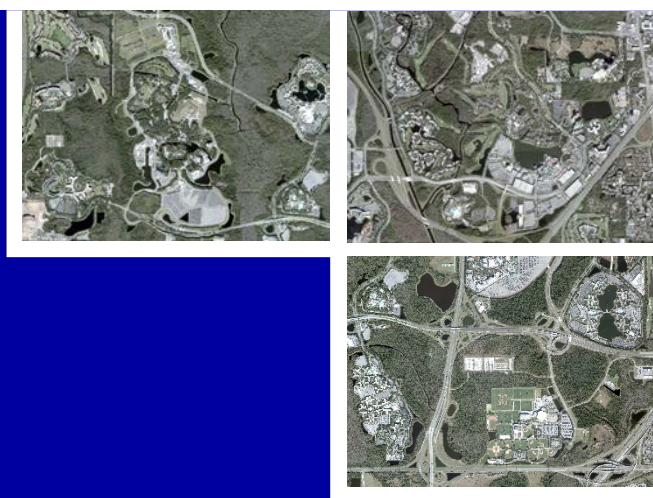


# COMPREHENSIVE PLAN 2032

Effective 7/15/2022



REEDY CREEK  
IMPROVEMENT DISTRICT  
City of Bay Lake  
City of Lake Buena Vista



# **REEDY CREEK IMPROVEMENT DISTRICT**

## **City of Bay Lake and City of Lake Buena Vista**

### **RCID COMPREHENSIVE PLAN 2032**



Since 1967  
**Reedy Creek**  
IMPROVEMENT DISTRICT

### **Adoption Phase Public Hearings**

City Council of Bay Lake – May 24, 2022 at 8:30 A.M.

City Council of Lake Buena Vista, – May 24, 2022 at 2:00 PM

Board of Supervisors – May 25, 2022 at 10:00 A.M.

Reedy Creek Improvement District Planning and Engineering

**Ron DeSantis**  
GOVERNOR



**Dane Eagle**  
SECRETARY

July 15, 2022

Mr. Laurence C. Hames  
President of the Board of Supervisors  
Reedy Creek Improvement District  
P.O. Box 10170  
Lake Buena Vista, Florida 32830

Dear Mr. Hames:

The Department of Economic Opportunity (“Department”) has completed its review of the joint comprehensive plan amendment for the Reedy Creek Improvement District and the Cities of Bay Lake and Lake Buena Vista, (Amendment No. 18-01ER), which was received and determined complete on June 2, 2022. The joint comprehensive plan amendment was adopted by the Reedy Creek Improvement District by Ordinance No. 605 on May 25, 2022, the City of Bay Lake by Ordinance No. 135 on May 24, 2022, and the City of Lake Buena Vista by Ordinance No. 131 on May 24, 2022.

Every local government in the state is required to maintain a comprehensive plan to guide development and the provision of services in their jurisdiction, and every local government is required to evaluate their plan every seven years to determine if updates are needed to address any changes in Florida Statutes since their last comprehensive plan update. The Department does not “approve” comprehensive plan amendments. Rather, the Department’s responsibility is to determine if the comprehensive plan amendment meets the minimum requirements of Chapter 163, F.S.

We have reviewed the amendment in accordance with the state coordinated review process set forth in Sections 163.3184(2) and (4), Florida Statutes (F.S.), and have determined that the adopted amendment meets the requirements of Chapter 163, Part II, F.S., for compliance, as defined in Section 163.3184(1)(b), F.S. The Department is therefore issuing a Notice of Intent to find the comprehensive plan amendment “In Compliance.” A copy of the Notice of Intent is enclosed and will be posted on the Department’s Internet website. You may access the Notice of Intent at: <http://floridajobs.force.com/orc>.

Florida Department of Economic Opportunity | Caldwell Building | 107 E. Madison Street | Tallahassee, FL 32399  
(850) 245.7105 | [www.FloridaJobs.org](http://www.FloridaJobs.org) | [www.Twitter.com/FLDEO](http://www.Twitter.com/FLDEO) | [www.Facebook.com/FLDEO](http://www.Facebook.com/FLDEO)

An equal opportunity employer/program. Auxiliary aids and service are available upon request to individuals with disabilities. All voice telephone numbers on this document may be reached by persons using TTY/TTD equipment via the Florida Relay Service at 711.

The Department's Notice of Intent to find a plan amendment "In Compliance" is deemed to be a final order if no timely petition challenging the amendment has been filed. If this plan amendment is challenged by an affected person, the amendment will not become effective until the Department or the Administration Commission enters a final order determining the amendment to be "In Compliance."

If you have any questions concerning this review, please contact Kelly D. Corvin, CPM, FCCM, Regional Planning Administrator, by telephone at (850) 717-8503 or by email at [kelly.corvin@deo.myflorida.com](mailto:kelly.corvin@deo.myflorida.com).

Sincerely,



Benjamin Melnick, Deputy Secretary  
Division of Community Development

BM/kdc

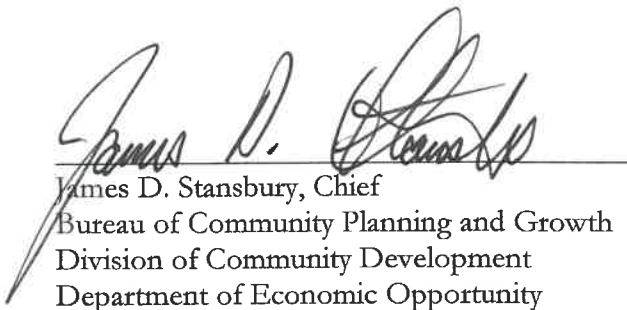
Enclosure: Notice of Intent

cc: The Honorable Renee Raper, Mayor, City of Lake Buena Vista  
The Honorable Todd Watzel, Mayor, City of Bay Lake  
Lee Pulham, AICP, Senior Planner, Reedy Creek Improvement District  
Tara McCue, AICP, Executive Director, East Central Florida Regional Planning Council

STATE OF FLORIDA  
DEPARTMENT OF ECONOMIC OPPORTUNITY  
THE STATE LAND PLANNING AGENCY  
NOTICE OF INTENT TO FIND THE  
REEDY CREEK IMPROVEMENT DISTRICT AND THE CITIES  
OF BAY LAKE AND LAKE BUENA VISTA  
COMPREHENSIVE PLAN AMENDMENTS  
IN COMPLIANCE  
DOCKET NO. 18-01ER-NOI-48-03-(A)-(I)

The Department gives notice of its intent to find the Amendments to the Comprehensive Plan for the Reedy Creek Improvement District adopted by Ordinance No. 605 on May 25, 2022, the City of Bay Lake by Ordinance No. 135 on May 24, 2022, and the City of Lake Buena Vista by Ordinance No. 131 on May 24, 2022, IN COMPLIANCE, pursuant to Section 163.3184(4), F.S.

If a timely petition challenging the Amendments was not filed within thirty (30) days after the local government adopted the Amendments, the Amendments become effective upon the posting of this Notice of Intent on the Department's Internet Website. If a timely petition was filed, the Amendments do not become effective until the Department or the Administration Commission enters a final order determining that the Amendments are in compliance.



James D. Stansbury, Chief  
Bureau of Community Planning and Growth  
Division of Community Development  
Department of Economic Opportunity  
107 East Madison Street  
Tallahassee, Florida 32399

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Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**INTRODUCTION**

# INTRODUCTION

## **PURPOSE OF THE 2032 PLAN**

The Reedy Creek Improvement District 2032 Plan is intended to provide the basis for future decisions regarding land use, development, conservation and infrastructure. It serves as the District's official policy for the use of both private and public lands, as well as the Comprehensive Plan for the Cities of Bay Lake and Lake Buena Vista. The Plan provides a framework for expansion of the unique uses in the District, while managing growth, protecting the environment, ensuring health and safety, and enhancing the quality of development. It continues the high standard of planning already undertaken and extends its purview ten years into the future.

The Plan's three overall functions are: 1) to govern the location and intensity of land use and development by providing the foundation for regulating proposed new projects; 2) to convey advance direction to the private sector by stating clearly the District's expectations for growth and conservation; and 3) to guide public investment in new facilities, such as roads, water systems, and water quality facilities.

The Plan is formulated to meet requirements of the Florida Local Government Comprehensive Planning and Development Regulation Act, found in Section 163 of Florida statutes and their administrative regulations.

