

MANATEE COUNTY CLERK OF THE CIRCUIT COURT  
INTERNAL AUDIT DIVISION  
PUBLIC WORKS ENGINEERING DIVISION  
A U D I T R E P O R T

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## PUBLIC WORKS ENGINEERING DIVISION

### AUDIT REPORT

A financial, compliance, and operational audit of Manatee County's Public Works Engineering Division was conducted by the Internal Audit Department for the audit period May 1, 1996 through April 30, 1997 . The audit was performed in accordance with *Generally Accepted Governmental Auditing Standards*, issued by the Comptroller General of the United States; and the *Standards for the Professional Practice of Internal Auditing*, issued by the Institute of Internal Auditors.

#### **BACKGROUND:**

The Internal Audit Department performed an audit of the Public Works Engineering Division on July 26, 1994. At that time, the Engineering Division consisted of the Transportation and the Utilities Sections. The Public Works Department was subsequently reorganized on October 1, 1995, resulting in the engineers from the Transportation Section becoming part of the Transportation Department. The Public Works Department, again, reorganized in October 1, 1996, resulting in the addition of the Mapping and Survey Sections to the Public Works Engineering Division.

The Public Works Engineering Division is currently responsible for designing capital or maintenance projects and reviewing developers' construction plans relative to water and wastewater services. This is accomplished by the following Sections that are included in the Public Works Engineering Division:

- The Engineering Section creates plans and specifications for improvements to both the water and sewer, replaces outdated facilities and coordinates with both State and County Department of Transportation to avoid utility conflicts with road and drainage construction.
- The Survey Section is responsible for providing surveys and legal descriptions for County property. In addition, the Section performs route and topographical surveys for County engineering staff, provides GIS/GPS surveys for the Public Works Mapping Section, reviews developmental plans for compliance with survey requirements, and manages the supplemental surveying and aerial photogrammetry contracts.

#### **BACKGROUND:** (Continued)

- The LIS/Mapping Section is responsible for developing and maintaining map-based information of the Public Works Department. The Section also coordinates the inventory for the County's public utilities infrastructure, uses the GPS/State plane coordinates to locate and create a database for public utilities, provides graphic support, coordinates and maintains the Water Distribution Division's water valve inventory, and maintains record drawings and database inventory.

#### **PURPOSE/OBJECTIVE:**

The main audit objectives include, but are not limited to, the following:

- To verify accuracy and input timeliness of financial data, and reports processed and received by the Public Works Engineering Division.

- To verify an adequate system of internal control exists to safeguard assets, maintain the integrity of reports on operations, and provide adequate evaluation of the Public Works Engineering Division's objectives and responsibilities.
- To verify compliance with significant laws and regulations, including Florida Statutes, federal regulations, ordinances, resolutions, policies, and signed agreements or contracts related to the Public Works Engineering Division.
- To evaluate operational efficiency and effectiveness.

### **SCOPE:**

The Public Works Engineering Division was audited as of February 28, 1994 with a report issued on July 26, 1994. The Division was reorganized effective October 1, 1996, and at that time the Mapping and the Survey Sections were brought under the Public Works Engineering Division. Preliminary fieldwork determined that the functions under the current organization of the Engineering Section have not significantly changed. In order to promote efficiency in the audit process, Internal Audit's testwork under the Engineering Section consisted of performing detailed testwork on those areas reported in the original audit report. For those areas tested, the scope was for the twelve-month period ending April 30, 1997.

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### **SCOPE:** (Continued)

The Mapping and the Survey Sections under the Public Works Engineering Division had not been audited in the past. Preliminary fieldwork determined that the functions under these sections had increased significantly due to the management changes resulting from the reorganization. The scope of audit testwork was for the period October 1, 1996 through April 30, 1997. Testwork included financial, compliance, and operational audit scopes defined as below:

The financial audit scope consisted of a review of accounts, financial transactions, and reports of the Public Works Engineering Division.

The compliance audit scope consisted of a review of the policies and procedures, Florida Statutes, federal regulations, ordinances, resolutions, contracts, administrative orders and agreements related to the Public Works Engineering Division.

The operational audit scope consisted of a review of the Public Works Engineering Division's internal controls and the effectiveness and efficiency of the operation during the audit period. Management controls were also reviewed to identify significant weaknesses that may have contributed to deficient performance.

### **METHODOLOGY:**

Internal control evaluations were accomplished by flow charting key operations, discussions with management and staff, observations, and analytical and substantive testing of individual internal controls.

Risk analysis was used to establish priorities of audit objectives. Statistical sampling was used whenever appropriate to accomplish audit objectives.

### **IRREGULARITIES, ABUSE, OR ILLEGAL ACTS:**

No indications of irregularities, abuse, or illegal acts were discovered during the audit that could affect the Public Works Engineering Division for the audit period ended April 30, 1997 .

