

Environment

Community

Vision

Planning

Implementation & operation

Checking & corrective action

Management review

Re-visioning

Environment

Charlotte County, Florida is an 894 square mile county about 100 miles south of Tampa bordering on the Gulf of Mexico. A development company originally subdivided about 68 square miles of the county into several hundred thousand-quarter acre lots during the 1960's and 70's. Some core areas were built with central sewer and water supplies, and central water service is available to nearly half of the lots, but over 150,000 lots are left to be built with onsite sewage systems. Roads were built to all the platted lots in the early 1970's.

The land has low relief with a maximum elevation of 25 feet above sea level several miles inland from the Harbor and Gulf. Over 300 miles of drainage and navigable canals exist supporting nearly 30,000 waterfront lots. A grassed swale system adjacent to roadways drains properties. The county's estuarine Harbor at the confluence of two rivers is the second largest in Florida and supports recreational water sports, boating, fishing and shellfish harvesting. There are 705 square miles of land in the county. Over 95% of the soils in areas dry enough to build are nearly level, poorly drained, shallow to deep sand with loamy or limestone subsoils, and are USDA-NRCS categorized as soils of flatwoods, sloughs, barrier islands and manmade areas. In most buildable areas, wet season water tables are within one foot of the ground surface for a few months each year resulting in elevated Wisconsin-mound type onsite sewage systems. The average annual rainfall is 62 inches with over half coming during the June through September rainy season. This is also hurricane season with the potential for storms to drop 10 inches of rain in a day or two.

Community

Charlotte County has one incorporated city named Punta Gorda with about 10% of the total population residing there. Separate elected boards who appoint administrators run the county and the city. The onsite sewage program and other public health related functions are implemented by a health department. This "county" health department is actually a division of the State of Florida's Department of Health with a medical doctor as director. The county provides about one third of the funds for the operation of the health department, while state or federal general tax revenue and fees for services provide the remainder. The county has been marketed to northerners as a retirement community with the resulting year round 1999 population of 140,000 consisting of at least a third of

the residents over the age of 65. The median age of 58 is one of the highest in the nation. Another 60,000 winter visitors occupy their residences for 4-6 months per year. The median income is \$42,000 and the median home price is \$74,000.

Vision

Between 1977 and 1990, the county experienced rapid growth with installation of new onsite systems exceeding 1,000 per year for a total at present of about 40,000. There was a peak of onsite sewage installations in 1988 with 1,970, with over 1,700 installed in 1986, '87 and 1989. Only 388 are projected to be installed this year with the trend continuously downward between 1988 and 1995, then upward from '96 until this year. There are 11 major sewer plants each with a permitted capacity of 50,000 GPD or more, with two of these over 2 MGD, and 36 smaller plants between 50,000 and 7,500 GPD. Public controversy, recession, developer bankruptcies, sewer system expansions, and other building factors contributed to the downward trend in the early 90's.

During the early 1990's, Charlotte County committed to expend approximately \$600M to build new sewer lines for about 22,000 lots. This large sewer project was a result of negotiations with the State Department of Community Affairs over the 1988 County Comprehensive Plan. After objections from the citizens about the projected costs of connection to sewer, the Board of County Commissioners (BCC) in 1996 voted to stop the sewer project. An alternative to the extensive sewer project was proposed in the 1997 Charlotte County update of the state-required Comprehensive Plan. This alternative relies on a much smaller sewer expansion plan for 3,700 properties and improved onsite sewage treatment systems for lots that will not be sewer where there is a high density or the lot borders surface water. In July 1997, after several public workshops, the BCC approved a matrix describing where these advanced sewage treatment systems must be used in Charlotte County; the matrix was adopted by the BCC on October 6 1998 and implemented for new permits beginning March 1 1999. This improvement over state law for siting onsite systems was accompanied by two other commitments for environmental and public health improvements. The first is the acquisition of a USEPA 319c non-point source pollution grant to conduct research and establish an onsite sewage system-monitoring program. The second will be the establishment of a network of ambient water quality monitoring stations for bacteria and nutrients to detect problems and prioritize areas in need of sewer.

Plan

The plan for an Onsite Management System (OMS) is documented in the 1997 County Comprehensive Plan, a document required by the state Department of Community Affairs. Over 100 public meetings were held during a two year period to receive citizen input and provide a forum for the working subcommittees to address all of the components required to be addressed in state law. During the draft stages of the plan, all

Robert G. Vincent, Environmental Administrator, Charlotte County Health Dept
18500 Murdock Circle, Port Charlotte, Florida, 33948 941-743-1266
Bob_vincent@doh.state.fl.us

the current scientific information known about onsite systems was shared with the working committees, the public and politicians by health department staff. The Comprehensive Plan is a 1000+ page document that deals with numerous elements including infrastructure, natural resources, future land use, transportation, recreation, historic preservation, housing, capital improvements and intergovernmental coordination for the 1997-2010 time frame. The infrastructure element addresses solid waste, sewer, potable water, stormwater drainage and onsite systems. The onsite systems section discusses the historical aspects of the state's onsite sewage program in Charlotte County and provides goals, objectives and policies for implementation of an OMS .