## **BACKGROUND TO THE PLAN**

### **Prior Planning Efforts**

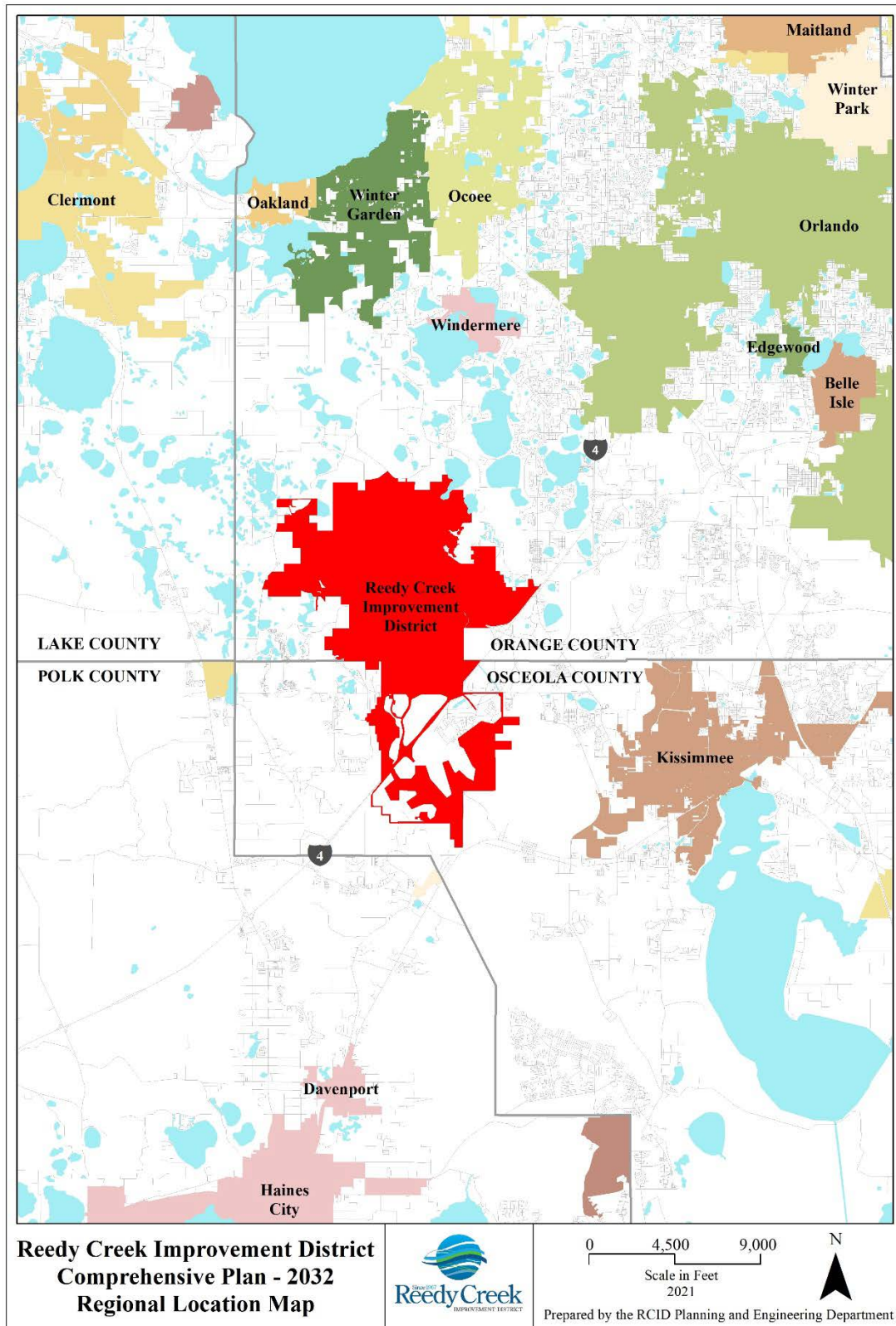
The Reedy Creek Improvement District was created by the Florida Legislature in 1967. It is coterminous with, and is intended to provide a full range of governmental and proprietary services for, Walt Disney World Resort. The District has been successful in anticipating, providing, and monitoring the adequacy of public facilities and roads, as well as in planning and regulating land use, development and environmental quality within its boundaries. Many of its efforts in this regard have been guided by Florida's Local Government Comprehensive Planning and Development Regulation Act.

This Comprehensive Plan is the culmination of several prior plans and programs. Its precursors include the original private plan for the resort, prepared in 1965 prior to applicability of public planning requirements. This early plan was the basis for the first increment of development, completed in 1971, including the Magic Kingdom theme park, several hotels and two golf courses. At the time, the District was more than 16 miles from the nearest urban development.

The first plan adopted by the District, however, was completed in 1974. It stipulated new environmental guidelines and included land use regulations. Like many of RCID's programs, this early plan could be considered state-of-the-art since it preceded the state's local planning legislation, enacted in 1975. The District modified the 1974 Plan to adhere to these state requirements in a 1979 revision. A shopping village, an additional hotel complex and Epcot were opened by 1982. Even when completed, these complexes still stood in relative isolation on the Interstate 4 Corridor. In 1988, the District, with still another theme park (Disney/MGM Studios) under construction, embarked on its most comprehensive effort, and adopted the resulting plan in 1991 and land development regulations in 1993. A fourth theme park, Disney's Animal

Kingdom, opened on Earth Day – April 22, 1998. The 1991 Plan was rewritten in its entirety to produce the Plan that is currently updated with each Evaluation and Appraisal (EAR).

**Figure 1-1: Regional Location Map**



## **Planning Methodology and Process**

Taken as a whole, the District's Comprehensive Plans have been successfully implemented. The development maximums and infrastructure thresholds provide an excellent basis for reviewing development projects for consistency and concurrency with growth management requirements while providing the needed flexibility for landowners to respond to changing economic conditions and consumer preferences. Established Land Use categories are appropriate and sufficient land remains available for future development. This approach will continue with this Plan for the 2027 through 2032 planning horizon.

Today, the resort contains four major theme parks, a sports complex, 45 hotels/resorts with over 37,700 rooms including camp and RV sites, and an abundance of related entertainment, retail and recreational facilities.

Following Plan adoption and state approval, the RCID Land Development Regulations will be revised to be consistent with the plan. These will contain updated standards for development and infrastructure. The Plan will be maintained and monitored via annual review and evaluation.

## **PLAN ORGANIZATION AND SUMMARY OF PLAN GOALS**

The plan contains eight elements integrated to form an internally consistent policy framework for the future: land use, transportation, housing, infrastructure, conservation, recreation and open space, intergovernmental coordination and capital improvements. Each of these elements includes two components: Policies; and Supporting Data and Analysis. Additional data are presented in the Appendix.

The policy component of each element includes a major goal or goals, several objectives, sometimes arrayed under plan subelements, and numerous policies numbered individually. For ease of reference and revision, page numbers are preceded by an element number. Policy pages are noted with the letter "A" following the element number; supporting data and analysis pages are noted with the letter "B".

Nine goals provide the foundation for the plan. These include the following:

1. To preserve the integrity of the natural environment; maintain convenient, efficient public services; minimize threats to health and safety; and control and direct future development through policies, principles and standards that support the potential for economic benefit.
2. To continue to maintain a safe, convenient efficient, and balanced transportation system to meet the multi-modal capacity requirements of existing and future development.
3. To facilitate the provision of an adequate and affordable supply of housing that accommodates all current and future permanent residents of the district.
4. To facilitate the provision of an adequate supply of affordable housing for any unmet affordable housing need generated by employment growth within the district, to the extent required by Chapter 163.
5. To provide water, sewer, solid waste, and stormwater management services to existing and future development within its boundaries in the most efficient, cost-effective, and environmentally sound manner possible.

6. To protect and conserve the natural resources of the District.
7. To promote the creation of state-of-the-art vacation and recreational facilities; to maintain and expand access to these facilities; and to retain the visual, environmental, and psychological benefits provided by open space in the District.
8. To promote intergovernmental coordination with the two cities within its boundaries; the two counties in which it is located; other local governments in the immediate vicinity; and regional, state and federal governmental entities for the mutual benefit of all involved parties.
9. To provide adequate public facilities to existing and planned development areas in a manner that is concurrent with the impacts of such development and efficient and consistent with available financial resources.

Taken together, these goals, when achieved, will allow RCID to continue to preserve and enhance the unique setting of the Walt Disney World Resort.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**FUTURE LAND USE  
ELEMENT**

**Part A:  
Policies**

# INTRODUCTION

The Future Land Use Element establishes the District's policies for growth and development over the next ten years. It provides guidance in the location of specific uses, the density and intensity of those uses, and the overall quantity of development that may occur by 2032. The element includes two major components. The "Policy" component includes the goals, objectives, and policies formally adopted by the District as well as the Future Land Use Map. The "Supporting Data and Analysis" component provides the supporting data, descriptions of current and future conditions, and issue discussions.

## GOALS, OBJECTIVES, AND POLICIES

### GOAL

***It is the goal of the Reedy Creek Improvement District to preserve the integrity of the natural environment; maintain convenient, efficient public services; minimize threats to health and safety; and control and direct future development through policies, principles, and standards that support the potential for economic benefit.***

### Objective 1

*To implement a land use classification system that: (1) promotes the creation of innovative entertainment, recreational, and commercial facilities; (2) provides favorable conditions for the application of new and advanced concepts in recreation-oriented community design; (3) designates areas which have been determined to be marginally suitable or unsuitable for development based on soil, vegetative, hydrologic, and topographic conditions for nonurban uses; (4) directs development into those areas where the extension of public services and facilities can be achieved with minimal impacts on natural resources, as depicted on Figure 2-2; and (5) provides the basis for land development regulations.*

Policy 1.1: The Commercial category, as shown on the Future Land Use Map, shall be used to meet the needs of people who work, visit, or stay in the District for commercial goods and services by promoting a wide range of commercial facilities and activities at convenient and readily accessible locations.

Policy 1.2: The Hotel/ Resort category, as shown on the Future Land Use Map, shall be used to denote existing resort hotels, resort hotels under construction, and vacant sites announced for possible resort hotel construction. Sites with this designation may support hotels, motels, campsites, recreational vehicle parks, villas, and interval ownership units), and ancillary resort facilities (such as golf courses, conference centers, and equestrian areas). (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 1.3: The Entertainment category, as shown on the Future Land Use Map, shall be used to

denote existing gated attractions and to identify areas for the potential expansion of these attractions. Sites with this designation may also contain spectator sporting facilities and lodging.

(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

- Policy 1.4: The Support Facilities category, as shown on the Future Land Use Map, shall be used to accommodate public or private administrative, production, maintenance, storage, service, communication, and utility functions that support the entertainment, resort, and commercial activities in the District.
- Policy 1.5: The Public Facilities category, as shown on the Future Land Use Map, shall be used to accommodate existing and future public services provided by the Reedy Creek Improvement District, including transportation, water, reclaimed water, wastewater, energy, fire protection, administration, and solid waste facilities.
- Policy 1.6: The Mixed Use category, as shown on the Future Land Use Map, shall be used to permit innovative combinations of land use and development intensity, while ensuring that compatible uses and high aesthetic standards are maintained.
- Policy 1.7: The Resource Management/Recreation category, as shown on the Future Land Use Map, shall be used to identify environmentally sensitive areas suited for low-intensity recreational use or landscape buffers. Where no other alternatives are feasible, development will be allowed when reviewed and approved in accordance with Future Land Use Policy 3.8. (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016)
- Policy 1.8: The Conservation category, as shown on the Future Land Use Map, shall be used to preserve semi-aquatic natural habitats, environmentally sensitive uplands, and wetlands. Structural improvements crossing the area shall be limited to the maximum extent possible.
- Policy 1.9: The Water category, as shown on the Future Land Use Map, shall be used to identify surface water bodies larger than 10 acres in size, including lakes, ponds, and canals.

## **Objective 2**

*To direct future development to appropriately designated areas on the Future Land Use Map, preserve the unique character of the RCID, and prevent blight and land use incompatibility in the District through the implementation of the adopted land development regulations. These regulations shall reflect the following innovative concepts: (1) development maximums, as shown in Table 2-1; (2) infrastructure thresholds, as shown in Table 2-3; (3) the vertical mixing of different land uses (such as hotel, retail, and entertainment) on a single development site; (4) the use of ferries, monorails, buses, and other alternatives to the automobile to provide access to development sites; and (5) the development of phased master-planned projects that incorporate multiple land uses (accommodations and entertainment).*

- Policy 2.1: All future development shall be required to be consistent with the future land use designations shown on Figure 2-1. Definitions of each future land use category are



provided in the Land Use Element Data and Analysis document under the heading "Future Land Use Categories."

