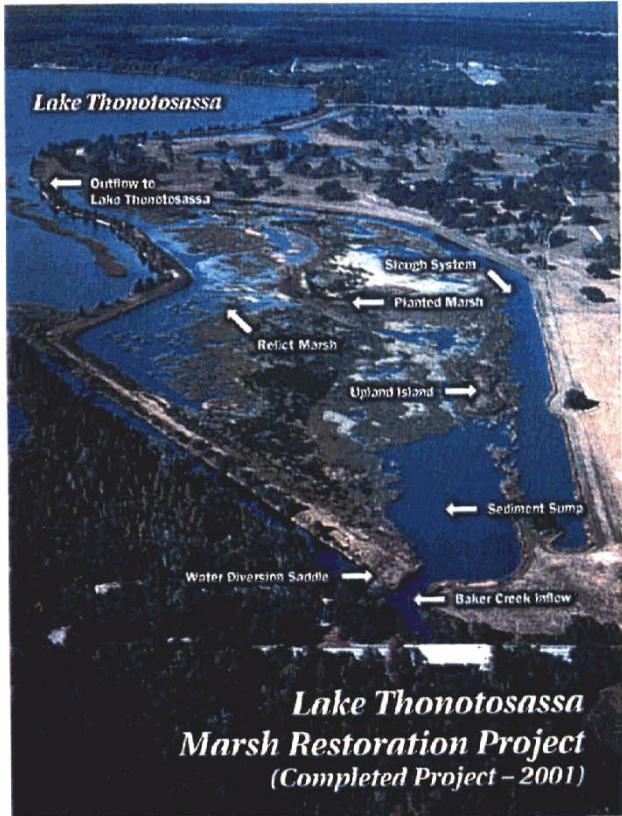
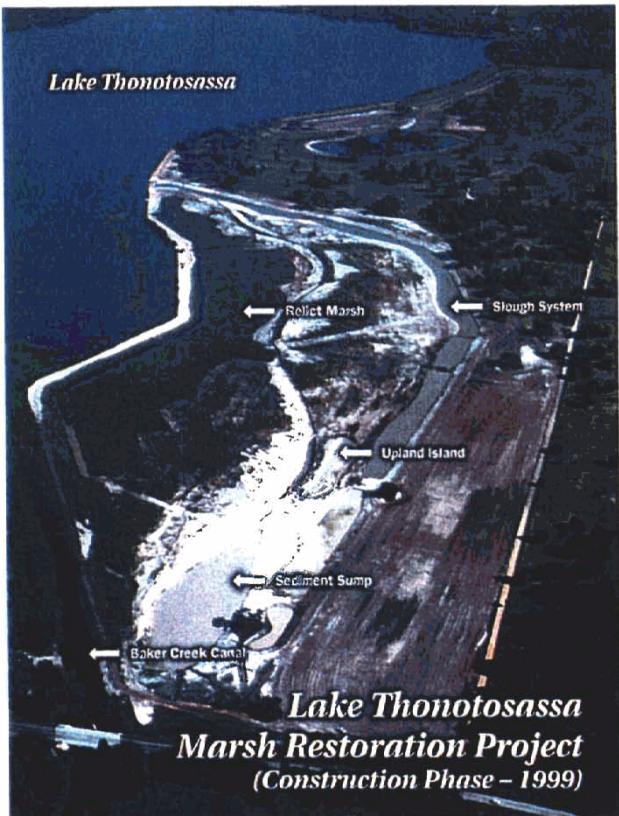


Lake Thonotosassa

Surface Water Improvement and Management (SWIM) Plan



**Southwest Florida
Water Management District**

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February 2003

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ACKNOWLEDGMENTS

Although there are too many individuals to list by name, the District would like to acknowledge the hard work of the following agencies for their assistance in preparing and implementing the Lake Thonotosassa SWIM Plan.

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 "propogation 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

