

3 Coastal Public Facilities and Infrastructure

Between 1998 and 2007, no new infrastructure, or expansion of infrastructure that would promote increased population growth in the unincorporated Coastal High Hazard Area (CHHA), took place. Infrastructure projects were focused on maintenance and replacement activities, as well as water demand reduction (via expansion of the reclaimed water system).

COASTAL AND SHORELINE PROTECTION STRUCTURES

Coastal and shoreline protection structures are generally planned and constructed in conjunction with beach renourishment projects in order to aid the retention of the sand fill. A terminal structure was constructed south of John's Pass on the northern tip of Treasure Island in 2000. Five geotextile T-head groins were constructed on Long Key (Upham Beach) in 2005. In addition, the terminal structure south of Blind Pass on the north end of Long Key was connected to the detached breakwater during this project. The terminal structure on the southern gulf shoreline of Ft. DeSoto Park (Mullet Key) was rehabilitated in 2007.

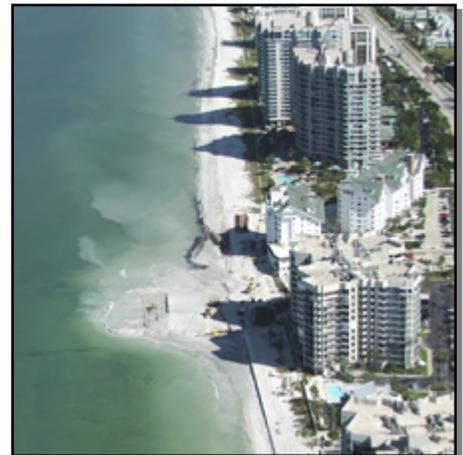
Since 1989, the County has completed the development of a near shore artificial reef program offshore of Indian Rocks Beach and Indian Shores. This project has created new hard bottom and relief of topography for the attraction of benthic organisms and for mitigation of nourishment impacts from the Sand Key project. Pinellas County Utilities distributes a *Reef Guide* brochure, available on the following webpage:

www.pinellascounty.org/utilities/reef/default.htm.

See the *Solid Waste Management Element* of this Comprehensive Plan for more information on the County's artificial reef program. Please refer to the *Capital Improvements Element* for a discussion of the coastal and shoreline protection projects, costs, funding sources, and phasing.

BEACH NOURISHMENT PROJECTS AND NAVIGATIONAL DREDGING

Pinellas County beach nourishment projects include the following: Honeymoon Island, Fort DeSoto Park, Long Key Beach Nourishment (Upham Beach and Pass-a-Grille Beach), Treasure Island Beach Nourishment (Sunset Beach and Sunshine Beach), and Sand Key Beach Renourishment (Clearwater Beach, City of Belleair Beach, City of Indian Rocks Beach, Town of Indian Shores, Town of Redington Shores, and the Town of N. Redington Beach). Dune enhancement and walkover structures will be constructed at various locations to enhance and protect the beaches. Please refer to the 'Beaches and Dunes' section of the *Natural Resources Element* of this Comprehensive Plan for more information on beach nourishment.



Beach nourishment project on Sand Key

Dredging projects occur in Pinellas County for two main reasons: 1) navigational improvements/beach nourishment, and 2) drainage/stormwater. The latter is managed by the Pinellas County Public Works Department. Federally-maintained navigational channels in Pinellas County include Clearwater Pass, John's Pass, Pass-a-Grille Channel, the entrance channel to Tampa Bay, and the IntraCoastal Waterway (ICW). Navigational dredging projects commonly occur at the entrance to Tampa Bay.

