

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION AVIATION OFFICE

Statewide Airfield Pavement Management Program

Tri-County Airport – 1J0 (General Aviation) Bonifay, Florida (District 3)



May 2011

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EXECUTIVE SUMMARY

In 2010, the Florida Department of Transportation (FDOT) Aviation Office selected a Consultant team consisting of Kimley-Horn and Associates and their Subconsultants, MACTEC Engineering and Consulting and All About Pavements, Inc., to provide services in support of FDOT in the continuing evaluation and updating of the existing Statewide Airfield Pavement Management Program (SAPMP) to be completed over fiscal years 2011 and 2012.

The tasks required to achieve this objective at Tri-County Airport included:

- Obtain recent construction history from the Airport to update the Pavement Inventory CADD drawings from the previous SAPMP update,
- Perform a visual Pavement Condition Index (PCI) survey of the airfield pavements at the Airport,
- Update the MicroPAVER database to analyze the PCI field data and determine the current condition of the airfield pavements,
- Predict the future deterioration of the pavements,
- > Develop a 10-year M&R plan to address the pavement needs at Tri-County Airport, and
- Provide the estimated costs associated with the suggested immediate and future M&R activities

During December 2010, the PCI survey was performed at Tri-County Airport. The results of the survey indicate that, based on a numerical scale of 0 to 100, the overall area-weighted average PCI of the airfield pavements in 2010 is 75, representing a Satisfactory overall network condition.

Table I below summarizes the overall condition summary by network branch.

Branch Name	Area Weighted PCI	Condition Rating	FDOT Minimum Service Level	MicroPAVER Minimum PCI	Action Required
Apron	76	Satisfactory	60	65	
Runway 1-19	70	Fair	75	65	Х
Taxiway Alpha	100	Good	65	65	
Taxiway Alpha 1	74	Satisfactory	65	65	

Table I: Condition Summary by Branch

Tables II and III below illustrate the area-weighted PCI computed individually for each pavement use and rank, respectively.

Use	Average Area- Weighted PCI	Condition Rating
Runway	70	Fair
Taxiway	93	Good
Apron	76	Satisfactory
All (Weighted)	75	Satisfactory

Table II: Condition Summary by Pavement Use

Table III: Condition Summary by Pavement Rank

Rank*	Area-Weighted PCI	Condition Rating
Primary	74	Satisfactory
Tertiary	77	Satisfactory
All (Weighted)	75	Satisfactory

*The pavement rank for the airport pavement network is listed on Table 2-3.

The immediate M&R needs, or needs that have been programmed to be completed in the first year of the 10-year M&R plan based on an unlimited budget at Tri-County Airport, include: Apron Section 4110 and Runway 1-19 Section 6110. The primary distresses exhibited by the concrete Apron Section 4110 include linear cracking, shrinkage cracking, corner break, and scaling. The Runway 1-19 Section 6110 was observed to have raveling and weathering and linear cracking. Based on the inspection data, the areas require PCC restoration and mill and overlay. The immediate needs are summarized in Table IV below.

Table IV: Immediate Major M&R Needs

Branch Name	Section ID	Surface Type	Section Area (ft ²)	Major M&R Costs*	PCI Before M&R	M&R Activity	PCI After M&R
Apron	4110	PCC	7,540	\$47,426.60	49	PCC Restoration	100
Runway 1-19	6110	AC	23,700	\$74,583.95	61	Mill and Overlay	100
			Total	\$122,010.55	55		100

* Costs are adjusted for inflation.

A forecast of Major M&R needs for a 10-year period, starting from 2011, was developed using an unlimited budget. The analysis identified ongoing maintenance needs and major M&R during that interval. The results of this analysis are provided in Table V below.

Year	Preventative	Major M&R	Total Year Cost
2011	\$71,546.34	\$122,010.56	\$193,556.90
2012	\$79,913.02	\$0.00	\$79,913.02
2013	\$90,516.47	\$0.00	\$90,516.47
2014	\$97,757.83	\$0.00	\$97,757.83
2015	\$23,648.61	\$809,189.54	\$832,838.15
2016	\$21,887.92	\$50,737.28	\$72,625.20
2017	\$25,790.50	\$0.00	\$25,790.50
2018	\$29,345.78	\$0.00	\$29,345.78
2019	\$33,871.05	\$0.00	\$33,871.05
2020	\$39,131.57	\$0.00	\$39,131.57
Total	\$513,409.09	\$981,937.38	\$1,495,346.47

Table V: 10-Year M&R Costs under Unlimited Funding Scenario

Note: Costs are adjusted for inflation.

The implementation of the 10-Year Major M&R Plan is expected to provide an improvement in the overall condition of the airfield pavement, where the area-weighted PCI would increase from 75 in 2011 to 86 in 2020. Appendix F lists the Major M&R for the 10-Year program. Appendix G graphically depicts the program activity.

It is important to note that although preventative and some major M&R activities would have to be conducted over several years, the area-weighted PCI value for all Tri-County Airport pavements in 2020 may remain near 86. The airport manager should realize that what is most important is that the pavement repair work (preventative and major M&R) that has been identified for Tri-County Airport is conducted at some point in the 10-year plan.

1. INTRODUCTION

The State of Florida has more than 100 public airports that are vital to the Florida economy as well as the economy of the United States. There are millions of square yards of pavement for the runways, taxiways, aprons and other areas of these airports that support aircraft operations. The timely and proper maintenance and rehabilitation (M&R) of these pavements allows the airports to operate efficiently, economically and without excessive down time.

In order to support the planning, scheduling, and design of the M&R activities based on pavement evaluation and pavement management performance trends, the Florida Department of Transportation (FDOT) Aviation Office implemented the Statewide Airfield Pavement Management Program (SAPMP) in 1992.

In 2010, the FDOT Aviation Office selected a Consultant team consisting of Kimley-Horn and Associates and their Subconsultants, MACTEC Engineering and Consulting and All About Pavements, Inc., to provide services in support of FDOT in the continuing evaluation and updating of the existing SAPMP to be completed over fiscal years 2011 and 2012.

This report discusses the work performed, a summary of the findings, results, and recommendations for M&R planning associated with the update to the SAPMP. It also describes the procedures used to ensure that the appropriate engineering and scientific standards of care, quality, budget, and schedule requirements are implemented during the performance of the SAPMP.

1.1 Purpose

This Florida Airport Pavement Evaluation Report is intended to:

- Describe, briefly, the SAPMP and the roles and responsibilities of the program's participants;
- Provide background information on pavement management principles, objectives, and benefits to this airport;
- Outline the procedures used to collect, evaluate and report pavement inspection results at this airport;
- Present the findings from the pavement inspection;
- Analyze and discuss the needs for Maintenance and Rehabilitation (M&R) activities and associated costs for this airport.

1.2 FDOT Statewide Airfield Pavement Management Program

In 1992, the FDOT implemented the SAPMP to improve the knowledge of pavement conditions at public airports in the State system, identify maintenance needs at individual airports, automate information management, and establish standards to address future needs. The 1992 SAPMP provided valuable information for establishing and performing pavement M&R.

In 1992/1993, and 1998/1999, the FDOT Aviation Office participated in the development of a proprietary software pavement management system and developed and populated a pavement management database that provided valuable information for establishing M&R policies, estimating M&R costs, and developing recommendations for performing routine pavement maintenance. This system, AIRPAV, was implemented, and initial condition surveys were

performed in 1992 and 1993. The SAPMP was updated with additional surveys in 1998 and 1999.

In 2004, the FDOT Aviation Office undertook a project to update the pavement management system software utilized for the SAPMP. This project involved a review of the AIRPAV software and other available pavement management system software. As a result of this review, MicroPAVER was selected as the software for the update project. Data from the 1998/1999 condition surveys were converted to the MicroPAVER system, and the inventory of the pavement systems and drawings of the pavements were updated to reflect maintenance, rehabilitation, and construction activities since 1998/1999. The pavements were inspected between 2006 and 2008, and an updated M&R program was developed based on the new condition of the airfield pavements. As part of the update, procedures for the inspection and collection of pavement data were developed, and a website (www.floridaairportpavement.com) was created for the input of data under secure procedures.

Currently, airports using the AIP Grant Program are required by the Federal Aviation Administration (FAA) to develop a pavement maintenance program (FAA/AC 150/5380-6B "Guidelines and Procedures for Maintenance of Airport Pavements") using trained personnel to perform a detailed inspection of airfield pavements. The inspections are required to be performed at least once a year or every 3 years if pavement inspection is characterized in the form of a Pavement Condition Index (PCI) survey (such as ASTM D 5340 "Standard Test Method for Airport Pavement Condition Index Surveys", (2004 edition)). The 2004 edition was utilized in lieu of the 2010 edition to maintain database integrity and benefit of pavement performance curves from the previous inspections.

In 2010, the FDOT Aviation Office selected a team consisting of the Consultant and their Subconsultants to provided services in support of FDOT in the continuing evaluation and updating of the existing SAPMP to be completed over fiscal years 2011 and 2012.

1.3 Organization

1.3.1 Aviation Office Program Manager Role

The Aviation Office Airport Engineering Manager serves as the Aviation Office Program Manager (AO-PM) monitoring the work of the Consultant. The AO-PM has review and approval authority for each program task and also manages the day-to-day details of the SAPMP and the updates.

1.3.2 Consultant Role

The Consultant (Kimley-Horn and Associates, Inc.) and their Subconsultants (MACTEC Engineering and Consulting and All About Pavements, Inc.) provide technical and administrative assistance to the AO-PM during the execution of this program, which involves the continuing evaluation of airport pavements and updating of the SAPMP based upon procedures outlined in FAA Advisory Circular 150/5380-6B "Guidelines and Procedures for Maintenance of Airport Pavements" and ASTM D 5340 "Standard Test Method for Airport Pavement Condition Index Surveys" (2010).

1.3.3 Airport Role

The airports are the ultimate client for each of the field inspections and reports. Individual airports will be provided final deliverables prepared by the Consultant that have been reviewed and approved by the AO-PM. The airport should provide a current Airport Layout Plan (ALP) to the Consultant and, if they participated in the previous SAPMP update, indicate any construction activity that has been performed since the previous inspections.

1.4 Pavement Types and Pavement Management

1.4.1 Pavement basics

A pavement is a prepared surface designed to provide a continuous smooth ride at a certain speed and to support an estimated amount of traffic for a certain number of years. Pavements are constructed of a combination of subgrade soils, subbases, bases and surfacing. There are mainly two types of pavements;

- Flexible pavement, composed of an asphalt concrete (AC) surface, and
- Rigid pavement composed of a Portland Cement Concrete (PCC) surface.