Policy 2.2: The subdivision of land shall be governed by provisions contained in the Land Development Regulations.

Policy 2.3: The amount of development that occurs through 2032 shall be regulated by a series of thresholds that are based on the capacity of infrastructure, inclusive of planned improvements, through the year 2032. These thresholds are presented in Table 2-3 of this element. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 2.4: The composition of land uses added through 2032 shall be generally guided by the estimated development maximums contained in Table 2-1 of this element. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 2.5: Prior to the approval of new development projects, the District shall ensure that:

- (1) The cumulative quantity of development does not exceed the maximums set in Table 2-1 for any land use;
- (2) The cumulative quantity of land that may be developed through 2032 shall not exceed the maximums set in Table 2-2 of the Future Land Use Element;
- (3) The cumulative quantity of infrastructure required does not exceed the thresholds set in Table 2-3 for any service category listed;
- (4) The level of service standards set in this Comprehensive Plan will not be reduced as a result of the proposed development; and
- (5) No health or safety hazard will be created on any property within or adjacent to the District boundary as a result of the development.

(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 2.6: New development shall occur in a manner that maximizes the use of existing and planned public facilities and services including existing and future electric power generation and transmission systems. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

Policy 2.7: The RCID shall continue to work with the major landowners in efforts to maintain and update hotel, recreation, and entertainment facilities to ensure that a high-quality environment is maintained, including use of new technologies for energy conservation and the reduction of greenhouse gas emissions. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

- Policy 2.8: The Land Development Regulations shall continue to enable new and innovative concepts, designs, and ideas in recreation and community living, transportation, communication, utilities, and energy to be carried out in the District.
- Policy 2.9: Land uses in Mixed Use areas that are potentially incompatible with one another shall be buffered through the provision of open space, berms, site design, or other suitable means.
- Policy 2.10: All development adjacent to any collector, minor arterial, or major arterial street shall be buffered from that street by landscaping.
- Policy 2.11: The District shall develop noise compatibility guidelines for inclusion in the Land Development Regulations. These guidelines should ensure that a comfortable noise environment is maintained within and beyond District boundaries. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 2.12: The RCID shall require that at least 30 percent of the area within its boundaries but outside the designated Wildlife Management Conservation Area (WMCA) be set aside as open space. The area designated as open space shall be defined on an Open Space Map to be contained in the Recreation and Open Space Element of the Comprehensive Plan.
- Policy 2.13: The RCID's Land Development Regulations shall require that all road signage meets minimum standards for public safety and that traffic flow and parking provisions meet the minimum standards and design criteria necessary for the safe movement of automobiles and pedestrians.
- Policy 2.14 Except as indicated in Policy 2.15, the development maximums established by Table 2-1 shall not be changed without undergoing the plan amendment process described in Chapter 163.3184 and 163.3187, Florida statutes.
- Policy 2.15: (Deleted by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 2.16 The District shall encourage infill development on vacant parcels that will maximize the mix of existing uses and modes of transportation.  
(Added by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

### **Objective 3**

*To direct development in a manner which minimizes adverse impacts to natural resources as depicted in Figure 2-2, and which minimizes hazards to life and property, including flooding.*

*The following policies are in addition to those found in the Conservation Element:*

- Policy 3.1: The District shall abide by and enforce state and federal standards and regulations regarding development in wetlands, areas of rare plant concentration, and the habitat of species that are endangered, threatened, or of special state concern.

- Policy 3.2: Development in the 100-year flood plain shall generally be discouraged. Where such development does occur, it will only be permitted if:
- (1) compensating storage is provided within the sub-basin;
  - (2) the flood-carrying capacity of the floodway is maintained with no increase in the flood level; and
  - (3) the first floor elevation of all habitable structures is placed at least one foot above the 100-year flood elevation.
- Policy 3.3: The drainage impacts of all future projects shall be fully mitigated through a combination of improvements to canals and/or culverts, on-site retention and detention of stormwater, and maintenance of the flood carrying capacity of the floodway. Such improvements shall ensure that flow at the S-40 control structure does not exceed 3,282 cfs in a ten-year/three-day storm event, and that the drainage level-of-service standards established in the Infrastructure Element for the flood elevation on roads and parking areas are maintained. The necessary mitigation measures shall be determined by the RCID Planning and Engineering Department through the use of the RCID drainage model.
- Policy 3.4: Wherever feasible, the RCID shall require drought-tolerant landscaping or the development of an irrigation system that accommodates recycled water for all landscaped areas within future development. (Amended by Ordinance/Resolution No. 482 adopted 09/24/2008 and Ordinance Nos. 121 and 122 adopted 09/22/2008)
- Policy 3.5: A wellhead protection area consisting of a 500 foot radius around each potable water well shall be designated and certain land uses shall be excluded therein: groundwater protection measures contained within F.A.C. 62-521.400 Ground Water Protection Measures in Wellhead Protection Areas are adopted by reference (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).
- Policy 3.6: Unavoidable impacts to the threatened plants shown in Appendix D shall be minimized.
- Policy 3.7: In accordance with national environmental goals, the loss of wetlands or deterioration of their functional value will be avoided. Where wetland impacts are unavoidable, they shall be minimized with applicable mitigation measures. Mitigation may occur anywhere within the Reedy Creek Watershed, upon agreement with all applicable state, regional, and federal agencies.
- Policy 3.8: In accordance with the permits listed below, known collectively as the “Long Term Permits” (LTPs), impacts (including any secondary impacts) to wetlands and animal species within the RCID have already received conceptual approval. Mitigation for these impacts has already been finalized. The issuing agency and permit number for the LTPs are as follows:

Agency	Permit Number
South Florida Water Management District	#48-00714-P
Army Corps of Engineering	#199101901 (IP-GS)

The property owner of wetlands impacted pursuant to the LTPs may request reconsideration of the Resource Management/Recreation map designation. A formal FLUM amendment shall not be required to change the designation if the above circumstances apply (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).

- Policy 3.9: All wetlands not impacted under the Long Term Permits shall be protected by an undisturbed upland buffer a minimum of fifteen feet wide and an average of twenty-five feet wide. This buffer may be used for passive activities (e.g., previous hiking trails) only when the activities will not adversely affect the function of the buffer or the wetland (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).
- Policy 3.10: All wetlands not impacted under the District's Long Term Permits shall be defined as Class I or Class II. All Class I wetlands shall be placed in the Conservation Land Use category. All Class II areas shall be placed in Resource Management/Recreation (RM/R) Land Use category. The Land Development Regulations shall define use restrictions for Class I and II wetland areas which recognize their respective ecological values (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).
- Policy 3.11: Deleted (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).
- Policy 3.12: Deleted (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).
- Policy 3.13: Where wetland boundaries have not been officially delineated by state and federal agencies, the RM/R designation shall serve as a conceptual indicator of wetland areas. In such cases, the precise delineation of wetlands shall be determined through site-specific studies and field determinations. If an area is designated RM/R and is later determined to be nonjurisdictional by state and federal agencies, the subject property owner may request reconsideration of the map designation. A formal FLUM amendment shall not be required to change the designation if the above circumstances apply.
- Policy 3.14: The District shall encourage innovative approaches to wetland mitigation such as the Disney Wilderness Preserve and Mira Lago mitigation projects (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).
- Policy 3.15: Site planning for new development in the RCID shall be conducted in a manner that makes the best possible use of climatic and topographic design factors.

- Policy 3.16: In the designated Mixed Use areas, structural improvements shall be concentrated on upland sites. When development is proposed on upland sites adjacent to wetlands, such development shall not cause adverse impacts to the existing hydroperiod and hydrology of these wetlands.
- Policy 3.17: Although there are no known sites of historical or archaeological significance in the District at this time, historic or archaeological surveys shall be required in the event that such resources are discovered in the District in the future. If development is proposed in an area where such resources are found present, the District shall require appropriate measures to conserve the resources prior to construction.
- Policy 3.18: Deleted (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).

#### **Objective 4**

*To reserve areas of vacant land specifically dedicated for the development of new and expanded public and support facilities so that the urban service needs generated by growth can be met.*

- Policy 4.1: New Support Facility areas shall be located adjacent to existing service areas, or as part of a development within the Mixed Use category.
- Policy 4.2: The RCID shall maintain ongoing coordination with the major landowners regarding activities in the Support Facility areas, and shall work collaboratively with the landowners in the siting of new facilities.
- Policy 4.3: Support facility areas should be clearly organized and well marked. Negative visual elements, such as open storage yards and construction debris, should be screened from public view.

#### **Objective 5**

*To expand public services so that sufficient capacity is provided for additional development.*

- Policy 5.1: Public road improvements and other applicable measures shall be undertaken so that the District transportation system can accommodate the traffic volumes indicated in Table 2-3 without reductions in the adopted levels of service. These improvements and service levels shall be specified in the Transportation Element and Capital Improvements Element.
- Policy 5.2: Potable water system improvements shall be undertaken concurrent with the impacts of development, so that up to 22.2 mgd can be pumped and distributed on an average day without a reduction in the adopted level of service. These improvements shall be as specified in the Potable Water Subelement and Capital Improvements Element.
- Policy 5.3: Improvements to the sanitary sewer system shall be undertaken as needed so that wastewater can be collected, treated, and disposed on an average day without a reduction

in the adopted levels of service. These improvements shall be as specified in the Sanitary Sewer Subelement and Capital Improvements Element. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

- Policy 5.4: Improvements to the reclaimed water system shall be undertaken so that more than 95 percent of the District's treated effluent may be directed to the reclaimed system during dry weather.
- Policy 5.5: Improvements to the solid waste collection and disposal system shall be undertaken as needed so that Class I solid waste can be collected and transferred to regional disposal facilities on an average day without a reduction in the adopted levels of service. These improvements shall be as specified in the Solid Waste Subelement and Capital Improvements Element. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)
- Policy 5.6: Improvements to the solid waste collection and disposal system should be undertaken so that the District creates the capacity for diverting 50 percent of the Class I waste generated within its boundaries from landfills.
- Policy 5.7: All permits for development shall be conditioned on the availability of public facilities and services, including adequate potable water supplies, sanitary sewer capacity, solid waste collection and disposal capacity, and drainage capacity, necessary to meet the adopted level of service standards in the RCID. Such facilities and services must be scheduled to be in place no later than the date on which the District anticipates issuing a certificate of occupancy. Prior to development approval and/or issuance of a building permit, the RCID Planning Department will consult with the applicable water supplier to determine whether adequate water supplies to serve the new development will be available no later than the date on which the District anticipates issuing a certificate of occupancy (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).