Dredging in 2006 included the beneficial use of dredged material placement on Egmont Key and Ft. DeSoto Park (Mullet Key). John's Pass and Pass-a-Grille Channel are dredged for beach renourishment purposes. Sand that accumulates in the channels is removed and placed on adjacent beaches. Blind Pass is another channel that is utilized as a borrow area for beach nourishment projects. Although Blind Pass is not a federally-maintained channel, the U.S. Army Corps of Engineers dredges this pass every eight years to nourish Long Key. The Federal Government has not dredged the Intracoastal Waterway since its initial construction, and there are no plans to dredge it in the future. In the next decade, Pinellas County and the Federal government must agree on the funding cost share and the project administration for maintenance dredging of the Intracoastal Waterway. Pinellas County is not a member of the West Coast Inland Navigation District, a special taxing agency that, in certain other counties, is tasked with maintaining and enhancing public navigation channels and inlets, among other responsibilities.



Dredge operation at Egmont Shoal

The only non-Federal navigational dredging project in Pinellas County is Hurricane Pass. Spoil from this project is used for beach nourishment of Honeymoon Island. The 2007 Honeymoon Island Beach Restoration project involves the removal of approximately 100,000 cubic yards of sand from the Hurricane Pass ebb shoal. This project is sponsored by the Florida Department of Environmental Protection and Pinellas County.

The dredging of Hurricane Pass, Blind Pass and John's Pass is planned to improve navigation and provide sediment for adjacent beach nourishment projects from 2007 to 2010. Please refer to the *Capital Improvements Element* for a discussion of projects, costs, funding sources, and phasing.

ROADWAYS, BRIDGES AND CAUSEWAYS

Please refer to the *Transportation Element* of this Comprehensive Plan for a complete analysis of the County's traffic circulation system, including discussions regarding demand, system capacity, future needs and fiscal impacts.

There were a number of improvements identified in the *Capital Improvements Element* of the Comprehensive Plan as being necessary to eliminate existing roadway capacity deficiencies or to accommodate projected traffic circulation system demand for those facilities located near

the coast. The status of these projects are listed on **Table 13**. Also included are improvements to the County and State roads on the barrier islands.

Being largely surrounded by water, Pinellas County relies heavily on bridges and causeways for its land-based transportation needs. In fact, there are over 110 bridges in the County. The lifespan of many of them are coming to an end. Rehabilitation and/or replacement costs for these facilities are becoming more and more significant, and are expected to continue to rise quickly in the future. Thus, sustainability is a key issue. A cost-effective, sustainable strategy for the future of the County's bridges and causeways that balances citizen and fiscal needs is important.



Clearwater Pass Bridge

TABLE 13
STATUS OF COASTAL PINELLAS COUNTY ROADWAY IMPROVEMENTS

FACILITY	SEGMENT	IMPROVEMENT	STATUS
Starkey Road (C.R. 1)	Park Blvd.(C.R. 694) to Bay Pines Blvd.(SR 595)	4/6-LD Arterial	Construction scheduled for FY 2006/2007 (Park Blvd. to 84 th Lane) and FY 2007/2008 (84 th Lane to Bay Pines Blvd)
Belleair Causeway (C.R. 416)	N/A	Bridge Replacement	Construction scheduled for FY 2006/2007
Forest Lakes Blvd. (CR 667)	S.R. 580 to S.R. 584	4-LD Arterial	Construction scheduled for FY 2006/2007
Drew Street (CR 528)	At McMullen Booth Road (CR 611)	Intersection	Construction scheduled for FY 2006/2007
102 nd Avenue (CR 296)	137 th Street (CR 352) to Seminole Blvd. (SR 595)	4-LD Arterial	Construction scheduled for FY 2009/2010 (137 th Street to 125 th Street), FY 2008/2009 (125 th Street to 113 th Street), FY

