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**CLARK COUNTY**  
WASHINGTON

**AUDITOR**  
GREG KIMSEY

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**Department of Community Development**

**Fire Marshal's Office Performance Audit**

**Clark County Auditor's Office**

**Report #06-02**

**June 7, 2006**



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## **EXECUTIVE SUMMARY**

The Clark County Fire Marshal's Office (FMO) is under the direction of the county's Department of Community Development. FMO conducts annual inspections of "existing occupancies" (for example, schools, churches, restaurants, apartment buildings and certain businesses).<sup>1</sup> FMO also investigates fires to determine cause, reviews development and construction plans, and inspects construction to assure consistency with Fire Code requirements.<sup>2</sup>

FMO's workload has been driven by the significant population and construction growth that Clark County has experienced in recent years. The total number of inspections, investigations, and plan reviews conducted by FMO in 2005 has increased by 28% since 2002. (See Table 1, page 6.) FMO's staffing level has remained relatively constant since 1999, totaling either 9 or 10 FTEs annually.

### ***General Fund Support***

FMO's primary funding sources are fees charged for inspections and plan reviews, and support from the General Fund. General Fund support has remained relatively constant since 2001, at annual amounts ranging between \$472,000 and \$482,000. The percentage of General Fund support, however, has decreased in recent years from 67% of FMO's total funding in 2001 to 51% in 2005. (See Chart 2 and Table 2, pages 7 and 8.)

We could not find a written policy that allocates General Fund support between functions. We chose to allocate in proportion to staff hours charged to each FMO function, and found that in 2005, the General Fund supported 62% of the costs of the Fire Marshal's largest workload, the conduct of annual fire inspections of

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<sup>1</sup> Single family residences are generally not inspected, unless a fire permit is required—for example, for installation of a sprinkler system.

<sup>2</sup> Chapter 15.12 of the Clark County Code adopts the International Fire Code.

existing occupancies.<sup>3</sup> Revenue collected from fees covered the remaining 38%. (Table 2)

The Department of Community Development performance audit<sup>4</sup> completed in December 2000 made several recommendations regarding the department's fee-setting practices. The Board of County Commissioners subsequently adopted policies addressing the audit's recommendations, including the preferred level of General Fund support. FMO fees for annual fire inspections were not covered by the audit. Consequently, the Board may wish to consider establishing a policy directed at the preferred level of General Fund support for this effort.

### ***FMO's Inspection Program***

State law requires that counties inspect existing occupancies and new construction to assure compliance with the Fire Code. Counties have discretion regarding the type and number of properties to inspect.

FMO has determined that staffing levels preclude inspecting all of the county's existing occupancies. The FMO's goal is to annually inspect the high-risk properties—about 25 to 30 percent of the existing occupancies in Clark County each year. There are opportunities for FMO to increase the number of properties it inspects, and provide more assurance that it has identified all properties which should be inspected. Consequently, **we recommend** that the Department of Community Development, with policy direction from the Board of County Commissioners, consider the following modifications to FMO's current practices:

- Setting up inspection schedules that focus on the geographic proximity of the facilities to be inspected.

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<sup>3</sup> General Fund support was allocated based upon the proportion of staff-hours charged to each FMO function—annual inspections, new construction review and inspection, land use plan reviews, and investigations.

<sup>4</sup> "Performance Audit of the Community Development Department, Clark County, Washington," by Citygate Associates, December 2000

- Discontinuing the requirement that inspectors make appointments before conducting inspections.
- Reducing paperwork by taking advantage of digital technology such as mission-specific software and hand-held personal digital assistants (PDA's) for recording inspection results.

We found that FMO conducts many “reinspections” in order to assure that violations noted during inspections are corrected. We analyzed 883 inspections conducted in 2005 and found that FMO was required to conduct a reinspection to assure compliance in 47 percent of those cases. More than one reinspection was required in 14 percent. We found that FMO rarely charges fees for reinspections. The assessment of the fee is at the inspector’s discretion—if progress toward compliance is considered adequate, no fee is charged.

We found that FMO classifies reinspections in its Tidemark database to include telephone call follow-ups, as well as labor-intensive site visits by the inspector. As such, FMO’s data is not a good indicator of the amount of labor being devoted to reinspections.

