Appendix A
EXISTING REGULATORY PROGRAMS

The following exhibits provide a basis for understanding Florida's regulatory context relative to wastewater and stormwater management programs.

Exhibit A-1
FLORIDA'S WASTEWATER REGULATORY SETTING

The regulatory summary presented in Exhibit A-1 focuses on the wastewater management and regulatory practices which either have historically been used in the Keys, or are currently being used. This summary has been excerpted from:

> Technical Memorandum No. 16
> PERMITTING REQUIREMENTS AFFECTING THE
> SANITARY WASTEWATER MASTER PLAN
>
> MONROE COUNTY SANITARY WASTEWATER MASTER PLAN
> (CH2M-Hill, 2000)

Some of the text has been condensed and/or edited.

Exhibit A-2
FLORIDA'S STORMWATER REGULATORY SETTING

The regulatory summary presented in Exhibit A-2 focuses on the stormwater management and regulatory practices which either have historically been used in the Keys, or are currently being used. This summary has been excerpted from:

> MONROE COUNTY STORMWATER MANAGEMENT MASTER PLAN
> (CDM, 2000)

Again, some of the text has been condensed and/or edited.

Exhibit A-1
EXISTING REGULATORY PROGRAMS

The materials contained in the following summary are organized in the following manner:

- OVERVIEW
- CENTRAL SEWAGE SYSTEMS, REUSE, UNDERGROUND INJECTION WELLS, AND LARGE ONSITE SYSTEMS
  - General Requirements and Permit Review Procedures
  - Surface Water Disposal
  - Residuals (Sludge) Management
- ONSITE WASTEWATER TREATMENT AND DISPOSAL SYSTEMS
  - General Requirements
  - Engineer-Designed Performance-Based Treatment Systems (EDTS)
  - Cesspit Replacement and Upgrading of Undocumented Systems
  - Connection to Central Sewage Systems
  - Coordinated Review and Permitting
  - Statutory and Rule Conflicts Regarding AWT for OWTS
- OTHER PERMITS
- LAND USE REQUIREMENTS AND RESTRICTIONS
- FUTURE LAND USE
  - Permit Allocation System for New Residential Development
  - Conservation and Coastal Management Element
  - Solid Waste
  - Sanitary Sewer Element
  - Intergovernmental Coordination
  - Capital Improvements
- LAND ACQUISITION THROUGH EMINENT DOMAIN
  - Procedure
  - Eminent Domain Power of Counties
  - Eminent Domain Power of Sewer Districts
- COORDINATION WITH OTHER EXISTING PROGRAMS
  - Florida Keys National Marine Sanctuary Act
  - Coastal Zone Protection Act of 1996
  - Marathon Wastewater Facilities Plan
  - Cesspit Elimination Plan
  - Carrying Capacity Study
  - Executive Order 96-108
  - Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs

OVERVIEW

Permits for sewage treatment and disposal systems are issued by DEP and DOH. The authority of DOH is limited to relatively small onsite systems. DEP issues permits for centralized systems with discharges to surface or ground water and reuse systems. The permitting of onsite systems is regulated by rules specific to the Keys. The rules include substantive requirements for waste treatment and disposal and procedural requirements for ensuring that the number of permits issued does not exceed the number of cesspits eliminated. Eventually all onsite systems will be required to provide advanced waste treatment, but, until the technology to do so is available, systems meeting less stringent standards will be permitted.

The owners of properly functioning onsite treatment and disposal systems must connect to publicly or privately owned or investor owned central systems within 1 year of being notified that central service is available. Section 381.00655(2)(b), F.S., does make provision for waiver of the connection requirement. Specifically, with approval of DOH, the public or private utility to which the connection would be made may waive the requirement to connect if it determines that such connection is not required in the public interest due to public health considerations. Policies 901.4.9 and 901.5.18 of the Monroe County Comprehensive Plan require connection consistent with the statutory requirement. Accordingly, any waiver of connection would be inconsistent with the Comprehensive Plan. A comprehensive plan amendment will be necessary if it is determined that the waiver provisions of Section 381.00655(2)(b), F.S., will be made available in Monroe County. Section 381.0065(4)(k), F.S., provides that DOH shall require effluent from OWTS in the Florida Keys to meet advanced waste treatment concentrations as defined in Section 403.086, F. S. It is assumed the statute is intended to be effective immediately, as no transition dates were provided. However, Rule 64E-6.018, F.A.C., which implements the statute, recognizes that AWT systems are not currently "available" and defers that requirement until such time as they do become available. This rule does not mirror the statutory requirement.

The DEP permitting programs described herein include surface water discharges, ground water discharges through deep and shallow wells, and reuse through slow-rate land application to publicly accessible areas and to areas where public access is restricted. DEP has been delegated authority from the EPA to issue NPDES permits for surface water discharges. Use of surface water discharges and shallow wells will be limited by the stringent surface water standards applicable in Monroe County. The other methods of disposal and reuse should be more easily permitted but require collection of significant. quantities of data and technical information. The DEP permitting process allows for substantial public involvement, including public meetings. Both DEP and DOH may issue variances, which are intended to relieve hardship while ensuring that the purpose of a rule or statute is still achieved.

CENTRAL SEWAGE SYSTEMS, REUSE, UNDERGROUND INJECTION WELLS, AND LARGE ONSITE SYSTEMS

General Requirements and Permit Review Procedures

The requirements discussed below apply to domestic wastewater treatment, reuse and disposal facilities, including residuals management facilities. Permits for these types of facilities are issued by DEP. However, onsite systems serving the complete needs of an establishment with a design capacity of 10,000 gpd or less and those serving the complete needs of a commercial facility with a design capacity of 5,000 gpd or less of commercial wastewater are permitted by DOH and are addressed in Section 4.2, below. Rule 62-600.120(1), F.A.C. DEP uses the estimated sewage flows provided in Table I of Rule 64E-6.008, F.A.C., to decide whether these thresholds have been met.

The specific types of systems addressed in this section are those which were found to be feasible in Technical Memorandum No. 9. These include reuse via slow-rate land application, underground injection through deep wells, underground injection through shallow wells, and discharges to surface water. In addition, permit requirements for collection and transmission systems are addressed after the discussion of disposal and reuse systems. Wastewater treatment facilities are classified into three types based on the volume of water they are permitted to handle:

- Type I facilities are those with a permitted capacity of 500,000 gpd or more;
- Type II facilities have a permitted capacity starting at 100,000 gpd going up to but not including 500,000 gpd; and
- Type III facilities have a permitted capacity of over 2,000 gpd and less than 100,000 gpd. Rules 62600.200(87), (88), and (89), F.A.C.

All three types of facilities must satisfy the same design and reliability criteria but special considerations are relevant for type III facilities. Type III facilities, typically used in small communities, subdivisions and commercial establishments, should be designed in accordance with established engineering principles so that routine operation and maintenance are simple.

Rules 62-600.400(1) and (1)(d)1 and 2, F.A.C. Because the volume of water and pollutant levels that these systems handle varies widely, they must be designed so that the adjustments necessary to treat these varying conditions can be made quickly.

Rule 62-600.400(1)(c), F.A.C. The permitted capacity of a system will never exceed the design capacity of a system, but it may be less than the design capacity when: 1) the reuse and disposal capacity is less than the design capacity; and 2) supporting documentation does not provide reasonable assurance that the facility will function properly at the intended design capacity.

Rule 62-600.400(1)(d)2, F.A.C. Innovative or alternative treatment processes may be used for type I and II facilities, as long as information demonstrating that the facility will meet water quality standards is provided.

Rule 62-600.400(3)(b)1 and 2, F.A.C. Policy 901.5.16 of the Monroe County Comprehensive Plan provides that the following design and siting standards shall apply to sewage treatment plants:

1. All new and expanding plants shall set the discharge point back from surface water a minimum of one hundred feet. This shall apply to plants utilizing either injection wells or drainfields;
2. All Class V injection wells (as defined by Florida Statutes and the Florida Administrative Code) shall be drilled to a minimum open hole of ninety feet in depth and cased and grouted to a minimum of sixty feet in depth; and.
3. All sewage plants except aerobic plants shall provide for wastewater reuse whenever feasible and in compliance with Rule 17-610, F.A.C.

Rule 62-600.405, F.A.C., contains a process intended to ensure that planning for expansion of facilities occurs in a timely fashion. This rule requires regular submission to DEP of monitoring reports showing the actual volume of wastewater treated over a specified time period. When the three month average daily flow for the most recent three consecutive months exceeds 50 percent of the permitted capacity, the permittee must submit a capacity analysis report.

Rule 62-600.405, F.A.C. If the results of these reports show the permitted capacity of the facility is being exceeded, DEP requires that specific actions be taken to plan for, design and receive permits for an expansion of the facility. When siting new facilities and expanding existing facilities, the potential for flooding to interfere with the operation of the facility must be addressed. Those parts of the structure essential to treating, stabilizing, conveying or holding waste must be protected from physical damage by the 100-year flood.

Rule 62-600.400(2)(c), F.A.C. The mechanical and electric equipment also must be provided this degree of protection. The treatment plant must be designed so that it will remain fully operational during the 25year flood unless a demonstration can be made that a lesser degree of protection is adequate. In no case should less than the 10-year flood be used in designing the system. Waste treatment standards must be met before discharge into holding ponds, reuse systems, disposal systems or surface waters.

Rule 62-600.500, F.A.C. The minimum degree of waste treatment acceptable varies depending on the type or class of the receiving waters. Quantitative criteria for secondary treatment are called technology based effluent limitations ("TBELs").

Rule 62-600.420, F.A.C. TBELs may vary depending on the degree of secondary treatment required. The TBELs for the minimum degree of secondary treatment allowed are specified in Rule 62-600.420(1), F.A.C. DEP may require that facilities be

designed to provide treatment beyond that needed to meet the TBELs to ensure that water quality standards in the receiving water body are met.

Rule 62-600.430(1)(a), F.A.C. These additional standards, which are established on a site-specific basis, are called water quality-based effluent limitations ("WQBELs"). Four levels of disinfection are set forth: basic, high-level, intermediate, and low-level.

Rule 62-600.440(4), (5), (6) and (7), F.A.C. Specific methods for sampling and calculation are provided for each level of disinfection. The standard for the pH of effluent is provided in Rule 62-600.445, F.A.C. Any person intending to construct, operate or modify a wastewater or reuse facility that will discharge wastes into waters of the state must apply to DEP for a wastewater permit.

Rules 62-620.310(1) and (3), F.A.C. Permits will not be issued for discharges of any wastewater which causes pollution in contravention of Chapter 403, F.S., or DEP rules, or which by itself or in combination with the wastes of other sources, reduces the quality of the receiving waters below the classification established for them.

Rules 62-620.320(l) and 62-620.300(4), F.A.C. In addition, permits for surface water discharges will not be issued if the U.S. Environmental Protection Agency ("EPA") objects to issuance or if the Secretary of the Army believes it will substantially impair anchorage or navigation in waters of the U.S.

Rule 62-620.320(10)(b) and (c), F.A.C. The duration of permits is not to exceed five years.

Rule 62-620.320(8), F.A.C. Application must be made on appropriate forms.

Rule 62-620.310(2), F.A.C. A list of forms and the purposes for which they should be used appears in Rule 62-620.910, F.A.C. Detailed permit application requirements are set forth in the Department of Environmental Protection Guide to Wastewater Permitting, dated December 29, 1995. This document addresses procedures to apply for permits, permit renewals, and modifications.

Rule 62-620.400, F.A.C. It does not apply to collection and transmission systems permitted by DEP.

Rule 62-620.410(1), F.A.C. Fees are listed in Rule 62-4.050, F.A.C. DEP may require an applicant to provide proof of financial responsibility, such as posting a bond, to guarantee compliance with the permit.

Rule 62-620.301(6), F.A.C. Proof of financial responsibility will be required only if the applicant's compliance record or financial inability to comply with permit conditions results in a lack of reasonable assurance that all applicable DEP standards will be met. Applications for new or substantial modifications to facilities or activities must be submitted at least 90 days before construction commences and 180 days before a new or modified discharge occurs.

Rule 62-620.410(2), F.A.C. In this context, commencement of construction does not mean land clearing and site preparation activities, however other permits may be needed for these activities and must be obtained before undertaking them. Commencement of construction means performing onsite modification, fabrication, erection or installation of a wastewater treatment facility or a conveyance for the discharge of wastes. DEP is required to adhere to specified timeframes when processing permits. Within 30 days of receiving an application and the proper fee, DEP will notify the applicant if any additional information is needed to evaluate the project.

Rule 62-620.510(1), F.A.C. If the application is for permit renewal, DEP will set a date by which the information should be submitted. Rule 62620.510(2), F.A.C. When DEP receives the additional information, it will again have 30 days to review it.

Rule 62-620.510(3), F.A.C. DEP may then ask for more information, but the request must be limited to issues raised by the additional information received. This process of requesting additional information will continue until DEP has sufficient information to evaluate the project, at which point the application will be deemed complete.

Rule 62-620.510(6), F.A.C. The date that the application becomes complete is the date that the last submittal of information was received by DEP and is the effective date of the application. If the applicant believes any request for information is not needed to evaluate compliance with permitting rules, the applicant may request a hearing or request that DEP evaluate the project without the information.

Rule 624.055(2) and (4), F.A.C. If sufficient information is not submitted, DEP will deny the application.

Rule 62-620.510(5), F.A.C. When applications for renewal are denied, enforcement action to prevent use of the facility will be taken. After an application is complete, DEP will decide whether the permit should be issued or denied and prepare a draft permit or denial, accordingly.

Rule 62-620.510(7), F.A.C. Initial preparation of a draft permit for issuance does not preclude DEP from denying the permit after an opportunity for public comment or a public meeting. The initial decision on whether to issue or deny the permit must be made within 90 days after the file is complete.

Rule 62-620.510(8), F.A.C. If DEP fails to comply with this time limit, the applicant may apply for an order from the circuit court requiring DEP to render a decision within a specified time. If DEP decides the permit can be issued, it must prepare and mail to the applicant a project decision schedule which includes target dates for such things as preparation of a draft permit, giving public notice, and issuance of a final permit.

Rule 62-620.510(10), F.A.C. DEP will prepare a statement describing the facts on which it relied in reaching its decision to issue a draft permit.

Rule 62-620.510(12), F.A.C. For NPDES permits, DEP will request comments on the draft permit from state and federal agencies.

Rule 62-620.510(13), F.A.C. In addition, DEP must submit the draft permit to the EPA for its concurrence.

Rule 62-620.510(18)(a), F.A.C. If EPA does not concur the permit will not be issued.

Rule 62-620.510(18)(b), F.A.C. Public notice is required when DEP decides to issue a permit for a new or substantially modified facility or activity, to renew an NPDES permit, and for minor revisions which decrease a monitoring or reporting requirement.

Rules 62-620.550(1)(a) and 62-620.550(2)(a), F.A.C. The public notice must state that a draft permit has been prepared and solicit public comments or announce the time and place of a public meeting during which comments will be accepted.

Rule 62-620.550(2), F.A.C. In addition, the notice must explain that an administrative hearing can be requested by parties whose substantial interests are affected by the proposed agency action. Section 120.60, F.S. Instructions on how to file for a hearing also must be included. The notice will be mailed to the applicant, state, federal and local agencies, and persons on the departmental mailing list.

Rule 62-620.550(3), F.A.C. The public will have at least 30 days to comment on the proposed action. Public comments must be considered in evaluating the draft permit, and DEP must respond to significant comments and make its response available to the public.

Rule 62620.550(14), F.A.C.
The applicant also is required to provide public notice when seeking a permit for a major facility or a facility of local interest, so in any cases both DEP and the applicant will be providing notice.

Rule 62-620.550(3)(b), F.A.C. The applicant must typically publish the notice for one day in a daily or weekly newspaper of general circulation in the area affected by the facility or activity.

Rule 62-620.550(3)(b), F.A.C. The applicant must then submit proof of publication to DEP.

Rule 62-620.550(4), F.A.C., lists the information which must be included in the public notice when it is published by the applicant. Generally, the notice must describe the project, explain that the public may submit comments, and explain how these comments should 68 be submitted. If DEP determines that the permit must be denied, it must prepare a statement explaining its reasons.

Rule 62-620.510(9), F.A.C. In this case, public notice is not required. The applicant may request an administrative hearing. If a hearing is requested, the applicant must publish a public notice of the denial and requested hearing. DEP is authorized to grant variances and waivers to its rules. Variances for surface water

discharges permitted under the NPDES program will be made according to the federal rules listed in Part VI of Chapter 62-620, F.A.C. For programs not delegated by the federal government, variances or waivers are granted for the following reasons:

1) there is no practicable means known or available for the adequate control of the pollution involved, Section 403.201(1)(a), F.S.;

2) compliance with the particular requirement(s) will necessitate measures which must be spread over a considerable period of time due to their extent or cost, Section 403.201(1)(b), F.S.; or

3) to relieve or prevent other types of hardship, Section 403.201(1)(c), F.S.

While variances may be granted for up to two years and may be renewed every two years, DEP is not obligated to issue them for the maximum duration or to continue to renew them.

Surface Water Disposal

New facilities and modifications of existing facilities which discharge to surface waters must meet the minimum TBELs for secondary treatment, provided in Rule 62-600.420(1)(a), F.A.C., and the requirements for basic disinfection. Rule 62-600.510(1), F.A.C. Discharge of reclaimed water or effluent into Class II waters is prohibited.

Rule 62600.510(4), F.A.C. The coastline of Monroe County, southward from the Dade and Collier County lines to and including that part of Florida Bay in Everglades National Park, is Class II waters.

Rule 62-302.400(12)(b)44, F.A.C. For new facilities which discharge into waters tributary to Class II waters and where the travel time of the effluent is 72 hours or less, secondary treatment more stringent than that required by the minimum TBELs is required, and, in some cases, WQBELs may be required.

Rule 62-600.510(5), F.A.C. In addition, new and existing facilities so located must provide intermediate disinfection.

Rule 62-600.510(5), F.A.C. Facilities which discharge to Outstanding Florida Waters (OFWs) must meet additional requirements. The many water bodies in Monroe County which fall into this category.

Rule 62-302.700, F.A.C. Permits for discharges within an OFW or that are expected to significantly degrade an OFW will not be issued unless the project is clearly in the public interest and the existing ambient water quality within the OFW will not be lowered as a result of the proposed discharge, except on a temporary basis.

Rules 62-4.242(2)(a) and (2)(a)2, F.A.C. Existing ambient water quality is the better of either that which existed during the year the water body was designated an OFW or that which existed for the year prior to the date of the permit application.

Rule 62-4.242(2)(c), F.A.C. Technical Memorandum No. 9 concludes that it would be difficult for a treatment plant to meet this standard. By letter dated May 12, 1998, DEP advised Monroe County of its interpretation of applicable standards as required by the Monroe County Comprehensive Plan Policy 901.1.1. (directing Monroe County to require all new and expanding wastewater treatment facilities discharging to ground or surface waters to meet Advanced Waste Treatment ("AWT") or as close as possible thereto using Best Available Technology ("BAT")). The letter specified the following:

For new and expanding wastewater treatment facilities with permitted design capacities of 100,000 gallons per day, AWT should be required. AWT for this purpose is defined as:

Carbonaceous Biochemical Oxygen Demand [CBOD5]	5 mg/1
Total Suspended Solids [TSS]	5 mg/ 1
Total Nitrogen [TN]	3 mg/ 1
Total Phosphorus [TP]	1 mg/ 1

*mg/1 is milligrams per liter and all numeric values represent annual average concentrations.

For new and expanding facilities with permitted design capacities of less than 100,000 gallons per day, a BAT consisting of the following limitations will be required:

CBOD5	10 mg/1*
TSS	10 mg/ 1
TN	10 mg/ 1
TP	1 mg/ 1
Basic Level Disinfection	

*all numeric values represent annual average concentrations. See also Section 403.086, F.S.

Reuse by Slow-Rate Land Application

Policy 901.5.9 of the Monroe County Comprehensive Plan provides that the SWMP must set forth the requirements for the types and locations of developments that must utilize a water reuse system. Reuse requirements are potentially applicable to any system built to provide sewage disposal.

General Requirements

Two types of reuse are considered feasible in Monroe County:

1) slow-rate land application for areas with restricted public access; and,

2) slow-rate land application for publicly accessible areas, residential irrigation and edible crops.

Regulations pertaining to the first type of reuse are in Part II of Chapter 62-610, F.A.C., and regulations pertaining to the second type are in Part III of Chapter 62-610, F.A.C. Permits are needed to construct, modify or operate reuse systems.

Rule 62-610.800(1), F.A.C. The requirements of Chapter 62-610, F.A.C., apply to reuse systems receiving effluent or reclaimed water from domestic wastewater treatment facilities that discharge to Class G-H ground water.

Rule 62-610.100(7) and (9)(a), F.A.C. Generally, requirements for systems which discharge to ground water other than Class G-II will be decided on a case-by-case basis by DEP.

Rule 62-600.530(1), F.A.C. Slow-rate land application systems must achieve waste treatment standards before final release of reclaimed water or effluent to the environment.

Rule 610.320(1), F.A.C. General technical guidance on the requirements of Chapter 62-610 is provided in the publications listed in Rule 62-610.300, F.A.C., but information in those manuals does not supersede the specific requirements of Chapter 62-610.

Rule 62-610.300(1), F.A.C. Where a single wastewater treatment facility provides reclaimed water to a number of individual users, the reuse permit is combined with the permit for the wastewater treatment plant and issued to the wastewater treatment plant.

Rule 62-610.800(3), F.A.C. A reuse permit separate from that issued to the treatment facility will be issued only if the reuse system receives reclaimed water or effluent from more than one domestic wastewater treatment facility.

Rule 62-610.800(4), F.A.C. In this case, the reuse permit will cross-reference the appropriate wastewater treatment plant permits. However, if requested by both the applicant having responsibility for the reuse system and one or more of the domestic wastewater treatment facilities providing reclaimed water to the reuse system, the reuse permit will be combined with the permit for one of the treatment facilities.

Rule 62-610.800(4)(a), F.A.C. Where a permittee applies reclaimed water to property owned by another party, a binding agreement between the involved parties is required.

Rule 62-610.320(1)(b), F.A.C. The end user of reclaimed water does not need to obtain a separate reuse application permit.

Rule 62-610.800(4)(b), F. A. C. Permittees must give DEP written notice at least 60 days before inactivation or abandonment of a reuse or land application system and must specify the steps that will be taken to safeguard public health and safety.

Rule 62-610.320(4), F.A.C. Both types of slow-rate land application systems require preparation of an engineering report and operating protocols. An engineering report must be submitted in support of permit applications for new or expanded reuse projects.

Rule 62-610.310(1), F.A.C. The need for an engineering report for modifications to existing facilities will be decided case-by-case by DEP.

Rule 62-610.310 (1), F.A.C. The required contents of the engineering report are listed in Rule 62-610.310(3), F.A.C., and include primarily technical information such as soil and hydrogeologic surveys.

Rule 62-610.310(3), F.A.C. An Operation and Maintenance Manual must be published for each land application facility and should be used by the operator of the facility. The required contents of the manual are listed in Rule 62-610.320(5), F.A.C., and include such things as application schedules and cycles, operating procedures during bad weather, and routine maintenance.

Slow-Rate Land Application to Areas with Restricted Public Access (Part 11 Systems)

Slow-rate land application systems involve the application of reclaimed water to a vegetated land surface with the applied reclaimed water treated as it flows through the plant-soil matrix.

Rule 62-610.400(1), F.A.C. A portion of the flow percolates to ground water, and some is used by the vegetation. Offsite surface runoff is generally avoided. These systems generally involve the reuse of reclaimed water that has received secondary treatment and basic disinfection.

Rule 62-610.400(1), F.A.C. The water may be applied to pastures and areas used to grow commodities such as sod, trees, feed, fodder, fiber or seed crops. Rule 62-610.400(4), F.A.C. For the systems permitted under this section, public access must be restricted.

Rule 62610.400(2), F.A.C. Subsurface application may be used provided the ground surface does not become saturated.

Rule 62-610.400(3), F.A.C.

The reclaimed water from Part 11 systems must meet minimum secondary treatment requirements and basic disinfection levels before being discharged to storage ponds or the land application area.

Rules 62-610.410(1) and 62-610.412(1), F.A.C. Systems using subsurface irrigation must meet a more stringent requirement for total suspended solids (10 mg/L) unless the application system meets specific flexibility and reliability requirements.

Rule 62-610.410(2)(a); F.A.C. Alternatives to the more stringent limit may be approved if the applicant provides reasonable assurance in the engineering report that the system will not clog.

Rule 62610.410(2)(a), F.A.C. Ground water monitoring is required for these systems and must be approved by DEP.

Rule 62-610.412(2)(a), F.A.C. The permittee must provide reasonable assurance in the engineering report and in a ground water monitoring plan that wells used for sampling will be constructed so that migration of fluids from the surface to subsurface formations or between subsurface formations will not occur.

Rule 62-610.412(2)(b), F.A.C. Because circumstances precluding land application are expected to arise (e.g. wet weather, maintenance of equipment), these facilities must have the ability to store treated water before land application, or they must provide an alternative disposal system such as deep wells.

Rule 62610.414(1) and (2)(a), F.A.C. The method for determining the amount of storage needed is provided in Rule 62-610.414(2), F.A.C. Special consideration should be given to controlling surface runoff from adjacent areas into the application area and to controlling subsurface drainage. Rule 62-610.417, F.A.C. If needed, berms should be placed around the application site to prevent surface runoff from flowing into the site.

Rule 62-610.417(1), F.A.C. If a subsurface drain is needed to prevent the water table from rising into the plant root zone, the requirements of Rule 62-610.417(3), F.A.C., apply. Hydraulic loading rates must be determined in accordance with the provisions of Rule 62-610.423, F. A. C. Design requirements for the application and distribution systems are provided in Rule 62-610.419, F.A.C. Setback distances applicable to these systems are provided in Rule 62-610.421, F.A.C. Access to application sites must be regulated in accordance with Rule 62-610.418, F.A.C.

Slow-Rate Land Application to Public Access Areas, Residential Areas, and Edible Crops (Part III Systems)

This type of reuse system involves the irrigation of areas accessible to the public. Public access areas may include private property that is not open to the public at large but is intended for frequent use by many persons.
Rule 62-601.450(1), F.A.C. Acceptable uses include, but are not limited to:

1) watering residential lawns, golf courses, and parks, Rule 62-601.450(1), F.A.C.;

2) irrigating edible crops, Rule 62-610.475, F.A.C;

3) flushing toilets, sanitary sewers and reclaimed waterlines, Rules 62-610.476 and 62-610.480(2)(c), F.A.C;

4) fire protection, Rule 62610.476, F.A.C.;

5) controlling dust at construction sites, 610.478, F.A.C.; and,

6) aesthetic purposes, Rule 62-610.479, F.A.C**.**

DEP will approve other uses if the requirements of Part III are met and the engineering report demonstrates the project will meet all rule requirements and protect public health.

Rule 62-610.480(1), F.A.C. Because use of reclaimed water for flushing toilets was identified as an area of particular interest, the requirements specific to this use are discussed in detail after the requirements that pertain to all uses. Only waste water treatment systems with a design average daily flow of 0.1 mgd or greater may produce water used for application in public access areas.

Rule 62-610.451(1) and (2), F.A.C.A minimum size is not required if the reclaimed, water will be used only for fire protection or toilet flushing.

Rule 62-610.451(3), F.A.C. The permitted capacity of the wastewater treatment facility providing the reclaimed water will be used to determine whether the minimum flow requirements are met.

Rule 62-610.451(4), F.A.C. The permitted capacity will be based on the highest anticipated annual demand for reclaimed water from within the service area during the five year permit period.

Rule 62-610.800(5)(c), F.A.C. The reclaimed water must meet minimum secondary treatment criteria and high-level disinfection before discharge to holding ponds or reuse systems.

Rules 62-610.460(1) and 62610.463(1), F.A.C. However, the reclaimed water cannot contain more than 5 mg/L of suspended solids before application of the disinfectant.

Rule 62-610.460(1), F.A.C. Filtration must be provided to ensure that this standard is met, add chemical means of controlling suspended solids must be available but do not have to be used if the standard is being met.

Rule 62-610.460(3), F.A.C. Pretreatment programs are required for public utilities receiving wastewater discharges from significant industrial users and providing reclaimed water to public access areas or edible crops.

Rule 62-610.330(1), F.A.C. For purposes of Rule 62-610.330, a public utility is any state, county or municipality owning, managing, controlling or operating a domestic wastewater treatment facility or proposing to construct a domestic wastewater treatment facility that provides or proposes to provide wastewater service.

Rule 62-625.200(16), F.A.C. A significant industrial user is, among other things, a facility which discharges an average of 25,000 gpd to the treatment facility, contributes a waste stream which accounts for at least 5 % of the dry weather capacity or organic capacity of the treatment plant, or is designated as such because of the potential to adversely affect the treatment facility.

Rule 62-625.200(2), F.A.C. If the wastewater treatment facility has no significant industrial users and anticipates none within the next five years, pretreatment programs are not required.

Rule 62-610.330(2), F.A.C. If a significant industrial user expresses an intent to discharge wastewater to a treatment facility that provides reclaimed water for public access areas or edible crops, the wastewater treatment facility must notify DEP within 60 days of learning of the industry's intent.

Rule 62-610.330(3), F.A.C. If DEP agrees that the proposed user is a significant industrial user, DEP will add conditions to the permit allowing for implementation of a pretreatment program.

Rule 62-610.330(3), F.A.C.
Storage of reclaimed water is not required where another permitted reuse system or effluent disposal system is incorporated into the system design.

Rule 62-610.464(1), F.A.C. However, data must be presented in the engineering report to show that the flow of reclaimed water from the treatment facility will match the demand pattern during a diurnal cycle.

Rule 62610.464(1), F.A.C. The requirements for storage when reuse or disposal alternatives are not incorporated into the design are in Rule 62-610.464(2), F.A.C. Generally, the storage volume must be three times the volume of reuse capacity for which an alternative method of reuse or disposal is not required. In addition, provisions must be made for handling substandard water. Generally, substandard water must be stored off-line for additional treatment, discharged to another permitted reuse system requiring lower levels of treatment, or discharged to a permitted effluent disposal system.

Rule 62-610.464(3), F.A.C. Reclaimed water may be used for toilet flushing in motels, hotels, apartment buildings, and condominiums where residents and guests do not have access to the plumbing system for repairs or modifications.

Rule 62-610.476(1)(a), F.A.C. Reclaimed water may not be used for toilet flushing in any residential property or dwelling unit where the residents have access to the plumbing system for repairs and modifications. Pipes carrying reclaimed water must be color coded. If reclaimed water will be used only for toilet flushing, DEP will approve levels of reliability, operation controls and operator attendance, other than those specified in Part III, if the engineering report shows that the alternative measures will provide the same degree of protection as those specified in Part III.

Rule 62-610.476(1)(b), F.A.C. Access to application areas does not have to be controlled, but the posting of signs is required to notify the public of areas where reuse is practiced.

Rule 62-610.468(1) and (2), F.A.C. Physical requirements for distribution systems and cross-connections are provided in Rule 62-610.469, F.A.C. Set back distances for these systems are set forth in Rule 62-610.471, F.A.C. The requirements for hydraulic loading rates are the same as those required for systems regulated by Part II of Chapter 62-610.

Rule 62-610.473, F.A.C. For systems authorized under Part III, the permittee of the treatment facility must enter into binding agreements with the individual users of reclaimed water that document the controls on individual users. In the alternative, an ordinance regulating the individual users may be enacted.

Rules 62-610.490(1) and 62-610.491(1)(c), F.A.C. Copies of the agreements or the ordinance must be submitted with the permit application. An operating protocol, describing how the domestic wastewater treatment facility will operate to ensure that only reclaimed water meeting the treatment standards is released to a reuse system, is required for reuse systems authorized under Part III.

Rule 62-610.320(6)(a) and (b), F.A.C. It must include such things as the monitoring procedures to ensure that reclaimed water meets standards, procedures to be followed when substandard water is produced, and procedures to be followed when an operator is not present.

Rule 62-610.320(6)(d), F.A.C. DEP must approve the protocol before the reuse system begins operating.

Rule 62-610.330(6)(c), F.A.C. Systems permitted under Part III require continuous monitoring of turbidity before application of the disinfectant and continuous monitoring for disinfectant residuals after treatment is complete.

Rule 62-610.463(2), F.A.C. Ground water monitoring is required in the vicinity of unlined storage ponds unless the engineering report shows that stored water will not percolate to ground water.

Rule 62-610.463(3), F.A.C. Reuse systems authorized under Part III of Chapter 62-610, F.A.C., cannot be placed into operation for any purpose without written approval of DEP.

Rule 62-610.800(7), F.A.C. The items that must be submitted to DEP to obtain the authorization are listed in Rule 62-620.630(2) and (3), F.A.C., and include such things as notice that construction has been completed, notice that a draft operation and maintenance manual is available, and documentation of the approval of the operating protocol. A general permit is available for the addition of new major users of reclaimed water that are not identified in the existing permit and are located within the reuse area designated within the existing permit.

Rule 62-610.800(5)(b), F.A.C. To obtain the general permit, the following requirements apply:

1) notice to DEP must be submitted and certified by a professional engineer, Rule 62-610.890(1)(a) and (2), F.A.C.;

2) the reuse system is permitted under Part III of Chapter 62-610, Rule 62-610.890(1)(b), F.A.C;

3) the major user to be added is located within the general reuse area designated in an existing reuse permit, Rule 62-610.890(1)(c), F.A.C;

4) the capacity of the reuse system noted in the existing permit will not change as a result of adding the major user, Rule 62-610.890(1)(d), F.A.C.; and,

5) there will be no direct discharge of reclaimed water to any storage ponds, lakes or other water bodies which are waters of the state or which will discharge into waters of the state,

Rule 62-610.890(1)(e), F.A.C. A new permit or revision of an existing permit for reuse systems authorized under Part III is required for:

1) expansion of the reclaimed water distribution system outside of the area designated in an existing permit, Rule 62-620.310(10)(e)1, F.A.C.;

2) addition of a new major user of reclaimed water not identified in the existing permit, if the permittee requests that the permitted capacity of the reuse system be increased, Rule 62-620.310(10)(e)2, F.A.C.;

3) addition of a new area where edible crops will be irrigated, Rule 62-620.310(10)(e)3, F.A.C.; or,

4) modification of the irrigation system or change in crops to be grown on an area designated in the existing permit as an area on which crops are grown, Rule 62-620.310(10)(e)4, F.A.C.

Underground Injection

General Requirements

The requirements for permitting underground injection wells are designed to protect the quality of underground sources of drinking water ("USDW") and to prevent degradation of the quality of adjacent aquifers which may be used for other purposes.

Rule 62-528.100(1), F.A.C. Wells are to be constructed so that the injected fluid remains in the injection zone and so that unapproved interchange of water between aquifers does not occur. It is the intent of DEP that injection of wastes will not adversely interfere with any designated use of ground water and that the state's program is consistent with its federal counterpart.

Rule 62-528.110, F.A.C. The permitting process for injection wells is facilitated by a Technical Advisory Committee ("TAC").

Rule 62-528.100(2), F.A.C. Each DEP district has its own TAC.

- The purpose of the TAC is to provide the interdisciplinary expertise needed to evaluate complex permit applications and to make recommendations for permit issuance or denial.
- Members of the TAC include representatives of the DEP district office, DEP headquarters in Tallahassee, the appropriate water management district, the local environmental program (if one exists), and the U.S. Geological Survey.
- The EPA may provide technical assistance to the TAC on specific matters.
- The TAC may work directly with the applicant or permittee by providing technical expertise at various stages of permitting.
- Meetings of the TAC will be made public if requested by the applicant, permittee or DEP.
- The TAC forwards its recommendations on permit applications to the permitting authority.
- Permits are issued out of the DEP district offices and, in some cases, from the water management districts.
- Changes to applications or permits regarding alternative disposal methods or timeframes must be submitted to the TAC along with supporting documentation.
- The TAC may request additional information, which will be transmitted by the DEP district office. After reviewing the information, the TAC will make recommendations to the DEP district office, and the district office will consider these recommendations in making its decision. A permitting authority is not bound by the recommendations of the TAC.
- Minor changes to applications or permits do not have to be reviewed by the TAC.

The types of wells discussed below are Class I and Class V. The conclusions of Technical Memorandum No. 9, which evaluated the feasibility of disposal options, were that

- Class I wells are currently feasible and Class V wells may be feasible in the future.
- Class I wells, considered deep wells, must be used when hazardous, industrial or domestic waste are injected beneath the lowermost formation containing, within one quarter mile of the well bore, an underground source of drinking water.

Rule 62-528.300(1)(a), F.A.C. Class V wells, considered shallow wells, are defined as those not included in Classes I-IV and are grouped into eight categories.

Rule 62528.300(1)(e), F.A.C. Group 3 wells are used for disposal of domestic wastewater.

Rule 62528.300(1)(e)3, F.A.C. There are three types of Group 3 wells:

1) those used to inject effluent or reclaimed water from domestic wastewater treatment facilities (when Class I wells are not required), Rule 62-528.300(1)(e)3.a., F.A.C.;

2) septic system wells used to inject waste from a multiple dwelling, business establishment, community or regional business establishment, Rule 62-528.300(1)(e)3.b., F.A.C.; and,

3) devices which have an open bottom and sometimes have perforated sides, Rule 62-528.300(1)(e).3.c, F.A.C.

All USDW are aquifers or portions thereof which supply drinking water for human consumption, are Class F-I, G-I or G-II ground water, or have a total dissolved solid concentration of less than 10,000 mg/L.

Rule 62-528.200(60), F.A.C. In addition, ground waters meeting one of these criteria must not be considered exempt aquifers. To qualify as exempt, an aquifer must meet the USDW criteria, currently not serve as a source of drinking water, and, not serve as a viable source of drinking water in the future due to its location or quality.

Rule 62-528.300(3)(c), F.A.C. An aquifer can only be deemed exempt after public notice, an opportunity for a hearing, and approval by the EPA. Rule 62-528.300(3)(a), F.A.C.

Class I Wells (Deep Wells)

Permits are required for construction, modification (including hydrogeological modifications to the monitoring system), operation and abandonment of Class I wells.

Rule 62-528.440(2)(b), F.A.C. Underground injection will not be authorized where a well causes fluid to move into USDW if primary drinking water standards will be violated or the health of individuals will be adversely affected.

Rule 62-528.440(2)(c), F.A.C. If any such movement occurs after the well starts operating, DEP will require any measures needed to stop it, including termination of the permit.

Rule 62-528.440(2)(d), F.A.C. In addition, permits will be denied if the construction of the well itself creates a source of pollution.

Rule 62-528.450(1)(a), F.A.C. Issuance of a construction permit does not obligate DEP to issue an operation permit unless reasonable assurance has been provided that the well will operate in accordance with the requirements of Chapter 62-528, F.A.C.

Rule 62-528.450(1)(c), F.A.C. All facilities using Class I wells to discharge domestic effluent into Class G-IV waters must meet the TBELs specified in Rule 62-600.420(1)(a) and the pH requirements in Rule 62-600.445.

Rule 62-600.540(1), F.A.C. Disinfection before disposal to Class I wells is not required, but the capability to disinfect to the level required by an alternate discharge mechanism must be available.

Rule 62-600.540(1), F.A.C. Alternatives to the TBELs may be authorized, at the discretion of the Secretary of DEP, for disposal to Class G-IV waters as long as water quality criteria in the receiving water and requirements listed in Rule 62-600.540(5)(c) are met.

Rules 62-600.540(5)(a) and (b), F.A.C. The requirements in Rule 62-600.540(5)(c) include, but are not limited to, '`protecting the public interest, ensuring that designated uses of receiving waters will be maintained, protecting freshwater storage areas, and ensuring equipment can function adequately in case of emergency. To obtain a construction permit, the applicant must provide reasonable assurance that the requirements of Chapter 62-528, F.A.C., will be met.

Rule 62-528.450(1)(b), F.A.C. The information which must be submitted as part of the application for construction is listed in Rule 62-528.450(2), F.A.C. A significant amount of hydrological, geological and operational information is required. Where the necessary hydrological or. geological information is lacking, the applicant must build an exploratory well.

Rule 62-528.450(1)(b), F.A.C. In addition to the scientific information, the applicant must demonstrate that the financial resources needed to close, plug or abandon the well are available. For Class I wells, the construction permit authorizes temporary injection for testing purposes.

Rule 62-528.450(3)(a), F.A.C. Before operational testing can occur, the following requirements must be met:

1) construction must be complete, Rule 62-528.450(3)(a)1, F.A.C.;

2) the well must be tested for mechanical integrity, Rule 62-528.450(3)(a)2, F.A.C.;

3) the technical information listed in Rule 62-528.450(3)(a)3 a-i, F.A.C., must be submitted to DEP and the TAC, Rule 62-528.450(3)(a)3, F.A.C.;

4) an emergency discharge method must be fully operational, Rule 62-528.450(3)(a)4, F.A.C; and,

5) nearby wells must be plugged if necessary, Rule 62-528.450(3)(a)5, F.A.C.

Written authorization must then be obtained from DEP.

Rule 62-528.450(3)(b), F.A.C. The authorization will specify how the well must be operated and monitored during the testing period. Testing will not be authorized for more than two years, and the authorization is not renewable.

Rule 62-528.450(3)(e), F.A.C. If an operating permit has not been obtained within two years after testing is complete, the permittee must submit an application to plug and abandon the well.

Rule 62-528.450(3)(1), F.A.C. To apply for an operating permit, the applicant must submit to DEP and the TAC a report containing the information listed in Rule 62-528.455(1)(c), F.A.C. This information includes proof that the location of the well and any associated monitoring wells have been surveyed by a certified land surveyor and that the locations have been recorded with the instrument of conveyance of the property. The factors which DEP will evaluate when deciding whether to issue the permit are primarily technical and are listed in Rule 62-528.455(2), F. A. C.

Class V, Group 3 Wells (Shallow Wells)

Generally, Class V, Group 3 wells are used to inject domestic waste into or above formations containing USDW.

Rule 62-528.600(1)(a), F.A.C. Permits are required for construction, modification and operation of these wells.

Rules 62-528.630(1) and 62 528.640(1)(a)3., F.A.C. Provisions for alternate disposal methods must be made.

Rule 62 600.540(2)(f), F.A.C. Permits will not be issued for wells which allow contaminated fluids to migrate into USDW and cause violations of the primary drinking water standards or adversely affect the health of individuals.

Rule 62-528.630(3), F.A.C. In Monroe County, applicants for operating permits must provide reasonable assurance that wells will not violate surface water standards.

Rule 62 528.630(7), F.A.C. Also, in Monroe County, pretreatment of waste is required if necessary to meet surface water quality standards.

Rule 62-528.610(3), F.A.C. Special pollution reduction criteria are required for facilities permitted for construction after January 1, 1982, and for existing facilities modified prior to that date which use Class V wells and discharge into Class G-II waters of the Biscayne or Floridan Aquifers.

Rule 62-600.540(3), F.A.C. The information required in the application for a construction permit is listed in Rule 62-528.635(1) and (2), F.A.C. In addition, a plugging and abandonment plan must be submitted.

Rule 62-528.625(2), F.A.C. Because Class V wells are used for a variety of purposes, specific construction standards are not provided for each potential use.

Rule 62-528.605(1), F.A.C. Any of the criteria applied to Class I wells may be applied to Class V wells if DEP determines it is necessary to prevent fluids from migrating into USDW and causing water quality violations.

Rule 62-528.605(2), F.A.C. To prepare an application for construction, it may be necessary to drill an exploratory well. Exploratory wells are used to provide information on the water quality profile in the area and to allow for preliminary assessment of the adequacy of the confining interval and injection zone potential.

Rule 62-528.603(3), F.A.C. Permits are needed to construct exploratory wells and will be denied if the construction itself creates a source of pollution.

Rule 62-528.603(2), F.A.C. The application to construct an exploratory well must provide the information listed in Rule 62528.603(4), F.A.C. After receiving a construction permit for an exploratory well, injection tests may be conducted.

Rule 62-528.603(5)(a), F.A.C. The tests cannot cause violations of drinking water regulations or adversely affect human health. Rule 62-528.603(5)(b), F.A.C. The use of treated or untreated domestic or industrial effluent for tests is prohibited. Exploratory wells may be converted to monitoring wells, plugged and abandoned, or converted to Class I wells provided they meet the construction criteria.

Rule 62-528.603(6), F.A.C.The operation of Class V wells must not present a hazard to USDW.

Rule 62-528.610(1), F.A.C. Monitoring and reporting is required for Class V wells once they are operating. Rules 62-528.615(1)(a)1 and 62-528.620(2), F.A.C. These requirements will be determined for each well on a case-by-case basis. Plugging and abandonment is required when the well no longer serves its purpose or starts to violate drinking water standards. Rule 62-528.625(1), F.A.C.

Collection and Transmission Systems

Chapter 62-604, F.A.C., provides minimum design, operation, and maintenance standards for collection and transmission systems, including reuse distribution systems, which carry domestic wastewater.

Rule 62-604.100(7) and (9), F.A.C. This rule applies to new domestic wastewater collection and transmission facilities for which construction permit applications were approved after January 1, 1982, and to the modifications or expansions of facilities approved after January 1, 1982.

Rule 62-604.100(10), F.A.C. Permits are required to construct and modify these systems, but only approvals are required to operate them.

Rules 62-604.400(1) and 62604.600(1) and (2), F.A.C. Exempt from the permitting requirements of this rule is any single individual service connection from a single building to a pretreatment system, or any single individual gravity service connection, with no pretreatment, to a collection system sized and intended to serve a single building.

Rule 62-604.100(11), F.A.C. DEP may delegate this program to local pollution control programs established under Section 403.182, F.S. In addition, DEP may authorize a county or municipality to independently regulate the construction of gravity sewage collection systems of 12 inches or less in diameter, sewage force mains 12 inches or less in diameter, and pump stations appurtenant to such force mains provided the treatment plant is owned by the county or municipality making the request for approval.

Rule 62-604.100(6), F.A.C. Such delegation does not negate the necessity for complying with the design standards contained in this rule. Collection and transmission systems typically may be constructed under general permits unless they employ an innovative or atypical design.

Rule 62-604.600(1), F.A.C. A general permit is granted to any person for the construction of a wastewater collection or transmission system that has been designed in accordance with the standards and criteria set forth in Rule 62604.400(1) and (2), F.A.C. These are detailed technical criteria. Additional criteria contained in technical guidance manuals will be applied when appropriate. Rule 62-604.300(1), F.A.C. A list of these manuals is provided in Rule 62-604.300(4), F.A.C. In addition to the technical criteria, the following requirements must be met:

1) notice must be given to DEP, Rule 62604.700(1)(a), F.A.C;

2) the associated treatment facility must not be under a moratorium of any kind, Rule 62-604.700(1)(b), F.A.C.; and

3) the treatment facility to which the system will be connected must have the capacity to receive the wastewater generated by the proposed collection system and must operate in compliance with applicable rules,

Rule 62-528.700(1)(c), F.A.C. For construction collection or transmission systems that use innovative designs or do not meet the design and performance criteria in Rule 62-604.400, F.A.C., a specific permit will be required.

Rule 62-604.600(1), F.A.C. In evaluating these systems, DEP will use the criteria contained in the technical guidance manuals when applicable.

Rule 62-604.300(1), F.A.C. Deviations from the criteria contained in the manuals will be approved when reasonable assurance is provided that the proposed design will meet the applicable requirements of Chapter 62-604, F.A.C., and either when the cost of conforming with the standards is unreasonable or when conforming with the rule is not technically feasible.

Rules 62-604.300(2) and 62-604.600(1), F.A.C. Chapter 62-604 contains a list of prohibitions that apply to systems permitted under either general or specific permits.

Rule 62-604.130, F.A.C. These prohibitions include such things as deliberately allowing storm water to enter the system, accepting waste that has not been pretreated as required, and accepting waste which contains materials not normally found in domestic wastewater (i.e. materials that may cause fires or corrosion).Operation permits are not issued for collection or transmission systems, however, approval by DEP is required.

Rule 62-604.600(1) and 62-604.500(1), F.A.C. The following items must be submitted to DEP as part of the approval process:

1) a written request from the permittee to obtain approval for the system, Rule 62-604.600(2), F.A.C.;

2) a certification of completion of construction stating that the system was constructed in accordance with approved plans or that any deviations will not prevent the system from functioning properly, Rule 62604.600(2)(b), F.A.C.;

3) record drawings of approved plans which identify any substantial deviations made during construction, Rule 62-604.600(2)(c), F. A. C.;

4) written certifications on DEP approved forms stating that record drawings and an operation and maintenance manual are available at a specified location, Rule 62-604.600(2)(d), F.A.C.;

5) certification by the permittee or authority responsible for operation and maintenance agreeing to properly operate the system, and a certification from the authority who operates the wastewater facility to which the completed system is connected that the connections have been satisfactorily completed, Rule 62604.600(2)(e), F.A.C.; and

6) a copy of the operation and maintenance manual, Rule 62604.600(2)(f), F.A.C.

Collection and transmission systems must be operated and maintained so that they provide uninterrupted service, and all equipment must be maintained so that it functions as intended.

Rule 62-604.500(2) and (3), F.A.C. Requirements on how to operate these systems during abnormal events, including breakdowns, are provided in Rule 62-604.550, F. A. C.

Residuals (Sludge) Management

All domestic wastewater treatment facilities that use biological treatment processes generate domestic wastewater residuals as a by-product of the treatment process. DEP regulates the management, use, and land application of residuals pursuant to Rule 62-640, F.A.C. The rule establishes minimum requirements for residuals which are to be applied to land for agricultural purposes, distributed and marketed, or used for land reclamation, including residuals composted with yard trash, wood chips or similar bulking agents. The chapter also establishes minimum requirements for septage to be applied to land which will be treated at facilities permitted by DEP and will be applied to land.

Rule 62-640.100, F.A.C. Regulation of septage facilities that treat 10,000 gpd or less on a monthly average flow basis and no more than 20,000 gallons in a single day is not covered by this rule. Those facilities are regulated by DOH. Disposal of screenings and grit from preliminary treatment facilities, solids from sewer line cleaning operations, and solids from lift and pump stations is regulated by Chapter 62-701, F.A.C. Residuals may be applied to a site only if the facility has a permit that includes an agricultural use plan for the site.

Rule 62-640.300, F.A.C. Rule 62-640.500 sets out the requirements of the plan. The acceptability of the plan will depend on the characteristics of the receiving site. Given the limited amount of land available in the Keys and the sensitive nature of the environment, careful review of these requirements is necessary for any kind of facility site planning. All residuals applied to land must be treated to reduce pathogens and achieve vector attraction reduction in accordance with the requirements of Rule 62-640.600, F.A.C. Criteria for land application of residuals identified in Rule 62-640.700, F.A.C. These include:

- pollutant concentrations,
- site setback,
- water quality standards,
- application techniques,
- cumulative application limits,
- setbacks from water bodies,
- depth to groundwater requirements and
- runoff prevention requirements.

In addition to the state requirements, EPA has its own requirements which have not been delegated to the state. EPA standards for use or disposal of -sewage sludge can be found at 40 CFR Part 503. EPA rules have similar, but not identical, requirements.

ONSITE WASTEWATER TREATMENT AND DISPOSAL SYSTEMS

General Requirements

Special permitting rules apply to onsite systems in the Keys. Section 381.0065(4)(k), F.S.; Chapter 64E-6, Part II, F.A.C. These rules must be read in conjunction with those that apply statewide. Where a particular item is not addressed in Chapter 64E-6, Part II, the Keys provisions, the applicable rules in the other parts of Chapter 64E-6 apply.

Rule 64E-6.001(1), F.A.C. Permits are needed to install, repair, alter, modify, abandon or replace onsite sewage treatment and disposal systems (onsite systems) and are issued by DOH.

Rule 64E-6.003(1), F.A.C. A construction permit is valid for 18 months and may be extended for 90 days. Section 381.0065(4), F.S. A repair permit is valid for 90 days. An operating permit is valid for one year and must be renewed annually. Construction and repair permits may be transferred from one permittee to another provided site and installation conditions do not change. Fees required for these permits are located in

Rule 64E-6.030, F.A.C. The timeframes used by DOH for reviewing applications and issuing or denying permits are similar to those used by DEP. The agency has 30 days to review a newly submitted application and request additional information if necessary.

Section 120.60(1), F.S. Subsequent requests for information may be made but must be limited to questions raised by the previous submittal of information. After a file is complete, DOH has 90 days to decide whether to issue or deny a permit. The process differs from that used by DEP in that, if DOH does not take action within 90 days, a permit must be issued. The public notice requirements for onsite permits issued by DOH differ from those required by DEP. DOH must notify the applicant and any person requesting notice of its intended action to either issue or deny the permit.

Section 120.60(3), F. S. The notice must state the reasons for the decision and inform the recipients of their rights to request an administrative hearing. DOH may grant variances from the permitting requirements in hardship cases.

Section 381.0065(4)(g)1, F.S. If the ownership of the property changes, the variance may be transferred with the construction permit. To grant a variance, DOH must determine that the hardship was not caused intentionally by the applicant, no reasonable alternative exists for sewage treatment, and the discharge from the onsite system will not adversely affect the health of the applicant or the public or significantly degrade ground or surface water. The information required to be submitted with an application is listed in Rule 64E6.004(3)(a-f) and includes such things as a soil profile description, water table elevations, a plan or plat of the property, and a floor plan of each residence on the property. Where a property r owner proposes to or has built multiple residences or businesses on a single lot and the entire area of the lot is needed to accommodate the onsite system, the property owner must execute and record a

utility easement binding the property together so that the original lot size is retained.

Rule 64E6.004(7), F.A.C. This must be done prior to the issuance of a construction permit. Similarly, where a property owner proposes to or has built one or more residences or businesses on multiple lots and the onsite system requires the use of multiple lots to function properly, an easement binding the lots together must be executed and recorded before a construction permit will be issued.

Rule 64E-6.004(7)(a), F.A.C. Ultimately, all onsite wastewater treatment systems installed in the Keys will be required to meet AWT, as defined in Section 403.086, F.S.

Rule 64E-6.018, F.A.C. These systems will continue to receive permits until engineer-designed performance-based systems that provide advanced secondary treatment are available. When systems meeting AWT standards become available, they will be required, but the interim and advanced secondary systems permitted up to that time will not have to be replaced with systems meeting the AWT standard.

Rule 64E-6.018, F.A.C. Rule 64E-6.018, F.A.C., allows for three types of interim treatment systems: Class I aerobic treatment units with disposal into sand-lined drainfields; Class I aerobic treatment units which discharge first to a filter unit and then to an injection well; and aerobic treatment units with disposal into soil absorption drainfields.

Rules 64E-6.018(1)(a) and (b) and 64E-6.018(2), F.A.C. The statewide criteria used to estimate the amount of sewage generated per day from a particular type of development is applicable to the Keys.

Rule 64E-6.008 (Table I), F.A.C. The statewide standard for determining the size of the tank needed to service a given volume of sewage also is applicable to the Keys. Rule 64E-6.008 (Table II), F.A.C. The monitoring requirements that apply to systems throughout the state also are applicable in the Keys.

Rule 64E-6.001(1), F.A.C. Where a Class I aerobic treatment unit is used and where effluent goes into a sand lined drainfield, the requirements of Rule 64E-6.018(1)(a), F.A.C., apply. No part of the system may be within 25 feet of MHW of tidal surface waters or within 25.feet of ordinary high water of nontidal surface waters, salt marshes, or button wood associations. Where a Class I aerobic treatment unit is used with a filter unit and injection well, the requirements of Rule 64E-6.018(1)(b), F.A.C., apply. These systems only may be used when the setbacks from surface waters, salt marshes, and buttonwood associations cannot be met. Other setback requirements contained in Part I of Chapter 64E-6 may apply to both types of systems, depending on the characteristics of the property. Injection wells cannot be used in areas designated by the EPA or DEP as having a single or sole source aquifer. Rule 64E-6.018(1)(b)1, F.A.C. Effluent limits for these systems are specified in Rule 64E-6.018(1)(b)2, F.A.C. DOH permits the

treatment unit, filter unit, and injection well where estimated daily sewage flow does not exceed 2,000 gpd.

Rule 64E6.018(1)(b)2, F.A.C. For flows greater than 2000 gpd but less than 10,000 gpd, DOH permits the treatment unit and the filter unit, and DEP permits the injection well and any other effluent treatment device. Where an aerobic treatment unit discharges to a soil absorption drainfield and treats domestic sewage flows greater than 1500 gpd but not exceeding 10,000 gpd, the requirements of Rule 64E-6.018(2), F.A.C., apply. The setback requirements from surface waters must be the greatest distance attainable but, at a minimum, must be 25 feet from MHW of tidal surface waters or 25 feet from OHW of non-tidal surface waters, salt marshes, or button wood associations. Owners and lessees of these systems must comply with the general maintenance and operational requirements of Rule 64E-6.012(2) and (3), F.A.C. The use of non-water carriage toilets is authorized by Rule 64E-6.009, F.A.C. These are classified as alternative systems. They may be used where they are more feasible or where subsurface systems are not suitable. These types of toilets must meet the standards for Wastewater Recycle/Reuse and Water Conservation Systems as defined by ANSI/NSF International Standard Number 41.

Rule 64E-6.009(1), F.A.C. Installation of these systems requires an approval by DOH. The technical requirements for installing these systems are in Rule 64E-6.009, F.A.C. Any existing, approved onsite system which is in use and which is in satisfactory operating condition may remain in use according to the terms of the rules and permit under which it was approved.

Rule 64E-6.001(4), F.A.C. However, these systems are considered interim and will only be permitted until systems that meet advanced secondary treatment become available.

Rule 64E-6.018, F.A.C. If there are changes in the development on a lot that alter the volume or quality of sewage generated, system upgrades may be required. If the changes require tank size to be increased, the tank must be brought up to current standards.

Rule 64E-6.001(4)(c), F.A.C. If changes to the drainfield are required, the repair criteria in Rule 64E-6.015, F.A.C., apply and those criteria do not always require drainfields to be brought into compliance with current standards. (pers. comm. John Heber, DOH, July 15, 1998).

Rule 64E-6.001(4)(a) and (b), F.A.C., identifies the small changes to residences and businesses that may be made without system upgrades. In any case, if central service becomes available, existing approved systems will be required to connect. Rule 64E-6.001(4), F.A.C. See detailed discussion below.

Engineer-Designed Performance-Based Treatment Systems (EDTS)

EDTS are systems designed to achieve specific treatment levels and must be designed by a professional engineer, registered in Florida, with a background in wastewater engineering.

Rule 64E-6.025(8), F.A.C. Permits are needed to install, repair, alter, modify, abandon or replace EDTS.

Rule 64E-6.027(1), F.A.C. Operating permits for these systems must be obtained annually.

Rule 64E-6.027(5)(a), F.A.C. Any proposed change from the original design, including changes in flow rate, will require the system to be reengineered to achieve the design performance standard. These systems have more stringent maintenance requirements than interim systems in that the property owner or lessee must enter into maintenance agreements with a DOH approved maintenance entity to have the systems inspected at regular intervals.

Rule 64E 6.027(5)(d), F.A.C. The setback requirements for these systems are the same as those required for interim systems and are contained in Rule 64E-6.028(1), F.A.C. EDTS can exceed the authorized flow allowances contained in Rule 64E-6.008, F.A.C. (Table I), depending on the degree of treatment provided.

Rule 64E-6.028(2), F.A.C. Systems designed to meet secondary treatment standards can exceed their authorized sewage flow allowances by up to 25 %. Systems designed to meet advanced secondary treatment standards may exceed the allowance by up to 50%. Systems which meet AWT standards will be able to exceed the allowance by up to 100%.

Cesspit Replacement and Upgrading of Undocumented Systems

Cesspits include not only pits receiving untreated sewage but also septic tanks which do not properly treat sewage.

Rule 64E-6-.017(3), F.A.C. Undocumented systems are those which have no record of installation but meet the construction standards for the time period during which the system was built.

Rule 64E-6-.017(7), F.A.C. Where a property has a cesspit, the cesspit must be replaced with an onsite sewage treatment system which complies with Rule 64E-6.018, F.A.C. (e.g. a Class I aerobic treatment system handling discharge to a sand-lined drainfield or injection well, an aerobic treatment system discharging to a soil absorption drainfield). Undocumented systems must be upgraded in accordance with the DOH Policy for the Evaluation, Approval and Permitting of Existing Onsite Sewage Treatment and Disposal Systems in the Florida Keys, dated December 19, 1997.

Rule 64E-6.0181, F.A.C. Undocumented aerobic treatment units will be approved for use if they meet the current standards for aerobic treatment units in the Keys. Part IIA of the Policy. Undocumented septic tank systems will be approved if:

1) the tank is structurally sound and within one size of the current minimum volume requirements;

2) the drainfield is at least 75% of the current required minimum size, and the bottom absorption surface of the drainfield is at least 24 inches above mean high water; and,

3) the drainfield is set back from surface water a minimum distance of 75 feet. If the undocumented septic system cannot meet these requirements, the system must be upgraded to meet one of seven options listed in Part IIB of the Policy.

Connection to Central Sewage Systems

The owners of properly functioning onsite treatment and disposal systems must connect to publicly or privately-owned or investor-owned central systems within 1 year of notification that central service is available. Section 381.00655(1)(a), F.S. -Within one year of central service becoming available, the owners of central systems must notify affected owners of onsite systems that central service is available to them and that connection is required within one year of the notification. An opinion of the Attorney General, 96-09, dated February 2, 1996, concluded that a county is not authorized by this provision to enforce homeowner hook-up, but the county may adopt an ordinance providing for enforcement of the statute by the county.

The question has been raised whether an OWTS that meets AWT must connect if sewer becomes available. The answer is "yes." Under current law, it would be an incorrect statement to say that such a system would NEVER have to connect. However, the standards provided in the Comprehensive Plan are recognized to be interim standards pending adoption of the SWMP.

Section 381.00655(2)(b), F.S., makes provision for waiver of the connection requirement. Specifically, with approval of DOH, the public or private utility to which the connection would be made may waive the requirement to connect if it determines that such connection is not required in the public interest due to public health considerations. Accordingly, DOH *and* the FKAA, or a private utility, could determine connection to be unnecessary. Nothing in this statute is intended to preclude actions required to protect the public health.

Section 381.00655, F.S. We note that Policies 901.4.9 and 901.5.18 of the Monroe County Comprehensive Plan require connection consistent with the statutory requirement. Accordingly, any waiver of connection would be inconsistent with the Comprehensive Plan. Local government actions are required to be consistent with the Comprehensive Plan.

Section 163.3161(6), F.S. DOH, the County and the FKAA should reach a consensus on this issue and act in accordance with that consensus. A comprehensive plan

amendment will be necessary if it is determined that the waiver provisions of Section 381.00655(2)(b), F.S., will be made available in Monroe County. The owners of onsite treatment and disposal systems that need repair or modification to function properly must connect to an available central system within 90 days of receiving notification from DOH.

Section 381.00655(1)(b), F.S. In cases of hardship, a 90 day extension for connecting may be granted. The owner of the onsite system may prepay the amortized value of the connection charge in equal monthly installments over two years from the date of notification that connection will be required.

Section 381.00655(1)(a), F.S. In cases of financial hardship, the local government may allow a property owner to pay for the connection to publicly or privately owned facilities monthly, over five years, without interest.

Section 381.00655(2)(a), F.S. The FKAA has options for reduction or waiver of connection fees in certain specified circumstances. See Sections 3 and 7.4 of this Technical Memorandum.

Coordinated Review and Permitting

The Monroe County Comprehensive Plan requires that DCA, DEP, DOH and the County develop a coordination procedure to ensure that the number of permits issued for onsite treatment and disposal systems does not exceed the number of permits allowed for development. The agencies have developed an MOU to implement this procedure. The procedure includes methods for tracking the number of cesspits eliminated and the rankings of properties for which permits have been requested (required by the comprehensive plan).

The tracking systems ensure that the appropriate number of permits are issued and that permits are issued to properties in accordance with their rank. Chapter 64E-7 of the Florida Administrative Code provides for an additional review procedure applicable in the Florida Keys Area of Critical State Concern (the entire county except for the island of Key West). The procedure provides permit applicants an opportunity to simultaneously submit onsite system and development applications for review by DOH and other state and regional agencies.

Rule 64E-7.002(1), F.A.C. The process coordinates review times and provides for at least one joint meeting with the applicant and other permitting agencies. Rule 64E-7.002(2), F.A.C. The result of the process is a certification by DOH that the project either meets or does not meet its permitting criteria.

Rule 64E-7.002(3), F.A.C. Certification that a project does meet the DOH criteria does not substitute for a permit but does create a rebuttable presumption that a permit will be issued.

Rule 64E-7.002(4), F.A.C. The coordinated review process can be completed more quickly than the permit review and, thus, can give the applicant important feedback at an earlier point in time.

Rule 64E-7.002(3) and (5), F.A.C. However, when processing of the permit application can be accomplished within the timeframes set up for coordinated review, DOH will issue a permit instead of a certification. Rule 64E-7.002(5), F.A.C.

Statutory and Rule Conflicts Regarding AWT for OWTS

Section 381.0065(4)(k), F.S., provides that DOH shall require effluent from OWTS in the Florida Keys to meet advanced waste treatment concentrations as defined in Section 403.086, F.S. It is assumed the statute is intended to be effective immediately, as no transition dates were provided. However, Rule 64E-6.018, F.A.C., which implements the statute, recognizes that AWT systems are not currently "available" and defers that requirement until such time as they become available. This rule does not mirror the statutory requirement unless the statute can be interpreted in more than one manner. One interpretation of the above-noted reference to Section 403.086, F.S., is that it alludes to the definition of AWT found in subsection (4) thereof. This is the most logical interpretation. That interpretation, if upheld, would mean that the rule is inconsistent with the statute. If this interpretation is what was intended, it is unfortunate that the drafters didn't specify "as defined in Section 403.086(4), F. S.," because the more specific reference would have left no room for doubt. The reference to Section 403.086, F.S., could also be interpreted as a broader, more inclusive application, extending to all of Section 403.086, F.S. Such an interpretation could leave the implementation of the AWT requirement to those instances where "deemed necessary and ordered by the Department" (meaning DEP). Section 403.086(1), F.S. This interpretation is less probable because Section 403.086(3), F.S., effectively indicates that Section 403.086, F.S., does not apply to septic tanks.

Section 381.0065(4)(a), F.S., provides a mechanism for issuance of variances where "no reasonable alternative exists for the treatment." Such variances should be issued on a case-by-case basis. The rule appears to effectively issue a "blanket variance." A court may determine that the rule is valid because DOH has the statutory authority to grant variances. However, procedurally; this is not the normal approach, and a court is just as likely to invalidate the rule. If AWT systems are not available, it may make more sense to make an appropriate amendment to Chapter 381, F .S. Until it is amended, the rule will remain at risk of challenge. In contrast to DOH's statutory AWT requirement for OWTS, AWT requirements for wastewater plants, as stated in the DEP letter of May 12, 1988, stem from Monroe County's Comprehensive Plan Policy 901.1.1., not a rigid statutory fiat.

Section 403.086, F. S., provides that DEP can impose AWT standards where deemed necessary. Under DEP's rules, such requirements would be driven by the need to protect the quality of the receiving waters. While the outcome may be the same, DEP's

statutory authority provides more flexibility to the agency so that it can take into account availability of technology. Nothing herein is intended to render any opinion on the availability or lack thereof of AWT for OWTS or wastewater plants.

OTHER PERMITS

This Technical Memorandum has reviewed the principal permits which might be required for siting of sewage treatment facilities contemplated by the Plan. Other permits such as environmental resource permits pursuant to Chapter 373, F.S., could be required to address stormwater handling.

- A federal stormwater permit could also be required under the Clean Water Act.
- A Department of Transportation permit could be required if access is required adjacent to a state road.
- A local building permit would also be required.
- A consumptive use permit, under Chapter 373, F.S., could be required if the facility requires water for its operations.

Location can affect the types of permits which might be required. For instance, if a facility or portion thereof is proposed to be sited in waters, a regulated wetland or transitional area, permits could be required pursuant to

- the federal Clean Water Act or
- the Rivers and Harbors Act (Corps of Engineers jurisdiction) or
- Chapter 373, F.S. (South Florida Water Management District – DEP jurisdiction).

If there is any thought of performing any construction in a jurisdictional area, consultation with the regulatory agency should be commenced very early in the process, as it is likely that it will be very difficult to obtain approval for any significant dredging or filling activity in sensitive areas.

LAND USE REQUIREMENTS AND RESTRICTIONS

Monroe County has instituted a variety of measures that will link development to improvements in sewer service, correct existing sewage problems, and protect water quality and habitat. Most notable among these measures is the Permit Allocation System for New Residential and Non-Residential Development. Permits for new residential development will be limited by the number of cesspits eliminated in a defined area. The degree of new nonresidential development allowed will be based on the number of new residential permits issued.

Property owners denied permits may request that Monroe County purchase their property. The County will rank all such properties based on environmental sensitivity and attempt to acquire them. Onsite sewage treatment systems not eliminated through the Permit Allocation System will be eliminated by a comprehensive inspection and compliance program implemented in conjunction with DOH. Initially, illegal systems will

be eliminated, and then a method to inspect permitted facilities on an on-going basis will be implemented. Interim level of service standards for onsite and central systems are identified in the comprehensive plan and will be in effect until the SWMP is completed. Water quality will be protected by these interim standards and through monitoring efforts designed, in part, to identify impacts of development. Once impacts are identified, measures will be taken to improve water quality in the affected areas. Development is restricted in sensitive habitats and those supporting endangered species. These restrictions may affect the selection of sites for new or expanded sewage treatment facilities.

Land use in Florida is regulated largely through Chapters 163 and 380, F.S. Chapter 163, Part II, commonly called the Growth Management Act, requires local governments to develop local comprehensive plans for controlling development.

Chapter 380 provides for the creation of Areas of Critical State Concern. This designation imposes additional planning requirements which must be addressed in the local comprehensive plan.

Section 380.05(5) and (6), F.S. Chapter 163 requires each municipality to develop a comprehensive plan and requires that the County develop a comprehensive plan for its unincorporated areas.

Section 163.3171(1) and (2), F. S. The only incorporated areas in the County are the cities of Key West, Key Colony Beach and Layton and the Village of Islamorada. Because the Village of Islamorada was incorporated very recently, it will follow the County comprehensive plan until it prepares its own. The comprehensive plans of these municipalities are required to include an element explaining how their development will be coordinated with development in the County.

Section 163.3177(4), F.S. Likewise, the County must explain how development in the unincorporated areas will be coordinated with that in the municipalities. The County plan must, in addition, address coordination with adjacent counties.

Section 163.3177(4), F.S. Monroe County's plan includes coordination with Dade and Collier Counties as part of Goal 1301. Chapter 163 includes a list of elements, some of which must be included in comprehensive plans and some of which may be included at the discretion of the local government.

Section 163.3177(6) and (7), F.S. Provision of sewer services is a mandatory element.

Section 163.3177(6)(c), F.S. Each element is organized into goals (which are long-term aspirations), objectives (which are mid-range strategies), and policies (which are short term actions that must be taken to achieve objectives). Once a comprehensive plan is approved, the local government must adopt land development regulations to implement the plan.

Section 163.3202(1), F.S. All development orders issued by the local government must be consistent with land development regulations and the comprehensive plan.

Section 163.3194(1)(a) and (b), F.S. An important component of all comprehensive plans is the capital improvements element which addresses the funding and location of public facilities. The local government must determine where to locate public facilities in order to promote their efficient use and meet the needs of the public.

Section 163.3177(3)(a), F.S. Over a five-year planning period, the County must determine where new facilities must be built, where existing facilities must be upgraded, and what levels of service the facilities must provide.

Section 163.3177(3)(a)1 and 3, F.S. The local government must estimate the cost of providing these facilities and levels of service and identify the funding sources from which it will obtain the necessary capital.

Section 163.3177(3)(a)2, F.S. Linked to the capital improvements element is the concurrency requirement, which applies to sewer service and several other types of public services. Section 163.3180(1)(a), F.S. Local governments must ensure that sewer facilities and services are provided concurrently with the impacts of development.

Section 163.3177(10)(h), F.S. Sewer service must be available no later than the issuance date of a certificate of occupancy or similar authorization.

Section 163.3180(2)(a), F.S. However, local governments cannot extend or provide service to new developments on an ad hoc basis. New or extended service to an area must be accounted for in the capital improvements element of the plan.

Section 163.3177(10)(h), F.S. Most of Monroe County is included in the Florida Keys Area of Critical State Concern. Excluded from this designation are:

1) the part of the County within the exterior boundaries of Everglades National Park and areas north of the park;

2) publicly owned lands more than 250 feet seaward of mean high water;

3) federal properties; and

4) the City of Key West. Rule 28-29.002, F.A.C.

The City of Key West is also designated as an Area of Critical State Concern. It includes the entire island of Key West and certain adjacent areas.

Rule 28-36.002, F.A.C. Principles for guiding development must be adopted for each area. The principles for the Keys area are in Section 380.0552(7), F.S., and those for Key West are in Rule 28-36.003, F.A.C. The local comprehensive plans of the County and City must adhere to the principles for development for their respective Areas of Critical Concern as well as the requirements of Chapter 163.

Section 380.05(5) and (6), F.S. In 1995 the Administration Commission entered a final order in Case No. 95-ACC-024, finding that the Monroe County Comprehensive Plan was not in compliance with Chapters 163 and 380, F.S., and the Principles for Guiding Development. Subsequently, in 1996, the Governor issued Executive Order 96-108 which requires DEP, DCA and DOH to coordinate with the County in undertaking certain actions needed to bring the comprehensive plan into compliance. These actions include developing and implementing a system to eliminate cesspits, implementing the Permit Allocation System, conducting a carrying capacity study, and preparing the SWMP. The Monroe County Comprehensive Plan was extensively revised in 1997 in order to achieve compliance. In large part, the revisions address sewage management problems. Development of the SWMP was required by the 1997 amendments. The elements of the Monroe County Comprehensive Plan which are most relevant to the SWMP are Future Land Use, Conservation and Coastal Management, Solid Waste, Sanitary Sewer and Intergovernmental Coordination. These elements are discussed below.

FUTURE LAND USE

Permit Allocation System for New Residential Development

The Future Land Use element includes a goal (Goal 101) providing that the County must manage growth in a way which enhances the quality of life, ensures safety, and protects valuable natural resources. One of the policies critical to achieving this goal is development and implementation of the Permit Allocation System which will limit the number of permits the County may issue for new residential development. Because all of the information needed to develop this system is not yet available, one of the 1997 amendments to the comprehensive plan requires development of an interim Permit Allocation System. The interim system will be in effect until the County determines its future growth capacity and amends the comprehensive plan accordingly. The future growth capacity will be based on the results of the Five Year Work Program, which is a component of the interim Permit Allocation System.

The interim Permit Allocation System is tied to the County's Rate of Growth Ordinance ("ROGO") which limits the number of permits issued for new residential development in each ROGO area to 255 per year. The interim system limits the number of new residential developments in each ROGO area to the number of cesspits replaced within each ROGO area. If less than 255 cesspits are replaced in a year, then 255 permits for development cannot be issued. If more than 255 cesspits are replaced in a ROGO area within a year, the associated development permits cannot be issued until the following year.

Allocation of permits is based not only on the number of cesspits eliminated but also on progress made on the Five Year Work Program. Each year the Administration Commission will review the County's progress on the program, and, if it determines substantial progress has not been made, the cap on new residential development will be reduced by at least 20% for the next year. Implementation of the interim system

requires that DEP, DOH, DCA and the County coordinate their permitting procedures so that the state agencies do not issue wastewater disposal permits that allow development beyond the number of permits Monroe County may issue. The County may not issue development permits in excess of those that DEP or DOH may issue.

Five Year Work Program

The Five Year Work Program (Policy 101.2.13) sets out a time line for completing projects needed to protect water quality. Year one started on January 1, 1997, and year five ends on December 31, 2001. The projects included in the program are the:

- SWMP, the Stormwater Master Plan;
- the Cesspit Elimination Program;
- the Marathon Facilities Plan, a study assessing the maximum degree of land development the Keys can tolerate without unacceptable impact to natural systems (the carrying capacity analysis); and
- a land acquisition program.

Executive Order 96-108 requires DEP, DCA and DOH to assist the County with these projects.

Permit Allocation System for Non-Residential Development

Objective 101.3 of the Future Land Use Element requires the County to regulate non-residential development in order to maintain a balance of land uses needed to serve County residents. By January 4, 1998, the County must complete an economic study to determine the demand for future non-residential development. Until the study is complete new non-residential development will be limited to 239 square feet for each new residential development permitted. The ratio will be changed if the economic analysis indicates it is appropriate. Applicants for nonresidential development must obtain a letter from DOH confirming the availability of potable water and electric permits before submitting a building permit application to the County. In addition, the County will not issue a building permit until the applicant has obtained all other permits needed from the state.

Point System

Objective 101.5 requires that the County direct future growth in a manner that protects natural resources and ensures orderly urban development. The Point System, to be implemented through land development regulations, is the mechanism the County must use to meet this objective. This system allocates points to both residential and nonresidential permit applications, and the points are used as a basis for selecting the applications that will be granted through the Permit Allocation System. Positive point factors are assigned to applications considered beneficial, and negative point factors are assigned to applications considered to be liabilities.

Land Acquisition

Objective 101.6 requires that the Monroe County Land Authority expand its acquisition program to purchase property for which building permits have been denied due to the Permit Allocation System. Property owners must meet certain criteria in order for their land to be eligible for acquisition, among them, the development must meet all county, state and federal requirements other than those associated with the Permit Allocation System. The County is expected to coordinate with the DCA to ensure that state administered acquisition programs are implemented in a manner that supports the County's acquisition priorities. Both the County and DCA will support legislative changes that enhance the County's ability to acquire properties that are denied permits.

The County must compile a list, annually, which prioritizes lands for which acquisition has been requested and for which permits have not been allocated., The properties will then be ranked based on environmental factors, with the most sensitive properties receiving the highest priority for acquisition.

Special Requirements for Public Facilities

Objective 103.1 requires the County to regulate development, including the provision of public facilities, on Big Pine Key and No Name Key to protect the Key deer and its habitat. The County must deny approval of any public or private non-residential development if it increases traffic on these islands beyond a specified degree. The comprehensive plan lists a number of other actions that must be taken to reduce the adverse effects of traffic on the Key deer on various islands. Special requirements for siting new public facilities or significantly expanding public facilities on Big Pine Key and No Name Key are incorporated into the comprehensive plan. These requirements include conducting as assessment of needs, evaluating alternative sites, evaluating design alternatives for the selected site, and assessing the impacts on surrounding land uses and natural resources. The impact assessment for natural resources will focus on the extent to which public facilities are located in sensitive environments. In addition, there are restrictions on the uses of ground water on these islands. Given these requirements and a number of others, it is clear that any development which alters the habitat of the Key deer is actively discouraged and will be closely scrutinized.

Objective 103.2 requires the County to regulate future development and coordinate the provision of public facilities in North Key Largo in a way that preserves and enhances the _habitat of four endangered species - the American crocodile, the Key Largo wood rat, the Key Largo cotton mouse, and the Schaus' swallowtail butterfly. The requirements that apply to expanding or siting new public facilities on the islands supporting Key deer also apply to North Key Largo. However, the County must go further and prohibit new development of public facilities in the area unless no feasible alternative exists and the facilities are needed to protect the public health, safety or welfare.

Conservation and Coastal Management Element

This element of the comprehensive plan includes provisions to protect air quality, water quality, a variety of habitat types and historic resources. The provisions most relevant to the SWMP are those that would affect siting and permitting of proposed facilities. While policies directed toward protecting specific habitat types and species may not prohibit development in certain areas, they could make permitting of facilities more cumbersome.

Water Quality

With respect to water quality, Objectives 202.1, 202.2 and 202.3 are most relevant to the SWMP.

Objective 202.1 and its associated policies are directed toward studying and improving water quality in the Florida Keys National Marine Sanctuary. To this end, the SWMP is required to assess pollutant loadings to ground and nearshore waters from sanitary wastewater facilities. After the studies are complete, pollution control measures, including water quality-based effluent limits and best management practices, will be adopted to protect the Sanctuary. Impacts to this area should be avoided.

Objectives 202.2 and 202.3 require implementation of permitting, inspection and enforcement procedures to reduce discharges to surface and ground water from onsite systems and wastewater treatment plants.

Habitat

The comprehensive plan includes studies and actions that must undertaken to protect wetlands, seagrass beds and corals. To the maximum extent possible, facilities should be sited to avoid adversely affecting these habitat types. Objective 203.1 prohibits all filling in mangrove wetlands except for certain pile-supported structures and establishes setbacks from all wetlands.

Objective 204.1.1 requires the County to protect wetlands by participating in the Advanced Identification of Wetlands Program ("ADID"), which facilitates the regulatory process by mapping all wetlands in the Keys and assessing their functionality.

Objective 204.2 directs the County to eliminate the loss of undisturbed wetlands and the net loss of disturbed wetlands. Submerged lands, mangroves, salt ponds, freshwater wetlands and freshwater ponds are protected by an open space requirement. Development is not allowed in these habitat types, although transferable development credits may be assigned away from freshwater wetlands, undisturbed salt marsh and buttonwood wetlands. In addition, as part of meeting this objective, setbacks from wetlands are required and development in wetlands is prohibited until the ADID is finished.

Objective 203.2 pertains to seagrass protection and prohibits any new dredging that would harm the species. Thus, any dredging required for construction of facilities could not impact seagrass beds. Although not specifically prohibited, locating effluent

discharges in the vicinity of seagrass beds should be avoided. Objective 203.3.4 requires the County to protect, preserve and enhance coral reefs through enacting land development regulations which protect water quality. This includes limiting the location of water dependent activities to areas where they will not have a significant adverse impact on the resource.

Objective 205.2 requires that measures be taken to protect upland habitats native to the Keys.

Objective 206.1 requires the County to adopt measures to protect beaches and berms. Any development which will require disturbance of natural beach/berm systems will be assigned a negative point rating. Excavation or filling in these systems is prohibited. Construction setbacks are required and lighting restrictions to protect nesting sea turtles must be in place.

Historic Resources

Objectives 214.3, 214.4 and 214.5 require the County to protect, preserve and increase public appreciation of historical resources. It would not be advisable to situate wastewater facilities in a way that would threaten these resources or the public's ability to appreciate them.

Public Expenditures in the Coastal Zone

An important goal of the comprehensive plan is to limit public expenditures which result in the loss of or adverse impacts to natural resources in the Coastal Zone. To meet this goal, Objective 215.1 requires that public expenditures for infrastructure within the Coastal Zone be made in accordance with the capital improvements schedule.

Objective 215.2 requires the County to explore alternatives to funding public facilities which damage significant coastal resources. Public expenditures will not be made for facilities located within the Coastal Barrier Resources System, saltmarsh, buttonwood wetlands, or offshore islands not currently accessible by road.

Solid Waste

Objective 801.2 provides that, in order to meet its solid waste collection and disposal needs, the County must construct a new facility to handle sludge, septage and/or leachate on Crawl Key. The comprehensive plan requires completion of the facility by January 4, 1998. If there has been a change in plans pertaining to the nature of the facility to be constructed on Crawl Key, it is recommended the Comprehensive Plan be updated to reflect this change.

Sanitary Sewer Element

The long-term goal of the County is to provide adequate and economically sound sewage services to County residents while protecting public health and quality of groundwater and nearshore water.

Levels of Service and Concurrency

Objective 901.1 requires that sewer services be available to support permitted development at an adequate level of service. To accomplish this objective, permanent level of service standards for both sewer service and onsite treatment must be established. These level of service standards will be developed in the SWMP, and, once they are adopted, all new, expanded and replacement facilities must comply. Until the SWMP is completed, interim level of service standards provided in the comprehensive plan will be used.

The interim standards for wastewater treatment plants require that annual average daily flow not exceed .100% of the permitted capacity of the facility, and that new and expanding plants meet advanced wastewater treatment (AWT) standards as defined in Section 403.086, F.S., or that the best available technology be used when the AWT standard cannot be met. Exceptions to the technology standard are made for facilities discharging to Class I injection wells permitted for reuse, so long as reasonable assurance is provided that no adverse ecological impact will result.

The interim level of service standard for onsite systems is use of aerobic treatment units which discharge to the best available disposal systems as determined by DOH. Methods approved by DOH under its program to investigate innovative technologies also may be used. As they become feasible, use of new technologies will be required. In addition, the County must require mandatory pump-out of septic tanks by qualified contractors..

The comprehensive plan requires adoption of land development regulations which ensure that permits will not be issued for new development unless adequate wastewater facilities, providing the required level of service, are available when the impacts of development occur. The land development regulations will be applicable to facility siting.

With respect to the permit allocation and point system, the County may consider assigning a positive point rating to developments with treatment systems operating above the required level of service.

Elimination of Onsite Disposal Systems

Objective 901.2 and Executive Order 96-108 require the County to work with DOH to eliminate cesspits and improve failing septic tanks and package plants. Under the Executive Order, within a year after its issuance on March 28, 1996, property owners could voluntarily provide documentation that their onsite systems were approved and had up-to-date operating permits. These operating permits would allow for the system to be used so long as it was properly maintained or until a central system became

available for connection. The order also provided that temporary operating permits should be considered for onsite systems which will have an opportunity to connect to a central system within six years of the issuance date of the Executive Order. In addition, the Executive Order requires DCA, DEP and DOH to assist Monroe County in developing procedures, criteria and priorities for confirming the adequacy of each onsite system. The comprehensive plan addresses this requirement in Objective 901.2, providing that the County, in coordination with DOH, must complete a two-phased inspection/compliance program for onsite disposal systems and an interlocal agreement specifying each entity's responsibility for plan implementation. The Executive Order requires that all properties, on which system adequacy has not been voluntarily documented within the specified time frame, be-subject to the two-phased plan implemented by the County. The comprehensive plan requires that Phase I of the inspection/compliance plan address the elimination of illegal onsite systems and that Phase II address ongoing inspections and permit renewals for legally permitted systems. The following actions will be undertaken during Phase I:

1) identification of cesspits, and identification and inspection of septic tanks suspected of being illegal or substandard;

2) proper abandonment of cesspits or replacement of cesspits with permitted treatment systems; and,

3) upgrading and/or replacement of substandard, unpermitted onsite systems with systems that meet state and county regulations.

Within two years of initiating Phase I, all cesspits should be eliminated or enforcement action should be taken. During Phase II the following actions will be undertaken:

1) inspection of all permitted onsite systems beginning with septic tanks over three years old;

2) requiring inoperative or deficient systems to come into compliance with state and local regulations;

3) issuance of operating permits for systems which are in compliance;

4) requiring the inspection and renewal of operating permits for septic tanks every five years; and

5) requiring the inspection and renewal of operating permits for aerobic treatment systems as required by law.

In addition to improving land-based disposal systems, the County must implement regulations designed to reduce pollutant discharge from liveaboard vessels.

Discouragement of Urban Sprawl

Objective 901.3 requires the County to discourage urban sprawl by ensuring maximum use of existing wastewater treatment facilities. To accomplish this goal, the County may consider assigning points to developments which connect to existing wastewater treatment facilities, use water reuse systems, and meet adopted level of service standards. The comprehensive plan prioritizes the circumstances under which wastewater systems may be extended or replaced. Finally, the County must

maintain and annually update a five-year schedule of capital needs for sewer services.

The SWMP

Objective 901.4 requires the County to prepare and complete the SWMP by December 31, 1998. The comprehensive plan specifies that the SWMP must include the required levels of service and type of treatment for all developed and undeveloped areas in the County. In addition, it must include an inventory of all wastewater treatment plants and areas served by onsite systems such that the County can determine where levels of service are being met, exceeded, or not met. The SWMP must include minimum operational standards for package plants, collection systems, pump stations, and disposal wells which will be adopted along with the plan. Upon adoption, the County must petition DOH to initiate rulemaking to amend Chapter 1OD-6 (now 64E-6) of the Florida Administrative Code as it would apply in the County Code to adopt and enforce the adopted standard for wastewater treatment.

With respect to onsite systems, the plan requires owners of onsite systems to connect to central sewer service within one year of it becoming available to them. The comprehensive plan provides that the County must field test new treatment technologies to determine their effectiveness at removing nutrients and the feasibility of their widespread use. The comprehensive plan also provides for adoption of land development regulations which establish site specific density criteria for onsite systems and prescribe the types of systems to be utilized.

By the effective date of the SWMP, the County must enter into an agreement with certain state and federal agencies describing the types of studies that will be undertaken to document pollutant loading from point and non-point sources into nearshore waters. The studies undertaken for this purpose must be conducted in coordination with the Water Quality Protection Program of the Florida Keys National Marine Sanctuary.

Water Quality Protection

Objective 901.5 requires that the County regulate land use to protect surface and groundwater from the adverse effects of sewer systems. A number of water quality monitoring policies are required to meet this objective, with a major effort focused on development of a plan to identify isolated and cumulative impacts of development. Where water quality standards are not met, remedial actions must be undertaken. The County is also directed to _adopt land development regulations which:

1) set minimum performance standards for onsite systems;

2) ensure that sewage disposal facilities are located so that discharges will not be directed into surface water, wetlands or groundwater in the event of a power failure;

3) ensure that discharge points of sewage facilities are located as far as possible from surface waters and aquifer storage recovery areas;

4) require location of drainfields for onsite systems on the least environmentally sensitive portion of a parcel of land; and

5) incorporate the recommendations of the EPA's water quality protection program, as they become available.

In addition, a number of the policies reflect an emphasis on maximizing recycling and reuse of wastewater.

Intergovernmental Coordination

In order to better anticipate and resolve planning conflicts, the plan encourages intergovernmental coordination with:

1) the municipalities within the County;

2) Dade and Collier Counties;

3) regional, state and federal agencies; and

4) private entities.

A primary purpose of the coordination effort is to ensure that impacts stemming from development in Monroe County are considered by the municipalities and Dade and Collier Counties when such counties adopt or amend their comprehensive plans. Certain issues are the focus of specific coordination efforts.

An informal mediation process has been established to resolve annexation conflicts with the municipalities in the County, neighboring counties and the state. The County and the FKAA will coordinate an evaluation of the County's comprehensive plan, levels of service and annual public facility capacity analysis. Dade and Monroe counties will enter into an interlocal agreement to coordinate their review of how development in each County affects levels of service within one mile of each County's borders. The County will coordinate with applicable state agencies to promote utilization of gray water storage systems and use of gray water for irrigation and flushing.

A technical coordinating committee to resolve conflicts between the County and Key West pertaining to community services, public works, and planning will be established by interlocal agreement. Coordination on the issues related to the designation of areas of critical state concern will be accomplished through informal mediation, the technical coordinating committee, and through intergovernmental agreements with DOH and DEP to streamline and coordinate permitting procedures.

Several intergovernmental agreements between the County and other agencies have been or will be prepared to address water quality. The inspection and compliance program for onsite disposal systems, package plants, and wastewater treatment plants will be implemented through an agreement with DEP and DOH. Identification and replacement of onsite systems will be implemented through

an agreement with DOH. Preparation of the SWMP was implemented via agreement with the FKAA and the SFWMD. The County will seek to enter into agreements with other state and federal agencies to define responsibilities for implementing water quality monitoring programs.

Capital Improvements

Sanitary sewer facilities are not addressed in the capital improvements element of the comprehensive plan because the County provides no public sewer service. The SWMP, which will inventory existing private facilities, will include recommendations for future capital improvements needed to alleviate deficiencies and serve future development.

LAND ACQUISITION THROUGH EMINENT DOMAIN

Counties and sewer districts have authority to exercise the power of eminent domain. Under standard procedures the governmental entity may not take possession of property until a final judgment is rendered. Counties, however, have the option of taking possession before entry of a final judgment. The powers of counties and sewer districts to condemn property are similar in many respects. A significant difference in powers granted to these entities is that a county may condemn land beyond its boundaries while a sewer district may not. Sewer districts, however, have more latitude to connect with municipal facilities than do counties. The FKAA has been given the power of eminent domain under Chapters 73 and 74, F.S., and it can take immediate possession if it makes the requisite showing.

5.1 Procedure

To initiate eminent domain proceedings, a governmental entity must file a petition with the Circuit Court of Monroe County.

Section 73.021, F.S. The petition must include, among other things, the source of the entity's authority to exercise eminent domain powers, a survey of the property, and names and addresses of those with a legal interest in the property (the defendants). The clerk of court will issue a summons to show cause why the property should not be taken which will be served on all resident defendants.

Section 73.031, F.S. Nonresident and unknown defendants, and others who cannot be served, will be notified by publication of notice in a county newspaper.

Section 73.031, F. S. If the parties can agree on the value of the property, a trial can be avoided. Otherwise, a jury will determine the value of the property.

Sections 73.032 and 73.071, F. S. Assuming a judgment is rendered in favor of the governmental entity, the entity must deposit funds to compensate the property owner

within 20 days after filing of the final judgment, or it may get an extension of up to 60 days for good cause.

Section 73.111, F.S. The court may set the conditions under which the defendants surrender their interests.

Section 73.111, F.S. Counties may attempt to possess property before a final judgment is reached by filing a declaration of taking in addition to the petition described above.

Sections 74.011 and 74.021, F.S. The declaration may be filed any time prior to final judgment and must include the value of the property interest based on a valid appraisal.

Section 74.031, F. S. The requirements for service are similar to those required for the petition**.**

Section 74.041(1) and (2), F.S. If the court decides that the governmental entity is entitled to advance possession, the governmental entity must deposit, with the court, funds in an amount not less than the value stated in the declaration of taking.

Section 74.051, F.S. The petitioner may then take possession in accordance with conditions set by the court. If the final judgment is for an amount greater than that initially deposited, the government must pay the difference.

5.2 Eminent Domain Power of Counties

Counties may exercise the power of eminent domain to obtain property needed for construction, operation, expansion or improvement of sewage disposal systems that the county has purchased or built.

Sections 127.01(1)(a) and 153.03(5), F.S. The power extends to real and personal property and associated interests, including privately owned submerged land and riparian rights. For sewage treatment purposes, a county may condemn property in adjacent counties. See Prosser v. Polk County, 545 So.2d 934, 935 (Fla. 2d DCA 1989) (holding that because section 127.01 expressly prohibits a county from condemning land for recreational purposes outside the county, similar geographic restrictions for other purposes would have been expressly stated if they were intended). Because eminent domain power is considered coercive, the power must be delegated expressly and statutes granting the power are strictly construed against the governmental entity. 21 Fla. Jur. 2d, Eminent Domain, Section 10 (1980).

- Counties are expressly prohibited from exercising eminent domain power over state and federal property, municipal property, and privately owned sewage disposal systems used primarily by industries or manufacturers for disposal of their own wastes.

- Sections 127.01(1)(a) and 153.03(5), F.S. In addition to the prohibition on exercising eminent domain over municipal property, a county may only locate sewage disposal facilities in a municipality with the municipality's consent or when the county owned such facilities prior to incorporation.

- Section 153.03(1), F.S. Although counties are granted power to construct sewage disposal systems by Section 153.03, F.S., they are not expressly authorized to use eminent domain powers for the construction of new plants.

- Section 153.03(5), F.S., allows the county to use eminent domain powers "for the efficient operation, or for the extension or for the improvement" of purchased or constructed facilities. However, Section 127.01(a), F.S., grants counties broad authority to exercise the eminent domain power for county purposes. It is reasonable to conclude that constructing new sewage treatment facilities is a county purpose.

- Section 153.03(1), F.S., grants counties the power to construct and expand sewage treatment facilities, and Section 125.01(1)(k)1, F.S., identifies provision of sewage collection and disposal facilities as a responsibility of county government. Even though Section 153.03(5), F.S., does not expressly mention construction, it could be concluded that Section 127.01, F.S., grants the eminent domain power for construction of new facilities because such work serves a county purpose.

While we are unable to find case law directly addressing the issue, Manatee County v. Harbor Venture, 305 So. 2d 299, 300 (Fla. 2d DCA 1975), indirectly supports the conclusion that counties have such powers. The case involved a county's condemnation of property for 122
construction of a sewage treatment plant, and the issue adjudicated was the award of attorney's fees incurred during the condemnation proceedings. Although the court was not asked to rule on use of eminent domain for construction of a new plant, it did not indicate that the county's action was inappropriate.

5.3 Eminent Domain Power of Sewer Districts

The BOCC may create sewer districts when deemed necessary in the public interest. Section 153.53(1), F.S. Should the County decide to do so, such districts will have eminent domain powers similar to those of counties. They will be able to obtain property rights needed to operate, expand, improve and construct sewage disposal facilities. Section 153.62(7), F.S. However, see discussion in Section 2 of this Technical Memorandum regarding the supremacy of the FKAA as it pertains to wastewater.

A district's power is more restricted than a county's. Districts are prohibited from condemning land beyond their boundaries. Because districts may only be created from the unincorporated areas of a county, they cannot obtain land in municipalities through eminent domain proceedings. Section 153.53(1), F.S. While Section 153.62, F.S., does not expressly prohibit a district from exercising eminent domain power over

federal or state-owned land, such lands may be obtained only with consent of the appropriate government. 21 Fla. Jur 2d, Eminent Domain, Sections 22, 11 (1980).

Districts are authorized to construct connecting, intercepting or outlet sewers under streets, highways and other public places within municipalities or other political subdivisions and to "join with" municipalities, counties and other political subdivisions "in the exercise of common powers." Section 153.62(16) and (10), F.S.

5.4 Eminent Domain Power of the FKAA

The Act grants the FKAA the power to use eminent domain within or without its territorial limits and affords it all the powers granted by Chapters 73 and 74, F.S., discussed in Section 6.1 above.

6.0 COORDINATION WITH OTHER EXISTING PROGRAMS

Because the natural resources and scenic beauty of the Florida Keys has state and national significance, the environmental problems of the Keys have been under scrutiny of state and national regulatory organizations. These governmental entities have their own programs, some of which overlap with the SWMP. The involvement of these agencies brings many resources to bear, which would not be otherwise available. However, the most efficient use of these additional resources will only be accomplished with careful interagency coordination to avoid duplication of effort.

6.1 Florida Keys National Marine Sanctuary Act

The Florida Keys National Marine Sanctuary and Protection Act of 1990, PL 101-605, as amended by PL 102-587 ("Protection Act"), was enacted to protect the resources of the area, educate the public, and manage human uses of the Sanctuary in a manner consistent with the Protection Act.

The Protection Act provides for the development of a comprehensive management plan and implementing regulations. The plan must include water quality criteria, including water quality based effluent limitations, and best management practices. The Protection Act also creates an Advisory Council and Steering Committee to assist in the implementation of the management plan. Finally, the Protection Act provides for water quality monitoring.

The Sanctuary consists of approximately 2,800 nm^2 of coastal and oceanic waters and submerged lands surrounding the Florida Keys and areas westward toward, but excluding, Dry Tortugas National Park, to the mean high water line.

The United States Department of Commerce has published the Final Management Plan/Environmental Impact Statement for the Sanctuary ("Plan"). Many of the elements of the Plan do not relate to the SWMP. Those most relevant are summarized below.

The Regulatory Action Plan combines existing regulations with new requirements promulgated in the Plan. Regulations are published in 15 CFR Part 922. Section 922.163(a)(4) of 15 CFR prohibits discharge of materials, or other matter, which injure a Sanctuary resource or quality except those authorized under Monroe County land use permits or under state permits. Generally prohibited activities may be allowed, upon consent of the Sanctuary director, if they are conducted pursuant to valid federal, state or local permit and provided the applicant complies with Section 922.168.

The Plan includes a Water Quality Action Plan with 37 strategies. Implementation of the strategies depends on funding. The Plan has a strategy specific to domestic wastewater which is summarized as follows:

Strategy W.1: Onsite Disposal System ("OSDS") Demonstration Project Conduct a demonstration project to evaluate innovative alternate, nutrient-removing OSDS. The DOH will be the responsible agency for this activity. Other primary agencies involved are EPA, DEP, DCA and Monroe County.

Strategy W.2: AWT Demonstration Project Conduct a pilot project to evaluate installation of a small, expandable AWT plant to serve an area of heavy OSDS use with associated water quality problems. This strategy will provide information to help decide whether elimination of OSDS would improve water quality in areas believed to be degraded by OSDS-related nutrients. Existing OSDS in the test area would be connected to a small package plant providing AWT, which includes nutrient removal. The project will also provide information about the long-term performance of small AWT systems and septic tank effluent pumps or other collection systems. Both conventional and innovative technologies will be considered. DOH is the responsible agency for this activity. EPA, DEP and Monroe County are involved as primary agencies.

Strategy W.3: Wastewater Management Systems Establish authority for and implement inspection/enforcement programs to identify all cesspits, and enforce existing standards for all OSDS and package plants. Evaluate the development of targets for reductions in wastewater nutrient loadings necessary to restore and maintain water quality and Sanctuary resources. Develop and implement a Sanitary Wastewater Master Plan that evaluates options for upgrading existing systems beyond current standards or constructing community sewage treatment plants, based on nutrient reduction targets, cost and cost effectiveness, reliability/compliance considerations, and environmental and socioeconomic impacts.

- Activity 1 - Establish Inspection/Compliance Programs for Cesspits, OSDS, and Package Plants. The DOH will be the responsible agency. Other primary agencies involved will be EPA, DEP, Monroe County and the City of Key West.
- Activity 2 - Evaluate Development of Nutrient Reduction Targets. The EPA and DEP will conduct this activity.

- Activity 3 - Develop Sanitary Wastewater Master Plan. This activity will develop a Sanitary Wastewater Master Plan to evaluate options for wastewater treatment developed in the EPA Water Quality Protection Program Phase II Report. The options (using the numbering in that report) are as follows:
  - W3a: Upgrade existing systems to current standards;
  - W3b: Upgrade package plants to AWT;
  - W3c: Upgrade package plants to AWT and OSDS to alternate nutrient-removing systems;
  - W3d: Construct AWT plants for Key Largo and Marathon and extend the service area of the Lower Keys, to treat 52 percent of wastewater flows outside the City of Key West;
  - W3e: Construct seven community wastewater treatment plants for the most densely
  - populated areas, to treat 73 percent of wastewater flows outside the City of Key West;
  - W3f: Construct 12 conununity wastewater treatment plants, to treat 94 percent of wastewater flows outside the City of Key West; and
  - W3g: Construct three subregional wastewater treatment plants, to treat 94 percent of wastewater flows outside the City of Key West.

  DEP and EPA will be the responsible agencies. DOH and Monroe County also will be involved as primary agencies.
- Activity 4 - Implement a Master Plan. This activity will implement the preferred wastewater treatment option specified in the Sanitary Wastewater Master Plan developed under Activity 3.

The responsible agency for this option was not determined.

<u>Strategy W.4: Wastewater Disposal. City of Key West</u> Upgrade effluent disposal for the City of Key West wastewater treatment plant. The responsible agency will be the City of Key or possibly the FKAA. Other primary agencies involved will be DEP, EPA, DCA and Monroe County.

<u>Strategy W.5: Water Ouality Standards</u> Develop and implement water quality standards, including biocriteria, appropriate to Sanctuary resources. The responsible agency for changes to the state's water quality standards will be DEP. Other primary agencies involved in developing the standards will be EPA and DOH.

<u>Strategy W.6: NPDES Program Delegation</u> Delegate administration of the NPDES program for Florida Keys dischargers to the State of Florida. The

EPA delegated NPDES permitting authority to the State of Florida, as has been done in many other states. This activity was implemented by the EPA and DEP in 1995.

Strategy W.7: Resource Monitoring of Surface Dischargers Require all NPDES-permitted surface dischargers to develop resource monitoring programs, including biological monitoring where appropriate. The EPA and DEP are the responsible agencies for this activity.

Strategy W.8: OSDS Permitting Improve interagency coordination for industrial wastewater discharge permitting. Combine OSDS permitting responsibilities in one agency for commercial establishments, institutions, and multifamily residential establishments utilizing injection wells. The responsible agency will be the DEP, which will work through the Intergovernmental Coordinating Council to review existing memoranda of agreement ("MOAs") and memoranda of understanding ("MOUs"). Other primary agencies involved will be the EPA and DOH. No new rules or governmental structures will be required to implement this activity.

Strategy W.9: Laboratory Facilities Evaluate the feasibility of, and if appropriate, establish an interagency laboratory capable of processing monitoring and compliance samples. The DEP would be the responsible agency, working with the DOH and possibly Monroe County. While the implementation of these strategies is subject to funding and to changes in policy, it is clear that the successful completion of an undertaking of the nature envisioned by the SWMP requires the concurrence and coordination of many agencies and watch dog groups.

6.2 Coastal Zone Protection Act of 1996

The Coastal Zone Protection Act of 1996 (amending and renaming the Coastal Management Act of 1972) creates a network of grants and coordination mechanisms for the protection of the coastal zone. Under this act, states may generate and receive approval of management plans. After approval of a state's management plan, any applicant for a federal permit, in or outside the coastal zone, affecting any land or water use or natural resources of the coastal zone, must provide a certification that the proposed activity complies with enforceable policies of the state's approved program and that such activity will be conducted in a manner consistent with the program. The permit cannot be issued without the state's concurrence or waiver thereof, unless overruled by the Secretary of Commerce. 16 USC Section 1456. Generally, receipt of state permits will serve as certification. Another aspect of this law pertains to availability of grants to qualified states.

6.3 Marathon Wastewater Facilities Plan

Resolution 393-1997 adopted by the BOCC provides as follows regarding the Marathon
Wastewater District and the Wastewater Facilities Plan:

1. Upon receipt of necessary funds, the FKAA, under its authority, shall immediately act to create a sewer district which includes the area from the east end of the Seven-mile Bridge to Coco Plum Dive, excluding the incorporated area of Key Colony Beach, as established in the current version of the Marathon Wastewater Facilities Plan ("MWFP"); and
2. By adoption of this Resolution by a majority vote of the BOCC, having duly noticed and advertised the adoption of this Resolution, the BOCC approves the establishment of the Marathon Sewer District by the FKAA pursuant to Section 9(9)(b) of Chapter 76-441, Laws of Florida; and
3. The FKAA, under its authority, shall participate in the completion of the MWFP, initiate design and contract documents, finance, and ultimately, own, operate, construct and manage the Marathon Wastewater Facility; and
4. The BOCC will complete the development of the MWFP to the point of finishing contract commitments with the firm of CH2M Hill to develop the MWFP for the purposes of including it in a Request for Prioritization in the State's Revolving Fund program; and
5. The BOCC recognizes that there will be key decision points in the effort to construct the Marathon Wastewater Facility, particularly related to funding requirements, which will necessitate actions by the BOCC or both Boards prior to moving forward again. In particular, these decision points will come at approximately the mid point in developing construction design plans and prior to the initiation of actual construction of the Marathon Wastewater Facility...

6.4 Cesspit Elimination Plan

The Cesspit Elimination Plan is described above in Technical Memorandum Sections 4.2.3 and 5.4.2. It is mentioned here only to point out that coordination of the cesspit program and the SWMP is recommended. While there are strong public policy reasons for proceeding with the cesspit elimination program on a priority basis, replacement of cesspits with OWTS will be costly to the public if connection to central sewage systems is required within a short period of time. It has been pointed out that connection requirements can be waived with DOH approval (this may require comprehensive plan amendment). However, the governmental authority will need to determine whether such a waiver should be permitted. Alternatively, other incentives may be considered, including waiver of connection fees. See Section 3 of the Technical Memorandum for a detailed discussion. This may require legislative amendment. At present, the FKAA does have the authority to waive in whole or in part any impact fees or charges for governmental entities or certain tax exempt organization and any person or entity exempt from ad valorem property taxes or for housing defined as affordable by Chapter 86-192, Laws of Florida, or the rules adopted thereunder, the cost parameters of which may be adjusted by the ratio of the Monroe County cost of living index to the Florida average cost of living index. Lower rates, fees, rentals or other

charges may also be prescribed for any person who is 60 years of age or older, or a totally and permanently disabled American Veteran who meets low income standards and other requirements.

6.5 Carrying Capacity Study

The Florida Keys Carrying Capacity Study is required by Section III of Executive Order 96-108. The Study goals as set out in the Carrying Capacity Study Scope of Work (draft July, 1998) are as follows:

- The goal of the Florida Keys Carrying Capacity Study is to determine the ability of the-Florida Keys ecosystem, and the various segments thereof, to withstand all impacts of additional land development activities. The analysis shall be based upon the findings adopted by the Administration Commission on December 12, 1995, or more recent data that may become available in the course of the study, and shall be based upon the benchmarks of, and all adverse impacts to, the Keys land and water natural systems, in addition to the impact of nutrients on marine resources.
- The carrying capacity analysis shall consider aesthetic, socioeconomic (including sustainable tourism), quality of life and community character issues, including the concentration of population, the amount of open space, diversity of habitats, and species richness. The analysis shall reflect the interconnected nature of the Florida Keys' natural systems, but may consider and analyze the carrying capacity of specific islands or groups of islands and specific ecosystems or habitats, including distinct parts of the Keys' marine system. (Florida Administrative Weekly, April 12, 1996).
- The FKCCS will provide an information database and an analysis of consequences (i.e. a tool) that may be used to determine the level of land development activities that can be supported by a healthy, balanced, functioning ecosystem in the Florida Keys. This will be accomplished through the identification of component thresholds which define ecosystem sustainability. The study will also provide local, state and federal planners with the information needed for making sound decisions that are critical to a sustainable Florida Keys ecosystem.
- The study will provide an information database and analysis of consequences that can be used to determine the level of land development activities that will avoid further irreversible or adverse impacts to the Florida Keys ecosystem. Scope of Work, Executive Summary.

6.6 Executive Order 96-108

Executive Order 96-108 provides for coordination and assistance by various agencies in the development of the SWMP and in addressing wastewater problems. In addition to matters pertaining to onsite systems and the carrying capacity discussed above, the Executive Order directs that DEP and DCA provide

certain assistance with land acquisition. Also, cooperation with Monroe County in preparing and implementing the SWMP and a stormwater master plan is assigned to DEP, DCA, DOH and the Governor's Commission on a Sustainable South Florida. DEP, DCA and DOH are also directed to work cooperatively with federal agencies to identify areas where federal assistance is necessary through funding, technical expertise, or regulatory enhancements. The Lieutenant Governor is directed to lead state agency efforts to secure federal financial assistance.

6.7 Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs

The Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs are found in The Public Health and Welfare chapters of the United States Code.

42 U.S.C. Sections 4601-4655. The purpose of the act is to establish a uniform policy for the equitable treatment of people displaced as a direct result of projects undertaken by a "displacing agency."

42 U.S.C. Section 4620. It attempts to assist people displaced by these projects by holding the agency responsible for the cost of relocation.

42 U.S.C. Section 4622. A "displacing agency" can be a federal agency, state, state agency, or person who has received federal financial assistance.

42 U.S.C. Section 4601. "Financial assistance" is defined in the code as a "grant, loan or contribution provided by the United States, except any Federal guarantee or insurance, any interest reduction payment to an individual in connection with the purchase and occupying of a residence by that individual, and any annual payment or capital loan to the District of Columbia."

42 U.S.C. Section 4601. These provisions apply to a project even where the only federal assistance is through revenue-sharing funds. See Goolsby v. Blumenthal, 581 F.2d 455 (5th Cir. 1978). If federal funds are used for a particular project, they cannot be stretched to encompass a related, but different, project. For example, a landowner displaced in order to construct a road may not invoke this act solely because a bridge overlying the same road is being constructed with the assistance of federal funds. See Cahill v. Cedar County, 367 F.Supp 39 (D.C. Iowa 1973). The question to determine whether a project is covered under the act is not whether federal government directly funded the acquisition of the property involved, but whether the project that the land was acquired to benefit was federally assisted. Several cases have held that a "person with federal financial assistance" does not include instances where the property is acquired by a private individual who undertakes a federally assisted program or project. See, e.g., Moorer v. Department of Housing and Urban Development, 561 F.2d 175 (8th Cir.

1977); Parlane Sportswear Co. v. Weinberger, 513 F.2d 835 (1st Cir.1975). U.S. Dept. Of Housing and Urban Development, 443 F.Supp. 6 (D.C.Ohio 1976). Furthermore, relocation benefits were not extended to a person who was displaced by the acquisition of real property by a private party who would receive federal assistance for a project in the future. Gomez v. Chody. 867 F.2d 395, (7th Cir. 1989). A "displaced person" entitled to benefits under this provision is anyone who moves from real property as a direct result of a written notice of intent to acquire, or by the actual acquisition of such, property for a project undertaken with federal financial assistance. Farms and businesses are also included if the displacement will be permanent.

42 U.S.C. Section 4601. If this act applies to a particular project, the head of the displacing agency must provide the displaced persons the actual and reasonable:

1) moving expenses;

2) expenses for loss of tangible personal property not to exceed the relocation expenses of such property;

3) expenses incurred in searching for a replacement business or farm; and

4) expenses to reestablish a displaced farm, non-profit organization, or small business, not to exceed $10,000.

46 U.S.C. Section 4622. In addition to these expenses, displaced homeowners are entitled to additional payments for closing costs, debt service, and pricing differences, not to exceed $22,500.

42 U.S.C. Section 4623. These expenses shall be included as part of the cost of the project, allowing the displacing agency to be eligible for federal financial assistance for such payments to the same extent as other project costs.

46 U.S.C. Section 4631. Section 4625 of the Code stresses that projects or programs subject to this act should be planned in a manner that recognizes displacement problems and provides for a resolution of these problems at an early stage.

Exhibit A-2

EXISTING REGULATORY PROGRAMS

The materials contained in the following summary are organized in the following manner:

- OVERVIEW
- FEDERAL LAW AND REGULATIONS
  - National Environmental Policy Act
  - Clean Water Act
  - Code of Federal Regulations Title 40
- STATE OF FLORIDA STATUTES
- STATE OF FLORIDA REGULATIONS
- SOUTH FLORIDA WATER MANAGEMENT DISTRICT REGULATIONS
- LOCAL REGULATIONS
  - Monroe County
  - Key West
  - Islamorada
  - Key Colony Beach
  - Layton
  - Marathon
- REGULATORY COMPLIANCE
  - Monroe County

OVERVIEW

The regulation of stormwater runoff within Monroe County is accomplished through federal, state, regional, and local legislative and governmental requirements. In order to define the regulatory and intergovernmental framework of the Monroe County Stormwater Management Master Plan, this exhibit describes existing laws and regulations as they apply to the control of stormwater runoff with respect to flooding and water quality.

FEDERAL LAW AND REGULATIONS

Federal regulatory requirements are best understood by a description of the various agencies with jurisdiction over stormwater flooding and/or water quality. In particular, federal regulations are administered by the Environmental Protection Agency (USEPA), Army Corps of Engineers (USACOE), National Oceanic and Atmospheric Administration (NOAA) and US Fish and Wildlife Service. Federal laws and regulations are contained in the United States Code (USC) and Code of Federal Regulations (CFR), respectively, and sometimes refer to more than one federal agency. The federal government regulates sources of pollution via dozens federal laws, the most important of which for the purposes of this discussion are the National Environmental Policy Act (NEPA) and its amendments (42 USC 4321-4347) and the Clean Water Act (CWA) and its amendments (33 USC 1251 et seq.; that is, Title 33 of the US Code from 1251 to 1387).

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

NEPA, originally adopted in 1969, provides the fundamental national policy of environmental protection. The specific purposes of NEPA include: "to declare a national policy which will encourage productive and enjoyable harmony between man and his environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality" (CEQ). Congress directed that, "to the fullest extent possible", laws and regulations as well as agencies of the federal government will:

- Use a systematic approach integrating natural, social and environmental sciences in planning and decision making;
- Identify and develop methods with the CEQ to ensure that unquantified environmental benefits are considered with economic and technical ones;
- Consider environmental impacts, alternatives, short- and long-term impacts and resource commitments for legislation and governmental action significantly affecting the environment;
- Develop and study alternatives to actions related to unresolved conflicts related to resource uses;
- Make available to state and local governments as well as individuals environmental information; and,
- Use ecological information for planning and resource-oriented projects.

These provisions have been the foundation of most environmental activities since their adoption in 1969.

THE CLEAN WATER ACT (CWA)

The Clean Water Act, a 1977 amendment to the Federal Water Pollution Control Act of 1972, provides the basis for USEPA regulatory authority, allowing them to set effluent standards for industries (technology-based) and water quality-based effluent limits where necessary to meet water quality standards. Fundamentally, the CWA states that it is unlawful to discharge to waters of the United States (navigable waters) unless the discharge is permitted under the National Pollutant Discharge Elimination System (NPDES) program. The purpose of the CWA is to restore and maintain the "chemical, physical and biological integrity of the Nation's waters" using the following goals and policies:

- Discharge of pollutants to navigable waters was to be eliminated by 1985;
- Protection and propagation of fish, shellfish and wildlife and provide for recreation was to be achieved as an interim goal by mid-1983;
- Elimination of the discharge of toxic pollutants in toxic amounts;
- Provide financial assistance to construct public facilities;
- Develop and implement "areawide waste treatment management planning processes;"
- Develop technology to eliminate discharges through major research and demonstration projects; and
- Develop and implement programs for the control of nonpoint sources.

The first and last goals led to the development of the NPDES program. Originally, USEPA regulated discharge to navigable waters by defining point sources as discharges though a pipe; e.g., wastewater treatment plant or industrial discharge. In the CWA amendments of 1987, point source was defined as discharges from a pipe or open but confined conveyance, opening the door for regulation of stormwater discharges.

Part 1312 of the CWA states that if the discharge of pollutants from a point source (or group of point sources) that provides technology-based treatment levels (e.g., secondary treatment for wastewater treatment plants) interferes with the attainment of designated uses, then water quality based effluent limits are required.

Part 1313 requires each state to submit water quality standards to the USEPA and to review these standards every three years, starting in October, 1972. These standards can be no less stringent than those adopted by the USEPA and become the basis for the determination of impairment. Part 1313(d)(1) requires that each state must identify and rank those waters for which minimum treatment is not sufficient to maintain the applicable water quality. From this list, each state must prepare total maximum daily loads (TMDLs). A TMDL is a determination of the maximum loading that a water body can assimilate accounting for point sources, nonpoint sources,

natural background and a margin of safety to account for unknowns. "Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety…" The list of ranked water bodies is commonly referred to as the "303(d) Priority List" (based upon the CWA numbering system). The state of Florida is currently working on the latest update to its list. An update must be filed with the USEPA every even year.

Part 1315(b) requires each state to prepare a report to Congress starting in April, 1976 (and every other year thereafter), describing the water quality of all navigable waters within the state. The description must include an analysis of the degree to which the waters are attaining water quality standards. This report (referred to as the 305(b) Report using CWA numbering) is produced by FDEP in even numbered years.

Part 1329 provides for nonpoint source (NPS) management programs. Originally contained in Section 319 of the 1987 Amendments to the CWA, this section establishes a national program to control the discharge of pollution from nonpoint sources by requiring the preparation of a Nonpoint Source Management Program. The most recent FDEP update to Florida's NPS Management Program is dated November, 1999, wherein the FDEP defines a watershed management approach based upon a 5-phased program:

Phase	Program
1	Initial Basin Assessment
2	Coordinated Strategic Monitoring
3	Data Analysis and TMDL Development
4	Management Action Plan
5	Implementation

Part 1342 provides the regulatory authority for the NPDES permitting program and allows for the delegation of such permitting to each state. FDEP obtained delegation for the wastewater and industrial NPDES permits and is planning to obtain such authority for stormwater discharges in May of 2000. The NPDES permits are 5 years in duration and according to 1342(o), renewal permits can not be issued with conditions that are less stringent than the previous ones (anti-backsliding provision).

Part 1324(p) adds stormwater discharges to the NPDES program based upon population and significant contribution. Municipalities with populations of 100,000 or more are required to obtain an NPDES permit, as are stormwater discharges from specific industrial activities. Also included are discharges that are judged to contribute to a violation to a water quality standard. These discharges are referred to as the Phase 1 stormwater discharges. Recently, the USEPA promulgated regulations pertaining to stormwater discharges from municipalities with population under 100,000. These "small" municipalities are referred to as Phase 2 dischargers. The discharges are regulated to control the discharge of stormwater pollution to the "maximum extent practicable," a term not defined in law or regulation.

Part 1344 provides for dredge and fill activities within navigable waters, a program that is administered by the Corps of Engineers. The legislation allows for the delegation of this authority to the states.

Part 2317 states that an interim goal administered by the Corps of Engineers is "no overall net loss of the Nation's remaining wetlands base … and a long-term goal to increase the quality and quantity of the Nation's wetlands." The USCOE is to work with the USEPA and Fish and Wildlife Service to meet this long-term goal.

CODE OF FEDERAL REGULATIONS TITLE 40

Based upon the laws identified above, the USEPA has issued regulations codified in Title 40 of the Code of Federal Regulations, commonly referred to as 40 CFR. The most pertinent sections of 40CFR include those in Chapter I - Environmental Protection Agency. This chapter has 14 Subchapters (A through R) categorizing 799 parts. Subchapter D considers Water Programs, Parts 100 to 149, the most applicable of which are Part 122 (EPA Administered Permit Programs), Part 123 (State Program Requirements), 124 (Procedures for Decision-making), Part 130 (Water Quality Planning and Management) and Part 131 (Water Quality Standards). These regulations implement the requirements of the CWA described above.

STATE OF FLORIDA STATUTES

State laws and regulations are best described through individual law or regulation, rather than by the administrating agency, since the laws or regulations may apply to multiple agencies. Regulatory agencies that are responsible for the environment include the Department of Environmental Protection (DEP), Department of Community Affairs (DCA), and Department of Transportation (DOT).

Chapter 125 - COUNTY GOVERNMENT

Chapter 125 F.S. defines the powers and duties of county government including the powers to:

- Prepare and enforce comprehensive plans for development;
- Establish and administer programs for drainage and to cooperate with governmental agencies in the development and operation of such programs;
- Establish municipal service taxing or benefit units within which drainage services may be provided from revenues derived from service charges, special assessments or taxes collected within the unit; and,
- Establish special districts to include both unincorporated and incorporated areas within which municipal services are provided funded by service charges, special assessments or taxes within the district.

The statute also considers tourist taxes, general obligation and revenue bonds, loans to public agencies, the purchase or privatization of water, sewer or wastewater reuse utilities, and the proposed purchase of real property.

Chapter 157 - DRAINAGE BY COUNTIES

Chapter 157 F.S. allows counties to establish a "ditch, drain or canal" to control runoff in lands that are low, wet or submerged or liable to become submerged based upon the petition of the landowners through which the drainage structure is to pass. The commission can appoint a three-person committee to control the facility, supervise its construction and levy taxes for its construction and maintenance.

Chapter 163 - LOCAL GOVERNMENT COMPREHENSIVE PLANNING ACT

Chapter 163 F.S. is entitled "Intergovernmental Programs" and is comprised of six parts. Only those parts and sections that are pertinent to stormwater management are discussed below.

Part I - Florida Interlocal Cooperation Act of 1969 (subsection 163.01 to 163.07). This section allows governments to enter into agreements of cooperation on the basis of mutual advantage. Such a contract, known as an interlocal agreement, is a joint exercise of governmental power and provides for the purpose of the agreement, duration of agreement, definition of organization needed to administer the programs, manner of financial support including equitable allocation of costs, provision for funding of the programs, as well as a number of other administrative issues. An interlocal agreement, for example, can be entered into between the County and one or more cities for the purpose of stormwater management and control or funding of such activities.

Subsection 163.03 defines the powers and duties of the Secretary of the Department of Community Affairs, including the supervising and administering the Department of Community Affairs with respect to matters affecting community affairs and local governments; providing assistance in securing federal and state funds; administering emergency aid to stricken communities; and providing technical assistance to local government regarding development, redevelopment, planning and zoning, and transportation.

Subsection 163.07 considers the efficiency and accountability of local governmental services, helping local municipalities and counties deal with conflicts related to the delivery and financing of services. Counties and municipalities are authorized to develop a plan to provide efficient, accountable, and coordinated delivery of local governmental services and through resolution of each government, create a commission responsible for developing the plan and provide a timetable for execution of the plan. The plan itself must conform to all of the comprehensive plans within the cooperating governments.

Part II - Growth Policy Act (subsection 163.2511 to 163.2526). This act regulates the infill and redevelopment of urban cores as methods to reduce urban sprawl. A local government may identify an area as an urban infill and redevelopment area for the purposes of "targeting development, job creation, transportation, crime prevention, neighborhood revitalization and preservation, and land use incentives." The plan for redevelopment must be collaborative and based upon a neighborhood participation process. The Department of Community Affairs can offer regulatory and economic

incentives to promote such a redevelopment area including an Urban Infill and Redevelopment Assistance Grant Program (163.2523).

Subsections 163.3161 to 163.3217 comprise the Local Government Comprehensive Planning and Land Development Regulation Act. The purpose of this Act is to use and strengthen the role, processes and powers of local governments "in the establishment and implementation of comprehensive planning programs to guide and control future development." One of the intents of the Act is that the adopted comprehensive plans have legal status and no public or private developments can be permitted except in conformity with the Act.

Each local government is to prepare a comprehensive plan according to the provisions of the Act and submit the plan for approval to the state land-planning agency (DCA). A new municipality (i.e., incorporated after the adoption of the act) must establish a local planning agency within one year of incorporation and prepare and adopt a comprehensive plan within three years of incorporation. Until the new municipality has adopted such a plan, the county plan is controlling. If a new plan is not adopted in three years, the regional planning agency is to prepare the comprehensive plan. The comprehensive plan must include a public participation program during the adoption process.

The comprehensive plan, commonly referred to as the "comp plan," must be economically feasible and among other items, contain a 5-year capital improvement element for public facilities needed for the orderly development of the community. The plan must also contain the following elements: future land use plan; traffic circulation; general sanitary sewer, solid waste, drainage, potable water and natural groundwater aquifer recharge plan; conservation element (conservation, use, and protection of natural resources); recreation and open space plan; housing element; coastal management element; and intergovernmental cooperation program. Chapter 9J-5, Florida Administrative Code, entitled the Minimum Criteria for Review of Local Governmental Comprehensive Plans and Determination of Compliance of the Department of Community Affairs, is the regulatory counterpart of this Act. Subsection 163.3177 also states that it is the intent of the Legislature that " public facilities and services needed to support development shall be available concurrent with the impacts of such development."

Subsection 163.3178 covers the coastal management element of a comprehensive plan, restricting development activities that would damage coastal resources. This element must contain an analysis of the effects of existing drainage facilities and the impact of point and nonpoint source pollution on estuarine water quality.

Subsection 163.3180 defines the concurrency requirements of the Act. Concurrency refers to the requirement that the infrastructure (e.g., drainage, sewage treatment, and potable water) required to service the new growth is in place concurrent with the new development. In particular, drainage facilities (among others) must "be in place and available to serve new development no later than the issuance by the local government of a certificate of occupancy or its functional equivalent." The sufficiency of the drainage facilities is dependent on the local levels of service defined by the local government within the comp plan.

Within one year after the adoption of the comprehensive plan, the local government must adopt and enforce land development regulations to implement the comp plan elements. These regulations must, among other things, "regulate areas subject to seasonal and periodic flooding and provide for drainage and stormwater management" and "provide that public facilities and services meet or exceed the standards established in the capital improvements element" and are concurrent.

Chapter 187 - STATE COMPREHENSIVE PLAN

Chapter 187, F.S., provides the State Comprehensive Plan required by Chapter 186, F.S. Section 187.201(8) lists specific goals and policies for water resources, with the goal to "maintain the functions of natural systems and the overall present level of surface and ground water quality." Also "Florida shall improve and restore the quality of waters not presently meeting water quality standards." Specific policies include:

- Encourage the development of strict floodplain management programs design to preserve hydrologically significant wetlands and natural features;
- Protect surface and ground water quality and quantity; and,
- Eliminate the discharge of inadequately treated stormwater runoff.

Chapter 373 - FLORIDA WATER RESOURCES ACT

Chapter 373, F.S., consists of six parts, the two pertinent parts of which are described below.

Part I - State Water Resources Plan. This part of the Florida Water Resources Act includes requirements for the setting of minimum flows and levels for water bodies based upon regional priorities, authorizes inter-agency agreements for water resource management, and authorizes the acquisition of property for water or water-related resource protection. For the minimum flows and levels, Subsection 373.042 requires each water management district to set minimum flows for all surface waters and minimum water levels for ground waters.

Part IV - Management and Storage of Surface Waters. Consisting of Subsections 373.403 to 373.461, F.S., this part provides:

- definitions pertinent to the management of surface waters;
- exemptions (including the authorization of general permits);
- mitigation banks and off-site regional mitigation;
- mitigation requirements for transportation projects proposed by DOT;
- additional criteria for activities in surface waters and wetlands (see below for more details);
- permit processing;
- wetland delineation methodologies and formal determinations;

- concurrent permit reviews;
- prohibitions, violations and penalties (see below for more details); and,
- the Surface Water Improvement and Management Act (see below for more details).

Section 373.414 , F.S., requires that, as part of the demonstration that an activity will not be harmful to water resources or inconsistent with district objectives, the governing board of the water management district or FDEP will require the applicant to provide "reasonable assurance that state water quality standards applicable to waters … will not be violated and reasonable assurance that such activity … is not contrary to the public interest. Furthermore, if the activity "significantly degrades or is within an Outstanding Florida Water", the applicant must provide reasonable assurance that "the proposed activity will be clearly in the public interest" (emphasis added). This section also provides specific criteria for FDEP or the water management districts to apply in consideration of this two-modal test of reasonable assurance, as well as criteria for the review of potential mitigation measures provided in case the applicant is unable to meet one or more of the reasonable assurance criteria.

Subsection 373.414(3) defines the legislative intent to provide for the use of certain wetlands as a natural means to manage stormwater and to incorporate such wetlands into a comprehensive stormwater management plan subject to ecological and resource management constraints.

A critical section within Part IV is 373.430 F.S. (Prohibitions, violation, penalty, and intent). It is a violation of Part IV to cause pollution so as to "harm or injure human health or welfare, animal, plant or aquatic life or property;" "fail to obtain any permit required … or violate or fail to comply with any rule, regulation, order or permit …;" and "knowingly make any false statement." The section provides for penalties for violation of Part IV and is the foundation of the environmental management regulatory programs implemented by the FDEP and water management districts.

Sections 373.451 to 373.4595 are together called the Surface Water Improvement and Management Act (or SWIM Act). The Legislature found that the water quality of many surface waters was degraded and natural systems altered to an extent detrimental to the right of the public to enjoy such waters. Further, it found that it is the duty of the state to enhance the environmental and scenic value of surface waters. Factors contributing to the decline include point and nonpoint source pollution and destruction of natural systems. The SWIM act required each water management district to prepare plans and implement programs for the improvement and management of surface waters. FDEP was also authorized to conduct statewide research to aid the understanding of impairment and restoration.

Chapter 376 - Pollutant Discharge Prevention and Removal

The first part of Chapter 376, F.S., is called the Pollutant Discharge Prevention and Control Act (376.011 to 376.21). This Act controls the discharge of pollutants from vessels and terminal facilities to coastal waters of the state and defines the duties and powers of FDEP to implement the Act.

Chapter 380 - Land and Water Management

Chapter 380 F.S. provides for the management of land and water within the state of Florida. Part I of the statute is called "The Florida Environmental Land and Water Management Act of 1972," Part II is related to coastal planning and management and Part III considers the Florida Communities Trust. Only Part I is relevant to the Stormwater Management Master Plan.

Two elements of Part I relate to the Florida Keys. Section 380.051 provides a means of coordinated agency review for permits within the Florida Keys Area of Critical State Concern and authorizes interlocal agreements among state, regional and local agencies to coordinate development review. Section 380.0552 F.S., entitled the "Florida Keys Area Protection Act," defines the Florida Keys area as an area of critical state concern and requires the governor to appoint a resource planning and management committee to oversee the state's planning responsibilities within the Keys.

Chapter 381 - Public Health, General Provisions

Chapter 381, F.S., relates to Public Health and is mentioned here because it regulates onsite sewage treatment and disposal systems (§381.0065 to §381.0068, F.S.). While not specifically a matter for the Monroe County Stormwater Management Master Plan, stormwater has been related to the transport of pollutants from onsite sewage treatment systems. The Monroe County Sewage Management Master Plan, currently under development, provides a consideration of onsite sewage treatment systems.

Chapter 403 - Air and Water Pollution Control Act

Chapter 403, F.S., is the major statute related to the environmental management of the state, especially Part I - Pollution Control (Subsections §403.021 to §403.4132, F.S.). The legislative declaration (§403.021, F.S.) states that it is to be the public policy "to provide that no wastes be discharged into any waters of the state within first being given the degree of treatment necessary to protect the beneficial uses of such waters." To understand the provisions of this Act, a few definitions are pertinent:

Contaminant is defined as "any substance which is harmful to plant, animal or human life.

Pollution is defined as "the presence … of any substances, contaminants, noise, or manmade or man-induced impairment or air or waters or alteration of the chemical, physical, biological, or radiological integrity of air or water in quantities of levels which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation unless authorized by applicable law."

Waters are defined as including "rivers, lakes, streams, springs, impoundments, wetlands, and all other waters or bodies of waters, including fresh, brackish, saline, tidal, surface, or underground waters. Waters owned entirely by one person other than the state are included only in regard to possible discharge on other property or water."

Wastes are defined as "sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive, or other substances which may pollute or tend to pollute any waters of the state."

Stormwater management program is defined as "the institutional strategy for stormwater management including urban, agricultural and other stormwater."

Watershed is defined as "the land area which contributes to the flow of water into a receiving body of water."

Subsection 403.061, F.S., grants FDEP the power and duty to control and prohibit pollution of air and water, including the responsibility to develop and comprehensive program for the prevention, abatement and control of the pollution of the waters of the state. FDEP can group waters into classes related to the present and future "most beneficial uses" of the water. This section is implemented through the classification system provided in Chapter 62-302, Florida Administrative Code (see Section 2.5.3.7 below). This section also authorizes FDEP to establish water quality standards, including provision for reasonable mixing zones, except in Outstanding Florida Waters, and special standards for wetlands. To accomplish the implementation of pollution control programs, FDEP is authorized to establish a permitting system for the operation, construction, or expansion of pollution sources.

Subsection 403.0885, F.S., authorizes FDEP to establish a state National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with Section 402 of the Clean Water Act (Public Law 92-500, as amended, 33 U.S.C. ss. 1251 et seq.) and to pay entirely for the program through permit fees. This allows the state to assume delegation of the NPDES permitting program from the U.S. Environmental Protection Agency.

FLORIDA WATERSHED RESTORATION ACT

During 1999, the Florida Legislature passed the Florida Watershed Restoration Act which creates a new Section 403.067 F.S. covering Total Maximum Daily Loads (TMDL). As noted in the discussion of the Clean Water Act (Subsection 2.5.1.2 above), a TMDL is the estimated total loading that a water body can assimilate accounting for point sources, nonpoint sources, natural background and a margin of safety to account for unknowns without exceeding water quality standards. Subsection 403.067(1) states that the TMDL process is "scientifically based" and is necessary to "fairly and equitably allocate pollution loads to both nonpoint and point sources." Further the allocation of load will include cost-effectiveness as a consideration and may be implemented through "non-regulatory and incentive-based programs." The first step in the TMDL process is to prepare a 303(d) Priority List (see Subsection 2.5.1.2 above) for which the TMDL calculation is to be completed according to a schedule. Based upon the list, FDEP is to prepare TMDL analyses and allocate the loading. The allocation process will be subject to a new rule scheduled to be adopted in 2000/2001. TMDLs can be based upon a Pollutant Load Reduction Goal (PLRG, see Subsection 2.5.3.3 below). Allocation of the TMDL will be pursuant to rule and will include consideration of existing treatment levels, different impacts by pollutant sources, the availability of treatment technology, economic and technical

feasibility, cost-benefit analysis, reasonable schedules, and moderating provisions of the rules. The TMDLs will ultimately be adopted by administrative regulation.

STATE OF FLORIDA REGULATIONS

Regulations are counterparts to the state statutes. These are contained mainly in Chapter 6 of the Florida Administrative Code (FAC). As in the case of the state statutes, descriptions of pertinent regulations are provided below. It should be noted that for the most part, the regulations are administered by FDEP, although the growth management regulations listed are managed by DCA.

Chapter 62-4 - PERMITS

Chapter 62-4 provides general regulations regarding the "issuance, denial, renewal, extension, transfer, modification, suspension and revocation of any permit" required by FDEP. The three parts of the Chapter include Part I - General, Part II - Specific Permits, and Part III - General Permits. The fundamental statement in the rule is contained in 62-4-030:

> "Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained, constructed, expanded, or modified without the appropriate and valid permits issued by the Department, unless the source is exempted by Department rule. The Department may issue a permit only after it receives a reasonable assurance that the installation will not cause pollution in violation of any of the provisions of Chapter 403, F.S., or the rules promulgated thereunder."

The rest of the chapter deals with exemptions, procedures to obtain a permit, fees, special and general permits, and special provisions. The key phrases here are "exempted", and "reasonable assurance." Exemptions include structural changes that do not alter the "quality, nature, and quantity of … water contaminant … discharges or which will not cause pollution"; and existing or proposed installations which FDEP determines does not or will not discharge contaminants in sufficient quantity "as to contribute significantly to the pollution problems in the State."

Procedures for obtaining a permit from FDEP including processing time and fees are covered in Section 62-4.050. Fees for implementation of the FDEP regulatory and surveillance program are defined in 62-4.052. Also, typically FDEP issues permits with both general and specific permit conditions; the general permit requirements are listed in Section 62-4.160.

In Part II (Specific Permits; Requirements), three sections are of particular importance. The first set of requirement is listed in Section 62-4.242, entitled "Antidegradation Permitting Requirements, Outstanding Florida Waters; Outstanding National Resource Waters; Equitable Abatement."

Antidegradation. This rule refers to the antidegradation policy defined in Sections 62-302.300 and 62-302.700 discussed below. In particular, the policy states that FDEP may permit a discharge that will not reduce the receiving water quality below its classification if the degradation is "necessary or desirable under federal standards and under circumstances which are clearly in the public interest." Section 62-4.242 describes the factors that the department must consider in evaluating this two-pronged qualification, which is applicable to stormwater discharges as well as wastewater or industrial discharges to surface waters. The criteria to evaluate these two qualifications include: whether the project is important to and beneficial to public health, safety and welfare; whether the discharge will adversely affect the conservation of fish and wildlife and their habitat; whether the discharge will affect water-based recreation including fishing in the area; and whether the discharge is consistent with any SWIM Plan.

Outstanding Florida Waters. Section 62.4-242(2) regulates discharges to Outstanding Florida Waters (OFW). Basically, FDEP may not issue a permit for a direct discharge to an OFW or which significantly degrades an OFW unless the discharge is clearly in the public interest and either a FDEP permit was issued prior to designation as an OFW or the existing ambient water quality will not be lowered outside an approved mixing zone. Similar, yet more stringent requirements apply to Outstanding National Resource Waters (ONRW).

Equitable Abatement. A rarely used or quoted portion of the FAC [Section 62-4.242(4)] provides for the protection and enhancement of surfaces waters with quality artificially lowered below that necessary for their designated use. Under these circumstances, no permit to discharge pollutants can be issued unless "water quality standards once achieved would not be violated as a result of the proposed activity or discharge", the discharge is "necessary or desirable under federal standards and it is "clearly in the public interest." The rest of the rule considers the equitable allocation of allowable discharge under the circumstances to multiple discharges.

Section 62-4.243 provides exemptions to two types of artificial water bodies: artificial water bodies classified for agricultural supplies; and water bodies classified for navigation, utility and industrial use.

Section 62-4.244 describes FDEP regulations related to mixing zones. A mixing zone is an area adjacent to a point of discharge allowed to be degraded to minimum conditions [62-3.051(1)] so as "to provide an opportunity for mixing and thereby reduce the cost of treatment." Specific restrictions on the applicability of mixing zones are listed.

Chapter 62-25 - REGULATION OF STORMWATER DISCHARGE

The state of Florida is one of less than 10 states in the United States that have adopted regulations for stormwater discharges. These regulations are contained in Section 62-25. This section states that "the discharge of untreated stormwater may

reasonably be expected to be a source of pollution of waters of the state and is, therefore, subject to Department regulation." A new stormwater discharge facility is defined as a facility not in existence before February 1, 1982, or for which a permit was issued prior to this date, or an existing structure that has been modified. Other definitions are provided for detention, filtration, regional stormwater discharge facility, retention, stormwater management system, swale, and wetlands stormwater discharge facility. Also "stormwater" is defined as "the flow of water which results from, and which occurs immediately following, a rainfall event."

Section 62-25.025 provides design and performance standards for stormwater discharge facilities. Particular standards include:

- Retention and detention basins must provide treatment volume capacity again within 72 hours.
- Filtration system must have a safety factor of two or more unless otherwise proven.
- Swales must percolate 80 percent of the runoff from a 3-year, 1-hour design storm within 72 hours.
- Permanently wet retention and detention facilities must be fenced unless the side slopes are no steeper than 4 units vertical to 1 unit horizontal (4:1) out to 2 feet below the control elevation.
- Control of oil and grease is necessary in areas subject to such runoff.
- Facilities discharging to OFWs must include 50 percent more treatment than minimum requirements.

Exemptions to these rules include facilities for: one single family unit, duplex, triplex or quadruplex (if not part of a larger subdivision); single family residential project of less than 10 acres and less than 2 acres of impervious surface; facilities made up entirely of properly designed swales; facilities discharging to regional stormwater facilities; facilities for agricultural lands that are part of a Conservation Plan; and facilities for silvicultural lands.

Section 62-25.035 requires a general permit for the construction of four types of facilities:

- facilities that discharge to a permitted stormwater facility;
- facilities that provide retention or detention with filtration of the first inch of rainfall or for projects of less than 100 acres, treatment of the first 1/2 inch of runoff;
- modification or reconstruction of an existing government-operated facility "not intended to serve new development, and which will not increase pollution loading, or change points of discharge in a manner that would adversely affect the designate uses; or

- facilities that use a combination of stormwater management systems.

For the most part, these regulations are delegated to the water management district, and in the particular case of Monroe County, to the South Florida Water Management District through the Environmental Resource Permit process.

Chapter 62-40 - STATE WATER POLICY

The State Water Policy is intended "to provide water policy goals, objectives, and guidance for the development and review of programs, rules, and plans relating to water resources, as expressed in Chapters 187, 373, and 403, Florida Statutes." The chapter also explains and expands upon the various roles of state, regional, and local governments in the planning and implementation of the State Water Policy. While the chapter provides overall water program policy, the rule is not to be used as standards and criteria for individual permit review [62-40.110(4)].

Part III of the chapter provides general policies related to water supply, water quality protection and management, flood protection and floodplain protection, natural systems protection and management, and management policies. Programs, rules and plans must seek to follow these policies if "economically and environmentally feasible, not contrary to the public interest and consistent with Florida law." A few pertinent policies are listed below:

- "Restore and protect the quality of ground and surface water by solving current problems and ensuring high quality treatment of stormwater and wastewater."

- "Encourage nonstructural solutions to water resource problems and give adequate consideration to nonstructural alternatives whenever structural works are proposed."

- "Manage the construction and operation of facilities which dam, divert, or otherwise alter the flow of surface waters to minimize damage from flooding, soil erosion or excessive drainage."

Part IV provides policies related to resource protection and management. Section 62-40.432 deals with surface water management and protection through policies for stormwater management programs. The major policies within this subsection are listed below.

- The primary goals for the state's stormwater management program include: maintain the pre-development characteristics of a site; reduce stream channel erosion, pollution and flooding; reduce stormwater pollution loading; encourage reuse; enhance groundwater recharge; maintain estuarine salinity regimes; and address stormwater management on a watershed scale.

- Watershed management plans are to be development the each water management district consistent within the SWIM and NPDES programs.

- In the development of an overall stormwater management program within the state, FDEP will be the lead agency responsible for the overall program goals, objectives and guidance. The water management districts are to administrate the stormwater management program through watershed specific goals, objectives and plans and the definition of watershed-specific pollution load reduction goals. Local governments implement stormwater management programs with the support of the state and water management district.

- Section 62-40.432(5) defines the minimum stormwater treatment performance standards for the state. When adopting rules pertaining to stormwater management , the state and water management districts must require that new stormwater facilities "achieve at least 80 percent reduction of the average annual load of pollutants that would cause or contribute to violations of state water quality standards." If the discharge is to OFW, the reduction increases to 95 percent of the annual average load.

- The water management districts must develop pollution load reduction goals (PLRGs) for older stormwater management systems (constructed prior to February 1982) and adopt them as part of a SWIM plan (see below) or other comprehensive water management plan. Pollution load reduction goals are "estimated numeric reductions in pollutant loadings needed to preserve or restore designated uses or receiving bodies of water and maintain water quality consistent with applicable state water quality standards." PLRGs are to be determined for SWIM waters first (by December 1994), then for waters identified by water management district priorities. PLRGs are part of the building blocks for watershed management, SWIM plans, and TMDLs. It should be noted that as of the beginning of 2000, no PLRGs have been set by SFWMD for the Florida Keys.

Section 62-40.450 notes that local governments have the primary responsibility for flood protection including land use control, development regulations, level of service definition and maintenance activities.

Section 62-40.520 requires each water management district to prepare a comprehensive water management plan known as the District Water Management Plan (DWMP). The plan must deal with water supply, flood protection, water quality management, and protection of natural systems. The most recent SFWMD plan is dated August 2, 1999 (see subsection 2.5.4 below).

Chapter 62-43 - Surface Water Improvement and Management Act

Enacted pursuant to the Surface Water Improvement and Management (SWIM) Act, Section 62-43 provides regulations for the development of priority lists, preparation and review of management plans, and distribution of SWIM Trust Funds. As a first step, each of the water management districts were to submit to FDEP a list of SWIM priority water bodies of regional or statewide significance that required restoration or protection. For each of the water bodies prioritized, the water management districts were to prepare restoration/protection plans for the review of FDEP, DCA, and other state agencies. FDEP would then distribute the SWIM Trust Funds to the approved plans. The funding of this program by the legislature has been limited and some of

the water management districts have taken over the program. An Advisory List of SWIM Priority waters prepared by SFWMD contains 36 water bodies, with the Everglades National Park and Florida Bay 4th, and the Florida Keys 19th.

Chapter 62-112 - Project Certification Procedures

This short regulation has four sections, three of which were repealed in November 1996. The remaining section [Section 62-112.030] references project certification procedures for the coordinated agency review within the Florida Keys Area of Critical State Concern. In particular, it states that only applications received from D CA will be processed by FDEP for coordinated review.

Chapter 62-113 - Delegations

Chapter 62-113 lists all of the delegation agreements reached by FDEP related to the implementation of regulations. Agreements with particular pertinence include:

- Agreement #77-4: delegates to SFWMD permitting authority for construction or operation of facilities that discharges to waters of the State.
- Agreement #82-2: authorizes SFWMD to regulate water quality impacts of stormwater discharges.
- Agreement #84-15: delegates water quality certification for agricultural dredge and fill to SFWMD.
- Agreement #89-17: delegates MSSW permitting to SFWMD.
- Agreement #98-2: defines division of responsibilities relative to ERP program and wetland determinations.

Chapter 62-302 - Surface Water Quality Standards

Probably the most important regulation for the implementation of state statutes on pollution control is Chapter 62-302 FAC, since it provides the water quality standards for surface waters in the state. The water quality standards refer to the designated use classifications as well as the specific water quality criteria to achieve the designated use and the moderating provisions of mixing zones, zone of discharge, site specific alternative criteria, exemption and equitable allocation. The Findings section (Section 62-302.300) reiterates that "pollution which causes or contributes to new violations of water quality standards or to continuation of existing violation is harmful to the waters of this state and shall not be allowed." Subsection 62-302.300(17) defines the two-pronged test for permitting: "necessary and desirable under federal standards" and "under circumstances which are clearly in the public interest."

Water quality criteria are defined to achieve the present and future most beneficial uses of state waters. In Florida, the beneficial uses have been categorized as follows:

Class I Potable Water Supplies

Class II	Shellfish Propagation and Harvesting
Class III	Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife
Class IV	Agricultural Water Supplies
Class V	Navigation, Utility and Industrial Use

Each of these classifications have specific water quality criteria assigned to them and are listed above generally in order of the degree of protection afforded in the regulation although Classes I, II and III share many criteria. Unless specifically identified by rule, all Florida waters are designated as Class III. Exceptions to this include secondary and tertiary canals wholly within agricultural areas and a list of waters provided in the rule. For Monroe County, waters from the Collier and Dade County lines southward to and including Florida Bay within the Everglades National Park are defined as Class II. At a minimum, however, surface waters in the state must be free from components within discharges which cause nuisance settleables and floatables; produce color, odor taste or otherwise nuisance conditions; are acutely toxic; are present in concentrations that are carcinogenic, mutagenic or teratogenic; or pose a serious danger to public health, safety or welfare. These are known as the "Free Froms." Specific water quality criteria by designated use are provided in a table included in the rule as Section 62-302.530.

Section 62-302.700 lists waters that have a special designation of OFW, ONRW and otherwise. For Monroe County, the list includes the following areas:

Outstanding Florida Waters

- Dry Tortugas National Park
- Everglades National Park
- Crocodile Lake Wildlife Refuge
- Great White Heron Wildlife Refuge
- Key West Wildlife Refuge
- National Key Deer Wildlife Refuge
- Bahia Honda State Park
- John Pennekamp Coral Reef State Park
- Long Key State Recreation Area
- Fort Zachary Taylor State Historic Site
- Indian Key State Historic Site
- Key Largo Hammock State Botanical Site
- Lignumvitae Key State Botanical Site
- Windley Key Fossil Reef State Geological Site
- San Padro State Underwater Archaeological Preserve
- Coupon Bright
- Curry Hammock
- North Key Largo Hammock
- Port Bougainville
- Biscayne Bay Aquatic Preserve (Cape Florida)
- Biscayne Bay Aquatic Preserve (Card Sound)

- Coupon Bright Aquatic Preserve
- Lignumvitae Key Aquatic Preserve
- Florida Keys (Special Waters) *
- Big Cypress National Preserve
- Key Largo Marine Sanctuary
- Looe Key Marine Sanctuary

Outstanding National Resource Waters

- Biscayne National Park
- Everglades National Park

The last section in the surface water quality regulations is Section 62-302.800, Site Specific Alternative Criteria (SSAC). In the case of a water body that does not meet applicable water quality criteria due to natural background or "man-induced conditions which cannot be controlled or abated," an affected person or FDEP can petition to establish alternative water quality criteria. The regulations require a demonstration be made to the Department showing that the conditions are natural or not abatable and defining new criteria considering spatial, seasonal and diurnal variations.

Chapter 62-330 - Environmental Resource Permitting

The chapter adopts by reference the Environmental Resource Permitting (ERP) process from the water management districts, so that the state operates under a consistent set of permitting regulations. The correlation among the water management districts relative to specific regulations is described in the chapter.

Chapter 62-341 - Noticed General Environmental Resource Permits

Section 62-341 provides general permits for activities within the state that FDEP deems environmentally insignificant. Of particular interest to the SMMP for Monroe County is Section 62-341.443 that grants FDOT the ability to replace or modify bridges or their approaches with total dredge and filling of less than 0.5 acres. Channel clearing and shaping in wetlands and surface waters is also allowed when the combined total is less than 0.5 acres with the spoil material used on an upland site. Section 62-341.447 provides FDEP with a general permit to conduct minor highway construction during widening, replacement or maintenance of existing structures subject to excavation and deposition limitations.

Chapter 62-343 - Environmental Resource Permit Procedures

Similar to Chapter 62-341, this regulation provides for common regulatory authority for FDEP to implement the ERP process as well as the determination of the landward extent of wetland and surface waters.

Chapter 62-504 - State Revolving Loan Program for Stormwater Facilities

For a number of years, the state of Florida has operated a low-interest loan program for wastewater capital improvements. Recently, the state authorized that ten percent of the funds available for such loans were be potentially allocated to stormwater related projects. Chapter 62-504 regulates the low-interest loan (referred to as the

* Note that a lengthy description of the boundaries of these special water is provided in 62-302.700(9)(i)13.

State Revolving Loan) process. Loans can be procured for stormwater facilities related to collection, storage, retention, treatment or disposal of stormwater and residuals, land for stormwater facilities, construction and procurement, acquisition of stormwater facilities, and a list of other activities provided in 62-504.300. Access to the loans is obtained by submitting an application to FDEP and if granted, a loan agreement is negotiated with the Department.

Loans are distributed by FDEP based upon a priority list. Each year effective July 1, the priority list is adopted defining projects potentially fundable for the next fiscal year. Priority ranking is based upon a scoring system detailed in 62-504.650. A base score is assigned based upon reduction of a documented health hazard, reduction of coliforms discharged to surface or ground waters, compliance with total maximum daily load limitations, reduction of saltwater intrusion, compliance with NPDES MS4 permit conditions, and reduction in pollutant loadings. A multiplier to the base score is provided for discharges to special waters.

Chapter 62-520 - Ground Water Classes, Standards, and Exemptions

Chapter 62-520 FAC is the counterpart of ground water to the surface water rules in 62-302 FAC. In particular, 62-520 states that the "present and future most beneficial uses of all ground waters of the state have been designated by the Department by means of the classification system set forth in this chapter …" Subsection 62-520.400 defines the minimum standards for all ground waters (see "Free Froms" above). The classifications of ground waters are:

Class F-I	Potable water use; in a single source aquifer in 62-520.460 with TDS < 3000 mg/l and specifically reclassified as F-I.
Class G-I	Potable water use; in a single source aquifer with TDS < 3,000 mg/l .
Class G-II	Potable water use; with TDS < 10,000 mg/l; unless otherwise classified.
Class G-III	Non-potable water use; in unconfined aquifers with TDS ≥ 10,000 mg/l; or TDS 3,000 to 10,000 and either has been reclassified or exempted.
Class G-IV	Non-potable water use, in unconfined aquifers with TDS ≥ 10,000 mg/l

Section 62-520.420 provides standards for G-I and G-II ground waters. Both must meet primary and secondary drinking water standards (Rules 62-550.310 and 62-550.320, with exceptions). If the natural background concentrations exceed drinking water standards then the natural background concentrations become the prevailing standard. The standards do not apply within a permitted zone of discharge.

For G-III ground water, Section 62-520.430 states that only the minimum criteria (Free Froms) apply except in the case of an underground injection facility that has received an aquifer exemption. Class G-IV ground water standards are set on a case-by-case basis. Class F-I ground waters only apply in Flagler County.

Exemptions for installations discharging to Class G-I and G-II are considered in 62-520.500. Exemptions are possible only if granting the exemption is in the public interest and does not interfere with existing uses; compliance with the regulations is unnecessary to protect ground water supplies; the costs of compliance outweigh the benefits, a monitoring program is established; and public health, safety and welfare are not endangered. Existing discharges to Class G-II waters are exempt from the secondary drinking water standards unless FDEP determines that one or more standard is needed to protect a potable source; however, all installations discharging to Class G-II ground waters can not cause a violation of secondary drinking water standards at any water well outside the zone of discharge.

Chapter 62-522 - Ground Water Permitting and Monitoring Requirements

Section 62-522.300 states that no installation can directly or indirectly discharge to ground water any contaminant that causes a violation of water quality standards, except within a zone of discharge. No zone of discharge is allowed for wells or sinkholes that "allow direct contact with Glass G-I and G-II ground water", except in the cases of recharge using surface waters or inter-aquifer transfers. Also, no zone of discharge is allowed for discharges that pose an "imminent hazard" to the public.

For Class G-I, no zone of discharge is allowed (Section 62-522.400) except that "domestic effluent or reclaimed water and stormwater discharge sites authorized by Department permit or rule shall have zones of discharge extending no more than 100 feet from the site boundary " or property boundary, whichever is less. For Class G-II ground waters, the Department can establish a zone of discharge subject to certain provisions. Section 62-522.410(3)(c) states that stormwater facilities are not required to obtain a permit to establish a zone of discharge. The zone is 100 feet from the site or to the site boundary. Stormwater facilities are exempted from the ground water monitoring requirements

Chapter 62-528 - Underground Injection Control

The purpose of this chapter is to "protect the quality of the State's underground sources of drinking water and to prevent the degradation of the quality of other aquifers…" To this end, the rule establishes the State Underground Injection Control Program. Classification of wells include Class V, Group 6 stormwater wells used to drain stormwater runoff or for lake level control [Section 62-528.300(1)(e)6]. FDEP must identify and protect (except where exempted) "all aquifers or parts of aquifers" as an underground drinking water sources. An aquifer can be exempted after a public hearing.

Part B of Chapter 62-528 considers criteria and standards for Class V wells. These wells are for the injection of "non-hazardous fluids into or above formations that contain underground sources of drinking water." Exploratory well testing and well construction requirements are provided in Section 62-528.603 and Section 62-528.605, respectively. Monitoring is required of Group 6 (stormwater) wells by Section 62-528.615 and requirements for monitoring are to be included in the permit.

Chapter 9J-5 - MINIMUM CRITERIA FOR REVIEW OF LOCAL GOVERNMENT COMPREHENSIVE PLANS

For the management of growth pursuant to Chapter 163 F.S., Chapter 9J-5 FAC provides the minimum criteria, administered by the Department of Community Affairs (DCA), for the preparation, review and determination of compliance of comprehensive (comp) plans and plan amendments. Using the terminology of the chapter itself, the following divisions are included:

Rule	Description
9J-5.001	Purpose
9J-5.002	General guidelines for exercise of DCA authority
9J-5.003	Definitions
9J-5.004	Public participation procedures
9J-5.005	Format requirements, data requirements and other procedures
9J-5.0053	Minimum criteria for evaluation
9J-5.0055	Minimum criteria to ensure concurrency
9J-5.006 to 9J-5.019	Minimum criteria for comp plan elements
9J-5.022 to 9J-5.024	Establish standards procedures and criteria for review of required land development regulations

From Rule 9J-5.003, a number of definitions are pertinent to the SMMP. These are listed below so that, in the consideration of potential future regulations, new definitions or ordinances may be consistent with state requirements.

Drainage basin or *stormwater basin* is defined as the area topographically to contribute stormwater.

Drainage detention structure is defined as a structure "which collects and temporarily stores stormwater for the purpose of treatment…with the gradual release…"

Drainage facilities or *stormwater management facilities* are defined as "a system of man-made structures designed to collect, convey, hold, divert or discharge stormwater…"

Drainage retention structure is defined as a structure designed to collect and store stormwater without eventual release.

Floodplains are defined as areas inundated during a 100-year flood event or identified as Zone A or V on Flood Insurance Rate Maps (FIRM) or Flood Hazard Boundary Maps (FHBM).

Floodprone areas are defined as those within flood plains.

Level of service is defined as "an indicator of the extent or degree of service provided by, or proposed to be provided by, a facility-based upon and related to the operational characteristics of the facility. Level of service shall indicate

the capacity per unit of demand for each public facility." This definition is important because it applies to all public facilities, not just transportation (see subsection on Local Regulations, below).

Natural drainage features are defined as the naturally occurring features of land that accommodate stormwater flow such as river, lakes, floodplains and wetlands.

Natural drainage flow is defined as "the pattern of surface and storm water drainage through and from a particular site before the construction or installation of improvements or prior to regrading."

Nonpoint source pollution is defined as any source of water pollution that is not a point source.

Pollution is defined substantially as provided in Chapter 403 F.S.

Stormwater is defined as "the flow of water which results from a rainfall event."

Stormwater facilities are defined as drainage facilities that are part of a stormwater management system.

Stormwater management system is defined as "described in Rule 17-40.210(21)"; i.e., Rule 62-40.021(29), "a system which is designed and constructed or implemented to control stormwater…to prevent or reduce flooding, over-drainage, environmental degradation and water pollution or otherwise affect the quantity and quality of discharges from the system."

Rule 9J-5.0055 requires a concurrency management system whereby "public facilities and services needed to support development are available concurrent with the impacts of such development." In particular, local governments must adopt level of service standards for public facilities and services for a number of types of facilities and services including drainage. At a minimum, concurrency is satisfied for drainage if development orders or permits are issued subject to the condition that the necessary facilities and services are, or guaranteed to be, in place at the time of issuance [9J-5.0055((3)(a)].

Rule 9J-5.011 provides the regulations for the Sanitary Sewer, Solid Waste, Stormwater Management, Potable Water and Natural Groundwater Aquifer Recharge Element of the Comp Plan. This section requires the identification of: stormwater management facilities, existing and future capacity needs, major natural drainage features and existing regulations/programs to govern land uses and development. Goals, objectives and policies related to stormwater management are also to be provided including the setting of stormwater discharge water quality standards or stormwater management level of service standards.

Rule 9J-5.016 requires the definition of a capital improvements element that provides for the funding and construction or capital improvements needed for concurrency.

Chapter 14-86 - DRAINAGE CONNECTIONS

The last element of Florida regulations to be considered is Chapter 14 of the Florida Administrative Codes that relates to the Florida Department of Transportation. In particular, Chapter 14-86 addresses drainage connections to transportation facilities from adjacent properties. A "drainage connection" is "any structure, pipe, culvert, device, paved or unpaved area, swale, ditch, canal, or other feature whether natural or created which is … conveys stormwater runoff or other surface discharge from adjacent property to the Department's facility." To connect to an FDOT facility, a permit is required except in the following instances:

- Single family improvements not part of a larger common plan;
- Agricultural or silvicultural improvements regulated by FDEP or WMD that meet accepted drainage practices; and
- Other improvements for which the post-development impervious area is less than 40 percent, less than 5000 square feet of buildings and paved surfaces, no work is done in the FDOT right-of-way to alter drainage, and the property is located in an area with positive outlet.

All other connections require a permit. The permit applicant must provide assurances that the peak flow and volumes are provided for in an approved management plan as either allowed by regulation or such that the post-construction discharge rates are no more than the pre-construction rates. Also the applicant's discharge can not exceed a proportional share of the total facility capacity and meets all applicable water quality standards. Upon receipt of the permit, the drainage connection is not exempt from other state regulations. The permit can be revoked if the connection is not constructed according to the permit, emergency conditions exist, false or misleading information was provided in the permit application, or a notice of connection is not submitted to the Department in a timely manner after construction.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT REGULATIONS

The South Florida Water Management District (SFWMD, known also as SoftMud) regulates and controls the management of public water within south Florida, including Monroe County.

Chapter 40E-1 - GENERAL AND PROCEDURAL

Describing the basic permitting authority of the SFWMD, 40E-1 states that, unless exempt by statute or District rule, an Environmental Resource Permit (ERP) must be obtained for a number of activities including construction or modification of a surface water management system (e.g., stormwater facility, dam, impoundment, or reservoir). The ERP regulations are contained in 40E-4, 40E-40 and 40E-400. Conceptual ERP permits are authorized but do not allow the construction or operation of a facility. The ERP permit is accessed through application and reviewed according

to the SFWMD manual "Basis of Review for Environmental Resource Permit Applications Within the South Florida Water Management District, August 1995."

Chapter 40E-4 - Environmental Resource Permits

Implemented pursuant to Part IV Chapter 373 F.S., this chapter for the Environmental Resource Permitting process. It is the policy of the District to regulate activities in wetlands or other surface waters and to control the management and storage of surface waters within the boundaries of the District. The operating principle is that "unless expressly exempt by law or rule, it is unlawful for any person to construct, alter, operate, maintain, remove or abandon and stormwater management system, dam, impoundment, reservoir, appurtenant work or works, or any combination thereof, including dredging and filling without first having obtained an environmental resource permit from the District" [40E-4.041(1)]. This is done through individual ERP permits (40E-4), standard general permits (40E-40), and no-notice and noticed general permits (40E-400). An individual permit is required for systems that serves a project of 100 acres or more, construction or alteration in 1 or more acres of wetlands or other surface waters, or the system includes more than 9 boat slips. To determine whether an activity may affect surface waters, an entity can petition the District for a formal determination of the landward extent of wetlands or surface waters. Exemptions include repair of existing pipes and culverts and limited maintenance, as well as a number of other activities not related to stormwater management. Conditions for issuance of an ERP permit are listed in 40E-4.301 and 302.

Chapter 40E-40 - Environmental Resource Standard General Permits

Chapter 40E-40 requires standard general permits for "certain surface water management systems which have been determined not to be harmful to the water resources of the District and to be not inconsistent with the objectives of the District." The threshold limits for such permits are 1 acre or more for construction or alteration (including dredge and fill), 100 acres or more of project area, and more than 9 boat slips. This means that if a project exceeds any of the thresholds, an individual permit is required. 40E-40.042 authorizes a "Standard General Permit for Incidental Site Activities." These activities include upland land clearing; minimal earthwork; road subgrade construction; foundation construction; utility, fence, and construction trailer installation; and unconnected drainage facility construction. An application for the standard general permit is required and permit conditions include limitations on clearing and excavation within 50 and 200 feet, respectively, from the landward extent of wetlands or other surface waters.

Chapter 40E-400 - General Environmental Resource Permits

The last type of permitted activity includes general Environmental Resource Permits for activities that have "minimal adverse impacts to the water resources of the District." Certain minor surface water management activities can be implemented after notice to the District; others can be completed without notice.

Basis of Review for Environmental Resource Permit Applications

The last major element of the regulatory arena within SFWMD is the Basis of Review. The purpose of this regulation is to "identify the permit review criteria and information

used by District staff when reviewing permit applications." Describing each element of the Basis of Review is beyond the scope of this document.

LOCAL REGULATIONS

Discussed below are ordinances pertaining to the control and regulation of stormwater or runoff for the County and each of the incorporated cities (Key West, Islamorada, Key Colony Beach and Layton). Also included is a discussion of the Monroe County Year 2010 Comprehensive Plan as it provides the foundation for this Stormwater Management Master Plan. It should be noted that at the time of the preparation of this section, Marathon had recently (November 1999) been voted to be incorporated. However, no ordinances related to stormwater were available.

Monroe County Regulations

MONROE COUNTY LAND DEVELOPMENT REGULATIONS

The major ordinance that controls stormwater within Monroe County is Chapter 9.5, Land Development Regulations (LDR). This chapter of the Monroe County Code of Ordinances was enacted in May 1999 as Ordinance 21-1999. The pertinent sections of the code are listed in Table 2.5-2 that shows the Article, Division and Chapter or Section of the LDR along with the title. A brief description of the pertinent sections of the code is provided below.

Article I. The purpose of the LDR is to "establish the standards, regulations and procedures for review and approval of all proposed development of property … and to provide a development review process that will be comprehensive, consistent and efficient in the implementation of the goals, policies and standards of the comprehensive plan." Thus the two-fold purpose of the LDR is to:

- address proposed development; and
- to control development within the scope of the comprehensive plan.

This is done basically by the issuance of a development permit (Section 9.5-2), with some grandfathering exceptions.A number of definitions are provided in Section 9.5-4 that are pertinent to the stormwater management program:

> *Adverse impacts, stormwater management* means "modifications … on ground or surface waters or wetlands, including quality, quantity, hydrodynamics, i.e., currents, flow patterns, surface area, species composition, living resources or usefulness which are or may be potentially harmful to human health and safety, to biological productivity or stability, or which interfere with the lawful enjoyment of life or property, including secondary, cumulative, and direct impacts."

Area of special flood hazard means lands that flood during the 100-year storm event (i.e., 1 percent chance).

Base flood means the 100-year flood event.

Best management practices, stormwater management means "those methods of stormwater management recognized by experts in the field as the most effective for treating or managing stormwater runoff."

Construction, stormwater management means any activity "which will result in the change in natural drainage patterns [on the property] and will require the creation of a new stormwater management system."

Control structure means a discharge structure that allows the controlled and gradual release of water.

Detention means "the delay of stormwater runoff prior to discharge to receiving waters."

Drainage means "the removal of water from an area to lower water level in that area."

Dry detention (retention) means "the delay (prevention) of stormwater runoff prior to (from) direct discharge into receiving waters in a structure with bottom elevation above the water elevation or control elevation." [Note that the definitions for detention and retention were sufficiently similar that for the purposes of this report, they were combined.]

Groundwater means "water beneath the surface of the ground.

Indirect discharge means the release of stormwater by means of a control structure such as a swale or sheet flow.

Level of service means a measure of describing "operational conditions within a traffic stream." It should be noted that normally level of service (LOS) applies to any infrastructure including stormwater and generally applies to the measure of the adequacy of infrastructure. For more on this subject, please see Chapter 3.0 of this report.

Natural water flow pattern means "the rate, volume and direction of surface water or groundwater flow occurring under natural (daily and seasonal) conditions before development."

Predevelopment condition for stormwater runoff means "topography, vegetation, rate, volume, direction and pollution load of surface water or groundwater flow existing immediately prior to development."

Stormwater management plan means the analysis describing how stormwater is to be controlled to meet the requirements of the LDR.

Stormwater management system means "the natural and constructed features of the property which are designed to treat, collect, convey, channel, hold, inhibit or divert the movement of surface waters." For the purposes of this SMMP, the term "stormwater management system" will include the structures that are owned and/or operated by the county to control stormwater quality and quantity. Chapter 403.031(16) provides a more general definition.

Stormwater runoff means that volume of rainfall that "does not percolate into the ground, nor evaporates, nor is intercepted before reaching the stormwater management system."

Swale means "a shallow constructed ditch with the bottom above the water table." This is a rather broad definition allowing for steep-sided ditches to be termed swales. A more restrictive definition is provided in 62-25.020(16) FAC that provides for gradually sloped sides and standing water after rain events within a vegetated depression. For the purposes of this report, the definition of "swale" provided by state regulations is adopted.

Watershed means "a catchment area which is otherwise draining to a watercourse or contributing to flow to a body of water."

Wet detention (retention) means "the delay (prevention) of stormwater runoff prior to (from) direct discharge into receiving waters in a structure with a bottom elevation below the water table or control elevation." As before, the definitions of "detention" and "retention" are combined.

Wet season water table means the groundwater level during the time of the year when the greatest amount of rainfall normally occurs.

There are a number of other definitions directly or indirectly related to stormwater management but were deemed less important to this SMMP than those listed above.

Article II. This article provides for the duties and responsibilities of the Board of County Commissioners (BOCC), Planning Commission, Department of Planning, County Attorney, County Engineer, Hearing Officer, and Qualified Biologist relative to the implementation and enforcement of the LDR. In particular, the BOCC controls the official land use development and existing conditions maps, amends the language of the LDR as needed, addresses variances to the LDR, and designates hearing officers. On the other hand, the Planning Commission is the local planning agency (relative to 163 F.S.) responsible for the comp plan, to consider applications for conditional use permits and plats, and to address appeals of administrative actions. Composed of five members, the Planning Commission is appointed by the mayor supported by the BOCC. The Department of Planning is to provide the planning functions within the county and provide technical support regarding development applications. The Department will consist of the following divisions: building, development review, capital improvement planning, environmental resources, lands use planning and code enforcement.

Article III. This article provides local regulations on the approval of new development. Development can be approved "as of right" when the uses are compatible with other land uses within a district and in conformity with the LDR; or conditionally, if the uses are generally compatible with other permitted land uses in the district but which require individual review and conditions. Plat approval is required for the division of land into 3 or more parcels.

Division 4 of this article also addresses the maintenance of public improvements. Until the improvement is accepted by the BOCC, the developer is responsible for maintenance with 10 percent of the construction cost as a maintenance bond. Dedication of public improvements occurs only after resolution by the BOCC, inspection by the county and assurance of design and construction in conformity to the LDR. It should be noted that the LDR does not obligate the county to accept maintenance unless the facility is in conformity with the LDR, nor to drain any land except that which is within public rights-of-way or easements. The maintenance of improvements on private lands is to be defined to the satisfaction of the director of planning.

Article IV. This article deals with building permits. In particular, Sections 9.5-111 and 9.5-112 require that no development can "occur except pursuant to a building permit" and a "certificate of compliance" with the LDR must be issued prior to issuance of the building permit. For the permitting of the development of additional dwelling units, Sections 9.5-120 to 9.5-124 deal with the allocation procedure to allow development commensurate with the service levels of the public facilities. The county is to review and monitor the rate of dwelling unit development in comparison to the public facilities and services built to serve the development. The regulation defines three areas where the Dwelling Unit Allocation process applies: Upper Keys (north of Fiesta Key), Middle Keys (Fiesta Key to Seven Mile Bridge), and Lower Keys (south of Seven Mile Bridge). Section 9.5-121.1 sets the annual residential dwelling unit as follows:

Subarea	Total	Market	Affordable
Upper Keys	99	79	20
Middle Keys	41	33	8
Lower Keys	115	92	23
Total	255	204	51

In this table, "affordable housing" is defined in Section 9.5-4. Basically, the Director of Planning accepts applications for dwelling unit allocation and if approved, subtracts the allocation from the allotment noted in the table. It should be noted that the annual allocation is further distributed quarterly by the LDR. The review of the applications is supported by a point system defined in Section 9.4-122.1 which assigns points for proper development consistent with the LDR, density reduction, affordable housing, habitat protection, protection of threatened and endangered species, water conservation, energy conservation, and structural integrity (protection from flood and wind damage).

The second division of Article IV includes the procedures for floodplain management. In particular, for building permits within areas of special flood hazard (i.e., within the 100-year floodplain), the building must be in compliance with the provision of Division 6 of Article VII (Floodplain Management Standards) considered in more detail later. Variances are allowed under exceptional hardship cases, subject to the approval of the BOCC.

Article VII. This article defines the land use districts acceptable within the county, consistent with natural resources and available public facilities. Section 9.5-226 requires the BOCC, with recommendation from the Planning Commission, to adopt an official land use map for the unincorporated county to help the review of development and redevelopment. Section 9.5-227 further requires the adoption of the existing conditions map which is the 1985 FDOT aerial photographs with habitat types identified. This map is to help determine the regulatory requirements for new development. Division 2 of this article describes in detail for each land use district the types of developments and structures authorized within the district, as well as the access requirements to U.S. 1 and recreational and open space requirements.

Division 5 of Article VII contains development standards. After February 28, 1988, development must be served by "adequate public facilities" for roads, solid waste, potable water, and schools. It should be noted that adequate stormwater management facilities are not required. Annually, the Director of Planning is to submit a report to the BOCC defining the capacity of the public facilities within each of three service areas (Upper Keys north of Whale Harbor Bridge; Middle Keys from Seven Mile Bridge to the Whale Harbor Bridge, and Lower Keys south of Seven Mile Bridge). The report must consider population and commercial growth and define inadequate facility capacity, if any. For areas of inadequate capacity, the county can not approve applications for development [Section 9.5-292(b)(5)b] unless the development does not decrease the capacity of the public system.

Section 9.5-293 provides guidelines and criteria for surface water management to minimize or eliminate adverse impacts to surface water, groundwater and other natural resources. Single family and duplex homes are to "observe best management practices" and have limited criteria to follow. A stormwater management plan is required by all development except for:

- maintenance work on existing mosquito control structures;
- maintenance, alteration or improvement of an existing structure, or placement of an new structure, that does not increase the design peak discharge rate, volume pollutant load of stormwater runoff, or impervious coverage;
- emergencies requiring immediate action to prevent material or public harm; and,
- single family or duplex homes on individual lots that are part of a subdivision provided an approved stormwater management system is in place.

Stormwater management plans are to be reviewed by staff regarding wetlands, pinelands, dunes/beach berms, hammocks, uplands, and rare or endangered plants

and animals. Operation and maintenance of the stormwater management system is required. The systems will also be reviewed relative to surface water degradation as defined in state regulations, with a higher level of review for discharges to Outstanding Florida Waters. Particular standards are listed below:

- Off-site discharge is allowed at historical levels based upon natural site drainage patterns or as approved in previous SWFWMD permits;
- The stormwater management system is designed for the 24-hour, 25-year design storm event;
- The post-development conditions can not create a stormwater volume greater than the volume currently retained on-site.
- Discharges must meet state water quality standards as defined in 62-302, 62-25, and 62-40 FAC.
- Retention or detention is to be provided for the first inch of runoff or for 2.5 times the percent impervious coverage.
- Commercial or industrial developments must provide at leas 1/2 inch of dry detention or retention pretreatment.
- With some restrictions, systems with inlets within grassed areas are credited with up to 0.2 inch of wet detention for the contributing areas.
- Projects with over 40 percent imperviousness discharging to sensitive waters must provide 50 percent pretreatment of the total required. Sensitive waters are Class I, Class II, Outstanding Florida Waters, and canals connection these types.

Note that water surfaces are subtracted from the total site area.

The regulation also requires that a subdivision must have a stormwater management system installed by the permittee that collects and conveys runoff to the required retention/detention system with access points for individual lots. Specific design considerations are provided in Section 9.5-293(f)(3). Section 9.5-293(g) requires the building permit applicant to provide a stormwater management plan, sealed by a registered engineer, with sufficient information for evaluation of compliance with the LDR. The planning Department is to provide a manual and brochure describing stormwater management practices including the preparation of stormwater management plans, acceptable BMPs, environmentally sound practices for erosion and sediment control, and minimum specifications for stormwater management systems. The stormwater management system must also be adequately maintained and sufficient easement for inspection is also required [Section 9.5-293(j)]

Section 9.5-297 requires that a stormwater easement must be provided where a subdivision traverses "a watercourse, drainage way or channel" and maintenance easements of 15 feet are required along drainage channels. This is important since many counties in Florida are contending with inadequate easements for maintenance.

As noted above, Division 6 of Article VII contains the floodplain management standards. The intent of this division is to ensure that the county is eligible for, and receives, the benefits of the National Flood Insurance Program. By reference, the FEMA Flood Insurance Study and Wave Height Analysis for Monroe County (October 17, 1989) and revisions are adopted. In general, the regulations require new construction and substantial improvements (reconstruction of 50 percent or more of market value of existing structure) to minimize flood damage by using pilings or columns, flood resistant materials, and flood proofed utilities. Contracts for lots (and similar instruments) must contain the phrase "flood hazard warning" if the lots are within the 100-year floodplain. In cases where the base flood elevation is known, residential structures must be constructed with the base floor elevation above the base flood elevation and utilities protected from the base flood. Similar requirements are listed for non-residential structures.

Division 8 of Article VII provides environmental standards "for the conservation and protection of the environmental resources of the Florida Keys by ensuring that the functional integrity of natural areas is protected when land is developed." This is accomplished by requiring a habitat analysis for the development of lands classified as slash pineland or tropical hardwood hammock. The analysis is required to consider the distribution and quality of undisturbed lands within the parcel and rate the hardwood hammock and pineland relative to inherent character and integrity. Inherently high quality hammocks and pinelands are identified in the ordinance. The rating system is based upon tree size, soil depth, woody plant species diversity, threatened plants, invasive plant infestation, threatened/endangered animals, forest size, perimeter disturbance, wildlife habitat, and community connectivity. Section 9.5-343 of this division defines open space requirements within the County by listing the ratio of open space to total land for various types of habitat; development may not reduce the ratio. Section 9.5-345 provides elements for proper environmental design, including clustering development away from protected habitat, minimizing fill, protection of trees, and removal of invasive plants.

Article IX. This article defines areas within the county designated as Areas of Critical County Concern (ACCC). Such areas are defined by the BOCC when the area is "one of special environmental sensitivity, contains important historical or archaeological resources, is characterized by substantial capital improvement deficiencies, or provides significant redevelopment opportunities." Development within ACCC must prove that there the construction will not have an adverse impact on the features for which the ACCC was designated. If proven, the BOCC may conditionally approve the development. Areas of Critical County Concern listed in the regulation include North Key Largo, Ohio Key, and Big Pine Key.

Article X. Finally, Article X describes impact fees within Monroe County. Impact fees are fees imposed on a development to pay for the infrastructure improvements needed to accommodate the increase in capacity required by the development. In general, impact fees can only be spent within the area of growth in which the fee is collected and only for capital improvements for the infrastructure servicing the new development. The rule identifies impact fees for transportation, community parks, library, solid waste, police facilities, and affordable and employee housing.

MONROE COUNTY COMPREHENSIVE GROWTH MANAGEMENT PLAN

The Year 2010 Comprehensive (Comp) Plan is divided into three volumes: Technical Document, Policy Document and Map Atlas. The 2010 Comp Plan was adopted by the Monroe County Board of County Commissioners on April 15, 1993, amended in January 1996, adopted by the DCA and Administrative Commission by July 1997. The Comp Plan was written pursuant to Chapters 163 and 380 F.S. and in addition to addressing other growth management and environmental issues, provides elements related to floodplain, drainage and runoff control. Each of the Elements that consider stormwater management is considered below.

Future Land Use Element (Chapter 2.0). Subsection 2.1.9 E. considers the availability of drainage facilities and services to address existing land uses. The section notes that "because of the low-lying topography, highly permeable soil conditions, proximity to the ocean and other receiving waters, and rural character of most of the county road network, most of the existing land uses in Monroe County are not served by stormwater management facilities." Section 2.4, Future Land Use Analysis, further states that "drainage… is not currently considered to be a carrying capacity constraint" because it was not possible at the time the Comp Plan was develop to quantify the impacts. Regarding floodplain, most of the Florida Keys are within the 100-year floodplain, with the exceptions of higher lands within Key Largo, Plantation Key, and Windley Key. The Permit Allocation System (see Land Development Code, LDC) as well as the LDC itself, limits growth within the 100-year floodplain. Subsection 2.4.5 (Economic and Fiscal Impacts of the Future Land Use Alternatives) states that the County is committed to prepare the Stormwater Master Plan that will help identify existing deficiencies and commits the County to manage growth according to regional SFWMD regulations. No costs are assigned for the Drainage Element.

Conservation and Coastal Management Element (Chapter 3.0). This chapter considers the environmental elements of the Comp Plan. Subsection 3.4 considers the soils within Monroe County. In general, there are 6 basic types: Beach, Marine Wetland, Tropical Hardwood Hammock, Slash Pineland, Freshwater Wetland, and Filled and Developed Land. The Monroe County Environmental Resources Department identified the following types of sites to be susceptible to excessive erosion: construction sites, existing development with inadequate stormwater management, active limestone mining sites, unstable dredged spoil disposal sites, beaches, and altered shorelines. Subsection 3.5.3 identifies known point and nonpoint source pollution problems. The point sources within the unincorporated County were wastewater related. Nonpoint sources included onsite wastewater disposal systems, abandoned or inactive landfills, live-aboard vessels, mosquito control pesticide use, and urban runoff, only the last of which is pertinent to this Stormwater Management Master Plan.

Drainage Element (Chapter 11.0). This element provides an assessment of the existing stormwater management conditions within the County related to grown management. Historically, drainage has been the sole concern of developers or property owners. Boat canals were used as the primary drainage facilities. On several Keys, the drainage facilities along US 1 are the primary stormwater

management systems, even though much of US 1 has no drainage system at all. This chapter identifies five "needs" for stormwater management:

Stormwater Management Master Plan/Stormwater Utility. A facility-specific land use inventory along with an analysis of current and future stormwater needs should be completed. Associated with the assessment should be the consideration of how to finance the needed stormwater facilities.

- Revision of the Monroe County Code related to stormwater management. Section 9.5-293 should be revised to address stormwater controls for new development.

- Assessment of surface water quality. Additional data are required to understand the impacts of urbanization on local water quality.

- Inventory of facilities. An inventory of existing stormwater management systems (public and private) would help define the stormwater needs within Monroe County.

Subsection 11.7 describes the Sanitary Wastewater and Stormwater Management Master Plan. While described as a single plan, implementation of this subsection has split the plan into two: the Sanitary Wastewater Management Plan (SWMP) and Stormwater Management Master Plan (SMMP), the subject of this document. Considering on the SMMP, the purpose of the plan is "to identify and quantify potential sources of pollution due to…stormwater runoff and reduce the associated water quality degradation in the Florida Keys."

Subsection 11.8 identifies the Level of Service (LOS) standards for Monroe County. These are summarized as follows:

- Building floor elevations - 100-year, 3-day.

- Evacuation and emergency service routes - 100-year, 3-day.

- Arterial roads - 100-year, 3-day.

- Collector roads - 25-year, 3 day.

- Neighborhood roads - 5-year, 1 day.

- Urban sites - 5-year, 1-day.

- Rural sites - 3-year, 1-day.

As part of the LOS criteria, Subsection 11.8.1 states that off-site discharge rates are limited to predevelopment conditions. For water quality, the LOS criteria require development to "ensure that stormwater discharges will meet State water quality standards…" and identify the wet detention, dry detention and retention criteria required.

In support of both the Comp Plan and the Land Development Regulations, the County has issued the Layman's Brochure entitled, Guidelines for preparation of a site plan for single family and duplex lots in Monroe County. The brochure presents the public with information on reasons for controlling stormwater runoff (e.g., pollution minimization), how to prepare a site plan for a single family or duplex home and examples of stormwater best management practices for source controls. Recommendations include preservation of roadside swales, reduction of fill on the lot, flood protection measures, impervious surface minimization, water conservation and buffer zones.

Key West

Land Development Regulations

The City of Key West regulates the development and re-development of land within the city through the Land Development Regulations (September 1997). The LDR divides twenty-one articles into five major chapters: General Administration, District and General Regulations, Performance Criteria, Administration of Development Plan Review and Subdivision, and Glossary. The stated purpose of the LDR is to assist the implementation of the city's comprehensive plan. The Key West Planning Board reviews the overall program (1-2.4) and variances to the LDR are reviewed by the City Commission as the Board of Adjustment.

The LDR is implemented through the use of building permits (1-2.3), an application for which must be accompanied by a development plan. It is through the review of the application that compliance with the LDR is confirmed. As a baseline, the LDR identifies the Future Land Use Map (FLUM) designations and zoning districts that are adopted as part of the LDR. The development of land within the city must be in conformance with the FLUM. FLUM Districts include:

- Conservation,
- Residential (low density residential, single family, medium density residential and high density residential),
- Commercial (limited, general and salt pond tourist),
- Mixed Use New Town (residential/office, planed redevelopment),
- Old Town Historic Preservation (historic residential/office, high density residential/commercial, medium density residential, planned development/ redevelopment, neighborhood commercial, tourist commercial, public service, and high density residential), and
- Institutional (public services, and airport).

Each has a specific purpose as well as density and other characteristic restrictions (including open space and imperviousness limitations) identified in Article V. Section 2-5.9 also specifies through Table 2-5.9 specific impervious surface ratios (IPR) for each land use type (all are greater than 50 percent).

Section 2-7.15 in Article VII states that no work that may impact the 100-year floodplain or designated conservation area, or "redirects or/or increases or reduces off-site natural drainage or runoff" can be completed without and approved development plan. Also, borrow pits and mining activities are prohibited. The City Engineer reviews development plans for this purpose.

Chapter III (Articles IX to XVII) provides performance criteria including concurrency management, environmental management, and surface water protection. Section 3-9.8 provides the adopted levels of service (LOS) including drainage:

Drainage

a. Post-development runoff can not exceed the predevelopment rate for the 25-year event, up to and including the 24-hour duration.

b. Facilities must be designed to achieve the standards defined in 62-25 FAC the treatment of the first inch of rainfall.

c. Facilities must be designed so as not to degrade water quality.

Section 3-11.2 requires an erosion and sediment control plan when the disturbance of land is required for development. Minimum measures include the minimization of runoff velocities, maximum protection of disturbed areas from runoff, and prevention or retention of sedimentation onsite.

Section 3-11.7 provides for floodplain protection. Development is to be outside of the 100-year floodplain unless otherwise authorized. If development does occur in the floodplain, compensatory mitigation is required providing for equivalent storage, 5 percent more open space, reduce imperviousness allowance and necessary stormwater facilities.

Article XII deals with Surface Water Management to implement the objectives of the Comprehensive Plan. The regulations are to complement those of FDEP and SFWMD and permits from both agencies are required as needed as well as those from the city. The article prohibits construction of a development project without first obtaining valid permits that include a stormwater management system. Impeding the functioning of a drainage system is likewise prohibited. Exemptions include agricultural systems, maintenance on mosquito control or impoundments, modifications to an existing structure resulting in a change of less than 500 square feet of impervious area, activities by the water management district, and activities related to emergencies. A Type A permit is required for all other activities. Criteria for the issuance of the permit include:

- The discharge must meet state water quality standards.

- The first inch of runoff or 2.5 inches times the imperviousness must be treated.
- Projects with greater than 40 percent impervious area discharging directly to sensitive waters must provide "dry detention or retention pretreatment equal to 50 percent of the total required." Water surfaces are subtracted from site areas for these calculations.
- A stormwater management system is required for properties subdivided for sale including a collection system and retention or detention prior to the outfall.
- Off-site discharges are limited to historical discharge amounts or limited by previous County or SFWMD actions.
- The stormwater management system must be designed for the 24-hour, 25-year design storm event. The 72-hour, 25-year event must also be considered.

The article also provides construction requirements for discharge structures, wet and dry detention/retention areas, impervious areas, inlets, etc.

Section 3-12.8 of Article XII considers development in a flood hazard zone. A Type B permit is required for such development and criteria for issuance include compensatory storage, mean and peak runoff velocities, pollution control, and elevations of structures.

Where appropriate, Section 3-12.12 allows the City Engineer to authorize the use of gravity injection wells for stormwater management. Criteria for use of such wells include use of a baffle box for sediment control as well as pretreatment using swales or ponds prior to the box, and 90- to 100-foot wells with the first 60 feet cased. The wells must first be approved by FDEP.

Islamorada

CODE OF ORDINANCES

Islamorada, Village of Islands, has adopted the Monroe County Code of Ordinances in their entirety.

Key Colony Beach

CODE OF ORDINANCES

The Key Colony Beach Code of Ordinances is divided into Part I (Charter) and Part II (Code of Ordinances). Within Part II, Chapter 1 (General Provisions), Chapter 6 (Buildings) and Chapter 14 (Sewers and Sewage Disposal) contain pertinent references to the control of runoff.

Chapter 1 - General Provisions. Key Colony Beach regulates development and compliance with the Code through a code enforcement board, consisting of 7 members appointed by the city commission, and a special master also appointed by the commission. Violation of code may result in a fine, costs for reasonable repairs, and property lien.

Chapter 6 - Buildings. These regulations pertain to buildings, their construction and application for building permits. The regulations are administered by a building official and building inspector, appointed by the city commission. The building official is authorized to, among other responsibilities, "review plans and specifications for proposed construction and improvements," "approve and issue building permits," and "follow-up and make recommendations on citizen complaints on road, drainage, etc." A building permit is not required for cosmetic maintenance or for single-family or duplex residential structures, but is required for new or changed land uses and "construction, alteration or major structural repairs" for any building with cost exceeding $1,000. After construction, a professional engineer must certify that "the plans reflect that the lot drainage planned is such that water will be retained on site and otherwise conform to the drainage provisions of the Land Development Code, including the Level of Service Standard contained in Section 101-151(4)." Further a drainage and grading plan must be submitted to the building official showing proposed finished grades. During construction, the building official is to inspect the development at least once every 30 days. Furthermore, Section 6-13 requires that for the use of public rights-of-way, a permit is also required. For such a connection, "the flow of stormwater within drainage facilities will remain unimpeded" and "adequate measures will be taken to prevent pollution of water in the area from runoff…during the course of construction and restoration."

Layton

CODE OF ORDINANCES

The City of Layton has adopted the Monroe County Code of Ordinances in their entirety.

Marathon

CODE OF ORDINANCES

The City of Marathon has adopted the Monroe County Code of Ordinances in their entirety.

REGULATORY COMPLIANCE

Monroe County

As a last step in the analysis of the existing regulatory environment, activities of the County in compliance with the regulations defined above were identified and assessed. Compliance activities considered were permit requirements, inspections, maintenance, staffing and effectiveness of program.

PERMIT REQUIREMENTS

New development is permitted through the Building Department of the Growth Management Division. Unless exempted (see above), building permits are submitted to request new development or significant redevelopment. Appropriate permits from other agencies are required prior to submittal (e.g., Health Department and Electric Coop permits, and FDEP permits for docks). Building plans are required as part of the permit application; these plans are reviewed by the Building Department for residential and commercial construction and by the County Engineer for commercial development with impervious area greater than 200 square feet. For appropriate applications, the County Engineer reviews the stormwater management plans for the development (e.g., post-construction runoff peaks are predicted to be no more than the pre-construction ones). A building permit is then issued if the development is consistent with County regulations and building credits are available.

INSPECTION

During construction, the County provides numerous inspections including 10 or more times for single family home construction and 50 or more for multiple story buildings. These inspections provide confirmation that the construction is completed according to the approved plans. The inspection does not include review of the construction sediment and erosion control measures. However, the inspectors do consider whether or not the post-construction stormwater management facilities, if required, are constructed properly.

MAINTENANCE REQUIREMENTS

Most of the development plans reviewed by the Building Department are for residential construction that may include swales or retention ponds. Some include French Drains. Where appropriate, the County Engineer reviews the plans to confirm compliance with regulations. However, no assurances are required for the continued or proper maintenance of the stormwater facility constructed.

STAFFING

Based upon the current development being reviewed, County staff believes that the staff resources available for review and inspection are adequate. Overloads occur during emergency conditions such as a hurricane. This assessment is based, of

course, on the current moratorium on commercial development within the County. Should the moratorium be released or the development regulation be increased, staffing may need to be increased appropriately.

TRAINING

Currently there is limited training offered to staff other than training on existing regulations. Additional training on construction sediment and erosion control is available from the Florida Department of Environmental Protection. It is recommended that this type of training should be offered to Building Department staff including inspectors.

COMPLIANCE ASSESSMENT

According to Building Department staff, voluntary compliance with the existing development requirements has improved over the last few years. Compliance improvements are generally attributed to public education on the building code.