Both pavement types use a combination of layered materials and thicknesses in order to support the traffic loads and protect the underlying natural subgrade soil. Flexible pavements (AC) dissipate the load from layer to layer until the load magnitude is small enough to be supported by the subgrade soil. In rigid pavements (PCC), the Portland Cement Concrete supports most of the load, and the base or subbase layer is mainly constructed to provide a smooth and continuous platform for the construction of the concrete surface.

A small percentage of the airport pavements in Florida are composed of asphalt concrete surface over Portland Cement Concrete (APC). This pavement type is known as "composite" pavement.

Due to the different nature of the pavement types and their materials, flexible and rigid pavements have different distresses and failure mechanisms. Understanding the mechanics and failure modes of both pavement types will assist engineers in making adequate and long lasting repairs or rehabilitation to the pavement structures.

1.4.2 Pavement Management System Concept

The SAPMP utilized a Pavement Management System (PMS) to develop the M&R recommendations discussed in this report. A PMS is a tool to assist engineers, planners and managing agencies in making decisions when planning pavement M&R. The management of pavements involves scheduling pavement maintenance and rehabilitation before pavements deteriorate to a condition where reconstruction (the most expensive alternative) is the only solution. Figure 1-1 below, taken from FAA/AC 5380-7A "Airport Pavement Management Program", illustrates how a pavement generally deteriorates and the relative cost of rehabilitation at various times throughout its life. Note that during the first 75 percent of a pavement's life, it performs relatively well. After that, however, it begins to deteriorate rapidly. The number of years a pavement stays in "good" condition depends on how well it is maintained. As the illustration demonstrates, the cost of maintaining the pavement above a critical condition before rapid deterioration has occurred.



Figure 1-1: Pavement Life Cycle

Source: FAA/AC 150/5380-7A "Airport Pavement Management Program" *Modified to reflect current construction costs.

Pavements deteriorate at an accelerated rate with increasing traffic and limited M&R resources. Planned maintenance and rehabilitation, essentially preventing pavements from reaching deteriorated conditions, helps managers/owners/agencies maximize the use of their budgets and prolong the life of the pavements. A PMS provides a tool to schedule and plan maintenance and rehabilitation based on engineering information and existing and predicted conditions of pavements.

There are several components or elements that are essential to a PMS. The first steps in the implementation of a PMS are to know and clearly identify what needs to be managed, the limits of the managing agency's responsibilities and the condition of the existing pavements. Once the cause and the extent of pavement problems are known, the appropriate maintenance and/or rehabilitation can be planned. By using local unit costs and expected yearly budgets, a multi-year M&R plan can be determined.

1.4.3 Pavement Inspection Methodology for the SAPMP

Pavement condition assessment is one of the primary decision variables in any airport PMS. Pavement condition assessments generally include visual surveys in accordance with ASTM D 5340, "Standard Test Method for Airport Pavement Condition Index Surveys" and structural evaluation. Pavement condition surveys assess the functional condition of the pavement surface. Typically, most problems within a pavement structure will eventually reflect to the pavement surface. The structural condition and relative support of the pavement layers can be assessed utilizing non-destructive deflection testing (NDT) as well as other in-depth engineering evaluation or sampling and testing methods.

For the Statewide Aviation Pavement Management Program update, only visual surveys were performed. Further structural and geotechnical testing should be conducted to determine the appropriate rehabilitation methods during the design process.

In preparation of the PCI surveys, the airfield pavements are divided into sample units as established in FAA AC 150/5380-6B and ASTM D 5340. Further discussion of how the airport pavements are divided and subdivided into units by construction and use can be found in Section 2 "Network Definition and Pavement Inventory" of this report.

Sample unit sizes are approximately $5,000 \pm 2,000$ square feet for AC-surfaced pavements and 20 ± 8 slabs for PCC-surfaced pavements. Prior to conducting the field inspections, the sampling plan was developed based on previous sampling and modified based on the available knowledge of Branches, Sections, use patterns, construction types and history. The sampling rate used for the FDOT Statewide Airfield Pavement Management Program is provided in Table 1-1 below.

	AC Pavemen	ts		PCC Paveme	nts	
N	n		N	n		
IN	Runway	Others		Runway	Others	
1-4	1	1	1-3	1	1	
5-10	2	1	4-6	2	1	
11-15	3	2	7-10	3	2	
16-30	5	3	11-15	4	2	
31-40	7	4	16-20	5	3	
41-50	8	5	21-30	7	3	
<u>></u> 51	20% but <u><</u> 20	10% but <u><</u> 10	31-40	8	4	
			41-50	10	5	
			<u>></u> 51	20% but <u><</u> 20	10% but <u><</u> 10	

Table 1-1: Sampling Rate for FDOT Condition Surveys

Where

N = total number of sample units in Section n = number of sample units to inspect

The sample units to inspect are determined by a systematic random sampling technique. This means that the locations are determined such that they are distributed evenly throughout the Section. In the case when nonrepresentive distresses are observed in the field, additional sample units were added.

The distress quantities and severity levels from the sample units are used to compute the PCI value for each Section. PCI values range from 0 to 100. As Figure 1-2 below indicates, MicroPAVER provides a rating scale that relates PCI to pavement condition. A PCI between 0 and 10 is considered 'Failed' pavement, and a PCI between 86 and 100 is considered 'Good' pavement, with five other conditions for PCI values between 11 and 85.

РСІ	Condition Rating
86 - 100	Good
71 – 85	Satisfactory
56 - 70	Fair
41 - 55	Poor
26 - 40	Very Poor
11 - 25	Serious
0 – 10	Failed

Figure 1-2: PCI Rating Scale

1.5 Definitions

<u>Aviation Office</u> - The Aviation Office is charged with responsibility for promoting the safe development of aviation to serve the people of the State of Florida. The Aviation Office Program Manager (AO-PM) has review and approval authority for each program task of the SAPMP.

<u>Base Course</u> - Base Course is a layer of manufactured material, usually crushed rock (aggregate) or stabilized material (asphalt or concrete or Florida Limerock), immediately beneath the surface course of a pavement, which provides support to the surface course.

<u>Branch</u> - A Branch designates pavements that have common usage and functionality, such as an entire runway, taxiway, or apron.

<u>Branch ID</u> - A short form identification for the pavement Branch. In this report, Branch includes the common designation for the item e.g. RW 18-36.

<u>Category</u> - The Category classifies the airport according to the type and volume of aircraft traffic, as follows:

- GA for general aviation or community airports;
- RL for regional relievers or small hubs;
- PR for primary (certified under Part 139 requirements).

<u>Critical PCI</u> - The PCI value considered to be the threshold for M&R decisions. PCI above the Critical generate economical activities expected to preserve and prolong acceptable condition. M&R for PCI values less than Critical make sense only for reasons of safety or to maintain a pavement in operable condition. A pavement section is expected to deteriorate very quickly once it reaches the Critical PCI and the unit cost of repair increases significantly.

<u>Distress Type</u> - A distress type is a defined visible defect in pavement evidenced by cracking, vertical displacement or deterioration of material. In PCI technology, 16 distinct distress types for asphalt surfaced and 15 for Portland Cement Concrete surfaced pavements have been described and rated according to the impact their presence has on pavement condition.

<u>Florida DOT (FDOT)</u> - Florida Department of Transportation was represented in this project by the Office of Aviation.

<u>Global M&R</u> - Global M&R is defined as activities applied to entire pavement Sections with the primary objective of slowing the rate of deterioration. These activities are primary for asphalt surfaced pavements, e.g. surface treatments.

Localized M&R (Maintenance and Repair) - Localized M&R is a temporizing activity performed on existing pavement to extend its serviceability and/or to improve rideability. Localized M&R can be applied either as a safety (stop-gap) measure or preventive measure. Common localized maintenance methods include crack sealing, joint sealing, and patching.

<u>Major M&R (e.g. Rehabilitation)</u> - Activities performed over the entire area of a pavement Section that are intended to restore and/or maintain serviceability. This includes asphalt overlays, milling and replacing asphalt pavement, reconstruction with asphalt, reconstruction with Portland Cement Concrete (PCC) pavements, and PCC overlays.

<u>MicroPAVER</u> - A commercially available software subsidized by FAA and agencies in the US Department of Defense developed to support engineered management of pavement assets using a condition based approach. This software has the functionality such that, if properly implemented, maintained, and operated, it meets the pavement management program requirements described by the FAA in Advisory Circular 150/5380-7A.

<u>Minimum Condition Level</u> - A threshold PCI value established by FDOT to represent the targeted minimum pavement condition that is desirable in the Florida Airport System. These values were established with consideration of pavement function and airport type. For instance, runways have higher minimum condition levels than aprons, and Primary airports have higher minimum condition levels than airports.

<u>Network Definition</u> - A Network Definition is a Computer-Aided Drafting & Design (CADD) drawing which shows the airport pavement outline with Branch and Section boundaries. This drawing also includes the PCI sample units and is used to identify those sample units to be surveyed, i.e. the sampling plan. The Network Definition for the airport is in Appendix A along with a table of inventory data.

<u>Pavement Condition Index (PCI)</u> - The Pavement Condition Index is a number which represents the condition of a pavement segment at a specific point in time. It is based on visual identification and measurement of specific distress types commonly found in pavement which has been in service for a period of time. The definitions and procedures for determining the PCI are found in ASTM D 5340, published by ASTM International.

<u>Pavement Evaluation</u> - A systematic approach undertaken by trained and experienced personnel intended for determination of the condition, serviceability, and best corrective action for pavement. Techniques to standardize pavement evaluation include the Pavement Condition Index procedures.

<u>Pavement Management System (PMS)</u> - A Pavement Management System is a broad function that uses pavement evaluation and pavement performance trends as a basis for planning, programming, financing, and maintaining a pavement system.

<u>Pavement Surface Type</u> - The surface of pavement is identified as one of four types:

- AC for asphalt surface pavements;
- PCC for Portland Cement Concrete pavements;
- AAC for asphalt surface pavements that have had an asphalt overlay at some point in their construction history;
- APC for composite pavements, which consist of asphalt over Portland Cement Concrete pavement.
- PAC for composite pavements, which consist of Portland Cement Concrete over asphalt pavement.

<u>Rank</u> - Pavement rank in MicroPAVER determines the priority to be assigned to a pavement Section when developing an M&R plan. Pavement Sections are ranked as follows according to their use:

- P for Primary pavements, such as primary runways, primary taxiways, and primary aprons;
- S for Secondary pavements, such as secondary runways, secondary taxiways, and secondary aprons;
- T for Tertiary pavements such as "T" hangars and slightly used aprons.

<u>Reconstruction</u> - Reconstruction includes removal of existing pavement, preparation of subgrade, and construction of new pavement with new or recycled materials. Reconstruction is indicated when distress types evident at the surface indicate failure in the pavement structure or subgrade of a type, and to an extent, not correctable by less extensive construction.