## **Objective 6**

*To discourage urban sprawl by restricting the extension of RCID road, water, sewer, solid waste, and drainage services beyond the District boundaries into areas designated for agricultural or open space uses on the adjacent County and City General Plans, and by allowing such extensions only when the areas are designated for urban uses on such plans.*

- Policy 6.1: The District shall maintain an affordable housing program, as defined in the Housing Element of this Comprehensive Plan, which ensures that new housing opportunities are provided in proximity to the District's employment centers.
- Policy 6.2: The RCID's adopted Land Development Regulations shall continue to promote the development of a diverse range of land uses within District boundaries.
- Policy 6.3: The RCID shall not deannex any developed property unless the proposed use is consistent

with the receiving government's comprehensive plan, and there is an interlocal agreement in place that addresses public facility and service issues.

Policy 6.4: The extension of District water and sewer lines to property outside District boundaries shall only be permitted if the area to be served is designated for urban land uses on the adjacent jurisdiction's Future Land Use Map, and if development of the area would be consistent with the goals, objectives, and policies of the receiving jurisdiction's Comprehensive Plan.

Policy 6.5 All annexations shall comply fully with the provisions of Chapter 171, F.S. In the event that annexation is proposed, an annexation report shall be submitted demonstrating that the District can meet the traffic, water, sewer, solid waste, electric power generation and transmission, and stormwater management demand generated by the most intensive uses that could be permitted in the area to be annexed. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

Policy 6.6 Adjustments to the development and infrastructure thresholds in Tables 2-1, 2-2, and 2-3 may be permitted in the event that additional land is annexed to the District. Such adjustments would require a formal plan amendment.

## **Objective 7**

*To update the plan in response to changing conditions, objectives, consumer preferences, laws and regulations, and to implement its policies.*

Policy 7.1: The Future Land Use Map and Future Land Use Element policies shall be reviewed as needed, with a formal review conducted not less than once a year. The purpose of the review shall be to determine if the map and policies still accurately reflect expectations and objectives for the future, and to recommend appropriate changes through the Plan amendment process.

Policy 7.2: The Comprehensive Plan shall undergo an evaluation and appraisal at least once every five-years in response to changing development conditions, expectations, and objectives.

**Table 2-1: Maximum Development – Through 2032**

Uses	Plan Designation Where Use Is Permitted	2020 Base Condition	2027 5 Year Increment Maximum	2032 5 Year Increment Maximum	2032 10 Year Increment Maximum
Hotels/Resorts	Mixed Use Hotel/Resort Commercial Entertainment	39,232 Keys	7,000 Keys	7,000 Keys	14,000 Keys
Hotels/Resorts	Mixed Use 180 Acres of Western Beltway Property (Parcel Id Numbers: 21-24-27-0000-00-003 thru 068)	1,501 Keys	1,515 Keys		1,515 Keys (Subset of 14,000 Hotel/Resort Keys)
Office	Mixed Use Commercial	1,004,521 SF	100,000 SF	50,000 SF	150,000 SF
Retail/Restaurant	Mixed Use Commercial	1,463,222 SF	500,000 SF	500,000 SF	1,000,000 SF
Office/Retail/Restaurant	Mixed Use 180 Acres of Western Beltway Property (Parcel Id Numbers: 21-24-27-0000-00-003 thru 068)	216,164 SF	233,836 SF		233,836 SF (Subset of 150,000 SF Office and 1,000,000 SF Retail/Restaurant)
Major Theme Parks	Mixed Use Entertainment	4 Parks	1 Park		1 Park
Minor Theme Parks	Mixed Use Entertainment	3 Parks	1 Parks	1 Park	2 Parks

**Table 2-2: Projected Undeveloped/Mixed Use/Resource Management Land Area to Be Developed Through 2032**

Use	2022 Average Density or Size	2032 Development Maximums	2032 Based on 2010 2022 Density
Hotels/Resorts	14.8 Keys/Acre	14,000 Keys	946
Office/Retail/Restaurant	0.22 FAR	1,150,000 SF	120
New Major Theme Park and/or Expansion	445 Acres/Park	1 Park	550
New Minor Theme Park and/or Expansion	147 Acres/Park	2 Parks	300
Support Facilities	-	-	250
Public Facilities	-	-	250
<b>TOTAL</b>			<b>2,033 Acres</b>

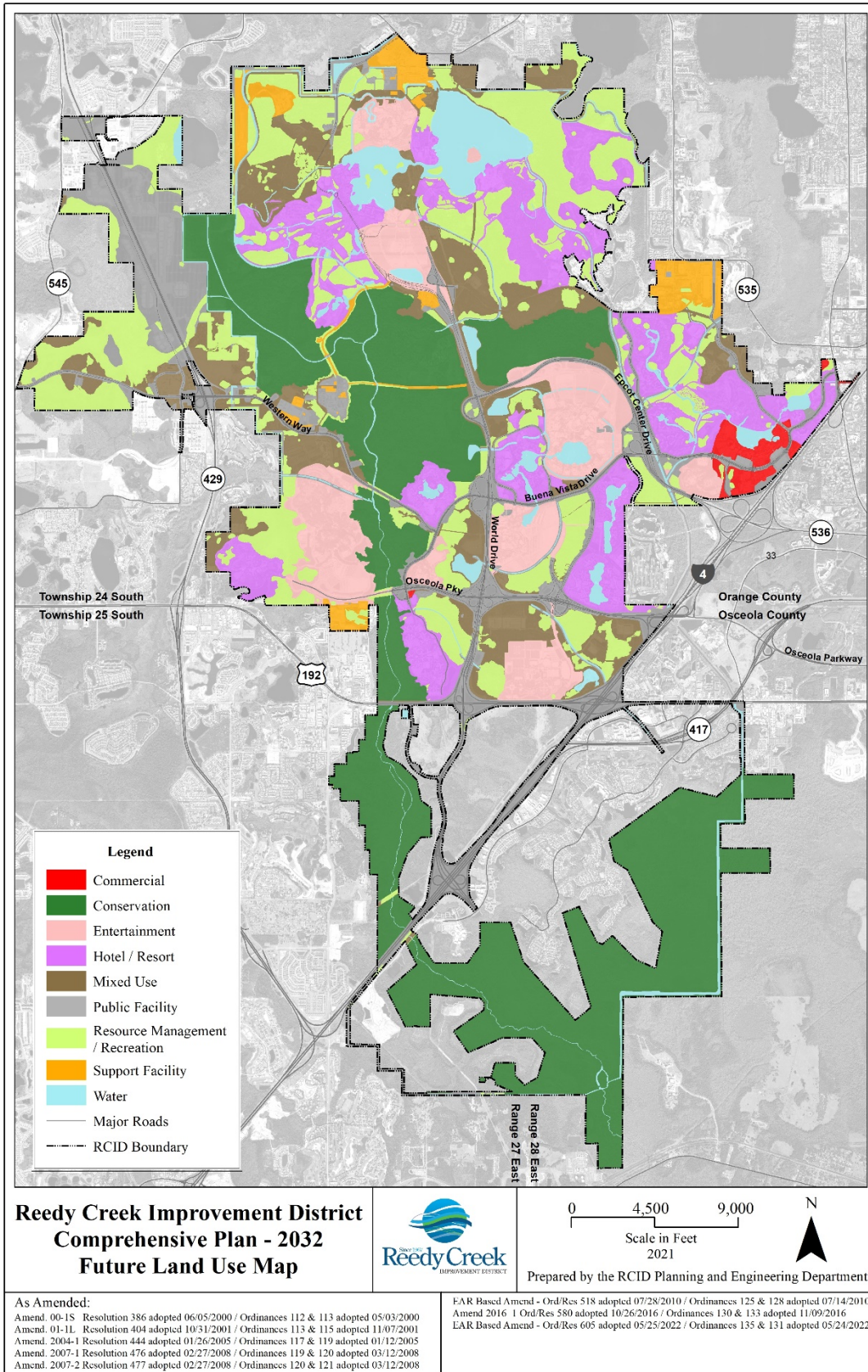


**Table 2-3: Development Thresholds for New Development or Net Redevelopment**

<b>Service</b>	<b>Unit of Measurement</b>	<b>2022 Base Condition</b>	<b>2027 5 Year</b>	<b>2032 10 Year</b>	<b>2032 Increment Maximum</b>
Water	mgd/average day	16.890	20.210	22.200	5.310 mgd
Sanitary Sewer	mgd/average day	13.490	16.010	18.195	4.705 mgd
Solid Waste (transfer station weight only)	tons/average day	232	275	312	80 tons/day
Drainage	CFS at S-40	3,282	3,282	3,282	0

Tables 2-1, 2-2, and 2-3 (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Figure 2-1: Future Land Use Map Through 2032





Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**FUTURE LAND USE  
ELEMENT**

**Part B:  
Supporting Data and Analysis**

# PURPOSE

The Future Land Use Element provides the framework for decisions regarding growth in the Reedy Creek Improvement District (RCID). The element discusses the factors affecting growth and presents goals, objectives, and policies for how and where development may occur. Its cornerstone is the Future Land Use Map, a graphic depiction of planned land uses through the year 2032.

The Future Land Use Map (Figure 2-1) is based on an evaluation of the suitability of land for development and the availability of public services and infrastructure to accommodate growth in the District. The map also reflects the unique role of the District as a service provider to one principal landowner, as well as that landowner's unique role as a service provider in the international market for resort and entertainment facilities. Whereas growth in cities and counties is driven by increases in local population and employment, growth in the RCID is driven by the demand for leisure-time activities in the United States and abroad.

Although the Future Land Use Element is just one of the eight elements that comprise the RCID Comprehensive Plan, it is the element that sets the direction for the other seven. It provides the basis for future road and utility plans through the year 2032. It is the foundation of the District's Land Development Regulations and its capital improvement plans. Its policies ensure that future development will occur in a manner that minimizes conflict with the surrounding natural and built environment, and protects the health and safety of residents, visitors, and employees.

The RCID differs substantially from other Florida local governments in its land use mix, economic base, and pattern of land ownership. Accordingly, this element has been written to reflect those special circumstances. Where the element departs from the format and content required by Florida Statutes (F.S.) Chapter 163, justification for the alternative approach is provided. Such departures are made in the population projections and in the land use categories.