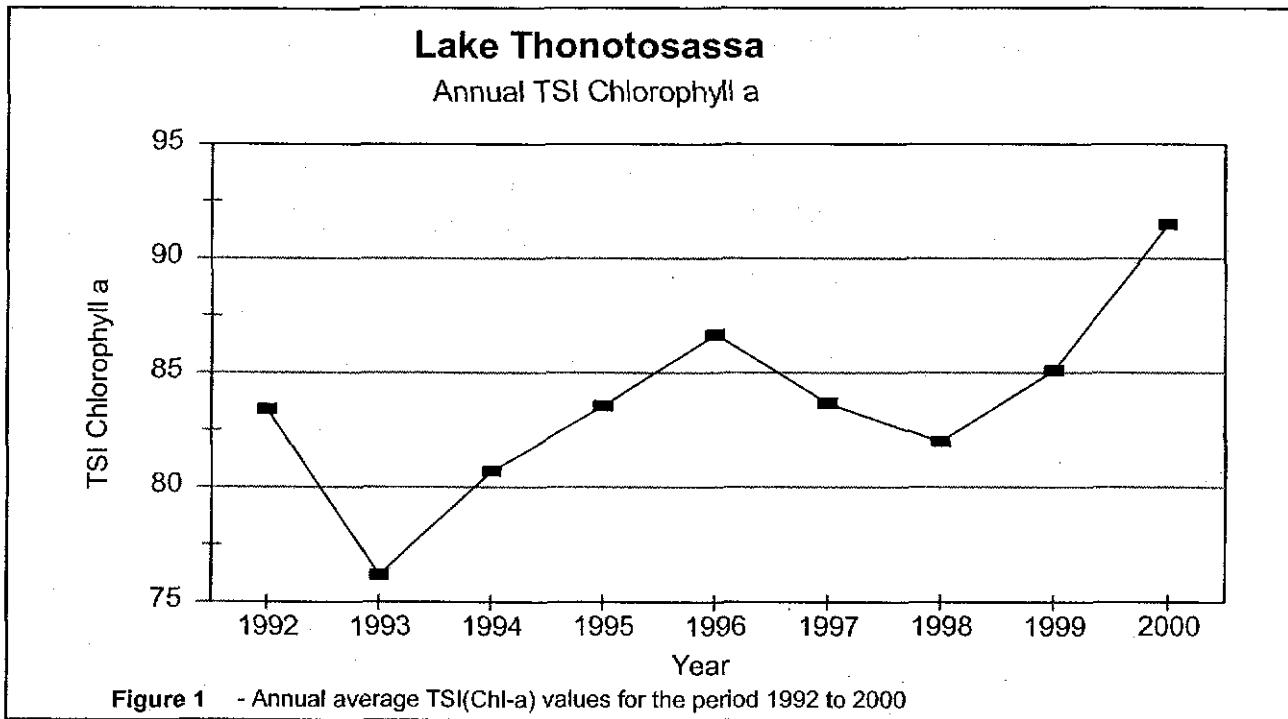
As eutrophication has proceeded within the lake, water quality degradation has also affected resident fish populations. Approximately 90% of the fish present in the lake are estimated to have died during the fish kill that occurred in 1969 (Cowell et al. 1975). Other documented fish kills occurred in 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 (mg/l)	CHLa (ug/l)	TOTAL P (mg/l)	TOTAL N (mg/l)	TN:TP (mg/l)	SECCHI DEPTH (m)	TSI CHLa (mg/l)	TSI N (mg/l)	TSI P (mg/l)	TSI NUTR (mg/l)	TSI SECCHI (mg/l)	TSI AVG (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) 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 (*Pontederia 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 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.

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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

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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

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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	FY 2004	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

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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.

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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 ($s.e.y_{ix}$) 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 ± 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 $TSI_{avg} = 60$ (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 ($TP=0.07 \text{ mg/l}$ 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 $TSlavg = 60$, 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 ($s.e.y_{ix}$) for equation (6) is 0.136 mg L⁻¹ (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.

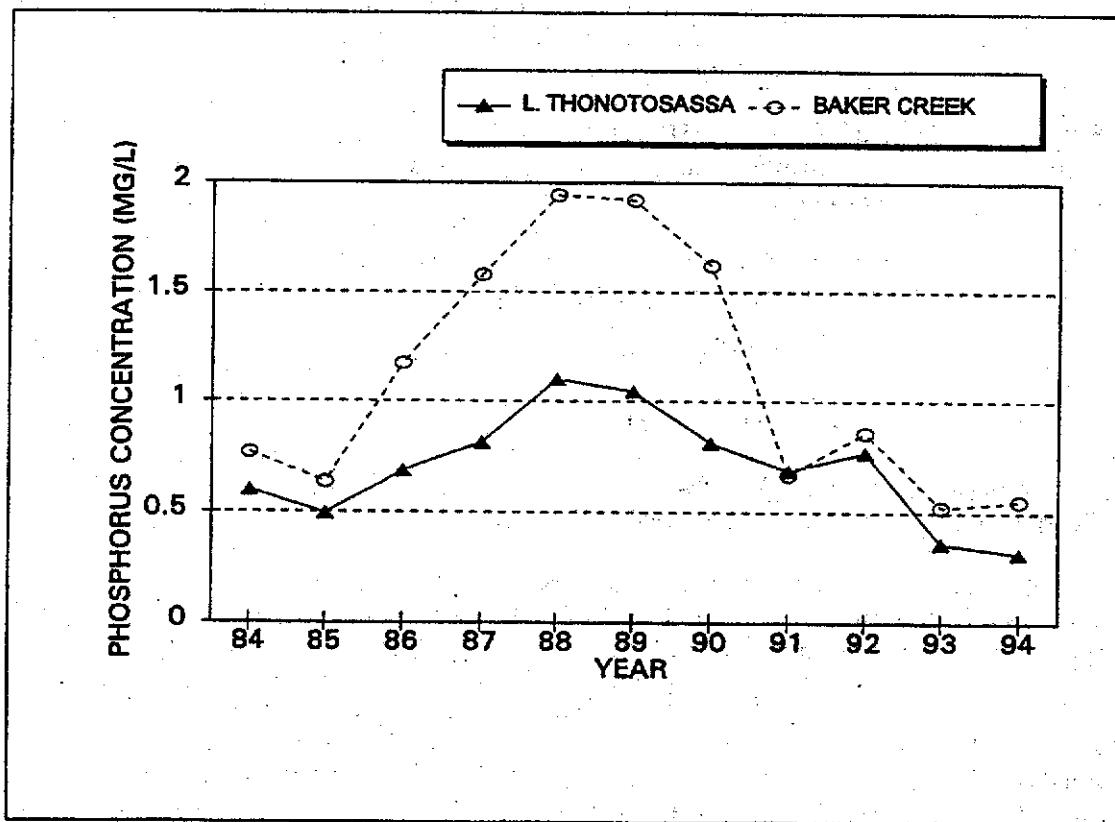


Figure A-1. Observed total phosphorous concentrations at EPC stations 107 (mouth of Baker Creek) and 135 (mid-lake). Plotted values are unweighted averages of 12 monthly measurements per year for the period 1984-1994.

