POTABLE WATER SUPPLY, WASTEWATER, AND REUSE ELEMENT

of the

PINELLAS COUNTY COMPREHENSIVE PLAN

Prepared By:

The Pinellas County Planning Department

as staff to the

LOCAL PLANNING AGENCY

for

THE BOARD OF COUNTY COMMISSIONERS
OF PINELLAS COUNTY, FLORIDA

Amended January 29, 2013 (Ordinance 13-04)
In the late 1970s and early 1980s, Pinellas County adopted its first Comprehensive Plan for managing growth in the County. In 1985, the Florida Legislature strengthened the growth management provisions of Chapter 163, Florida Statutes, and Pinellas County began to develop its new Plan, with a greater emphasis on integrated planning and consistency with other State and Regional planning efforts. In 1989, the Pinellas County Board of County Commissioners was one of the first governments to meet the new growth management requirements with the adoption of its new Comprehensive Plan. This Plan placed new emphasis on financial feasibility, and the assurance that public services and facilities would be available concurrent with the impacts of development. Chapter 163, Florida Statutes, also includes specific requirements for regularly evaluating the continued effectiveness of the Comprehensive Plan, and requires that local governments update their Plans to address significant issues identified through this evaluation and appraisal process. The first major update to the Comprehensive Plan was adopted by the Board of County Commissioners in 1998. In 2008, the Board of County Commissioners adopted the next significant update to the Plan, following a multi-year evaluation process, which included extensive public and agency involvement to ensure that the Plan remained relevant, providing appropriate direction to decision-making and sound guidance for future planning.

Today, the Pinellas County Board of County Commissioners has a mature Comprehensive Plan and growth management program, based on over 30 years of comprehensive planning experience. The emphasis and theme of the Plan is the need to plan appropriately today in order to achieve a sustainable future, and a quality community where people will Plan to Stay.

The individual Elements and related components of the Plan provide an integrated long range planning program designed to address both existing and future needs. Where multi-jurisdictional responsibilities exist, the Elements may address the entire County; other Elements address just the unincorporated County. Following are the Elements and related components of the Pinellas County Comprehensive Plan:

Planning to Stay, Future Land Use and Quality Communities; Transportation; Natural Resource Conservation and Management; Coastal Management; Housing; Intergovernmental Coordination; Recreation, Open Space and Culture; Potable Water, Wastewater and Reuse; Solid Waste and Resource Recovery; Surface Water Management; Capital Improvements; Public School Facilities, Economic, The Concurrency Management System; and The Monitoring and Evaluation Procedures.

Pinellas County complies with the Americans with Disabilities Act. To obtain accessible formats of this document, please contact the Pinellas County Communications Department at (727) 464-4600 / TDD (727) 464-4431.
Table of Contents

PREFACE ............................................................................................................................................. i

LOCATION MAP ..................................................................................................................................... ii

GOALS, OBJECTIVES AND POLICIES* .................................................................................................. GOPs-1

1- POTABLE WATER SUPPLY

Overview .............................................................................................................................................. 1-1

The Life Cycle of Water: Where our Water Comes From and Where It Goes .................. 1-1

The Hydrologic Cycle ...................................................................................................................... 1-1

Pinellas County Depends on Rainfall for Water ........................................................................... 1-1

History of Potable Water Supply Development in Pinellas County ........................................... 1-2

Early Potable Water Supply Development .................................................................................. 1-2

The Inception of the Southwest Florida Water Management District .......................... 1-3

The Inception of the West Coast Regional Water Supply Authority ........................................ 1-3

The Inception of Tampa Bay Water and Its Responsibilities ..................................................... 1-3

Potable Water Systems and Water Demand Planning Areas in Pinellas County ................. 1-4

Pinellas County Utilities Water Demand Planning Area ............................................................. 1-4

City of Clearwater Water System ................................................................................................. 1-6

City of Dunedin Water System ........................................................................................................ 1-6

City of Tarpon Springs Water System .......................................................................................... 1-7

City of St. Petersburg Water System ............................................................................................ 1-7

Tampa Bay Water as the Regional Potable Water Supplier ...................................................... 1-7

Master Water Plan and Potable Water Facilities ......................................................................... 1-7