As in previous plans for the District, the flexibility to adapt to changing technology, values, consumer preferences, and development forms is maintained. This flexibility is essential to maintain the community's position as one of the world's premiere resort destinations. The Reedy Creek Improvement District Land Development Regulations provide the legal mechanism to ensure that a quality environment is maintained within the flexible framework prescribed in the Comprehensive Plan.

The element begins with a description of existing land use: that is, the type and location of development and open space in the District. The character of the District and adjoining land is described in maps, tables, and text. The element continues with a discussion of the factors affecting future land use in the District, looking first at the suitability of land for development, second at the availability of infrastructure and public services, and third at the demand for land based on expected growth. The Future Land Use Map is then described. For each area designated on the map, a range of permitted uses and development intensities is set forth. Goals, objectives, and policies are presented in the Policies component preceding the Data and Analysis component. Relevant background data are contained in a series of appendices.

# EXISTING LAND USE

## HISTORY

The Reedy Creek Improvement District and the cities of Bay Lake and Lake Buena Vista were created by the Florida Legislature in 1967 to provide a full range of government services to the original 27,400-acre site that was to become the Walt Disney World Resort. The cities were given most powers common to other municipalities in the state, while the District was authorized to provide a full range of urban services, including the adoption of zoning and building codes.

Initial phases of the Disney plans announced at that time included: a theme park modeled after Disneyland in Southern California; a planned city with a balance of commercial, industrial, and residential uses; and a greenbelt to buffer the community from development on its periphery. The first phase of the project, the Magic Kingdom Theme Park, opened in 1971, accompanied in Bay Lake by two resort hotels and a golf course and in Lake Buena Vista by several franchised hotels. The Walt Disney World Shopping Village opened in 1975. A second theme park, Epcot opened in 1982 as a showcase for technologies and cultures of the world instead of the planned city originally envisioned.

Rapid expansion occurred during the late 1980s and early 1990s. New resort hotels and attractions (including Disney/MGM Studios) were constructed within both Bay Lake and Lake Buena Vista. Nearly 10,000 hotel rooms were added between 1988 and 1992. Roads and utilities within the District were expanded to accommodate the increased level of development and support facilities for the attractions, and the resorts grew significantly. Facilities and services were provided concurrently with development.

Development continued into the mid to late 1990s, with another 7,000 hotel rooms added between 1994 and 1997. A major sports complex was added in 1997. A fourth major theme park (Disney's Animal Kingdom) opened in early 1998. Walt Disney World Village evolved into Downtown Disney, more than doubling in size with new attractions and amenities. An extensive network of infrastructure improvements accompanied the expansion, including construction of Osceola Parkway and the extension of World Drive to I-4. At the same time, nearly 5,000 acres of the District were de-annexed to Osceola County for the development of Celebration, a neo-traditional community containing housing, recreation, and employment centers.

Another 4,489 hotel rooms were added from 1999 and 2002, after which development slowed considerably and the redevelopment of existing resorts far outpacing the construction of new ones. In total 1,233 hotel rooms were demolished or extensively remodeled to be replaced with 1,968 new resort units. An additional 892 resort units were also added to existing resorts bringing the net number of rooms added from 1999-2010 to 6,116. Although no new theme parks were opened from 1999 through 2010, a number of major attractions were added to existing parks. The River Country Water Park and Pleasure Island were closed and the Eagle Pines Golf Course was de-annexed into Orange County and re-graded for the construction of a mixed residential and fractional ownership development.

Theme park and hotel/resort redevelopment along with extensive infrastructure improvements defined the last decade. Continuous redevelopment and growth within the District are inevitable. New or reimagined resorts and attractions keep visitors coming back, expand the fan base, and accommodate an ever growing number of visitors to Central Florida. New lands and attractions opened in Magic Kingdom (2012-14),

Disney's Animal Kingdom (2017), and Disney's Hollywood Studios (2018 and 2019). A number of creative enhancements and new attractions are currently under construction at Epcot, along with a new major attraction at Magic Kingdom. An additional 4,765 hotel/resort rooms opened net of 1,384 demolished or extensively remodeled with an additional 279 currently under construction and 1,224 approved for construction, but currently on hold. Downtown Disney was renovated, expanded, and renamed Disney Springs. In conjunction with the Disney Springs construction, the District constructed two parking garages with a third parking garage completed in 2019.

## **COMMUNITY CHARACTER**

Because of the District's size and the character of a large part of its land, Walt Disney World has always been perceived as a free-standing community buffered by forested open space from surrounding urban areas. The community's setting enhances the sense of arrival for visitors and screens the community from development on its periphery.

When the Magic Kingdom opened in 1971, it was more than 16 miles from the nearest urban development. Today, the edge of the Orlando urban area is adjacent to the District's east side and there are new communities planned or under construction to the north, west, and south of District boundaries. The perimeter of the District has evolved from a tourist-oriented landscape to a full-service community with year-round housing, community-oriented shopping, and non-service industry employment.

Within the District boundaries, distinct activity areas have developed. These areas, illustrated in Figure 2-2, are generally separated from each other by forested open space and are connected by limited access roads.

### **Magic Kingdom Resort Area**

The Magic Kingdom area is the District's oldest and perhaps most familiar activity area, consisting of the Magic Kingdom theme park and associated parking areas, four resorts with a total of 3,580 rooms (a slight increase from 3,455 rooms) and convention space, two 18-hole golf courses, a 9-hole par 3 course, and a service utility area that includes warehouse, maintenance, administrative, construction landfill, and production facilities. Development is generally oriented in a concentric ring around Seven Seas Lagoon, a recreational lake providing water sports activities for the resorts and transportation (ferries) to the Magic Kingdom. A monorail loop follows the lake's perimeter, linking the hotels and the Magic Kingdom and providing access to the transportation transfer station for connections to Epcot. Many of the individual development sites are separated from one another by open space, landscaping, and wetlands.

### **Fort Wilderness Resort Area**

The Fort Wilderness activity area includes the Wilderness Lodge Resort and Copper Creek Villas and Cabins, Fort Wilderness Resort & Campgrounds, Four Seasons Resort and Golf Course, and the City of Bay Lake residential area. The area is densely wooded and maintains a low profile relative to other activity areas within the District. The environment provides the luxury of a 5 star hotel to a more rustic vacation experience for visitors that emphasizes outdoor activities, such as hiking and horseback riding. Infrastructure has been extended for construction of a new resort on the former River Country water park site and as currently approved for construction will add 974 rooms bring the total accommodations including campsites to 3,392. This project is currently on hold as a result of the COVID 19 pandemic.

## **Epcot / Studios Resort Area**

The Epcot area includes Epcot and Disney's Hollywood Studios theme parks, associated parking and support facility areas, nine resorts with a combined total of 7,698 rooms plus convention space, and a retail, entertainment and dining complex. Development is oriented around a series of lakes, many of which are interconnected by canals. Epcot is the most prominent feature in this area; its 18-story geo-sphere has become a universally recognized landmark. Epcot is currently undergoing a transformation that will offer new attractions, venues, and experiences. A wellness center for Disney's cast members and their families is located within Epcot's cast parking facility. Disney's Hollywood Studios consists of a theme park oriented to the television and motion picture industries and recently opened areas dedicated to its Toy Story and Star Wars story lines. Fantasia Miniature Golf with two courses is also located within the Epcot / Studios resort area.

A new gondola transportation system has been added to transport guests between Hollywood Studios, Epcot, and four area resorts. A 22 acre Duke Energy solar farm on Epcot Resorts Blvd provides roughly 5 MWh of electricity – the equivalent of 1,000 residential solar rooftop systems.

## **Disney Springs Resort Area**

Disney Springs is a retail, dining, and entertainment complex on the shores of Village Lake. Disney Springs includes four architecturally unique districts—The Marketplace, The Landing, Town Center, and Westside. An 18-hole golf course located to the west of Disney Springs winds its way through a number of area resorts. To the south of Disney Springs are several architecturally distinct office buildings, including the 400,000 square foot Team Disney Administration Building and the Walt Disney World Casting Center.

Beyond Disney Springs, the area includes 8,587 resort rooms and convention space. An additional 279 rooms are under construction at one of the existing hotels. Disney Springs resort area also includes Typhoon Lagoon (a themed water park), a walk-in medical care facility and the residential portion of the City of Lake Buena Vista.

Lake Buena Vista includes the Administration Area located adjacent to CR 535 about three miles north of Interstate 4 and the Saratoga Springs services area. These areas receive few visitors and are primarily used for production, maintenance, engineering, distribution, and administrative activities. It consists of large, low-rise warehouse structures, parking lots, office buildings, communications equipment, electrical substations, outdoor work areas, an Orange County Sheriff's substation, an employee softball field, and a child care facility.

## **Animal Kingdom Resort Area**

The Animal Kingdom area is located west of Reedy Creek at the end of Osceola Parkway. It includes the Animal Kingdom theme park and the Blizzard Beach themed water park with the Winter Summerland Miniature Golf. It includes 9,580 resort rooms. Support service areas are located to the north and south of the Animal Kingdom Theme Park. The service area to the north contains a long-established complex of public facilities such as the wastewater treatment plant, transfer station, tech services, and environmental services lab. Private service facilities include a bus maintenance facility, property control facility, general maintenance facilities, and the tree farm. The service area to the south was constructed to support Animal Kingdom and includes support buildings, as well as a child care facility.

### **ESPN Wide World of Sports Resort Area**

This area includes land bordered by Osceola Parkway on the north, US 192 on the south, World Drive on the west, and I-4 on the east. The area's major development is ESPN Wide World of Sports, a complex of athletic fields and spectator sports facilities. The complex includes playing fields, three arenas, a baseball stadium, a restaurant, office and retail space, and various accessory buildings. ESPN Wide World of Sports is abutted by several large upland sites suitable for future development. Pop Century and Disney's Art of Animation Resorts with 4,864 rooms is located within the resort area. The gondola transportation system also serves these two resorts. Support facilities are also located within this resort area.

### **Flamingo Crossings / SR 429 Resort Area**

This area is located in the western most portion of the District, and until 2014 when construction of two hotels started, consisted primarily of the infrastructure for Phase 1 of a 248-acre value oriented mixed-use tourist commercial district of third-party branded lodging, retail, and dining establishments. The two hotels opened in 2016 with 502 rooms; four additional hotels with a total of 999 rooms opened in 2021 with a fifth hotel with 250 rooms on hold since mid-2019. A village style commercial district that will include retail and food and beverage establishments is under construction with several establishments open for business. The development is to include an emergency medical facility.