<u>Rehabilitation</u> - Rehabilitation represents construction using existing pavement for a foundation. Rehabilitation most commonly consists of an overlay of existing pavement with a new asphalt or concrete surface. Recently, technology has expanded the options to include recycling of existing pavement and incorporating engineering fabrics or thin layers of elasticized materials to retard reflection of distress types through the new surface.

<u>Sample Unit</u> - Uniformly sized portions of a Section as defined in ASTM D 5340. Sample units are a means to reduce the total amount of pavement actually surveyed using statistics to select and survey enough area to provide a representative measure of Section PCI. Sample Unit sizes are $5,000 \pm 2,000$ square feet for AC-surfaced pavements and 20 ± 8 slabs for PCC-surfaced pavements.

<u>Section</u> - Sections subdivide Branches into portions of similar pavement. Sections are prescribed by pavement structure, age, condition, and use. Sections are identified on the airport Network Definition. They are the smallest unit used for determining M&R requirements based on condition.

<u>Section ID</u> - A short form identification for the pavement Section that maintains the original AirPAV identification where 100 series through 3000 series Sections are taxiways, 4000 and 5000 series Sections are aprons (the 5000 series represent run-up aprons and turnarounds), and 6000 series Sections are runways.

<u>Statewide Airfield Pavement Management Program (SAPMP)</u> – The Statewide Airfield Pavement Management Program is a program implemented in 1992 by the Florida Department of Transportation to plan, schedule, and design the maintenance and rehabilitation activities

necessary for the airfield pavement on Florida's public airports to allow the airports to operate efficiently, economically, and without excessive down time.

<u>System Inventory</u> - A System Inventory is a Computer-Aided Drafting & Design (CADD) drawing which shows the airport pavement outline and identifies airfield construction activities since the last inspection. The System Inventory for the airport is included in Appendix A.

<u>Use</u> - In MicroPAVER, Use is the term for the function of the pavement area. This is either Runway, Taxiway, or Apron for purposes of the FDOT Statewide Aviation Pavement Management System.

2. NETWORK DEFINITION AND PAVEMENT INVENTORY

Tri-County Airport (1J0) is located approximately six miles northeast of Bonifay, Florida. Directly regulated by the Tri-County Airport Authority, this airport focuses primarily on serving general aviation aircraft. The airport facility includes only one runway, Runway 1-19 (Length = 4,000 ft).

Based on field measurements, it is important to note that the runway data and other pavement facilities geometric dimensions may vary slightly from the geometry used in the condition and M&R analysis.

Tri- County Airport is designated as a General Aviation (GA) airport and is located in District 3 of the Florida Department of Transportation.

2.1 Network Definition

The pavements within the network are defined in MicroPAVER in terms of manageable units that help to organize the data into similar groups. An organizational hierarchy is used to establish these units.

2.1.1 Branch Section Identification

The airport pavement network is subdivided into separate Branches (runways, taxiways, or aprons) that have distinctly different uses. Branches are then further divided into Sections with similar pavement construction and performance that may share other common attributes.

Sections are manageable units used to organize the data collection and are treated individually during the rehabilitation planning stage. A pavement rank, consisting of primary, secondary, and tertiary levels, is assigned to each Section based on their level and type of use. The pavement rankings that were designated for each Section in the previous SAPMP update were again used for this update.

As discussed in Section 1.4.3 "Pavement Inspection Methodology for the SAPMP", the sections are sub-divided into sample units, which are the smallest subdivision in a pavement network, only for the purpose of conducting the pavement condition survey.

2.1.2 System Inventory and Network Definition Update

The System Inventory and Network Definition drawings are used to identify changes in the network since the most recent update from the 2006/2008 inspections and also to plan the field inspection activities for the 2011 survey. Prior to the field inspection process, the System Inventory drawing was updated from the previous inspection with notes indicating recent construction projects on the various Sections of pavement throughout the airfield. This System Inventory drawing is used to update the Network Definition drawing.

The Network Definition drawing shows the airport pavement outline with Branch and Section boundaries. This drawing also includes the PCI sample units and is used to identify those sample units to be surveyed, i.e. the sampling plan. The previous airport configuration and history was compared with the current airport configuration, and the existing network branch, section and

sample unit designations were revised to match the current configuration. This drawing serves not only as a primary guide for the airfield inspectors but also as an important historical record.

The updated System Inventory and Network Definition drawings for Tri-County Airport are provided in Appendix A. Table 2-1 below lists the recent construction projects at the airport.

Table 2-1: Construction Since Last Inspection & Anticipated Construction Activity

Construction Year	Location	Work Type / Pavement Section
2009	Taxiway A	New Construction

2.2 **Pavement Inventory**

The detailed pavement inventory was updated to reflect the network definition update and field inspection results.

The total airfield pavement area in 2010 at Tri-County Airport is 497,866 square feet. The breakdown of pavement area for each pavement use is provided in Table 2-2.

Use	Area (ft ²)	% of Total Area
Runway	301,050	60%
Taxiway	72,211	15%
Apron	124,605	25%
All (Weighted)	497,866	100%

Table 2-2: Pavement Area by Pavement Use

Figure 2-1 presents the breakdown of the pavement area at Tri-County Airport by surface type.



Figure 2-1: Pavement Area by Surface Type

Details of pavement Branch and Section information including Branch name (which indicates pavement use), Branch ID, Section ID, section area, rank, surface type, last construction date, number of samples inspected, and number of samples in each Section are given in Table 2-3 below. A more detailed Pavement Inventory Table may be found in Appendix A of this report.

Branch Name	Branch ID	Section ID	True Area (ft ²)	Section Rank	Surface Type	Last Const. Date	Total Samples Inspected	Total Samples
Apron	AP	4105	28,175	Р	AC	1/1/1996	1	6
Apron	AP	4110	7.540	Т	AC	1/1/2001	1	3
Apron	AP	4115	78,540	Т	AC	1/1/2007	3	18
Apron	AP	4120	10,350	Т	AC	1/1/2007	1	4
Runway 1-19	RW 1-19	6105	277,350	Р	AC	1/1/1996	15	74
Runway 1-19	RW 1-19	6110	23,700	Р	AC	1/1/1996	2	6
Taxiway Alpha	TW A	110	53,411	Р	AC	7/1/2008	0	15
Taxiway Alpha 1	TW A1	105	18,800	Р	AC	1/1/1996	2	5

Table 2-3: Branch and Section Inventory

Note: If a new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.

Sections not surveyed due to reasons such as re-sectioning, no escort, not accessible at the time of survey.

3. PAVEMENT CONDITION

Pavement conditions were inspected in accordance with the methods outlined in FAA AC 150/5380-6B and ASTM D 5340-04 "Standard Practice for Airport Pavement Condition Index Surveys." These procedures define distress type, severity and quantity for sampling areas within each section to determine the Pavement Condition Index (PCI).

3.1 Inspection Methodology

A PCI survey is performed by measuring the amount and severity of pavement distresses, which are caused by traffic load, climate, and other factors, observed within a sample unit. This data is imported into MicroPAVER, which calculates PCI values for the pavement sections. Tables 3-1 and 3-2 below list the pavement distress types and related causes for asphalt concrete (AC) and Portland Cement Concrete (PCC), respectively.

Table 3-1: Pavement Distresses for Asphalt Concrete Surfaces

Code	Distress	Mechanism	
41	Alligator Cracking	Load	
42	Bleeding	Construction Quality / Mix Design	
43	Block Cracking	Climate / Age	
44	Corrugation	Load / Construction Quality	
45	Depression	Subgrade Quality	
46	Jet Blast	Aircraft	
47	Joint Reflection - Cracking	Climate / Prior Pavement	
48	Longitudinal/Transverse Cracking	Climate / Age	
49	Oil Spillage	Aircraft / Vehicle	
50	Patching	Utility / Pavement Repair	
51	Polished Aggregate	Load	
52	Weathering/Raveling	Climate / Load	
53	Rutting	Load	
54	Shoving	Pavement Growth	
55	Slippage Cracking	Load / Pavement Bond	
56	Swelling	Climate / Subgrade Quality	
Source: U.S. Army CERL, FDOT Airfield Inspection Reference Manual			

Code	Distress	Mechanism	
61	Blow-up	Climate	
62	Corner Break	Load	
63	Linear Cracking	Load	
64	Durability Cracking	Climate	
65	Joint Seal Damage	Climate	
66	Small Patch	Pavement Repair	
67	Large Patch/Utility Cut	Utility / Pavement Repair	
68	Popout	Climate	
69	Pumping	Load	
70	Scaling/Crazing	Construction Quality	
71	Faulting	Subgrade Quality	
72	Shattered Slab	Load	
73	Shrinkage Cracking	Construction Quality / Load	
74	Joint Spalling	Load	
75	Corner Spalling	Load	
Source: U.S. Army CERL, FDOT Airfield Inspection Reference Manual			

Table 3-2: Pavement Distresses for Portland Cement Concrete Surfaces

Prior to conducting the inspections, Global Positioning System (GPS) coordinates were recorded using CADD at the centroid of each sample unit. The centroid is usually the geometric center of the area, but in cases where sample units are irregular in shape, this is the center of mass. These data are presented in a table on the updated Network Definition Map in Appendix A of this report.

Pavement condition inspections at Tri-County Airport were performed in February 2011. Data were recorded in the field in accordance with FAA Advisory Circular 150/5380-6B "Guidelines and Procedures for Maintenance of Airport Pavements" and ASTM D 5340 "Standard Test Method for Airport Pavement Condition Index Surveys" (2004).

After the completion of data collection, the data were imported into MicroPAVER, and PCI values were calculated for the pavement sections.

3.2 Pavement Condition Index Results

According to the 2011 survey, the overall area-weighted PCI at Tri-County Airport is 75, representing a Satisfactory overall network condition.

The distresses observed on the airfield pavements were primarily those associated with climate and age. The primary distresses observed include weathering, cracking and localized depression.

Appendix B contains a table and a Condition Map which depicts the PCI results by Section, and Appendix C contains a table of PCI results by Branch. Appendix I includes detailed distress data generated by MicroPAVER for each inspected sample unit.

Figure 3-1 provides the PCI distribution by rating category for Tri-County Airport.



Figure 3-1: Network PCI Distribution by Rating Category

Condition Rating	Total Area (ft ²)	Percent
Good	53,411	11%
Satisfactory	385,040	77%
Fair	51,875	10%
Poor	7,540	2%
Very Poor	0	0%
Serious	0	0%
Failed	0	0%

Figure 3-1a: Condition Rating Summary

Approximately 88% of the network is in Satisfactory to Good condition, with 12% in Fair to Poor condition. Table 3-3 illustrates the area-weighted PCI computed individually for each pavement use.