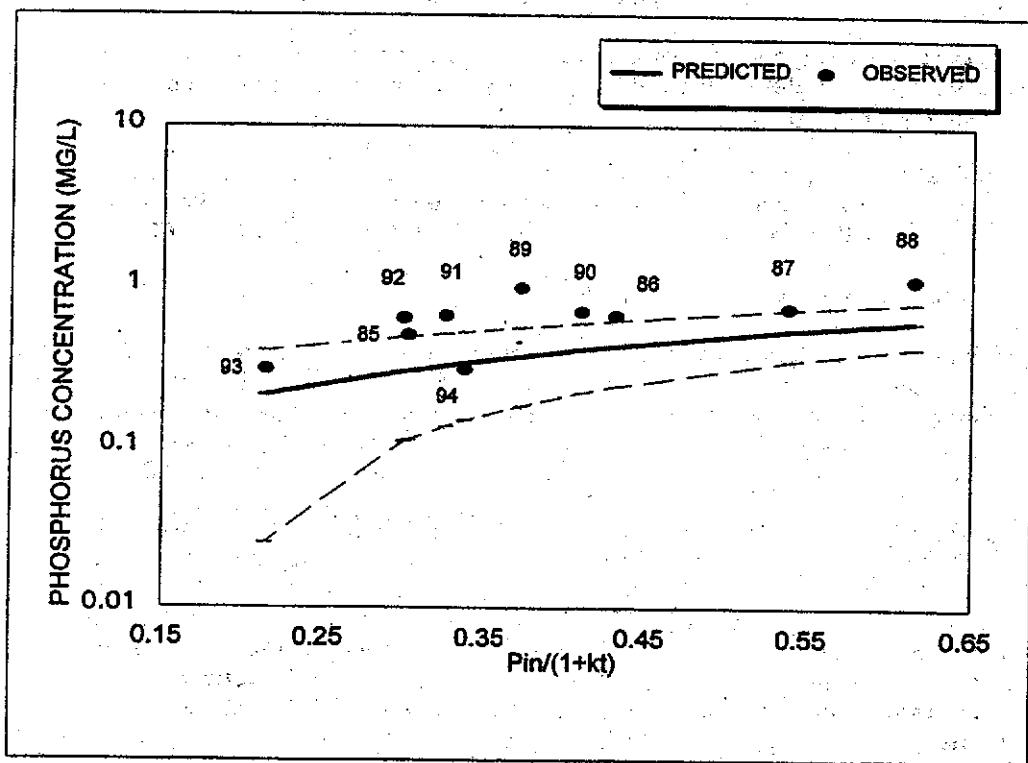


Figure A-2. Observed (EPC station 135, volume-weighted) and predicted (EUTROMOD) total phosphorous concentrations in Lake Thonotosassa. Error bars indicate ± 1 s.e. (y_{ix}) of EUTROMOD predicted value. Numerals adjacent to data points indicate year (1985-1994).

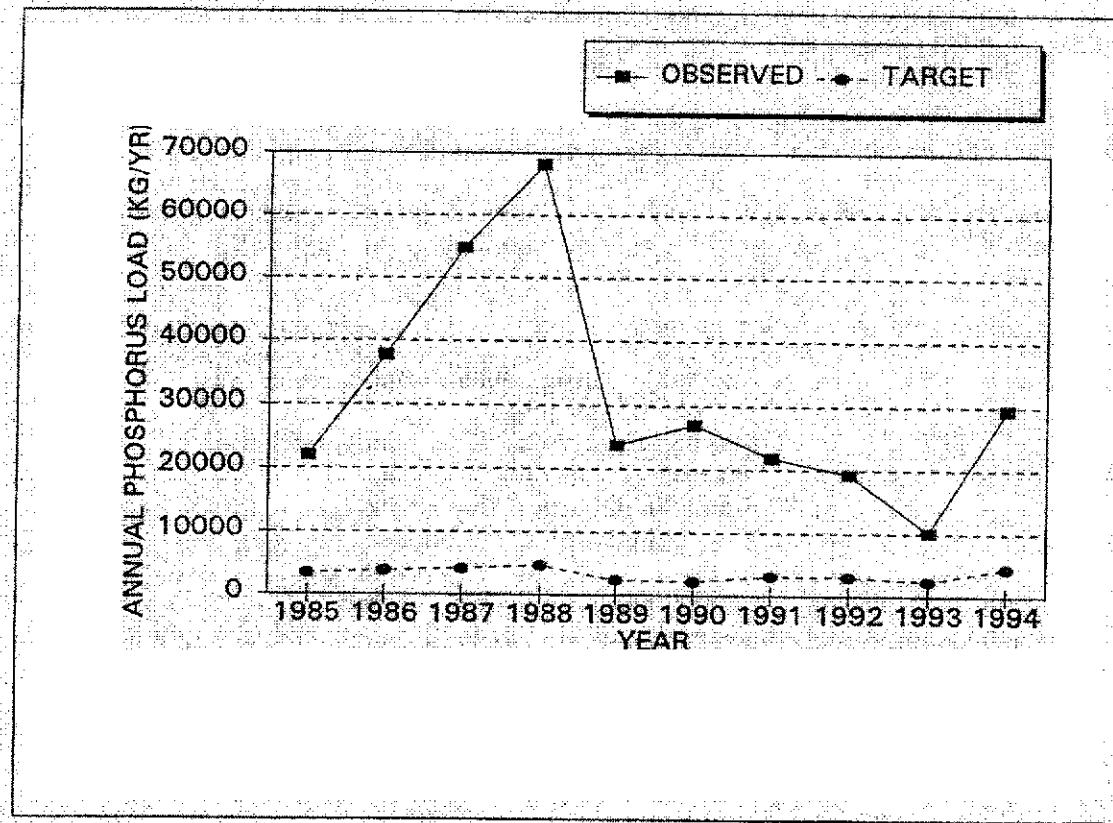


Figure A-3. Observed (EPC station 107, volume-weighted) and target (EUTROMOD) total phosphorous loadings, 1985-1994.