Consequently, **we recommend** that the Department of Community Development, with the concurrence of the Board of County Commissioners:

- Define reinspections as on-site follow-up visits by inspectors, and track the number being conducted.
- Track the number of cases which require more than one reinspection. Consider charging reinspection fees more frequently to achieve compliance.
- Track the number of cases that are closed after concluding, based upon telephone call follow-up, that violations have been corrected. Identify and categorize the types of violations involved, and make policy changes if data indicates more reliance should be placed on on-site follow-up.

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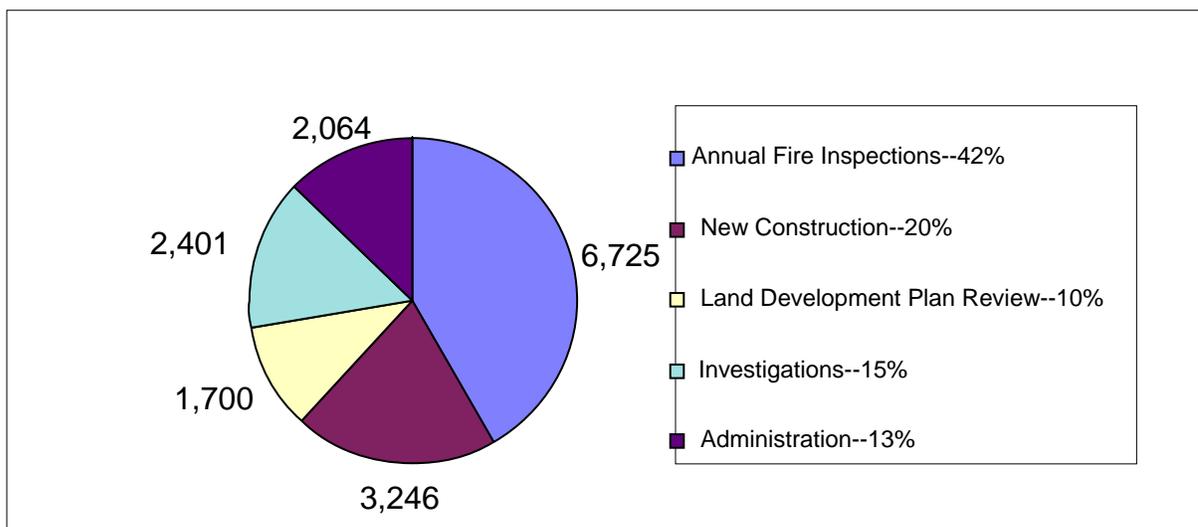
## BACKGROUND

The Clark County Fire Marshal's Office (FMO) is under the direction of the county's Department of Community Development. FMO conducts annual inspections of "existing occupancies" (e.g., certain businesses, churches, restaurants, and other properties)<sup>5</sup> that require an annual fire permit to operate in accordance with International Fire Code provisions. FMO also reviews plans for and conducts inspections of new building construction, and reviews plans for land development such as proposals for subdivision construction. A final major responsibility is investigative—FMO investigates fires to determine cause.

FMO's workload is largely driven by (1) the number of new facilities requiring plan review and inspection, (2) the number of existing occupancies requiring inspection, and (3) the number of fires requiring investigation.

The following chart shows how FMO's staff resources were used in 2005. The chart is based on the number of hours staff charged to each of FMO's major programs.

CHART 1: Number of Staff Hours Worked in 2005



<sup>5</sup> See Appendix B for a categorization of the types of businesses inspected in 2005.

Clark County has undergone significant construction and population growth in recent years. FMO's workload has been driven by this growth, increasing overall by 28% since 2002. The following table shows that FMO's inspection and plan review workloads have both increased substantially.