Use	Area-Weighted PCI	Condition Rating
Runway	70	Fair
Taxiway	93	Good
Apron	76	Satisfactory
All (Weighted)	75	Satisfactory

Table 3-3: Condition by Pavement Use

Figure 3-2 presents the breakdown of PCI by range for each pavement use.

Figure 3-2: Percentage of Pavement Area within Each PCI Range by Pavement Use



(a) Runway

> 100% 74% 90% 80% 70% Area (Percent) 60% 26% 50% 40% 30% 0% 0% 0% 0% 0% 20% 10% 0% **Pavement Condition Rating** Good: 86-100 Satisfactory: 71-85 Fair: 56-70 Poor: 41-55 □Very Poor: 26-40 Serious: 11-25 ■Failed: 0-10

(b) Taxiway

(c) Apron



4. PAVEMENT CONDITION PREDICTION

Performance prediction models or deterioration curves for PCI were used to develop a condition forecast. The performance models were developed for combinations of variables such as pavement use (runway, taxiway or apron), surface type (AC or PCC) and airport category (GA, RL, or PR). Figure 4-1 illustrates the predicted performance of pavements at Tri-County Airport based on current condition, age since last construction and the deterioration model appropriate for the type of pavement. The figure presents the forecast for each pavement use and displays the FDOT minimum condition criteria for General Aviation (GA) airports.



Figure 4-1: Predicted PCI by Pavement Use

Appendix D presents the tabular summary of the predicted Section PCI for each year from 2011 to 2020.

5. MAINTENANCE POLICIES AND COSTS

5.1 Policies

Maintenance and rehabilitation (M&R) policies are sets of rules used to develop repair recommendations for distresses encountered during the visual inspections.

Maintenance refers to repair-type activities that are applied to specific distress types on the pavement. These activities are preventative and/or corrective in nature and are recommended to help achieve the performance goal.

Table 5-1 provides the list of the maintenance activities used in MicroPAVER to treat specific distress types. MicroPAVER applies repairs to these distresses and adjusts the PCI based on specific rules. These repairs are used only in the first year of an analysis.

Rehabilitation is warranted when the pavement condition decreases below a critical point such that the deterioration is extensive or the rate of deterioration is so great that routine maintenance is no longer cost-efficient. This critical point is called "Critical PCI." The critical PCI levels for different pavement and branch types established in the previous SAPMP update were used in this update for the development of the M&R plan for the airport. Sections above critical PCI levels receive routine maintenances while pavements predicted to deteriorate below their respective critical PCI level during the analysis period will be identified for Major M&R. Table 5-2 gives the critical PCI levels for General Aviation Airports.

The maintenance rehabilitation policy and activity costs have been updated based on the study of readily available construction cost data at the time of this study. The costs depicted in this report are intended for planning purposes.

Surface	Distress	Severity*	Work Type	Code	Work Unit
	Alligator Crack	М, Н	Patching - AC Deep	PA-AD	SqFt
	Bleeding	N/A	No Localized M&R	NONE	N/A
	Block Crack	M, H	Crack Sealing – AC	CS-AC	SqFt
	Corrugation	L, M, H	Patching - AC Deep	PA-AD	SqFt
	Depression	М, Н	Patching - AC Deep	PA-AD	SqFt
	Jet Blast	N/A	Patching - AC Deep	PA-AD	SqFt
	Joint Ref. Crack	М, Н	Crack Sealing – AC	CS-AC	Ft
	L & T Crack	М, Н	Crack Sealing – AC	CS-AC	Ft
	Oil Spillage	N/A	Patching - AC Shallow	PA-AS	SqFt
AC	Patching	М, Н	Patching - AC Deep	PA-AD	SqFt
	Polished Agg.	N/A	No Localized M&R	NONE	N/A
		L	Surface Sealing - Rejuvenating	SS-RE	SqFt
	Raveling	М	Surface Seal - Coal Tar	SS-CT	SqFt
		Н	Microsurfacing	MI-AC	SqFt
	Rutting	М, Н	Patching - AC Deep	PA-AD	SqFt
	Shoving	М, Н	Grinding (Localized)	GR-LL	SqFt
	Slippage Crack	N/A	Patching - AC Shallow	PA-AS	SqFt
	Swelling	М, Н	Patching - AC Deep	PA-AD	SqFt
	Blow-Up	L, M, H	Patching - PCC Full Depth	PA-PF	SqFt
	Corner Break	М, Н	Patching - PCC Full Depth	PA-PF	SqFt
	Linear Crack	М, Н	Crack Sealing – PCC	CS-PC	Ft
	Durability Crack	Н	Slab Replacement – PCC	SL-PC	SqFt
		М	Patching - PCC Full Depth	PA-PF	SqFt
	Jt. Seal Damage	М, Н	Joint Seal (Localized)	JS-LC	Ft
	Small Patch	М, Н	Patching - PCC Partial Depth	PA-PP	SqFt
PCC	Large Patch	М, Н	Patching - PCC Full Depth	PA-PF	SqFt
ICC	Popouts	N/A	No Localized M&R	NONE	N/A
	Pumping	N/A	No Localized M&R	NONE	N/A
	Scaling	Н	Slab Replacement – PCC	SL-PC	SqFt
	Faulting	М, Н	Grinding (Localized)	GR-PP	Ft
	Shattered Slab	М, Н	Slab Replacement – PCC	SL-PC	SqFt
	Shrinkage Crack	N/A	No Localized M&R	NONE	N/A
	Joint Spall	M, H	Patching - PCC Partial Depth	PA-PP	SqFt
	Corner Spall	M, H	Patching - PCC Partial Depth	PA-PP	SqFt

Table 5-1: Routine Maintenance Activities for Airfield Pavements

L = Low, M = Medium, H = High

Use	Critical PCI
Runway	65
Taxiway	65
Apron	65

Table 5-2: Critical PCI for General Aviation Airports

It should be noted that critical PCI is not the same as Minimum PCI or Minimum Condition. The Minimum PCI is a value set by the user so pavement sections are rehabilitated before they fall below the set minimum. Table 5-3 gives the targeted, or desired, Minimum PCI values for runways, taxiways, and aprons of General Aviation Airports.

Table 5-3: FDOT Minimum Service Level PCI for General Aviation Airports

Minimum PCI			
Runway Taxiway Apron			
75	65	60	

Typical Major M&R activities range from overlays to reconstruction. Based on the critical PCI values in Table 5-2, the PCI trigger range when the likely activity would be a mill and resurface was 40 to 79 and reconstruction at a PCI of 39 or lower. One important concept of pavement management systems is that it is cost effective to maintain pavements that are already in good condition rather than wait for them to get worse and require more expensive rehabilitation.

Crack sealing and full-depth patching are the M&R activities recommended to repair pavements with PCI values between 80 and 90. MicroPAVER considers these as preventative M&R with their primary objective being to slow the rate of pavement deterioration. While the trigger PCI for mill and overlay has been set to 55, MicroPAVER also assigns mill and overlay to sections with a PCI greater than 55 if they exhibit some structural distress. Table 5-4 summarizes the M&R activities for General Aviation Airports based on PCI value.

	Activity	PCI Range
Maintenance	Crack Sealing and Full-Depth Patching	80 and 90
Rehabilitation	Mill and Overlay (AC) or Concrete Pavement Restoration (PCC)	40 to 79
	Reconstruction	39 and less

Table 5-4: M&R Activities for General Aviation Airports

5.2 Unit Costs

FDOT cost databases for airports and highway pavement maintenance and rehabilitation were updated from the previous SAPMP study based on current construction cost trends in order to determine meaningful costs for the program. Table 5-5 presents the unit costs summary.

5.3 M&R Activities

FDOT recognizes that although Mill and Overlay work is recommended for asphalt pavements within a PCI range from 40 to 79, it is conceivable that airports may not have adequate funding to perform this type of rehabilitation. Microsurfacing treatment is a maintenance/rehabilitation measure that can be used in lieu of asphalt pavement mill and overlay; however it should be understood that this measure is intended for short term pavement life extension. While the cost of microsurfacing is significantly lower than that of pavement mill and overlay, it is not intended to be a full rehabilitative measure for long-term benefit.

Code	Name	Cost	Unit
GR-LL	Grinding (Localized for AC)	\$2.10	SqFt
PA-AL	Patching – AC Leveling	\$2.30	SqFt
PA-AS	Patching – AC Shallow	\$2.90	SqFt
PA-PF	Patching – PCC Full Depth	\$38.11	SqFt
PA-PP	Patching – PCC Partial Depth	\$19.06	SqFt
SL-PC	Slab Replacement – PCC	\$39.11	SqFt
CS-PC	Crack Sealing – PCC	\$4.24	Ft
UN-PC	Undersealing – PCC	\$3.40	Ft
CS-AC	Crack Sealing – AC	\$2.25	Ft
GR-PP	Grinding (Localized for PCC)	\$22.51	Ft
JS-LC	Joint Seal (Localized)	\$2.00	Ft
SH-LE	Shoulder Leveling	\$2.81	Ft
JS-SI	Joint Seal – Silicon	\$2.81	Ft
PA-AD	Patching – AC Deep	\$4.90	SqFt
OL-AT	Overlay – AC Thin	\$2.80	SqFt
SS-CT	Surface Seal – Coal Tar	\$0.40	SqFt
SS-FS	Surface Seal – Fog Seal	\$0.40	SqFt
SS-RE	Surface Seal – Rejuvenating	\$0.40	SqFt
ST-SB	Surface Treatment – Single Bitum.	\$0.30	SqFt
ST-SS	Surface Treatment – Slurry Seal	\$0.55	SqFt
ST-ST	Surface Treatment – Sand Tar	\$0.28	SqFt
MI-AC	Microsurfacing - AC	\$0.65	SqFt

Table 5-5: Maintenance Unit Costs for FDOT

The improvement in condition due to maintenance actions applied to specific distresses is only performed when an inspection was performed recently and only in the first year of the M&R analysis. In subsequent years, MicroPAVER calculates M&R costs based on expected unit costs for pavements in a range of PCIs. That is, for low PCI, it is expected that the repair would be significant (e.g. reconstruction) and therefore very costly.

Using available unit cost data, the Major M&R Cost by Condition table was set up as shown in Table 5-6. The cost assigned to each range of PCI is based on a Transportation Cost Report provided by Office of Planning Policy of FDOT where the unit costs of reconstruction and resurfacing of airfield pavements were included. These costs were then assigned to the appropriate PCI range to arrive at a cost per square foot necessary to restore pavements at that PCI level to new condition, i.e. a PCI of 100.