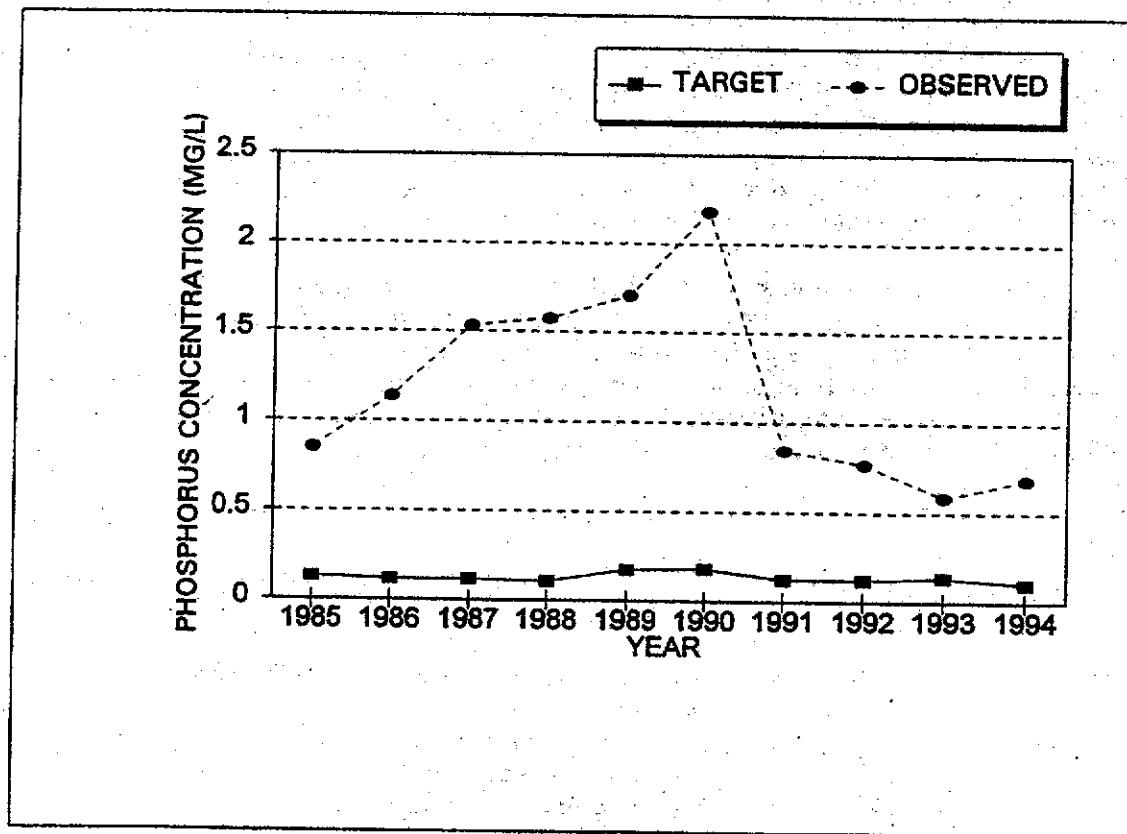


Figure A-4. Observed (EPC station 107) and target (EUTROMOD) total phosphorous concentrations, 1985-1994.