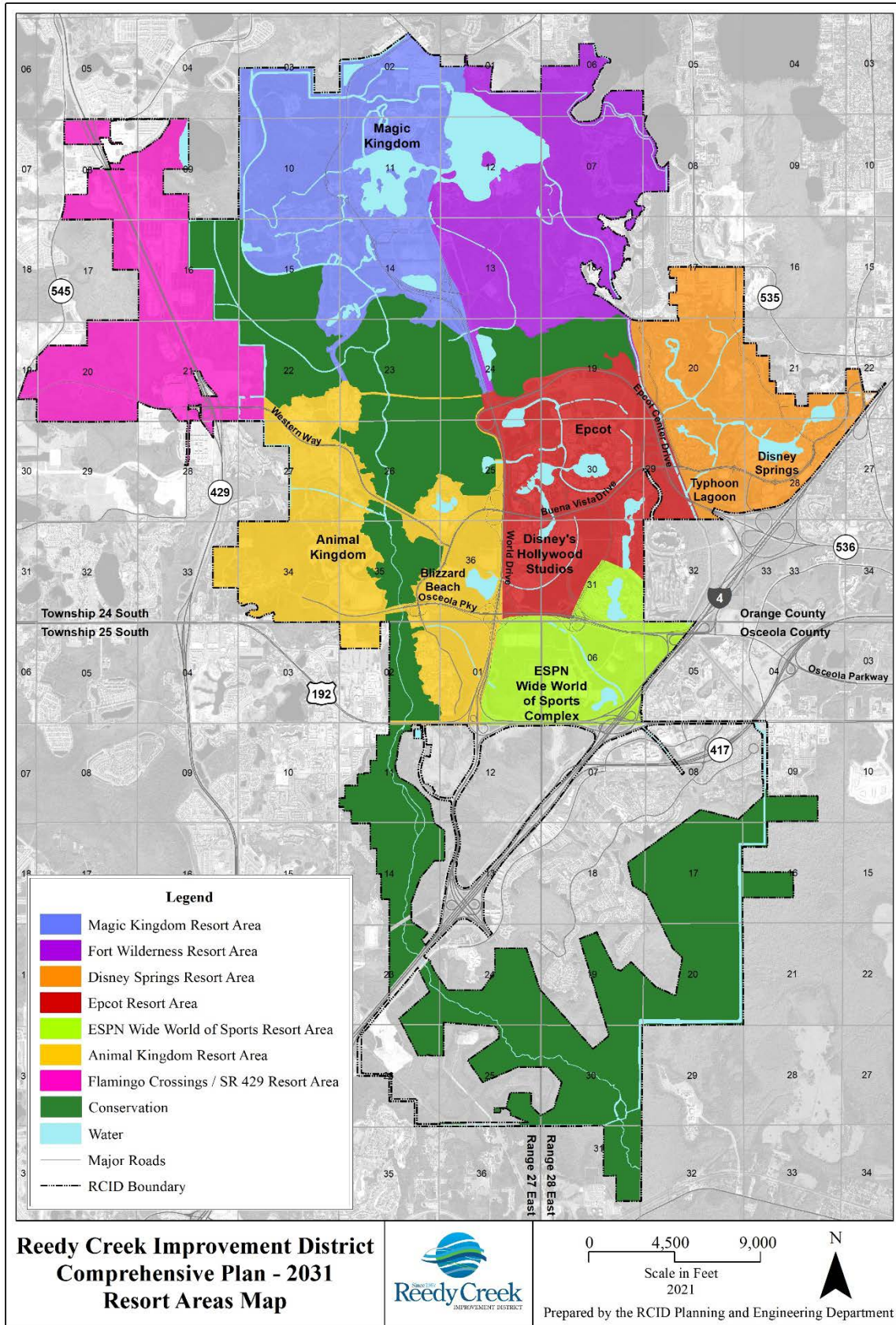
In 2018 two parcels of the original Flamingo Crossings development were de-annexed into Orange County for construction of two apartment complexes to provide housing for Disney's college internship programs. The two complexes consist of 2,613 units designed to house 10,456 residents.

To the north of Flamingo Crossings are the District's Rapid Infiltration Basins (RIBs) which border SR 429 to the east and west. Most of the land was planted with citrus groves until it was acquired by the District for use as a treated effluent disposal site in the late 1980s. More than 800 acres have been developed with rapid infiltration basins. 270 of the 800 acres have recently been used to develop a solar farm. The solar farm is expected to generate approximately 120,000 MWh of power annually, about 25% of the power used in the District. The remainder of the area includes wetlands and undeveloped uplands.





Figure 2-2: Resort Areas



## **MAPPING OF EXISTING LAND USES**

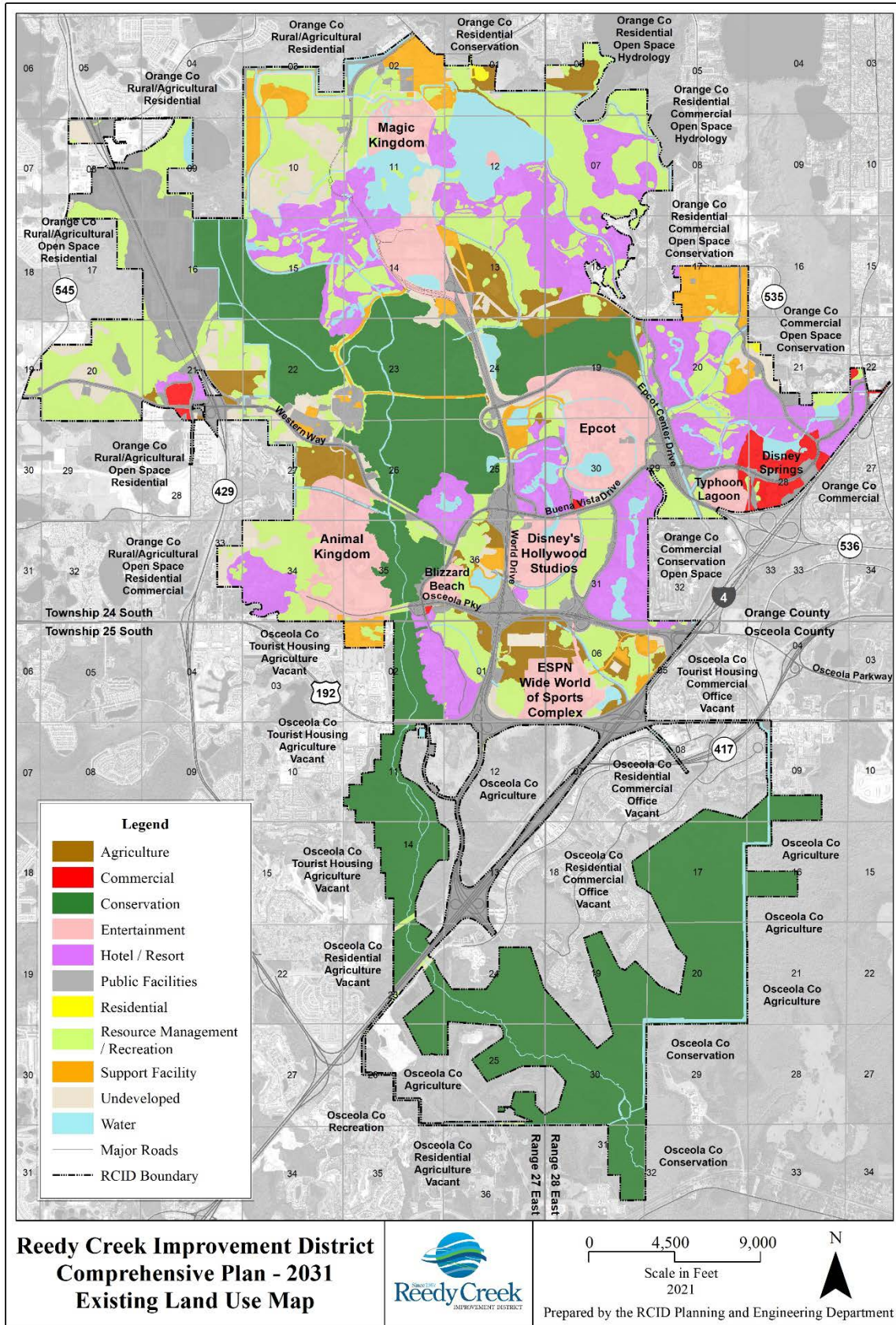
### **Departures F.S. 163.3177**

Because of the unique character of the RCID, land uses within the District differ from those used by most counties and municipalities. Commercial uses have been divided so that hotel/resort and entertainment uses appear separately. Traditional industrial uses (manufacturing, research and development, etc.) are not present in the RCID. Uses with some industrial character have been incorporated in a more inclusive category called Support Services because such uses exist to support the District's entertainment and resort activities.

The Existing Land Use Map does not include an explicit Recreational category because the entire district is recreational in its function. Active recreational areas have been described as Entertainment, while open land has been described as Conservation, Resource Management/Recreation, Agriculture, or Undeveloped. Likewise, there is no Educational category because there are no public schools within the District. Public land uses include all facilities owned or operated by the District, such as the wastewater treatment plant, rapid infiltration basins, fire stations, energy plants, parking garages, and public roads.

Rather than using a single map to show all existing land uses and natural resources, two maps are used. Figure 2-3 illustrates land use categories, while Figure 2-4 illustrates resource categories (wetlands, water bodies, and flood plains). In accordance with Section 119.071(3), Florida Statutes, locations of water wells are not provided due to the sensitive nature of these facilities and the security thereof, and there are no archaeological sites within the RCID. The two maps are integrated in Figure 2-5, an illustration of the suitability of vacant land for future development. Although soil mapping is contained in the Conservation Element, soil and mineral data have been used in the evaluation of development suitability shown in Figure 2-5. Figure 2-5 (page 2B-22) indicates those areas with the potential for future development, based on the suitability criteria discussed below.

Figure 2-3: Existing Land Use



## Existing Land Use Categories

Figure 2-2 depicts existing land use in the RCID. The mapped data are quantified in Table 2-4. Land within the District has been divided into 11 categories, defined below. The first seven categories represent urban uses, while the latter four describe undeveloped areas. All data represent conditions as of 2020.