Table 5-6: M&R Activities and Unit Costs by Condition forGeneral Aviation Airports

	Activity	PCI Trigger	Cost/SqFt
Maintananca	Creek Seeling and Full Depth Patching	90	\$0.06
Maintenance	Clack Sealing and Full-Deput Fatching	80	\$0.24
		70 \$3.00	
Datat liter	Mill and Overlay (AC) or	60	\$3.42
	Concrete Pavement Restoration (PCC)	50	\$6.29
Renadintation		40	\$6.29
	Bassanstruction	30	\$13.62
	Reconstruction	20	\$13.62

A 3% inflation rate per year was applied to the unit costs during the M&R analysis.

6. PAVEMENT REHABILITATION NEEDS ANALYSIS

Maintenance and Rehabilitation (M&R) analyses were performed after the condition data were calculated and MicroPAVER was customized with the maintenance policies and cost settings described in the previous section.

The objective of the M&R analysis is to observe the effect of different fiscal scenarios on the network condition, over a period of ten years, starting from 2011. The analysis was conducted using an unlimited budget. An unlimited budget allows all M&R needs to be identified along with the associated cost regardless of priority.

Table 6-1 presents the M&R list of immediate needs for Major M&R, i.e. Year 1 of the forecast. The importance of this listing is that it points out the major activities triggered by the current condition of the pavements.

Branch Name	Section ID	Surface Type	Section Area (ft ²)	Major M&R Costs*	PCI Before M&R	M&R Activity	PCI After M&R
Apron	4110	PCC	7,540	\$47,426.60	49	PCC Restoration	100
Runway 1-19	6110	AC	23,700	\$74,583.95	61	Mill and Overlay	100
			Total	\$122,010.55	55		100

Table 6-1: Summary of Immediate Major M&R Needs Option No. 1

* Costs are adjusted for inflation.

FDOT recognizes that the costs attributed to the aforementioned 'Major Activity' of performing a pavement 'Mill and Overlay' may conflict with budgetary constraints. Table 6-2 presents an alternative minor rehabilitative activity to the mid-range performing pavements. The alternative activity is performing a 'Microsurfacing/Slurry Seal' to the pavement to retard the degradation of the facility until funding is available for a 'Mill and Overlay' activity.

Table 6-2: Summary of Immediate Major M&R Needs Option No. 2

Branch Name	Section ID	Surface Type	Section Area (ft ²)	Major M&R Costs*	PCI Before M&R	M&R Activity	PCI After M&R
Apron	4110	PCC	7,540	\$47,426.60	49	PCC Restoration	100
Runway 1-19	6110	AC	23,700	\$15,405.00	61	Microsurfacing	100
			Total	\$62,831.60	55		100

* Costs are adjusted for inflation.

In addition to the immediate Major M&R needs, maintenance activities for pavement areas above critical PCI have been recommended by MicroPAVER for Year 1 and are shown in Table 6-2 below. The costs provided in Table 5-5 were used to calculate the costs associated with this work, which is intended to treat specific distress types. A more detailed table is provided in Appendix E.

Branch Name	Branch ID	Section ID	Distress Description	Distress Severity	Work Description	Work Quantity	Work Unit	Unit Cost	Work Cost
Apron	AP	4105	DEPRESSION	М	Patching - AC Deep	28.80	SqFt	\$4.90	\$141.03
Apron	AP	4105	WEATH/RAVEL	L	Surface Seal - Rejuvenating	2,817.50	SqFt	\$0.40	\$1,127.01
Apron	AP	4110	DURABIL. CR	М	Patching - PCC Full Depth	175.80	SqFt	\$38.11	\$6,698.19
Apron	AP	4110	LINEAR CR	М	Crack Sealing - PCC	32.10	Ft	\$4.24	\$136.29
Apron	AP	4115	WEATH/RAVEL	L	Surface Seal - Rejuvenating	26,775.00	SqFt	\$0.40	\$10,710.09
Apron	AP	4120	WEATH/RAVEL	L	Surface Seal - Rejuvenating	724.50	SqFt	\$0.40	\$289.80
Runway 1-19	RW 1-19	6105	WEATH/RAVEL	L	Surface Seal - Rejuvenating	136,287.20	SqFt	\$0.40	\$54,515.34
Runway 1-19	RW 1-19	6105	WEATH/RAVEL	М	Surface Seal - Coat Tar	1,155.90	SqFt	\$0.40	\$462.38
Runway 1-19	RW 1-19	6105	L & T CR	М	Crack Sealing - AC	156.70	Ft	\$2.25	\$352.66
Runway 1-19	RW 1-19	6110	L & T CR	М	Crack Sealing - AC	53.70	Ft	\$2.25	\$120.87
Runway 1-19	RW 1-19	6110	WEATH/RAVEL	L	Surface Seal - Rejuvenating	23,434.60	SqFt	\$0.40	\$9,373.90
Runway 1-19	RW 1-19	6110	WEATH/RAVEL	М	Surface Seal - Coat Tar	265.40	SqFt	\$0.40	\$106.18
Taxiway Alpha 1	TW A1	105	WEATH/RAVEL	L	Surface Seal - Rejuvenating	9,870.00	SqFt	\$0.40	\$3,948.03
								Total =	\$87,981.77

Table 6-3: Summary of Year 1 Maintenance Activities

The 10-year forecast results are shown in Figure 6-1, illustrating the effect on pavement condition (PCI) of doing no maintenance versus having unlimited funds and performing all M&R actions based on the policies.



Figure 6-1: Budget Scenario Analysis

The following network level observations can be made from the figure above:

- The PCI will deteriorate from 75 in 2010 to 60 in ten years if no M&R activities are performed.
- The PCI will remain at or above 71 through the 10-year analysis period under the unlimited budget scenario. A 2020 PCI of 86 with this scenario is 26 PCI points higher than a "No M&R" scenario. The total cost for Major M&R over this 10-year period is about \$1.0 million.

7. MAINTENANCE AND REHABILITATION PLAN

The M&R analysis results include activities that likely exceed a typical annual budget level. These activities would need to be evaluated for feasibility and desirability based on the airport's future plans. In an effort to identify appropriate budget levels, the 10-year M&R analysis was evaluated to determine levels needed to address several specific areas: preventive maintenance, major activities for pavements in poor condition (Major M&R for PCIs less than Critical), and activities that would be desirable to preserve good pavement conditions where they exist (Major M&R for PCI greater than or equal to Critical).

Table 7-1 provides the summary results under the critical PCI unlimited funding scenario.

Year	Preventative	Major M&R	Total Year Cost
2011	\$71,546.34	\$122,010.56	\$193,556.90
2012	\$79,913.02	\$0.00	\$79,913.02
2013	\$90,516.47	\$0.00	\$90,516.47
2014	\$97,757.83	\$0.00	\$97,757.83
2015	\$23,648.61	\$809,189.54	\$832,838.15
2016	\$21,887.92	\$50,737.28	\$72,625.20
2017	\$25,790.50	\$0.00	\$25,790.50
2018	\$29,345.78	\$0.00	\$29,345.78
2019	\$33,871.05	\$0.00	\$33,871.05
2020	\$39,131.57	\$0.00	\$39,131.57
Total	\$513,409.09	\$981,937.38	\$1,495,346.47

Table 7-1: M&R Costs under Unlimited Funding Scenario

Note: Costs are adjusted for inflation.

Approximately 12% of the total Major M&R cost is required in the first year (2011). According to the 2011 inspections, the following pavement sections were in immediate need of Major M&R Activity:

- Apron Restoration of PCC pavement per the FAA P-501 Specification.
- **Runway 1-19** Asphalt pavement mill and overlay activity per the FAA P-401 specification.

The unlimited budget scenario provides the basis for estimating the total repair cost.

Appendix F provides details of M&R plan by year under the unlimited funding scenario, and the map of the 10-year M&R plan is provided in Appendix G. It is important to understand that the SAPMP is a network level tool and the M&R costs provided in this report are only for planning purposes.

8. VISUAL AIDS

8.1 System Inventory and Network Definition Drawings

The System Inventory and Network Definition CADD drawings, which show the airport pavement outline with Branch and Section boundaries and identify changes in the network pavement since the last inspection and the sampling plan, respectively, are included in Appendix A of this report.

8.2 Condition Map

A Condition Map that has been prepared based on data linked to the airport's shape file is included in Appendix B. The Condition Map graphically show the inventory and condition of the airport via color coding shown on the shape file. The coding provides a visual representation that illustrates the PCIs for each pavement section.

8.3 10-Year M&R Map

A 10-Year M&R Map that shows the summary of the M&R plan is attached in Appendix G.

8.4 Photographs

Selected digital photographs taken during the pavement inspection are provided in Appendix H to provide visual support to special pavement conditions or distress observed during the inspection of the airport.

9. RECOMMENDATIONS

Pavement condition inspections were performed at Tri-County Airport, and a 10-year M&R plan was developed based on the unlimited funding scenario.

The following recommendations were made based on the 2010 condition inspection and M&R analysis results:

- Apron Restoration of PCC pavement per the FAA P-501 Specification.
- **Runway 1-19** Asphalt pavement mill and overlay activity per the FAA P-401 specification

Further evaluation of these features is necessary in order to develop repair plans and timing for future budgets since these needs cannot be addressed with typical annual expenditures.
APPENDIX A

NETWORK DEFINITION MAP SYSTEM INVENTORY MAP PAVEMENT INVENTORY TABLE WORK HISTORY REPORT

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RW 1-19	6105	143	30.84625604	-85.60127712																						
RW 1-19	6105	137	30.84544305	-85.601438																						
RW 1-19	6105	131	30.84463005	-85.60159887																						
RW 1-19	6105	125	30.84381705	-85.60175974																						

GPS COORDINATES - TRI-COUNTY AIRPORT LOCATION SECTION SAMPLE LATITUDE LONGITUDE

104

102 30.84070056

109 30.84164906

113 30.84219106

119 30.84300406

30.84097156

6110 AC 75' X 50' 2 6

-85.60237638

-85.60232276

-85.60218871

-85,60208147

-85.60192061

6105 AC 75' X 50' 15 74

6110

6110

6105

6105

6105

RW 1-19

RW 1-19

RW 1-19

RW 1-19

RW 1-19







RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.



164 163



Table A-1: Pavement Inventory

Branch Name	Branch ID	Branch Use	Section ID	Length (ft)	Width (ft)	True Area (ft ²)	Section Rank	Surface Type	Last Const. Date	Last Insp. Date	Sample Units in Section
Apron	AP	APRON	4105	125	225	28,175	Р	AC	1/1/1996	12/10/2010	6
Apron	AP	APRON	4110	250	22	7,540	Т	PCC	1/1/2001	12/10/2010	3
Apron	AP	APRON	4115	330	238	78,540	Т	AC	1/1/2007	12/10/2010	18
Apron	AP	APRON	4120	345	30	10,350	Т	AC	1/1/2007	12/10/2010	4
Runway 1-19	RW 1-19	RUNWAY	6105	3,698	75	277,350	Р	AC	1/1/1996	12/10/2010	74
Runway 1-19	RW 1-19	RUNWAY	6110	316	75	23,700	Р	AC	1/1/1996	12/10/2010	6
Taxiway Alpha	TW A	TAXIWAY	110	1,450	35	53,411	Р	AC	7/1/2008	7/1/2008	15
Taxiway Alpha 1	TW A1	TAXIWAY	105	470	40	18,800	Р	AC	1/1/1996	12/10/2010	5

Note: If a new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.