Table 1: FMO Workload by Category, 2001-2005

<b>Program</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>% Change 2002-2005</b>
Annual Fire Inspections	1,840	2,178	2,196	2,376	<b>+29%</b>
New Construction Inspections	696	766	868	968	<b>+39%</b>
Land Development Plan Review	817	1190	1295	1101	<b>+35%</b>
Investigations	230	128	172	126	<b>-45%</b>
<b>Totals</b>	<b>3,583</b>	<b>4,262</b>	<b>4,531</b>	<b>4,571</b>	<b>+28%</b>

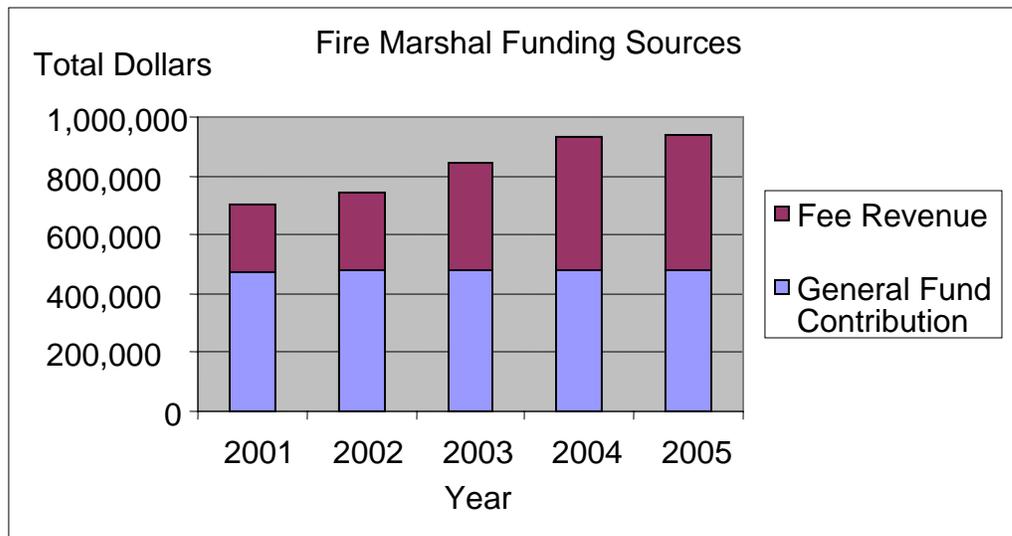
FMO's staffing level has remained relatively constant at either 9 or 10 FTEs each year since 1999. FMO's current staffing totals 9 Full Time Equivalent positions (FTEs), consisting of the Fire Marshal, three Deputy Fire Marshals, four inspectors, and one administrative staff.

## **GENERAL FUND SUPPORT**

FMO's primary funding sources are fees charged for Fire Code inspections and plan reviews and support from the General Fund. In 2005, FMO received about half of its funding from the General Fund and half from fees.

The table below shows the funding amounts and sources from 2001 through 2005. As shown, the amount of annual General Fund support has remained relatively constant over this period, ranging from \$472,000 to \$482,000. However, the percentage of support from the General Fund decreased from 67% in 2001 to 51% in 2005.

CHART 2: Funding Sources for Fire Marshal's Office



We estimated the amount of General Fund support provided in 2005 to each Fire Marshal program—inspections, fire plan review, investigations, and administration. We could find no written policy which allocates General Fund support between functions. Consequently, for purposes of this review, we allocated General Fund dollars in proportion to the number of hours staff had charged to each program during the year.

The following table shows that General Fund support covered an estimated 62% of the costs of the Fire Marshal's largest workload, annual fire inspections, with fee revenue covering the remaining 38%.

Table 2: General Fund Support Provided to Fire Marshal in 2005

<b>Work Program</b>	<b>Fee Revenues</b>	<b>General Fund Support</b>	<b>Total Funding</b>	<b>Level of General Fund Support</b>	<b>Level of Fee Revenue Support</b>
Existing Occupancy	\$123,805	\$202,638	\$326,443	62%	38%
New Construction	169,387	96,494	265,881	53%	47%
Fire Plan Review	163,273	72,371	235,644	29%	71%
Investigations	1,080	48,247	49,327	99%	1%
Administration	0	62,722	62,722	100%	0
<b>Totals</b>	<b>\$457,545</b>	<b>\$482,472</b>	<b>\$940,017<sup>6</sup></b>	<b>51%</b>	<b>49%</b>

The Department of Community Development performance audit<sup>7</sup> completed in December 2000 made several recommendations regarding the department's fee-setting practices. The Board of County Commissioners subsequently adopted policies addressing the audit's recommendations, including the level of General Fund support. However, cost recovery policy for annual fire inspections has not been addressed subsequent to the 2000 audit. Consequently, the Board may wish to consider establishing a policy directed at this issue.

