the airfield but also serve the secondary function of requiring all foot traffic entering the field, or exiting during normal hours, to use the terminal building. Suitable access for airport tenants and pilots and for after-hours egress can and should be provided by means that are commonplace (codes on gate locks, exit door push bars, etc.). This does not require high-tech security fencing or elaborate design or the replacement of existing deer fencing. To the extent that there are holes in the existing fencing, it should be repaired. This is the type of project that should be considered for design and build bidding as there are few elements that are of a technical aviation nature in the absence of any need to meet FAA design requirements.

The alternative of completing the deer enclosure with a long (fenced) cattle grate on the road and security cameras for the tarmac should be considered as possibly both cheaper and ultimately more effective than completion of an enclosed perimeter.

Discussion: Two years ago, at the Town hearing on the subject of airport deer fencing, there were multiple representations by pilots that deer on runways pose a serious threat to aviation safety. Yet, in the intervening two years, nothing has been done to close gaps in the existing deer fence. Rather, the proposed deer fence has evolved into an elaborate and expensive anti-criminal/terrorist security fence.

There is no need for a heavy, high security fence at East Hampton. Such minor thefts as have occurred are common to parked automobiles and are better addressed by insurance and diligence on the part of pilots to lock aircraft. There are no threats of a terrorist nature at East Hampton, particularly in the absence of scheduled passenger service such as exists at Islip. Further, high security cannot be provided by a passive fence alone. While a fence may suffice to exclude wildlife or casual entry by people, it is too easy for an intruder with criminal intent to breach or go over an un-patrolled fence. Thus, a high security fence implies active monitoring and patrolling miles of perimeter, an expense surely not justified in East Hampton.

While a high security fence is not justified, the airport manager argues persuasively that it should not be possible for casual or thoughtless people with no proper business on the field to enter. But the need to exclude from the field can easily be met with a full deer fence enclosure, using fencing of the type that currently exists, with suitable access and egress for authorized users.

The appropriate place to close existing gaps in the deer fence is in the immediate vicinity of the terminal building. To do this, however, requires building deer fencing on the south side of Daniels Hole Road. So long as the road requires a gap in the fencing, it

is impossible completely to enclose the field. This in turn requires fencing proximate to the approach end of Runway 16, which means within the runway safety area and object-free zone. The airport manager reports that there exists frangible fencing that can be used for this purpose in the vicinity of the runway end that meets FAA safety requirements.

An approximate route for completion of the deer fence should be determined by the airport manager in consultation with the aviation community. Likewise the location and type of access and egress should be determined in consultation with the aviation community and our police, fire, and safety workers. The specification for the short section of frangible fencing needed in the runway safety area of runway 16 should be provided by the Town's airport engineering consultant. The project should then be put out on a design/build RFP.

It is also at least possible that a cheaper and ultimately more effective solution might be found in: a) cameras and signage for security and b) a long, fenced cattle grate on the road and vehicle gates at the existing perimeter to preclude unauthorized vehicular access. This requires at least discussion with, and advice from, experts in security on the one hand and wildlife management on the other, neither of which has yet to be undertaken despite more than two years of public discussion concerning deer and security fencing. This discussion and consultation should be had prior to any further investment in design or construction of fencing.

The "80/20" rule of economics should also be kept in mind. It often requires only 20% of the cost to achieve 80% of the benefit with the remaining 20% of the benefit costing five times as much or being unachievable at any price. In this case, eliminating 80% of the current exposure to unauthorized entry by people and to deer on the field may

be enough, particularly if active, rather than passive, measures are adopted for the balance, such as security cameras for the tarmac and culling of deer that do find their way onto the airfield.

4. Taxiway Lighting-power supply: The electrical service to taxiway lighting should be reconstructed using conduit.

Discussion: Functional taxiway lighting is an important safety element. Power for the current system is provided via a buried 5,000V cable that is not protected by conduit. Ground-faults have been occurring, disrupting service, but can only be expected to continue given the high voltage and lack of protection for the cable. Repairing faults as they occur cannot solve the problem.