Sections not surveyed due to reasons such as re-sectioning, no escort, not accessible at the time of survey.

Date:06/	Date:06/21/2011 Work History Report 1 of 2 Pavement Database:											
Network: 1. L.C.D.: 01/0 ⁻	0 Bra /1996 Use: AP	anch: AP (APRON) PRON Rank: P Length:	125.00 Ft	Width:	Section: 4105 Surface: AC 225.00 Ft True Area: 28,175.00 SqF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R Comments							
01/01/2003 01/01/1996 01/01/1975	SS-RE IMPORTED IMPORTED	Surface Seal - Rejuvenating BUILT OVERLAY	\$0	0.00	FalseTrue1996 SURFACE TREATMENTTrueEST 1975 AC SURFACE SECTIONUNKNOWN							
Network: 1. L.C.D.: 01/0 ⁻	0 Bra	anch: AP (APRON) PRON Rank: T Length:	250.00 Ft	Width:	Section: 4110 Surface: PCC 22.00 Ft True Area: 7.540.00 SaF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R Comments							
01/01/2001	INITIAL	Initial Construction	\$0	0.00	True							
Network: 1. L.C.D.: 01/0 ⁻	0 Bra /2007 Use: AP	anch: AP (APRON) PRON Rank: T Length:	330.00 Ft	Width:	Section: 4115 Surface: AC 238.00 Ft True Area: 78,540.00 SqF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R Comments							
01/01/2007	INITIAL	Initial Construction	\$0	0.00	True							
Network: 1. L.C.D.: 01/0 ⁻	0 Bra /2007 Use: AP	anch: AP (APRON) PRON Rank: T Length:	345.00 Ft	Width:	Section: 4120 Surface: AC 30.00 Ft True Area: 10.350.00 SaF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R Comments							
01/01/2007	INITIAL	Initial Construction	\$0	0.00	True							
Network: 1. L.C.D.: 01/0 ⁻	0 Bra 1/1996 Use: RU	anch: RW 1-19 (RUNWA JNWAY Rank: PLength:	Y 1-19) 3,698.00 Ft	Width:	Section: 6105 Surface: AC 75.00 Ft True Area: 277,350.00 SqF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R Comments							
01/01/1996 01/01/1975	IMPORTED IMPORTED	BUILT OVERLAY			True 1996 SURFACE TREATMENT True EST 1975 AC SURFACE SECTION UNKNOWN							
Network: 1. L.C.D.: 01/07	0 Bra	anch: RW 1-19 (RUNWA) JNWAY Rank: P Length:	Y 1-19) 316.00 Ft	Width:	Section: 6110 Surface: AC 75.00 Ft True Area: 23,700.00 SqF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R Comments							
01/01/1996 01/01/1989	IMPORTED IMPORTED	BUILT OVERLAY			True 1996 SURFACE TREATMENT True EST 1989 AC SURFACE SECTION UNKNOWN							
Network: 1. L.C.D.: 07/0 ⁻	0 Bra 1/2008 Use: TA	anch: TWA (TAXIWA XIWAY Rank: PLength:	Y A) 1,450.00 Ft	Width:	Section: 110 Surface: AC 35.00 Ft True Area: 53,411.00 SqF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R Comments							
07/01/2008	INITIAL	Initial Construction	\$0	0.00	True							
Network: 1. L.C.D.: 01/07	0 Bra //1996 Use: TA	anch: TW A1 (TAXIWA XIWAY Rank: P Length:	Y A1) 470.00 Ft	Width:	Section: 105 Surface: AC 40.00 Ft True Area: 18.800.00 SaF							
Work Date	Work Code	Work Description	Cost	Thickness (in)	Major M&R Comments							
01/01/1996 01/01/1975	IMPORTED IMPORTED	BUILT OVERLAY			True 1996 SURFACE TREATMENT True EST 1975 AC SURFACE SECTION UNKNOWN							

Work History Report

Pavement Database:

Summary:

Work Description	Section Count	Area Total (SqFt)	Thickness Avg (in)	Thickness STD (in)
BUILT	4	348,025.00		
Initial Construction	4	149,841.00	.00	.00
OVERLAY	4	348,025.00		
Surface Seal - Rejuvenating	1	28,175.00	.00	

STD = Standard Deviation

APPENDIX B

2011 CONDITION MAP PAVEMENT CONDITION INDEX TABLE

<u>→</u>		RUNWAY 1-19 75' X 4000'	(RW 1-19)	

NUMBER	DATE REVISIONS												
DESIGNED:	FL	DRAWN:	GB	CHECKED:		DATE:	MAY 2011						
P:\Com_Shared\FDOT Ar	1/Com_Share4/DDT Aviation 2010-2011/2010-2011-Phase 8/CAEO/3n-County/003-5JD-CONDITION.deg PLOTTED: July 13, 2011 - 1:55 PM, B'rt: Burton, George												









RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.





TRI-COUNTY AIRPORT HOLMES COUNTY, FLORIDA FLORIDA DEPARTMENT OF TRANSPORTATION - AVIATION OFFICE

2011 CONDITION MAP

	Table B-1:	Pavement	Condition	Index
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Branch Name	Branch ID	Branch Use	Section ID	True Area (ft ²)	Section Rank	Surface Type	Total Samples Inspected	Total Samples	PCI	PCI Category
Apron	AP	APRON	4105	28,175	Р	AC	1	6	70	Fair
Apron	AP	APRON	4110	7,540	Т	PCC	1	3	50	Poor
Apron	AP	APRON	4115	78,540	Т	AC	3	18	79	Satisfactory
Apron	AP	APRON	4120	10,350	Т	AC	1	4	84	Satisfactory
Runway 1-19	RW 1-19	RUNWAY	6105	277,350	Р	AC	15	74	71	Satisfactory
Runway 1-19	RW 1-19	RUNWAY	6110	23,700	Р	AC	2	6	62	Fair
Taxiway A	TW A	TAXIWAY	110	53,411	Р	AC	0	6	100	Good
Taxiway A1	TW A1	TAXIWAY	105	18,800	Р	AC	2	6	74	Satisfactory

Note: If a new construction, then survey date = last construction date and PCI is set to 100 by MicroPAVER.

*Sections not surveyed due to reasons such as re-sectioning, no escort, not accessible at the time of survey.

APPENDIX C

BRANCH CONDITION REPORT SECTION CONDITION REPORT

Date: 6 /1/2011

Branch Condition Report

Pavement Database: NetworkID: 1J0

1 of 2

Branch ID	Number of Sections	Sum Section Length (Ft)	Avg Section Width (Ft)	True Area (SqFt)	Use	Average PCI	PCI Standard Deviation	Weighted Average PCI
AP (APRON)	4	1,050.00	128.75	124,605.00	APRON	70.75	12.99	75.63
RW 1-19 (RUNWAY 1-19)	2	4,014.00	75.00	301,050.00	RUNWAY	66.50	4.50	70.29
TW A (TAXIWAY A)	1	1,450.00	35.00	53,411.00	TAXIWAY	100.00	0.00	100.00
TW A1 (TAXIWAY A1)	1	470.00	40.00	18,800.00	TAXIWAY	74.00	0.00	74.00

Date: 6 /1/2011

Branch Condition Report

Pavement Database:

Use Category	Number of Sections	Total Area (SqFt)	Arithmetic Average PCI	Average PCI STD.	Weighted Average PCI
APRON	4	124,605.00	70.75	12.99	75.63
RUNWAY	2	301,050.00	66.50	4.50	70.29
TAXIWAY	2	72,211.00	87.00	13.00	93.23
All	8	497,866.00	73.75	13.90	74.95

STD = Standard Deviation

2 of 2

Date: 6 /2/2011		Section Condition Report Pavement Database: NetworkID: 1J0										
Branch ID	Section ID	Last Const. Date	Surface	Use	Rank	Lanes	True Area (SqFt)	Last Inspection Date	Age At Inspection	PCI		
AP (APRON)	4105	01/01/1996	6 AC	APRON	Р	0	28,175.00	12/10/2010	14	70.00		
AP (APRON)	4110	01/01/2001	PCC	APRON	т	0	7,540.00	12/10/2010	9	50.00		
AP (APRON)	4115	01/01/2007	AC	APRON	т	0	78,540.00	12/10/2010	3	79.00		
AP (APRON)	4120	01/01/2007	AC	APRON	т	0	10,350.00	12/10/2010	3	84.00		
RW 1-19 (RUNWAY 1-19)	6105	01/01/1996	6 AC	RUNWAY	Р	0	277,350.00	12/10/2010	14	71.00		
RW 1-19 (RUNWAY 1-19)	6110	01/01/1996	AC	RUNWAY	Р	0	23,700.00	12/10/2010	14	62.00		
TW A (TAXIWAY A)	110	07/01/2008	B AC	TAXIWAY	Р	0	53,411.00	07/01/2008	0	100.00		
TW A1 (TAXIWAY A1)	105	01/01/1996	AC	TAXIWAY	Р	0	18,800.00	12/10/2010	14	74.00		

Date: 6 /2/2011

Section Condition Report

2 of 2

Pavement Database:

Age Category	Average Age At Inspection	Total Area (SqFt)	Number of Sections	Arithmetic Average PCI	PCI Standard Deviation	Weighted Average PCI
0-02	0.00	53,411.00	1	100.00	0.00	100.00
03-05	3.00	88,890.00	2	81.50	2.50	79.58
06-10	9.00	7,540.00	1	50.00	0.00	50.00
11-15	14.00	348,025.00	4	69.25	4.44	70.47
All	8.88	497,866.00	8	73.75	13.90	74.95

APPENDIX D

PAVEMENT CONDITION PREDICTION TABLE PREDICTED PCI BY PAVEMENT USE GRAPH

Bronch Nome	Bronch ID	Section	Current	PCI Forecast									
Branch Name	Branch ID	ID	PCI	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Apron	AP	4105	70	69	68	66	65	63	62	60	59	58	56
Apron	AP	4110	50	49	46	43	41	38	36	33	31	28	25
Apron	AP	4115	79	78	77	75	74	72	71	69	68	67	65
Apron	AP	4120	84	83	82	80	79	77	76	74	73	72	70
Runway 1-19	RW 1-19	6105	71	70	69	67	66	64	63	61	60	58	57
Runway 1-19	RW 1-19	6110	62	61	60	58	57	55	54	52	51	49	48
Taxiway Alpha	TW A	110	100	95	93	91	90	88	86	85	83	81	79
Taxiway Alpha 1	TW A1	105	74	73	71	70	68	66	64	63	61	59	58