According to the Department of Community Development, fees related to FMO's new construction and land development plan review workloads are now covered by existing county policy regarding General Fund support, as follows:

- Starting in 2006, FMO's new construction fees are categorized as building fees. County policy establishes that building fees are to be sufficient to recover costs with no General Fund support. Table 2 shows that in 2005 an estimated 53% of these costs were supported by the General Fund.
- Also in 2006, fees for FMO's reviews of land development plans are categorized as development services fees. County policy is that development services costs be recovered with 10% General Fund support. Table 2 shows that 29% of these costs were supported by the General Fund in 2005.

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<sup>6</sup> In 2005, FMO costs exceeded fee revenues and allocated General Fund support by \$44,223.

<sup>7</sup> "Performance Audit of the Community Development Department, Clark County, Washington," by Citygate Associates, December 2000.

The following sections discuss some of FMO's current practices, and recommend modifications or alternatives for consideration by the Board of County Commissioners and the Department of Community Development.

## **INSPECTION PRACTICES**

State law requires that counties inspect new construction and occupied properties ("existing occupancies") to assure compliance with the Fire Code. Counties have discretion regarding the type and number of properties to inspect.

FMO has determined that it does not have sufficient numbers of staff to inspect 100 percent of Clark County's existing occupancies. Consequently, FMO prioritizes occupancies for inspection based on type and perceived risk. For example, churches, schools, hotels/motels, assisted living facilities, and businesses involving hazardous processes are on the "risk-based" inspection list, but single-family residences<sup>8</sup> and business offices are considered subject to lower risk and are generally not inspected. FMO estimates that it inspects 25 to 30 percent of the total number of existing occupancies in Clark County annually. FMO's annual fire inspection and new construction responsibilities consumed about 62% of the organization's staff resources in 2005.

Some Clark County Fire Districts have been concerned about FMO's 25 to 30 percent level of coverage. The districts would like FMO to increase the percentage of existing occupancies inspected each year, since the coverage level may impact fire insurance rates paid by businesses in the districts. The districts are rated by the Washington Surveying & Rating Bureau<sup>9</sup>, which

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<sup>8</sup> FMO is not authorized to inspect single family residences unless requested to do so by the property owner.

<sup>9</sup> WSRB is a private concern which sells rating services to insurance companies. WSRB ratings are used by some insurance companies to help determine rates to assess within rated jurisdictions (e.g., fire districts). Many factors are involved in the ratings, such as water supply, fire department equipment and staffing, the communication system used, and fire safety (e.g., inspection adequacy, public education, etc.).

assesses “deficiency points” if all businesses in a jurisdiction are not inspected annually.

Some districts are also concerned that FMO has not identified all of the properties that should be on its risk-based inspection list. For example, Fire District 5 hired its own inspector in order to increase the number of inspections done in its district. The inspector’s charge is to inspect (1) businesses and mercantile establishments which do not require annual fire code permits and as such are not inspected by FMO, and (2) family home day cares for licensing renewal purposes. In addition to increasing the number of occupancies inspected in the district, the inspector has identified properties which should have been on FMO’s risk-based inspection list. FMO stated that these properties often had become subject to inspection because of changes in use of a building—without informing the county about the change.

### ***Modifications to FMO’s Current Inspection Practices***

There are opportunities for FMO to increase the number of properties it inspects, and provide more assurance that it has identified all properties which should be on its risk-based list. These opportunities are discussed in the following sections:

- Appointment and Scheduling Practices
- Reinspection Policy
- Paperwork Requirements
- Performance Measures

### **Appointment and Scheduling Practices**

FMO inspection staff are assigned responsibility for specific fire districts, so that (1) inspectors will become familiar with the properties in their own individual areas and will identify new or overlooked facilities that should be on the inspection list, and (2) inspector travel time will be saved since inspection responsibilities are geographically confined. However, the efficiencies associated with this geographic specialization are not fully realized because:

- FMO inspection policy requires that staff obtain appointments with property representatives before inspecting facilities. The “telephone-tag” associated with making appointments consumes substantial staff time. In addition, travel-time efficiencies are lost because inspectors must adapt their schedules to the location of appointments, rather than to the geographic proximity of the facilities.

FMO advised that it is considering revising the appointment policy. Instead of setting up appointments for each inspection, a form letter would be sent to all property owners in a geographic area advising that an inspection would occur in the near future.

