

*Attachment III*

**'Infrastructure Element'  
of the  
Town of Cloud Lake Comprehensive Plan**

**INFRASTRUCTURE**

(Sanitary Sewer, Solid Waste, Stormwater Management, Potable Water and Natural Groundwater Aquifer Recharge)

***GOAL***

“Public facilities and infrastructure that are provided and maintained in a manner which: (1) provide consistent service levels throughout the Town; (2) protect public and private investments; (3) promote orderly, compact urban growth; and, (4) assure the health, safety and welfare of Town residents”.

**OBJECTIVE A:** To ensure through the land development approval process that, at the time a building permit is issued, adequate public facility capacity is available, or will be available, at the time of occupancy.

**Policy 1:** Public facility Level of Service standards as displayed in TABLE 2 are hereby adopted, and shall be used as the basis for estimating the availability of capacity and demand generated by a proposed development project.

**Policy 2:** All development and/or redevelopment activities shall be undertaken in a manner consistent with adopted Level of Service standards.

**Policy 3:** The Town will cooperate with public utility service providers, as necessary, to develop procedures to update facility demand and capacity information, as development permits are issued.

**Policy 4:** Consistent with public health and safety, sanitary sewer, solid waste, drainage, adequate water supplies, and potable water facilities shall be in place and available to serve new development no later than issuance by the Town of a Certificate of Occupancy or its functional equivalent. Prior to approval of a building permit or its functional equivalent, the Town shall consult with PBCWUD to determine whether adequate water supplies to serve the new development will be available no later than the anticipated date of issuance of the Town’s Certificate of Occupancy or its functional equivalent. The Town may meet the concurrency requirement for sanitary sewer through the use of on-site sewage treatment and disposal systems approved by the Department of Health to serve new development.

TABLE 2

TOWN OF CLOUD LAKE PUBLIC FACILITY  
LEVEL OF SERVICE STANDARDS

<u>Public Facility</u>	<u>Level of Service Standard</u>
<u>Potable Water</u>	<p><u>Average Day Water Consumption Rate</u> 115 gallons/capita/day for those lots being served by Palm Beach County Utilities central system.</p> <p>115 gallons/capita/day. One (1) well per lot based on minimum lot criteria established in Palm Beach County Environmental Control Rules #1 and #2 for those lots not being served by PBCWUD central system.</p>
<u>Sanitary Sewer</u>	<p><u>Average Day Sewage Generation Rate</u> One (1) septic tank per lot based on minimum lot criteria established in Palm Beach County Environmental Control Rule #3.</p> <p>The use of existing properly constructed and functioning septic tank systems within the Town is acceptable; however, when analysis indicates that septic tank systems are adversely impacting the environment according to State Water Quality Standards (Ch. 62-302, FAC for surface water, Ch. 62-520, FAC for groundwater and Ch. 100-6, FAC for bathing places) and that public health standards are endangered, septic tank systems causing the situation will be repaired or replaced.</p> <p>When a central sanitary sewer system becomes available to currently unsewered areas, and the current septic tank systems fail to meet State Water Quality Standards and endanger the public health, hook-up to the central system shall be required; and the Palm Beach County LOS Standard of 100 gallons per capita day shall be the standard implemented.</p>

Solid Waste 7.2 lbs./capita/day

Stormwater Management

Design Storm

Five (5) year frequency, 24-hour duration (one-day);  
rainfall intensity curve

**OBJECTIVE B:** To maintain a five (5) year schedule of capital improvements needs, to be updated annually, in conformance with the CAPITAL IMPROVEMENTS element. Capital improvements needs are defined as: (1) those improvements necessary to correct existing deficiencies in order to maximize the use of existing facilities; or, (2) those improvements necessary to meet projected future needs without encouraging urban sprawl.

**Policy 1:**

Existing deficiencies will be addressed by undertaking the following activities:

Sanitary Sewer – The Town should establish procedures and/or requirements for the inspection of septic tanks and drain fields as part of a monitoring and maintenance program. The Town should periodically review the current status of utilities to determine whether or not the Town should be managed, operated and maintained by a central sanitary sewer service provider.

Solid Waste – A program for centralized collection of toxic household and commercial wastes should be maintained.

Stormwater Management – Institute a program of annual inspection of the drainage system as a means of monitoring the efficiency of the system. Assess the results of the annual program each five (5) years to determine whether or not corrective action is needed. The Town should consider the use of French drains/perforated pipes to allow for adequate percolation of stormwater runoff before direct discharge into the private lakes. Improvements shall be oriented to meeting the adopted Level of Service standard.

Potable Water – The Town should encourage Palm Beach County Utilities to continue to monitor the potable water supply in its efforts to meet State Water Quality Standards.

Groundwater Recharge – Participate, through the direction and assistance from the Palm Beach County Department of Environmental Resource Management to identify and regulate businesses potentially capable of polluting the groundwater within the Town.

**Policy 2:** A Capital Improvement Coordinating Committee shall be created by the Town for the purpose of evaluating and ranking capital improvement projects proposed for inclusion in the five (5) and ten (10) year schedule of needs.

**Policy 3:** Guidelines shall be developed to evaluate and rank proposed capital improvement projects with the following provided as suggested priority levels:

Level one – whether the project is needed to protect public health and safety in order to fulfill the Town’s legal commitment to provide facilities and services, or to preserve or achieve full use of existing facilities.

Level Two - whether the project increases the efficiency of the use of existing facilities, prevents or reduces future improvement costs, provides services to developed areas currently lacking full service or promotes in-fill development.

Level Three - whether the project represents a logical extension of facilities and services within a designated area.

**OBJECTIVE C:** To continue to provide solid waste collection services and drainage services to meet existing and projected future demands.

**Policy 1:** The basic solid waste collection service policy shall consist of the following components:

1. Maintain a high Level of Service for the residents of the Town with a system that ensures the lowest possible cost to Cloud Lake taxpayers relative to the highest Level of Service.
2. Maintain a close liaison with the contracted hauler of solid waste in handling all service complaints and offer information to residents concerning services provided.
3. Develop and maintain regulations which should address, but not be limited to, the location of containers and other solid waste to be collected, requirements of residents to place solid waste for collection at a reasonably determined time prior to collection, and the enforcement of said regulations to avoid potential health hazards from solid waste being scattered about.

**Policy 2:** The basic drainage policy shall consist of the following components:

1. Continue routine maintenance of catch basins and conduits.
2. Regulate swale plantings and sodding.
3. Encourage appropriate land use activities in flood prone areas.
4. Protect environmentally sensitive areas by controlling adjacent activities.
5. Require use of vegetation, mulches and berms for control of pollutants from construction sites.
6. Enforce the Flood Protection Ordinance to maintain the flooding protection provided by natural features.

**OBJECTIVE D:** To continue to have the Palm Beach County Solid Waste Authority provide solid waste disposal services to the Town of Cloud Lake to meet existing and projected future demands.

**Policy 1:** Maintain a liaison with the Solid Waste Authority of Palm Beach County in order to ensure the Town's input to the management of established landfill sites and the purchase/development of any future landfill sites, or other alternative manner of solid waste disposal.

**Policy 2:** Maintain a local resource recovery program and establish efficient public information for this cause.

**OBJECTIVE E:** To maintain stormwater drainage regulations in the Town's Code of Ordinances to provide for protection of natural drainage features and ensure that future development utilizes stormwater management systems in a manner to protect the functions of recharge areas and natural drainage features.

**Policy 1:** Limit post-development runoff rates and volumes to pre-development conditions and preserve existing natural drainage features.

**Policy 2:** Protect and preserve water quality by use of construction site best management practices (BMP's) and the incorporation of techniques such as on-site retention, use of pervious surfaces and native vegetation.

**Policy 3:** The Town shall continue to be a participant and co-permittee in the Palm Beach County NPDES (National Pollution Discharge and Elimination System) Stormwater Permitting Program, and to assure that discharges from the Town's stormwater drainage system are of a quality to meet State Water Quality Standards.

**OBJECTIVE F:** To actively participate in potable water supply conservation and water reuse programs of the PBCWUD and South Florida Water Management District on an on-going and an emergency basis.

**Policy 1:** The Town shall implement and enforce Water Shortage Emergency Provisions established under Chapter 40E-21, Florida Administrative Code upon declaration of a water shortage emergency by the South Florida Water Management District.

**Policy 2:** Florida Friendly Landscaping practices shall be promoted by the Town when considering all proposals for development and/or redevelopment.

**Policy 3:** The Town shall promote the use of low volume fixtures when reviewing all building permit applications.

**Policy 4:** Cooperate and coordinate with PBCWUD and the SFWMD in the preparation and updates to their Water Supply Plans to ensure appropriate input of data and information pertinent to those Plans.

**Policy 5:** Every 5 years the Town shall incorporate necessary Water Supply updates and Plan directives-enacted by PBCWUD and the SFWMD.

**Policy 6:** Consider revising potable water level of service (LOS) standard to include residential and non-residential categories pending their prior adoption by Palm Beach County.

**Policy 7:** Adopt by reference the County's implementation of the Mandatory Year-Round Landscape Irrigation Conservation Measures (Section 3.7) as detailed in 40E-24, Florida Administrative Code.

**OBJECTIVE G:** The Town shall adopt and maintain a Ten (10) Year Water Supply Facilities Work Plan.

**Policy 1:** The "Ten (10) Year Water Supply Facilities Work Plan" shall be adopted as a part of this SANITARY SEWER, SOLID WASTE, STORMWATER MANAGEMENT, POTABLE WATER AND

NATURAL GROUNDWATER AQUIFER RECHARGE element of the Town of Cloud Lake Comprehensive Plan. The Town shall amend this Comprehensive Plan and 10-year water supply plan within eighteen (18) months of a South Florida Water Management District regional water plan update when approved by their governing board.

**Town of Cloud Lake “Ten (10) Year Water Supply Facilities Work Plan”**

This section of the SANITARY SEWER, SOLID WASTE, STORMWATER MANAGEMENT, POTABLE WATER AND NATURAL GROUNDWATER AQUIFER RECHARGE element represents the “Ten (10) Year Water Supply Facilities Work Plan (WSFWP)” for the Town of Cloud Lake”.

As previously stated, the South Florida Water Management District (SFWMD) approved the Lower East Coast Regional Water Supply Plan update November 8, 2018. Per Section 163.3117(6)(c)3., Florida Statutes, municipalities and water suppliers must adopt a related Water Supply Facilities Work Plan (WSFWP) and supportive amendments to their comprehensive plans by May 8, 2020.

Municipalities and local suppliers are required to coordinate with the SFWMD in the preparation of their WSFWP in order to identify needed facilities for at least the ten (10) year planning period, confirming that: (1) adequate water supply is available, considering the regional water supply plan; and, (2) infrastructure plans necessary to serve projected need have been prepared.

Specifically, WSFWP comprehensive plan amendments must:

- Demonstrate that the local government has coordinated with the appropriate water management district’s regional water supply plan.
- Ensure that the local government’s future land use plan is based upon the availability of adequate water supplies and public facilities and services.
- Ensure that adequate water supplies and facilities are available to serve new development no later than the date on which the local government issues a certificate of occupancy and consult with the applicable water supplier prior to approving a building permit to determine whether adequate water supplies will be available to serve new development by the anticipated issuance date of the certificate of occupancy.
- Revise the five-year schedule of capital improvements to include any water supply, reuse and conservation projects and programs to be implemented during the five (5) year period.



- Revise the Conservation Element to assess projected water needs and sources for at least a ten (10 year planning period, considering the appropriate regional water supply plan.
- To maintain internal consistency, revise the Intergovernmental Coordination Element to ensure coordination of the comprehensive plan with the regional water supply plan and regional water supply authorities.
- Clearly define responsibilities for planning, financing, construction and/or operation of the water supply facilities by all entities providing service within its jurisdiction, regardless of ownership responsibility for the individual facilities, including: (1) water supply source, service areas, existing demands and future projects: (2) treatment types and losses: (3) distribution facilities; and, (4) bulk sales agreements.

As previously identified in the POTABLE WATER sub-element Support Documentation, the Town of Cloud Lake does not own, operate or maintain its own central potable water system. Rather, potable water supply facilities and services are provided to Cloud Lake by Palm Beach County Water Utilities Department (PBCWUD). All responsibilities for the withdrawal, treatment and distribution of potable water to the residents and businesses of Haverhill are assumed by PBCWUD, including the direct billing of customers. The PBC water supply facilities and system are described in their current Water Supply Plan. Mapping of their service area is also contained in the PBC Water Supply Plan. The Future Land Use Map contained in the Future Land Use element of the Town of Cloud Lake Comprehensive Plan clearly delineates their corporate limit boundaries.

There are no bulk water agreements between the Town and PBCWUD. Individual residents, businesses and other non-residential uses are billed individually by PBCWUD. Ordinance No.101 adopted in 1999 by the Town authorizes and consents that the PBCWUD shall be the service provider and that the Utility shall undertake water improvement projects within the municipal boundaries of Cloud Lake. It is agreed in this Ordinance that all water supply projects shall be funded through special assessments and services provided according to the fee schedule imposed by Palm Beach County. In the accomplishment of said projects, the Town shall render no financial or technical assistance. Local distribution systems in new projects are initially installed by individual developers who, upon completion, relinquish them to the PBCWUD for ownership, operation and maintenance purposes.

There are no public water wellfields, or treatment and/or storage facilities located within the Town of Cloud Lake municipal boundaries. Therefore, there are no “cones of influence” from public water wellfields that must be considered by the Town in the distribution and types of land use applied in Cloud Lake.

As part of the site plan review and land development processes, the Town requires developers to coordinate with, and to provide evidence of PBCWUD’s approval of,

proposed central potable water systems being proposed for new developments of for upgraded systems. This is required to provide assurance that minimum level of service for potable water is maintained.

The entire Town of Cloud Lake is served by the PBCWUD central water system.

The following regional issues are identified in the 2018 SFWMD Lower East Coast Water Supply Facilities Work Plan: 1) Fresh water and groundwater are limited: further withdrawals could have impacts on the regional, wetlands, existing legal issues and salt water intrusion. As a result, additional alternative water supplies need to be developed; 2) Surface water allocations from Lake Okeechobee and the Water Conservation Areas are limited in accordance with the Lake Okeechobee Area RAA criteria; 3) Construction of additional storage systems (e.g. reservoirs, aquifer storage and recovery systems) to capture wet season flow volumes will be necessary to increase water availability during dry conditions and attenuate damaging peak flow events from Lake Okeechobee; 4) Expand use of reclaimed water is necessary to meet future water supply demands and the Ocean Outfall Law; and, 5) Expand use of brackish groundwater from the Floridan aquifer system requires careful planning and wellfield management to prevent undesirable changes in water quality. These issues are primarily relevant to the Palm Beach County Water Use Department as the Town's water supplier; however, various conservation techniques are implemented by the Town through Policies adopted in this Comprehensive Plan and through land development regulations.

### **Water Supply Demand Projections**

The Town's potable water Level of Service (LOS) is the same as that adopted by PBCWUD system-wide: 115 gallons per capita day (gpcd). Since the Town has adopted the same LOS as PBCWUD, it is the appropriate standard for projecting potable water demand within the corporate limits of Cloud Lake. The Town of Cloud Lake should work with PBCWUD in developing residential and non-residential LOS standards in the future to more accurately estimate and project potable water use and needs.

Current potable water demand for all of the Town of Cloud Lake is based on the most recent 2018 University of Florida Bureau of Business Research (BEBR) estimated resident population (137). The most recent resident population estimate for Cloud Lake utilized by PBCWMD for their estimates and projections are for the year 2018 (137). Because the Town expects very little growth through build-out, the BEBR estimate will be used for the current potable water demand calculations. Therefore, the current total potable water demand generated in Cloud Lake is calculated at 15,755 gallons per day (e.g. 137 total resident population X 115 gpcd = 15,755); all of which will be demanded of the PBCWUD central system.

The Town of Cloud Lake future potable water needs are calculated using population projections prepared for the updated PBC Water Supply Plan. It is projected that build-

out will occur in Cloud Lake before the end of its Comprehensive Plan 10-Year planning period, however, the population projected for 2030 established in the PBC Water Supply Plan is estimated at 151, It is projected that the population of Cloud Lake in 2029/30 will be 144 151. Projected potable water need in Cloud Lake is based on the assumption that the 115 gpcd LOS adopted in the Palm Beach County Comprehensive Plan and the Town of Cloud Lake Comprehensive Plan will be maintained throughout the 10-Year planning period.

Based on the Town 's population projections and on the assumptions stated above, the projected potable water needs for the 10-Year planning period will be 17,365 gpd demanded of the PBCWUD central system.

### **Water Supply Source and Project Identification**

As previously identified, central potable water supply is provided to the Town of Cloud Lake by PBCWUD. The Town has no financial or operational and maintenance responsibility of the County's system.

Palm Beach County is operating under PBCWUD Work Use Permit Number 50-00135-W (Public Water Supply) which expires on March 13, 2023 and Water Use Permit Number 50-06857-W (WTP #11) which expires on October 12, 2025.

Since the Town of Cloud Lake is part of the PBCWUD service area, is adopting the same LOS standard (e.g. 115 gpcd) as the County (which has been substantially reduced); and is subject to the conditions, requirements and timeframe of the County's current CUP and Water Supply Plan, it is concluded that the water supply allocations granted to PBCWUD will be adequate to serve the projected demand of the Town. It is further concluded from these water supply projections and projected water supply needs that the Town's future land use mix is feasible.

### **Comprehensive Plan Element Updates**

Potable water supply, urban water conservation and reuse are all stressed as important issues of the SFWMD Lower East Coast Water Supply Plan and individual Water Supply Facilities Plans. The following OBJECTIVES and Policies are contained in various elements of the Town of Cloud Lake Comprehensive Plan which are pertinent to, and directly relate to, the water supply, conservation and reuse issues. They are identified by Comprehensive Plan element herein.

## **FUTURE LAND USE**

**OBJECTIVE E, Policy 2:** The Town shall coordinate with Palm Beach County Water Utilities Department (PBCWUD) to review all future proposed land use change applications to ensure the availability of adequate water supplies.

**OBJECTIVE E, Policy 3:** The Town shall include PBCWUD in the site plan review and land development process of all proposed development subject to these processes to ensure that water supplies are available to service that development.

## **SANITARY SEWER, SOLID WASTE, STORMWATER MANAGEMENT, POTABLE WATER AND NATURAL GROUNDWATER AQUIFER RECHARGE**

**OBJECTIVE A, Policy 4:** Consistent with public health and safety, sanitary sewer, solid waste, drainage, adequate water supplies, and potable water facilities shall be in place and available to serve new development no later than the issuance by the Town of a Certificate of Occupancy or its functional equivalent. Prior to approval of a building permit or its functional equivalent, the Town shall consult with PBCWUD to determine whether adequate water supplies to serve the new development will be available no later than the anticipated date of issuance of the Town's Certificate of Occupancy or its functional equivalent. The Town may meet the concurrency requirement for sanitary sewer through the use of on-site sewage treatment and disposal systems approved by the Department of Health to serve new development.

**OBJECTIVE F:** To actively participate in potable water supply, conservation and water reuse programs of the PBCWUD and South Florida Water Management District, both on an on-going and an emergency basis.

**Policy 1:** The Town shall implement and enforce Water Shortage Emergency Provisions, established under Chapter 40E-21, Florida Administrative Code, upon declaration of a water shortage emergency by the south Florida Water Management District.

**Policy 2:** Florida Friendly Landscaping practices shall be promoted by the Town when considering all proposals for development and/or redevelopment.

**Policy 3:** The Town shall promote the use of low volume fixtures when reviewing all building permit applications.

**Policy 4:** Cooperate and coordinate with PBCWUD and the SFWMD in the preparation and updates to their Water Supply Plans to ensure appropriate input of data and information pertinent to those Plans.

**Policy 5:** Every 5 years the Town shall incorporate necessary Water Supply Plan updates and directives enacted by PBCWUD and the SFWMD.

Policy 6: Consider revising potable water level of service (LOS) standard to include residential and non-residential categories pending their prior adoption by Palm Beach County.

Policy 7: Adopt by reference the County's implementation of the Mandatory Year-Round Landscape Irrigation Conservation Measures (Section 3.7) as detailed in 40E-24, Florida Administrative Code.

**OBJECTIVE G:** The Town shall adopt and maintain a Ten (10) Year Water Supply Facilities Work Plan.

Policy 1: The “Ten (10) Year Water Supply Facilities Work Plan” shall be adopted as a part of this SANITARY SEWER, SOLID WASTE, STORMWATER MANAGEMENT, POTABLE WATER AND NATURAL GROUNDWATER AQUIFER RECHARGE element of the Town of Cloud Lake Comprehensive Plan. The Town shall amend this Comprehensive Plan and 10-year water supply plan within eighteen (18) months of a South Florida Water Management District regional water plan update when approved by their governing board.

**CONSERVATION**

**OBJECTIVE C:** To protect and enhance potable water supplies.

Policy 1: Promote and institute, where practical, water conservation techniques and programs in cooperation with the South Florida Water Management District and other appropriate agencies.

Policy 2: Continue to cooperate with the South Florida Water Management District in the conservation of potable water supplies during times of declared water shortages, or water shortage emergencies by participating in the District’s Water Shortage Plan.

Policy 3: Participate in the formulation and coordinate in the implementation of potable water conservation programs developed by PBCWUD as part of its 20-Year Water Supply Plan and Consumptive Use Permit.

Policy 4: Adopt and institute, where practical, a Water Conservation Ordinance, water conservation techniques and programs in cooperation with the SFWMD and other appropriate agencies.

Policy 5: Continue to coordinate with the SFWMD in the conservation of potable water supplies during times of declared water shortages, or water shortage emergencies, by participating in the District’s Water Shortage Plan.

Policy 6: Cooperate with PBCWUD in the development and implementation of water reuse programs, to the extent that they are applicable to Cloud Lake.

### **INTERGOVERNMENTAL COORDINATION**

OBJECTIVE A: To maintain planning coordination with adjacent municipalities, Palm Beach County, the Palm Beach County School Board and current service providers

Policy 3: Notify by letter and involve all potentially affected entities, jurisdictions and/or service providers in the initial stages of the planning and development review process when the action of one government may create an impact on neighboring jurisdiction's public facilities and services.

Policy 4: Secure the cooperation of neighboring entities, jurisdictions and/or service providers through interlocal agreements and intergovernmental coordination that addresses how the cost for impacts to public facilities and services will be borne, and by whom, when the impacts are imposed upon other entities, jurisdictions and/or service providers. Interlocal agreements and the IPARC process will be used to identify and implement joint planning areas, when deemed necessary to be appropriate.

Policy 12: Require all applicants for development approval to procure written confirmation of availability of potable water service prior to the issuance of a building permit.

Policy 13: At the time of each required EAR, confirm the availability of potable water service consistent with the SFWMD Water Supply Plan and the PBCWUD 20-Year Water Supply Facilities Plan.

Policy 14: The Town shall request PBCWUD to provide assurances that there will be adequate potable water supply allocations available to meet future projected growth and development in Cloud Lake either through interlocal agreement, Ordinance, or other effective means.

Policy 15: Require coordination of the Town of Cloud Lake "10-Year Water Supply Facilities Work Plan" with the Palm Beach County 20-Year Water Supply Plan and the South Florida Water Management District's Lower East Coast Regional Water Supply Plan and future updates to these Plans

### **CAPITAL IMPROVEMENTS**

The purpose of the Capital Improvements element and the short range (5-Year) and long range (10-Year) Schedules of Improvements are to identify the capital improvements necessary to implement the Comprehensive Plan and ensure that adopted LOS standards are achieved and maintained for concurrency-related facilities (e.g. sanitary, solid waste,

stormwater management, potable water, transportation, recreation and open space and schools). If LOS standards cannot be met, the local government must deny applications for development orders and permits until the deficiency is addressed. The Schedules of

Improvements must address deficiencies and be financially feasible. There are no potable water supply facilities projects identified within the corporate limits of Cloud Lake in the LEC Plan Update for PBCWUD; therefore, none appear in the current short and long range Schedules.

The Town of Cloud Lake Comprehensive Plan must be updated annually per state planning requirements. If Palm Beach County identifies any potable water supply capital improvements projects in the future which are located within Cloud Lake, the appropriate Schedule of Improvements must be updated to reflect those improvements; even if there is no cost to be borne by the Town.