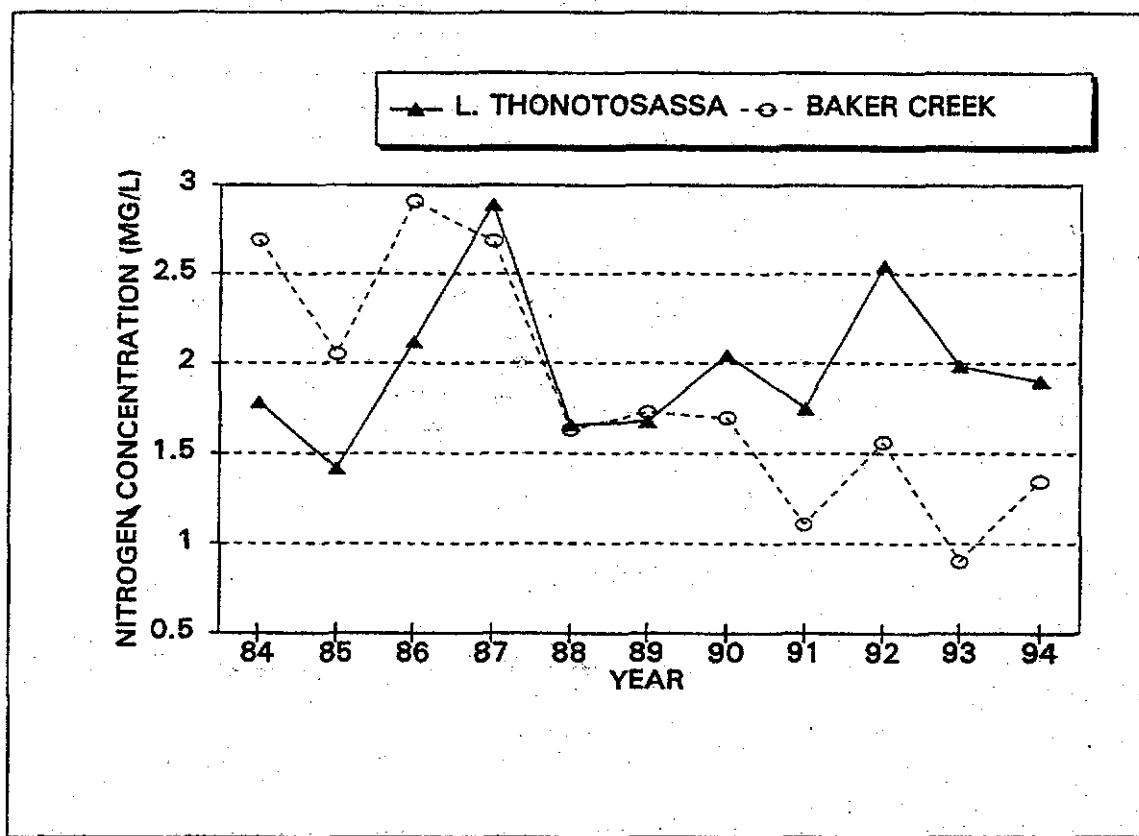


Figure A-5. Observed total nitrogen concentrations at EPC stations 107 (mouth of Baker Creek) and 135 (mid-lake). Plotted values are unweighted averages of 12 monthly observations per year.

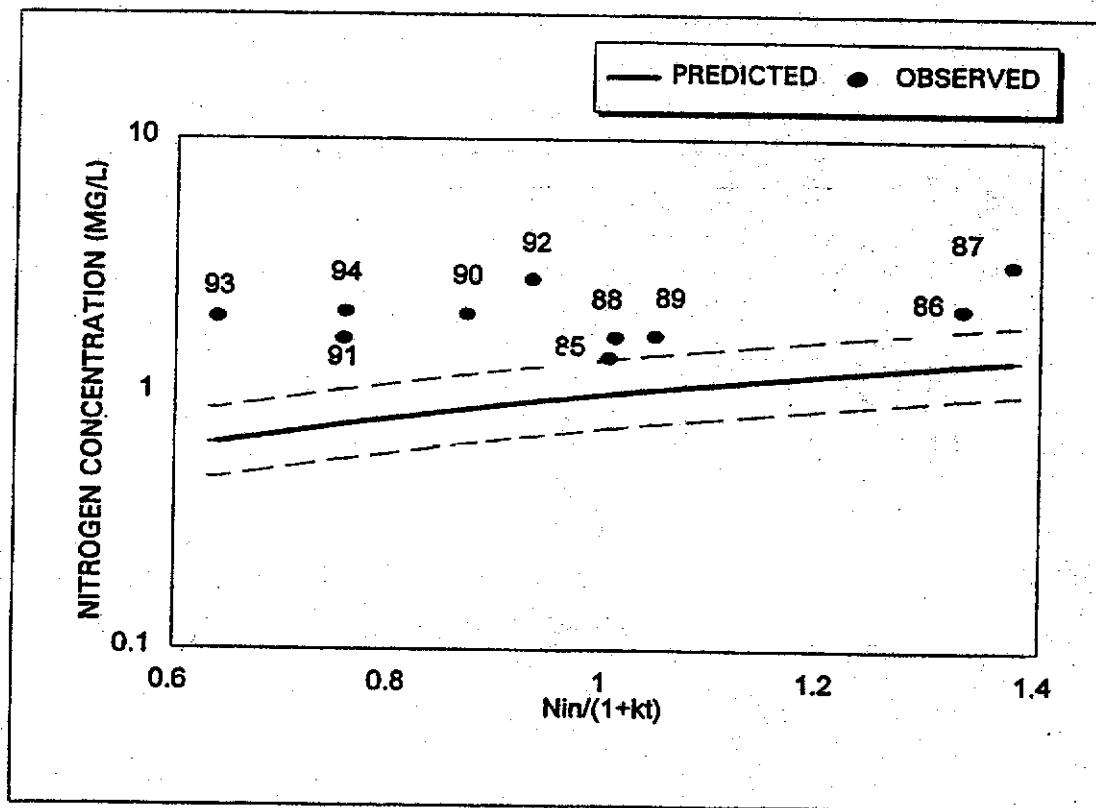


Figure A-6. Observed (EPC station 135, volume-weighted) and predicted (EUTROMOD) total nitrogen concentrations in Lake Thonotosassa. Error bars show ± 1 s.e._(yix) of EUTROMOD predicted values. Numerals adjacent to data points indicate year (1985-1994).