Table D-1: Pavement Condition Prediction



Figure D-1: Predicted PCI by Pavement Use

APPENDIX E

YEAR 1 MAINTENANCE ACTIVITIES TABLE

Table E-1: Year	1 Maintenance	Activities
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Branch Name	Branch ID	Section ID	Distress Description	Distress Severity	Work Description	Work Quantity	Work Unit	Unit Cost	Work Cost
Apron	AP	4105	DEPRESSION	М	Patching - AC Deep	28.80	SqFt	\$4.90	\$141.03
Apron	AP	4105	WEATH/RAVEL	L	Surface Seal - Rejuvenating	2,817.50	SqFt	\$0.40	\$1,127.01
Apron	AP	4110	DURABIL. CR	М	Patching - PCC Full Depth	175.80	SqFt	\$38.11	\$6,698.19
Apron	AP	4110	LINEAR CR	М	Crack Sealing - PCC	32.10	Ft	\$4.24	\$136.29
Apron	AP	4115	WEATH/RAVEL	L	Surface Seal - Rejuvenating	26,775.00	SqFt	\$0.40	\$10,710.09
Apron	AP	4120	WEATH/RAVEL	L	Surface Seal - Rejuvenating	724.50	SqFt	\$0.40	\$289.80
Runway 1-19	RW 1-19	6105	WEATH/RAVEL	L	Surface Seal - Rejuvenating	136,287.20	SqFt	\$0.40	\$54,515.34
Runway 1-19	RW 1-19	6105	WEATH/RAVEL	М	Surface Seal - Coat Tar	1,155.90	SqFt	\$0.40	\$462.38
Runway 1-19	RW 1-19	6105	L & T CR	М	Crack Sealing - AC	156.70	Ft	\$2.25	\$352.66
Runway 1-19	RW 1-19	6110	L & T CR	М	Crack Sealing - AC	53.70	Ft	\$2.25	\$120.87
Runway 1-19	RW 1-19	6110	WEATH/RAVEL	L	Surface Seal - Rejuvenating	23,434.60	SqFt	\$0.40	\$9,373.90
Runway 1-19	RW 1-19	6110	WEATH/RAVEL	М	Surface Seal - Coat Tar	265.40	SqFt	\$0.40	\$106.18
Taxiway Alpha 1	TW A1	105	WEATH/RAVEL	L	Surface Seal - Rejuvenating	9,870.00	SqFt	\$0.40	\$3,948.03
								Total =	\$87,981.77

APPENDIX F

MAJOR M&R PLAN BY YEAR UNDER UNLIMITED FUNDING SCENARIO TABLE

Table F-1: Major M&R Plan by Year under Unlimited Funding Scenario

Year	Branch Name	Section ID	Surface Type	Section Area (ft ²)	N	/lajor M&R Costs*	PCI Before M&R	M&R Activity	PCI After M&R
2011	Apron	4110	PCC	7,540	\$	47,426.60	49	PCC Restoration	100
2011	Runway 1-19	6110	AC	23,700	\$	74,583.95	61	Mill and Overlay	100
2015	Apron	4105	AC	28,175	\$	82,480.91	63	Mill and Overlay	100
2015	Runway 1-19	6105	AC	277,350	\$	726,708.63	64	Mill and Overlay	100
2016	Taxiway Alpha 1	105	AC	18,800	\$	50,737.28	64	Mill and Overlay	100
				Total		\$981,937.37	55		100

* Costs are adjusted for inflation.

APPENDIX G

10-YEAR M&R MAP

	FY 2011 RULINARY 1-1-19: 6110 MILL AND OVERLAY \$0.07M	RUNWAY 1–19 75' X 4000'	ENTITE EN	Image: state
NUMBER DATE	 			









RW 13-31-	TYPICAL	RUNWAY	BRANCH ID
TW A	TYPICAL	TAXIWAY	BRANCH ID
AP S	TYPICAL	APRON E	BRANCH ID

YEAF	<u> </u>
	2011
	2012
	2013
\sim	2014
\sim	2015
	2016
\sim	2017
	2018
	2019
	2020

<u>ACTIV</u>	<u>'ITY</u>
	MICROSURFACING
	MILL AND OVERLAY
	RECONSTRUCTION
6000	CONCRETE PAVEMENT



RUNWAY LENGTHS DEPICTED IN THIS DRAWING ARE FOR PAVEMENT MANAGEMENT PURPOSES ONLY AND MAY NOT MATCH PUBLISHED RUNWAY LENGTHS.

10-YEAR M & R MAP

TRI-COUNTY AIRPORT HOLMES COUNTY, FLORIDA FLORIDA DEPARTMENT OF TRANSPORTATION - AVIATION OFFICE





APPENDIX H

PHOTOGRAPHS



Runway 1-19, Section 6105, Sample Unit 179 - Low severity (45) Depression, low and medium (48) Longitudinal and Transverse Cracking, low severity (52) Weathering and Raveling, low severity (56) Swelling.



Runway 1-19, Section 6105, Sample Unit 113 - Low Severity (48) Longitudinal and Transverse Cracking, low severity (52) Weathering and Raveling, low severity (56) Swelling.



Runway 1-19, Section 6105, Sample Unit 179 - Low severity (45) Depression, low and medium (48) Longitudinal and Transverse Cracking, low severity (52) Weathering and Raveling, low severity (56) Swelling.



Runway 1-19, Section 6105, Sample Unit 161 - Low Severity (48) Longitudinal and Transverse Cracking, low severity (52) Weathering and Raveling, low severity (53) Rutting.



Apron Section 4105, Sample Unit 100 - Low severity (42) Bleeding, low and medium severity (45) Depression, low severity (48) Longitudinal and Transverse Cracking, low severity (49) Oil Spillage, low severity (52) Weathering and Raveling, low severity (56) Swelling.



Apron, Section 4115, Sample Unit 405 - Low severity (45) Depression, low severity (50) Patching, low severity (52) Weathering and Raveling.

APPENDIX I

PCI RE-INSPECTION REPORT

FDOT Report Generated Date: 5/31/2011 Site Name:

Network: 1J0	Name: TRI-COUNTY AIRPORT				
Branch: AP	Name: APRON		Use: APRON	Area: 1	24,605.008qFt
Section: 4105	of 4 From: -		То: -		Last Const.: 1/1/1996
Surface: AC	Family: FDOT-GA-AP-AC	Zone:	Category:	Rank: P	
Area: 28,175.00SqFt	Length: 125.00Ft	Width:	225.00Ft		
Shoulder: Street Section Comments:	Type: Grade: 0.00	Lanes: 0			
Last Insp. 12/10/2010 Conditions: PCI:70.00 Inspection Comments:	0 Total Samples: 6 Su	rveyed: 1			
Sample Number: 100	Туре: к	Area: 5,0	00.008qFt	PCI = 70	
Sample Comments: 52 WEATH/RAVEL		т.	500 00 SaFt	Comments:	
45 DEPRESSION		M	2 00 Saft	Comments:	
42 BLEEDING		Т.	6 00 SaFt	Comments:	
48 L & T CR			103.00 F ⁺	Comments:	
56 SWELLING		T.	25.00 SaFt	Comments:	
49 OTL SPILLAGE		T.	43.00 SaFt	Comments:	
45 DEPRESSION		_ L	75.00 SqFt	Comments:	
			T -		

FDOT Report Generated Date: 5/31/2011 Site Name:

Network:	1J0	Name:	TRI-COUNT	Y AIRPORT						
Branch:	AP	Name:	APRON				Use: APRON	Ar	rea:	124,605.008qFt
Section:	4110	of 4	From:	NW END			To: SECTION	V 4105		Last Const.: 1/1/2001
Surface:	PCC	Fami	ly: FDOT-GA	A-PCC	Z	Zone:	Category:	Rank: T		
Area:	7,540.00SqFt	L	ength:	250.00Ft		Width:	22.00Ft			
Shoulder: Section Comr	Street 7	Type:	Grade:	0.00	Lanes: 0					
Last Insp. Conditions Inspection Co	12/10/2010 S: PCI:50.00 mments:	Total S	Samples: 3	Surve	yed: 1					
Sample Ni	umber: 301	Ту	pe: R		Area:	14	.0081abs	PCI = 5	0	
Sample Comm 62 CORN	nents: ER BREAK				I		1.00 Slab	s Con	ments	:
66 SMAL	L PATCH				I	J	1.00 Slab	s Com	ments	:
65 JT S	EAL DMG				I	L	14.00 Sla	bs Co	omments	3:
C2 T TNT					M	1	1.00 Slab	s Com	ments	
03 LINE	AR CR				-			0 000		•
63 LINE 64 DURA	AR CR BIL. CR				ŀ	1	1.00 Slab	s Con	ments	:
63 LINE 64 DURA 70 SCAL	BIL. CR				M	1	1.00 Slab 4.00 Slab	s Con s Con	aments	: :
63 LINE64 DURA70 SCAL73 SHRI	AR CR BIL. CR ING NKAGE CR				M I I	1 - -	1.00 Slab 4.00 Slab 7.00 Slab	s Con s Con s Con	aments aments aments	: :
64 DURA 70 SCAL 73 SHRT	AR CR BIL. CR ING NKAGE CR				M I T	1	1.00 Slab 4.00 Slab 7.00 Slab	s Com s Com s Com	aments aments	: :

FDOT	
Report Generated Date:	5/31/2011
Site Name:	

Network: 1J0	Name: TRI-COUNTY AIRF	PORT			
Branch: AP	Name: APRON		Use: APRON	Area:	124,605.008qFt
Section: 4115 Surface: AC Area: 78,540.006qFt Shoulder: Street Ty Section Comments:	of 4 From: SECT Family: FDOT-GA-AP-A Length: 330 ype: Grade: 0.00	ION 4105 AC Zone: 0.00Ft Widt Lanes: 0	To: SECTIO: Category: th: 238.00Ft	N 4120 Rank: т	Last Const.: 1/1/2007
Last Insp. 12/10/2010 Conditions: PCI:79.00 Inspection Comments:	Total Samples: 18	Surveyed: 3			
Sample Number: 200	Туре: к	Area:	2,100.00SqFt	PCI = 85	
52 WEATH/RAVEL 45 DEPRESSION		L L	225.00 SqFt 16.00 SqFt	Comments: Comments:	
Sample Number: 303	Туре: к	Area:	5,000.00SqFt	PCI = 78	
Sample Comments: 52 WEATH/RAVEL 50 PATCHING		L L	2,550.00 SqFt 0.25 SqFt	Comments: Comments:	
Sample Number: 405	Туре: к	Area:	5,000.008qFt	PCI = 77	
52 WEATH/RAVEL 45 DEPRESSION 50 PATCHING		L L L	1,350.00 SqFt 130.00 SqFt 0.25 SqFt	Comments: Comments: Comments:	