**TEST OF COMPLIANCE:**

Internal Audit tested compliance with certain laws and regulations, obtained an understanding of internal controls, and assessed control risk. Tests performed appeared to provide sufficient evidence to support an opinion on compliance and internal controls.

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**TEST OF COMPLIANCE:** (Continued)

Except as noted in our audit report, tested items were in compliance with significant laws, regulations, and internal controls that included Florida Statutes, ordinances, resolutions, personnel policies, administrative orders, and other policies established by the Public Works Engineering Division and other applicable laws and regulations.

**STATEMENT ON INTERNAL CONTROL STRUCTURE:**

In planning and performing our audit of the Public Works Engineering Division for the period ending April 30, 1997, we considered its internal control structure in order to determine our auditing procedures for the purpose of our report on the Public Works Engineering Division. As a result, we noted in the audit report any significant matters involving the internal control structure and its operations that we consider to be reportable conditions under standards established by the U.S. General Accounting Office, *Government Auditing Standards*. Reportable conditions involve matters relating to significant deficiencies in the design or operation of the internal control structure, that in our judgment, could adversely affect the organization's ability to record, process, summarize and report on data consistent with the intent of management.

Our consideration of the internal control structure would not necessarily disclose all matters in the internal control structure that might be reportable conditions, as defined above. In addition, because of the inherent limitations in any internal control structure, significant deficiencies in the design or operation of the internal control structure may exist and not be detected. We believe the conditions identified in our audit report constitute reportable conditions as previously defined.

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**MANAGEMENT SUMMARY:**

**The Public Works Engineering Division was originally audited with a report issued in July 26, 1994. Since that time, the Division has undergone two reorganizations, the recent being effective as of October 1, 1996. At that time, the Mapping and the Survey Sections were added to the Public Works Engineering Division. These sections were not included in the original audit.**

**The Engineering Section has shown significant improvement since the original audit. With the establishment of the Project Management Department, the Engineering Section was relieved from the responsibility of determining whether assignments should be completed in-house or contracted to outside engineering firms. This allowed the Engineering Section to redefine their goals and objectives, allowing them to concentrate on increasing efficiency.**

Other improvements noted include but are not limited to, the development of policies and procedures to standardize documentation in project files and the inclusion of record drawings in project files.

Specific areas where the Engineering Section can improve include the following:

1. Perform comparisons of the estimated budgeted hours received from the Project Management Department to the actual hours charged by the Engineering staff to a project on a formal and consistent basis. (See details on page #10)
2. Require written documentation from the Project Management Department on all changes of scope on work directives that may require additional budget hours to complete. (See details on page # 10)
3. Perform comparisons of hours reimbursed by the Project Management Department with the Engineering Section's summary of hours charged to a project to ensure accurate reimbursements. (See details on page # 10)
4. Comply or amend Ordinance 89-02 and Resolution 89-70 regarding the responsibility of the Engineering Division relating to the issuance of permits, the performance of inspections for sewer connections, and the waiver of mandatory connections to the sanitary sewer system. (See details on page # 11)

The Survey Section appears to be well managed. Internal Audit found that the Survey Section is in compliance with their existing contract terms with outside contractors, surveys are produced in compliance with Minimum Technical Standards, and the GPS software is functioning effectively and has increased the efficiency of the staff.

Specific areas where the Survey Section can improve include the following:

1. Perform comparisons of the estimated budgeted hours received from the Project Management Department to the actual hours charged by the Survey staff to a project on a formal and consistent basis. (See details on page # 10)
2. Require written documentation from the Project Management Department on all changes of scope on work directives that may require additional budget hours to complete. (See details on page # 10)

The Mapping Section appears to be in a transitional stage and offers the greatest opportunity for improvement. With a vision of creating computerized water and sewer maps for use county-wide

and the concern over the retention of aging record drawings, management is in the process of contracting with two outside consultants to provide direction and assistance in these areas.

Specific areas where the Mapping Section can improve include the following:

1. Develop library controls over record drawings that will increase accountability and assure that record drawings are returned by all users. (See details on page # 8)
2. Contract services for the indexing and copying of old, deteriorating record drawings maintained by the Mapping Section. (See details on page # 8)
3. Develop an automated mapping system with assistance from a contracted outside consultant. (See details on page # 9)
4. Develop performance standards to measure productivity of the Mapping Section's staff. (See details on page # 9)
5. Require outside contractors/engineers to provide record drawings in an AutoCad format for new contraction to eliminate the current duplication of effort by the Mapping Section. (See details on page # 9)

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#### **AUDIT REPORT AUTHORIZATION:**

Other minor findings, not included in this report, have been communicated with management or corrected during the audit. We would like to thank the Public Works Engineering Division's personnel and management for the cooperation and courtesy afforded to our auditors throughout the audit.