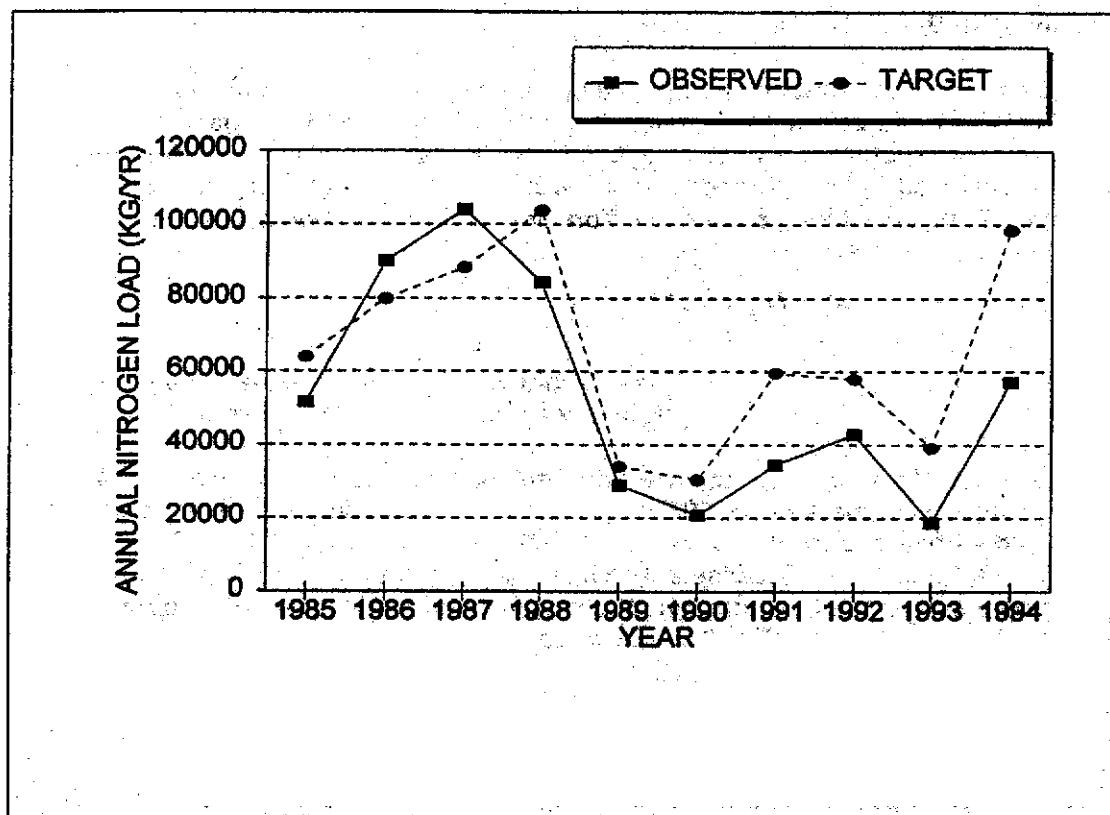


Figure A-7. Observed (EPC station 107, volume-weighted) and target (EUTROMOD) total nitrogen loadings, 1985-1994.

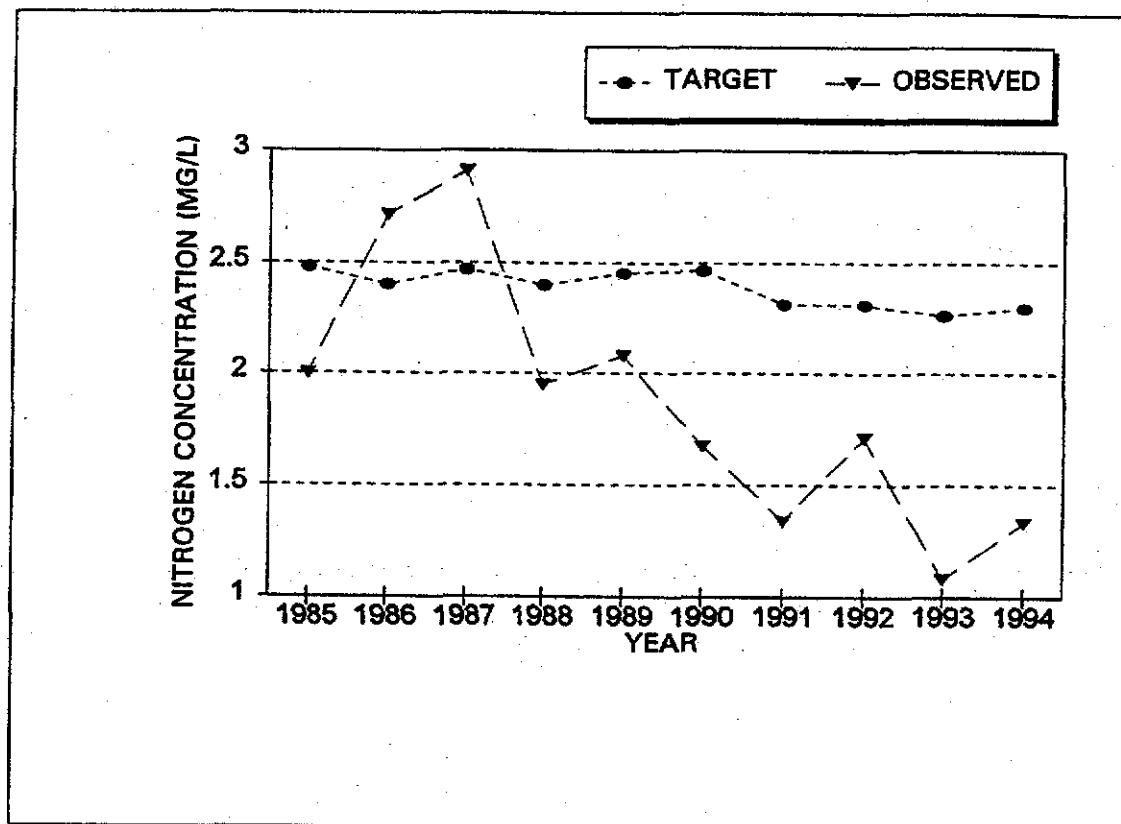


Figure A-8. Observed (EPC station 107, volume-weighted) and target (EUTROMOD) total nitrogen concentrations, 1985-1994.