Tampa Bay Water Master Water Plan ............................................................................................ 1-8

Estimated and Projected Water Demand Planning in Pinellas County ........................................ 1-11

Non-household Water Use ............................................................................................................. 1-11

Potable Water Demand in the Pinellas County Water Demand Planning Area .................. 1-12

Adopted Level-of-Service Standard for Water Supply ............................................................. 1-14

Participating in Water Supply Planning at the Regional Level .................................................. 1-14

Southwest Florida Water Management District Regional Water Supply Plan ................... 1-15

Pinellas County’s 10-Year Water Supply Facilities Plan ............................................................ 1-15

Meeting Potable Water Demands ................................................................................................. 1-16
# Table of Contents

(continued)

Reducing Groundwater Withdrawals ........................................................................................................ 1-16
Tampa Bay Water’s Master Plan.................................................................................................................. 1-16
Tampa Bay Water Alternative Sources and Storage Methods ................................................................. 1-17
Surface Water Withdrawals....................................................................................................................... 1-17
Seawater Desalinization ............................................................................................................................. 1-17
Pinellas County Utilities Commitments-Reclaimed Water, Conservation Programs and Alternative Sources ................................................................................................................................. 1-18
Pinellas County Potable Water Conservation Program ........................................................................... 1-19
Capital Improvement to Support the Provision of Potable Water to Pinellas County Utilities Customers ................................................................................................................................... 1-24
Planning Beyond a Six Year Horizon ......................................................................................................... 1-24
Asset Management for the Longevity of the Pinellas County Utilities’ Capital Investments .......................................................................................................................................................... 1-25
Land Use and Water Linkage ..................................................................................................................... 1-25

## 2- WASTEWATER

Service Area Concept .................................................................................................................................. 2-1
Pinellas County Utilities Service Areas for Collection and Treatment .................................................... 2-1
Progressive Wastewater Treatment and Reclamation Facilities .................................................................. 2-4
  William E. Dunn Wastewater Treatment/Water Reclamation Facility .................................................... 2-4
  South Cross Bayou Wastewater Treatment/Water Reclamation Facility .................................................. 2-4
Condition of the Pinellas County Utility Collection and Treatment Facilities ........................................ 2-5
Locational Constraints ................................................................................................................................. 2-5
Capacity Management Operations and Maintenance (CMOM) ............................................................... 2-5
Pinellas County Utilities Wastewater Treatment Capacity ....................................................................... 2-7
Municipal Wastewater Service and Service Areas ...................................................................................... 2-7
Summary Information for Regional Wastewater Facilities in Pinellas County ........................................ 2-8
Publicly-Owned Package Treatment Plants ............................................................................................... 2-17
Privately-Owned Package Treatment Plants ............................................................................................... 2-18
Onsite Sewage Treatment and Disposal System (OSTDS) .................................................................... 2-23
  The Florida Department of Health’s Bureau of Onsite Sewage Programs .............................................. 2-24
Estimates and Projections of Future Wastewater Conditions .................................................................. 2-24
  Population Estimates and Projections ...................................................................................................... 2-24
Wastewater Capacity Analysis for Pinellas County Facilities .................................................................. 2-25
Table of Contents

(continued)

Level-of-Service Standard........................................................................................................ 2-26
Selected Municipal Capacity Analysis.................................................................................... 2-28
Biosolids Disposal .................................................................................................................. 2-30
Pinellas County Utilities Capital Improvement Requirements to Meet its Wastewater
  Management Needs .............................................................................................................. 2-30
  Six-Year Schedule of Improvements .................................................................................. 2-30

3- RECLAIMED WATER & ALTERNATIVE SOURCES
  Background .......................................................................................................................... 3-1
  The Life Cycle of Reclaimed Water .................................................................................. 3-1
  Safety Considerations ....................................................................................................... 3-2
  Increasing Reclaimed Water Use Efficiency by End Users ............................................... 3-3
  Reclaimed Water Interconnections and Surface Water to Augment the Supply ............... 3-3
  Reclaimed Water Service Areas ....................................................................................... 3-3
  Reclaimed Water Capital Improvements ........................................................................... 3-3

APPENDICES:

  Appendix A: 10-Year Water Supply Facility Plan* ............................................................... A-1
  Appendix B: Pinellas County Utilities Customer Commitment Letter ............................ B-1
  Appendix C: Regulatory Framework .................................................................................. C-1

DEFINITIONS ....................................................................................................................... Def-1

BIBLIOGRAPHY .................................................................................................................. Biblio-1

*This item is an adopted component of the Comprehensive Plan
# List of Tables

1. Pinellas County Utilities Wholesale and Retail Customers ............................................. 1-5
2. Existing Tampa Bay Water Potable Water Supply Facilities Providing Water to Pinellas County Utilities .................................................................................................................. 1-10
3. 2010 Non-household Water Use Estimates .................................................................. 1-11
4. 2010 Estimated and Projected Population of the Pinellas County Water Demand Planning Area (WDPA) and Associated Percent of Total County Population.............. 1-12
5. Future Potable Water Supply Needs for Pinellas County Water Demand Planning Area ........................................................................................................................................... 1-13
6. Pinellas County Potable Water Capital Improvements ................................................. 1-24
7. Municipal Customers Receiving Wastewater Collection and/or Treatment Services from Pinellas County Utilities .................................................................................................................. 2-2
8. Service Provider/Service Recipient Relationship-Sanitary Sewer Systems .................... 2-3
9. Design Capacity and Current Demand of Pinellas County ............................................. 2-7
10. Unincorporated Residents Served by Municipal Wastewater Collection and/or Treatment ................................................................................................................................................. 2-8
11. Regional Wastewater Treatment Plants in Pinellas County ........................................ 2-9
12. Land Uses Surrounding Regional Wastewater Treatment Plants .................................. 2-13
13. Soils Surrounding Publicly-Owned Regional Wastewater Treatment Plant Sites and Publicly-Owned Package Wastewater Treatment Plants ........................................... 2-15
14. Level of Service for Publicly-Owned Wastewater Treatment Package Plants within Pinellas County in 2007 ........................................................................................................ 2-17
15. Publicly-Owned Wastewater Treatment Plants in Pinellas County, 2007 .......... 2-17
16. Privately-Owned Wastewater Treatment Plants in Pinellas County, 2007 ............. 2-21
17. Privately-Owned Wastewater Treatment Plants within Pinellas County Wastewater Treatment Plan Service Areas ........................................................................................................ 2-22
18. Surrounding Land Uses at Privately-owned Wastewater Treatment Plant Sites in Pinellas County ................................................................................................................................................. 2-22
19. Soils Surrounding Privately-owned Wastewater Treatment Plants ............................... 2-23
20. Population Estimates and Projections for the Pinellas County Wastewater Service Areas .................................................................................................................................................. 2-25
22. Level of Service Standards for Pinellas County Utilities Wastewater Treatment Facilities ........................................................................................................................................... 2-27
### List of Tables (continued)

23  Selected Municipal Wastewater Treatment Capacity Analysis Facilities Service for Unincorporated Residents ................................................................. 2-28
25  Pinellas County Wastewater and Reclaimed Water Capital Improvements ............ 2-31
26  Provider/Service Recipient Relationship-Reclaimed Systems ................................. 3-4
List of Figures

1  Tampa Bay Water Potable Water Facilities ................................................................. 1-9
2  Pinellas County per Capita Water Use ................................................................. 1-18
3  Water Service Areas and Municipalities in Pinellas County .............................. 1-27
4  Pinellas County Potable Water Facilities ............................................................. 1-28
5  Wastewater Service Areas and Municipalities in Pinellas County ..................... 2-6
6  Regional Wastewater Treatment Plants in Pinellas County ............................... 2-12
7  Publicly-Owned Wastewater Treatment Package Plants in Pinellas County ....... 2-19
8  Privately-Owned Wastewater Treatment Plants in Pinellas County ................... 2-20
9  North Pinellas County Wastewater Facilities .................................................... 2-32
10 South Pinellas County Wastewater Facilities ..................................................... 2-33
11 North Pinellas County Reclaimed Water Facilities .......................................... 3-5
12 South Pinellas County Reclaimed Water Facilities ........................................... 3-6