This audit report has been reviewed and authorized by :

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Richard J. Orienti, CIA, CFE R. B. "Chips" Shore

Director of Internal Audit Clerk of the Circuit Court

AREA FOR IMPROVEMENT

**Subject: Library Controls over Record Drawings for the Mapping Section**

The Mapping Section is responsible for the retention and maintenance of record drawings. Record drawings are used by many different sections of the Public Works Department and a system is not

currently in place to control the removal of records. By developing library controls, the Mapping Section could enhance accountability for record drawings and assure that these important records are returned.

Record drawings retained by the Mapping Section appear old and are deteriorating, and back-up drawings do not exist. Management has been working with the Purchasing Division toward contracting services for the indexing and copying of record drawings.

**Internal Audit recommends management establish library controls over record drawings that will safeguard and track removals and returns of record drawings from the Mapping Section. In addition, we support management's contracting of services for the indexing and copying of record drawings.**

#### AREA FOR IMPROVEMENT

##### **Subject: Development of an Automated Mapping System**

The Mapping Section has been working toward creating water and sewer maps to be used by the Public Works Utility and Transportation Departments. This process has been slow with limited progress due to the lack of resources in manpower and expertise. As a result, management has selected an outside consultant to provide direction and assistance in the development of a geographical information system.

In addition to the contracted services that will be provided by the outside consultant, the following areas of improvement are recommended:

1. Developing performance standards to measure the productivity of the work performed by the staff which may be used to develop measurable milestones to assure the project is accomplished within a reasonable amount of time.
2. Requiring outside contractors/engineers to provide record drawings in an AutoCad format for new construction that will eliminate the current need to reproduce the hard copies of record drawings into the AutoCad format.

**Internal Audit supports management's hiring of a consultant to prepare an overall plan of implementation that will enable the Mapping Section to operate efficiently and produce accurate and reliable maps. In addition, we recommend that performance standards be developed and used to ensure that Mapping personnel are productive. We further recommend, when outside services are used, record drawings be required in the AutoCad format to eliminate the current duplication of effort.**

#### AREA FOR IMPROVEMENT

##### **Subject: Budget Controls Over Work Directives for the Engineering and the Survey Sections**

The Engineering and the Survey Sections receive budgets from the Project Management Department to complete specific jobs for specific projects. Budgets are an internal control that can be used to measure productivity and provide feedback to project managers on potential problems associated with particular

projects. The Engineering and the Survey Sections are not formally using budgets to track the amount of time spent on projects. The following areas of improvement are recommended:

1. Perform comparisons of the estimated budgeted hours to the actual hours charged to a project on a formal and consistent basis. This will provide feedback to managers on the efficiency of their staff, whether budgets on work directives and survey requests are realistic, or other factors that may require a need for change orders on projects.
2. Document all changes in the scope of work directives. Changes in scope may result in additional hours required to complete the changed work directive. Without documentation of these changes, the original budgets do not provide a good estimate of the time required to accomplish the assignment.

In addition, the Engineering Section compiles a summary of hours charged to projects by the Engineering staff. The Project Management Department reimburses the Engineering Section. The Engineering Section should reconcile the summary of hours charged to projects to the reimbursed hours by the Project Management Department. Such reconciliation will provide assurance to the Engineering Section that they are being reimbursed for the correct amount of hours charged.

**Internal Audit recommends the Engineering and the Survey Sections develop procedures to ensure that budgets on projects are complied with or documentation is provided when budgets are exceeded. We also recommend management provide written documentation when changes in scope are made to existing work directives. We further recommend management develop procedures to reconcile the Engineering Section's charges to projects with the corresponding reimbursements from Project Management to ensure accuracy.**

#### AREA FOR IMPROVEMENT

**Subject: Engineering Division's Responsibility under Resolution 89-70 and Ordinance 89-02**

Ordinance 89-02 requires the disconnection of existing septic tanks and the mandatory connection to the Manatee County Centralized Sanitary Sewer System. Resolution 89-70 establishes documentation criteria for consideration of applications for the waiver of mandatory connections to the sanitary sewer system. The Engineering Division has been named to issue permits, to provide inspections for connection, and to waive mandatory connections to the sanitary sewer system. The Public Works Customer Service Section is currently issuing the permits and the Planning Department is performing the required inspections. The Engineering Division is neither reviewing nor approving waiver applications to the sanitary sewer system, although the resolution provides specific guidelines.

**Internal Audit recommends the Public Works Engineering Section either comply with or amend Ordinance 89-02 and Resolution 89-70.**

MANAGEMENT'S RESPONSE:

**MEMORANDUM**

DATE: September 4, 1997

TO: R. B. "Chips" Shore, Clerk of the Circuit Court

FROM: Len Bramble, P.E., Public Works Director

SUBJECT: Public Works Engineering Division Draft Audit Report

Thank you for the opportunity to review this draft report. At this time, I wish to thank you and your staff for their professionalism and to let you know we are currently studying ways to implement your recommendations.

LB:BH:svo

Cc: Richard Orienti

Robert T. Hall, P.E.