Our review work concluded that staff time could be saved by making appointments optional, at the discretion of the inspector. We noted that in some cases, appointments are necessary—for example, to assure that appropriate personnel are on site at the property.

- FMO’s current inspection scheduling practice involves accessing the Tidemark database and listing the inspections conducted during each month of the prior year. The list is the basis for the new inspection schedule—for example, the properties inspected in June 2005 are scheduled as those to be inspected in June 2006.

FMO staff remarked that this scheduling practice is disadvantageous from a travel-time standpoint, since the Tidemark listing is not proximity-based. In addition, properties have been known to “drop off the list” because they were not inspected in a particular year.

Our review concluded that setting up inspection schedules that focus on the geographic areas assigned to the inspectors, rather than the list of

inspections done in the prior year, would result in travel efficiencies. By focusing inspector attention on narrower geographic areas, this scheduling practice would also help to identify any properties in the area that should be added to the list.

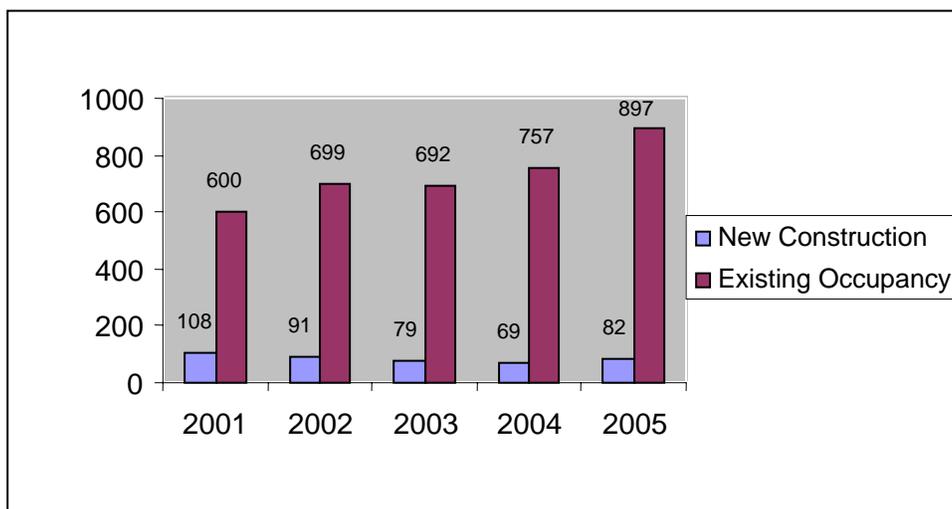
Consequently, **we recommend** that the Department of Community Development, with policy direction from the Board of County Commissioners consider the following modifications to current practices:

- Setting up inspection schedules that focus on the geographic proximity of the facilities to be inspected.
- Discontinuing the requirement that inspectors make appointments before conducting inspections.

### Reinspection Policy

After the initial inspection of a property is conducted, any subsequent inspection to determine whether the Fire Code violations have been corrected is called a “reinspection.” As the table below shows, the number of reinspections of new construction properties has remained relatively small and constant over the five-year period. However, the existing occupancy reinspection workload has increased by 50% over the five-year period, from 600 in 2001 to 897 in 2005.

CHART 3: Number of Reinspections by Year



To estimate the number of times more than one reinspection was required, we examined a judgmental sample of 883 existing occupancy cases. We found that 416 (47%) cases required at least one reinspection, and 123 cases (14%) required more than one.<sup>10</sup>

FMO's current fee schedule provides for a \$142 reinspection fee. FMO stated that the fee was intended to be applied for any reinspections conducted after the first one—and that charging the fee was to be at the discretion of the inspector. For example, if adequate progress toward compliance was evident, the inspector could opt to charge no fee. Our analysis disclosed that fees for reinspections are seldom charged. Revenue data for 2005 shows that the reinspection fee was charged three times during the year.

Our analysis also determined that the use of the “reinspection” data category in Tidemark is not limited to an actual follow-up site-visit by an inspector to determine whether violations have been corrected. Telephone calls from property managers stating that violations have been corrected are also classified as reinspections. Consequently, it is not possible to determine the number of on-site reinspections staff are conducting, nor the degree to which assurance of compliance has been verified on-site.

Consequently, **we recommend** that the Department of Community Development, with the concurrence of the Board of County Commissioners:

- Limit the reinspection code in Tidemark to on-site follow-up visits by inspectors. Categorize telephone call follow-ups separately.

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<sup>10</sup> As noted previously, it is not always possible to determine whether the activities classified as reinspections were actual physical visits, or followup telephone calls.

- Track the number of on-site reinspections being conducted, and the number of cases which require more than one reinspection. Based on the resulting data, consider changes to reinspection fee policy. Possibilities include charging reinspection fees more frequently—perhaps at a reduced level—to achieve correction of fire code violations on a more timely basis.
- Track the number of cases that are closed after concluding, based on telephone call follow-up, that violations have been corrected. Identify and categorize the types of violations involved. Consider policy revisions if data indicates more reliance should be placed on on-site follow-up.

### **Paperwork Requirements**

Our review of FMO's administrative practices indicated, and FMO staff affirmed, that there is a paperwork backlog related to the completion of inspection and investigation files. There is also a backlog related to the administrative handling and filing of caseload paperwork.<sup>11</sup>

Our review of data from inspections completed in 2005 concluded that some case files were incomplete in both the Tidemark database and in the related hardcopy files. For example, in some instances the Tidemark database was inconclusive as to whether or not inspection violations had been corrected. Upon reviewing the hard copy files for these cases, we found instances for which the files did not contain pertinent inspection reports—reports which list the violations found, and often note whether corrective action has been taken.

We noted that FMO makes extensive use of hard copy procedures. For example, the results of inspections are recorded by making time-consuming, and sometimes extensive, handwritten notations on hard copy forms.

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<sup>11</sup> FMO's record-keeping difficulties have been of concern to Fire District personnel. These problems may have resulted in the assessment of "deficiency points" in the "Fire Safety" component of fire district ratings prepared by the Washington Surveying & Rating Bureau.

To help reduce paperwork, some jurisdictions use mission-specific software which allows inspectors to save time in preparing reports—for example, by automatically importing sections of the fire code that pertain to violations found. Other jurisdictions have taken advantage of digital technology, such as hand-held personal digital assistants and Tablet-PC's for recording and transmitting inspection results on-site. This technology may be supplemented with checklist forms for the inspector to use—and for the property representative to retain—that list common violations (e.g., extension cords) and quote the relevant Fire Code language as to what is required to correct the violation.

Consequently, **we recommend** that the Department of Community Development with policy direction from the Board of County Commissioners, consider changes, including the use of digital technology, which would streamline and modernize FMO's current practices.

### **Performance Measures**

During the conduct of this review, we found that substantial performance measure data is collected by the Fire Marshal. The December 2000 performance audit of the Department of Community Development identified the following measures as applicable to FMO:

- The number and type of inspections performed.
- The number, type, and outcome of fire investigations conducted.
- The time it takes to conduct fire safety plan reviews.

FMO currently collects this information and makes most of it available to the public in the department's web-based Data Library. However, data relating to the amount of time FMO takes to review construction plans to assure compliance with the fire code—and comparison of that data to a processing time goal—is not published.

Consequently, **we recommend** that the Department of Community Development, with the concurrence of the Board of County Commissioners, report the average time required to conduct fire safety reviews of construction plans (“turnaround time”) in the Data Library. We further recommend that FMO establish a processing time goal for completing fire safety plan reviews and report performance against that goal.

### **Department of Community Development Comments**

The department reviewed a draft of this report, and provided comments regarding plans for implementing the report’s recommendations (See Appendix C).

## **APPENDIX A: Objectives, Scope and Methodology**

The overall objective of this performance audit was to review FMO practices and make recommendations intended to increase program effectiveness. A related objective was to identify and recommend the adoption of specific performance measures.

This report focused primarily upon FMO's inspection practices, which constitute the largest single portion of the office's workload. Our review included an analysis of a judgmental sample of hard-copy files and Tidemark database cases that evidenced inspections conducted by FMO in 2005. Objectives of the analysis included determining how FMO documented that violations found during inspections were corrected; identifying the number of inspections required to obtain compliance; and learning the administrative procedures involved. Our audit procedures also included interviewing FMO and Fire District personnel; observing several inspections conducted by FMO, and researching other performance audits and industry studies to identify practices put in place by other jurisdictions.

Our audit was performed in accordance with generally accepted government auditing standards. Audit work was conducted between December 2005 and April 2006.

## **APPENDIX B: Number of Existing Occupancy Inspections by Type of Business**

<b>Type of Business</b>	<b>Number of Inspections in 2005</b>
Church	121
Auto Repair/Parts/Sales	119
School	117
Restaurant/Bar	110
Entertainment	60
Mercantile/Retail	57
Building/Home Supplies	50
Day Care/Assist Living	35
Gas Station	28
Apartments	25
Grocery/Department Stores	15
Hotels/Motels	12
Governmental	12
Health Care	8
Storage	1
Other <sup>12</sup>	189
<b>Total</b>	<b>959<sup>13</sup></b>

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<sup>12</sup> For this presentation businesses were categorized based on the name of the entity, which in some cases did not provide adequate information for categorization.

<sup>13</sup> Entities involving inspections of more than one building—for example, schools—are only counted once.

## APPENDIX C: Department of Community Development Draft Report Review Comments



DEPARTMENT OF

FIRE MARSHAL

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### MEMORANDUM

TO: Larry Feltz

FROM: Jon Dunaway

DATE: June 1, 2006

SUBJECT: **Response to Performance Audit Recommendations**

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Thank you for your time and expertise in assembling the performance audit of the Fire Marshal's Office. I appreciate the attention to detail that you put into the report, and it is obvious you spent many hours conducting research and gathering information.

The department has submitted technical and editing comments that have already been addressed in the final report. Additionally, the following items reflect research that has been conducted to date in an effort to address the recommendations outlined in the audit.

1. Geographically based inspection scheduling  
This change can be implemented using existing technology at minimal cost. It is possible to make lists of sites that need inspection based on date, type of business or based on geographic area, or all the criteria. The GIS Division offers a route building software that allows creation of daily inspection routes based on a variety of criteria.
2. Data entry for re-inspections  
The recommendation can be implemented by changing the staff's use of the re-inspection code. No technology changes are required.
3. Mission-specific software

This recommendation has significant budget and staffing implications. Many local fire departments use software called "Firehouse" for their inspections, incident reports, scheduling, training records, etc. The City of Vancouver, for example uses the software. It is possible for the county to invest in this mission-specific software individually or in partnership with another local user. Its use will require considerable customization of drop down menus, pick lists, reports, etc.

Currently, the fire marshal has no software to assist with the incident reports, and Tidemark is not suitable for this purpose. Firehouse seems like a reasonable alternative. Tidemark is a reasonable choice for the new construction reviews, which are closely tied to the building and development reviews. The question becomes the cost and benefit of re-writing the fire inspection case in Tidemark to replicate the functions available in Firehouse versus moving existing occupancy inspections from Tidemark to Firehouse.

The Department is researching Firehouse and will develop a cost estimate for purchase, customization and training in time for the 2007-2008 budget cycle. The alternative of re-writing the Tidemark inspection case will be considered also. The benefit of the acquisition will probably ride on the ability to make an effective transfer of the existing occupancy records into the Firehouse software. Continuing maintenance is also an issue, because acquiring Firehouse would require DCD to maintain a second, major piece of operations software.

4. Mobile technology

The Audit recommends mobile technology, creating efficiency by allowing completion of inspections in the field to make the paperwork less onerous. This too will require research and a proposal for the 2007-2008 budget.

The Firehouse software has a rudimentary field technology system that most users have found cumbersome. DCD, however, is purchasing a sophisticated field technology system to interface with Tidemark. It is possible to write a new interface between Firehouse and the department's new mobile system. This may be expensive, however. As part of the cost/benefit analysis DCD will assess waiting for Firehouse to improve its mobile technology versus custom programming of the software of another vendor.

5. Performance Measures

The audit recommends that the Fire Marshal's Office report the average time required to conduct fire safety reviews of construction plans (turnaround time) in the department's data library. This data is currently collected and is available immediately. The

recommendation goes further by stating that the Fire Marshal's Office should establish a processing time goal for completing fire safety plan reviews and report performance against that goal. This goal exists as an in-house, unwritten policy but can be posted on the web site as well. Reporting this information can be easily done via the department's web page.