Infrastructure Goal #11 states that the county will attempt to reduce negative impacts to the natural environment and the public health, safety and welfare resulting from the use of sanitary wastewater treatment systems (septic systems, package treatment plants, and central sewer systems). Objective 11.1 states that by October 1, 2000, the county and the Public Health Department will develop and begin implementing a septic system management program serving the entire county. Policies 11.1.1 – 6 require the county and the health department to complete a pilot management program, develop a maintenance schedule for onsite systems based on priority factors, involve private companies to perform inspections and maintenance, allow the use of onsite systems until central sewer is available, and the owners of onsite systems shall bear the cost of the OMS . Objective 11.2 states the county will begin an ambient water quality monitoring program to determine the impacts of pollution resulting from the use of sanitary wastewater treatment systems. Policies 11.2.1-4 specify pollutant loading samples shall be collected beginning December 31, 2000, wastewater systems creating problems will be repaired or replaced, cooperation with other agencies and the National Estuary Program will occur, and new or replacement onsite systems will meet the more stringent standard of state or county codes.

Objective 11.6 states the county will require the installation of advanced onsite systems based upon lot size or proximity to surface water for new development by July 1, 1998 in order to safeguard the public health, safety and welfare. Policies 11.6.1 - 3 state that by July 1, 1998 the county will require advanced onsite systems for new construction when located within 150 of surface water or where the property size is equal or smaller than 10,000 square feet and sewer is not committed within 5 years, and that these systems shall be connected to central sewer when (if) it becomes available. During the yearlong political process of passage of the county ordinance requiring these advanced systems, the setback to surface water was reduced to 100 feet. The advanced systems originally proposed to treat wastewater to advanced secondary standards ($N \leq 10$ mg/L and $P \leq 3$ mg/L) were found to be extremely expensive in Florida Keys research resulting in the state health office deeming Aerobic Treatment Units adequate for new systems there.

Robert G. Vincent, Environmental Administrator, Charlotte County Health Dept
18500 Murdock Circle, Port Charlotte, Florida, 33948 941-743-1266
Bob_vincent@doh.state.fl.us

Without evidence of extensive water pollution, and with commercially -available ATUs reasonably priced, we chose to settle for this level of treatment. A working group of developers, real estate agents, home builders, engineers, surveyors, onsite system contractors, interested citizens, health department and county staff were led by the assistant county administrator through several drafts and public presentations of the ordinance. Public meetings were held with realtors, homeowners groups, onsite system contractors, engineers, and homebuilders to explain the details of the ordinance and the implementation plan. The Board of County Commissioners passed the final draft of the ordinance after two public hearings. A six-month lag time for implementation was included.

Implementation and Operation

During the six-month waiting period from October '98 until March '99, details of permitting, inspections and field requirements were established and provided to all interested parties via official memos and presentations. One very useful forum was held to provide contractors with direct interaction with Aerobic Treatment Unit vendors. This resulted in all of the practicing contractors aligning with at least one vendor for construction and maintenance entity certification. Third party certified ATUs have been approved for use by Florida's onsite rule for over a decade, which also requires a licensed maintenance entity to service the unit twice per year. In addition, the rule requires the ATU owner to acquire an annual operation permit from the health department for a fee of \$150 that results in two inspections per year including one sampling and laboratory analysis of the device's effluent for standard parameters.

Over 120 permit applications for onsite systems were received and processed during the month before the effective date, over three times the normal load. Throughout this period and for several months afterward, applicants and their agents were coached verbally on the requirements and procedures. They were also provided fact sheets created by staff and brochures purchased from the Small Flows Clearinghouse concerning onsite systems. The county attorney assisted in interpretation of several issues of implementation including lot density definition and utility easement deed restrictions. The ordinance allows for property owners to acquire an additional lot(s) to achieve the minimum square footage for use of a baseline onsite system instead of the ATU system. These lots must be permanently joined together by deed restriction to allow the exemption. The deed restriction is filed with the clerk of the court and recorded in the property records so property buyers will be aware of the limitations and will not purchase a single lot. This exemption effectively lowers the density of construction to two lots per acre, which is the current standard applied to new subdivisions under state law. This density reduction was one the prime motivations for passage of the ordinance. Lowered density affects many more infrastructure requirements than simply onsite systems. It also reduces the taxable

land value though. A Board of Adjustment & Appeals made up of volunteer citizens hears requests for variances from the ordinance should a property owner wish to challenge the restrictions. This local county variance application and criteria were established to be identical to state law for those onsite system variances requested from state law criteria. Additional legal relief options exist in state civil and administrative law.

C2 Process & Review

The most notable change in measurement to date has been the reduction of applications for onsite systems on high-density lots and near surface water. A reduction of 15-20% from a normal year has been observed in the first six months. It appears that builders are using their inventory of lots that allow for baseline systems. In addition, other factors have reduced the normal permits by 5%. The number of deed restrictions joining lots thereby lowering density has increased as expected. Only two ATU systems of 40 permitted since implementation have been installed, and these are not yet operational. Our original assumption for the program was that nearly half (~200) of the new systems permitted would be ATUs, and a new staff member would be needed to accomplish the additional fieldwork. This significantly higher workload has not occurred, and the delay in establishing a new position was fortunate. The fees for annual operating permits will have to support the position, and they are not yet available. The five professionals and two secretarial staff conducting the onsite sewage program have easily absorbed the minor additional workload. Daily communication with affected parties allows for constant feedback and minor tweaking of implementation procedures.

Re-vision

No formal revisit to the initial OMS vision has been needed due to the recent start-up of the program. This will likely be accomplished after the first year of operation in April 2000.