**Table 2-4: Existing Land Use**

Land Use	2010 Acreage	2010 Percent of Total	2020 Acreage	2020 Percent of Total
Residential	20	0.1	20	0.1
Commercial	241	1.0	238	1.0
Hotel/ Resort	3,137	12.7	3,219	13.1
Entertainment	2,305	9.3	2,276	9.2
Support Facilities	618	2.5	813	3.3
Public Facilities/Roads	3,080	12.4	3,281	13.3
Agriculture	1,304	5.3	939	3.8
Undeveloped	1,321	5.3	1,247	5.1
Resource Management/Recreation	3,410	13.8	4,260	17.3
Conservation	7,939	32.1	6,885	28.0
Water	1,373	5.5	1,452	5.9
<b>TOTAL</b>	<b>24,742</b>	<b>100.0</b>	<b>24,630</b>	<b>100.0</b>

**Residential** – This category includes all permanent residential units in the District. There are 20 acres categorized as residential, with 17 manufactured homes. Average residential density is about 1.2 units per acre. The residential acreage is located on two sites, one on the north shore of Bay Lake and the other on the east side of Buena Vista Drive. There is one additional residential lot available in Bay Lake which was created when the Bay Lake residential site was redeveloped.

**Commercial** – This category includes all typical commercial uses except entertainment (gated attractions) and hotel/resort facilities although hotels/resorts are a permitted use. The District's commercial areas contain offices, banks, restaurants, service stations, theaters, entertainment venues, retail shops, and associated parking areas. Shops and restaurants within or ancillary to gated attractions or resorts are classified as Entertainment or Hotel/Resort. The commercial land use category remained relatively unchanged from 2010 to 2020. Due to the redevelopment of Disney Springs and the transfer of land from Walt Disney Parks and Resorts to the District for improvements to the Buena Vista Drive/Disney Springs roadway corridor that included construction of three pedestrian bridges and three public parking garages the amount of commercial land use in the Disney Spring Corridor declined. This reduction was offset by the long delayed start of development within the Flamingo Crossings resort area. Commercial land use is concentrated within these two areas except for a stand-alone McDonald's located in the Animal Kingdom resort area and a Centra-Care facility accessed from outside the District.

**Hotel/Resort** – Hotel/Resort land uses include all lodging and ancillary lodging facilities within the District, including golf courses (both traditional and miniature). This land use category encompasses 3,219 acres and contains 39,232 resort units which includes 279 currently under construction and 1,224 approved for

construction. Resort units range from deluxe accommodation to camping sites. Resort density within the District is increasing as new construction and redevelopment of existing resorts replace dispersed two to three story campus style buildings with towers. Towers require less land area and enable expansion on existing sites which reduces the need for expanding infrastructure to undeveloped areas. Average Hotel/Resort density was 13.9 at 2010 and increased to 15.3 by 2020. The expansion of Disney's Coronado Springs Resort replaced 75 campus style rooms with a 543 room tower, increasing density from 13.8 rooms per acre to 17.0.

**Entertainment** – This category includes all attractions and associated parking, including the landscape buffer areas on each attraction's perimeter. Entertainment areas include the Magic Kingdom, Epcot, Disney's Hollywood Studios, Disney's Animal Kingdom, Blizzard Beach Water Park, Typhoon Lagoon Water Park, ESPN Wide World of Sports, and WinterSummerland Miniature Golf adjacent to the Blizzard Beach Water Park. These areas comprise 2,276 acres, or 9.2 percent of the District's area. For planning purposes, entertainment uses within Disney Spring and the resorts are not counted in this acreage figure.

Square footage does not provide a reasonable measure of development intensity for the theme parks as it does for the other nonresidential uses within the District. Animal Kingdom is much larger than Magic Kingdom, but generates fewer trips and less demand on public services. A better measure of intensity is average daily attendance. Estimates of attendance are published annually by *Themed Entertainment Association/AECOM*, which projected average daily attendance during 2019 of 57,433 for Magic Kingdom, 38,045 for Disney's Animal Kingdom, 34,093 for EPCOT, and 31,460 for Disney's Hollywood Studios.

Most of the theme parks have the potential for expansion or infill within their current boundaries or with limited expansion into adjacent land. Magic Kingdom expanded into an adjacent Undeveloped, Mixed Use and Resource Management wetland (impacted under the Long Term Permits) for a new attraction currently under construction, and Hollywood Studios expanded into adjacent Resource Management wetlands, also impacted under the Long Term Permits, for additional parking and a new guest entrance off Osceola Parkway. New rides and attractions are continually added on sites previously occupied by rides or attractions that have been closed as well as on sites previously used for storage, parking, or other less intensive. The overall increase in Entertainment land remained minor since land previously classified as Entertainment was transferred to the District for roadway improvements within the Magic Kingdom and Disney Springs resort areas.

**Support Facilities** – The Support Facilities category is assigned to all private activities that support the other urban land uses in the District. These activities are concentrated north of the Magic Kingdom at the North Service Area, two adjacent to Buena Vista Drive, and north and south of Animal Kingdom. Other Support Facilities are also scattered throughout the District, including a construction landfill west of the Magic Kingdom.

Typically stormwater ponds are located within project areas and are project specific. With redevelopment of existing resorts and entertainment venues it is not always feasible to bring the stormwater treatment requirements up to current requirements within the project site. Redevelopment within the Epcot resort area included construction of two master stormwater ponds that serve multiple projects within their respective basins. The maintenance areas surrounding these stormwater ponds will be classified as Support Facilities.

This land use category increased 31.5 percent during the last decade from 618 acres to 813 acres with the addition of the 5 MWh solar farm, a new laundry facility, an animal service facility, and additional cast parking

at the North Service Area. Support Facilities account for 3.3 percent of the Districts existing land use. Support Facilities buildings include more than 2.7 million square feet of enclosed floor space. Access to Support Facilities complexes are generally restricted to employees. The Support Facilities areas have an industrial park character and consist of integrated warehouses, offices, maintenance facilities, production buildings, and laundry facilities. Outdoor storage and production areas, parking areas, and communication equipment are also located throughout these areas.

**Public Facilities** – These facilities include District administrative facilities; wastewater treatment facilities; rapid infiltration basins; a 50 MWH solar farm; potable water wells and pumping stations; solid waste transfer facility; energy plants; public roadways; public parking garages; and fire stations. Public Facilities comprise 3,281 acres, or 13.3 percent of the District's area. Publicly owned roadways, including pavement, medians, interchanges, and stormwater ponds associated with the roadways are classified as Public Facilities. The 6.5 percent increase in publicly owned acreage during the last ten years resulted from: roadway improvements and parking garages within the Disney Springs corridor; a grade separated interchange at Osceola Parkway which serves the new entrance to Hollywood Studios; the transfer of World Drive north of Epcot Center Drive to the District which facilitated construction of a grade separated interchange at the Magic Kingdom toll plaza; the first phase of extending access to southbound World Drive from Reams Road; and the extension of Western Way from the Flamingo Crossings development to S.R. 545 (Avalon Road).

**Agriculture** – This land use comprises 940 acres of the District, or 3.8 percent of the total area which is a reduction from 5.3 percent. This reduction is due to development of these parcels for Support Facilities, Public Facilities, temporary uses including construction laydown facilities, and de-annexation to Orange County for Disney's college housing program. Most of the remaining acreage consists of pasture in Osceola County used for cattle grazing. Other areas with this designation include pine plantations and citrus groves. The Walt Disney World nursery and tree farm is also included in this category. Agriculture is not a future land use within the District; it is an interim use for land that may be environmentally suitable for development, but may not be in a location economically feasible for development.

**Undeveloped** – This category is used to describe all undeveloped, nonagricultural land suitable for development. It applies to 1,247 acres or 5.1 percent of the District. It is comprised of uplands, and as with the land currently being used for agriculture, it is environmentally suitable for development, but may not be in a location economically feasible for development.

**Resource Management/Recreation** – This category includes all jurisdictional wetlands and other environmentally sensitive lands. There are 4,260 acres within this category or 17.3 percent of the District's land area. This category now includes wetlands that were previously classified as conservation before the conservation easements were transferred to the Mira Lago mitigation property. A total of 286.64 acres of wetlands have been impacted under the Long Term Permits since the renewal of the permits in 2015, leaving a permitted balance of 366.41 acres available for impact. The completion of the Mitigation Plan for Mira Lago will provide an additional 694.41 mitigation credits for an additional 694.41 acres of wetland impacts to jurisdictional wetlands within the District.

**Conservation** –Conservation comprises 6,884.94 acres, most of which is within the flood plain of Reedy Creek. Although the vast majority of Conservation lands consist of wetlands, there are uplands within this land use category. All lands covered by conservation easements are classified as Conservation. This designation accounts for 28.0 percent of the District's area.

**Water Bodies.** Water Bodies include canals, lakes, ponds, and streams. There are 1,452 acres of water within the District boundary, or about 5.9 percent of the total area. Typically stormwater ponds are classified as the land use of the project they serve; however master stormwater ponds that are larger in size and serve multiple types of land uses are classified as water. The largest water bodies are Bay Lake (406 acres) and Seven Seas Lagoon (185 acres).

## **ADJOINING LAND USES**

Figure 2-3 depicts existing land uses outside the District as well as within it. The map includes areas extending about one mile beyond the District boundaries so that existing and future land use compatibility issues along the perimeter areas can be identified.

### **SR/CR 535 Corridor (Winter Garden Vineland Rd)**

Urban land uses extend along CR/SR 535 from US 192 north to Apopka-Vineland Road. Primary uses in the corridor are hotels, resorts, and shopping centers, most of which are contained within large-scale projects. There are also a number of apartment complexes. Because of its proximity to I-4 and its location near the attractions, this has historically been the fastest-growing area on the District's perimeter. Its development has been accelerated by completion of the International Drive Extension, Osceola Parkway, and Greenway Toll Road. Concentrations of tourist-oriented development have also emerged adjacent to this corridor along the east side of I-4 and north side of SR 536, and to the north along Apopka-Vineland Road. Large mixed use communities are also planned or under construction to the east along the toll roads.

Farther north along CR 535, a large golf resort and high rise hotel lies adjacent to the District boundaries. Much of the area to the north and northwest of the District is planned for future development as part of Horizons West, a 5,200-acre area comprised of multiple properties and planned for nearly 11,000 housing units. Numerous properties have already been developed, including several affordable housing complexes.

### **US 192 Corridor**

Commercial development extends along US 192 for several miles to the east and west of the District boundary. Principal uses are hotels, restaurants, shopping centers, commercial recreation, and gift shops. In addition, new residential communities have been developed in the 192 Corridor and more housing is under construction or planned. The corridor also includes agricultural uses and undeveloped acreage.

### **Celebration and Little Lake Bryan**

Celebration is a planned community being developed on about 5,200 acres south of US 192 and adjacent to District boundaries. The Town has been designed according to traditional urban planning principles and includes a pedestrian-oriented downtown area, housing at a variety of densities, schools and public buildings, extensive park and recreational amenities, and shopping and employment opportunities. The site was de-annexed from the RCID in 1993 and development has been underway since 1995. At build out, the community is projected to house 20,000 residents and provide 15,000 jobs.