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.

Land Use Classification	Acres	Percent
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 Utilities	948.5	02.07
Total	45,655.8	100.00

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.

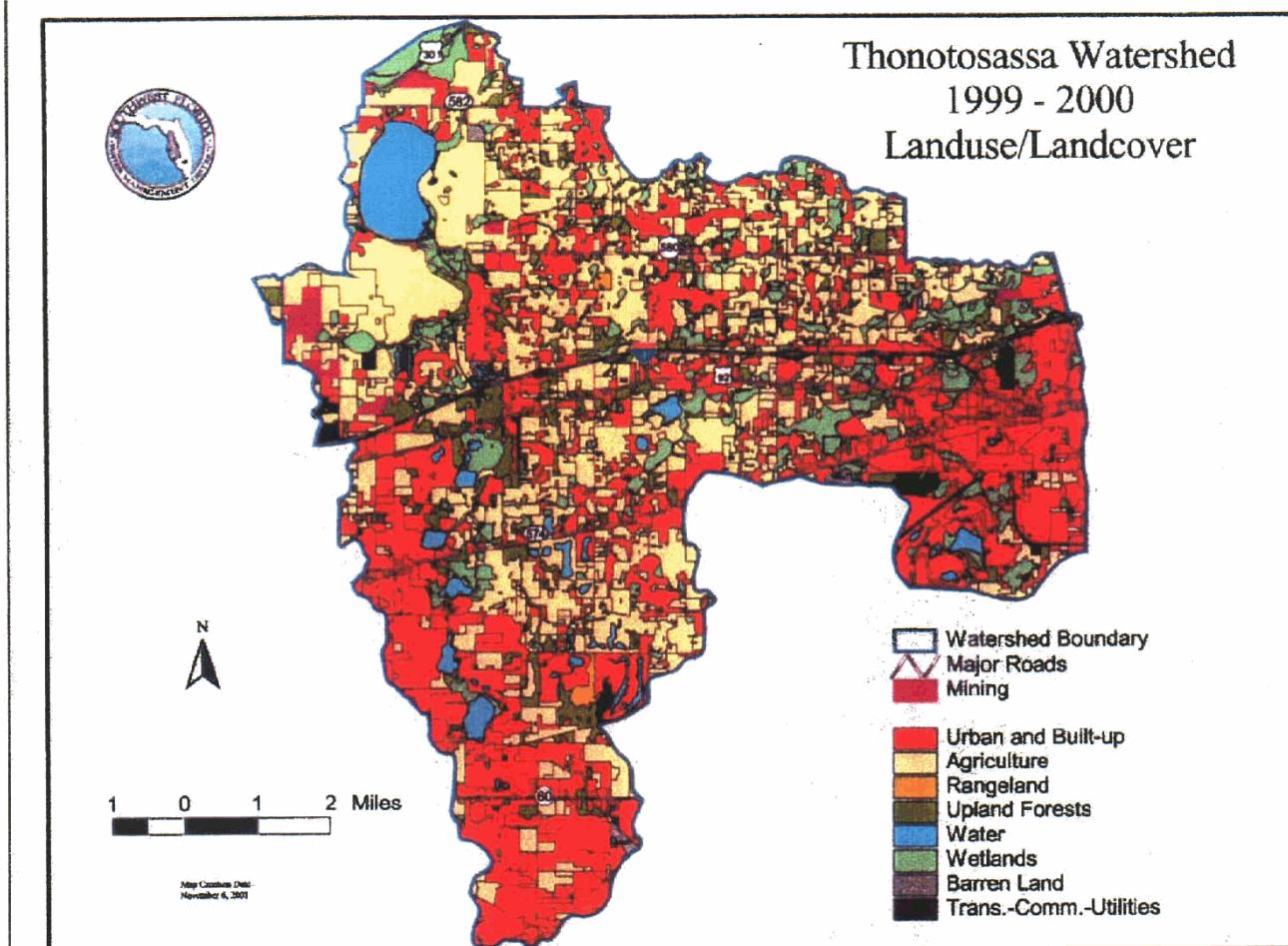


Figure B-1. 1999/2000 land uses in the Lake Thonotosassa watershed.