The current problems appear to be entirely due to the power cable, the result of the poor design choice at the time of installation. The fixtures and control system do not need to be replaced at this time. The appropriate means of replacing existing power cable and providing for service for the future completion of the full parallel taxiway for the main runway is first to run conduit to serve the power needs of taxiway lighting and then to re-cable, abandoning the existing buried cable.

Not unlike the deer fence, this project does not appear to require specialized aviation expertise or highly specialized knowledge of the lighting system itself. The need is for protected power cable. Accordingly, this project too should be considered for design/build RFP and should proceed expeditiously and with high priority.

5. <u>Taxiway Lighting-LED fixtures</u>: The lighting fixtures themselves and the control system are functional and should not be replaced at this time unless it can be demonstrated that it is cost-effective to do so.

Discussion: There is a separate issue whether the taxiway lighting fixtures should be replaced with LED fixtures. This is analytically a different question than whether to replace the power cable as replacement of the fixtures is not necessary for the lights to function or in order to avoid continuing and rising repair costs for ground faults of the power cable. Rather, the question with regard to the fixtures is whether savings in energy costs and replacement costs of installing LED fixtures are more or less than the costs of financing the replacement. If the savings are more, the net result would be an improvement in airport cash flow even after financing. If the savings are less, the net result would be a reduction in airport cash flow. This should be avoided to conserve capital and debt capacity for more important projects. It is also possible that it is most cost-effective to replace existing fixtures only as they fail because the energy savings alone are not sufficient justification. This is a matter of strict cost accounting as to which we do not express any view here because there has been to our knowledge no investigation.

That said, several members of the committee with experience in construction and/or energy conservation think it likely that LED fixtures would realize net cost savings, even after financing costs. This is heavily dependent, however, on the duration

of daily use. If, for example, the airport should ultimately be subject to a curfew, as required by the 1989 Airport Master Plan, the hours during which the lighting would be needed would be considerably reduced. Also, it may be much more economic than re-fitting for these lights to be under pilot or automated control, in which case the actual hourly operations could be very, very low even if 24-hour operations continue. It appears to us timely to obtain the relevant information, but a decision may therefore be premature.

Questions to be answered include:

a. What are the expected costs savings with LEDs and over what period of time?

b. Does the wiring need to be different for an LED system than for the existing system?

c. Must an LED system be installed all at once or can individual fixtures (possibly including local voltage transformers) be installed as existing fixtures fail?

d. What are the actual hours of use of the system and can these be minimized with pilot-controlled or automated lighting that is only on when actually in use by aircraft?

e. What assumptions need to be made about replacement rates, from all at once to as they fail, in order to find the breakpoint for fiscal economy?

6. <u>Pavement</u>: Rather than repairing old runway 4-22 as a taxiway, consideration, based on immediate rough costs estimates, should be given to the completion of the full parallel taxiway for the main runway. If this cannot be accomplished by the beginning of the summer and as quickly as repaving a length of old 4-22 as taxiway, consideration should be given to a truly stop-gap repair of 4-22 as taxiway that is understood not to have a useful lifetime beyond the current year. This would minimize the costs of 4-22 rendered obsolete by completion of the parallel taxiway.

Discussion: Old runway 4-22 is used as a taxiway because of the gap in the parallel taxiway for the main runway. The condition of the pavement is considered so poor that it is recommended for immediate repair. However, cursory examination of the airport plan discloses that the paving necessary to complete the full parallel taxiway for the main runway is less than that required to repair 4-22 as a taxiway,

The airport manager concurs that the utility and efficiency of the field would be far better served by having a full parallel taxiway than by continuing to rely on old 4-22. Given that the pavement of 4-22 likely has to be milled off before a durable repair could be made, the full parallel taxiway may very well be the cheaper as well as more useful alternative. For theses reasons, it is recommended that completion of the full parallel taxiway be the preferred alternative with high priority.

If it is considered infeasible to complete the taxiway by summer, a stopgap repair of 4-22 should be considered quickly in order that a more durable repair not be rendered immediately obsolete by the subsequent completion of the taxiway.

7. Tree trimming: To follow after provision of additional information by the airport manager.

Respectfully submitted,

Airport Planning Committee, Noise Sub-committee