TABLE 13**STATUS OF COASTAL PINELLAS COUNTY ROADWAY IMPROVEMENTS**

FACILITY	SEGMENT	IMPROVEMENT	STATUS
			2009/2010 (113 th Street to Seminole Blvd.)
71 st Street (CR 601)	54 th Ave N (CR 202) to 38 th Ave N. (CR 184)	2-LD Arterial	Construction scheduled for FY 2009/2010
Welch Causeway (SR 666)	N/A	Bridge Replacement	Construction scheduled for FY 2006/2007
Pinellas Bayway Bridge #150050	N/A	Bridge Replacement	Construction scheduled for FY 2006/2007
Ulmerton Road (S.R. 688)	119th Street N. to U.S. Highway 19 (SR 55)	6-LD Arterial	Construction scheduled for FY 2009/2010 (119 th Street to Wild Acres Road), FY 2010/2011 (Wild Acres Road to El Centro Ranchero), FY 2006/2007 (El Centro Ranchero to US 19)
62 nd Avenue N (CR 216)	49 th Street (CR 611) to 34 th Street (SR 55)	4-LD Arterial	Construction scheduled for FY 2008/2009.
28 th Street N (CR 681)	38 th Ave N (CR CR 184) to 54 th Ave N (CR 202)	2-LD Collector	Construction scheduled for FY 2011/2012.
28 th Street N (CR 681)	Haines Rd. (CR 691) to 62 nd Ave N (CR 216)	2-LD Collector	Construction scheduled for FY 2011/2012.
22 nd Avenue S (CR 138)	58 th Street N (CR 581) to 34 th Street (SR 55)	2-LD Arterial	Construction scheduled for FY 2008/2009.
Keystone Road (CR 582)	U.S. Hwy 19 to East Lake Road (CR 611)	4-LD Arterial	Construction scheduled for FY 2006/2007.
54th Avenue N	49 th Street (CR 611)		Construction

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FACILITY	SEGMENT	IMPROVEMENT	STATUS
(CR 202)	to 34 th Street (SR 55)	6-LD Arterial	scheduled for FY 2010/2011.
Sunset Point Road (S.R. 576)	Alt. U.S. Hwy. 19 to Keene Road (CR 1)	4-LD	Construction scheduled for FY 2009/2010.
Ulmerton Road (SR 688)	E. Roosevelt Blvd. (SR 686) to I-275	6-LD Arterial	Construction scheduled for completion in FY2010/2011.
54th Avenue N (C.R. 202)	N/A	Intersection improvement at 28th St. N.(C.R. 681)	Construction scheduled for FY 2006/2007.

Source: Pinellas County Planning Department, 2007.

Notes: LD = Lane Divided

N/A = Not Applicable

POTABLE WATER AND SEWER FACILITIES

By the year 2025, the Pinellas County Water Demand Planning Area (WDPA) will need an Average Daily Flow of 89.71 million gallons of potable water per day (mgd). On peak days, the WDPA will need 125.59 mgd. Pinellas County is a member of Tampa Bay Water, through interlocal agreement, and Tampa Bay Water is required to meet all its member governments' water supply needs. Pinellas County is relying upon Tampa Bay Water to meet this projected demand by implementing its Master Water Plan for developing new sources, and continued water production from existing potable water sources. As a mature water and wastewater utility system, Pinellas County Utilities (PCU) distributes water to both retail and wholesale customers. PCU provides service to most of the unincorporated areas and several municipalities. As Pinellas County is essentially built-out, there is little anticipated growth in Pinellas County Utilities Water Demand Planning Area. A very small percentage of the County remains on private wells or septic systems. No major facilities associated with Pinellas County's system in the unincorporated area are expected to experience service disruption from structural damage under a Category 1 hurricane; however, under a Category 3 storm, certain water pumping stations may experience service disruption.

Because Pinellas County Utilities relies upon Tampa Bay Water to meet the projected water demand, Pinellas County is focusing primarily on offsetting potable water use through conservation efforts and the use of reclaimed water.

Conservation

PCU is committed to several conservation programs which are focused on structurally changing water demand through public education and instilling efficient water use habits in PCU customers, both wholesale and retail. Some of the structural programs used so far include the distribution of water conserving fixtures and toilet tank devices to reduce the volume of water used per flush.

To reduce the demand for outdoor use of potable water for irrigation, PCU has instituted an alternative water source incentive program where customers can be partially reimbursed for developing an alternative source of water for irrigation such as shallow or deep wells, or surface water withdrawal. This is only available in areas where reclaimed water is not to be provided, and to those connected to our wholesale customers' systems.



PCU continues to enforce watering restrictions as a means to educate customers, limiting water use for irrigation to appropriate days and times. This has had the effect of controlling growth in the demand for outdoor irrigation and educating customers about excessive use of irrigation water. For example, PCU's Healthy Lawns program is aimed at changing water demand by changing habits and educating citizens on native plant species and xeriscaping concepts that can reduce demand, and assuring an understanding of the benefits to lawns when appropriate watering techniques are employed.

Reclaimed Water

Pinellas County produces safe reclaimed water that meets all the state requirements for utilization of reclaimed water for irrigation of public access areas (parks, playgrounds, school sites, golf courses, etc.), and irrigation of residential lawns and landscapes. Pinellas County owns and operates two advanced wastewater treatment facilities. The William E. Dunn (WED) Water Reclamation Facility provides reclaimed water service to residents and businesses in the area north of Curlew Road. The South Cross Bayou (SCB) Water Reclamation Facility provides reclaimed water service to residents and businesses in central and south County, and to the Gulf beach communities from Sand Key to Tierra Verde.

The management of water in Florida is particularly important. How we use, conserve and manage our water supply will greatly affect our quality of life now, and, even more so in the future. In Pinellas County, Florida's most densely populated county, residents and governments work together to conserve water to make efficient use of all water resources. With the highest residential distribution of reclaimed water in Florida, Pinellas County governments are leaders in the use of reclaimed water, offsetting the use of potable water sources.



South Cross Bayou Water Reclamation Facility

Capital Improvements and the 10-Year Water Supply Facilities Work Plan

PCU's capital program for the water system is driven primarily by repair and replacement of existing facilities. This is due to the lack of growth being experienced in the service area and the age of the system. Other considerations in the capital program include actions necessary to address varying water qualities received from Tampa Bay Water. To address the softer water being received from Tampa Bay Water, an accelerated pipe replacement program was initiated. To address issues associated with Tampa Bay Water's water being received from multiple sources (and therefore multiple qualities), PCU is considering the development of infrastructure to allow blending and retention as a way to assure that a stable, more consistent quality product is delivered to PCU customers via the distribution system. Clearly, the rising cost of water from Tampa Bay Water, combined with the cost of the capital programs above, impact rates to customers.

Consistent with Chapter 163 of the Florida Statutes, a 10 Year Water Supply Facilities Work Plan has been prepared by PCU. It does not address costs associated with water supply, as that is the responsibility of Tampa Bay Water. It does address things like distribution, transmission, treatment, and associated facilities, for the entire Pinellas County Water Demand Planning Area, consistent with individual wholesale agreements.

Please refer to the *Potable Water Supply and Reuse Element* of this Comprehensive Plan for a complete discussion on the County's potable water, sanitary sewer and reuse distribution system, including analyses regarding demand, capacity, future needs and fiscal impacts.

DRAINAGE FACILITIES

The Pinellas County Public Works Department reports that the major drainage facilities and structures located within the following watersheds/basins are located on or near the coastline, including unincorporated and municipal jurisdictions:

Anclote River Basin (Basin #1), Klosterman Bayou Basin (Basin #2), Oldsmar Basin (Basin #5), Sutherland Bayou Basin (Basin #7), Smith Bayou (Basin #8), Cedar Creek Basin (Basin #9), Possum Branch Basin (Basin #11), Bishop Creek Basin (Basin #12), Mullet Creek Basin (Basin #13), Alligator Creek Basin (Basin #14), Coastal Zone 4 (Basin #16), Coastal Zone 1 (Basin #17), Allen's Creek Basin (Basin #19), Coastal Zone 2 (Basin #20), Coastal Zone 3 (Basin #21), Long Branch Basin (Basin #22), Roosevelt Basin (Basin #23), Cross Bayou Basin (Basin #24), Lake Seminole Basin (Basin #26), Coastal Zone 5 (Basin #28), Sawgrass Lake Basin (Basin #30), Tinney Creek Basin (Basin #31), Northeast St. Petersburg Basin (Basin #32), 70th Avenue North Canal Basin (Basin #33), 54th Avenue East Canal Basin (Basin #34), Joe's Creek Basin (Basin #35), Long Bayou Basin (Basin #36), Pasadena Lake Basin (Basin #37), Southwest St. Petersburg Basin (Basin #38), Bear Creek Basin (Basin #39), Brooker Creek Basin (Basin #40), North Coffeepot Bayou Basin (Basin #41), 45th Avenue Northeast Canal Basin (Basin #42), Coffeepot Bayou Basin (Basin #43), Albert Whitted Basin (Basin #44), 34th Street Basin (Basin #45), Clam Bayou Basin (Basin #46), Gulfport Basin (Basin #47), Frenchman's Creek Basin (Basin #48), Lake Maggiore/Salt Creek Basin

(Basin #49), Big Bayou Basin (Basin #50), Little Bayou Canal Basin (Basin #51), and Pinellas Point Basin (Basin #52).

Please refer to the *Surface Water Management Element* of this Comprehensive Plan for a complete discussion of the County’s surface water management program, including analyses regarding demand, capacity, future needs and fiscal impacts, and a short description of each of the County’s 52 drainage basins.

WATERWAY MAINTENANCE

Section 328.72, Florida Statutes stipulates that State boating registration fees be distributed to the Board of County Commissioners for providing recreational channel marking and other uniform waterway markers, public boat ramps, lifts, and hoists, marine railways, and other public launching facilities, derelict vessel removal, and removal of vessels and floating structures deemed a hazard to public safety and health. As guided by the Statutes, Pinellas County utilizes a portion of these “Boating Improvement Funds” in the following categories.

Boating Safety: Regulatory Zones and Signage

Pinellas County maintains all of the public boating regulatory signage in the municipal and unincorporated waters of the County. To establish a boating safety zone (i.e. Slow Speed Zone), permits from the following agencies are required: the Florida Fish and Wildlife Conservation Commission (FFWCC), the Florida Department of Environmental Protection, the United States Coast Guard, and the United States Army Corps of Engineers. A local ordinance (municipal or county) must be passed defining the new safety zone. The zone must be established in the interest of boating safety, not for protection of private property. Habitat protection zones have also been established by the FFWCC and Pinellas County (for more specific information regarding the extent and purpose of these zones, please see the ‘Boat Facility Siting and Resource Protection’ section of this Element).



Once a boating safety zone is established, Pinellas County funds the installation and future maintenance of regulatory signage. The County also installs and maintains “Private Aids to Navigation” that serve a public purpose (e.g., John’s Pass, War Veterans Memorial Park boat ramp).

Derelict Vessel Removal

Pinellas County also utilizes boating improvement funds to remove derelict vessels from its waterways. Florida Statute 823.11 defines a derelict vessel as any vessel that is left, stored, or abandoned: a) in a wrecked or junked condition upon any public waters of the State, b) at any port without consent of the jurisdictional agency, or c) docked, grounded, or beached upon the property of another without the owner’s consent. When derelict vessels are discovered in Pinellas County, the vessel’s location, type, size, and registration number are reported to the Florida Fish and Wildlife Conservation Commission or to the Pinellas County Sheriff’s

Department. An owner search is then conducted, and, if an owner is located, he or she is required to remove the vessel or be charged with a criminal offense. If no owner is located, the vessel is removed with the Boating Improvement Funds described above. If a located owner refuses to remove a derelict vessel, the County will act to remove it and then seek restitution from the owner.



*Derelict Vessel Located in
Pinellas County Waters*