FDOT Report Generated Date: 5/31/2011 Site Name:

Network:	1J0	Name: TRI-COUNTY AIRPOR	RT			
Branch:	AP	Name: APRON		Use: APRON	Area:	124,605.008qFt
Section: Surface: Area: Shoulder: Section Comm	4120 AC 10,350.008qFt Street 7 ments:	of 4 From: SECTION Family: FDOT-GA-AP-AC Length: 345.00 Fype: Grade: 0.00	N 4115 Zone: Ft Width Lanes: 0	To: S END Category: : 30.00Ft	Rank: T	Last Const.: 1/1/2007
Last Insp. Condition Inspection Co	12/10/2010 s: PCI:84.00 pmments:	Total Samples: 4	Surveyed: 1			
Sample No	umber: 203	Туре: к	Area: 2	,000.008qFt	PCI = 84	
52 WEAT	H/RAVEL		L	140.00 SqFt	Comments	:
45 DEPR	RESSION		\mathbf{L}	30.00 SqFt	Comments	:
56 SWEL	LING		${ m L}$	3.00 SqFt	Comments	:

FDOT	
Report Generated Date:	5/31/2011
Site Name:	

Network: 1J0	Name: TRI-COUNTY AIRPORT						
Branch: RW 1-19	Name: RUNWAY 1-19			Use: RI	JNWAY	Area:	301,050.008qFt
Section: 6105 Surface: AC Area: 277,350.008qFt Shoulder: Street T Section Comments:	of 2 From: - Family: FDOT-GA-RW-AC Length: 3,698.00Ft ype: Grade: 0.00	Lanes:	Zone: Width: 0	To: - Categ 75.00	gory: Œt	Rank: P	Last Const.: 1/1/1996
Last Insp.12/10/2010Conditions:PCI:71.00 Inspection Comments:	Total Samples: 74 Sur	veyed: 15					
Sample Number: 109	Type: R	Area:	3,7:	50.00SqFt		PCI = 68	
Sample Comments: 48 L & T CR 52 WEATH/RAVEL 52 WEATH/RAVEL			L L 2 M	126.00 2,200.00 36.00	Ft SqFt SqFt	Comments Comments Comments	: : :
Sample Number: 113 Sample Comments:	Туре: к	Area:	3,75	50.008qFt		PCI = 71	
48 L & T CR 52 WEATH/RAVEL 56 SWELLING			L L 2 L	78.00 2,500.00 1.00	Ft SqFt SqFt	Comments Comments Comments	: :
Sample Number: 119	Туре: к	Area:	3,75	50.008qFt		PCI = 70	
Sample Comments: 48 L & T CR 52 WEATH/RAVEL 48 L & T CR 52 WEATH/RAVEL			M M L L 1	1.00 100.00 101.00	Ft SqFt Ft SqFt	Comments Comments Comments Comments	: : :
Sample Number: 125	Туре: к	Area:	3,75	50.008qFt		PCI = 73	
Sample Comments: 52 WEATH/RAVEL 48 L & T CR			L 2 L	2,350.00 140.00	SqFt Ft	Comments Comments	:
Sample Number: 131	Туре: к	Area:	3,7:	50.00SqFt		PCI = 68	
48 L & T CR 52 WEATH/RAVEL 52 WEATH/RAVEL 56 SWELLING			L L 1 M L	66.00 .,950.00 100.00 4.00	Ft SqFt SqFt SqFt	Comments Comments Comments Comments	: : :
Sample Number: 137	Туре: к	Area:	3,75	50.008qFt		PCI = 75	
48 L & T CR 52 WEATH/RAVEL			L L 1	132.00	Ft SqFt	Comments Comments	:
Sample Number: 143 Sample Comments: 48 L & T CR	Туре: к	Area:	3,7: L	50.00SqFt 64_00	Ft	PCI = 78 Comments	:
52 WEATH/RAVEL			 L 1	,300.00	SqFt	Comments	:
Sample Number: 149	Туре: к	Area:	3,7:	50.00SqFt		PCI = 75	
48 L & T CR			М	3.00	Ft	Comments	:

Report Generated Date: 5/31/2011 Site Name:

52 WEATH/RAVEL			т.	1 100 00 Sc	αFt	Comments:	
48 L & T CR			L	129.00 Ft	t	Comments:	
Sample Number: 153 Sample Comments:	Туре: к	Area:		3,750.008qFt		PCI = 69	
52 WEATH/RAVEL			L	1,950.00 Sc	qFt	Comments:	
56 SWELLING			L	86.00 Sc	qFt	Comments:	
48 L & T CR			L	155.00 Ft	t	Comments:	
Sample Number: 157 Sample Comments:	Туре: к	Area:		3,750.008qFt		PCI = 71	
48 L & T CR			L	104.00 Ft	t	Comments:	
52 WEATH/RAVEL			L	2,800.00 Sc	qFt	Comments:	
Sample Number: 161 Sample Comments:	Туре: к	Area:		3,750.008qFt		PCI = 68	
52 WEATH/RAVEL			L	2,400.00 Sc	qFt	Comments:	
48 L & T CR			L	148.00 Ft	t	Comments:	
53 RUTTING			L	100.00 Sc	qFt	Comments:	
Sample Number: 165 Sample Comments:	Туре: к	Area:		3,750.008qFt		PCI = 61	
52 WEATH/RAVEL			L	1,850.00 Sc	qFt	Comments:	
53 RUTTING			L	150.00 Sc	qFt	Comments:	
50 PATCHING			L	0.25 Sc	qFt	Comments:	
48 L & T CR			L	176.00 Ft	t	Comments:	
56 SWELLING			L	70.00 Sc	qFt	Comments:	
Sample Number: 171 Sample Comments:	Туре: к	Area:		3,750.008qFt		PCI = 76	
52 WEATH/RAVEL			L	1,325.00 Sc	qFt	Comments:	
48 L & T CR			L	191.00 Ft	t	Comments:	
56 SWELLING			L	16.00 Sc	qFt	Comments:	
Sample Number: 177 Sample Comments:	Туре: к	Area:		3,750.008qFt		PCI = 76	
52 WEATH/RAVEL			L	900.00 Sc	qFt	Comments:	
48 L & T CR			L	72.00 Ft	t	Comments:	
56 SWELLING			L	62.00 Sc	qFt	Comments:	
Sample Number: 179 Sample Comments:	Туре: к	Area:		4,125.008qFt		PCI = 64	
48 L & T CR			L	178.00 Ft	t	Comments:	
48 L & T CR			М	28.00 Ft	t	Comments:	
45 DEPRESSION			L	15.00 Sc	qFt	Comments:	
56 SWELLING			L	22.00 Sc	qFt	Comments:	
52 WEATH/RAVEL			L	2,400.00 Sc	qFt	Comments:	

FDOT

FDOT Report Generated Date: 5/31/2011 Site Name:

Network: 1J0	Name: TRI-COUNTY AIRPORT				
Branch: RW 1-19	Name: RUNWAY 1-19		Use: RUNWAY	Area:	301,050.008qFt
Section: 6110 Surface: AC Area: 23,700.00&qFt Shoulder: Street Section Comments:	of 2 From: - Family: FDOT-GA-RW-AC Length: 316.00Ft Type: Grade: 0.00	Zone: Width Lanes: 0	To: - Category: n: 75.0(Ft	Rank: P	Last Const.: 1/1/1996
Last Insp. 12/10/201 Conditions: PCI:62.00 Inspection Comments:	0 Total Samples: 6 Sur	veyed: 2			
Sample Number: 102	Туре: к	Area:	3,750.008qFt	PCI = 65	
52 WEATH/RAVEL		L	3,750.00 SqFt	Comments:	
48 L & T CR		${}^{ m L}$	94.00 Ft	Comments:	
48 L & T CR		М	4.00 Ft	Comments:	
Sample Number: 104 Sample Comments:	Туре: к	Area: 3	3,750.008qFt	PCI = 59	
48 L & T CR		М	13.00 Ft	Comments:	
52 WEATH/RAVEL		L	3,666.00 SqFt	Comments:	
52 WEATH/RAVEL		М	84.00 SqFt	Comments:	
48 L & T CR		L	105.00 Ft	Comments:	

FDOT Report Generated Date: 5/31/2011 Site Name:

Network:	1 J 0	Name: TRI-COUNTY AIRPORT				
Branch:	TW A	Name: TAXIWAY A		Use: TAXIWAY	Area:	53,411.00SqFt
Section: Surface: Area: Shoulder: Section Com	110 AC 53,411.005qFt Street ments:	of 1 From: - Family: FDOT-GA-TW-AC Length: 1,450.00Ft Type: Grade: 0.00	Zone: Width: Lanes: 0	To: - Category: 35.00Ft	Rank: P	Last Const.: 7/1/2008
Last Insp. Condition Inspection Co	7/1/2008 s: PCI:100.00 pmments: Constru	Total Samples: 15 Sur	veyed: 0			

Sample Number: <NO SAMPLE RECORDS> Type: Area: 0.00

FDOT Report Generated Date: 5/31/2011 Site Name:

Network:	1J0	Name: TRI-COUNTY AIR	PORT				
Branch:	TW A1	Name: TAXIWAY A1			Use: TAXIWAY	Area:	18,800.008qFt
Section:	105	of 1 From: -			То: -		Last Const.: 1/1/1996
Surface: Area:	AC 18,800.005qFt	Family: FDOT-GA-TW- Length: 47	AC 0.00Ft	Zone: Width:	Category: 40.00Ft	Rank: P	
Shoulder: Section Comm	Street T	Sype: Grade: 0.00	Lanes	: 0			
Last Insp. Conditions Inspection Con	12/10/2010 : PCI:74.00 nments:	Total Samples: 5	Surveyed: 2				
Sample Nu	mber: 101	Туре: к	Area:	4,000	008qFt	PCI = 74	
52 WEATH	H/RAVEL			ь 2,	200.00 SqFt	Comments	:
48 L & 7	r CR			L	168.00 Ft	Comments	:
Sample Nu Sample Comm	mber: 103	Туре: к	Area:	4,000	008qFt	PCI = 75	
52 WEATH	H/RAVEL			ь 2,	000.00 SqFt	Comments	:
48 L & 7	Г CR			L	123.00 Ft	Comments	: