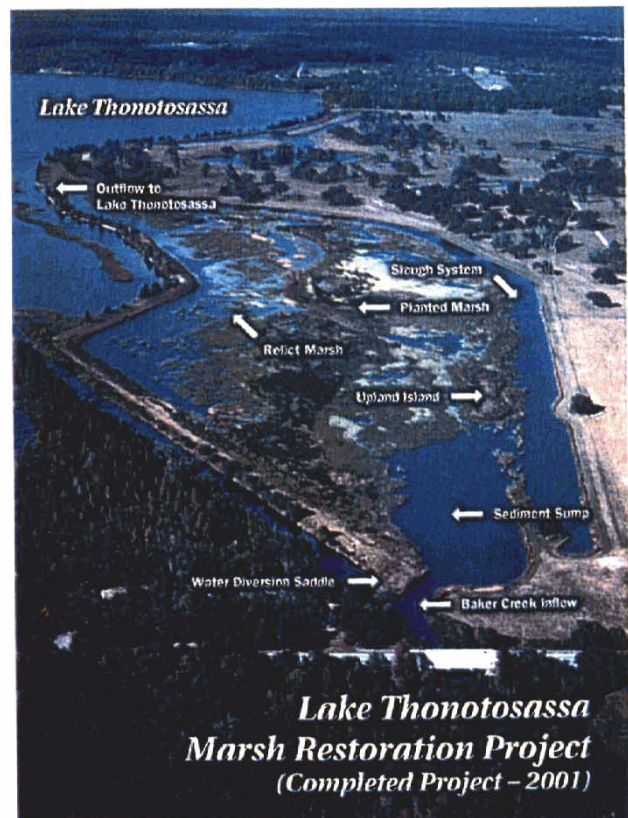
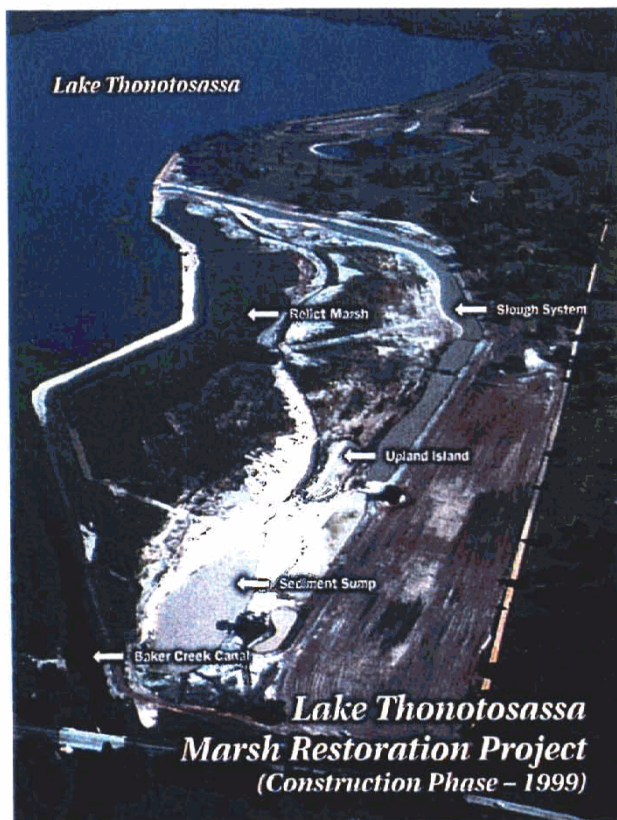


# Lake Thonotosassa

## *Surface Water Improvement and Management (SWIM) Plan*



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## **ACKNOWLEDGMENTS**

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Florida Department of Environmental Protection  
Southwest Florida Water Management District  
Florida Fish and Wildlife Conservation Commission  
Hillsborough County Environmental Protection Commission  
Hillsborough County Public Works Department  
City of Plant City

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## EXECUTIVE SUMMARY

With a surface area exceeding 800 acres, Lake Thonotosassa is the largest natural lake in Hillsborough County and one of the few in the area offering public access. The lake and its tributaries are Class III water bodies, whose designated uses under Rule 62-302.400, Florida Administrative Code (F.A.C.), include human recreation and the "propagation and maintenance of a healthy, well-balanced population of fish and wildlife." Historically, however, the lake has received nutrient-rich runoff from a variety of point and non-point sources which resulted in the degradation of water quality within the lake and downstream waterbodies.

Prior to 1970, water quality in Lake Thonotosassa and its tributary streams was degraded over a period of several decades by a combination of domestic wastewater effluent, agricultural and urban stormwater runoff, and nutrient-enriched industrial wastewater generated by food-processing facilities located primarily in the eastern and southern portions of the watershed. Improved treatment of domestic and industrial wastewater was initiated in the watershed in 1970, following an extremely large fish kill that occurred in the lake during 1969. This initial effort to improve water quality was only partially successful, however, and nutrient-enriched water continued to enter the lake via Baker Creek, the sole inlet stream.

In recognition of the lake's regional significance, its recreational popularity, its degraded water quality, and the fact that it discharges to the Hillsborough River which provides municipal water supply for the City of Tampa, Lake Thonotosassa was designated the District's eighth-ranked SWIM priority water body in 1988. An initial SWIM management plan was approved by the FDER (now FDEP) and adopted by the District in 1990, while a second, more comprehensive plan was approved and adopted in 1996. In addition, Lake Thonotosassa, Baker Creek and its tributaries, and Flint Creek are included on Florida's 303(d) list and are scheduled for Total Maximum Daily Load (TMDL) development in 2003.

Work performed under the initial SWIM Plan focused primarily on diagnostic studies designed to estimate historical water quality conditions within the lake, determine the nature and magnitude of existing water quality problems, and develop clearly-defined strategies (including numerical water quality targets and pollutant load reduction goals) for water quality restoration. Following adoption of the initial SWIM Plan, water quality restoration efforts focused on improved regulation of point source discharges. During the early 1990's, those efforts resulted in a 60% reduction of the lake's annual phosphorous loadings and moderate improvements in overall water quality.

Work performed under the second SWIM Plan focused on the implementation of water quality improvement projects designed to treat non-point source pollution prior to entering the lake as well as improved regulation of point source discharges. Despite these improvements, the lake continues to experience episodic blooms of blue-green algae due to elevated concentrations of in-lake phosphorous and nitrogen. Between 1995 and 2000, Lake Thonotosassa had an average Trophic State Index (TSI) of 81, indicating extremely nutrient-enriched (hypereutrophic) conditions brought about by anthropogenic nutrient loadings discharged from the watershed. The water quality target proposed by SWIM for lake

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restoration is a TSI of 60 (moderately eutrophic), which is consistent with historical conditions as supported by analyses of sediment cores taken from the lake bottom. A TSI value of 60 would provide adequate water quality to support the lake's native wildlife populations and desirable recreational uses, reduce nutrient loadings (and resulting blue-green algae blooms) in the City of Tampa drinking water reservoir, and improve water quality in the Hillsborough River and, ultimately, Tampa Bay.

Achieving needed reductions in nutrient concentrations and loadings will require continued coordination between state and federal regulatory agencies, the water management district, local governments (City of Plant City, Hillsborough County), the Tampa Port Authority, federal and state agricultural agencies, local agricultural operations, private property owners, and other private-sector participants. The continued implementation of water quality improvement and habitat restoration projects as well as strict regulation of existing (and future) point source discharges are critical to the long-term health of the lake and downstream water bodies.

This revised Lake Thonotosassa SWIM Plan outlines strategies to improve water quality and habitat within the lake and its watershed, while providing details for projects that implement these strategies. In addition to improving water quality and habitat within Lake Thonotosassa, several of these projects will be used to refine the District and County's understanding of the lake system. The Lake Thonotosassa SWIM Plan serves as the guidance document for coordinating the efforts of the District, Hillsborough County and the State of Florida to restore and protect Lake Thonotosassa.

## **INTRODUCTION**

### **The SWIM Act**

In recognition of the need to place additional emphasis on the restoration, protection and management of the surface water resources of the State, the Florida Legislature, through the Surface Water Improvement and Management (SWIM) Act of 1987, directed the state's water management districts to "design and implement plans and programs for the improvement and management of surface water" (Section 373.451, Florida Statutes). The SWIM legislation requires the water management districts to protect the ecological, aesthetic, recreational, and economic value of the state's surface water bodies, keeping in mind that water quality degradation is frequently caused by point and non-point source pollution, and that degraded water quality can cause both direct and indirect losses of habitats.

Under the Act, water management districts prioritize water bodies based on their need for protection and/or restoration. This prioritization process is carried out in cooperation with the Florida Department of Environmental Protection (FDEP), the Florida Fish and Wildlife Conservation Commission (FFWCC, formerly the Florida Game and Freshwater Fish Commission or FGFWFC), the Department of Agriculture and Consumer Services (DACS), the Department of Community Affairs (DCA) and local governments.

Following the selection of the priority water bodies and in accordance with the SWIM Act, a SWIM Plan must be drafted, reviewed and approved, before SWIM funds can be spent on restoration, protection or management activities. The purpose of the Lake Thonotosassa SWIM Plan is to set forth a realistic course of action, identifying the projects and the efforts needed to accomplish them. The Act also requires that the plans be updated at a minimum once every three years. The history of Lake Thonotosassa SWIM Plans is discussed in the following section. An updated watershed/land use map is provided in Appendix B for the reader's use.

### **Lake Thonotosassa SWIM Plan - The Third Generation**

SWIM management plans are intended to be action-oriented documents rather than summaries of issues or policy. They serve to guide SWIM Program staff in water body restoration and protection efforts, and are available to local governments for incorporation into updates of comprehensive plans. The plans are not static entities, but are updated on a regular basis to take advantage of new diagnostic data and improved management techniques as they become available.

Work performed under the initial Lake Thonotosassa SWIM Plan focused primarily on diagnostic studies designed to estimate historical water quality conditions within the lake, determine the nature and magnitude of existing water quality problems, and develop clearly-defined strategies (including numerical water quality targets and pollutant load reduction goals) for water quality restoration. The most significant projects funded through the initial SWIM Plan provided: 1) water and nutrient budgets for the lake and its contributing watershed; 2) an

assessment of sedimentation rates in the lake basin and estimation of historical water quality conditions based on biological, chemical, and physical analyses of lake sediments; 3) the development of management-oriented water quality models which have been used, in conjunction with information on historical water quality conditions, to develop pollutant load reduction goals; and 4) an assessment of existing and potential wildlife habitat in the lake and its contributing watershed.

A District-funded project, *Final Report: Lake Thonotosassa Diagnostic Feasibility Study (LTDFS)* (Dynamac Corp. 1992), was completed in 1992. This report provided much of the scientific data needed to characterize the existing water quality and hydrological and ecological conditions of the lake. This report also established a scientific basis for setting a number of management goals for the lake and its watershed. In addition, general strategies to control point and nonpoint source pollution were outlined, which allowed for the development of specific water quality improvement and habitat restoration projects identified in the 1996 revision of the Lake Thonotosassa SWIM Plan.

The 1996 Lake Thonotosassa SWIM Plan was organized according to a hierarchical system of goals, strategies, initiatives, programs, and projects. Goals were intended to be broad-based, addressing priority issues affecting the waterbody and identifying long-term programmatic objectives. Strategies identified the approaches proposed to meet those objectives, and provided an underlying logical framework that was used in formulating the body of the plan. Initiatives and programs included more detailed information on the approaches proposed for addressing priority issues, and were organized following four areas of concern (water quality, natural systems, land use, and resource management) emphasized in the 1987 SWIM legislation.

## **LAKE THONOTOSASSA MANAGEMENT ISSUES**

The LTDFS (Dynamac Corp. 1992) and 1996 Lake Thonotosassa SWIM Plan identified management issues, goals and strategies aimed at maintaining and where feasible, restoring the hydrological and ecological integrity of the lake and its watershed. In preparing this revision of the Lake Thonotosassa SWIM Plan, District staff reviewed both documents and then selected management goals, issues and strategies that can be accomplished within the legislative charge of SWIM, which is improving or protecting water quality and natural systems. The following management issues are the basis for this revision of the Lake Thonotosassa SWIM Plan.

### **Water Quality**

#### Water Quality Data and Trends

The primary concern with regard to water quality in Lake Thonotosassa is related to cultural eutrophication caused by unnatural and excessive increases in nutrients entering the waterbody. This has led to an increase of undesirable blooms of algae, loss of desirable rooted aquatic plants and other adverse ecological changes. Following an extremely large fish

kill that occurred in the lake during 1969, efforts to improve treatment of domestic and industrial wastewater were initiated throughout the watershed. Initial efforts to improve water quality, however, were only partially successful and nutrient-enriched water continued to enter the lake via Baker Creek, the sole inlet stream.

Following adoption of the 1990 and 1996 SWIM Plans, water quality restoration efforts in the Lake Thonotosassa watershed focused primarily on improved regulation of point source discharges. Two major point source discharges were taken off-line in the 1990's. The first, Florida Sno-Man, Inc., d/b/a Treasure Isle, Inc., ceased operation during the fall of 1992. This facility discharged up to 0.73 MGD of nutrient-enriched industrial effluent from a seafood processing and packing plant that entered the Baker Creek Tributary Canal through an abandoned phosphate mining pit and drainage ditch. Between 1989 and 1992, this resulted in an annual average discharge of 11,781 kg/yr of phosphorous and 13,760 kg/yr of nitrogen (Dynamac Corp. 1992). The second, the City of Plant City Wastewater Treatment Plant (WWTP), ceased its discharge of effluent to Pemberton Creek in 1997. Historically, this WWTP was a major source of increased nutrient loading to Lake Thonotosassa (see Appendix A).

Since the early 1900's, the shift from eutrophic ( $TSI=60$ ) to hypereutrophic ( $TSI>70$ ) water quality conditions in Lake Thonotosassa occurred as a result of increasing nutrient loadings from a combination of domestic wastewater, industrial effluents, and agricultural and urban stormwater runoff. The Hillsborough County Environmental Protection Commission (EPC) has monitored water quality in Lake Thonotosassa since 1975. Annual averages for a variety of water quality parameters for Lake Thonotosassa for the period 1992-2000 are listed in Table 1.

Although improvements in total phosphorous concentrations have occurred since 1992 (and prior years), monitoring data collected by the EPC indicate that overall water quality in Lake Thonotosassa has remained unacceptably low during the nine year period 1992 - 2000 (Table 1). For example, annual average chlorophyll-a concentrations, which provide a measure of algal biomass and degree of lake eutrophication, have ranged from 62 ug/L to 179 ug/L during this time period. Under current state standards, average chlorophyll-a levels greater than 40 ug/L are considered indicative of poor water quality in Florida lakes (FDER 1988). In addition, EPC data also show a substantial increase in chlorophyll-a from 1998 to 2000 (Figure 1). This apparent increasing trend is likely due to an ongoing severe drought that began in 1998 and has continued through 2001. It is believed that a substantial lack of rainfall over this time period (especially during the historic dry season, March - May) led to reduced flushing of the lake and stagnant conditions. These conditions, combined with an abundance of existing in-lake nutrients and organic sediments, could have promoted an increase in chlorophyll-a over this three-year period. It is important to note, however, that because nutrient supplies are often in excess of the algae populations' ability to fully utilize them, other environmental factors, such as micronutrients, light, temperature, and wind can become the driving forces behind algal productivity in eutrophic and hypereutrophic lakes (Dynamac Corp. 1992).

Although average annual total phosphorous concentrations in Lake Thonotosassa have declined substantially since the mid-1980's, average annual values at the EPC mid-lake monitoring station varied from 0.3 to 0.77 mg/L during the period 1992 - 2000. These values are significantly higher than the water quality target of 0.07 mg/L. High concentrations of total phosphorous in Baker Creek (Table 2) during the period 1992 - 2000 underscore the importance of improving water quality throughout the watershed. As mentioned earlier, phosphorous loadings from permitted point sources have declined since the 1992 closure of the Sno-Man seafood processing plant and cessation of surface water discharges from the Plant City Wastewater Treatment Plant in 1997. However, nonpoint source discharges such as stormwater runoff must also be adequately addressed. Average annual total nitrogen concentrations in Lake Thonotosassa were high during the period 1992 - 2000, ranging from 1.8 to 4.1 mg/L. The target for average annual total nitrogen concentration in Lake Thonotosassa is 1.2 mg/L. Between 1999 and 2001, the District's SWIM Program and its cooperators completed several projects designed to treat stormwater runoff and reduce nutrient and sediment loading within the watershed. These projects are detailed in the "management strategies" section of this document. The development of water quality targets and pollutant load reduction goals for Lake Thonotosassa is detailed in Appendix A.

Other water quality parameters for the period 1992 -2000 have indicated consistently poor water quality within Lake Thonotosassa (Table 1). Biochemical oxygen demand (BOD) in lake water was high during 1992 -2000, with annual average values at the EPC mid-lake monitoring station ranging between 4.6 and 7.2 mg/L (Table 1). Low dissolved oxygen levels produced as a result of elevated BOD in the water column and sediments are thought to have been contributing factors in previous fish kills in Lake Thonotosassa (SWFWMD 1996). Given the hypereutrophic state of the lake, nocturnal and near-dawn dissolved oxygen concentrations observed near the lake bottom have frequently violated state standards (Dynamac 1992).

The annual average trophic state index (TSI) value for Lake Thonotosassa, calculated using the TSI developed by Carlson (1977) and modified for Florida lakes by the former Florida Department of Environmental Regulation (FDER 1988), has exceeded 75 every year between 1992 and 2000. The annual average trophic state index (TSI) value for the lake also increased dramatically from 76.41 in 1998 to 89.93 in 2000. This increasing trend bears watching, although it may be a temporal effect of poor lake flushing resulting from extended drought conditions. In general, average TSI values of 70 - 100 are indicative of poor water quality in Florida freshwater systems (FDER 1988).

#### Pollutant Load Reduction Goal

Pursuant to State Water Policy, Chapter 62-40, Florida Administrative Code (FAC), a pollutant load reduction goal (PLRG) is to be developed for each SWIM waterbody and adopted as part of the SWIM Plan. By definition a "PLRG means estimated numeric reductions in pollutant loadings needed to preserve or restore designated uses of receiving bodies of water and maintain water quality consistent with applicable state water quality standards" (Chapter 62-40.210(18)). Chapter 62-40.432(5)(c) and (d) further discuss the intent of PLRGs which is to reduce pollutants from older stormwater management systems to restore or maintain the beneficial uses of waters.

One method for setting a PLRG is referencing a desired TSI value and establishing the PLRG as the reduction in nutrients needed to meet the desired TSI. The 1996 Lake Thonotosassa SWIM Plan proposed a value of TSI=60 as an appropriate water quality target for the Lake Thonotosassa restoration effort (SWFWMD 1996). As outlined in the 1996 Plan, achieving a target value of TSI=60 requires that the average annual loadings of total phosphorous to Lake Thonotosassa be reduced by 20,500 kg/yr to approximately 3,400 kg/yr and average total nitrogen loadings be reduced below 65,600 kg/yr (numbers are based on average lake conditions over the period 1985-1994 and cessation of surface water discharge from the Plant City WWTP in 1997). Achieving these PLRGs should result in the annual average concentrations of chlorophyll-a, total phosphorous, and total nitrogen in the water column of the lake to be reduced to 20.0 ug/L, 0.07 mg/L, and 1.2 mg/L, respectively (FDER 1990). Water clarity, as measured by annual average Secchi depth, should be increased to about 1.0 m (FDER 1990). The Plan also mentions that, in order to incorporate natural environmental variability and maintain appropriate flexibility in the resource management effort, a range of +/- 10% around the nutrient and chlorophyll targets may be more appropriate than the selection of single, fixed values (SWFWMD 1996).

A detailed analysis of water quality targets and pollutant load reduction goals was performed for the 1996 Lake Thonotosassa SWIM Plan and is set forth in Appendix A. The water quality targets and PLRG's contained therein should continue to guide the management of Lake Thonotosassa until they are refined using available data and models.

Water quality and natural systems restoration strategies to address external anthropogenic pollutant loadings (e.g. stormwater treatment, habitat restoration, and erosion control) were identified in the 1996 Lake Thonotosassa SWIM Plan (SWFWMD 1996). Many of these strategies have been implemented and are discussed in the "management strategies" section.

## **Natural Systems**

### Aquatic Vegetation

In the 1990 SWIM Plan, the Natural Systems Initiative section addressed an ongoing decline in habitat quality and plant species richness within Lake Thonotosassa. Because of the lake's highly eutrophic state, submerged aquatic species that once thrived in the lake had declined dramatically. Lake surveys conducted by the Florida Game and Fresh Water Fish Commission (FGFWFC) in the 1960's indicated the presence of abundant submerged aquatic vegetation including eelgrass (Vallisneria americana), pondweed (Potamogeton spp.), coontail (Ceratophyllum spp.), elodea (Elodea spp.), and hydrilla (Hydrilla verticillata). According to these surveys, the predominant aquatic plant in Lake Thonotosassa was eelgrass, which occupied between 50 to 100 acres of lake surface area (Rosegger 1995). By 1992, the Florida Department of Natural Resources reported that this species occupied less than 11 acres within the lake. It is surmised that cattail (Typha latifolia), a nuisance emergent species, expanded to occupy the niche of this once prevalent aquatic species (Rosegger 1995). One of the projects to evolve from the 1990 SWIM plan was the Spring 1993 Lake Thonotosassa Drawdown and Littoral Habitat Expansion Project jointly implemented by the SWIM Program and the FGFWFC. The objective of the project was to expand quality fish and wildlife habitat

by introducing endemic emergent and submerged aquatic plant species to specific areas within the lake. While the project was quite successful in establishing selected emergent species such as giant bulrush (*Scirpus californicus*) and knotgrass (*Paspalidium geminatum*), it was less successful in reestablishing eelgrass (Rosegger 1995). Poor water clarity within the lake may have limited this species' ability to survive and/or expand. Even so, Lake Thonotosassa should continue to be managed to promote the expansion of desirable endemic submerged aquatic vegetation, as well as to increase the diversity of the emergent community. Lakes with healthy submerged aquatic plant communities, in particular, tend to have fewer problems with severe nuisance algal blooms. It is hoped that recently completed and ongoing water quality improvement projects within the watershed will enhance in-lake water quality, thus promoting the eventual expansion of existing endemic submerged aquatic vegetation in Lake Thonotosassa.

Controlling hydrilla, a rooted exotic submerged plant, cattail, a native emergent species, water hyacinth (*Eichhornia crassipes*), a floating exotic plant, water lettuce (*Pistia stratiotes*), a floating exotic plant, and torpedograss (*Panicum repens*), an exotic aquatic grass, constitutes the focus of aquatic plant issues in Lake Thonotosassa. The proliferation of these species appears to have decreased diversity in both the emergent and aquatic plant community over the last 30 years. The FGFWFC/SWIM littoral habitat expansion project and the recently completed 51 acre SWIM marsh restoration project located on the southeastern shore of Lake Thonotosassa have increased the coverage and density of endemic emergent and aquatic plant species within the lake. However, the aforementioned exotic and nuisance aquatic plant species threaten to erase any gains made since these projects were completed in 1995 and 1999, respectively. The Hillsborough County Mosquito Control section is responsible for implementing exotic plant control efforts over Lake Thonotosassa, including all littoral zones and marsh areas. Over the past several years, the County and District have coordinated their efforts to control exotic and nuisance species throughout the lake and, in particular, those areas where SWIM funds have been spent on restoration activities.

### Fisheries

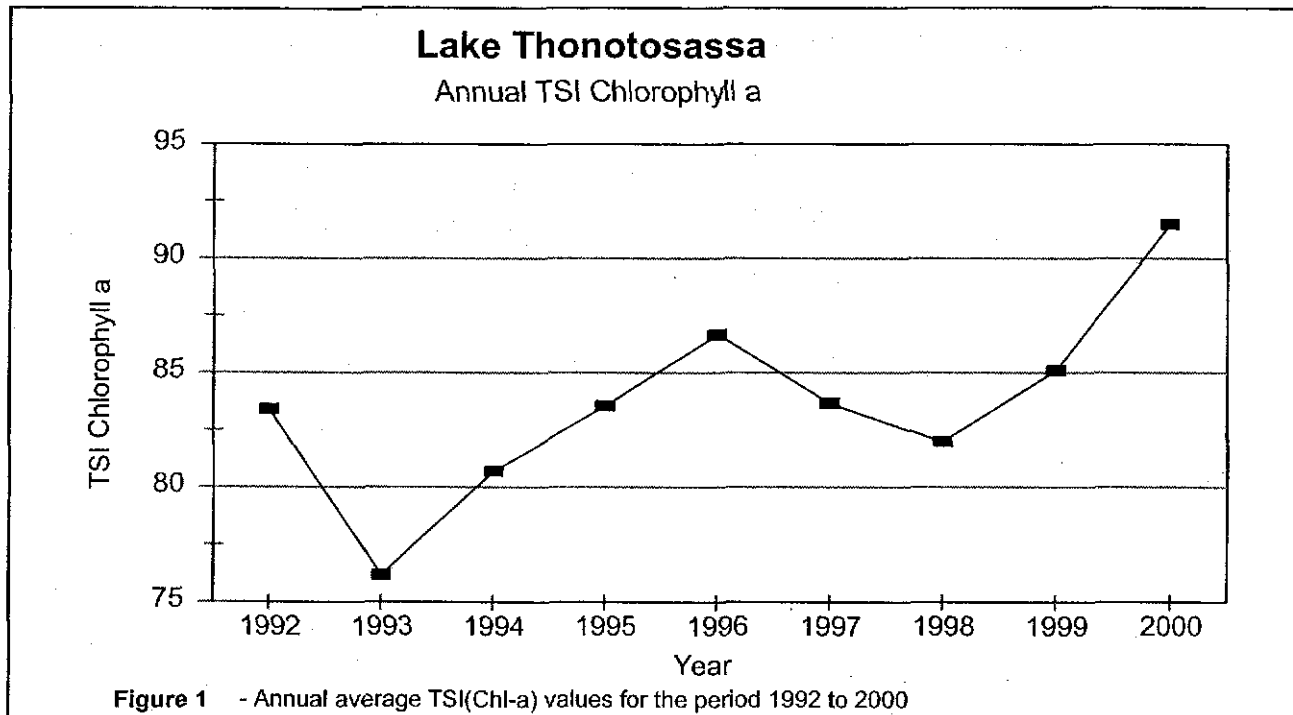
As eutrophication has proceeded within the lake, water quality degradation has also affected resident fish populations. Approximately 90% of the fish present in the lake are estimated to have died during the fish kill that occurred in 1969 (Cowell et al. 1975). Other documented fish kills occurred in February 1971 (few thousand fish; variety of species), April 1971 (4,000 Bluegill [*Lepomis macrochirus*]), and May 1994 (60,000 Blue tilapia [*Tilapia aurea*]) (personal communication, T. Coughlin, FFWCC, January 2002). In addition to poor water quality, spawning stress may have played a significant role in the April 1971 and May 1994 fish kills (personal communication, T. Coughlin, FFWCC, January 2002).

Historically, the lake provided an excellent sport fishery and was designated a fishery management area by the FGFWFC in 1964. In that year the Commission also applied chemical treatments that killed an estimated 50,000 pounds of shad (*Dorosoma* sp.) and other nongame fish (Reichenbaugh and Hunn 1972; SWFWMD 1977). Following treatment, sport

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| STATION | YEAR | BOD<br>(mg/l) | CHLa<br>(ug/l) | TOTAL P<br>(mg/l) | TOTAL N<br>(mg/l) | TN:TP (mg/l) | SECCHI<br>DEPTH<br>(m) | TSI CHLa<br>(mg/l) | TSI N<br>(mg/l) | TSI P<br>(mg/l) | TSI<br>NUTR<br>(mg/l) | TSI<br>SECCHI<br>(mg/l) | TSI AVG<br>(mg/l) |
|---------|------|---------------|----------------|-------------------|-------------------|--------------|------------------------|--------------------|-----------------|-----------------|-----------------------|-------------------------|-------------------|
| 135     | 1992 | 7.2           | 101.75         | 0.77              | 2.55              | 3.31         | 0.39                   | 83.4               | 74.5            |                 |                       | 88                      | 81.9              |
| 135     | 1993 | 5.53          | 61.74          | 0.36              | 1.98              | 5.5          | 0.53                   | 76.2               | 69.6            |                 |                       | 78.9                    | 74.9              |
| 135     | 1994 | 5.49          | 84.36          | 0.32              | 1.9               | 5.94         | 0.53                   | 80.7               | 68.7            |                 |                       | 78.9                    | 76.1              |
| 135     | 1995 | 5.48          | 103.03         | 0.34              | 1.81              | 5.32         | 0.48                   | 83.54              | 67.75           |                 |                       | 82.02                   | 77.77             |
| 135     | 1996 | 5.74          | 128.02         | 0.34              | 2.08              | 6.12         | 0.39                   | 86.67              | 70.50           |                 |                       | 88.25                   | 81.81             |
| 135     | 1997 | 5.64          | 103.90         | 0.3               | 2.51              | 8.37         | 0.51                   | 83.67              | 74.22           |                 |                       | 80.20                   | 79.36             |
| 135     | 1998 | 4.64          | 92.42          | 0.53              | 1.96              | 3.7          | 0.55                   | 81.98              | 69.32           |                 |                       | 77.94                   | 76.41             |
| 135     | 1999 | 5.53          | 114.81         | 0.4               | 2.18              | 5.45         | 0.47                   | 85.10              | 71.43           |                 |                       | 82.65                   | 79.73             |
| 135     | 2000 | 6.93          | 178.85         | 0.4               | 4.1               | 10.25        | 0.37                   | 91.49              | 83.94           | 93.04           | 88.49                 | 89.83                   | 89.93             |

Table 1. Selected Lake Thonotosassa water quality data for the period 1992-2000. Values shown are unweighted annual averages, based on monthly sampling by the Environmental Protection Commission of Hillsborough County at a mid-lake station (EPC station 135). Trophic state index values calculated using FDER (1988) Florida TSI models.



| STATION | YEAR | Total P (mg/l) |
|---------|------|----------------|
| 107     | 1992 | 0.86           |
| 107     | 1993 | 0.52           |
| 107     | 1994 | 0.55           |
| 107     | 1995 | 0.48           |
| 107     | 1996 | 0.50           |
| 107     | 1997 | 0.64           |
| 107     | 1998 | 0.77           |
| 107     | 1999 | 0.48           |
| 107     | 2000 | 0.56           |

**Table 2.** Total phosphorous concentrations at the mouth of Baker Creek during the period 1992-2000. All values are unweighted annual averages, based on monthly sampling by the Environmental Protection Commission of Hillsborough County (EPC station 107).

fish were estimated to comprise 74%, by weight, of all fish present. By 1968, however, the abundance of desirable species had again declined to <50% (by weight) of the sample catch. It is likely that continued increases in trophic state throughout the 1960's and 70's led to a decline in the sport fisheries of Lake Thonotosassa. Blue tilapia, a non-native cichlid that is now widespread in Florida lakes, was first observed in Lake Thonotosassa in 1974. "Sunshine" bass, sterile hybrids of striped bass and white bass, were stocked during the 1970's to provide enhanced sport fishing and to feed on young tilapia and shad (SWFWMD 1977). While the success of these initial efforts to reduce non-native fish species is unclear, it is certain that the hypereutrophic conditions of the lake have limited the abundance of desirable species, while providing a niche for non-native species tolerant of these conditions.

#### Hydrologic and Habitat Restoration

Land use within the Lake Thonotosassa watershed is primarily agricultural and urban. Natural plant communities (wetlands and uplands) within the watershed are highly fragmented and most tend to be restricted to the immediate vicinity of the lake and its tributary streams. A SWIM-funded survey performed by the FGFWFC in 1992 estimated that only 25% of the watershed remained in relatively natural habitat types, and no contiguous tracts containing undeveloped natural areas were found (FGFWFC 1992). This high level of development impact and lack of natural habitat in the watershed contributes to the poor water quality observed in the lake, which is the primary reason for the lake's inclusion on the SWIM priority list. In response to anthropogenic impacts to natural systems and water quality, the SWIM Program has recently implemented a number of habitat restoration and stormwater improvement projects throughout the watershed. These projects are detailed in the "management strategies" section.

#### **Flood Control**

Flood control is not a primary management issue for the Lake Thonotosassa SWIM Plan. Discharge and surface elevation of the lake are partially controlled at the Flint Creek outlet by an adjustable weir that is operated and maintained by the SWFWMD. Modeling studies performed by SWFWMD staff indicate that the existing weir maintains a relatively constant and somewhat elevated lake stage during periods of low natural flow and has little effect on lake level or flow during periods of high stage and high flow (T. Harrison, SWFWMD, pers. comm.). Flint creek, which exits Lake Thonotosassa near its northeastern corner, is the sole outlet stream and discharges directly to the Hillsborough River.

#### **Public Education**

The 1996 Lake Thonotosassa SWIM Plan mentions the "development and implementation of a public education program to enhance awareness of problems affecting water quality and natural systems in the watershed." Clearly, there was a need to better inform the public of issues facing Lake Thonotosassa and to solicit public support and volunteers in the implementation of the Lake Thonotosassa SWIM Plan. Recognizing that local residents can be instrumental in helping to improve environmental conditions in the lake and watershed, Hillsborough County and the District's Hillsborough River, Alafia River, and Northwest Hillsborough Basin Boards funded the Hillsborough County Watershed Atlas Program in 1998. The purpose of the Atlas is to provide the citizens, scientists, and planners of Hillsborough

County a comprehensive and current data library on more than 120 County lakes (including Lake Thonotosassa) and their respective watersheds. The web version of the Atlas ([www.hillsborough.wateratlas.usf.edu](http://www.hillsborough.wateratlas.usf.edu)) provides a communications forum for citizens to discuss lake management and get feedback from experts. Data is gathered from over twenty different agencies on a recurring basis to keep the multiple relational databases current. Future versions of the Atlas will provide online rules, regulations, and permits governing freshwater resources in Florida and educational materials concerning lake ecology and management. In addition to the Watershed Atlas Program, Hillsborough County has implemented an Adopt-A-Shore program at Lake Thonotosassa through the Keep Hillsborough County Clean Program. The Adopt-A-Shore program has removed trash and litter from both the lake and public shoreline areas in recent years. Finally, the City of Plant City has recently implemented several environmental education programs designed to raise awareness of the importance of water quality and wetland habitat within the watershed.

## **LAKE THONOTOSASSA SWIM PLAN GOALS**

The goals of the Lake Thonotosassa SWIM Plan and the District's PLRGs are listed below.

- Reduce the annual average chlorophyll-a concentration to 20.0 µg/L.
- Reduce the annual average total phosphorous concentration to 0.07 mg/L.
- Reduce the annual average total nitrogen concentration to 1.20 mg/L.
- Increase the annual average Secchi depth to 1.0 m.
- The average annual loadings of total phosphorous to Lake Thonotosassa should be reduced by 20,500 kg/yr to approximately 3,400 kg/yr and average total nitrogen loadings should be reduced below 65,600 kg/yr in order to achieve a TSI value of 60 within the lake (numbers based on average lake conditions over the period 1985-1994 and cessation of surface water discharge from the Plant City WWTP in 1997).
- Achieve the PLRGs necessary to restore lake trophic state to its estimated pre-development level (TSI=60).
- Encourage the maintenance, restoration, and protection of natural systems within the drainage basin, with particular emphasis on native plant and animal communities, fisheries, and ecological systems involved in water quality improvement and protection.

## **LAKE THONOTOSASSA MANAGEMENT STRATEGIES**

Both the 1990 and 1996 Lake Thonotosassa SWIM Plans focused on achieving two objectives: to reverse the environmental degradation that occurred in the lake, and restore the

ecological integrity of the lake and its associated watershed. As of 2001, the specific water quality targets and PLRGs outlined in the 1996 SWIM Plan have yet to be met. It is anticipated, however, that recently completed habitat restoration and stormwater improvement projects located throughout the watershed will improve water quality within Lake Thonotosassa over the next several years. Strategies included in this update of the Lake Thonotosassa SWIM Plan are consistent with the legislative directive of SWIM, which is to protect or restore water quality and natural systems.

### **Management Strategies for Water Quality**

As previously discussed in the Management Issues section and in more detail in Appendix A, there are several interrelated concerns regarding water quality in Lake Thonotosassa. A primary concern is increasing productivity as measured by the amount of algae (chlorophyll-a) in the water. This condition results from an increase in nutrients entering the lake and from the recycling of these nutrients once they have entered the lake. Management strategies to control nutrients (phosphorous and nitrogen) have focused on both point and nonpoint pollution sources within the Lake Thonotosassa watershed.

Based on the water quality targets and PLRGs set forth in Appendix A (SWFWMD 1996), a reduction in total phosphorous and nitrogen loadings to Lake Thonotosassa is necessary to achieve a desired TSI of 60. Since the 1996 revision of the Lake Thonotosassa SWIM Plan, the SWIM Program and its cooperators have implemented several stormwater improvement and habitat restoration projects designed to improve water quality and natural systems within the watershed. A major surface water point source discharge (Plant City WWTP) has also been eliminated. It is anticipated that these actions will benefit in-lake water quality and natural systems, although it is too early to determine their full effect.

### **External Nutrient Loading**

The 1996 SWIM Plan identified both point and nonpoint source pollution as contributing to poor water quality within Lake Thonotosassa. According to the Plan, the average annual loadings of total phosphorous to Lake Thonotosassa are approximately 23,900 kg/yr and average total nitrogen loadings are greater than 65,600 kg/yr. These numbers are based on average lake conditions over the period 1985-1994 and cessation of surface water discharge from the Plant City WWTP in 1997. In order to begin the long-term process of meeting the water quality targets and PLRGs outlined in Appendix A, the SWIM Program and its cooperators recently completed several stormwater improvement and habitat restoration projects designed to address nonpoint source pollution within the watershed and, thus, improve water quality and habitat within Lake Thonotosassa. At this time, nutrients from atmospheric deposition, precipitation, and groundwater inflows are not considered manageable from a practical standpoint.

During the late 1980's and early 1990's, pollutant loading to the lake consisted of approximately 60% non-point and 40% point source discharges. The strategy for improving water quality within the lake was to first focus on eliminating point source discharges within the watershed, then concentrate on nonpoint sources. Two major point source discharges were removed in the 1990's, including the City of Plant City Wastewater Treatment Plant discharge

that was eliminated in 1997 with the implementation of the City's reuse system and partially funded through the District's New Water Sources Initiative Program. As a result, water quality (i.e. phosphorous levels) within the lake improved. During the latter half of the 1990's, the SWIM Program began working with several cooperators to implement stormwater improvement projects to treat nonpoint source pollution within the watershed. The cornerstone project is the Lake Thonotosassa Marsh Restoration Project. This 51 acre marsh system is designed to treat inflow water from Baker Creek prior to its discharge into the lake (see "management strategies for natural systems" section for project description). Other completed water quality improvement projects include the Plant City Pistol Range Stormwater Treatment Project, the Hillsborough County Baker/Pemberton Creek Erosion Control Project, and the Plant City Water Quality/Flood Control Pond Project. Each of these projects addresses nonpoint source pollution entering Lake Thonotosassa via its tributaries.

As outlined in the 1996 SWIM Plan, a paleolimnological assessment performed by Whitmore and Brenner (1995) suggests that, following the initiation of large-scale agricultural drainage and stream channelization projects in the late 1800's (and subsequent urban development), soil erosion increased in severity and caused accelerated deposition of sediments in Lake Thonotosassa. Whitmore and Brenner (1995) recommend that future management programs for Lake Thonotosassa address riparian disturbance and factors leading to high rates of soil erosion in the watershed. In response to this recommendation, the SWIM Program, SWFWMD Hillsborough River Basin Board, and Hillsborough County implemented the two-phased Baker Creek Erosion Control Project in 1997. Phase I identified the locations along the channelized portions of Baker Creek where erosion was occurring, while Phase II provided corrective measures. These measures included the design, permitting, and construction of an in-line sediment sump, dredging a portion of the creek to its original invert elevations and cross sections prior to siltation, and implementation of bank stabilization measures to prevent erosion in priority areas. Project construction was completed in 2000. Phase III, initiated in 2001, will provide similar benefits in Pemberton Creek. An off-line stormwater pond (size yet to be determined) will be designed to provide sediment and nutrient removal as well as temporary storage during major storm events. Phase III is also a cooperative effort between the SWIM Program, SWFWMD Hillsborough River Basin Board, and Hillsborough County.

Completed in 2000, the 30-acre Pistol Range Stormwater Treatment Project involved the design, permitting, and construction of a stormwater treatment facility located within the Westside Canal watershed in Plant City. Diagnostic studies identified the canal as a priority area for improved stormwater treatment within the Lake Thonotosassa watershed. The objective of the project is to improve water quality in the Westside Canal, which serves as the primary drainage channel for a three-square mile area in Plant City. The project was designed so that flow from the Westside Canal could be diverted into two existing borrow pits prior to entering Mill Creek and, ultimately, Pemberton Creek. The borrow pits were re-graded and contoured to create marsh littoral zones that provide maximum nutrient uptake and wetland wildlife habitat. A central control structure regulates outflow from the borrow pits prior to discharging to Mill Creek. The project provides multiple water quality benefits, including the capture of runoff from a 620-acre sized basin and an estimated annual nutrient load reduction of 3,009 kg of TN and 1,184 kg of TP (based on annual average rainfall of 53.1 inches and

treatment efficiencies of 25% for TN and 65% for TP). This project was funded through the SWIM Program, Hillsborough River Basin Board, and City of Plant City.

Completed in 2001, the Plant City Water Quality/Flood Control Pond Project involved the design, permitting, and construction of an 8.4 acre stormwater attenuation and treatment pond adjacent to the Westside Canal in Plant City. The project is designed so that high flows in the Westside Canal are diverted (via weir structure) into a treatment pond to provide water quality and flood control benefits to the surrounding area. Once the pond is filled to capacity, water discharges back into the canal. The project provides treatment for the upper 150 acres of the Westside Canal drainage basin. All project costs were funded through the SWFWMD Hillsborough River Basin Board and the City of Plant City.

## **Management Strategies for Natural Systems**

### Management Strategies for Aquatic Vegetation

In order to improve the abundance of native (non- nuisance) submerged and emergent aquatic vegetation in Lake Thonotosassa, two strategies should be implemented. The first strategy, as mentioned above, is an improvement in the quality of water entering Lake Thonotosassa. A substantial reduction in nutrient loadings (specifically, phosphorous) to the lake would likely result in a marked reduction in chlorophyll-a concentrations, thus improving water clarity and light penetration within the lake. Existing eelgrass beds, once prevalent in the shallow submerged portions of the lake, could expand if water clarity were improved. Additionally, aquatic plant (macrophyte) dominated lakes tend to have better perceived water quality than phytoplankton dominated lakes and are important as fish and wildlife habitat.

The second strategy is the continued control of exotic submerged and floating plants within Lake Thonotosassa and Baker Creek. Water hyacinth and water lettuce, in particular, present an immediate threat to existing stands of native emergent vegetation such as soft-stem bulrush (*Scirpus validus*), pickerelweed (*Pontedaria cordata*), and arrowhead (*Sagittaria lancifolia*). Both water hyacinth and water lettuce form dense mats of vegetation over the water's surface and can overtake smaller, native emergent plant species while preventing the spread of larger species (e.g. giant bulrush). In addition, these dense vegetative mats significantly reduce the amount of light reaching the lake bottom, thus preventing the expansion of native submerged aquatic species (e.g. eelgrass). The Hillsborough County Mosquito Control section is in charge of all chemical and physical removal of exotic plants within Lake Thonotosassa and Baker Creek. The SWIM Program has coordinated efforts with the County to maintain a regular maintenance schedule for controlling exotic plants within the recently completed 51 acre SWIM marsh restoration project located on the southeastern shore of the lake.

Periodic mapping and monitoring of native submerged and emergent aquatic vegetation within Lake Thonotosassa are recommended to assess status and trends in the macrophyte community and to evaluate attainment of aquatic plant goals. The SWIM Program recently hired an environmental consultant to perform vegetative monitoring within the aforementioned SWIM marsh restoration project at 6-month intervals for a 2 ½ year period. Monitoring will

focus on the growth and coalescence of recently installed native emergent aquatic plant species, while determining the extent of exotic plant invasion. Recommendations for improving the ecological health of the marsh will be submitted with each monitoring report.

#### Management Strategies for Fisheries

Historically, Lake Thonotosassa provided an excellent sport fishery and was designated a fishery management area by the FGFWFC in 1964. Since the late 1960's, however, the hypereutrophic conditions of the lake have limited the abundance of desirable fish species, while providing a niche for non-native species tolerant of these conditions.

At this time, no specific management strategies are proposed to manipulate the fish community structure in Lake Thonotosassa. Management strategies to maintain or improve fisheries in Lake Thonotosassa focus on strategies to reduce external nutrient loading, thus slowing or reversing the increasing trophic state of the lake. These strategies should eventually result in improved water quality and a more stable trophic state. Additionally, the management strategies for aquatic vegetation will be aimed at optimizing fisheries habitat. Future monitoring of fish biomass and species composition is recommended to evaluate the success of these management strategies and to determine whether other management strategies should be proposed.

#### Management Strategies for Hydrologic and Habitat Restoration

A SWIM-funded survey performed by the FGFWFC in 1992 estimated that only 25% of the Lake Thonotosassa watershed remained in relatively natural habitat types, and no contiguous tracts containing undeveloped natural areas were found (FGFWFC 1992). This high level of development impact and lack of natural habitat in the watershed contributed to the poor water quality observed in Lake Thonotosassa through the 1990's. In response to anthropogenic impacts to natural systems and water quality, the SWIM Program took the lead in the design, permitting, and construction of a number of habitat restoration and stormwater improvement projects throughout the watershed. Completed in 1999, the Lake Thonotosassa Marsh Restoration Project is the culmination of ten years of interagency coordination and SWIM project management efforts. The project involved the creation of 51 acres of desirable freshwater marsh habitat suitable for the proliferation of a variety of fish and other wildlife species. The created marsh, located on the southeastern shore of Lake Thonotosassa, intercepts inflow water from Baker Creek prior to entering the lake and biologically treats it through a created sedimentation basin and planted freshwater wetlands. The project was designed to maximize the ability of the marsh to remove nitrogen, phosphorus and suspended sediments from Baker Creek prior to discharge into Lake Thonotosassa. Over the next five to ten years, in-lake water quality data should determine the effectiveness of the marsh's ability (in concert with other completed projects) to improve water quality within the lake. The project provides multiple water quality benefits, including the capture of runoff from a 45,656-acre sized basin and an estimated annual nutrient load reduction of 3,957 kg of TN and 2,363 kg of TP (based on annual average rainfall of 53.1 inches and treatment efficiencies of 25% for TN and 65% for TP). Since project completion in 1999, the SWFWMD and Hillsborough County have coordinated the maintenance of exotic and weedy plant species (e.g. water hyacinth, cattails) within the marsh as well as the installation of additional native emergent aquatic plant species. In the future, additional hydrologic and habitat restoration projects

should be pursued throughout the watershed where opportunities exist to improve water quality and enhance wetland and aquatic habitats.

### **Management Strategies for Public Education**

In order to better inform the public of important issues facing more than 120 of Hillsborough County's lakes (including Lake Thonotosassa) and to solicit public support and volunteers in monitoring lake health, the County and the District's Hillsborough River, Northwest Hillsborough, and Alafia River Basin Boards implemented the Hillsborough County Watershed Atlas Program in 1998 (see "Management Issues" section for more information). The watershed atlas is periodically maintained to ensure all data is current. In addition to the watershed atlas, the County has implemented an Adopt-a-Shore program at Lake Thonotosassa to remove trash and litter from both the lake and public shoreline in recent years. Finally, the City of Plant City has recently implemented several environmental education programs designed to raise awareness of the importance of water quality and wetland habitat within the watershed. In 2001, for example, over 600 students were provided with the Officer Snook Presentation to raise awareness of stormwater pollution prevention. The City is also working to establish an environmental program at their Cherry Street Pond project that focuses on the importance of wetlands and water quality.

## **LINKAGE TO OTHER WATER RESOURCE MANAGEMENT ACTIVITIES**

In addition to the projects that are implemented through SWIM, the SWIM Program is able to accomplish its objectives more effectively and efficiently by coordinating internally with other District programs and externally through partnerships with local governments and other state and federal agencies.

### **Internal Linkages**

The District has many tools available to implement the legislative intent of the SWIM Program, including but not limited to, integrated planning and coordination, regulatory authority, land acquisition programs and the SWIM program itself. Each of these areas provides opportunities to assist in the management of Lake Thonotosassa.

The District's Water Management Plan - As required in Chapter 373, Florida Statutes, the District finalized its Water Management Plan (DWMP) in 2000. Within this plan the District organized its mission into four areas of responsibilities; water supply, flood protection, water quality management and natural systems management. The DWMP recognizes that the integration of all these areas is essential to effective planning and management of the resource. The DWMP supports the SWIM Program and has policies that relate to the restoration, protection and management of Lake Thonotosassa.

Comprehensive Watershed Management - The District has recognized the need to take a more aggressive and unified approach to surface water management and has created an initiative which would prioritize resource management needs by watershed throughout the District. It is intended to combine water quantity (i.e., flood) management with water quality and natural systems objectives, as well as water supply when applicable. Ultimately,

regulation, land acquisition, facilities and land use controls would be combined into a comprehensive surface water management strategy including appropriate policies, on a watershed specific basis. This effort is the District's embodiment of the EPA's watershed planning approach, the FDEP's Ecosystem Management Initiative, and, more recently, FDEP's Watershed Management Approach.

Local governments, as the parties responsible for land planning and development and service provision, are key players in this integrated management approach. Similarly, the State's Ecosystem Management Initiative provides an impetus to collective efforts as it implements an environmental strategy that encourages innovation, pollution prevention, incentive-based regulatory alternatives, public education and individual stewardship.

### Regulation

Wetlands Protection Through Regulatory Programs - One way that the District achieves wetlands protection is through regulatory programs. Wetland protection is addressed under Chapters 40D-2, 40D-3, 40D-4, 40D-40 and 40D-45, F.A.C. The District's surface water permitting rules (40D-4, 40 and 45, F.A.C.) require that any impact to wetlands not specifically exempted must either be avoided or compensated. Compensation varies depending upon the function and value of the impacted wetland. Different types of compensation may be utilized, including preservation of associated upland areas, alternate types of wetland creation, protection of exempt wetlands, and restoration for previously impacted wetlands. The intent is to ensure that the habitat necessary for the survival of fish and wildlife is maintained.

Minimum Flows and Levels - Another management tool available for water and related natural resource protection is through the District's Minimum Flows and Levels (MFLs) program. Maintaining minimum flows and levels is a significant statutory charge for Florida's water management districts. District programs for minimum flows and levels originate in Chapter 373.042, F.S., as well as from the District's desire to treat the environment as a rightful "user" of water. If water resources and associated natural systems are to be protected and maintained, the identification and establishment of water levels and flows are essential. Such activities will also serve to balance water withdrawals for human needs with protection of surface water levels for navigation, recreation and related functions.

Once established, MFLs are implemented through a variety of means. Most prevalent is the application of these flows and levels to the District's water use permitting program. As directed by Chapter 373.042, F.S., the District may restrict withdrawals of water which would cause flows and levels to drop below their established minimums and which would be significantly harmful to the water resources or ecology of an area. The District's water use permitting rules, which include criteria to prevent adverse impacts from occurring as a result of withdrawals, effectively establish MFLs for specific sources throughout the District.

Because the priority of the Lake Thonotosassa watershed is low relative to statutory criteria (i.e. lack of existing wellfields, withdrawal permits, or other factors affecting minimum flows and levels), no minimum level has been set for Lake Thonotosassa and no minimum flow has been set for Baker Creek, the sole inlet stream (T. Johnson, SWFWMD, pers. comm.).

Mitigation Banking - Mitigation banking allows developers to compensate for wetland losses in one place by preserving, restoring or creating wetlands in the same basin to achieve a no net loss of wetlands. Occasionally, acquisition of environmentally sensitive land(s) can be used to mitigate for wetland impacts.

Land Acquisition - Land acquisition at the District historically has been guided and funded by two major Statewide initiatives: the Water Management Lands Trust Fund (a.k.a. Save Our Rivers Program or SOR), and Preservation 2000 (P-2000). In 2000, the P-2000 Program for land acquisition was "sunset." Funds for land acquisition and management were available through the SOR Program through 2001. The Florida Forever Act, passed by the Florida Legislature in 1999, will make funds available, beginning in 2001, to the water management districts for both land acquisition and restoration, including funding for SWIM projects.

The District's land acquisition program targets the protection of natural resources at the regional level. Lands of importance to water resources and water management are acquired along with lands of unique environmental value that are endangered by development activities. The District owns more than 330,000 acres, the majority of which were purchased through the SOR and P2000 programs.

The SWIM Program has nominated for acquisition several parcels of environmentally sensitive land within the Lake Thonotosassa watershed to the County's Environmental Lands Acquisition and Protection Program (ELAPP) and/or the SWFWMD's Five-Year Land Acquisition Plan. To date, three sites have been approved for acquisition. These are: 1) Baker Creek and Tributaries; 2) Cork Prairie; and 3) Hendry Ranch. The Baker Creek and Tributaries site, approved for acquisition through the ELAP Program, is approximately 900 acres in size and contains a combination of intact and disturbed wetland and upland habitats, including relict floodplain swamp and marsh communities. Wetland restoration opportunities exist along ditched portions of Baker Creek and its tributaries. The Cork Prairie site, approved for acquisition through the SWFWMD, is approximately 380 acres in size and is comprised of herbaceous wetlands (primarily wet prairie association), open pasture w/ Bahia grass, and pine flatwoods. A majority of the existing herbaceous wetlands have been ditched and drained to facilitate the development of pasture suitable for cattle grazing. If purchased, the hydrology of the site's wetlands could be restored to a more natural state through a combination of ditch blocking and replanting with appropriate wetland species. The Hendry Ranch, approved for acquisition through the SWFWMD, is approximately 600 acres in size and occupies nearly all of the eastern shore of Lake Thonotosassa. The ranch consists of both intact and disturbed upland and wetland habitats. Since the 1950's, many of the original native upland plant communities (primarily scrub and sandhill) have been cleared for cattle grazing and citrus groves, while the herbaceous wetlands have been ditched and drained to promote cattle grazing. Excellent opportunities exist to restore disturbed uplands through the installation of appropriate native plants and reintroduction of fire, while the hydrology of disturbed wetlands could be restored through the elimination of existing ditch systems. The property is the number one acquisition priority for the SWIM Program and is adjacent to 103 acres of SWFWMD-owned land that incorporates the recently completed SWIM marsh restoration project located directly on the lake shore. Because the ELAP Program and SWFWMD depend

on willing sellers, however, there is no guarantee that these nominated parcels will become available for acquisition and restoration in the near future.

Basin Board Activities - The District's eight Basin Boards have specific functions and duties that are consistent with Chapter 373, F.S., and the programs of the Governing Board. Their purpose is to identify and evaluate key water resource management issues in order to develop and fund management strategies to address them. The Basin Boards are facilitators in the resolution of non-regulatory water management issues for a number of other governments. It is at the Basin Board level that intergovernmental water resource programs are implemented, monitored and evaluated for improvement. The Basin Boards serve as a sounding board for the District by obtaining feedback from local governments and citizens and as funding partners for local governments and others in addressing mutually beneficial water resource solutions. The Basin Boards also provide the District's SWIM funding match for approved SWIM projects within their basins.

The District, through the eight basin boards, has an established Cooperative Funding Program which provides financial assistance on a cost-share basis primarily to local governments for regional water resource projects. Projects can also be funded through "Basin initiatives" where a Basin Board decides to provide the impetus for a water management solution, with or without a local partner. The Basin Boards presently have in place a five-year plan which outlines the types of activities it expects to undertake in the next five years and provides an estimate of the funding required to support these projects. The Basin plans were prepared in close coordination with local governments demonstrating another opportunity for integration with local governments and ensuring the most efficient and cost-effective approach to addressing the mutual water resource management goals and objectives.

Lake Thonotosassa is located within the boundaries of the Hillsborough River Basin Board (HBB). The *Hillsborough River Basin Board Five-Year Basin Plan FY 2001-2005* identifies the water quality and natural systems areas of responsibility (AOR) as two of the the HBB's priorities and, as such, supports the *Lake Thonotosassa SWIM Plan*. The natural systems and water quality improvement projects described in the *Lake Thonotosassa SWIM Plan* are consistent with the AOR priorities of the HBB.

### **External Linkages**

FDEP - Watershed Approach Initiative - The FDEP recently adopted a Watershed Approach initiative whereby water resource management and the development of TMDLs for individual impaired water bodies are the prime components of a comprehensive plan that allows for more planning, evaluation, and implementation of water resource protection activities at the basin level. This initiative provides the framework for implementing Section 303(d) of the Federal Clean Water Act (including TMDLs) and the 1999 Florida Watershed Restoration Act, which gives the FDEP state statutory jurisdiction to establish and implement TMDLs). The specifics of this new approach are detailed in FDEP's Florida Water Plan, published in December 2001. Lake Thonotosassa, Baker Creek and its tributaries, and Flint Creek are scheduled for TMDL development in 2003.

The District has been an active participant in this evolving process in terms of statewide program development. A strong correlation is apparent between the District's Comprehensive Watershed Management Initiative (CWM), Surface Water Improvement and Management (SWIM) Program, and FDEP's Watershed Approach Initiative.

FDOT - Mitigation Program - Pursuant to 373.4137, Florida Statutes, the FDOT, FDEP and water management districts (WMDs) are required to work together to develop long-range mitigation plans for environmental mitigation of impacts from transportation projects. It was the intent of the Legislature that mitigation to offset the impacts of transportation projects be funded by the FDOT and be carried out by the FDEP and WMDs, including the use of mitigation banks.

Through this process, the FDOT provides FDEP and WMDs with a copy of its adopted work program and an inventory of habitats which may be impacted by the projects on the work program. The FDEP, WMDs, other appropriate federal, state and local governments and other interested parties develop a plan to provide the mitigation required to compensate for the impacts identified by the FDOT. Pursuant to the statute, the "FDOT Mitigation Plan" is to be developed using sound ecosystem management practices to address significant water resource needs and to focus on the activities of the FDEP and WMDs, such as surface water improvement and management (SWIM) waterbodies and lands identified for potential acquisition for preservation, restoration, and enhancement.

Once the mitigation projects have been identified and included in the plan, the FDEP, WMD or other entity implements the mitigation project and bears the costs of design and construction. Upon completion of the project, whether it be wetland restoration or creation, the entity that constructed the project may then apply to the FDOT for reimbursement of the costs to complete the mitigation project. A majority of the design and construction costs associated with the aforementioned Lake Thonotosassa SWIM Marsh Restoration Project were reimbursed through the FDOT.

Local Government Coordination and Partnering - Building on the relationships and partnerships that have been developed over the past decade of management activities for Lake Thonotosassa is central to the future of managing Lake Thonotosassa and is the core to this update of the SWIM Plan. Hillsborough County and the City of Plant City are key to the implementation of any management activity that is proposed for the lake.

Hillsborough County's *Pemberton/Baker Creek Watershed Environmental Conditions Report* (Parsons Engineering Science, Inc. 1998) provides an overview of existing environmental conditions within the Pemberton/Baker Creek Watershed to allow informed decision-making when evaluating specific stormwater projects. Environmental issues associated with proposed Basin Master Plan flood control projects and general recommendations to address watershed areas of concern are also discussed. The City of Plant City's *Westside Canal Stormwater Management Master Plan* (Camp, Dresser, and McKee 1997) outlines strategies for providing flood protection and water quality benefits within the Westside Canal basin. Specific flood control/water quality projects are also recommended for implementation.

As part of the District Water Management Plan, the District is in the process of updating Integrated Plans for every county whose boundaries lie largely within in the District. The purpose of an integrated plan is to identify and evaluate key water resource management issues within the local government's jurisdiction and to develop common District and local government strategies to address these issues. The integrated plan is intended to serve as a tool to foster the integration of land use planning and growth management activities of local governments with the water use planning and management activities of the District. This effort will strengthen the local government's comprehensive plan by linking local water resources planning to the best available data and other resources of the District. The development of the integrated plans is a cooperative effort of the District, local governments and citizens. This endeavor is best viewed as a process, however, since it is intended to promote continuing relations and mutual planning in the best interest of the resource. It is hoped the action strategies identified will end up back in the local government plan where local and District energies, and funding, can be directed toward them.

Local governments and other state and regional agencies offer not only a funding partner but a wide range of services -- from land acquisition and technical assistance to providing maintenance equipment and personnel -- all of which, when combined with District and State resources, can make for a substantial effort. As an example, Hillsborough County, through its Mosquito Control Section, has agreed to provide full exotic plant control services for the 51-acre Lake Thonotosassa SWIM Marsh Habitat Restoration Project. In addition, the County, through its ELAP Program, has added nearly 900 acres of environmentally sensitive land along Baker Creek and its tributaries to its "approved for acquisition" list. If acquired, the District and County will work together to restore disturbed portions of this acreage.

## PRIORITY PROJECTS

The priority projects for Lake Thonotosassa aim to preserve and improve existing water quality and habitat in the watershed, while focusing on implementation of management strategies (e.g. stormwater treatment, aquatic vegetation mapping, etc.). The following summaries describe the projects and provide a project timeline and estimated budget.

### **Project Title: Lake Thonotosassa SWIM Plan Implementation**

This project provides for the administration and implementation of projects as outlined in the SWIM Plan for Lake Thonotosassa. Administration and implementation include assessment of implementation progress, a review and refinement of the Pollutant Load Reduction Goal (PLRG) for the waterbody, periodic SWIM Advisory Committee meetings, new project development (rationale and justification), development of relevant contracts and request for proposals/bids, invoicing, project related presentations, field visits, and miscellaneous duties as they arise.

### **Annual Budget Estimates:**

|          | FY 2002 | FY 2003 | FY 2004 | FY 2005 | FY 2006 |
|----------|---------|---------|---------|---------|---------|
| Salaries | \$6,000 | \$6,000 | \$6,000 | \$6,000 | \$6,000 |

|           |         |         |         |         |         |
|-----------|---------|---------|---------|---------|---------|
| Contracts | \$0     | \$0     | \$0     | \$0     | \$0     |
| Expenses  | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$1,000 |
| Total     | \$7,000 | \$7,000 | \$7,000 | \$7,000 | \$7,000 |

**Agency or Local Government Partnering:**

This project is funded by the District for "in-house" staff time required to implement projects outlined in the Lake Thonotosassa SWIM Plan.

**Project Title: Pemberton/Baker Creek Erosion Control Project - Phase III**

This project involves the design, permitting, and construction of an off-line stormwater pond adjacent to Pemberton Creek. The pond will be designed to provide sediment and nutrient removal as well as temporary water storage during major storm events. Sedimentation within Pemberton Creek has been identified as a priority problem affecting water quality and natural systems in downstream areas, including Baker Creek and Lake Thonotosassa. Phases I and II of this project were recently completed and involved the implementation of corrective measures to reduce erosion and further sedimentation of Baker Creek.

**Annual Budget Estimates:**

|           | FY 2002   | FY 2003   | FY 2004 | FY 2005 | FY 2006 |
|-----------|-----------|-----------|---------|---------|---------|
| Salaries  | \$3,600   | \$3,600   | \$0     | \$0     | \$0     |
| Contracts | \$150,000 | \$150,000 | \$0     | \$0     | \$0     |
| Expenses  | \$1,000   | \$1,000   | \$0     | \$0     | \$0     |
| Total     | \$154,600 | \$154,600 | \$0     | \$0     | \$0     |

**Agency or Local Government Partnering:**

The District, through the cooperative funding program of the Hillsborough River Basin Board and through SWIM funding, has joined with Hillsborough County to share the cost of project construction.

**Project Title: Hydrologic and Habitat Restoration**

Both wetland and upland habitats within the Lake Thonotosassa watershed have been impacted to varying degrees by anthropogenic activities. Hydrologic and habitat restoration projects that restore historic surface water flow patterns (i.e., ditch blocks and rehydration) and native wetland and upland wildlife habitats would provide multiple benefits. These projects should also provide opportunities to improve water quality. The implementation of any restoration project(s) is dependent upon acquiring the necessary land for project construction.

**Annual Budget Estimates:**

|          | FY 2002 | FY 2003  | FY 2004  | FY 2005  | FY 2006  |
|----------|---------|----------|----------|----------|----------|
| Salaries | \$0     | \$10,000 | \$10,000 | \$10,000 | \$10,000 |

February 2003

|           |     |          |           |           |           |
|-----------|-----|----------|-----------|-----------|-----------|
| Contracts | \$0 | \$0      | \$500,000 | \$500,000 | \$500,000 |
| Expenses  | \$0 | \$0      | \$2,000   | \$2,000   | \$2,000   |
| Total     | \$0 | \$10,000 | \$512,000 | \$512,000 | \$512,000 |

**Agency or Local Government Partnering:**

The District would be the lead agency to implement hydrologic and habitat restoration projects on District-owned and/or managed lands within the Lake Thonotosassa watershed. Hillsborough County may also propose restoration projects on County-owned and/or managed lands within the watershed. The District, through the cooperative funding program of the Hillsborough River Basin Board and through SWIM funding, could join with Hillsborough County to share the cost of implementing these projects.

**Project Title: Evaluation and Nomination of Appropriate Parcels for Public Acquisition**

Every year, the District's SWIM Program nominates various parcels for public acquisition within the watersheds of its priority waterbodies. The justification for these nominations is based upon a variety of factors, including hydrologic and habitat restoration potential, existing natural habitats, ease of acquisition, and overall importance to the waterbody. In the recent past, the SWIM Program has nominated several parcels for inclusion on either the District's Five-Year Land Acquisition Plan or the Hillsborough County ELAP Program's approved land acquisition list (see "Internal Linkages" section). Once nominated, funds from approved land acquisition programs (i.e. Florida Forever, Hillsborough County ELAPP) are used to acquire the land. After acquisition is complete, District and SWIM funds are used for restoration purposes, if necessary.

**Annual Budget Estimates:**

|           | FY 2002 | FY 2003 | FY2004  | FY 2005 | FY 2006 |
|-----------|---------|---------|---------|---------|---------|
| Salaries  | \$0     | \$1,000 | \$1,000 | \$1,000 | \$1,000 |
| Contracts | \$0     | \$0     | \$0     | \$0     | \$0     |
| Expenses  | \$0     | \$0     | \$0     | \$0     | \$0     |
| Total     | \$0     | \$1,000 | \$1,000 | \$1,000 | \$1,000 |

**Agency or Local Government Partnering:**

Whenever possible, the District attempts to acquire land jointly with Hillsborough County through the County's ELAP Program. The City of Plant City is another potential partner for acquiring land within its city limits.

**Project Title: Monitoring of Aquatic Biota**

This project involves the development and implementation of a monitoring program designed to assess long-term changes in the species composition and relative abundance of aquatic plant and animal communities in Lake Thonotosassa and its tributaries. Monitoring should

address emergent and submerged aquatic plants, invertebrates (including benthic forms), and non-game fish species. This study would provide baseline data allowing future assessments of the effectiveness of SWIM management/restoration efforts.

**Annual Budget Estimates:**

|           | FY 2002 | FY 2003 | FY 2004  | FY 2005 | FY 2006 |
|-----------|---------|---------|----------|---------|---------|
| Salaries  | \$0     | \$0     | \$3,000  | \$3,000 | \$3,000 |
| Contracts | \$0     | \$0     | \$50,000 | \$0     | \$0     |
| Expenses  | \$0     | \$0     | \$1,500  | \$1,500 | \$1,500 |
| Total     | \$0     | \$0     | \$54,500 | \$4,500 | \$4,500 |

**Agency or Local Government Partnering:**

An opportunity may exist to develop a cooperative agreement with the Florida Fish and Wildlife Conservation Commission (formerly the FGFWFC) to implement this project. The project could also be contracted out to a qualified consulting firm.

**Project Title: Refinement of Water and Nutrient Budgets, Basin-Specific Water Quality Targets, PLRGs, and TMDLs.**

This project involves the development of refined water and nutrient budgets for Lake Thonotosassa, based on monitoring data available through published studies, Hillsborough County EPC, STORET database, government agency reports, and other available data. In addition, water quality targets and PLRGs for the lake and its tributaries will be refined based on available data (EPC) and models. The project will also study the impact of in-lake nutrient cycling, including "unmeasured" TN loads (both internal and external), on water quality. In cooperation with state and federal agencies (FDEP, USEPA), identify total maximum daily loads (TMDLs) for selected pollutants.

**Annual Budget Estimates:**

|           | FY 2002 | FY 2003 | FY 2004 | FY 2005  | FY 2006 |
|-----------|---------|---------|---------|----------|---------|
| Salaries  | \$0     | \$0     | \$0     | \$3,000  | \$2,000 |
| Contracts | \$0     | \$0     | \$0     | \$75,000 | \$0     |
| Expenses  | \$0     | \$0     | \$0     | \$1,500  | \$1,000 |
| Total     | \$0     | \$0     | \$0     | \$79,500 | \$3,000 |

**Agency or Local Government Partnering:**

This project may be contracted out to a qualified consulting firm with extensive experience in limnology and water quality assessment.

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## **APPENDIX A - DEVELOPMENT OF WATER QUALITY TARGETS AND POLLUTANT LOAD REDUCTION GOALS**

The following sections, reprinted from the 1996 Lake Thonotosassa SWIM Plan, discuss the rationale behind the development of specific water quality targets and pollutant load reduction goals for Lake Thonotosassa. The targets and goals contained herein are based on water quality data from 1985-1994. Many of the water quality improvement projects outlined in the 1996 SWIM Plan have only recently been completed, thus making a complete evaluation of any in-lake water quality improvements since 1995 difficult to achieve. Additionally, it is likely that an ongoing 3-year drought that began in 1998 has negatively affected in-lake water quality due to a lack of lake flushing and other related factors. Proposing any new water quality targets and PLRGs based on 1995-2000 data is not recommended at this time because 1) it is too early to evaluate the effectiveness of the aforementioned water quality improvement projects on in-lake water quality, thus making it difficult to determine whether existing water quality targets and PLRGs can be met and 2) between 1998 and 2000, poor water quality in Lake Thonotosassa resulted from extended drought conditions and, therefore, water quality data gathered during this period should not be used as a long-term indicator of overall lake health or to evaluate the effectiveness of recently completed water quality improvement projects.

### **Reducing Future Phosphorous Inputs**

#### **A. Annual Loading Target**

The spreadsheet model EUTROMOD (Reckhow 1988), a derivative of Vollenweider's pioneering (1976) empirical model which was calibrated to a representative sample of 31 Florida lakes by Reckhow (1991), has been used to estimate annual phosphorous loadings to Lake Thonotosassa that are consistent with the proposed water quality targets (average annual TP concentration = 0.07 mg/l; annual  $TSI_{avg}$  = 60).

The EUTROMOD submodel describing TP concentrations in Florida lakes takes the form:

$$\log_{10} P = \log_{10} \left[ \frac{P_i}{1 + k_T} \right] \quad (1)$$

where:

|       |   |                                                                  |
|-------|---|------------------------------------------------------------------|
| $P$   | = | Average growing season total phosphorous concentration (mg/l)    |
| $P_i$ | = | Average total phosphorous concentration of incoming water (mg/l) |
| $T$   | = | Hydraulic detention time of the lake (years)                     |
| $k$   | = | Trapping parameter for phosphorous (dimensionless)               |

For the purposes of predicting TP concentrations in Lake Thonotosassa, a subtropical lake, the growing season was operationally defined as extending from March through November.

The EUTROMOD trapping parameter for phosphorous is calculated as a function of the physical characteristics of the lake and the observed phosphorous load:

$$k = 1.71 T^{-0.21} z^{1.01} P_i^{0.4} \quad (2)$$

where:  $z$  = Mean depth (m)

The standard error (s.e.<sub>yix</sub>) of the predicted TP values generated by eq. (1), for the Florida lakes examined by Reckhow (1991), was 0.189 mg/l.

Year-to-year trends in the phosphorous concentrations measured in Lake Thonotosassa during the period 1984-1994 have tracked the upward and downward trends observed at the mouth of Baker Creek (Fig. A-1), indicating that the creek was an important contributor of phosphorous to the lake during this period. During the period 1985-1992, phosphorous concentrations observed in the lake fell at or above the upper portion of the EUTROMOD error band (Fig. A-2), presumably due to the lake's hypereutrophic condition and the presence of a substantial internal phosphorous source located in the bottom sediments. When in-lake phosphorous concentrations declined substantially during 1993 and 1994, in response to reduced external loadings during 1990-1994, observed values fell within  $\pm 1$  s.e. of model predictions (Fig. A-2).

The EUTROMOD model, as calibrated to Florida lakes, can be used to estimate the annual phosphorous loading that would be consistent with a selected TP target (e.g., TP=0.07 mg/l) by rearranging equation (1) as follows:

$$M_i = P [1 + kt] Q_i \quad (3)$$

where:  $M_i$  = Mass of phosphorous entering the lake (kg/yr)  
 $Q_i$  = Volume of water entering the lake (l)

Because the trapping parameter,  $k$ , is a function of both the mass of phosphorous and volume of water entering the lake per year, this equation must be solved iteratively to estimate  $M_i$ .

Application of equation (3) to Lake Thonotosassa for the period 1985-1994 generates an estimate of 3,371 kg/yr as the average annual phosphorous load consistent with an in-lake TP concentration of 0.07 mg/l and  $TSl_{avg} = 60$  (Fig. A-3).

## B. Phosphorous Load Reduction Goals

Estimated annual phosphorous loadings entering the lake via Baker Creek fluctuated a great deal from year to year during the period 1985-1994 (Fig. A-3), apparently influenced by variations in precipitation-driven stormwater flows and annual point source discharges. As a result, the estimated load reductions necessary to meet the projected target load also varied substantially among years (Fig. A-3).

Phosphorous loadings from permitted point sources have declined a great deal since 1988, and will undergo an additional decline if the Plant City WWTP ceases its surface water discharge in January, 1997. As noted above, the EUTROMOD model (eq. 3), based on 1985-1994 hydrologic inputs, suggests that the annual phosphorous load entering the lake would have to be reduced to a long-term average of approximately 3,371 kg/yr to achieve the target in-lake TP concentration of 0.07 mg/l. During the period 1985-1994, the Plant City WWTP is reported to have discharged an average of 7,604 kg of phosphorous per year, or the equivalent of 24% of the lake's estimated annual load. In 1994, the WWTP reported discharges of approximately 2,680 kg P, the equivalent of 9.1% of the lake's estimated annual load.

Nonpoint source discharges and atmospheric deposition, taken together, produced an estimated annual phosphorous load of 23,830 kg/yr during the period 1985-1994, approximately 76% of the lake's total load. Considering the year 1994 only, the estimated annual load due to nonpoint sources and atmospheric deposition was 26,805 kg (91% of the estimated total load). In addition to cessation of the WWTP discharge, it appears that approximately 22,356 kg (or 83%) of the phosphorous load generated by nonpoint sources and atmospheric deposition in 1994 would need to be eliminated in order to reach the long-term water quality targets (TP=0.07 mg/l and  $TSI_{avg} = 60$ ) proposed above. If average conditions over the period 1985-1994 are considered, the estimated average load reduction goal for nonpoint source discharges and atmospheric deposition becomes 23,830 kg/yr.

It must be emphasized that this estimation method assumes that all the phosphorous discharged by the Plant City WWTP reaches Lake Thonotosassa. If watershed and in-stream processes act to attenuate the point source load before it reaches the lake, the relative importance of nonpoint source loadings will increase and the reductions in nonpoint source loadings necessary to reach the proposed target will be greater than the above analysis suggests.

Because estimated phosphorous loadings fluctuate a great deal from year to year, in response to variations in rainfall, stormwater runoff, and point source effluent discharges, it may also be helpful to consider a phosphorous *concentration* target for stormwater and other surface water flows within the watershed. A potential concentration target can be estimated by rearranging equation (1) as follows:

$$P_i = P [1 + kt] \quad (4)$$

where:

- P = Average growing season total phosphorous concentration (mg/l)
- $P_i$  = Average total phosphorous concentration of incoming water (mg/l)
- t = Hydraulic detention time of the lake (years)
- k = Trapping parameter for phosphorous

Based on the hydrologic inputs observed during the period 1985-1994, this approach projects that an average annual  $P_i$  of 0.13 mg/l in the tributary flows entering the lake would be appropriate to meet an in-lake concentration target of 0.07 mg P/l (Fig. A-4).

## NITROGEN TARGETS AND LOAD REDUCTION GOALS

To achieve a trophic state target of  $TS_{avg} = 60$ , the average annual total nitrogen (TN) concentration in Lake Thonotosassa should not exceed 1.2 mg/l (FDER 1988). The observed concentration has exceeded that value, often by a substantial amount, in each of the past ten years (1985-1994).

Unlike total phosphorous, whose annual average concentrations in Lake Thonotosassa during 1985-1994 appeared to track the upward and downward trends occurring in Baker Creek (Fig. A-1), total nitrogen concentrations exhibited different temporal trends in the lake and its tributary (Fig. A-5). TN concentrations measured at the mouth of Baker Creek showed a generally declining trend over the period, but a flat or slightly upward trend within the lake (Fig. A-5). The differences observed between the two trends suggest that other (unmeasured) sources, rather than the measured inputs entering via Baker Creek, may play a predominant role driving temporal TN trends in the lake water column. This is particularly true in recent years (Fig. A-5).

Potential sources of unmeasured TN loads could conceivably be external (e.g. cattle operations, citrus groves, or septic systems located on the lake shore), internal (e.g. N fixation; sediment release), or a combination of the two. The need to obtain more complete information on the identities and magnitudes of those potential sources is clear, however, because absence of complete information on TN inputs may hinder efforts to develop appropriate load reduction goals.

The EUTROMOD TN model for Florida lakes is described by the following equation:

$$\log_{10}(N) = \log_{10} \left[ \frac{N_i}{1 + k'T} \right] \quad (5)$$

where:  $N$  = Average growing season total nitrogen concentration (mg/l)  
 $N_i$  = Average total nitrogen concentration of incoming water (mg/l)  
 $k'$  = Trapping parameter for nitrogen (dimensionless)

As with the phosphorous model, the nitrogen trapping parameter is calculated as a function of physical characteristics of the lake and annual loadings to the lake:

$$k' = 0.2T^{-0.89} Z^{1.56} N_{in}^{0.33} \quad (6)$$

The standard error of the prediction ( $s.e._{yix}$ ) for equation (6) is 0.136 mg L<sup>-1</sup> (Reckhow 1991).

All annual average nitrogen concentrations observed in Lake Thonotosassa during the period 1985-1992 exceeded values predicted using equation (6), and all exceeded the predicted values by > 1 s.e. (Fig. A-6). It thus appears that the EUTROMOD TN model has a substantial downward bias in this case, predicting much lower TN concentrations than were actually observed in the lake. The apparent bias may be due to the fact that model predictions were

based solely on TN inputs measured at the mouth of Baker Creek. As noted above, TN concentrations within the lake during 1985-1994 appear to have been driven by factors other than Baker Creek inflows alone (e.g., Fig. A-5). Those factors have not yet been identified, however, and information regarding them was not provided as input to the EUTROMOD model.

Despite the apparent lack of complete information on nitrogen loadings, EUTROMOD can be used to obtain initial estimates of target TN loadings that would be consistent, for a lake exhibiting the hydraulic loadings and detention times observed in Lake Thonotosassa, with the water quality targets proposed above. Following the approach used previously for phosphorous, equation (5) can be rearranged as follows:

$$M_i = N [1 + kt] Q_i \quad (7)$$

where:  $M_i$  = Mass of nitrogen entering the lake (kg/yr)  
 $Q_i$  = Volume of water entering the lake (l/yr)

Application of equation (7) to Lake Thonotosassa for the period 1985-1994 generates an estimate of 65,596 kg/yr as the average annual nitrogen load ( $M_i$ ) that would be consistent with an in-lake TN concentration of 1.2 mg/l and  $TSI_{avg} = 60$  (Fig. A-7). Because a significant proportion of the total nitrogen load may be entering the lake through routes other than Baker Creek, however, the loading target shown in Fig. A-7 should be interpreted as applying to *all* inputs rather than to the creek alone.

As with phosphorous, it may also be helpful to consider a nitrogen *concentration* target for permitted discharges and other surface water flows within the watershed. A potential concentration target can be estimated by rearranging equation (5) as follows:

$$N_i = N [1 + kt] \quad (8)$$

where:  $N$  = Average growing season total nitrogen concentration (mg/l)  
 $N_i$  = Average total nitrogen concentration of incoming water (mg/l)  
 $t$  = Hydraulic detention time of the lake (years)  
 $k$  = Trapping parameter for nitrogen

Based on the hydraulic inputs observed during the period 1985-1994, this approach suggests that an average annual  $N_i$  at or below 2.4 mg/l in surface and groundwater flows entering the lake would be appropriate, over the long term, to restore and maintain an in-lake concentration target of 1.2 mg N/l (Fig. A-8). However, given current uncertainties regarding TN loadings to the lake (Fig. A-5) and the evident bias in model predictions of in-lake TN (Fig. A-6), this prediction should be used cautiously and subjected to ongoing scrutiny as additional data become available.

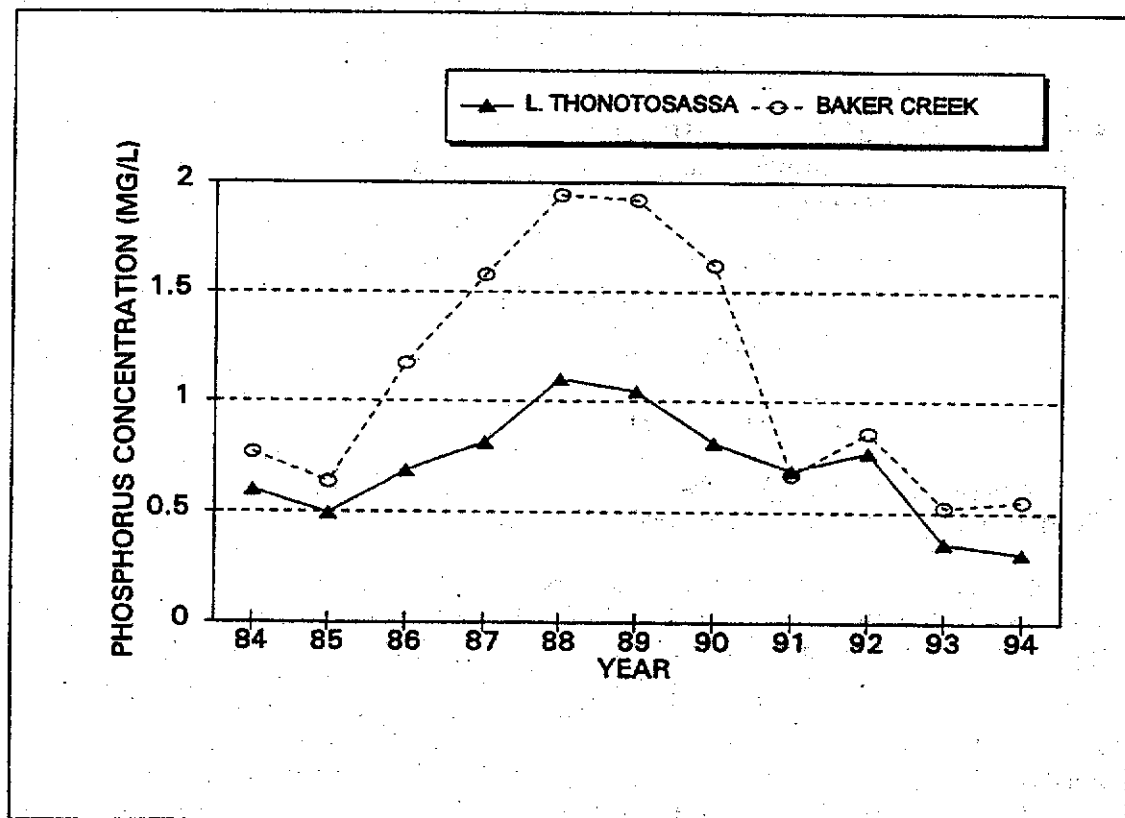


Figure A-1. Observed total phosphorous concentrations at EPC stations 107 (mouth of Baker Creek) and 135 (mid-lake). Plotted values are unweighted averages of 12 monthly measurements per year for the period 1984-1994.

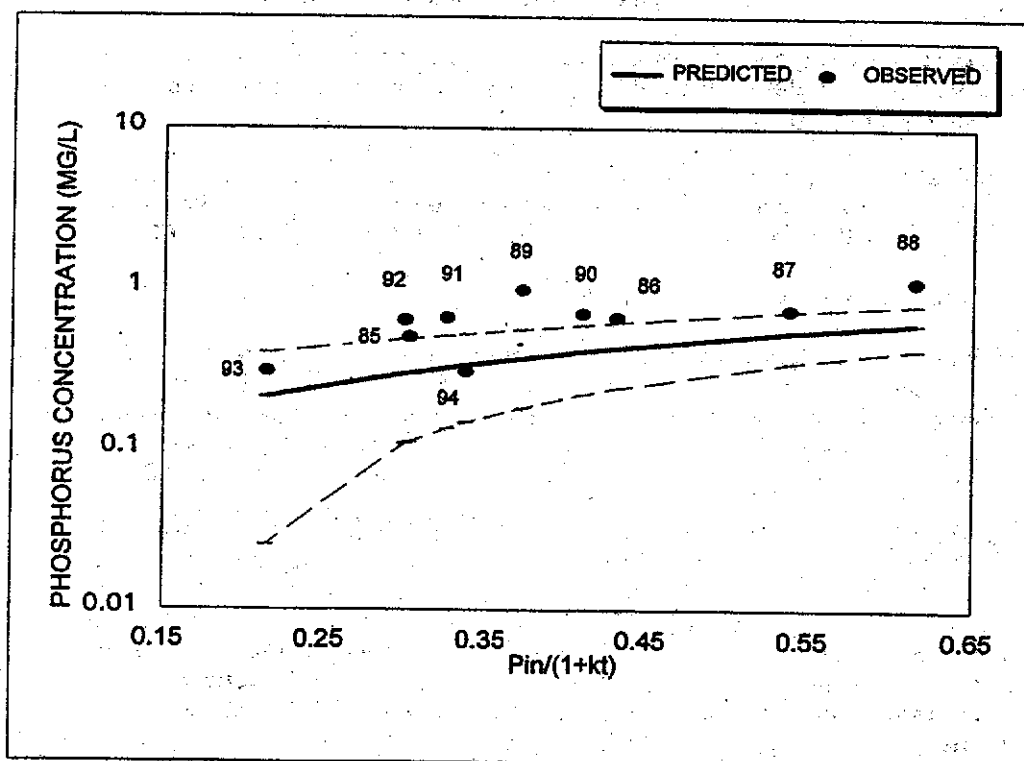


Figure A-2. Observed (EPC station 135, volume-weighted) and predicted (EUTROMOD) total phosphorous concentrations in Lake Thonotosassa. Error bars indicate  $\pm 1$  s.e.<sub>(yix)</sub> of EUTROMOD predicted value. Numerals adjacent to data points indicate year (1985-1994).

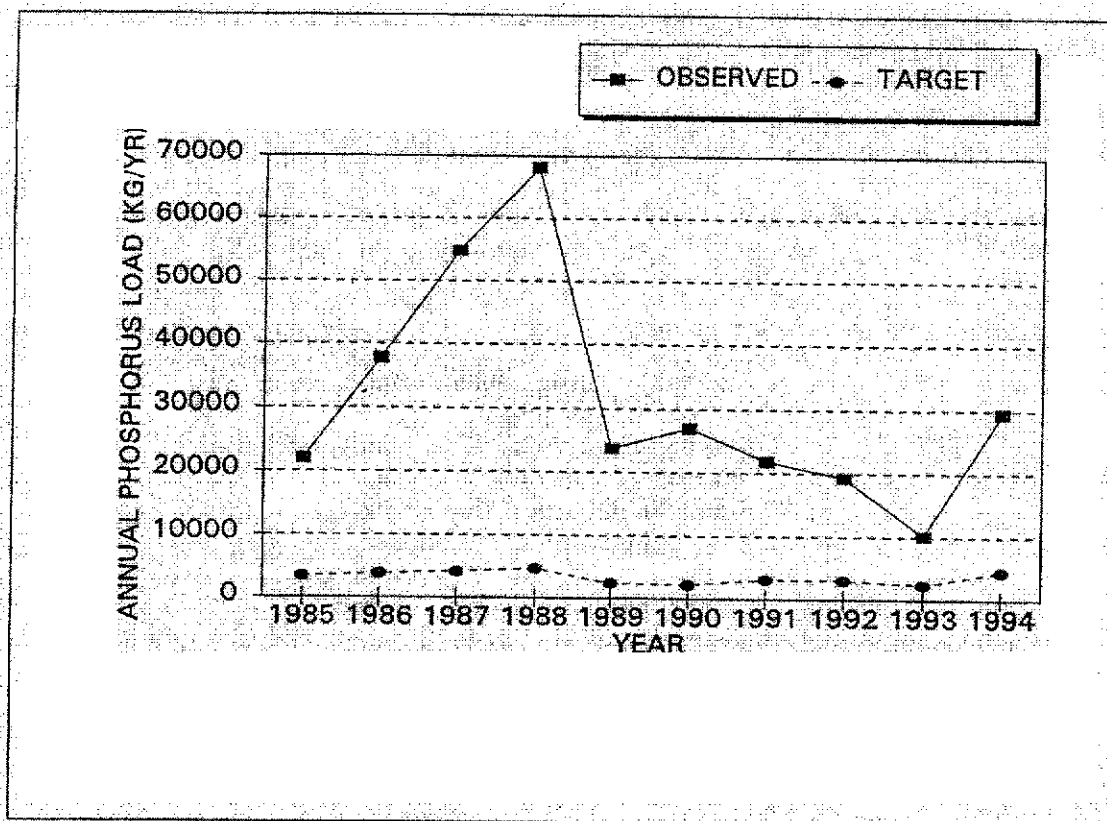


Figure A-3. Observed (EPC station 107, volume-weighted) and target (EUTROMOD) total phosphorous loadings, 1985-1994.

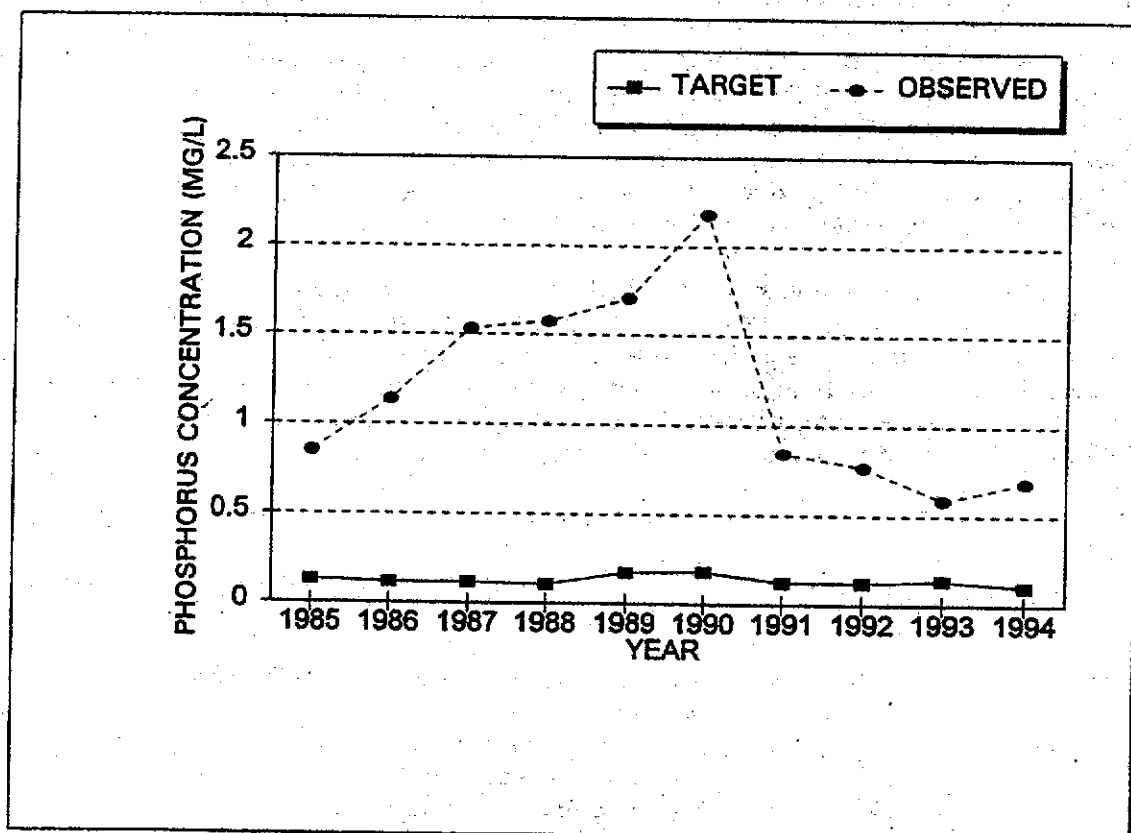


Figure A-4. Observed (EPC station 107) and target (EUTROMOD) total phosphorous concentrations, 1985-1994.

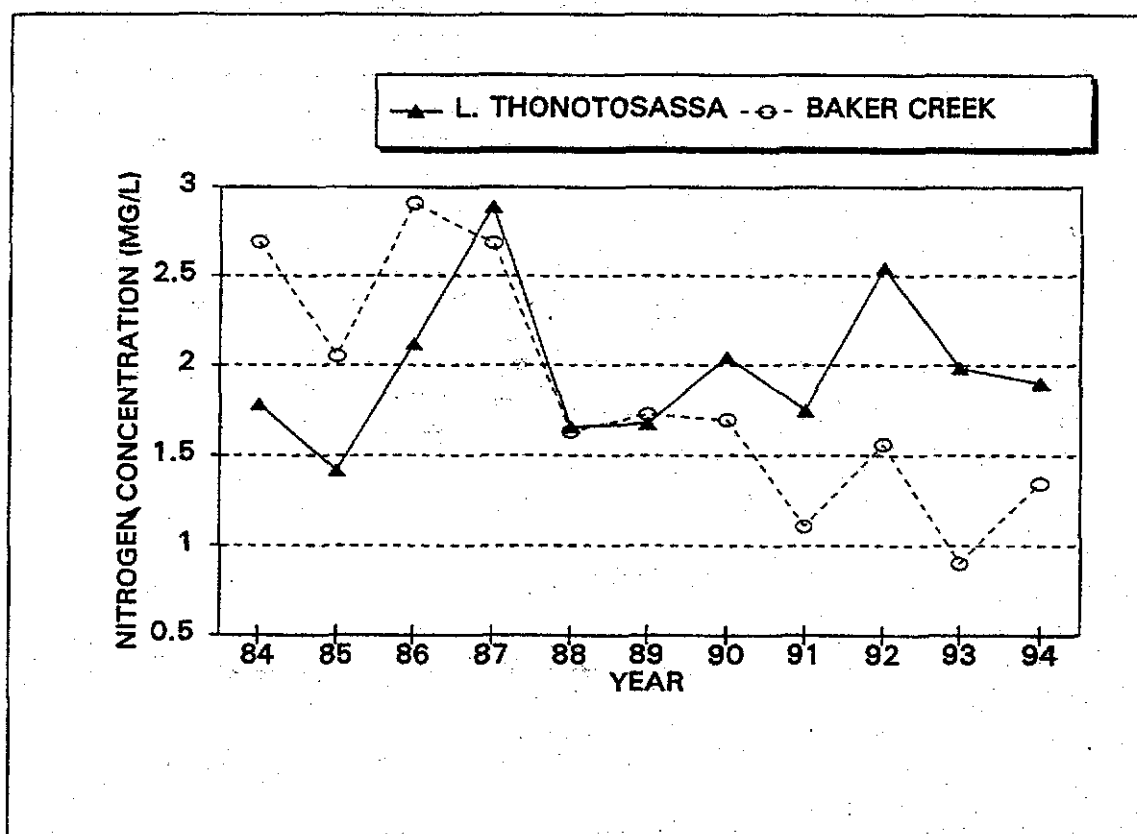


Figure A-5. Observed total nitrogen concentrations at EPC stations 107 (mouth of Baker Creek) and 135 (mid-lake). Plotted values are unweighted averages of 12 monthly observations per year.

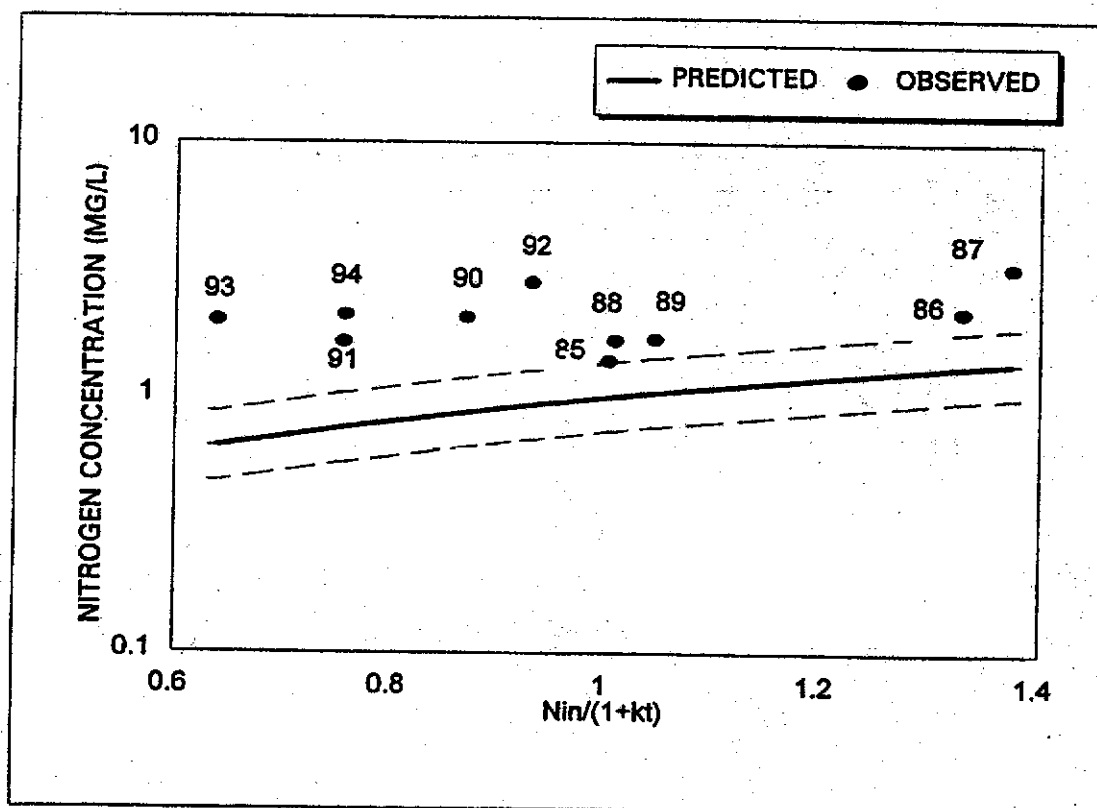


Figure A-6. Observed (EPC station 135, volume-weighted) and predicted (EUTROMOD) total nitrogen concentrations in Lake Thonotosassa. Error bars show  $\pm 1 \text{ s.e.}_{(yix)}$  of EUTROMOD predicted values. Numerals adjacent to data points indicate year (1985-1994).

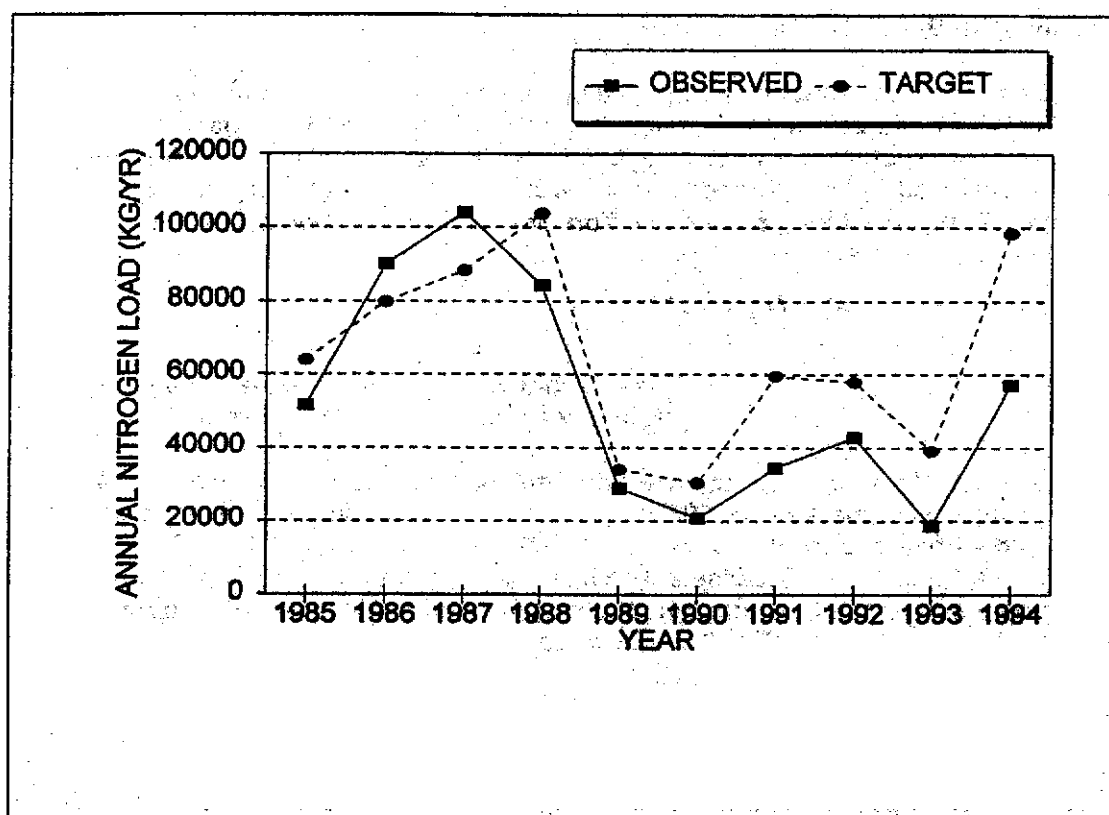


Figure A-7. Observed (EPC station 107, volume-weighted) and target (EUTROMOD) total nitrogen loadings, 1985-1994.

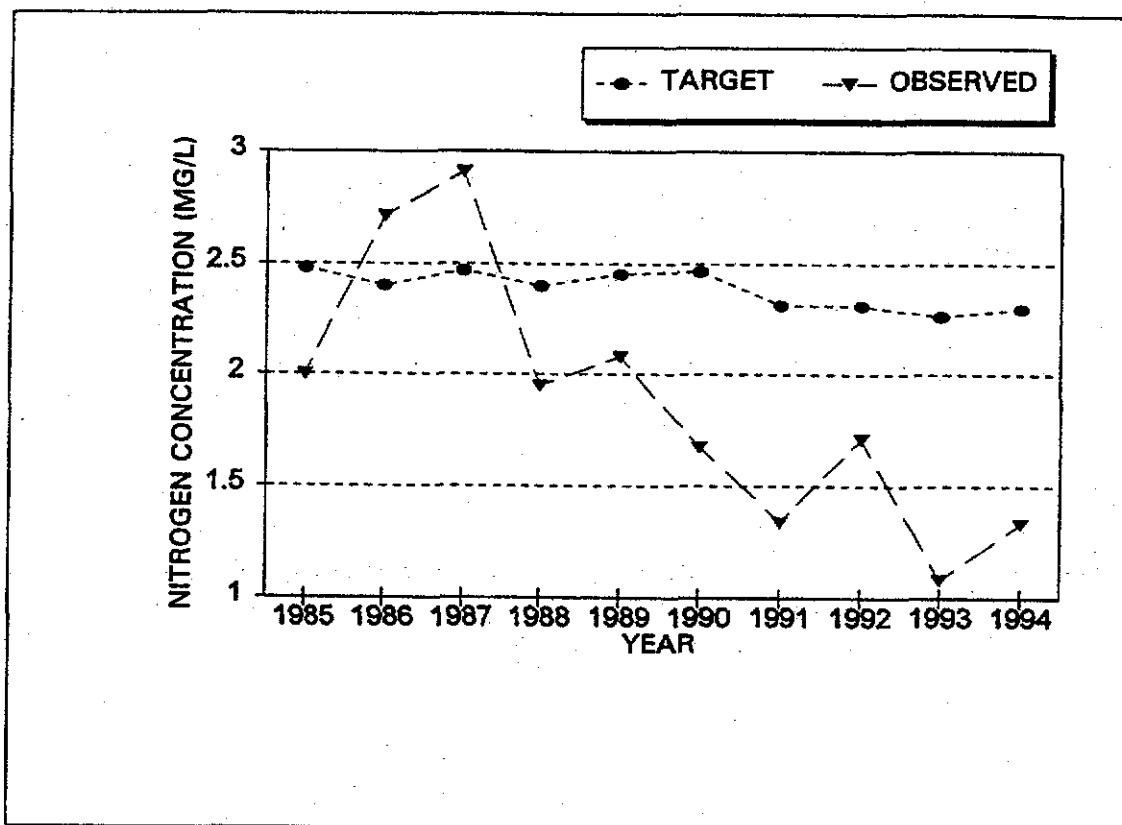


Figure A-8. Observed (EPC station 107, volume-weighted) and target (EUTROMOD) total nitrogen concentrations, 1985-1994.

## **APPENDIX B - PHYSICAL AND HYDROLOGIC CHARACTERISTICS**

Much of the information contained in this appendix is taken verbatim from the 1996 Lake Thonotosassa SWIM Plan (SWFWMD 1996), while references to the original reports are included for the readers information. Current and future land use classifications within the watershed have been updated to include the most recent information and data.

### **Watershed Delineation and Land Use**

The Lake Thonotosassa watershed covers an area of approximately 50 square miles, with roughly 9 square miles falling within urbanized portions of Plant City at the eastern edge of the basin (Fig. B-1). Land use within the watershed is primarily agricultural and urban (Fig. B-1; Table B-1). Rangeland, row crops (e.g. strawberries, tomatoes), and citrus groves account for the majority of the agricultural land use type, while residential areas account for the majority of the urban land use type. Natural plant communities, including wetlands and upland forests, are less common and tend to be restricted to the immediate vicinity of the lake and its tributary streams. A summary of recent (ca. 1999/2000) land uses is provided in Table B-1.

**Table B-1. 1999/2000 land uses in the Lake Thonotosassa watershed.**

| <b>Land Use Classification</b>                 | <b>Acres</b>    | <b>Percent</b> |
|------------------------------------------------|-----------------|----------------|
| 1) Urban and Built-up                          | 17449.9         | 38.31          |
| 1a) Mining                                     | 402.8           | 0.86           |
| 2) Agriculture                                 | 16490.8         | 36.12          |
| 3) Rangeland                                   | 165.3           | 00.34          |
| 4) Upland Forests                              | 2965.4          | 06.47          |
| 5) Water                                       | 2077.8          | 04.55          |
| 6) Wetlands                                    | 4913.9          | 10.76          |
| 7) Barren Land                                 | 241.1           | 00.52          |
| 8) Transportation, Communications<br>Utilities | 948.5           | 02.07          |
| <b>Total</b>                                   | <b>45,655.8</b> | <b>100.00</b>  |

The 2010 future land use map for the Lake Thonotosassa watershed indicates that residential land uses may increase significantly at the expense of existing agricultural and natural habitat areas (Fig. B-2; Table B-2). It should be noted, however, that these numbers are only projections of the potential future land uses within the watershed; factors such as economic growth, housing trends, and population increase play a major role in determining "real-world" changes in land use.

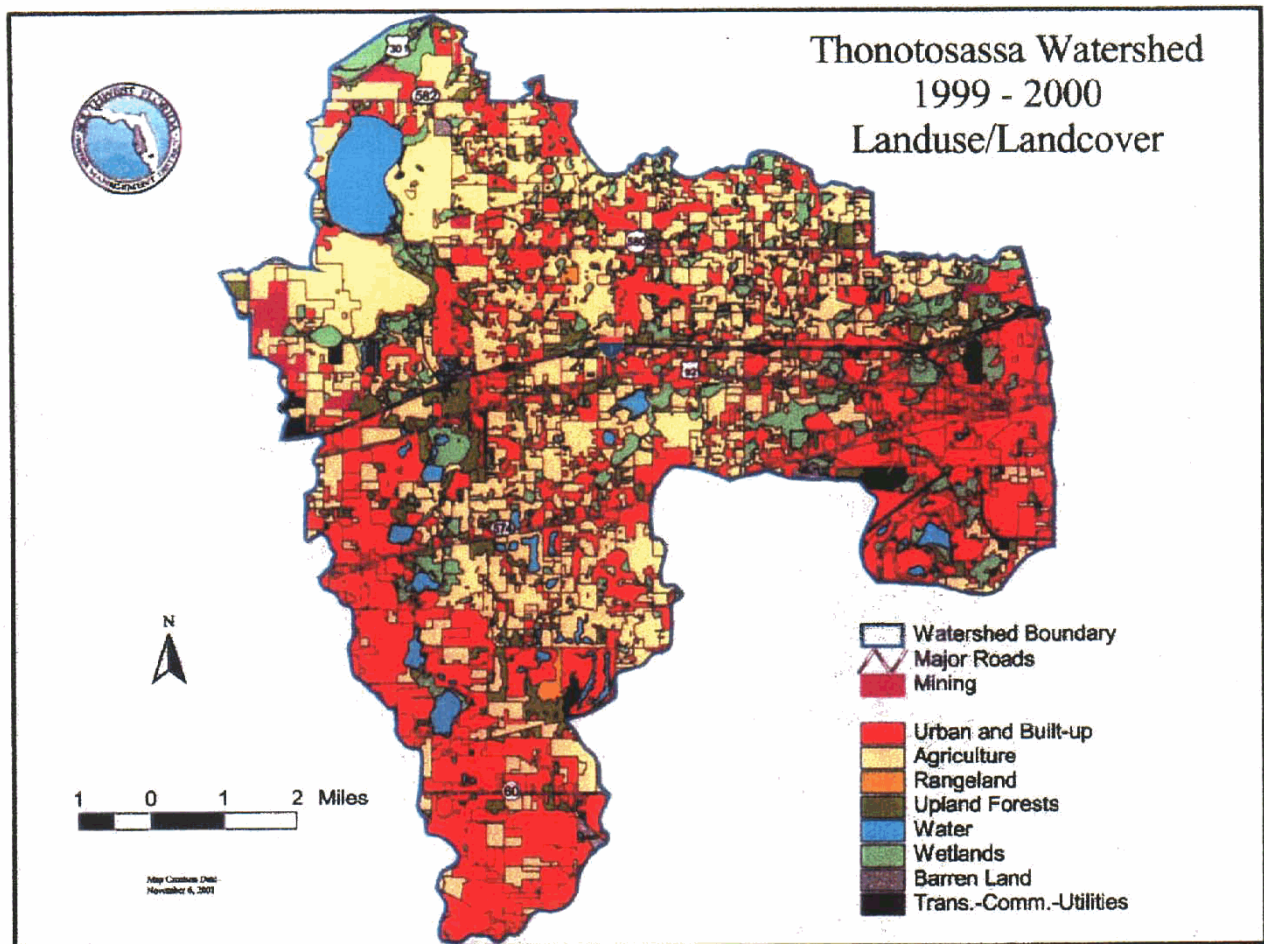
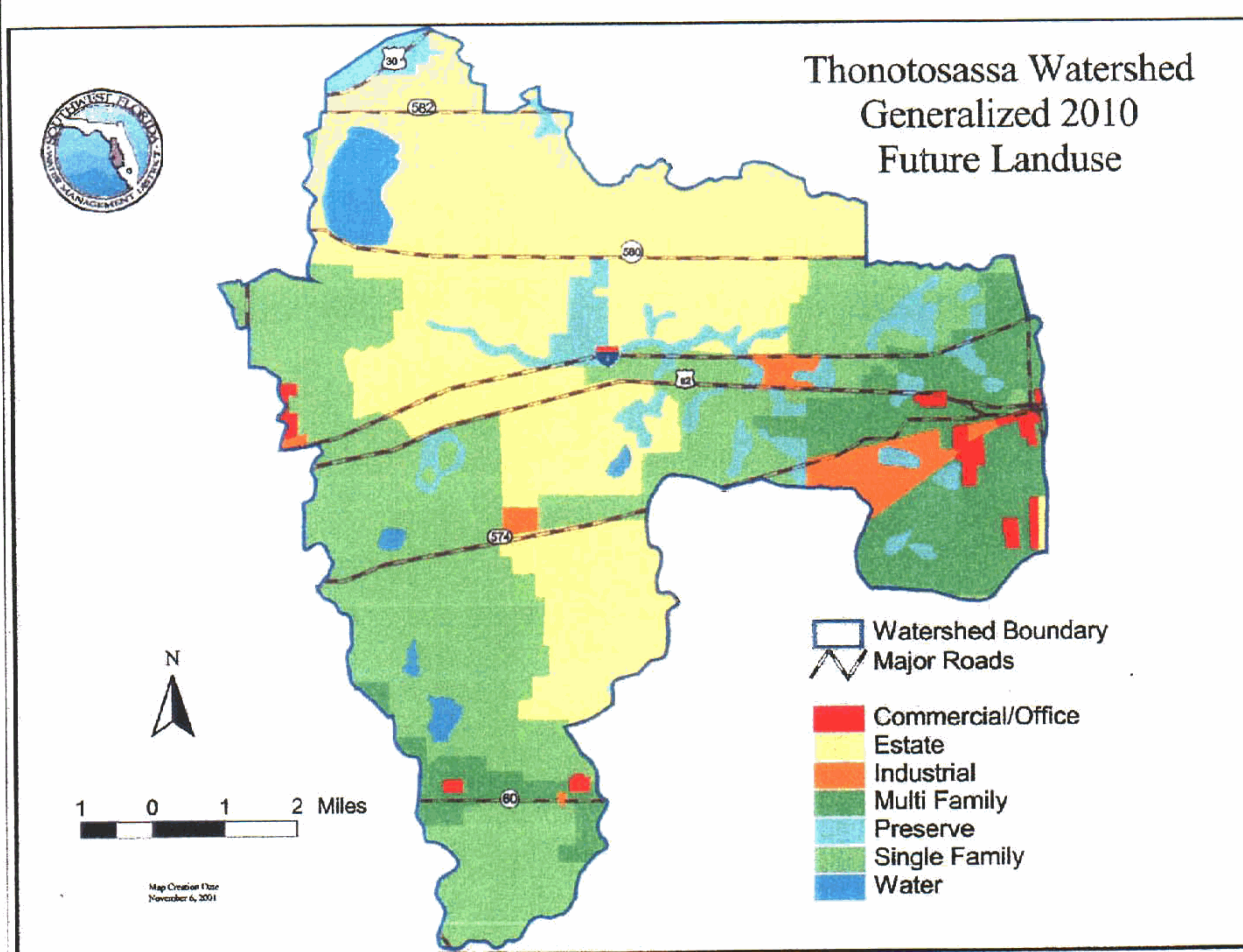


Figure B-1. 1999/2000 land uses in the Lake Thonotosassa watershed.

Table B-2. 2010 future land uses in the Lake Thonotosassa watershed.

| Future Land Use Classification | Acres    | Percent |
|--------------------------------|----------|---------|
| Commercial/ Office Estate      | 540.2    | 1.21    |
| Industrial                     | 17832.9  | 39.05   |
| Multi Family                   | 1133.5   | 2.46    |
| Preserve                       | 5973.8   | 13.08   |
| Single Family                  | 3182.8   | 06.95   |
| Water                          | 15861.8  | 34.77   |
|                                | 1130.8   | 02.48   |
| Total                          | 45,655.8 | 100.00  |



**Figure B-2. 2010 future land uses in the Lake Thonotosassa watershed.**

### Surface Water Hydrology

Covering 819 acres, Lake Thonotosassa is Hillsborough County's largest lake. The lake is 2.5 km long, 1.5 km wide at its widest point, and has an average depth of about 2.5 m. At an average stage of 10.8 m (35.3 ft) above mean sea level (MSL), maximum depth is approximately 4.3 m (SWFWMD 1977). The lake and its tributaries are Class III water bodies, whose designated uses under Rule 62-302.400, Florida Administrative Code (F.A.C.), include human recreation and the "propagation and maintenance of a healthy, well-balanced population of fish and wildlife."

Lake Thonotosassa receives water from precipitation, surface runoff, and seepage of groundwater from the surficial aquifer. The lake is hydraulically separated from the underlying Floridan aquifer by a confining clay layer. A study conducted by the U.S. Geological Survey in 1971 indicated that the surface elevation of the lake corresponded to the elevation of the water table within the surficial aquifer, and was approximately 3 m higher than the

potentiometric water surface observed in cased wells that penetrated the Floridan aquifer (Reichenbaugh and Hunn 1972).

Baker Creek, the sole inlet stream that enters Lake Thonotosassa near its southeastern corner, rises in the vicinity of Lake Weeks and Lake Hooker between the towns of Dover and Seffner (Fig. B-1). The southern portions of the Baker Creek sub-basin are characterized by poor drainage, low relief, and intermittent streamflow. Much of the discharge entering Baker Creek from the south arrives via man-made drainage channels (e.g. Baker Creek Tributary Canal). Baker Creek has been channelized over much of its length, with initial channelization occurring in the early 1900's. Pemberton Creek, a large tributary that drains the eastern portion of the watershed extending to Plant City, receives flows from Mill Creek and Spartman Branch before discharging to Baker Creek at a point approximately 2.3 km (1.25 miles) upstream of the lake.

Lake Thonotosassa has a single surface outlet (Flint Creek) which exits the lake near its northeast corner. Flint Creek flows north and west through a channelized bed for approximately 5.6 km before entering the Hillsborough River. The confluence is located approximately 16 km upstream of the City of Tampa Reservoir, an in-stream reservoir on the Hillsborough River that provides much of the city's municipal water supply. The reach of the Hillsborough River that receives discharge from Flint Creek is designated a Class I (potable) water body, reflecting its role in providing public water supply (FDER 1988).

Discharge and surface elevation of Lake Thonotosassa are partially controlled at the Flint Creek outlet by an adjustable weir that is operated and maintained by the SWFWMD. This is the third weir structure to occupy the site, the first having been constructed in 1915-1916 following the initial channelization of Flint Creek. A second structure, constructed by Hillsborough County, was operated by the county until 1975. The current structure and an upgraded bridge were built by the District in 1975. Modeling studies performed by SWFWMD staff indicate that the existing weir maintains a relatively constant and somewhat elevated lake stage during periods of low natural flow and has little effect on lake level or flow during periods of high stage and high flow (T. Harrison, SWFWMD, pers. comm.).

The current lake level management schedule, which was implemented by the District following a public hearing in 1988, calls for a minimum elevation of 10.5 m (34.5 ft) MSL to be maintained during December and January, a maximum elevation of 11.1 m (36.5 ft) MSL to occur in March through mid-April and September through November, and an intermediate elevation of 10.8 m (35.5 ft) MSL to be maintained during the rainy season in May through September. In contrast to this man-made fluctuation schedule, Menke et al. (1961) estimated that the lake level would oscillate seasonally over a range of approximately two meters if external management were halted and the weir in Flint Creek removed. However, because of the channelization of Flint Creek, it appears likely that the removal of the weir would also cause an immediate drop in lake level of approximately two meters.

## Hydrogeology

The drainage basin is underlain by water-bearing limestones and dolomites of Eocene to Miocene age, covered by a 6-30 m layer of unconsolidated sands and sandy clays of Pliocene, Pleistocene, and Recent origin. Five primary hydrogeologic units have been identified in the region. In order of descending depth are the surficial aquifer, the intermediate aquifer and confining beds, the Upper Floridan aquifer, middle confining unit, and Lower Floridan aquifer (Wolansky and Thompson 1987).

In the Lake Thonotosassa drainage basin, the surficial aquifer is contained within the uppermost layer of sand and sandy clay which reaches thicknesses of up to 12 m in the immediate vicinity of the lake (Reichenbaugh and Hunn 1972). This layer is underlain by confining beds of sandy clay and marl that inhibit water movement between the surficial aquifer and lower water-bearing units.

In areas where it is present, the intermediate aquifer is made up of limestone and dolomite beds of the Hawthorne Formation and upper parts of the Tampa Limestone. Within much of Hillsborough county, however, these beds are relatively thin and serve primarily as a portion of the upper confining layer of the Floridan aquifer (Wolansky and Thompson 1987).

The Floridan aquifer system, which is the primary artesian aquifer throughout Florida and much of the southeastern United States, includes the limestone and dolomite beds of Eocene to Miocene age that lie below the upper confining layer. The average thickness of the Floridan system is approximately 335 m (1100 ft) in the Hillsborough County area (Wolansky and Thompson 1987).

## Physiography

The Lake Thonotosassa watershed lies within the Polk Upland and Zephyrhills Gap physiographic units as delineated by White (1970). Soils include excessively drained deep sands of the Candler-Lake map unit occurring on upland areas west and south of the lake, moderately to poorly drained sands of the Zolfo-Seffner-Tavares unit occurring in central and eastern portions of the watershed in the vicinity of Pemberton Creek, and poorly to very poorly drained depressional soils of the Basinger, Holopaw, and Samsula series occurring in wetlands within the Baker Creek sub-basin and along the eastern margin of the lake (SWFWMD 1977; USDA/SCS 1989). Dry sandy hills and ridges, relict features produced during Pleistocene marine transgressions that reach elevations up to 30 m MSL, border the western and southwestern margins of the lake.

## Climate

The climate of the Hillsborough County area is humid subtropical, with an annual mean temperature of 72°F and annual average precipitation of about 51 inches. Mean monthly temperatures range from a low of approximately 60°F in January to a high of approximately 82°F in August. Summer high temperatures typically reach 95°F, with occasional highs greater than 100°F. Annual low temperatures range from 25-30°F and occur following the

passage of Arctic cold fronts. Winter temperatures rarely remain below freezing during daylight hours, and typically rise to 60-70°F during periods between the passage of fronts.

In a typical year, approximately 60% of the annual precipitation occurs during a four-month rainy season that extends from June through September. Rainfall in this season comes primarily from convective afternoon and evening thunderstorms. Periods of extremely heavy precipitation associated with the passage of tropical low pressure systems may occasionally occur during summer and early fall. Winter and spring are typically the driest seasons, with rainfall occurring in concert with the passage of periodic cold fronts. Tampa Bay area rainfall records indicate that occasional droughts have occurred since 1900, with one of the most severe beginning in October 1998. According to the National Weather Service in Ruskin, FL, rainfall at Tampa International Airport between October 1998 and October 2001 measured 28.67 inches below normal. As mentioned earlier, this rainfall deficit throughout the Lake Thonotosassa watershed likely led to reduced flushing of the lake and a subsequent decline in in-lake water quality during this 3-year time span.

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## APPENDIX C - PERMITTED SOURCES AND WATER USE PERMITS

This appendix lists point source, water use, and stormwater treatment permits within the Lake Thonotosassa watershed. Point source permit information was obtained from the Southwest District office of the FDEP. Stormwater treatment permit information was obtained from the Southwest Florida Water Management District.

### Petroleum Contaminated Facilities\*:

| FAC_ID  | status | NAME                               | ADDRESS                       | DSCH_CL_ST | SOIL_CNT | SURF_WTR_CON | GRND_WTR_CONT | MNTR_WELL_CONT |
|---------|--------|------------------------------------|-------------------------------|------------|----------|--------------|---------------|----------------|
| 8627485 | ONGO   | 7-ELEVEN FOOD STORE #32702         | 12902 NEWSOME RD              | RA         | Y        | N            | Y             | Y              |
| 9103641 | REPT   | AMERICAN BORROW PIT                | 9501 CR 579                   | REPT       | Y        | N            | N             | N              |
| 8509067 | ONGO   | AMOCO-ANDERSON #2                  | 4810 MCINTOSH RD              | RA         | Y        | N            | Y             | Y              |
| 8625015 | ONGO   | AMOCO-THONOTOSASSA                 | 2851 W-THONOTOSASSA RD        | RA         | Y        | N            | Y             | Y              |
| 8624847 | APPL   | APC RENTALS INC                    | 2102 JELANE DR                | INEL       | Y        | N            | N             | Y              |
| 9100576 | CMPL   | B & R FOODS INC-WEST               | 3150 N GALLAGHER RD           | NFA        | Y        | N            | Y             | Y              |
| 8734303 | ONGO   | BENNETT SERVICE CENTER/RONALD      | 14241 MARTIN LUTHER KING BLVD | RA         | Y        | N            | N             | N              |
| 8624858 | ONGO   | BP-MCINTOSH                        | 12901 US HWY 92 E             | SA         | N        | N            | Y             | Y              |
| 8838710 | ONGO   | BREWINGTONS SERVICE                | 301 N COLLINS ST              | RA         | Y        | N            | Y             | Y              |
| 9801614 | APPL   | CAPPS PROPERTY                     | 1925 HAGGERTY RD              | INEL       | Y        |              |               | Y              |
| 8627335 | REPT   | CHEVRON-PLANT CITY                 | 1501 S COLLINS ST             | DNR        |          |              |               |                |
| 8625210 | ONGO   | CIRCLE K #0012                     | 202 E HWY 574                 | RA         | Y        | N            | N             | Y              |
| 8509045 | APPL   | CIRCLE K #7033                     | 14670 DR M L KING BLVD        | ENTD       | N        | N            | N             | Y              |
| 8625164 | CMPL   | CIRCLE K #7472                     | 2501 HWY 60                   | NFA        | Y        | N            | N             | Y              |
| 8840261 | APPL   | CIRCLE K #8619                     | 1909 JIM REDMAN RD            | ENTD       | N        | N            | Y             | N              |
| 8625097 | ONGO   | CIRCLE M #1                        | 2009 N WHEELER ST             | SA         | Y        | N            | Y             | Y              |
| 8625097 | ONGO   | CIRCLE M #1                        | 2009 N WHEELER ST             | INEL       |          |              |               |                |
| 8625090 | ONGO   | CIRCLE M SHELL #4                  | 1664 BRANCH FROBES RD         | RA         | Y        | N            | Y             | Y              |
| 8625090 | ONGO   | CIRCLE M SHELL #4                  | 1664 BRANCH FROBES RD         | RA         |          |              |               |                |
| 8625090 | ONGO   | CIRCLE M SHELL #4                  | 1664 BRANCH FROBES RD         | RA         |          |              |               |                |
| 8736134 | ONGO   | CITGO-A&A                          | 1408 HWY 574 & N WHEELER ST   | SA         | N        | N            | Y             | Y              |
| 8625035 | ONGO   | CITGO-TURKEY CREEK                 | 4612 HWY 574                  | RA         | N        | N            | Y             | Y              |
| 8625124 | CMPL   | CITY-MOTOR EQUIPMENT DIV           | 1500 VICTORIA ST W            | NFA        | Y        | N            | Y             | N              |
| 8625124 | CMPL   | CITY-MOTOR EQUIPMENT DIV           | 1500 VICTORIA ST W            | NREQ       | Y        | N            | N             | N              |
| 8837989 | APPL   | CITY-PLANTEN RECREATION            | 401 DORT ST                   | ENTD       | Y        | N            | Y             | Y              |
| 9800176 | ONGO   | CLINE PROPERTY                     | 3134 S DOVER RD               | SA         | Y        |              |               | Y              |
| 8625105 | CMPL   | DART CONTAINER CORP OF FLORIDA     | 4610 AIRPORT RD               | NFA        | Y        | Y            | N             | N              |
| 9701228 | ONGO   | DAYS INN                           | 301 S FRONTAGE RD             | RA         | Y        | N            | N             | N              |
| 8625492 | REPT   | EXXON-BENNETTS                     | 5112 US HWY 92 W              | NFA        | Y        | N            | Y             | Y              |
| 8625492 | REPT   | EXXON-BENNETTS                     | 5112 US HWY 92 W              | REPT       | Y        | N            |               |                |
| 8625492 | REPT   | EXXON-BENNETTS                     | 5112 US HWY 92 W              | VCCR       | Y        | N            |               |                |
| 8625492 | REPT   | EXXON-BENNETTS                     | 5112 US HWY 92 W              | DNR        |          |              |               |                |
| 8625198 | APPL   | FARM STORE #0381                   | 1405 N WHEELER ST             | ENTD       | N        | N            | Y             | Y              |
| 8627487 | ONGO   | FARM STORE #0386                   | 102 E US HWY 92               | RA         | Y        | N            | N             | N              |
| 8625199 | NREQ   | FARM STORE #382                    | 1606 N PARSONS AVE            | NREQ       |          |              |               |                |
| 8625627 | APPL   | FINA-BENNETTS                      | 2101 N REYNOLDS ST            | DNR        |          |              |               |                |
| 8625627 | APPL   | FINA-BENNETTS                      | 2101 N REYNOLDS ST            | DNR        |          |              |               |                |
| 8625627 | APPL   | FINA-BENNETTS                      | 2101 N REYNOLDS ST            | ENTD       | Y        | N            | Y             | Y              |
| 8624810 | NREQ   | FINA-HAHN & TIRE SERVICE           | 3502 W BAKER ST               | NREQ       |          |              |               |                |
| 8945459 | CMPL   | FIRESTONE #19GR-025976             | 1809 SR 60                    | NFA        | Y        | N            | N             | N              |
| 8944382 | ONGO   | FIRST BAPTIST CHURCH OF PLANT CITY | 102 E BAKER ST                | SA         | N        | N            | Y             | Y              |
| 8733390 | ONGO   | FOOD MART-PALS                     | 1665 N BRANCH FORBES RD       | RA         |          |              |               |                |

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| FAC_ID  | status | NAME                                   | ADDRESS                     | DSCH_CL_ST | SOIL_CNT | SURF_WTR_CON | GRND_WTR_CONT | MNTR_WELL_CONT |
|---------|--------|----------------------------------------|-----------------------------|------------|----------|--------------|---------------|----------------|
| 8733390 | ONGO   | FOOD MART-PALS                         | 1665 N BRANCH FORBES RD     | INEL       |          |              |               |                |
| 8625487 | CMPL   | FOOD N THINGS                          | 2010 N WHEELER RD           | SRCR       | N        | N            | Y             | Y              |
| 8625228 | ONGO   | G&G TRUE BALANCE & ALIGNMENT           | 1206 S COLLINS ST           | RA         | N        | N            | Y             | Y              |
| 8944819 | NREQ   | GLOBE STATION                          | 2709 W REYNOLDS ST          | NREQ       | Y        | N            | N             | N              |
| 9600864 | APPL   | GOODYEAR TIRE STORE                    | 1701 HWY 60                 | INEL       | Y        | N            | N             | N              |
| 8625704 | APPL   | HARDEE MAINTENANCE & STEEL FABRICATORS | 3600 SYDNEY RD              | ENTD       | Y        | N            | Y             | Y              |
| 8625596 | ONGO   | HEMPHILL GROVES                        | 810 W HAINES ST             | RA         | N        | N            | Y             | Y              |
| 8944197 | ONGO   | HESS #09416                            | 4324 N MCINTOSH RD          | SA         | N        | N            | Y             | Y              |
| 8944197 | ONGO   | HESS #09416                            | 4324 N MCINTOSH RD          | NREQ       |          |              |               |                |
| 8944197 | ONGO   | HESS #09416                            | 4324 N MCINTOSH RD          | SA         |          |              |               | Y              |
| 9400620 | REPT   | HILLSBOROUGH CNTY RD & ST WIDE CONSTRU | 13173 US HWY 301            | REPT       | Y        | N            | N             | N              |
| 8736491 | REPT   | HILLSBOROUGH CNTY SCHOOL BD-MAINT IV   | NEW AIRPORT RD              | REPT       |          |              |               |                |
| 8736491 | REPT   | HILLSBOROUGH CNTY SCHOOL BD-MAINT IV   | NEW AIRPORT RD              | REPT       | Y        | N            | N             | Y              |
| 8737003 | ONGO   | HILLSBOROUGH CNTY SCHOOL BD-MARSHALL   | 18 S MARYLAND AVE           | SA         | Y        | N            | Y             | Y              |
| 8736493 | ONGO   | HILLSBOROUGH CNTY SCHOOL BD-PLANT CITY | MAKI RD W OF HWY 39         | RA         |          |              |               |                |
| 8736493 | ONGO   | HILLSBOROUGH CNTY SCHOOL BD-PLANT CITY | MAKI RD W OF HWY 39         | RA         |          |              |               |                |
| 8736493 | ONGO   | HILLSBOROUGH CNTY SCHOOL BD-PLANT CITY | MAKI RD W OF HWY 39         | DNR        |          |              |               |                |
| 8736493 | ONGO   | HILLSBOROUGH CNTY SCHOOL BD-PLANT CITY | MAKI RD W OF HWY 39         | VCCR       | Y        | N            |               |                |
| 8736493 | ONGO   | HILLSBOROUGH CNTY SCHOOL BD-PLANT CITY | MAKI RD W OF HWY 39         | RA         | Y        | N            | N             | Y              |
| 8625247 | APPL   | HOOKER JAMES                           | 13606 US HWY 92 E           | INEL       | Y        | N            | Y             | Y              |
| 8625247 | APPL   | HOOKER JAMES                           | 13606 US HWY 92 E           | DNR        |          |              |               |                |
| 8625247 | APPL   | HOOKER JAMES                           | 13606 US HWY 92 E           | INEL       |          |              |               |                |
| 8625319 | ONGO   | INTERNATIONAL PETROLEUM CORP           | 105 S ALEXANDER ST          | SA         | Y        | N            | Y             | Y              |
| 8625319 | ONGO   | INTERNATIONAL PETROLEUM CORP           | 105 S ALEXANDER ST          | DNR        |          |              |               |                |
| 8625319 | ONGO   | INTERNATIONAL PETROLEUM CORP           | 105 S ALEXANDER ST          | NFA        | Y        | Y            |               |                |
| 9202118 | ONGO   | INTERSTATE TRAFFIC CONTROL INC         | 901 WOODROW WILSON          | SA         | Y        | N            | Y             | N              |
| 8509075 | ONGO   | J H WILLIAMS OIL CO INC                | 624 S COLLINS ST            | RAP        | Y        | N            | Y             | Y              |
| 8735902 | ONGO   | J W H LTD                              | 623 EVERS                   | RA         | Y        | N            | Y             | Y              |
| 8509015 | NREQ   | M & M GROCERY                          | 1703 N VALRICO RD           | NREQ       |          |              |               |                |
| 8942885 | NREQ   | MAJIK MARKET & US POST OFFICE          | 12850 SR 574                | NREQ       |          |              |               |                |
| 8944505 | CMPL   | MCGINNIS LUMBER CO                     | 402 EVERS ST                | NFA        | Y        | N            | N             | N              |
| 8841485 | CMPL   | MESSICKS SERVICE                       | 1801 TURKEY CREEK RD        | SRCR       | Y        | N            | N             | N              |
| 8840508 | CMPL   | MID-STATE POTATO DISTRIBUTOR INC       | 902 S ALEXANDER ST          | SRCR       | Y        | N            | Y             | Y              |
| 8624993 | ONGO   | MOBIL #02-CNJ                          | 8930 N 56TH ST              | RA         | Y        | N            | Y             | Y              |
| 8627950 | REPT   | NATIONAL GUARD ARMORY OMS #7           | 4004 AIRPORT RD             | VCCR       | Y        | N            | Y             | N              |
| 8943271 | REPT   | PALM HARBOR HOMES INC                  | 605 S FRONTAGE RD           | REPT       | Y        | N            | N             | N              |
| 9102448 | ONGO   | PAUL'S SUPER SAVER                     | 201 N COLLINS               | RA         | Y        | N            | Y             | Y              |
| 8625161 | ONGO   | PETROL MART #110                       | 507 S WHEELER ST            | RA         |          |              |               |                |
| 8625161 | ONGO   | PETROL MART #110                       | 507 S WHEELER ST            | RAP        | N        | N            | Y             | Y              |
| 8735708 | APPL   | PETROL MART #114                       | 2009 W BAKER ST             | INEL       | Y        | N            | N             | N              |
| 8625509 | APPL   | PETROL MART #115                       | 627 S COLLINS ST            | INEL       | Y        | N            | Y             | Y              |
| 8625509 | APPL   | PETROL MART #115                       | 627 S COLLINS ST            | PNTD       | Y        | N            | N             | N              |
| 9600251 | CMPL   | PLANT CITY-WTP                         | 705 N ALEXANDER             | NFA        | N        | N            | Y             | N              |
| 8625039 | ONGO   | PRESKO FOOD STORE #13                  | 504 PLANT AVE               | RA         | N        | N            | Y             | Y              |
| 8625046 | APPL   | PRESKO FOOD STORE #15                  | 3501 W BAKER ST             | NREQ       |          |              |               |                |
| 8625046 | APPL   | PRESKO FOOD STORE #15                  | 3501 W BAKER ST             | ENTD       |          | N            | Y             | N              |
| 8625045 | ONGO   | PRESKO FOOD STORE #39                  | 1425 S COLLINS ST           | SA         | N        | N            | Y             | Y              |
| 8732462 | APPL   | PRIME TIME #702                        | 5107 HWY 92 WEST            | INEL       |          |              |               |                |
| 8732462 | APPL   | PRIME TIME #702                        | 5107 HWY 92 WEST            | NREQ       | Y        | N            | N             | N              |
| 8625044 | ONGO   | PRIME TIME #718                        | S DOVER RD & HWY 574        | RA         | N        | N            | Y             | Y              |
| 8521269 | ONGO   | PRIME TIME #752                        | 2203 S ALEXANDER ST         | RA         | N        | N            | Y             | Y              |
| 8625424 | ONGO   | QUIK TRIP FOOD STORE                   | 502 E BAKER ST              | RA         | N        | N            | Y             | Y              |
| 8509021 | NREQ   | RALPH'S AUTOMOTIVE SERVICE CENTER      | 13095 HWY 92 & GALLAGHER RD | NREQ       | Y        | N            | N             | N              |
| 8628018 | APPL   | RUSSELL BROWN SERVICE STATION          | 208 W BAKER ST              | ENTD       | N        | N            | N             | Y              |
| 8732415 | APPL   | SEFFNER FOOD STORE                     | 340 HWY 574 E               | INEL       | N        | N            | N             | Y              |
| 8625385 | ONGO   | SHOP OK HARDWARE                       | 4109 W SR 574               | RA         | N        | N            | Y             | Y              |
| 8943015 | CMPL   | SOUTH FL BAPTIST HOSPITAL              | 301 N ALEXANDER ST          | NFA        | Y        | N            | N             | N              |

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| FAC_ID  | status | NAME                                    | ADDRESS                        | DSCH_CL_ST | SOIL_CNT | SURF_WTR_CON | GRND_WTR_CONT | MNTR_WELL_CONT |
|---------|--------|-----------------------------------------|--------------------------------|------------|----------|--------------|---------------|----------------|
| 8838323 | APPL   | SPECIALTY FOOD DISTRIBUTORS INC         | 4006 AIRPORT RD                | ENTD       | N        | N            | Y             | Y              |
| 8841245 | CMPL   | SPUR-SPARKY'S FOOD STORE                | 410 N ALEXANDER ST             | NFA        | N        | N            | Y             | Y              |
| 8623914 | ONGO   | STANDARD-DANIELS                        | 1111 N WHEELER ST              | RA         | N        | N            | Y             | Y              |
| 8625043 | ONGO   | SUPER STOP STORE                        | 807 W MARTIN LUTHER KING BLVD. | NFA        | N        | N            | Y             | Y              |
| 8625043 | ONGO   | SUPER STOP STORE                        | 807 W MARTIN LUTHER KING BLVD. | RAP        | Y        | N            | Y             |                |
| 8624792 | APPL   | TAMPA ELECTRIC CO.-PLANT CITY OPER.     | 1204 W GRANT ST                | ENTD       | Y        | N            | N             | N              |
| 8625585 | REPT   | TAMPA FARM SERVICE INC                  | 14425 HAYNES RD                | REPT       | N        | N            | N             | Y              |
| 9045631 | ONGO   | TERRELL OIL TRUCK STOP                  | 306B E SR 60                   | RA         | Y        | N            | Y             | Y              |
| 8625538 | ONGO   | TEXACO #107-24-204-1328                 | 2501 N WHEELER ST              | NFA        | Y        | N            |               |                |
| 8625538 | ONGO   | TEXACO #107-24-204-1328                 | 2501 N WHEELER ST              | RA         |          |              |               |                |
| 8625538 | ONGO   | TEXACO #107-24-204-1328                 | 2501 N WHEELER ST              | DNR        |          |              |               |                |
| 8625538 | ONGO   | TEXACO #107-24-204-1328                 | 2501 N WHEELER ST              | ENTD       |          |              |               |                |
| 8625402 | ONGO   | TEXACO #24-204-1312                     | 703 S ALEXANDER ST             | RA         | N        | N            | Y             | Y              |
| 8944035 | ONGO   | TEXACO STATION #24-203-1351             | 702 MLK BLVD W                 | SA         |          |              |               |                |
| 8944035 | ONGO   | TEXACO STATION #24-203-1351             | 702 MLK BLVD W                 | NREQ       |          |              |               |                |
| 8944035 | ONGO   | TEXACO STATION #24-203-1351             | 702 MLK BLVD W                 | NFA        | Y        | N            | N             | N              |
| 8944035 | ONGO   | TEXACO STATION #24-203-1351             | 702 MLK BLVD W                 | INEL       |          |              |               |                |
| 8732464 | ONGO   | UNITED FOOD STORE                       | 1506 SAMMONDS RD               | RA         | N        | N            | Y             | Y              |
| 9602428 | REPT   | UNITED STATES POSTAL SERVICE-PLANT CITY | 301 W REYNOLDS AVE             | DNR        | Y        | N            | N             | N              |
| 8733801 | REPT   | UNIV. OF FL-AREC                        | 13138 LEWIS GALLAGHER RD       | REPT       | Y        | N            | N             | N              |
| 9201608 | APPL   | USE #9500489                            | 1219 W REYNOLDS                | PNTD       | Y        | N            | N             | N              |
| 8624831 | ONGO   | W & W TRUCKING CO                       | SR 574 & MACINTOSH RD          | SA         | Y        | N            | N             | N              |
| 8624831 | ONGO   | W & W TRUCKING CO                       | SR 574 & MACINTOSH RD          | NREQ       | Y        |              |               |                |
| 8625290 | REPT   | WALDEN LAKE COUNTRY CLUB                | 2001 CLUBHOUSE DR              | DNR        |          |              |               |                |
| 8628050 | ONGO   | WILSONS WHOLESALE NURSERY INC           | HWY 92 1 MI E MCINTOSH         | RA         | N        | N            | Y             | N              |
| 8628050 | ONGO   | WILSONS WHOLESALE NURSERY INC           | HWY 92 1 MI E MCINTOSH         | RA         |          |              |               |                |

\* Because of the desire to reflect discharge and contamination information for Petroleum Contamination Tracking facilities and because some of the facilities have more than one recorded discharge, this dataset now has more than one record for some of the facilities.

## Small Quantity Generators (100 - 1,000 Kg/month) of Hazardous Waste:

| EPAID        | SITE   | NAME                            | CITY         |
|--------------|--------|---------------------------------|--------------|
| FLD981858418 | 30723  | ACME PUMPS & WELLPOINTS INC     | PLANT CITY   |
| FLR000034991 | 130596 | AUTONATION USA RECON CENTER     | PLANT CITY   |
| FLR000017061 | 77301  | BELL CHEVROLET INC              | PLANT CITY   |
| FLD981866254 | 30852  | BOB SAPP OLDSMOBILE GMC INC     | PLANT CITY   |
| FLR000023481 | 79543  | BUDS DISCOUNT CITY #4068        | PLANT CITY   |
| FLD981750763 | 30724  | COMMUNITY BUICK PONTIAC INC     | PLANT CITY   |
| FLR000081372 | 190557 | CREATIVE GAMES INTERNATIONAL    | PLANT CITY   |
| FLD981466832 | 30720  | CSX TRANSPORTATION              | PLANT CITY   |
| FLD982107807 | 34869  | CUSTOM CLEANERS INC             | SEFFNER      |
| FLR000014316 | 34840  | DIAMOND PRODUCTS CO             | SEFFNER      |
| FLD984232207 | 35388  | DISCOUNT RADIATOR               | SEFFNER      |
| FL0000141218 | 71405  | GATSBY SPAS INC                 | PLANT CITY   |
| FLD981860729 | 30714  | GOODYEAR AUTO SERVICE CENTER    | PLANT CITY   |
| FLR000003780 | 73313  | H & H RADIATOR                  | PLANT CITY   |
| FLR000006643 | 73735  | HILLSBOROUGH CO MAINTENANCE IV  | PLANT CITY   |
| FLD982157257 | 30427  | HILLSBOROUGH CO SCHOOL BD TRANS | THONOTOSASSA |
| FLR000076299 | 183545 | HY YIELD BROMINE INC            | PLANT CITY   |
| FLR000015438 | 76452  | JEFFY LUBE STORE #1529          | BRANDON      |

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| EPAID        | SITE  | NAME                            | CITY                |
|--------------|-------|---------------------------------|---------------------|
| FLR000010256 | 74801 | JR WELDING & FABRICATION INC    | PLANT CITY          |
| FLD984246801 | 38253 | MAJIK TOUCH CLEANERS            | VALRICO             |
| FLD984187716 | 30430 | MILLER & SONS TRUCKING          | THONOTOSASSA        |
| FLD982104978 | 30856 | OASIS LAUNDROMAT & DRY CLEANERS | PLANT CITY          |
| FLR000013128 | 75717 | PENSKE AUTO CENTER              | BRANDON             |
| FLR000022723 | 79125 | QUALITY DRY CLEANERS            | PLANT CITY          |
| FLD984180216 | 34871 | STAR ENTERPRISE                 | SEFFNER             |
| FLD984180232 | 34872 | STAR ENTERPRISE                 | SEFFNER             |
| FLD984172379 | 30429 | TEXACO #242041308               | THONOTOSASSA        |
| FLD981860737 | 30426 | TRUNKLINE EQUIP CO INC          | THONOTOSASSA        |
| FLD089655831 | 35307 | UNIVERSITY OF FLORIDA IFAS AREC | HILLSBOROUGH COUNTY |
| FLD026386433 | 34868 | VILLAGE CLEANERS                | SEFFNER             |
| FLD984248831 | 35306 | W W TRUCKING                    | DOVER               |
| FLR000000224 | 72971 | WINN DIXIE #716                 | VALRICO             |

## Hazardous Waste Sites:

| NAME                                                   | DESCRIPTION                                            |
|--------------------------------------------------------|--------------------------------------------------------|
| AMERICOLD - PLANT CITY                                 | AMERICOLD - PLANT CITY                                 |
| B AND R FOODS                                          | B AND R FOODS                                          |
| CITY OF PLANT CITY                                     | CITY OF PLANT CITY                                     |
| CITY OF PLANT CITY                                     | CITY OF PLANT CITY                                     |
| CITY OF PLANT CITY                                     | CITY OF PLANT CITY                                     |
| CITY OF PLANT CITY - WWTP                              | CITY OF PLANT CITY - WWTP                              |
| DONALD W MAXWELL FARMS                                 | DONALD W MAXWELL FARMS                                 |
| FAVORITE FARMS                                         | FAVORITE FARMS                                         |
| FRANKLIN FARMS                                         | FRANKLIN FARMS                                         |
| G C SEWELL JR AND SON - SEWELLS BERRY FARM             | G C SEWELL JR AND SON - SEWELLS BERRY FARM             |
| G W WILLIAMS FARMS                                     | G W WILLIAMS FARMS                                     |
| G W WILLIAMS FARMS                                     | G W WILLIAMS FARMS                                     |
| GATSBY SPAS                                            | GATSBY SPAS                                            |
| GLENN WILLIAMSON FARMS                                 | GLENN WILLIAMSON FARMS                                 |
| GRIFFIN HALL FARM                                      | GRIFFIN HALL FARM                                      |
| GTE OF FLORIDA - PLANT CITY EAX C O                    | GTE OF FLORIDA - PLANT CITY EAX C O                    |
| HILLSBOROUGH COUNTY UTILITIES - EAST BRANDON WTP       | HILLSBOROUGH COUNTY UTILITIES - EAST BRANDON WTP       |
| HILLSBOROUGH COUNTY UTILITIES - HEIDI WTP              | HILLSBOROUGH COUNTY UTILITIES - HEIDI WTP              |
| HILLSBOROUGH COUNTY UTILITIES - KIM ACRES WTP          | HILLSBOROUGH COUNTY UTILITIES - KIM ACRES WTP          |
| HILLSBOROUGH COUNTY UTILITIES - RIDGELAND WTP          | HILLSBOROUGH COUNTY UTILITIES - RIDGELAND WTP          |
| HILLSBOROUGH COUNTY UTILITIES - RUNNING HORSE ROAD WTP | HILLSBOROUGH COUNTY UTILITIES - RUNNING HORSE ROAD WTP |
| HILLSBOROUGH COUNTY UTILITIES - WILLOWS WTP            | HILLSBOROUGH COUNTY UTILITIES - WILLOWS WTP            |
| HOLLIS MAXWELL FARM                                    | HOLLIS MAXWELL FARM                                    |
| HY YIELD BROMINE                                       | HY YIELD BROMINE                                       |
| IMC AGRICO MINERALS DIVISION - HOPEWELL MINE           | IMC AGRICO MINERALS DIVISION - HOPEWELL MINE           |
| INTERNATIONAL PETROLEUM                                | INTERNATIONAL PETROLEUM                                |
| J L TERRY FARM                                         | J L TERRY FARM                                         |
| JOHN DUKES FARM                                        | JOHN DUKES FARM                                        |
| LYKES BROTHERS - MEAT PACKING PLANT                    | LYKES BROTHERS - MEAT PACKING PLANT                    |
| MARC WILLIAMSON FARMS                                  | MARC WILLIAMSON FARMS                                  |
| MICHAEL J SAINT MARTIN - FARM 1                        | MICHAEL J SAINT MARTIN - FARM 1                        |
| PARKESDALE FARMS                                       | PARKESDALE FARMS                                       |
| PECKS PRODUCTS                                         | PECKS PRODUCTS                                         |
| R AND W FARMS                                          | R AND W FARMS                                          |
| RON GOODSON FARM 1                                     | RON GOODSON FARM 1                                     |
| RON GOODSON FARM 2                                     | RON GOODSON FARM 2                                     |
| RONNIE MAXWELL FARMS                                   | RONNIE MAXWELL FARMS                                   |
| SAINT MARTIN FARM                                      | SAINT MARTIN FARM                                      |

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| NAME                                               | DESCRIPTION                                        |
|----------------------------------------------------|----------------------------------------------------|
| SAMUEL D WILLIAMSON FARMS                          | SAMUEL D WILLIAMSON FARMS                          |
| SCHOFIELD FARMS                                    | SCHOFIELD FARMS                                    |
| SCHWANS SALES ENTERPRISES - FLORIDA SEA PROCESSING | SCHWANS SALES ENTERPRISES - FLORIDA SEA PROCESSING |
| SEABOARD COLD STORAGE                              | SEABOARD COLD STORAGE                              |
| SHORE FERTILIZER                                   | SHORE FERTILIZER                                   |
| SOUTHERN STATES UTILITY - VALRICO HILLS WTP        | SOUTHERN STATES UTILITY - VALRICO HILLS WTP        |
| SOUTHERN STATES UTILITY - VALRICO HILLS WWTP       | SOUTHERN STATES UTILITY - VALRICO HILLS WWTP       |
| SPIVEY FARMS                                       | SPIVEY FARMS                                       |
| TERRA INTERNATIONAL                                | TERRA INTERNATIONAL                                |
| UNITED AGRI PRODUCTS - PLANT CITY                  | UNITED AGRI PRODUCTS - PLANT CITY                  |

### Toxic Release Inventory Points:

| TRI_FACILITY    | FAC_ID       | FAC_NAME_1                    | STREET_NAME              | FACILITY_ID  |
|-----------------|--------------|-------------------------------|--------------------------|--------------|
| 33566LMXXTINDUS | FLD098917149 | ALUMAX EXTRUSIONS INC.        | 1650 ALUMAX CIRCLE       | FL4000001281 |
| 33567DRTCN4610A | FLD984195065 | DART CONTAINER CORP.          | 4610 AIRPORT RD.         | FL6000032481 |
| 33527TRSRR3060G | FLD083812826 | TREASURE ISLE INC.            | 3060 GALLAGHER RD.       | FL6000027599 |
| 33566LYKSBLKES  | FLD004428561 | LYKES BROS. INC.              | LYKES & TURKEY CREEK RD. | FL7000017443 |
| 33566NTRNT105SO | FLD065680613 | INTERNATIONAL PETROLEUM CORP. | 105 S. ALEXANDER ST.     | FL9000035940 |
| 33567CHMCL4206B | FL0000653329 | CHEMICAL DYNAMICS INC.        | 4206 BUSINESS LN.        | FL7000034479 |
| 33567GTSBY4408A | FL0000141218 | GATSBY SPAS INC.              | 4408 AIRPORT RD.         | FL5000033111 |
| 33567PCKSP2102N | FLD982170813 | PECK'S PRODS. CO.             | 2102 NATL. GUARD DR.     | FL9000021394 |
| 33567SPRBR3304S | FL0001311273 | SUPERBRAND DAIRY PRODS. INC.  | 3304 SYDNEY RD.          | FL3000035124 |
| 34289CNSLDPOBOX | FLD001704741 | CORONET IND. INC.             | 4082 CORONET RD.         | FL8000006776 |

### Superfund (NPL) and State-listed Hazardous Waste Sites:

| SITE | NAME                 | ADDRESS                  | PROGRAM   | STATUS    | EPA_FLD_NO    | PROG_LEAD    |
|------|----------------------|--------------------------|-----------|-----------|---------------|--------------|
| 30   | Schuykill Metals     | 402 S Woodrow Wilson Dr. | Superfund | Delisted  | 441           | FLD062794003 |
| 34   | Taylor Road Landfill | Taylor Rd                | Southwest | Superfund | Landfill/Dump | 501          |

### Treaters, Storers, and Disposers of Hazardous Waste:

| EPAID        | SITE  | NAME                         | ADDRESS            |
|--------------|-------|------------------------------|--------------------|
| FLD065680613 | 30676 | INTERNATIONAL PETROLEUM CORP | 105 S ALEXANDER ST |

### Large Quantity Generators (>1,000 Kg/month) of Hazardous Waste:

| EPAID        | SITE  | NAME                 | ADDRESS            |
|--------------|-------|----------------------|--------------------|
| FLD098917149 | 35308 | ALCOA EXTRUSIONS INC | 1650 ALUMAX CIRCLE |
| FLD984209312 | 30760 | INDUSTRIAL SERVICES  | 1908 WOOD CT       |

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# Regulated Wastewater Facilities:

| FACILITY_ID | NAME                                        | ADDRESS                        | FACILITY_TYPE | STATUS | DESIGN_CAPACITY |
|-------------|---------------------------------------------|--------------------------------|---------------|--------|-----------------|
| FLA012148   | BRANDON TP                                  | 113 S MT CARMEL RD             | DW            | A      | 0.015           |
| FLA012176   | CHATTEAU FORREST MHP                        | 604 NORTH KINGWAY RD.          | DW            | A      | 0.02            |
| FL0037389   | CRYSTALS INTERNATIONAL - PLANT CITY         | 1111 W. HAINES ST.             | IW            | A      |                 |
| FLA012611   | DOVER AGRICULTURAL RESEARCH FACILIT         | 13138 LEWIS GALLAGHER RD.      | IW            | N      |                 |
| FLG110151   | DUNCO MATERIALS                             | 3115 SAMMONS ROAD              | CBP           | A      |                 |
| FLA012190   | FEATHEROCK                                  | 2200 E SR 60                   | DW            | A      | 0.08            |
| FLA012145   | GREEN ACRES CAMPGROUND WWTP                 | 12720 U.S. HIGHWAY 92          | DW            | A      | 0.045           |
| FLA012101   | MCDONALD ELEM SCH                           | TAYLOR-PRUITT                  | DW            | A      | 0.015           |
| FLA012230   | MCINTOSH UTILITIES                          | 12716 U.S. HWY 92              | DW            | A      | 0.03            |
| FLA012173   | OAKHILL MOBILE HOME PARK                    | 124 OAKHILL KEY COURT          | DW            | A      | 0.025           |
| FLA012538   | PFG FLORIDA (FKA B&R FOODS)                 | 3150 GALLAGHER ROAD            | IW            | A      |                 |
| FL0026657   | PLANT CITY WATER RECLAMATION FACILITY (WRF) | 705 NORTH ALEXANDER STREET     | DW            | A      | 8               |
| FLA012192   | PLANTATION OAKS MHP                         | 700 N. KINGSWAY ROAD           | DW            | A      | 0.0164          |
| FLA012240   | RAINBOW ROCK MOBILE HOME PARK               | 1150 FLETCHER LANE             | DW            | A      | 0.012           |
| FLA012253   | ROBINSON'S ORANGE PARK                      | US 92 1/4 MILE W OF PLANT CITY | DW            | A      | 0.021           |
| FLA012183   | SOUTHERN PINES MHP                          | 2975 S R 60                    | DW            | A      | 0.0045          |
| FLA012194   | SPEER MHP                                   | 1902 N FORBES ROAD             | DW            | A      | 0.02            |
| FLG910953   | STANDARD-DANIEL                             | 1111 NORTH WHEELER             | PET           | A      |                 |
| FLA012139   | STRAWBERRY SQUARES                          | BEAUCAMP ROAD                  | DW            | A      | 0.027           |
| FLA167932   | TAMPA BAY FISHERIES                         | 3060 GALLAGER ROAD             | IW            | A      |                 |
| FLA012137   | TAMPA EAST CAMPGROUND WWTP                  | US 92 & MACINTOSH RD           | DW            | A      | 0.015           |
| FLA012381   | TAMPA FARM SERVICES                         | 405 HAYNES ROAD                | AFO           | A      |                 |
| FLA012159   | TOWN AND COUNTRY MHP                        | 1221 N VALRICO RD              | DW            | A      | 0.012           |
| FL0040983   | VALRICO AWTP                                | 1167 NORTH DOVER ROAD          | DW            | A      | 6               |
| FLA012256   | VALRICO HILLS (FKA BRANDON-VALRICO)         | VALRICO RD. 5 MI SOUTH SR 60   | DW            | A      | 0.1             |
| FLA012114   | VALRICO RESIDUALS MANAGEMENT FACILITY       | 1167 NORTH DOVER ROAD          | RES           | A      | 21.6            |
| FLA012243   | VALRICO STATION                             | STATE ROAD 60                  | DW            | A      | 0.03            |
| FLA012359   | VALRICO/CITGO                               | 2510 US HWY 60 E.              | IW            | A      |                 |
| FLA012354   | W.W.TRUCKING COMPANY                        | HWY 574                        | IW            | N      |                 |
| FLA012186   | WINDWARD KNOLL MHP                          | 12415 THONOTOSASSA ROAD        | DW            | A      | 0.026           |

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**SWFWMD PERMITTED STORMWATER TREATMENT  
SYSTEMS  
AS OF 11/9/2001**

| PROJECT NAME                             | PERMIT<br>NUMBER | NUMBER | PERMITTEE                        | PROJECT<br>TYPE | PROJECT<br>ACREAGE | SEC | TWN | RNG | ISSUE<br>DATE |
|------------------------------------------|------------------|--------|----------------------------------|-----------------|--------------------|-----|-----|-----|---------------|
| HILLS CO-OLD FORT KING TRAIL             | 020875           | 000    | HILLSBOROUGH CO BOCC             | G               | 59.32              | 25  | 27  | 20  | 3/21/01       |
| HILLS CO-OLD FORT KING TRAIL             | 020875           | 000    | HILLSBOROUGH CO BOCC             | G               | 59.32              | 35  | 27  | 20  | 3/21/01       |
| HILLS CO-OLD FORT KING TRAIL             | 020875           | 000    | HILLSBOROUGH CO BOCC             | G               | 59.32              | 36  | 27  | 20  | 3/21/01       |
| FELLOWSHIP BAPTIST CHURCH CAMPUS         | 022307           | 000    | FELLOWSHIP BAPTIST               | S               | 29.59              | 36  | 27  | 20  | 10/2/01       |
| HILLS CO-OLD FORT KING TRAIL             | 020875           | 000    | HILLSBOROUGH CO BOCC             | G               | 59.32              | 17  | 27  | 21  | 3/20/01       |
| HILLS CO-OLD FORT KING TRAIL             | 020875           | 000    | HILLSBOROUGH CO BOCC             | G               | 59.32              | 19  | 27  | 21  | 3/21/01       |
| HILLS CO-OLD FORT KING TRAIL             | 020875           | 000    | HILLSBOROUGH CO BOCC             | G               | 59.32              | 30  | 27  | 21  | 3/21/01       |
| HILLS CO-LEM SIMMONS DRAINAGE IMPR       | 021541           | 000    | HILLSBOROUGH CO BOCC             | G               | 0.05               | 1   | 28  | 20  | 1/12/01       |
| HILLS. CO.-MAINTENANCE UNIT #5           | 002574           | 000    | HILLSBOROUGH CO BOCC             | G               | 39                 | 2   | 28  | 20  | 1/1/88        |
| HILLS CO-OLD FORT KING TRAIL             | 020875           | 000    | HILLSBOROUGH CO BOCC             | G               | 59.32              | 2   | 28  | 20  | 3/21/01       |
| HILLS. CO.-THONOTOSASSA ROAD EXTENSION   | 011299           | 000    | HILLSBOROUGH CO BOCC             | P               | .                  | 2   | 28  | 20  | .             |
| HILLS. CO.-THONOTOSASSA ROAD EXTENSION   | 011299           | 000    | HILLSBOROUGH CO BOCC             | P               | .                  | 3   | 28  | 20  | .             |
| GREENWOOD HILLS                          | 008443           | 000    | JEANNE STEPHENS LEE ENTERPRISES, | R               | 29.5               | 3   | 28  | 20  | 12/13/90      |
| THONOTOSASSA METHODIST CHURCH            | 007328           | 000    | THONOTOSASSA METHODIST CHURCH    | S               | 0.2                | 10  | 28  | 20  | 2/15/90       |
| HILLS CO-BAKER CREEK BOAT RAMP           | 001475           | 001    | HILLSBOROUGH CO BOCC PARKS & REC | G               | 2.4                | 13  | 28  | 20  | 6/11/97       |
| HILLS CO-PEMBERTON/BAKER CREEK-PHASE 1   | 015960           | 001    | HILLSBOROUGH CO DEPT OF PUBLIC   | G               | 0.01               | 13  | 28  | 20  | 1/8/98        |
| HILLS CO-BAKER CREEK BOAT RAMP           | 001475           | 001    | HILLSBOROUGH CO BOCC PARKS & REC | G               | 2.4                | 14  | 28  | 20  | 6/11/97       |
| HARDAWAY/LAMPTON-BORROW PIT              | 014301           | 000    | HARDAWAY COMPANY                 | M               | 72.8               | 21  | 28  | 20  | 8/2/96        |
| SUNCOAST GREENHOUSES, INC.               | 010318           | 002    | DAVID, DOYLE & ALTHEA WADSWORTH  | C               | 21                 | 22  | 28  | 20  | 4/5/97        |
| FRATERNAL ORDER OF POLICE-TAMPA          | 004889           | 001    | FRATERNAL ORDER OF POLICE        | G               | 1.3                | 22  | 28  | 20  | 9/13/89       |
| SUNCOAST GREENHOUSES, INC.               | 010318           | 002    | DAVID, DOYLE & ALTHEA WADSWORTH  | C               | 21                 | 23  | 28  | 20  | 4/5/97        |
| HILLSBOROUGH CO-VALRICO RD STORMWATER IM | 021343           | 001    | HILLSBOROUGH CO BOCC             | G               | 1.1                | 24  | 28  | 20  | 9/7/01        |
| PEMBERTON CREEK EDITION-IV               | 002335           | 001    | FLORIDA STATE FINANCIAL GROUPS   | R               | 62.9               | 24  | 28  | 20  | 10/27/99      |
| HILLS. CO-PEMBERTON CRK EST/FLICKER DRS  | 017217           | 001    | HILLSBOROUGH CO BOCC             | G               | 0.11               | 24  | 28  | 20  | 5/12/99       |
| HILLS. CO-PEMBERTON CRK DRAINAGE IMPR    | 017217           | 000    | HILLSBOROUGH CO BOCC             | G               | 0.09               | 24  | 28  | 20  | 1/8/98        |
| HILLS CO-VALRICO RD STORMWATER IMPROVE   | 021343           | 000    | HILLSBOROUGH CO BOCC             | G               | 0.54               | 24  | 28  | 20  | .             |
| DOT-1/4 FROM 1/75 TO MCINTOSH SEG'T 2    | 011896           | 016    | FLORIDA DEPT OF TRANS DIST VII   | P               | 30.85              | 25  | 28  | 20  | 9/8/99        |
| DOT-US HIGHWAY 92/MCINTOSH #10030-1542   | 014028           | 002    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 25  | 28  | 20  | 8/1/97        |
| DOT-US HIGHWAY 92-KINGSWAY #10030-1542   | 014028           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 25  | 28  | 20  | 8/28/96       |
| HILLS CO-LAKE SHANGRI LA DRG IMPR        | 020909           | 000    | HILLSBOROUGH CO BOCC STORMWATER  | G               | 1.17               | 25  | 28  | 20  | 9/1/00        |
| SILLIMAN MINOR SUB REPLAT (SINGLE PHASE) | 018105           | 000    | CHUCK SILLIMAN                   | R               | 0.32               | 26  | 28  | 20  | 7/30/98       |
| RARE FRUIT COUNCIL                       | 007725           | 000    | RARE FRUIT COUNCIL INTERNATIONAL | C               | 0.8                | 26  | 28  | 20  | 5/2/90        |
| CONE & GRAHAM BORROW PIT                 | 021001           | 000    | L L AYALA RAMSEY-W J AYALA-      | P               | 53.99              | 26  | 28  | 20  | 11/16/00      |
| JOSEPH, DAVID J CO.-KINGSWAY RD LANDFILL | 003395           | 002    | DAVID J JOSEPH CO                | C               | 18.5               | 26  | 28  | 20  | 6/25/99       |
| HILLS CO-MUCK POND RD STORMWATER IMPROVE | 022109           | 000    | HILLSBOROUGH CO PUBLIC WORKS     | P               | 3.33               | 26  | 28  | 20  | 9/5/01        |
| HILLSBOROUGH HEIGHTS PARK                | 000813           | 000    | HILLSBOROUGH CO BOCC             | C               | 20                 | 27  | 28  | 20  | 1/29/86       |
| CONE & GRAHAM BORROW PIT                 | 021001           | 000    | L L AYALA RAMSEY-W J AYALA-      | P               | 53.99              | 27  | 28  | 20  | 11/16/00      |
| BOYCE PAINT & BODY SHOP                  | 005455           | 001    | JERRY BOYCE                      | C               | 0.6                | 34  | 28  | 20  | 5/31/89       |
| COOKSON HILLS                            | 016093           | 000    | COOKSON HILLS CHRISTIAN          | C               | 5.4                | 34  | 28  | 20  | 1/17/97       |

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| PROJECT NAME                             | PERMIT<br>NUMBER | NUMBER | PERMITTEE                        | PROJECT<br>TYPE | PROJECT<br>ACREAGE | SEC | TWN | RNG | ISSUE<br>DATE |
|------------------------------------------|------------------|--------|----------------------------------|-----------------|--------------------|-----|-----|-----|---------------|
| BOYCE BODY SHOP                          | 005455           | 003    | GAYLE BOYCE                      | C               | 0.6                | 34  | 28  | 20  | 12/15/90      |
| PARSONS 15                               | 022384           | 000    | FERNANDEZ INVESTMENTS OF TAMPA   | C               | 13.95              | 34  | 28  | 20  |               |
| HILLS. CO.-LIBRARY PROCESSING CENTER     | 012382           | 000    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 0.3                | 35  | 28  | 20  | 8/17/94       |
| DOT-US HIGHWAY 92-KINGSWAY #10030-1542   | 014028           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 35  | 28  | 20  | 8/28/96       |
| DOT-US HIGHWAY 92/MCINTOSH #10030-1542   | 014028           | 002    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 35  | 28  | 20  | 8/1/97        |
| PARSONS POINTE SUBDIVISION               | 021613           | 001    | SOUTHEAST COMMUNITY DEVELOPMENT  | R               | 46.35              | 35  | 28  | 20  | 7/27/01       |
| BURNETT MIDDLE SCHOOL, GORDON            | 012089           | 000    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 26.71              | 35  | 28  | 20  | 9/21/94       |
| OLD HILLSBOROUGH ESTATES                 | 000123           | 000    | BRIAN MULLIGAN                   | R               | 19.5               | 35  | 28  | 20  | 3/13/85       |
| DOT-US HIGHWAY 92-KINGSWAY #10030-1542   | 014028           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 36  | 28  | 20  | 8/28/96       |
| HICKORY LAKES MANOR                      | 006895           | 001    | BROWNELL & HENDERSON, INC.       | R               | 19.7               | 36  | 28  | 20  | 8/29/90       |
| HILLS CO-LAKE SHANGRI LA DRG IMPR        | 020909           | 000    | HILLSBOROUGH CO BOCC STORMWATER  | G               | 1.17               | 36  | 28  | 20  | 9/1/00        |
| DOT-US HIGHWAY 92/MCINTOSH #10030-1542   | 014028           | 002    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 36  | 28  | 20  | 8/1/97        |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 5   | 28  | 21  | 5/12/95       |
| EAST THONOTOSASSA BAPTIST CHURCH         | 013366           | 000    | EAST THONOTOSASSA BAPTIST CHURCH | S               | 2.12               | 6   | 28  | 21  | 7/7/95        |
| SERENITY OAKS SUBDIVISION                | 019535           | 000    | ALICE FERNANDEZ & JOAN BRUNKEN   | R               | 1.8                | 6   | 28  | 21  | 9/1/99        |
| LOWE'S NURSING HOME                      | 002656           | 000    | LE-BEC, INC.                     | C               | 3.1                | 7   | 28  | 21  | 2/12/88       |
| SCAGLIONE-ACCESS BRIDGE                  | 013272           | 000    | THOMAS & JOANNA SCAGLIONE        | R               | 0.02               | 7   | 28  | 21  | 7/8/95        |
| CONSPAN BRIDGE REPLACEMENT               | 022564           | 000    | JOHN LEROUX                      | R               | 0.01               | 7   | 28  | 21  |               |
| KINARD COVE                              | 018308           | 000    | MID STATE REALTY                 | R               | 9.51               | 8   | 28  | 21  | 1/23/99       |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 8   | 28  | 21  | 5/12/95       |
| 5-D TROPICAL INC                         | 016596           | 001    | 5-D TROPICAL INC                 | Q               | 45                 | 9   | 28  | 21  | 12/24/97      |
| ANCIENT OAK SUBDIVISION                  | 017183           | 001    | LAURA M & TED R DANIELS          | R               | 1.1                | 10  | 28  | 21  | 12/17/99      |
| GROVE MANOR                              | 001739           | 000    | PETE RUTSKIN                     | R               | 19.2               | 11  | 28  | 21  | 4/18/87       |
| SAM ALLEN OAKS                           | 019475           | 001    | SABRIJO INVESTMENTS INC          | R               | 9.92               | 13  | 28  | 21  | 5/23/01       |
| KELLER RANCH                             | 019608           | 000    | KELLER RANCH                     | Q               | 9.35               | 14  | 28  | 21  |               |
| CORK UNITED METHODIST CHURCH             | 018163           | 001    | CORK UNITED METHODIST CHURCH     | S               | 0.28               | 14  | 28  | 21  | 8/28/98       |
| AT&T THONOTOSASSA                        | 019814           | 000    | AT&T COMMUNICATIONS INC          | C               | 0.18               | 15  | 28  | 21  | 9/15/99       |
| HIGHLAND GROVE ADDITION                  | 019299           | 000    | SINGLE R CONSTRUCTION INC        | R               | 29.2               | 15  | 28  | 21  | 9/18/99       |
| HILLS CO-THONOTOSASSA RD DRAINAGE IMP    | 018650           | 000    | HILLSBOROUGH CO BOCC             | P               | 0.17               | 15  | 28  | 21  | 4/8/99        |
| FULLENKAMP ACRES PLATTED SUBDIVISION     | 017303           | 001    | RONALD J FULLENKAMP              | R               | 0.9                | 16  | 28  | 21  | 9/18/99       |
| 5-D TROPICAL INC                         | 016596           | 001    | 5-D TROPICAL INC                 | Q               | 45                 | 16  | 28  | 21  | 12/24/97      |
| HILLS CO-CAMPBELL BRANCH IMPROVEMENTS    | 021227           | 000    | HILLSBOROUGH CO BOCC STORMWATER  | G               | 1.75               | 16  | 28  | 21  | 12/22/00      |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 17  | 28  | 21  | 5/12/95       |
| AMAN RESIDENCE                           | 011610           | 000    | ROGER & KIM AMAN                 | P               | 0.02               | 18  | 28  | 21  | 1/29/94       |
| TODD ESTATES                             | 017243           | 001    | LINDA G WRIGHT & RONALD L        | R               | 6.08               | 18  | 28  | 21  | 6/23/01       |
| TRUE QUALITY TROPICAL FISH FARM          | 016488           | 000    | ALBERT A & CAROL D COLOMBO       | Q               | 9                  | 18  | 28  | 21  | 5/26/93       |
| FAVORITE FARMS-FARM LABOR HOUSING        | 007454           | 000    | FAVORITE FARMS INC               | R               | 3.4                | 18  | 28  | 21  | 4/12/90       |
| HILLS CO-MCINTOSH RD DRAINAGE IMPR       | 021011           | 001    | HILLSBOROUGH CO BOCC STORMWATER  | G               | 0.11               | 18  | 28  | 21  | 4/11/01       |
| THONOTOSASSA HUB                         | 018450           | 000    | TIME WARNER COMMUNICATIONS INC   | C               | 0.19               | 18  | 28  | 21  | 9/26/98       |
| HILLSBOROUGH CO-VALRICO RD STORMWATER IM | 021343           | 001    | HILLSBOROUGH CO BOCC             | G               | 1.1                | 19  | 28  | 21  | 9/7/01        |
| HILLS CO-VALRICO RD STORMWATER IMPROVE   | 021343           | 000    | HILLSBOROUGH CO BOCC             | G               | 0.54               | 19  | 28  | 21  |               |
| GTE MOBILNET-ANTIOCH CELL SITE           | 006921           | 000    | GTE MOBILNET OF TAMPA, INC.      | C               | 0.1                | 19  | 28  | 21  | 12/23/89      |
| BARRINGTON                               | 022305           | 000    | NELSON STEINER                   | R               | 51                 | 19  | 28  | 21  | 9/1/01        |
| KENNY SUBDIVISION                        | 013653           | 000    | MICHAEL KENNY                    | R               | 42                 | 20  | 28  | 21  | 1/12/96       |

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| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 20  | 28  | 21  | 5/12/95       |
| FRITZKE ACRES                            | 006720           | 000    | ALBERT FRITZKE                   | R               | 6.6                | 21  | 28  | 21  | 11/29/89      |
| FRITZKE MINOR SUBDIVISION                | 006408           | 000    | ALBERT FRITZKE                   | R               | 3.7                | 21  | 28  | 21  | 10/10/89      |
| STAFFORD OAKS                            | 000174           | 000    | CLIFFORD HAM                     | R               | 56.1               | 21  | 28  | 21  | 7/13/85       |
| DOT-I-4 IMP.-SEGMENT 4-#10190-1431       | 011896           | 006    | FLORIDA DEPT OF TRANS DIST VII   | P               | 244.47             | 22  | 28  | 21  | 10/7/95       |
| BETHLEHEM ROAD MOBILE HOME PARK          | 002075           | 000    | W.H. HARWELL                     | R               | 25.9               | 22  | 28  | 21  | 12/12/87      |
| DOT-I-4(SEGMENT #4)BRANCH FORBES TO SR39 | 011896           | 017    | FLORIDA DEPT OF TRANS DIST VII   | G               | 28.4               | 22  | 28  | 21  | 7/15/00       |
| DOT-I-4(SEGMENT #4)BRANCH FORBES TO SR39 | 011896           | 017    | FLORIDA DEPT OF TRANS DIST VII   | G               | 28.4               | 23  | 28  | 21  | 7/15/00       |
| RED BARN FARM LAND EXCAVATION            | 016980           | 000    | MAYNARD L FERNANDEZ              | M               | 74.97              | 23  | 28  | 21  | 1/22/98       |
| HAWK WOODS (AKA TERRY SMITH MINOR SUB)   | 018192           | 000    | TERRY SMITH                      | R               | 8.04               | 23  | 28  | 21  | 1/9/99        |
| MILES CONV. STORE-FORBES ROAD            | 005437           | 000    | J.A. MILES                       | C               | 1.1                | 23  | 28  | 21  | 3/25/89       |
| HANSEN, GEORGE-WAR MEMORIAL              | 017040           | 000    | GEORGE HANSEN                    | C               | 4.57               | 23  | 28  | 21  | 10/18/97      |
| DOT-I-4 IMP.-SEGMENT 4-#10190-1431       | 011896           | 006    | FLORIDA DEPT OF TRANS DIST VII   | P               | 244.47             | 23  | 28  | 21  | 10/7/95       |
| RED BARN FARM LAND EXCAVATION            | 016980           | 000    | MAYNARD L FERNANDEZ              | M               | 74.97              | 24  | 28  | 21  | 1/22/98       |
| DOT-I-4(SEGMENT #4)BRANCH FORBES TO SR39 | 011896           | 017    | FLORIDA DEPT OF TRANS DIST VII   | G               | 28.4               | 24  | 28  | 21  | 7/15/00       |
| DOT-I-4 WEIGH STATION                    | 000305           | 000    | FLORIDA DEPT OF TRANSPORTATION   | P               | 30                 | 24  | 28  | 21  | 7/10/85       |
| DOT-I-4 PLANT CITY WEIGH STATION         | 000305           | 001    | FLORIDA DEPT OF TRANS DIST VII   | P               | 22.16              | 24  | 28  | 21  | 4/2/91        |
| DOT-I-4 IMP.-SEGMENT 4-#10190-1431       | 011896           | 006    | FLORIDA DEPT OF TRANS DIST VII   | P               | 244.47             | 24  | 28  | 21  | 10/7/95       |
| PLANT CITY, CITY OF-THONOTOSASSA WATER   | 015794           | 000    | CITY OF PLANT CITY               | G               | 0.42               | 24  | 28  | 21  | 10/25/96      |
| MILES STORE-THONOTOSASSA RD.             | 005585           | 001    | J.A. MILES                       | C               | 0.9                | 24  | 28  | 21  | 9/26/89       |
| VERIZON                                  | 021507           | 000    | VERIZON WIRELESS                 | C               | 2.22               | 24  | 28  | 21  | 12/2/00       |
| GILL, MARVIN-COMMERCIAL PROJECT          | 010107           | 004    | MARVIN D GILL                    | C               | 23                 | 24  | 28  | 21  | 7/27/96       |
| COUNTRY HILLS E UNIT 1 AND UNITS 2-TEN   | 018022           | 003    | US HOME                          | R               | 0.38               | 25  | 28  | 21  |               |
| SUGAR CREEK COMMERCIAL                   | 002895           | 002    | PALM STATE DEVELOPMENT           | C               | 3.3                | 25  | 28  | 21  | 9/20/94       |
| GILL, MARVIN-COMMERCIAL PROJECT          | 010107           | 004    | MARVIN D GILL                    | C               | 23                 | 25  | 28  | 21  | 7/27/96       |
| COUNTRY HILLS EAST UNITS 2-10            | 018022           | 002    | US HOME CORPORATION              | R               | 60.26              | 25  | 28  | 21  | 2/17/00       |
| DIGERONIMO OFFICE                        | 019450           | 000    | THOMAS & DENISE DIGERONIMO       | C               | 0.53               | 25  | 28  | 21  | 7/30/99       |
| NEW HOPE-ADDITION                        | 013047           | 000    | DAVID & MARY STRATTON            | R               | 2.41               | 25  | 28  | 21  | 5/6/95        |
| OAKBROOK MOBILE HOME PARK                | 000939           | 000    | WILLIAM H. TURNEY                | R               | 27                 | 25  | 28  | 21  | 2/28/87       |
| SUGAR CREEK                              | 002624           | 000    | PALM STATE DEVELOPMENT           | R               | 39.8               | 25  | 28  | 21  | 5/28/88       |
| COUNTRY HILLS EAST UNITS 2-10            | 018022           | 001    | US HOME CORPORATION              | R               | 60.26              | 25  | 28  | 21  |               |
| OAKBROOK MOBILE HOME PARK                | 000939           | 000    | WILLIAM H. TURNEY                | R               | 27                 | 26  | 28  | 21  | 2/28/87       |
| DOT-US HIGHWAY 92-KINGSWAY #10030-1542   | 014028           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 26  | 28  | 21  | 8/28/96       |
| HAY EXCHANGE, THE                        | 019751           | 000    | BILL GLISSON                     | C               | 9.3                | 26  | 28  | 21  | 2/10/00       |
| COUNTRY HILLS EAST UNITS 2-10            | 018022           | 002    | US HOME CORPORATION              | R               | 60.26              | 26  | 28  | 21  | 2/17/00       |
| COUNTRY HILLS E UNIT 1 AND UNITS 2-TEN   | 018022           | 003    | US HOME                          | R               | 0.38               | 26  | 28  | 21  |               |
| COUNTRY HILLS EAST UNITS 2-10            | 018022           | 001    | US HOME CORPORATION              | R               | 60.26              | 26  | 28  | 21  |               |
| EPSS NURSERY INC-FIELD OFFICES           | 022209           | 000    | EPSS NURSERY INC                 | A               | 0.23               | 26  | 28  | 21  | 5/17/01       |
| DOT-US HIGHWAY 92/MCINTOSH #10030-1542   | 014028           | 002    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 26  | 28  | 21  | 8/1/97        |
| SHACKELFORD ESTATES                      | 017158           | 000    | RICHARD SHACKELFORD              | R               | 1.4                | 27  | 28  | 21  | 1/17/98       |
| DISCOUNT AUTO PARTS-DOVER STORE #586     | 015465           | 000    | CROW PROPERTY COMPANY INC.       | C               | 1.18               | 27  | 28  | 21  | 9/28/96       |
| HARWELL ESTATES                          | 022723           | 000    | MARTIN BEZDEK                    | R               | 15.27              | 27  | 28  | 21  |               |
| ST. CLEMENTS CATHOLIC CHURCH-BUILDING    | 016201           | 000    | DIOCESE OF ST PETERSBURG         | S               | 15.17              | 29  | 28  | 21  | 5/21/97       |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 29  | 28  | 21  | 5/12/95       |

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| SULLIVAN SUBDIVISION US 92               | 021671           | 000    | ALFRED C FERNANDEZ               | R               | 14.21              | 29  | 28  | 21  | 5/4/01        |
| BURGER KING-STORE #5 MCINTOSH RD IMPROVE | 013876           | 002    | GRASSER PAUL                     | P               | 0.01               | 30  | 28  | 21  | 7/20/99       |
| BATES RV EXCHANGE-SITE IMPROVEMENTS 97   | 017422           | 000    | GREEN ACRES CAMPGROUND INC       | C               | 3                  | 30  | 28  | 21  | 2/6/98        |
| DOT-US HIGHWAY 92/MCINTOSH #10030-1542   | 014028           | 002    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 30  | 28  | 21  | 8/1/97        |
| APEC BP STATION-US HWY 92 & MCINTOSH RD  | 019253           | 000    | AUTOMATED PETROLEUM & ENERGY     | C               | 1.98               | 30  | 28  | 21  | 8/24/99       |
| RACETRAC PETROLEUM-MCINTOSH ROAD         | 004820           | 001    | RACETRAC PETROLEUM INC           | C               | 1.24               | 30  | 28  | 21  | 3/10/92       |
| DOT-US HIGHWAY 92-KINGSWAY #10030-1542   | 014028           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 104.7              | 30  | 28  | 21  | 8/28/96       |
| 7-11 STORE-I-4 & MCINTOSH RD             | 018352           | 000    | MELBOURNE-CURY CORPORATION       | C               | 3.16               | 30  | 28  | 21  | 9/2/98        |
| GG GREENERY FLORIST/SUPPLY CENTER        | 019226           | 000    | DANNY WALTER                     | C               | 2.53               | 30  | 28  | 21  | 6/12/99       |
| BATES RV FACILITY EXPANSION              | 017422           | 001    | FRANK BATES                      | C               | 16.5               | 30  | 28  | 21  | 9/16/00       |
| DRISCOLL'S OF FLORIDA                    | 014463           | 001    | DRISCOLL'S OF FLORIDA            | C               | 1.7                | 30  | 28  | 21  | 7/30/98       |
| MCINTOSH OAKS                            | 017658           | 000    | CHARLES D & DARRELL G BARRONAND  | R               | 1.01               | 31  | 28  | 21  | 9/4/98        |
| MCINTOSH OAKS                            | 005960           | 000    | METRO AMERICAN DEVELOPMENT, INC. | R               | 20.4               | 31  | 28  | 21  | 8/26/89       |
| PLUMBERS & PIPE FITTERS PH. 1&2          | 007074           | 000    | PLUMBERS & PIPE FITTERS LOCAL    | C               | 2.2                | 31  | 28  | 21  | 1/6/90        |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 32  | 28  | 21  | 5/12/95       |
| WILLIAMSON STRAWBERRY FIELD PH 2         | 022123           | 002    | SAMUEL D & ANNA M WILLIAMSON     | A               | 6.4                | 32  | 28  | 21  | 7/28/01       |
| DOT-STATE ROAD 574/DOVER RD.-#10090-3535 | 013031           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 5                  | 32  | 28  | 21  | 4/6/95        |
| DOT-STATE ROAD 574/DOVER RD.-#10090-3535 | 013031           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 5                  | 33  | 28  | 21  | 4/6/95        |
| CHAUDHRY, YAHYA-RETAIL/CONVENIENCE STORE | 017082           | 000    | YAHYA M CHAUDHRY                 | C               | 0.84               | 34  | 28  | 21  | 10/22/97      |
| VOIGTMANN MOTORCYCLE SHOP                | 013964           | 000    | MAYNARD VOIGTMANN, ET AL         | C               | 0.32               | 34  | 28  | 21  | 1/27/96       |
| STINE SHELL STATION, DON                 | 016240           | 000    | STINE FAMILY PARTNERSHIP LIMITED | C               | 0.8                | 35  | 28  | 21  | 6/11/97       |
| VELAZQUEZ PALLETS MFG INC SITE IMPROV    | 020842           | 000    | VELAZQUEZ PALLETS MFG INC        | C               | 1.56               | 35  | 28  | 21  | 6/14/00       |
| POLY FOAM INTERNATIONAL, INC.            | 006575           | 000    | STYLE CREST PRODUCTS             | C               | 4.9                | 36  | 28  | 21  | 12/7/89       |
| HILLS CO-PLANT CITY AIRPORT RUNWAY 9-27  | 001929           | 005    | HILLSBOROUGH CO AVIATION AUTH    | G               | 35.53              | 36  | 28  | 21  | 4/17/99       |
| NATIONAL GUARD ARMORY-PLANT CITY         | 001516           | 000    | FLORIDA DEPT OF MILITARY AFFAIRS | G               | 9                  | 36  | 28  | 21  | 2/28/87       |
| COOK LEASING LC                          | 018253           | 003    | COOK LEASING LC                  | C               | 2.5                | 36  | 28  | 21  | .             |
| CENTRAL FLORIDA EXCAVATING               | 006741           | 000    | CHARLES D & YVONNE O BARRON      | C               | 0.9                | 36  | 28  | 21  | 11/18/89      |
| ALCOA (ALUMAX EXTRUSIONS INC)            | 005222           | 005    | ALUMAX EXTRUSIONS INC            | C               | 0.04               | 36  | 28  | 21  | 6/17/99       |
| HILLS. CO. SCHOOL BOARD-MAINT. FACILITY  | 010891           | 000    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 2.07               | 36  | 28  | 21  |               |
| PLANT CITY, CITY OF-WATER STORAGE TANK   | 009823           | 000    | CITY OF PLANT CITY               | G               | 0.46               | 36  | 28  | 21  | 3/4/92        |
| SPECIALTY FOOD DISTRIBUTORS INC.         | 002293           | 000    | SPECIALTY FOOD DISTRIBUTORS,     | C               | 13.4               | 36  | 28  | 21  | 9/5/87        |
| PLANT CITY, CITY OF-MID-STATE DR         | 002837           | 000    | CITY OF PLANT CITY               | P               | 1                  | 36  | 28  | 21  | 5/12/88       |
| ATCO RUBBER PRODUCTS, INC.-EXPANSION     | 009897           | 000    | ATCO RUBBER PRODUCTS, INC.       | C               | 4.18               | 36  | 28  | 21  | 5/14/92       |
| SUNSHINE/MONTGOMERY EXPANSION            | 004836           | 000    | SUNSHINE STAINLESS TANK &        | C               | 5.2                | 36  | 28  | 21  | 11/22/88      |
| SUPERBRAND DAIRY PRODUCTS-1998 EXPANSION | 008555           | 004    | WINN-DIXIE STORES, INC.          | C               | 10.8               | 36  | 28  | 21  | 12/9/98       |
| PLANT CITY AIRPORT-T-HANGARS             | 001929           | 003    | HILLSBOROUGH CO AVIATION AUTH    | G               | 5.06               | 36  | 28  | 21  | 3/22/96       |
| MID-STATE POTATO                         | 003413           | 002    | MID-STATE POTATO DISTRIBUTORS    | C               | 0.6                | 36  | 28  | 21  | 3/13/99       |
| LYKES BROS., INC.-PLANT ADDITION         | 011329           | 000    | LYKES BROS., INC. (MEAT PACKING  | C               | 0.51               | 36  | 28  | 21  | 8/5/93        |
| ALUMAX EXTRUSIONS, INC.-ADDITION         | 005222           | 004    | ALUMAX EXTRUSIONS INC            | I               | 8.83               | 36  | 28  | 21  | 10/11/96      |
| SUPERBRAND DAIRY PRODUCTS-ADD. & ALTER.  | 008555           | 002    | SUPERBRAND DAIRY PRODUCTS        | C               | 10.8               | 36  | 28  | 21  | 9/9/95        |
| PLANT CITY AIRPORT-MAINT. BLDG.          | 001929           | 001    | HILLSBOROUGH CO AVIATION AUTH    | G               | 0.3                | 36  | 28  | 21  | 5/27/90       |
| STYLECREST (POLYFOAM) CONCRETE SLAB ADD  | 006575           | 001    | STYLECREST PRODUCTS INC          | C               | 0.63               | 36  | 28  | 21  | 7/13/00       |
| TORTILLA BAKING FACILITY                 | 016038           | 000    | EL MIRASOL INC                   | C               | 6                  | 36  | 28  | 21  | 1/25/97       |
| SUPERBRAND DAIRY PRODUCTS-PLANT CITY     | 008555           | 001    | WINN-DIXIE STORES, INC.          | C               | 0.15               | 36  | 28  | 21  | 12/23/93      |

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| HY-YIELD BROMINE COMPANY INC             | 005687           | 001    | BROMINE FUMIGANTS INC           | C               | 2.4                | 36  | 28  | 21  | 10/23/98      |
| DART CONTAINER CORP.-TRUCK WASH/STORAGE  | 011105           | 001    | DART CONTAINER CORPORATION OF   | C               | 1.78               | 36  | 28  | 21  | 1/27/94       |
| GATSBY SPAS INC BUILDING EXPANSION       | 020977           | 001    | GATSBY SPA INC                  | C               | 2.63               | 36  | 28  | 21  | 8/30/01       |
| SOUTH GROUTS & MORTARS                   | 005386           | 003    | SOUTHERN GROUTS & MORTARS INC   | C               | 1.81               | 36  | 28  | 21  |               |
| PROSPERITY TOOL CO.                      | 006873           | 000    | ARNOLD ZAZULIA                  | C               | 2                  | 36  | 28  | 21  | 12/5/89       |
| PLANT CITY AIRPORT-PARKING ADDITION      | 001929           | 002    | HILLSBOROUGH CO AVIATION AUTH   | G               | 1.34               | 36  | 28  | 21  | 1/9/93        |
| DART CONTAINER CORP                      | 011105           | 004    | DART CONTAINER CORPORATION      | C               | 0.28               | 36  | 28  | 21  | 6/23/01       |
| PLANT CITY-LIFT STATION #37              | 021722           | 000    | CITY OF PLANT CITY              | G               | 0.21               | 5   | 28  | 22  | 1/12/01       |
| GRIMES/CHARLIE-WAREHOUSE & COOLER        | 020662           | 000    | CHARLIE GRIMES' FARMS           | A               | 6.33               | 17  | 28  | 22  | 6/23/00       |
| HILLS. CO-SAM ALLEN RD-SR 39 IMPR        | 011553           | 002    | HILLSBOROUGH CO MAINTENANCE DIV | P               | 0.2                | 17  | 28  | 22  | 5/7/99        |
| BUSHEA SUBDIVISION                       | 017548           | 000    | KENNETH R & LYNN W BUSHEA       | R               | 19.15              | 18  | 28  | 22  | 5/13/98       |
| TOWNSGATE WEST                           | 000746           | 004    | NORTH LAKE DEVELOPMENT, INC.    | C               | 10.41              | 19  | 28  | 22  | 5/11/94       |
| PLANT CITY,CITY OF-PISTOL RANGE PROJECT  | 018287           | 001    | CITY OF PLANT CITY              | G               | 29.7               | 19  | 28  | 22  | 2/24/99       |
| DOT-ALEXANDER ST FROM US 92 TO N OF I-4  | 011896           | 025    | FLORIDA DEPT OF TRANS DIST VII  | G               | 46.3               | 19  | 28  | 22  |               |
| PLANT CITY, CITY OF-W SIDE CANAL MASTER  | 018287           | 000    | CITY OF PLANT CITY              | G               | 60.9               | 19  | 28  | 22  | 3/31/99       |
| DOT-I-4 IMP.-SEGMENT 4-#10190-1431       | 011896           | 006    | FLORIDA DEPT OF TRANS DIST VII  | P               | 244.47             | 19  | 28  | 22  | 10/7/95       |
| A STEPPING STONE INC-AC AND HEATING      | 021596           | 000    | A STEPPING STONE INC            | C               | 0.98               | 19  | 28  | 22  | 1/18/01       |
| APPLEBEE'S AT TOWNSGATE WEST             | 000746           | 011    | CASUAL RESTAURANT CONCEPTS INC  | C               | 2.38               | 19  | 28  | 22  | 8/23/01       |
| DOT-I-4(SEGMENT #4)BRANCH FORBES TO SR39 | 011896           | 017    | FLORIDA DEPT OF TRANS DIST VII  | G               | 28.4               | 19  | 28  | 22  | 7/15/00       |
| JASMINE COURT                            | 000746           | 000    | UNIVEST DEVELOPMENT CORPORATION | R               | 22                 | 19  | 28  | 22  | 12/18/85      |
| STRAWBERRY HOME CENTER                   | 019760           | 000    | CARLTON SOLLIE                  | C               | 3                  | 19  | 28  | 22  | 12/9/99       |
| GILL, MARVIN-COMMERCIAL PROJECT          | 010107           | 004    | MARVIN D GILL                   | C               | 23                 | 19  | 28  | 22  | 7/27/96       |
| QUALITY MANU'D HOMES FKA M&O MOB HOMES   | 007914           | 000    | SAM A CRACCHIOLO SR             | C               | 3.48               | 20  | 28  | 22  | 7/6/90        |
| DOT-I-4(SEGMENT #4)BRANCH FORBES TO SR39 | 011896           | 017    | FLORIDA DEPT OF TRANS DIST VII  | G               | 28.4               | 20  | 28  | 22  | 7/15/00       |
| PLANT CITY, CITY OF-W SIDE CANAL MASTER  | 018287           | 000    | CITY OF PLANT CITY              | G               | 60.9               | 20  | 28  | 22  | 3/31/99       |
| PLANT CITY,CITY OF-PISTOL RANGE PROJECT  | 018287           | 001    | CITY OF PLANT CITY              | G               | 29.7               | 20  | 28  | 22  | 2/24/99       |
| NORTHSIDE BAPTIST CHURCH                 | 004198           | 000    | NORTHSIDE BAPTIST CHURCH        | S               | 0.3                | 20  | 28  | 22  | 9/28/88       |
| PLANT CITY ELKS LODGE-#1727              | 012549           | 000    | PLANT CITY LODGE #1727 BPOE     | S               | 1.85               | 20  | 28  | 22  | 10/14/94      |
| DOT-I-4 IMP.-SEGMENT 4-#10190-1431       | 011896           | 006    | FLORIDA DEPT OF TRANS DIST VII  | P               | 244.47             | 20  | 28  | 22  | 10/7/95       |
| DOT-ALEXANDER ST FROM US 92 TO N OF I-4  | 011896           | 025    | FLORIDA DEPT OF TRANS DIST VII  | G               | 46.3               | 20  | 28  | 22  |               |
| WILSON ELEMENTARY SCHOOL                 | 020981           | 000    | HILLSBOROUGH CO SCHOOL BOARD    | G               | 2.09               | 20  | 28  | 22  | 10/14/00      |
| SHILOH BAPTIST CHURCH                    | 015841           | 000    | SHILOH BAPTIST CHURCH           | S               | 8.29               | 20  | 28  | 22  | 1/29/97       |
| WOODROW WILSON ELEMENTARY SCHOOL         | 005534           | 000    | HILLSBOROUGH CO SCHOOL BOARD    | G               | 0.2                | 20  | 28  | 22  | 4/8/89        |
| DOT-I-4(SEGMENT #4)BRANCH FORBES TO SR39 | 011896           | 017    | FLORIDA DEPT OF TRANS DIST VII  | G               | 28.4               | 21  | 28  | 22  | 7/15/00       |
| DOT-I-4 IMP.-SEGMENT 4-#10190-1431       | 011896           | 006    | FLORIDA DEPT OF TRANS DIST VII  | P               | 244.47             | 21  | 28  | 22  | 10/7/95       |
| PLANT CITY,CITY OF-HERRING & PALMER ST.  | 008507           | 000    | CITY OF PLANT CITY              | G               | 45                 | 28  | 28  | 22  | 2/7/91        |
| 302 NORTH ALEXANDER MEDICAL OFFICE BLDG. | 013777           | 000    | JOHN AIME, MARTIN GIRLING, &    | C               | 0.61               | 29  | 28  | 22  | 1/13/96       |
| HILLS. CO.-MIGRANT SUMMER INSTITUTE      | 012069           | 000    | HILLSBOROUGH CO SCHOOL BOARD    | G               | 0.09               | 29  | 28  | 22  | 5/20/94       |
| FIRST BAPTIST CHURCH-BLDG. EXP.          | 005823           | 001    | FIRST BAPTIST CH OF PLANT CITY  | S               | 0.7                | 29  | 28  | 22  | 12/8/89       |
| FIRST BAPTIST CHURCH PLANT CITY DRIVEWAY | 005823           | 002    | FIRST BAPTIST CHURCH OF PLANT   | S               | 0.39               | 29  | 28  | 22  | 8/30/01       |
| CITY OF PLANT CITY-CITY HALL             | 019172           | 000    | CITY OF PLANT CITY              | G               | 2.32               | 29  | 28  | 22  | 5/8/99        |
| GALLOWAY, DAVID-LAW OFFICE               | 013189           | 000    | HERETOFORE, INC., A FLORIDA     | C               | 0.25               | 29  | 28  | 22  | 5/10/95       |
| PLANT CITY, CITY OF-FIRE STATION         | 007558           | 000    | CITY OF PLANT CITY              | G               | 1.1                | 29  | 28  | 22  | 5/25/90       |
| DOT-ALEXANDER ST FROM US 92 TO N OF I-4  | 011896           | 025    | FLORIDA DEPT OF TRANS DIST VII  | G               | 46.3               | 29  | 28  | 22  |               |

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| PROJECT NAME                             | PERMIT<br>NUMBER | NUMBER | PERMITTEE                       | PROJECT<br>TYPE | PROJECT<br>ACREAGE | SEC | TWN | RNG | ISSUE<br>DATE |
|------------------------------------------|------------------|--------|---------------------------------|-----------------|--------------------|-----|-----|-----|---------------|
| BROWN, AUSTIN-MEDICAL OFFICE             | 013997           | 000    | DEBORAH AUSTIN BROWN            | C               | 0.27               | 29  | 28  | 22  | 1/27/96       |
| PLANT CITY, CITY OF-CITY PARKING LOT     | 019897           | 000    | CITY OF PLANT CITY              | G               | 1.05               | 29  | 28  | 22  | 11/9/99       |
| PLANT CITY, CITY OF-QUINTILLA GEER LIB.  | 010919           | 000    | CITY OF PLANT CITY              | G               | 0.45               | 29  | 28  | 22  | 3/9/93        |
| PLANT CITY, CITY OF-FRANKLIN ST.         | 006325           | 000    | CITY OF PLANT CITY              | G               | 31.8               | 29  | 28  | 22  | 11/3/89       |
| PLANT CITY, CITY OF-W SIDE CANAL MASTER  | 018287           | 000    | CITY OF PLANT CITY              | G               | 60.9               | 29  | 28  | 22  | 3/31/99       |
| PLANT CITY, CITY OF-HERRING & PALMER ST. | 008507           | 000    | CITY OF PLANT CITY              | G               | 45                 | 29  | 28  | 22  | 2/7/91        |
| PLANT CITY, CITY OF-NOSLEDA ST. DRAINAGE | 011473           | 000    | CITY OF PLANT CITY              | P               | 0.1                | 29  | 28  | 22  | 11/23/93      |
| HAKEEM'S COMMERCIAL COMPLEX-PLANT CITY   | 008000           | 000    | M.K. HAKEEM                     | C               | 0.2                | 29  | 28  | 22  | 7/10/90       |
| WHEELER COMMERCIAL                       | 005926           | 000    | WALDEN INVESTMENT COMPANY, INC. | C               | 0.5                | 29  | 28  | 22  | 6/24/89       |
| PARADISE FRUIT CO STORMWATER IMPR        | 022151           | 000    | CITY OF PLANT CITY              | G               | 5.58               | 29  | 28  | 22  | 7/27/01       |
| ARTYAMSOAL, DR. VINAI-OFFICE             | 005123           | 002    | VINAI ARTYAMSOAL                | C               | 1.44               | 29  | 28  | 22  | 1/26/96       |
| SONNY'S REAL PIT BAR-B-Q-PLANT CITY      | 015723           | 000    | TRICOR INC                      | C               | 1.7                | 30  | 28  | 22  | 11/14/96      |
| DOT-SR #574/AKA PLANT CITY MLK DRS IMPV  | 020901           | 000    | FLORIDA DEPT OF TRANS DIST VII  | G               | 0.49               | 30  | 28  | 22  | 7/11/00       |
| VIJAY, D.D.S., SUSIL-OFFICE BLDG         | 006633           | 000    | SUSIL VIJAY                     | C               | 0.3                | 30  | 28  | 22  | 10/19/89      |
| PLANT CITY, CITY OF-AIRPORT RD/GRANT ST  | 013260           | 000    | CITY OF PLANT CITY              | P               | 12.6               | 30  | 28  | 22  | 12/22/95      |
| ARTYAMSOAL, DR. VINAI-OFFICE             | 011028           | 004    | VINAI ARTYAMSOAL                | C               | 0.72               | 30  | 28  | 22  | 3/9/99        |
| TOMLIN MIDDLE SCHOOL-ADDITION            | 010743           | 002    | HILLSBOROUGH CO SCHOOL BOARD    | G               | 0.75               | 30  | 28  | 22  | 4/8/95        |
| PLANT CITY, CITY OF-W SIDE CANAL MASTER  | 018287           | 000    | CITY OF PLANT CITY              | G               | 60.9               | 30  | 28  | 22  | 3/31/99       |
| MAGGARD & HUMPHREY OFFICE BLDG.          | 006203           | 000    | MICHAEL L. MAGGARD              | C               | 0.3                | 30  | 28  | 22  | 8/5/89        |
| BEVERLY HEALTH CARE-PLANT CITY           | 019154           | 000    | VANTAGE HEALTH CARE CORPORATION | C               | 2.99               | 30  | 28  | 22  | 6/23/99       |
| SOUTHERN OAKS MEDICAL CENTER             | 006864           | 000    | JEROTE ENTERPRISES, INC.        | C               | 0.4                | 30  | 28  | 22  | 12/5/89       |
| PLANT CITY RADIATION THERAPY CENTER      | 011394           | 000    | RADIATION THERAPY ONCOLOGY      | C               | 0.92               | 30  | 28  | 22  | 11/2/93       |
| PLANT CITY, CITY OF-ITTER STREET IMPR.   | 010787           | 000    | CITY OF PLANT CITY              | G               | 0.19               | 30  | 28  | 22  | 1/22/93       |
| PLANT CITY, CITY OF-W. OAK AVE.          | 006854           | 000    | CITY OF PLANT CITY              | P               | 29.3               | 30  | 28  | 22  | 12/9/89       |
| TACO BELL BAKER ST W                     | 007944           | 000    | HARDEE'S FOOD SYSTEMS INC       | C               | 1                  | 30  | 28  | 22  | 6/21/90       |
| BRYAN ELEMENTARY MEDIA CNTR/CLASS RM B1  | 022338           | 000    | HILLSBOROUGH CO SCHOOL BOARD    | G               | 1.04               | 30  | 28  | 22  |               |
| TOMLIN MIDDLE SCHOOL-ADDITION/RENOVATION | 010743           | 003    | HILLSBOROUGH CO SCHOOL BOARD    | G               | 5.56               | 30  | 28  | 22  | 6/27/00       |
| HERITAGE PROFESSIONAL PARK               | 011394           | 001    | H L ALBRITTON TRANSPORT         | C               | 1.35               | 30  | 28  | 22  | 5/12/99       |
| AMERICOLD BUILDING-EXPANSION             | 019885           | 000    | AMERICOLD LOGISTICS             | I               | 0.3                | 30  | 28  | 22  | 9/24/99       |
| MEDLINK                                  | 008447           | 001    | MARY L. MYSEK                   | C               | 0.7                | 30  | 28  | 22  | 5/10/95       |
| SO FL BAPTIST HOSPITAL-SURGERY CENTER    | 012622           | 001    | SOUTH FLORIDA BAPTIST HOSPITAL  | C               | 0.64               | 30  | 28  | 22  | 7/30/99       |
| OAK ST DRAINAGE PIPE EXT                 | 022581           | 000    | FLORIDA STRAWBERRY FESTIVAL     | S               | 0.2                | 30  | 28  | 22  |               |
| PLANT CITY CROSSINGS                     | 019273           | 003    | GUSTINE CO & AMSOUTH BANK       | C               | 79.32              | 30  | 28  | 22  |               |
| FARM CREDIT-BUILDING                     | 007252           | 001    | FARM CREDIT OF CENTRAL FLORIDA  | C               | 0.96               | 30  | 28  | 22  | 3/18/94       |
| GOLDSTEIN BUILDING ADDITION              | 005460           | 000    | NICOLAS CICCARELLO              | C               | 0.6                | 30  | 28  | 22  | 4/13/89       |
| SO FL BAPTIST HOSPITAL-LOT 14 PARKING    | 012622           | 002    | SOUTH FLORIDA BAPTIST HOSPITAL  | C               | 1.02               | 30  | 28  | 22  | 3/15/01       |
| ECKERD/SUNTRUST AT PLANT CITY            | 019369           | 000    | SEMBLER RETAIL INC              | C               | 2.29               | 30  | 28  | 22  | 8/21/99       |
| HARDIE, JAMES BUILDING PROD.- PLANT CITY | 011539           | 002    | JAMES HARDIE BLDG PRODUCTS INC  | C               | 35.02              | 30  | 28  | 22  | 4/18/96       |
| DOT-ALEXANDER ST FROM US 92 TO N OF I-4  | 011896           | 025    | FLORIDA DEPT OF TRANS DIST VII  | G               | 46.3               | 30  | 28  | 22  |               |
| SOUTH FLORIDA BAPTIST HOSP.-DIAGNOSTIC   | 011836           | 000    | SOUTH FLORIDA BAPTIST HOSPITAL  | C               | 0.61               | 30  | 28  | 22  | 2/24/94       |
| TOMLIN JR. HIGH SCHOOL-SCIENCE BUILDINGS | 010743           | 000    | HILLSBOROUGH CO SCHOOL BOARD    | G               | 0.22               | 30  | 28  | 22  | 1/9/93        |
| APPLEBEE'S AT TOWNSGATE WEST             | 000746           | 011    | CASUAL RESTAURANT CONCEPTS INC  | C               | 2.38               | 30  | 28  | 22  | 6/23/01       |
| JASMINE COURT                            | 000746           | 000    | UNIVEST DEVELOPMENT CORPORATION | R               | 22                 | 30  | 28  | 22  | 12/18/85      |
| PLANT CITY, CITY OF-OAK AVENUE           | 004385           | 000    | CITY OF PLANT CITY              | P               | 0.4                | 30  | 28  | 22  | 10/13/88      |

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| TOWNSGATE WEST                           | 000746           | 004    | NORTH LAKE DEVELOPMENT, INC.     | C               | 10.41              | 30  | 28  | 22  | 5/11/94       |
| PLANT CITY, CITY OF-WAREHOUSE/OFFICE     | 011268           | 001    | CITY OF PLANT CITY               | G               | 1.96               | 30  | 28  | 22  | 10/9/97       |
| DEAN'S CUSTOM SHEET METAL INC            | 020729           | 000    | DEAN'S CUSTOM SHEET METAL INC    | C               | 2.23               | 31  | 28  | 22  | 5/23/00       |
| WALDEN LAKE APARTMENTS                   | 007561           | 000    | WALDEN LAKE 1 APARTMENTS LIMITED | R               | 28.9               | 31  | 28  | 22  | 6/9/90        |
| VEHICLE INSPECTION STATION NUMBER 5      | 008229           | 000    | FLORIDA REALTY FUND TWO LIMITED  | C               | 1.1                | 31  | 28  | 22  | 8/25/90       |
| CULLIGAN WATER                           | 011443           | 000    | HOWARD PALEN, TRUSTEE            | I               | 1.33               | 31  | 28  | 22  | 12/4/93       |
| UNIVERSAL STRUCTURES NEW MANUFACTURING   | 021436           | 000    | MERRILL A PIERCE & MATTHEW S     | C               | 8.2                | 31  | 28  | 22  | 1/23/01       |
| SYDNEY ROAD WAREHOUSE                    | 010562           | 000    | CHRISTOPHER T SMITH & ROBERT N   | C               | 0.8                | 31  | 28  | 22  | 11/17/92      |
| DIESEL ENGINE REBUILDERS                 | 020922           | 000    | DIESEL ENGINE REBUILDERS OF      | C               | 2.06               | 31  | 28  | 22  | 2/14/01       |
| HARDIE, JAMES BUILDING PROD.- PLANT CITY | 011539           | 002    | JAMES HARDIE BLDG PRODUCTS INC   | C               | 35.02              | 31  | 28  | 22  | 4/18/96       |
| BILL DEAN WAREHOUSE                      | 019655           | 000    | WILLIAM L & KAREN A DEAN         | C               | 0.9                | 31  | 28  | 22  | 10/15/99      |
| COMMERCIAL CONCRETE PRODUCTS             | 013934           | 001    | COMMERCIAL CONCRETE PRODUCTS,    | C               | 5.03               | 31  | 28  | 22  | 7/3/96        |
| ROOKS WAREHOUSE ADDITION                 | 019837           | 001    | EDWARD M ROOKS                   | C               | 1.74               | 31  | 28  | 22  |               |
| SAMMONDS DISTRIBUTION CENTER             | 014113           | 000    | SUNSHINE DIVERSIFIED INVESTORS   | C               | 2.94               | 31  | 28  | 22  | 6/14/96       |
| AMERICAN TANK & EQUIPMENT                | 019880           | 001    | P-C BUILDING PARTNERSHIP         | C               | 5.35               | 31  | 28  | 22  | 9/23/00       |
| AMERICOLD BUILDING-EXPANSION             | 019885           | 000    | AMERICOLD LOGISTICS              | I               | 0.3                | 31  | 28  | 22  | 9/24/99       |
| WOODBIDGE APARTMENTS-AKA WALDEN LAKE     | 007561           | 002    | TWC NINETY-TWO LTD               | R               | 19.6               | 31  | 28  | 22  | 9/12/96       |
| JAMES HARDIE BUILDING PRODUCTS           | 011539           | 003    | JAMES HARDIE BLDG PRODUCTS INC   | C               | 19.71              | 31  | 28  | 22  | 5/6/00        |
| SENSENICH PROPELLER COMPANY              | 003496           | 007    | WILLIAM L. & KAREN A. DEAN       | C               | 1.36               | 31  | 28  | 22  | 2/25/95       |
| M & M ALUMINUM                           | 006339           | 000    | MARTIN H. WINTERS                | C               | 1.5                | 31  | 28  | 22  | 8/24/89       |
| UNCLE BOB'S SELF STORAGE ADDITION #99    | 018185           | 000    | SOVRAN ACQUISITION LP            | C               | 4.5                | 31  | 28  | 22  | 10/1/98       |
| PLANT CITY WAREHOUSING                   | 022094           | 000    | CHAMPOR CORP INC                 | C               | 4.08               | 31  | 28  | 22  | 6/30/01       |
| QUALITY METAL WORKS, INC.                | 003496           | 013    | QUALITY METAL WORKS, INC.        | C               | 4.5                | 31  | 28  | 22  | 2/20/99       |
| HOLTEC USA OFFICE & WAREHOUSE            | 006283           | 000    | J. & G. RASHID                   | C               | 5                  | 31  | 28  | 22  | 8/19/89       |
| PLANT CITY AUTO CENTER                   | 013092           | 000    | ROSS S. CARTER                   | C               | 0.41               | 31  | 28  | 22  | 6/8/95        |
| AMERICAN CAST IRON PIPE CO.-PLANT CITY   | 011354           | 000    | AMERICAN CAST IRON PIPE COMPANY  | C               | 11.59              | 31  | 28  | 22  | 8/27/93       |
| WALDEN LAKE APARTMENTS                   | 007561           | 001    | WALDEN LAKE 1 APARTMENTS         | R               | 16.08              | 31  | 28  | 22  | 5/26/93       |
| WOODSIDE AIRPORT INDUSTRIAL PARK         | 003496           | 000    | COLONY FIRST MORTGAGE            | C               | 37.2               | 31  | 28  | 22  | 8/2/88        |
| RENTLOK MINI WAREHOUSES                  | 005155           | 001    | RENTLOK MINI WAREHOUSES          | C               | 3.7                | 31  | 28  | 22  | 10/31/90      |
| CENTRAL FLORIDA EXCAVATING, INC.-OFFICE  | 016214           | 000    | CHARLES D & YVONNE O BARRON      | C               | 3.25               | 31  | 28  | 22  | 7/25/97       |
| DEAN WAREHOUSE #8                        | 003496           | 011    | WILLIAM L & KAREN A DEAN         | C               | 0.91               | 31  | 28  | 22  | 12/19/96      |
| A E S TOOL INC                           | 017666           | 000    | JEFFREY ZAZULIA & IYLENE MILLER  | C               | 1.83               | 31  | 28  | 22  | 6/3/98        |
| PLANT CITY, CITY OF-AIRPORT RD/GRANT ST  | 013260           | 000    | CITY OF PLANT CITY               | P               | 12.6               | 31  | 28  | 22  | 12/22/95      |
| WISHNATZKI & NATHIEL PACKING PLANT       | 003496           | 005    | WISHMATZKI & NATHIEL, INC.       | C               | 5.6                | 31  | 28  | 22  | 12/10/93      |
| DEAN WAREHOUSE OFFICES NO 6              | 003496           | 014    | D & F CONSTRUCTION INC           | I               | 1.98               | 31  | 28  | 22  | 6/15/01       |
| PRESTO-PARKING EXPANSION                 | 015992           | 000    | PRESTO FOOD STORES, INC.         | C               | 0.43               | 31  | 28  | 22  | 2/1/97        |
| WISHNATZKI & NATHIEL-PACKING PLANT       | 003496           | 001    | WISHMATZKI & NATHIEL, INC.       | C               | 5.6                | 31  | 28  | 22  | 1/5/93        |
| FULL GOSPEL TABERNACLE CHURCH            | 003801           | 000    | FULL GOSPEL TABERNACLE CHURCH    | S               | 1.3                | 31  | 28  | 22  | 8/2/88        |
| DIESEL ENGINE REBUILDERS OF TAMPA BAY    | 011359           | 000    | DIESEL ENGINE REBUILDERS OF      | C               | 0.55               | 31  | 28  | 22  | 8/20/93       |
| DEAN WAREHOUSE #13                       | 003496           | 012    | WILLIAM L & KAREN A DEAN         | C               | 2.39               | 31  | 28  | 22  | 10/1/97       |
| WALDEN LAKE, INC.-WHSE & OFFICE          | 005808           | 000    | WALDEN LAKE DEVELOPMENT          | C               | 1                  | 31  | 28  | 22  | 5/24/89       |
| INDUSTRIAL SERVICES-ADDITION             | 005658           | 001    | INDUSTRIAL SERVICES              | C               | 1.5                | 31  | 28  | 22  | 1/9/97        |
| PLANT CITY, CITY OF-EMPIRE/BATES OUTFALL | 017789           | 001    | CITY OF PLANT CITY               | G               | 3.1                | 32  | 28  | 22  | 11/9/99       |
| PLANT CITY COMMUNITY CHURCH-KOALATY KARE | 010347           | 000    | PLANT CITY COMMUNITY CHURCH OF   | C               | 1.23               | 32  | 28  | 22  | 9/10/92       |

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|------------------------------------------|------------------|--------|----------------------------------|-----------------|--------------------|-----|-----|-----|---------------|
| PLANT CITY, CITY OF-EVERS ST.            | 003656           | 000    | CITY OF PLANT CITY               | P               | 0.5                | 32  | 28  | 22  | 9/16/88       |
| PLANT CITY, CITY OF-HUNTER ST.           | 001556           | 000    | CITY OF PLANT CITY               | P               | 4.6                | 32  | 28  | 22  | 1/24/87       |
| GRANT ST/HUNTER ST ATTENUATION POND      | 020053           | 000    | CITY OF PLANT CITY               | G               | 11.4               | 32  | 28  | 22  | 2/9/00        |
| PLANT CITY, CITY OF-WALLER ST.           | 005009           | 000    | CITY OF PLANT CITY               | G               | 2.6                | 32  | 28  | 22  | 5/9/89        |
| PINEDALE ESTATES - UNIT 4                | 018859           | 000    | PLANT FRUIT COMPANY              | R               | 7.68               | 32  | 28  | 22  | 3/24/99       |
| EAST HILLSBOROUGH INDEPENDENT SCHOOL     | 018194           | 001    | JEANETTE MCAVOY                  | S               | 4.2                | 32  | 28  | 22  | 10/17/98      |
| OAKS-PHASE II, THE                       | 007068           | 002    | STINE FAMILY PARTNERSHIP/J.A.    | C               | 2.59               | 32  | 28  | 22  | 9/27/96       |
| PLANT CITY, CITY OF-AIRPORT RD/GRANT ST  | 013260           | 000    | CITY OF PLANT CITY               | P               | 12.6               | 32  | 28  | 22  | 12/22/95      |
| HILLS CO-ADULT ED CENTER/SIMMONS         | 021028           | 000    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 4.7                | 32  | 28  | 22  | 9/13/00       |
| PORTER-MINI WAREHOUSE ADDITION           | 010499           | 000    | GLENDON R. & VERNON L. PORTER    | C               | 0.16               | 32  | 28  | 22  |               |
| MT OLIVE BAPTIST CHURCH-PARKING LOT      | 015605           | 000    | MT OLIVE BAPTIST CHURCH OF PLANT | S               | 0.5                | 32  | 28  | 22  | 1/9/97        |
| PLANT CITY, CITY OF-W SIDE CANAL MASTER  | 018287           | 000    | CITY OF PLANT CITY               | G               | 60.9               | 32  | 28  | 22  | 3/31/99       |
| OAK POINTE SUBDIVISION                   | 016076           | 000    | GARDEN COURT APARTMENTS INC      | R               | 12.01              | 32  | 28  | 22  | 6/26/97       |
| BURNEY SIMMONS SCHOOL                    | 005289           | 001    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 1.75               | 32  | 28  | 22  | 9/14/01       |
| GREENLEAF SUBDIVISION                    | 022742           | 000    | GARDEN COURT APARTMENTS INC      | R               | 2.35               | 32  | 28  | 22  |               |
| PINE DALE MEADOWS-UNIT II                | 016425           | 000    | CLINTON & MARINA STROUGH         | R               | 3.4                | 32  | 28  | 22  | 8/16/97       |
| M.L.K. OFFICE BUILDING                   | 018095           | 000    | KIM MARTIN                       | C               | 0.63               | 1   | 29  | 20  | 11/17/98      |
| LAKE WEEKS PHASES 2 & 3                  | 021040           | 001    | SHIMBERG CROSS CO                | R               | 33.3               | 1   | 29  | 20  | 1/27/01       |
| LAKE WEEKS PH 1                          | 021040           | 002    | SHIMBERG CROSS CO                | R               | 71.91              | 1   | 29  | 20  | 8/25/01       |
| PEMBERTON CREEK PHS IV                   | 022875           | 000    | HILLSBOROUGH CO BOCC STORMWATER  | G               | 0.03               | 1   | 29  | 20  |               |
| HILLS. CO.-RODNEY COLSON PARK            | 007783           | 002    | HILLSBOROUGH CO PLANNING SECTION | G               | 16.35              | 1   | 29  | 20  | 10/2/96       |
| LAKE WEEKS PH 1                          | 021040           | 002    | SHIMBERG CROSS CO                | R               | 71.91              | 2   | 29  | 20  | 8/25/01       |
| DIAMOND PRODUCTS-CANNING PLANT ROAD      | 014408           | 001    | DIAMOND PRODUCTS                 | C               | 3.5                | 2   | 29  | 20  | 11/20/97      |
| DOT-S.R. 574-B/W PINE ST./KINGSWAY RD.   | 009841           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 7.07               | 2   | 29  | 20  | 2/27/92       |
| LAKE WEEKS PHASES 2 & 3                  | 021040           | 001    | SHIMBERG CROSS CO                | R               | 33.3               | 2   | 29  | 20  | 1/27/01       |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 104.49             | 2   | 29  | 20  | 10/25/00      |
| SUBWAY SALAD & SANDWICH SHOP             | 003717           | 000    | MASOOD K. KHAN                   | C               | 0.3                | 2   | 29  | 20  | 8/12/88       |
| HILLS. CO.-RODNEY COLSON PARK            | 007783           | 002    | HILLSBOROUGH CO PLANNING SECTION | G               | 16.35              | 2   | 29  | 20  | 10/2/96       |
| MARTIN LUTHER KING MINI-STORAGE          | 020257           | 000    | MANGO STORAGE PARTNERS LC        | C               | 6.43               | 2   | 29  | 20  | 2/18/00       |
| HILLS. CO.-RODNEY COLSON ELEM. ACCESS RD | 009169           | 001    | HILLSBOROUGH CO BOCC             | P               | 2.7                | 2   | 29  | 20  | 6/10/92       |
| DOT-S.R. 574-B/W PINE ST./KINGSWAY RD.   | 009841           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 7.07               | 3   | 29  | 20  | 2/27/92       |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 104.49             | 8   | 29  | 20  | 10/25/00      |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 104.49             | 9   | 29  | 20  | 10/25/00      |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 104.49             | 10  | 29  | 20  | 10/25/00      |
| BRANDON RENTAL ADDITION                  | 005822           | 001    | ANCIL T GLASS                    | C               | 1.5                | 11  | 29  | 20  | 9/28/99       |
| KINGSWAY OAKS-PHASE I                    | 001412           | 000    | USTLER/BURST, INC.               | R               | 37.4               | 11  | 29  | 20  | 10/21/86      |
| HILLS. CO.-RODNEY COLSON PARK            | 007783           | 002    | HILLSBOROUGH CO PLANNING SECTION | G               | 16.35              | 11  | 29  | 20  | 10/2/96       |
| HUNGRY HOWIES-PARSONS AVENUE             | 010477           | 000    | ABDALLAHA SFARJANI               | C               | 0.66               | 11  | 29  | 20  | 9/22/92       |
| WHEELER GROVES                           | 021961           | 001    | DANIEL E CAMPO                   | R               | 12.5               | 11  | 29  | 20  | 10/10/01      |
| WHEELER GROVES                           | 021961           | 000    | CAMPO ENTERPRISES INC            | R               | 12.5               | 11  | 29  | 20  | 6/6/01        |
| AUTOZONE-SEFFNER                         | 016114           | 000    | AUTOZONE                         | C               | 1.92               | 11  | 29  | 20  | 2/20/97       |
| DOT-S.R. 574-B/W PINE ST./KINGSWAY RD.   | 009841           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 7.07               | 11  | 29  | 20  | 2/27/92       |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 104.49             | 11  | 29  | 20  | 10/25/00      |
| HILLS CO-LEONARD DR DRAINAGE IMPROVEMENT | 020589           | 000    | HILLSBOROUGH CO BOCC STORMWATER  | P               | 0.3                | 11  | 29  | 20  | 4/12/00       |

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| PROJECT NAME                             | PERMIT<br>NUMBER | NUMBER | PERMITTEE                      | PROJECT<br>TYPE | PROJECT<br>ACREAGE | SEC | TWN | RNG | ISSUE<br>DATE |
|------------------------------------------|------------------|--------|--------------------------------|-----------------|--------------------|-----|-----|-----|---------------|
| OAK GLEN                                 | 015574           | 000    | WESTFIELD DEVELOPMENT CO       | R               | 20.9               | 11  | 29  | 20  | 10/12/96      |
| PRESBYTERIAN CHURCH OF SEFFNER           | 012414           | 000    | PRESBYTERIAN CHURCH OF SEFFNER | S               | 0.37               | 11  | 29  | 20  | 9/1/94        |
| KINGSWAY OAKS PHASE 2                    | 001506           | 001    | CONLIN/ROAN/GARNER DEVELOPMENT | R               | 21.97              | 11  | 29  | 20  | 10/17/98      |
| ISH DAIRY AKA LAKE SHORE RANCH-PHASE III | 017849           | 002    | WESTFIELD DEVELOPMENT CORP     | C               | 75.68              | 12  | 29  | 20  | 10/8/99       |
| HILLS CO LONG POND OUTFALL               | 000002           | 000    | HILLSBOROUGH CO BOCC           | G               | 2000               | 12  | 29  | 20  | 6/6/85        |
| HILLS CO LONG POND OUTFALL UPGRADE       | 000002           | 001    | HILLSBOROUGH CO BOCC           | G               | 1.17               | 12  | 29  | 20  | 1/28/00       |
| WILLOWS, THE-UNIT II, LOT 146 DRAINAGE   | 011137           | 000    | GOPHER RIDGE FARM              | R               | 0.57               | 13  | 29  | 20  | 5/27/93       |
| VALRICO POINT SUBDIVISION                | 003872           | 001    | ROBERT ROOT                    | R               | 0.4                | 13  | 29  | 20  | 7/8/89        |
| NEW JERUSALEM CHRISTIAN CHURCH           | 012459           | 001    | IGLESIA CRISTIANA LA NUEVA     | S               | 0.45               | 14  | 29  | 20  | 1/29/00       |
| LAKEMONT HILLS-PHASE I                   | 001231           | 000    | MCDILL COLUMBUS CORPORATION    | R               | 39.9               | 14  | 29  | 20  | 8/9/86        |
| SEFFNER ELEMENTARY SCH.-REMODELING & ADD | 009528           | 000    | HILLSBOROUGH CO SCHOOL BOARD   | G               | 14.98              | 14  | 29  | 20  | 11/26/91      |
| LAKEMONT HILLS-PHASE I VILLAGE 2         | 001231           | 001    | MCDILL COLUMBUS CORPORATION    | R               | 17.2               | 14  | 29  | 20  | 10/21/86      |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL     | G               | 104.49             | 14  | 29  | 20  | 10/25/00      |
| LAKEMONT HILLS SUBDIVISION PH.II         | 002076           | 000    | MCDILL COLUMBUS CORPORATION    | R               | 47.7               | 14  | 29  | 20  | 7/1/87        |
| WALGREENS #6751 WINDHORST RD/KINGSWAY RD | 022500           | 000    | PARADISE DEVELOPMENT GROUP INC | C               | 1.7                | 14  | 29  | 20  | 8/7/01        |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL     | G               | 104.49             | 17  | 29  | 20  | 10/25/00      |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL     | G               | 104.49             | 18  | 29  | 20  | 10/25/00      |
| HILLS. CO.-PARSONS AVENUE IMPROVEMENTS   | 001220           | 006    | HILLSBOROUGH CO BOCC           | P               | 7.72               | 22  | 29  | 20  | 8/4/93        |
| HILLS. CO.-PARSONS AVENUE IMPROVEMENTS   | 001220           | 006    | HILLSBOROUGH CO BOCC           | P               | 7.72               | 23  | 29  | 20  | 8/4/93        |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL     | G               | 104.49             | 23  | 29  | 20  | 10/25/00      |
| DOT-S.R. 60/MONTCLAIR AVE. #10110-35561  | 008951           | 003    | FLORIDA DEPT OF TRANS DIST VII | P               | 3.33               | 23  | 29  | 20  | 12/10/94      |
| HOME DEPOT-EAST BRANDON                  | 018203           | 000    | HOME DEPOT USA INC             | C               | 12.2               | 24  | 29  | 20  | 9/2/98        |
| HILLS. CO.-LUTIE DRIVE DRAINAGE IMPR.    | 008342           | 000    | HILLSBOROUGH CO BOCC           | P               | 15.7               | 24  | 29  | 20  | 12/15/90      |
| WALMART BRANDON E STORE 3463-00 NEW SC   | 022038           | 000    | WAL-MART STORES EAST INC       | C               | 31.3               | 24  | 29  | 20  | 10/20/01      |
| DOT-S.R. 60/MONTCLAIR AVE. #10110-35561  | 008951           | 003    | FLORIDA DEPT OF TRANS DIST VII | P               | 3.33               | 24  | 29  | 20  | 12/10/94      |
| HILLS. CO.-VALRICO ROAD PUMPING STATION  | 008183           | 001    | HILLSBOROUGH CO BOCC           | G               | 0.2                | 24  | 29  | 20  | 1/6/96        |
| DOT-STATE ROAD 60/VALRICO ROAD-PHASE I   | 008951           | 004    | FLORIDA DEPT OF TRANS DIST VII | G               | 12.56              | 24  | 29  | 20  | 1/31/96       |
| VALRICO PARK                             | 006465           | 001    | MIKE RUSTENBERGHE              | C               | 0.6                | 24  | 29  | 20  | 3/5/93        |
| AMSOUTH BANK-BRANDON/VALRICO             | 022619           | 000    | AMSOUTH BANK OF FLORIDA        | C               | 0.96               | 24  | 29  | 20  |               |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL     | G               | 104.49             | 25  | 29  | 20  | 10/25/00      |
| BRENTWOOD HILLS-TRACT 2/UNIT 2/TRACT C   | 002118           | 010    | SCARBOROUGH/SEMBLER JOINT      | R               | 32.11              | 25  | 29  | 20  | 10/31/96      |
| 7-ELEVEN & AUTO CTR AT SR 60 & MT CARMEL | 005201           | 001    | MELBOURNE-CURY CORPORATION     | C               | 1.62               | 25  | 29  | 20  | 10/13/01      |
| BRENTWOOD HILLS OF BRANDON               | 002118           | 005    | SCARBOROUGH/SEMBLER JOINT      | R               | 7.7                | 25  | 29  | 20  | 3/15/88       |
| BRENTWOOD HILLS, TRACT B, #1 & 2         | 002118           | 003    | SCARBOROUGH/SEMBLER JOINT      | R               | 76.2               | 25  | 29  | 20  | 12/30/87      |
| BRENTWOOD HILLS ACCESS ROAD              | 002118           | 007    | SCARBOROUGH/SEMBLER JOINT      | S               | 3.3                | 25  | 29  | 20  | 7/8/88        |
| BRENTWOOD HILLS-TRACT A, PHASE II        | 002118           | 012    | SCARBOROUGH CORPORATION        | R               | 14.93              | 25  | 29  | 20  | 10/10/96      |
| DOT-S.R. 60/MONTCLAIR AVE. #10110-35561  | 008951           | 003    | FLORIDA DEPT OF TRANS DIST VII | P               | 3.33               | 25  | 29  | 20  | 12/10/94      |
| BRENTWOOD HILLS-TRACT C & F, UNIT 1 & 2  | 002118           | 008    | SCARBOROUGH/SEMBLER JOINT      | R               | 62                 | 25  | 29  | 20  | 2/14/95       |
| BRENTWOOD HILLS, TRACT D/E-UNITS 1 & 2   | 002118           | 011    | SCARBOROUGH CORPORATION &      | R               | 27                 | 25  | 29  | 20  | 11/15/96      |
| AL'S WONDERLAND                          | 006246           | 000    | ALBERT & BEVERLY MASSARO       | C               | 1.3                | 25  | 29  | 20  | 9/12/89       |
| DOT-S.R. 60/MONTCLAIR AVE. #10110-35561  | 008951           | 003    | FLORIDA DEPT OF TRANS DIST VII | P               | 3.33               | 26  | 29  | 20  | 12/10/94      |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL     | G               | 104.49             | 26  | 29  | 20  | 10/25/00      |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL     | G               | 104.49             | 27  | 29  | 20  | 10/25/00      |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL     | G               | 104.49             | 36  | 29  | 20  | 10/25/00      |

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| WEXFORD GREEN                            | 022505           | 000    | TRANSCEND DEVELOPMENT CORP       | R               | 11.8               | 36  | 29  | 20  | 9/1/01        |
| LUMSDEN POINTE                           | 020444           | 001    | TRANSCEND DEVELOPMENT            | R               | 72                 | 36  | 29  | 20  | 12/14/00      |
| TECO-SYDNEY ROAD SUBSTATION              | 009607           | 000    | TAMPA ELECTRIC CO                | C               | 1.13               | 1   | 29  | 21  | 10/23/91      |
| TREDIT TIRE                              | 020446           | 000    | TREDIT TIRE & WHEEL CO INC       | C               | 0.06               | 1   | 29  | 21  | 2/25/00       |
| ALUMAX EXTRUSIONS, INC.-ADDITION         | 005222           | 004    | ALUMAX EXTRUSIONS INC            | I               | 8.83               | 1   | 29  | 21  | 10/11/96      |
| TREDIT TIRE WAREHOUSE ADDITION           | 020446           | 001    | ANDERSON ASSOC II LLC DBA        | C               | 3                  | 1   | 29  | 21  | 9/8/01        |
| PLANT CITY, CITY OF-WTP & CHLORINATION   | 018868           | 000    | CITY OF PLANT CITY               | G               | 1.06               | 1   | 29  | 21  | 1/20/99       |
| ALCOA (ALUMAX EXTRUSIONS INC)            | 005222           | 005    | ALUMAX EXTRUSIONS INC            | C               | 0.04               | 1   | 29  | 21  | 6/17/99       |
| B.B.I. PRODUCE, INC.                     | 009518           | 002    | B.B.I. PRODUCE, INC.             | C               | 0.28               | 4   | 29  | 21  | 7/15/93       |
| DOT-STATE ROAD 574/DOVER RD.-#10090-3535 | 013031           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 5                  | 4   | 29  | 21  | 4/6/95        |
| DOVER ELEMENTARY SCHOOL ADD. & REMODEL   | 008822           | 000    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 1.71               | 4   | 29  | 21  | 3/8/91        |
| HIGH COUNTY ACRES                        | 021249           | 000    | S PATRICK & NANCY W HIGH         | R               | 1.67               | 5   | 29  | 21  | 2/22/01       |
| DOT-STATE ROAD 574/DOVER RD.-#10090-3535 | 013031           | 000    | FLORIDA DEPT OF TRANS DIST VII   | P               | 5                  | 5   | 29  | 21  | 4/6/95        |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 5   | 29  | 21  | 5/12/95       |
| FIRST BAPTIST CHURCH OF DOVER            | 017613           | 000    | FIRST BAPTIST CHURCH OF DOVER    | S               | 15.15              | 5   | 29  | 21  | 4/30/98       |
| SAN JOSE MISSION                         | 022037           | 000    | CATHOLIC CHARITIES HOUSING INC   | S               | 28.35              | 5   | 29  | 21  | 7/14/01       |
| HILLS. CO.-DOVER CIVIC CLUB              | 009404           | 000    | HILLSBOROUGH CO BOCC PARKS & REC | G               | 0.33               | 5   | 29  | 21  | 9/4/91        |
| CARPET CUTTERS                           | 022144           | 000    | STEP SOFTLY INC D/B/A CARPET     | C               | 0.56               | 5   | 29  | 21  | 8/28/01       |
| DIOCESE OF ST. PETERSBURG-DOVER          | 010205           | 000    | DIOCESE OF ST PETERSBURG         | S               | 9.76               | 5   | 29  | 21  | 9/3/92        |
| DIOCESE OF ST. PETERSBURG-SAN JOSE       | 010205           | 003    | DIOCESE OF ST PETERSBURG         | S               | 0.3                | 5   | 29  | 21  | 8/22/95       |
| W.W. TRUCKING                            | 013523           | 000    | WALDRON INVESTMENTS, INC.        | C               | 1.14               | 6   | 29  | 21  | 1/13/96       |
| B & R FOODS INC                          | 011754           | 001    | B & R FOODS INC                  | C               | 6.12               | 6   | 29  | 21  | 1/9/99        |
| SCANLON COUNTRY ESTATES                  | 021795           | 000    | TEDS SEPTIC TANKS INC            | R               | 19.77              | 6   | 29  | 21  | 7/26/01       |
| UNCLE GS BED & BISCUIT                   | 022635           | 000    | J E MCLEAN III                   | C               | 5.08               | 7   | 29  | 21  | 9/25/01       |
| WEE ONES WORLD DAY CARE                  | 005924           | 000    | IRENE J. SPRINGER                | C               | 0.7                | 7   | 29  | 21  | 6/24/89       |
| DOVER SOUTH SITE FL-3421B                | 021232           | 000    | CARL & OLGA DESHONG              | C               | 0.15               | 7   | 29  | 21  | 9/9/00        |
| STORY BOOK LANE DAY CARE CENTER          | 003941           | 000    | CHARLOTTE MOONEY                 | C               | 0.1                | 7   | 29  | 21  | 8/10/88       |
| KINDER KOUNTRY                           | 021869           | 000    | KINDER KOUNTRY INC               | C               | 0.74               | 7   | 29  | 21  | 2/24/01       |
| WHEELER ROAD PRIVATE SUBDIVISION         | 020374           | 000    | TALAL & LINDA KAZBOUR            | R               | 19.82              | 7   | 29  | 21  | 8/2/00        |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 8   | 29  | 21  | 5/12/95       |
| HINTON FARMS                             | 011599           | 000    | ELTON HINTON                     | A               | 3.8                | 9   | 29  | 21  | 1/19/94       |
| HILLS. CO.-VALRICO WWTP                  | 005211           | 000    | HILLSBOROUGH CO BOCC             | G               | 4.8                | 16  | 29  | 21  | 4/1/89        |
| MCGRATH SUBDIVISION-DOVER ROAD           | 021965           | 000    | LOUIS W MCGRATH MELVIN BELISLE & | R               | 9.81               | 16  | 29  | 21  | 4/12/01       |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 17  | 29  | 21  | 5/12/95       |
| HILLS. CO.-VALRICO WWTP                  | 005211           | 000    | HILLSBOROUGH CO BOCC             | G               | 4.8                | 17  | 29  | 21  | 4/1/89        |
| HILLS. CO.-VALRICO WWTP                  | 003984           | 000    | HILLSBOROUGH CO BOCC             | G               | 45                 | 17  | 29  | 21  | 10/26/88      |
| THE MEADOWOODS                           | 018573           | 000    | VERNA CREWS DEW                  | R               | 19.86              | 18  | 29  | 21  | 2/4/99        |
| HERITAGE CREST SUBDIVISION               | 001646           | 000    | STEVE CORSETTI                   | R               | 23.4               | 18  | 29  | 21  | 2/21/87       |
| GRACE COMMUNITY CHURCH LIBRARY           | 018517           | 000    | GRACE COMMUNITY CHURCH OF        | S               | 0.84               | 18  | 29  | 21  | 1/20/99       |
| CIRCLE K-VALRICO RD. & SR 60             | 003090           | 000    | CIRCLE K CORPORATION             | C               | 0.8                | 19  | 29  | 21  | 6/15/88       |
| U.S. POSTAL SERVICE-MILLER RD./S.R. 60   | 004824           | 001    | UNITED STATES POSTAL SERVICE     | P               | 6.1                | 19  | 29  | 21  | 2/7/97        |
| VALRICO VISTA M.H.P.                     | 001197           | 001    | VALRICO VISTA ASSOCIATES         | R               | 21                 | 19  | 29  | 21  | 8/1/87        |
| DISCOUNT AUTO PARTS-STORE #47R-VALRICO   | 013869           | 001    | DISCOUNT AUTO PARTS INC          | C               | 0.77               | 19  | 29  | 21  | 11/20/98      |
| HILLS. CO.-VALRICO ROAD PUMPING STATION  | 008183           | 001    | HILLSBOROUGH CO BOCC             | G               | 0.2                | 19  | 29  | 21  | 1/6/96        |

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|------------------------------------------|------------------|--------|----------------------------------|-----------------|--------------------|-----|-----|-----|---------------|
| VALRICO VISTA SUBDIVISION-EXPANSION      | 013474           | 000    | C DENNIS CARLTON                 | R               | 2.01               | 19  | 29  | 21  | 9/15/95       |
| AUTOMATED PETROLEUM-VALRICO 66 CAR WASH  | 008301           | 000    | AUTOMATED PETROLEUM & ENERGY     | C               | 0.1                | 19  | 29  | 21  | 10/13/90      |
| APEC-VALRICO 66 CAR WASH ADDITION        | 008301           | 001    | AUTOMATED PETROLEUM & ENERGY     | C               | 0.92               | 19  | 29  | 21  | 8/7/91        |
| EAGLEWOOD SITE G-514B                    | 021704           | 000    | AMERICAN TOWER CORP              | C               | 0.08               | 19  | 29  | 21  |               |
| CENTRO DE ADORACION BET-EL CHURCH        | 020626           | 000    | IGLESIA CHRISTINA FE Y VIDA INC  | S               | 1.72               | 19  | 29  | 21  | 6/8/00        |
| U.S. POSTAL SERVICE-VALRICO              | 004824           | 000    | UNITED STATES POSTAL SERVICE     | G               | 6                  | 19  | 29  | 21  | 12/1/88       |
| MILLER ROAD SUBDIVISION                  | 018388           | 000    | ALLIANCE FOR AFFORDABLE HOUSING  | R               | 3.9                | 19  | 29  | 21  | 11/4/98       |
| COLLINS PRODUCE MARKET                   | 021441           | 000    | COLLINS PRODUCE MARKET           | C               | 1.96               | 19  | 29  | 21  | 11/2/00       |
| FELLOWSHIP BAPTIST CHURCH                | 018034           | 000    | FELLOWSHIP BAPTIST CHURCH        | S               | 1.54               | 19  | 29  | 21  | 8/29/98       |
| DOT-S.R. 60/MONTCLAIR AVE. #10110-35561  | 008951           | 003    | FLORIDA DEPT OF TRANS DIST VII   | P               | 3.33               | 19  | 29  | 21  | 12/10/94      |
| FIRST BAPTIST CHURCH OF VALRICO-PARKING  | 012931           | 000    | FIRST BAPTIST CHURCH OF VALRICO  | S               | 0.7                | 19  | 29  | 21  | 3/18/95       |
| LLOYD'S AUTO GLASS                       | 003191           | 000    | AUTO GLASS DISTRIBUTORS          | C               | 2.4                | 19  | 29  | 21  | 5/28/88       |
| KINGS MILL                               | 007778           | 001    | SCARBOROUGH/SEMBLER JOINT        | R               | 92.17              | 20  | 29  | 21  | 4/27/00       |
| KINGS MILL PHASES B1 B2 C1               | 007778           | 004    | SCARBOROUGH CORPORATION          | R               | 46.74              | 20  | 29  | 21  | 11/22/00      |
| M AND M MOTORS-FINCH ROAD                | 016243           | 000    | JAMES MUTASCIO                   | C               | 0.89               | 20  | 29  | 21  | 4/3/97        |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 20  | 29  | 21  | 5/12/95       |
| KINGS MILL/PHASES A1 & A2                | 007778           | 002    | WINDWARD HOMES                   | R               | 38.64              | 20  | 29  | 21  | 8/2/00        |
| VALRICO PLACE II                         | 007685           | 000    | NRG INVESTMENTS                  | C               | 1.3                | 20  | 29  | 21  | 4/25/90       |
| FLORIDA FARM & TRACTOR                   | 000838           | 000    | FLORIDA FARM & TRACTOR           | C               | 3                  | 20  | 29  | 21  | 12/13/85      |
| HILLS. CO.-VALRICO WWTP                  | 005211           | 000    | HILLSBOROUGH CO BOCC             | G               | 4.8                | 21  | 29  | 21  | 4/1/89        |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 21  | 29  | 21  | 5/12/95       |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 28  | 29  | 21  | 5/12/95       |
| BENT TREE SUBDIVISION                    | 005096           | 001    | G J APPLE                        | R               | 25.7               | 29  | 29  | 21  | 2/16/89       |
| COPPER RIDGE-TRK 151 S POND TRK B2-3-4   | 002382           | 017    | CANAM PARTNERS                   | R               | 1.06               | 29  | 29  | 21  | 12/22/00      |
| SON LIFE BAPTIST CHURCH                  | 010766           | 001    | SON LIFE BAPTIST CHURCH OF       | S               | 3.87               | 29  | 29  | 21  | 8/21/99       |
| COPPER RIDGE-TRACT 151 SOUTH POND        | 002382           | 008    | SCARBOROUGH CORPORATION          | R               | 16.47              | 29  | 29  | 21  | 6/18/97       |
| HILLS. CO.-LUMSDEN RD. PAVING            | 004094           | 000    | HILLSBOROUGH CO BOCC             | P               | 4.8                | 29  | 29  | 21  | 9/20/88       |
| MT. TAHO-SECTION A                       | 005367           | 002    | STRAWBERRY RIDGE INC             | R               | 16.3               | 29  | 29  | 21  | 9/20/89       |
| COPPER RIDGE-TRACT 151/ N & S PONDS      | 002382           | 016    | CANAM PARTNERS                   | R               | 6.19               | 29  | 29  | 21  | 3/1/00        |
| COPPER RIDGE-TRACT 151 NORTH POND        | 002382           | 011    | CANAM PARTNERS                   | R               | 15.35              | 29  | 29  | 21  | 4/9/98        |
| RANCHO VIEJO                             | 018008           | 000    | CONLIN-ROAN-GARNER DEVELOPMENT   | R               | 20.36              | 29  | 29  | 21  | 11/22/97      |
| VALRICO STATION                          | 000924           | 000    | HOME AMERICA REALTY, INC.        | R               | 9                  | 29  | 29  | 21  | 3/27/86       |
| ST. CLOUD MANOR                          | 003393           | 000    | ROBERTS & SPARKMAN MULQUEEN      | R               | 9.8                | 29  | 29  | 21  | 6/28/88       |
| STRAWBERRY RIDGE-PHASE VI, VII & VIII    | 002382           | 005    | STRAWBERRY RIDGE INC             | R               | 41.3               | 29  | 29  | 21  | 6/17/95       |
| COPPER RIDGE TRACT 151, N POND (TRACT D) | 002382           | 012    | KBC DEVELOPMENT INC              | R               | 23.96              | 29  | 29  | 21  | 9/9/98        |
| LEGENDS PASS                             | 022439           | 000    | G & R INVESTMENTS                | R               | 10.88              | 30  | 29  | 21  | 10/20/01      |
| HILLS. CO.-LUMSDEN RD. PAVING            | 004094           | 000    | HILLSBOROUGH CO BOCC             | P               | 4.8                | 30  | 29  | 21  | 9/20/88       |
| HESS #09417 VALRICO                      | 001469           | 001    | AMERADA HESS CORPORATION         | C               | 1.13               | 30  | 29  | 21  | 8/6/99        |
| BURGER KING AT SR 60 & VALRICO ROAD      | 018244           | 001    | SCOTTYS INC                      | C               | 1.31               | 30  | 29  | 21  | 1/28/99       |
| ELEMENTARY SCHOOL 'I'                    | 013138           | 000    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 20                 | 30  | 29  | 21  | 5/25/95       |
| NORIEGA PROPERTY-TACO BELL/TCBY          | 018890           | 000    | NORIEGA PROPERTY HOLDINGS INC    | C               | 1.38               | 30  | 29  | 21  | 2/3/99        |
| DOT-S.R. 60/MONTCLAIR AVE. #10110-35561  | 008951           | 003    | FLORIDA DEPT OF TRANS DIST VII   | P               | 3.33               | 30  | 29  | 21  | 12/10/94      |
| CITRUSWOOD                               | 020093           | 000    | RYDER HOMES & GROVES COMPANY     | R               | 42.33              | 30  | 29  | 21  | 12/23/99      |
| ST. CLOUD OAKS                           | 000419           | 000    | BROWNELL & HENDERSON, INC.       | R               | 19                 | 30  | 29  | 21  | 12/4/85       |

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| PROJECT NAME                             | PERMIT<br>NUMBER | NUMBER | PERMITTEE                        | PROJECT<br>TYPE | PROJECT<br>ACREAGE | SEC | TWN | RNG | ISSUE<br>DATE |
|------------------------------------------|------------------|--------|----------------------------------|-----------------|--------------------|-----|-----|-----|---------------|
| VALRICO FOREST SUBDIVISION               | 013424           | 000    | RYDER HOMES & GROVES COMPANY     | R               | 39.01              | 30  | 29  | 21  | 11/7/95       |
| KAZBOUR SERVICE STATION                  | 017614           | 001    | KAZBOUR PROPERTIES               | C               | 0.51               | 30  | 29  | 21  | 8/17/99       |
| INNERGARY POINT                          | 020190           | 000    | REGIONAL FINANCE CO              | R               | 13.87              | 30  | 29  | 21  | 2/2/00        |
| KASH N KARRY SR 60 AND MILLER RD         | 021215           | 001    | CENTRES BRANDON LP               | C               | 14.99              | 30  | 29  | 21  | 5/17/01       |
| ST CLOUD TRACE                           | 020137           | 000    | CAMPO ENTERPRISES INC            | R               | 19.2               | 30  | 29  | 21  | 1/22/00       |
| CHURCH OF CHRIST AT VALRICO              | 018725           | 000    | CHURCH OF CHRIST AT VALRICO      | S               | 0.65               | 31  | 29  | 21  | 12/30/98      |
| BENT TREE ESTATES SUBDIVISION            | 011741           | 000    | BENT TREE HOMEOWNERS ASSOCIATION | R               | 22                 | 31  | 29  | 21  | 3/23/94       |
| LEGENDS PASS                             | 022439           | 000    | G & R INVESTMENTS                | R               | 10.88              | 31  | 29  | 21  | 10/20/01      |
| BUCKHORN TRACE SUBDIVISION               | 001779           | 000    | BROWNELL & HENDERSON, INC.       | R               | 24                 | 31  | 29  | 21  | 5/9/87        |
| BETHEL BAPTIST CHURCH                    | 016664           | 000    | BETHEL BAPTIST CHURCH            | S               | 4.83               | 31  | 29  | 21  | 10/24/97      |
| CIMMARON                                 | 002622           | 000    | BROWNELL & HENDERSON, INC.       | R               | 10.1               | 31  | 29  | 21  | 12/17/87      |
| ST CLOUD RESERVE                         | 020532           | 000    | SIMS DEVELOPMENT GROUP INC       | R               | 9.2                | 31  | 29  | 21  | 4/8/00        |
| FIRST CHRISTIAN CHURCH OF BRANDON        | 022766           | 000    | FIRST CHRISTIAN CHURCH           | S               | 15                 | 31  | 29  | 21  |               |
| FAIRWAY RIDGE ADDITION                   | 002034           | 000    | DEVCO DEVELOPMENT CORPORATION    | R               | 19.5               | 31  | 29  | 21  | 6/20/87       |
| BUCKHORN ELEMENTARY ADDITION '89         | 005461           | 000    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 0.7                | 31  | 29  | 21  | 4/21/89       |
| WESTMINSTER SUBDIVISION                  | 004839           | 000    | WESTMINSTER PARTNERS             | R               | 9.9                | 31  | 29  | 21  | 11/18/88      |
| BRANDON URBAN DISPERSED WELLS PROJECT    | 020864           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 104.49             | 31  | 29  | 21  | 10/25/00      |
| LUMSDEN TRACE                            | 017842           | 000    | MARCUS DUMOND                    | R               | 20.3               | 32  | 29  | 21  | 6/3/98        |
| MULRENNAN GROVES NORTH-UNITS IVA & IVB   | 007089           | 000    | SOUTHERN UTILITIES OF TAMPA,     | R               | 27.4               | 32  | 29  | 21  | 4/12/90       |
| BUCKINGHAM SUBDIVISION                   | 001775           | 000    | BROWNELL & HENDERSON, INC.       | R               | 40                 | 32  | 29  | 21  | 7/1/87        |
| VICTORY BAPTIST CHURCH OF BRANDON        | 016343           | 000    | VICTORY BAPTIST CHURCH OF        | S               | 2.09               | 32  | 29  | 21  | 5/28/97       |
| VALRICO GROVE SUBDIVISION                | 016992           | 001    | VALRICO GROVE HOA INC            | R               | 0.02               | 32  | 29  | 21  | 3/11/00       |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 33  | 29  | 21  | 5/12/95       |
| ST. PETERSBURG-SARASOTA CONNECTOR        | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 34  | 29  | 21  | 5/12/95       |
| PLANT CITY, CITY OF-HENRY AVON PAVING    | 011954           | 000    | CITY OF PLANT CITY               | P               | 1                  | 5   | 29  | 22  | 4/26/94       |
| RATTES, MAX-MEDICAL OFFICE BLDG          | 018640           | 000    | MAX F RATTES                     | C               | 0.84               | 5   | 29  | 22  | 3/4/99        |
| PLANT CITY HIGH SCHOOL                   | 003355           | 000    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 0.4                | 5   | 29  | 22  | 5/21/88       |
| BLOCKBUSTER VIDEO                        | 010030           | 000    | BARGER INTERESTS                 | C               | 0.88               | 5   | 29  | 22  | 4/28/92       |
| TALL TIMBERS                             | 014106           | 000    | A G INTERESTS INC                | R               | 12.15              | 5   | 29  | 22  | 7/27/96       |
| AUTOZONE-PLANT CITY                      | 016293           | 000    | EILEEN M THOMPSON                | C               | 1.21               | 5   | 29  | 22  | 4/12/97       |
| RACETRAC JAMES L REDMAN PKWY PLANT CITY  | 021634           | 000    | RACETRAC PETROLEUM INC           | C               | 3.13               | 5   | 29  | 22  | 2/14/01       |
| PLANT CITY H.S.-P.E.C.O. MAINT.          | 003355           | 001    | HILLSBOROUGH CO SCHOOL BOARD     | G               | 1                  | 5   | 29  | 22  | 4/21/89       |
| COLLINS PARK COMMONS                     | 005037           | 000    | J.A. MILES                       | C               | 7.2                | 5   | 29  | 22  | 1/7/89        |
| 7-ELEVEN @ SR39 & ALEXANDER STREET       | 019189           | 000    | HOGAN PLANT CITY LLC             | C               | 1.28               | 5   | 29  | 22  | 5/25/99       |
| GOLDEN CORRAL AT SR 39-PLANT CITY        | 018705           | 000    | LESLIE E VAN VLACK & ILLA M      | C               | 3.13               | 5   | 29  | 22  | 2/20/99       |
| MAKI CLUB APARTMENTS                     | 001313           | 000    | CHAMPAGNE-PLANT CITY PARTNERS    | R               | 7                  | 5   | 29  | 22  | 7/23/86       |
| PLANT CITY AUTOMART                      | 002560           | 000    | PARAMOUNT TRIANGLE               | C               | 2.5                | 5   | 29  | 22  | 1/16/88       |
| LORD OF LIFE OF LUTHERAN CHURCH          | 010877           | 000    | BOARD OF AMERICAN MISSIONS OF    | S               | 1.98               | 5   | 29  | 22  | 3/24/93       |
| GUTOWSKI & SARANKO MEDICAL CENTRE        | 016424           | 000    | JOHN SARANKO & GREGG GUTOWSKI    | C               | 4.9                | 5   | 29  | 22  | 6/21/97       |
| PLANT CITY SHOPPING CENTER               | 006190           | 006    | INLAND SE LAKE WALDEN LTD PTRSHP | C               | 20                 | 5   | 29  | 22  |               |
| BREWERS BRIDGEWAY                        | 021461           | 000    | ALEXANDER APARTMENTS             | R               | 1.77               | 5   | 29  | 22  | 11/8/00       |
| BOSTON CHICKEN RESTAURANT-PLANT CITY S/C | 008546           | 001    | LAKE WALDEN SQUARE LIMITED       | C               | 0.71               | 5   | 29  | 22  | 2/26/94       |
| PAYLESS SHOE STORE-PLANT CITY            | 004991           | 002    | 1801 REALTY LLC                  | C               | 0.18               | 5   | 29  | 22  |               |
| SPARKY'S DRIVE-THRU RESTAURANT           | 005384           | 000    | SAM & BETTY ASTIN, JR.           | C               | 0.8                | 5   | 29  | 22  | 3/8/89        |

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| PROJECT NAME                            | PERMIT<br>NUMBER | NUMBER | PERMITTEE                        | PROJECT<br>TYPE | PROJECT<br>ACREAGE | SEC | TWN | RNG | ISSUE<br>DATE |
|-----------------------------------------|------------------|--------|----------------------------------|-----------------|--------------------|-----|-----|-----|---------------|
| YMCA PLANT CITY FAMILY BRANCH           | 021445           | 000    | TAMPA METROPOLITAN AREA YMCA,    | S               | 7.2                | 5   | 29  | 22  | 2/9/01        |
| WAGONER MEMORIAL CHURCH OF THE NAZARENE | 010479           | 000    | WAGONER MEMORIAL CHURCH OF THE   | S               | 3.5                | 6   | 29  | 22  | 11/24/92      |
| SUNCOAST SCHOOLS FEDERAL CREDIT UNION   | 017173           | 000    | SUNCOAST SCHOOLS FEDERAL CREDIT  | C               | 4.81               | 6   | 29  | 22  | 12/20/97      |
| WATSON CLINIC LLP-PLANT CITY            | 015754           | 000    | WATSON CLINIC LLP                | C               | 3.3                | 6   | 29  | 22  | 12/6/96       |
| PLANT CITY CHURCH OF GOD                | 022238           | 000    | PLANT CITY CHURCH OF GOD         | S               | 10.95              | 6   | 29  | 22  | 7/26/01       |
| EVANGELICAL PRESBYTERIAN CHURCH         | 017202           | 000    | EVANGELICAL PRESBYTERIAN CHURCH  | S               | 25.26              | 8   | 29  | 22  | 12/24/97      |
| LIVING SAVIOR LUTHERAN CHURCH           | 017312           | 000    | ROSEMARY D PIERCE                | S               | 1.64               | 1   | 30  | 20  | 12/10/97      |
| BROOKER TRACE SUBDIVISION               | 001022           | 000    | FIRST FLORIDA DIVERSIFIED        | R               | 10                 | 1   | 30  | 20  | 5/22/86       |
| FANTASIA MOBILE HOME PARK               | 000595           | 000    | UNIVERSITY DEVELOPMENT, INC.     | R               | 82                 | 18  | 30  | 20  | 11/7/85       |
| ST. PETERSBURG-SARASOTA CONNECTOR       | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 3   | 30  | 21  | 5/12/95       |
| BRANDON SOUTH-CENTRAL CONNECTION        | 021992           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 46.8               | 5   | 30  | 21  | .             |
| BRANDON SOUTH-CENTRAL CONNECTION        | 021992           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 46.8               | 8   | 30  | 21  | .             |
| ST. PETERSBURG-SARASOTA CONNECTOR       | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 10  | 30  | 21  | 5/12/95       |
| ST. PETERSBURG-SARASOTA CONNECTOR       | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 14  | 30  | 21  | 5/12/95       |
| ST. PETERSBURG-SARASOTA CONNECTOR       | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 15  | 30  | 21  | 5/12/95       |
| BRANDON SOUTH-CENTRAL CONNECTION        | 021992           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 46.8               | 16  | 30  | 21  | .             |
| BRANDON SOUTH-CENTRAL CONNECTION        | 021992           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 46.8               | 17  | 30  | 21  | .             |
| BRANDON SOUTH-CENTRAL CONNECTION        | 021992           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 46.8               | 20  | 30  | 21  | .             |
| BRANDON SOUTH-CENTRAL CONNECTION        | 021992           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 46.8               | 21  | 30  | 21  | .             |
| BRANDON SOUTH-CENTRAL CONNECTION        | 021992           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 46.8               | 22  | 30  | 21  | .             |
| ST. PETERSBURG-SARASOTA CONNECTOR       | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 23  | 30  | 21  | 5/12/95       |
| ST. PETERSBURG-SARASOTA CONNECTOR       | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 25  | 30  | 21  | 5/12/95       |
| ST. PETERSBURG-SARASOTA CONNECTOR       | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 26  | 30  | 21  | 5/12/95       |
| BRANDON SOUTH-CENTRAL CONNECTION        | 021992           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 46.8               | 31  | 30  | 21  | .             |
| BRANDON SOUTH-CENTRAL CONNECTION        | 021992           | 000    | TAMPA BAY WATER A REGIONAL       | G               | 46.8               | 32  | 30  | 21  | .             |
| ST. PETERSBURG-SARASOTA CONNECTOR       | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 30  | 30  | 22  | 5/12/95       |
| ST. PETERSBURG-SARASOTA CONNECTOR       | 009940           | 001    | FLORIDA GAS TRANSMISSION COMPANY | C               | 217.8              | 31  | 30  | 22  | 5/12/95       |
| RAMIREZ PARKING LOT                     | 004287           | 000    | LUZ V. RAMIREZ                   | C               | 0.2                | 23  | 40  | 22  | 10/8/88       |

## **APPENDIX D - REGULATORY JURISDICTIONS IN THE LAKE THONOTOSASSA WATERSHED**

### **Federal Jurisdictions**

Federal jurisdiction in the Lake Thonotosassa watershed involves regulatory responsibilities of the U.S. Army Corps of Engineers (ACOE), the U.S. Environmental Protection Agency (EPA), the U.S. Coast Guard, and the U.S. Fish and Wildlife Service (FWS). The main regulatory functions of these agencies include overseeing dredge and fill activities, maintaining navigability of waters of the United States, overseeing clean-ups following pollution spills, protecting endangered species and protecting overall environmental quality.

#### **U.S. Army Corps of Engineers**

The ACOE is concerned with all activities which affect navigable waters of the United States, particularly those involving construction of structures and dredging and filling in navigable waters. The ACOE is also involved in permitting the placement of dredge and fill material into navigable waters and adjacent wetlands and in partial funding of aquatic plant control in navigable and public waters. A revision of the Rivers and Harbors Act of 1968 allows the ACOE to consider fish and wildlife, conservation, pollution, aesthetics, ecology and other relevant factors of a project. The ACOE regulatory program was further expanded in 1972 with the passage of the Federal Water Pollution Control Act Amendments, also known as the Clean Water Act. The discharge of dredge and fill into United States waters is regulated by the ACOE under section 404 of this act. The ACOE jurisdiction was extended to wetlands through a Supreme Court order in 1975, and amendments to the Clean Water Act in 1977 (Barile et al. 1987). The ACOE also contributes 50% of the funds reimbursed to SWFWMD by FDEP for aquatic plant control.

#### **U.S. Environmental Protection Agency**

The EPA is the primary federal agency responsible for water quality protection. The agency oversees hazardous waste cleanups, protection of public drinking water systems, all point source discharges in waters of the United States (through the National Pollutant Discharge Elimination System permit program), and the protection and restoration of surface and groundwater. The agency also reviews ACOE permit activities, sets minimum quality standards and sets guidelines for state environmental programs. The EPA also funds sewage system improvements through the Florida Department of Environmental Protection.

#### **U.S. Coast Guard**

The Coast Guard's mission includes hazardous materials cleanups, search and rescue, buoys placement, vessel safety inspection and right-of-way clearance on navigable waterways. Since Lake Thonotosassa is a navigable water, it is monitored by the Coast Guard.

#### **U.S. Fish and Wildlife Service**

The FWS is responsible for oversight of federal programs for fish and wildlife as authorized in the Coast Resources Barrier Act, National Environmental Protection Act, Migratory Bird Act, Endangered Species Act, and Fish and Wildlife Coordination Act. "Under provisions of the Fish and Wildlife Coordination Act, the FWS must be consulted before the ACOE can submit

a plan for Congressional approval. The FWS comments on the impacts of proposed projects on endangered species, migratory birds, and other fish and wildlife and their habitats" (Barile et al. 1987). The FWS is directed to prepare environmental impact assessments or statements for proposed ACOE projects under provisions of the National Environmental Protection Act, and is authorized under the Endangered Species Act to issue a "Jeopardy Opinion" against any proposed project which will negatively effect an endangered species (Barile et al. 1987).

## **State Jurisdictions**

Many state agencies are involved in environmental regulation and resource management in the Lake Thonotosassa watershed. They include the Florida Department of Environmental Protection (FDEP), the Florida Department of Community Affairs (DCA), the Florida Fish and Wildlife Conservation Commission (FFWCC, formerly the Florida Game and Freshwater Fish Commission), the Florida Department of Agriculture and Consumer Services (DACS), and the Florida Department of Health and Rehabilitative Services (HRS).

### **Florida Department of Environmental Protection**

The FDEP, formed when the Departments of Environmental Regulation and Natural Resources were combined into a single agency (July 1993) has all the responsibilities of the previous departments. It receives its authority partly from state law and partly from programs delegated by the EPA. The FDEP is the lead agency involved in water quality, pollution control, and resource recovery programs. The FDEP sets state water quality standards and has permit jurisdiction over point and non-point source discharges, certain dredge and fill activities, drinking water systems, power plant siting, and many construction activities conducted in waters of the State. The FDEP also interacts closely with other federal and state agencies on water related matters, and the FDEP and the District share responsibilities in non-point source and wetland permitting.

The FDEP is the primary reviewing agency for SWIM plans and is responsible for the disbursement of monies from the SWIM Trust Fund to the water management districts.

### **Florida Department of Community Affairs**

The DCA is responsible for reviewing local comprehensive plans and has jurisdiction over developments of regional impact (DRI's). DRI investigations are concerned with proposed developments which have the potential to affect the health, safety or welfare of more than one county.

### **Fish and Wildlife Conservation Commission**

It is the mission of the FFWCC to manage freshwater aquatic life and wild animal life and their habitats to perpetuate a diversity of species with densities and distributions that provide sustained ecological, recreational, scientific, educational, aesthetic and economic benefits. Its efforts within the SWIM plan area primarily involve freshwater sport and commercial fishing, fisheries research wildlife monitoring, enforcement of fisheries/wildlife regulations, listed species protection, wildlife research, development review and regional planning.

With regard to Lake Thonotosassa, the FFWCC is directed to review the SWIM plan to determine if the plan has adverse effects on wild animal life and freshwater aquatic life. Additionally, the FFWCC participates in law enforcement on the lake and coordinates with all agencies concerning all matters affecting the lake.

#### **Florida Department of Agriculture and Consumer Services**

The DACS, through its Division of Agriculture and Environmental Services regulates the registration and use of pesticides, including the purchase of restricted pesticides, maintains registration and quality control of fertilizers, regulates and licenses pest control operations and herbicide applicators, mosquito control and evaluates and manages environmental impacts associated with agrichemicals.

#### **Florida Department of Health and Rehabilitative Services**

"The Department of Health and Rehabilitative Service responsibilities include the public health functions of water supplies (primarily small to medium supplies), onsite sewage disposal, septic tank cleaning and waste disposal (in conjunction with FDER), and solid waste control (secondary role)" (Barile et al. 1987).

The HRS is responsible for permitting of septic systems and other on-site disposal systems through its county health departments. It also coordinates mosquito control programs.

#### **Regional Jurisdictions**

There are numerous programs and regional agencies whose jurisdictions lie within the Lake Thonotosassa watershed. Of these, four are likely to be involved in or concerned with implementation of the revised Lake Thonotosassa SWIM Plan. They are the Tampa Bay Regional Planning Council, the Hillsborough County City-County Planning Commission (Planning Commission), the Tampa Port Authority and the Southwest Florida Water Management District (District).

The Tampa Bay Regional Planning Council is the Regional Planning Agency designated in Section 186.505 of the Florida Statutes. It performs the responsibilities described in that section and the Regional Planning Agency roles assigned in Section 380.05, F.S. which includes resource planning committees, DRI reviews and Chapter 163 local plan reviews.

The Planning Commission is the official land planning agency for all local governments in Hillsborough County as well as a lay advisory board appointed by all local governments in Hillsborough County. Established in 1959 by a special act of the Florida legislature, the Planning Commission was created as a joint city-county agency; its legal authority is the Laws of Florida: 97-351. The Planning Commission is responsible for coordinated, long-range planning throughout Hillsborough County and the cities of Tampa, Plant City, and Temple Terrace.

Under the terms of its establishment, the Tampa Port Authority was given jurisdiction over the sovereign lands underlying Tampa Bay, the Hillsborough River, Lake Thonotosassa, and Lake Keystone. Before commercial docks can be placed in one of these waterbodies, a submersed

land lease is required from the Port Authority. Residential docks also must meet certain Port Authority requirements. Any other activity conducted on the relevant submerged sovereign lands require consent from the Port Authority.

The District is responsible for performing the duties assigned under Chapter 373, F.S. as well as duties delegated through the FDEP for Chapters 253 and 403, F.S., and for local plan review under Chapter 163, F.S. The District performs those duties for the entire Lake Thonotosassa watershed.

### **Local Jurisdictions**

There are three local governments with jurisdictions within the Lake Thonotosassa watershed: the City of Plant City, Hillsborough County, and the Environmental Protection Commission (EPC) of Hillsborough County. Both the City of Plant City and Hillsborough County play an important role in management of the lake through daily management of their communities, by the way of planning, zoning, and other land use decisions and the implementation and enforcement of local codes.

Hillsborough County's primary land development regulations include subdivision regulations, site development regulations, the land alteration and landscaping ordinance, the land excavation ordinance, and the zoning code. In addition, all county land development regulations must be consistent with the county's "2020 Comprehensive Plan" for managing growth, which is also a county ordinance.

In addition to regulating land use, the county has also established an environmental lands acquisition and protection program (ELAPP). Since its inception in 1987, approximately 900 acres of environmentally sensitive land within the Lake Thonotosassa watershed have been placed on the "approved acquisition" list, although none of this acreage has yet been purchased.

Both the City of Plant City and Hillsborough County have utilized the SWFWMD's cooperative funding program to assist the SWIM Program in the development and implementation of various stormwater improvement projects within the Lake Thonotosassa watershed. These projects are detailed in the "management strategies for water quality" section of this document.

Finally, the Hillsborough County EPC has the authority to implement and enforce the provisions of the "Hillsborough County Environmental Protection Act" (Chapter 84-446, Laws of Florida) and to adopt the appropriate rules and regulations necessary for implementation and enforcement. The EPC's authority covers issues affecting water, air, and noise pollution. In addition, the EPC is responsible for the protection of wetlands within Hillsborough County.