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

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

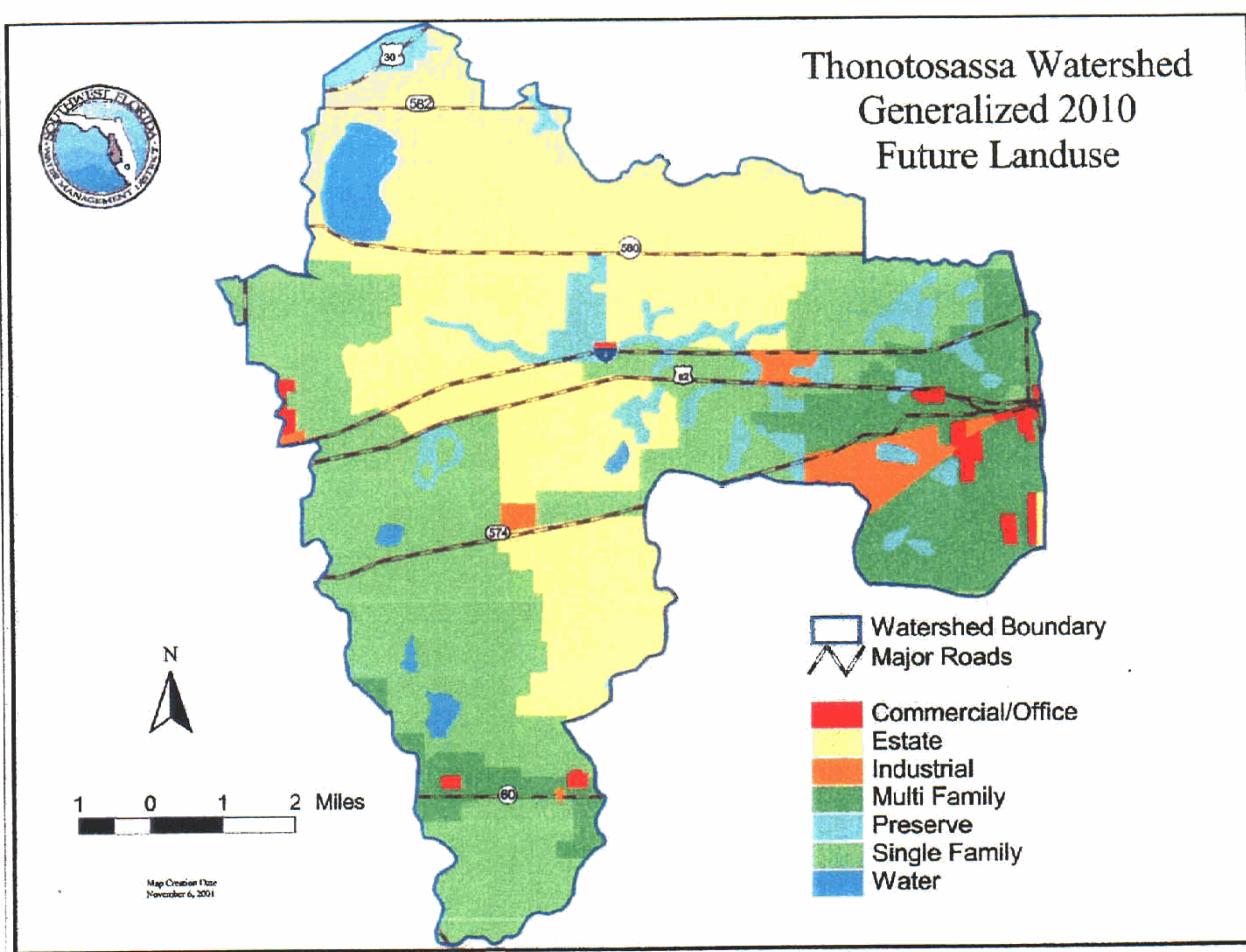


Figure B-2. 2010 future land uses in the Lake Thonotosassa watershed.

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

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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
8625184	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-PLANTEEN 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	1666 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 EVER	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	MCGINNES LUMBER CO	402 EVER ST	NFA	Y	N	N	N
8841485	CMPL	MESSICKS SERVICE	1601 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	Y
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	PRESCO FOOD STORE #13	504 PLANT AVE	RA	N	N	Y	Y
8625046	APPL	PRESCO FOOD STORE #15	3501 W BAKER ST	NREQ				
8625046	APPL	PRESCO FOOD STORE #15	3501 W BAKER ST	ENTD		N	Y	N
8625045	ONGO	PRESCO 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		CMP'L SPUR-SPARKY'S FOOD STORE	410 N ALEXANDER ST	NFA	N	N	Y	Y
8823914		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
8825585		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
FLD981466932	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'S 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	JIFFY LUBE STORE #1629	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
33566LYKSBLYKES	FLD00428561	LYKES BROS. INC.	LYKES & TURKEY CREEK RD.	FL7000017443
33566NTRNT105SO	FLD065680613	INTERNATIONAL PETROLEUM CORP.	105 S. ALEXANDER ST.	FL9000035940
33567CHMCL4206B	FL000065329	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	Schuylkill 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 SAMMONDS 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	MCOONALD 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
FLA012638	PFG FLORIDA (FKA B&R FOODS)	3150 GALLAGHER ROAD	IW	A	
FL0026557	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 NUMBER	NUMBER	PERMITTEE	PROJECT TYPE	PROJECT ACREAGE	SEC	TWN	RNG	ISSUE 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-I/4 FROM 1/75 TO MCINTOSH SEGT 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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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	SABRIO 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-THONOTSSASSA 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. TURNERY	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. TURNERY	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	
EPPS NURSERY INC-FIELD OFFICES	022209	000	EPPS 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	6/23/01
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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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-RITTER 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 LOGISITICS	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 MANFACTURING	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
WOODBRIDGE 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 I 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 & NATHEL PACKING PLANT	003496 005	WISHMATZKI & NATHEL, 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 & NATHEL-PACKING PLANT	003496 001	WISHMATZKI & NATHEL, 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
BURNETT 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 STRAUGH	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	ABDALLAH 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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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
LAKE MONT 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
LAKE MONT 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
LAKE MONT 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 MUTASIO	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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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 NUMBER	NUMBER	PERMITTEE	PROJECT TYPE	PROJECT ACREAGE	SEC	TWN	RNG	ISSUE 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.

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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.