The Commonwealth of Massachusetts
Office of the Inspector General

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Mayor Carolyn Kirk
City of Gloucester
9 Dale Avenue
Gloucester, MA 01930

Dear Mayor Kirk:

The Office of the Inspector General has completed a review of the City of Gloucester's Fire Headquarters Repair Project (contract no. 88151) that has identified performance issues and unnecessary spending.

The approximately $270,000 project[1] consisted of repairs meant to alleviate some of the more urgent problems facing a deteriorating 90 year old building with serious structural and systemic flaws. For example, the building had a significant water drainage issue that led to structural damage. The project scope included a new drainage system.

The drainage system consisted of two major parts, a new drain system on the bay floor (where vehicles are stored) and a new ejector basin (sump pump system) in the basement. The design intended both measures to address the damage done to the bay floor over time by water infiltration. Pooling water on the bay floor and moisture build-up from water in the basement below the bay floor led to the deterioration of the concrete. This deterioration rendered a section of the floor structurally deficient requiring that it be replaced during the project. Approximately $154,000 or nearly 70 percent of the $230,000 construction cost can be attributed to addressing the water/drainage issue (including bringing the drainage systems up to code.)

This Office has observed that despite this expenditure, water drainage issues remain. This appears to be attributable to the following:

- Settlement: the bay floor is uneven and has a number of low points. As a result, the floor does not "pitch" towards the newly installed drains and water still accumulates or pools in a number of areas. Either the entire bay floor would need to have been replaced or new drains installed at every "dip" in the floor.

[1] $230,000 for construction and $40,000 for design work.

According to staff, the repairs have made it easier to eliminate pooling water by sweeping or using a “squeegee” to push it into the new drains.

- Possible Error: to correct the basement flooding issue the architect approved the installation of a new water ejector system (sump pump) in the basement as recommended by the mechanical engineer hired by the architect. However, this Office has observed standing water in the basement and according to City staff, the specified ejector installed by the contractor may not have been suitable for this application. During our review, we noticed a small “off the shelf” sump pump in use in the basement. According to fire department staff, the former Fire Chief installed this pump to deal with the continuing post-construction basement water accumulation.

Because of the continuing water drainage issues the structure is still vulnerable to the same deterioration as before and this could undermine the value of any repairs made recently.

The City should immediately investigate possible cost recovery action against the architect and/or the engineer who worked for the architect. The City should consider this step to protect its investment in the Fire Station and to ensure that the work it paid for will perform as intended and as promised.

In addition to the unresolved water drainage issues, this Office identified the following issues:

a. The construction contractor invoiced the City and the architect approved payment for $1,000 in permit fees. According to the contract, the contractor did not have to pay City permit fees (as this was a municipal project) and according to the building department no fees had been collected.

   The City should investigate obtaining a refund from the contractor for this fee.

b. The original “ejector basin” specified for the basement, when delivered, would not fit through the basement door. As a result, the City had to approve a $534 change order for a different two-part ejector that could be dismantled so it would fit through the door. This added cost should have been the responsibility of the architect and not the City. The architect should have ensured that a piece of equipment the firm included in the design would have fit through the door.

   The City should include this item in any cost recovery action it considers.

c. The contractor installed new electric sensors on the overhead doors for the bay floor. Post-installation, the contractor discovered that the door motors and the new sensors had incompatible technology. As a result, the City approved more

than $4,000 in change orders to install new motors compatible with the new sensors. Again, the added cost should not have been the City's responsibility. The architect should have performed due diligence to ensure that a new component would be compatible with an existing component.

The City should include this item in any cost recovery action it considers.

d. A concrete patch on the basement floor near the hose tower is already cracking and crumbling because the concrete did not bond to the subsurface. This is defective work that should have been identified as a punch list item before contract close-out and before the City released all retained funds to the contractor.

   The City should contact the contractor to see if the contractor will make repairs at no cost to the City under the contract's warranty language.

e. The construction contract required concrete testing for any new concrete placement. Documents provided by the City to this Office do not indicate that the contractor performed testing and staff questioned by this Office could not recall any testing being performed or the contractor obtaining concrete samples for testing. Besides being a contract requirement, this testing is required to ensure that the concrete is of adequate strength and durability for use on the bay floor.

   The City should determine if the contractor performed testing. If testing had not been performed the City should determine if it is now necessary. If necessary, the City should contact the contractor to see if the contractor will perform the testing at no cost to the City under the contract's warranty language. If testing is unnecessary, the City should investigate obtaining a refund from the contractor for the value of the work specified in the contract but not performed.

This Office requests to be informed concerning how the City intends to address the issues identified in this letter and the resolution of these issues when completed. Thank you for your cooperation.

Sincerely,

Gregory W. Sullivan

Gregory W. Sullivan
Inspector General

cc: Philip Dench, Chief, Gloucester Fire Department