Little Lake Bryan is also being developed on land formerly within the District. The 300-acre site is planned for 2,700 multiple family housing units, 1,380 hotel rooms, and 375,000 square feet of retail space. Much of this development has taken place.

# LAND USE ANALYSIS

## POPULATION PROJECTIONS

Appendix A provides documentation of the District's projected population through the year 2032. Since the Executive Office of the Governor and the East Central Florida Regional Planning Council do not provide projections for the Reedy Creek Improvement District, a projections methodology was independently derived. All categories, with the exception of the permanent population, contributing to the daily or functional population within the District have been impacted by Covid 19.

### Permanent Population

The RCID has a permanent population of 43 residents, residing in eight manufactured homes in Bay Lake and nine manufactured homes in Lake Buena Vista. This population is expected to remain generally constant through the year 2031.

### Overnight Guest Population

On an average day in 2019, the District accommodated about 85,000 overnight guests in its resorts. Because the demand for accommodations within the District frequently exceeds the supply, additional hotels and resort units will be planned for construction by 2032. As documented in Appendix A, average overnight guest population could reach as high as about 115,451 in 2027 and 135,227 in 2032 if all of the hotels and resort units are constructed as provided for in the maximum development thresholds, this is extremely unlikely to occur.

### Theme Park Visitor Population

Theme Park visitors include persons visiting the District's major attractions, namely the four major theme parks and the two water parks. Attendance estimates for these six attractions are published annually by the Themed Entertainment Association / AECOM (TEA/AECOM). Theme park visitors include overnight guests (persons staying within District boundaries at hotels and resorts and campgrounds) and day visitors (persons staying outside the District or residing in the area and visiting for the day). Data on the percentage of theme park visitors who are staying within the District is not available.

TEA/AECOM estimated attendance at the four major theme parks during 2019 as follows: Magic Kingdom – 20,963,000 or 57,433 per average day; Disney's Animal Kingdom – 13,888,000 or about 38,049 per average day; Epcot – 12,444,000 or 34,093 per average day, and Disney's Hollywood Studios – 11,483,000 or 31,460 per average day. TEA/AECOM also provided estimates for the water parks during 2019 of 2,248,000 or 6,159 per average day for Typhoon Lagoon and 1,983,000 or 5,433 per average day for Blizzard Beach. These estimates are for flat to a one percent decline in attendance. TEA/AECOM's annual global attractions attendance report for 2020 estimated District theme park attendance declined between 67 to 70 percent due to COVID 19 related social and economic impacts experienced worldwide. TEA/AECOM expects annual theme park attendance to show significant improvement during 2021, but still lower than 2019 levels. The District's theme parks opened several new attractions during 2021 and have



a number of new attractions opening in 2022 which should allow for a sustained return to record 2018-2019 attendance levels.

Further details on population and attendance projections is provided in Appendix A.

## Employment

In 2019, there were an estimated 77,000 persons employed within the District on a full-time, part-time and seasonal basis. Approximately 80 percent of these persons were employed by the major landowners, with the other 20 percent employed by others including: RCID, tenants, and contractors. Tenants include the operators and employees of non-Disney hotels and retail shop within District boundaries. A construction workforce fluctuates with the amount of construction taking place within the District.

Primary employment centers include the four major theme parks, the resort hotels, the shopping complexes, and the support service areas. This mix is not expected to change over the next ten year planning period.

## Total “Functional” or Daytime Population

Daytime or “functional” population refers to the total number of persons that are present in the District during a typical daytime period. The figure includes permanent residents, resort guests, theme park visitors, and employees. Estimates of functional population are best expressed as a range because many resort guests are potentially double counted as theme park visitors. The functional population based on available historical data indicate a range of a low 227,660 to a high of 324,767 for 2019. The daytime or functional population for 2027 and 2032 are estimated to be:

<u>Year</u>	<u>Low</u>	<u>High</u>
2027	249,160	364,611
2032	274,038	409,265

## NATURAL RESOURCE OPPORTUNITIES AND CONSTRAINTS

### Introduction

This section describes how environmental features in the District affect the suitability of the vacant land supply for development. Since the RCID was established, there has always been a deliberate effort to let natural conditions guide the location of development. Attractions and hotels generally have been built on upland areas, above the flood plain, and outside of large wetland areas although this is changing as offsite mitigation at the regionally significant Mira Lago property (refer to the Conservation Element for a more detailed analysis) has permitted additional wetland impacts within the District. Small or isolated wetlands within development areas, once incorporated as passive open space and treated as amenities where feasible are, now more likely to be impacted under the Long Term Permits.

Undeveloped land in the District may be broadly categorized as forested uplands and forested wetlands. The distribution of uplands and wetlands is related to the soils, topography, and drainage patterns that occur in the District. Each of these factors is described below. The factors are important in determining the suitability of a site for development. Figure 2-4 depicts existing natural resources in the RCID.

## **Soils**

Soils have characteristics that affect their capabilities to support different uses. Well-drained soils account for only a small portion of the District's total land area. Other soil characteristics that may limit development include wetness (amount of water in the soil at various times of the year) and corrosiveness. Much of the undeveloped portion of the District is characterized by poorly drained soils and is subject to seasonal inundation. These limitations have been overcome in the past, although they may affect the choice of building materials and may require more costly construction techniques.

Soils are mapped in Figure 6-5 of the Conservation Element. No changes to existing soil characteristics are anticipated during the time period covered by this Plan.

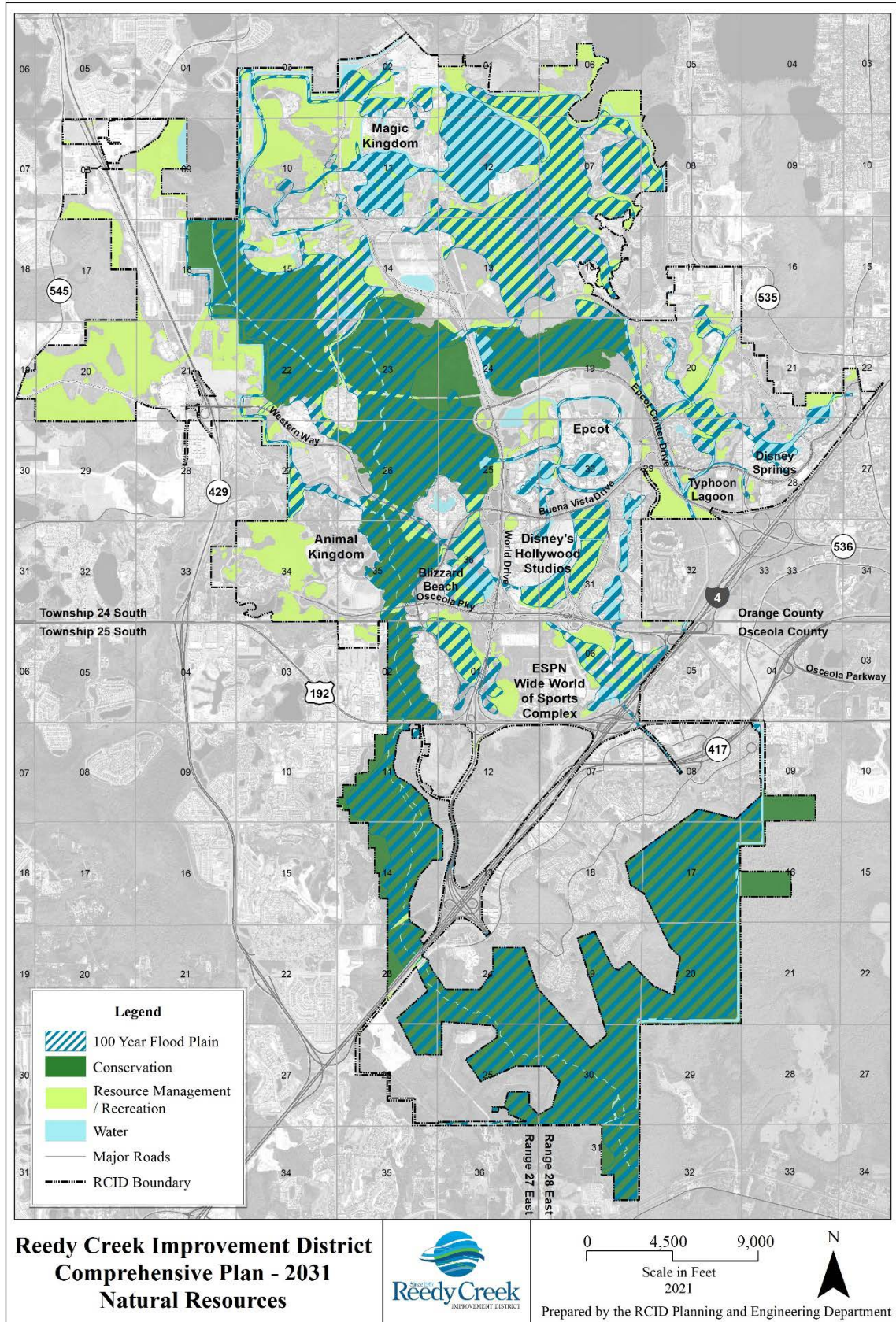
## **Mineral Resources**

The District's primary mineral resource is sand; a number of excavation sites exist where sand has been extracted for fill purposes. Mineral resources will not significantly impact the location or character of development in the future.

## **Topography**

The topography of the District is generally flat, with a very gradual downward slope from north to south. Elevation ranges from about 150 feet in the northwest part of the District to about 65 feet at its southernmost extreme. Areas of higher elevation generally occur along the east-central and west-central boundaries of the District and in the central portion near the border between Orange County and Osceola County. Slope will not constrain development in the District. Some areas may require drainage improvements because of insufficient natural gradients.

Figure 2-4: Natural Resources



## **Hydrology**

The District consists of two major waterways: Reedy Creek which flows southward near the western boundary and Bonnet Creek which flows southward through the center of the District and drains into Reedy Creek. Both creeks discharge into the Reedy Creek Swamp, located south of US 192. Other important surface waters in the District are Bay Lake, Seven Seas Lagoon, World Showcase Lagoon, Village Lake, Lake Buena Vista, and Club Lake. The location of these creeks and lakes is shown in Figure 2-4.

Since 1967, drainage within the District has been improved for purposes of flood control, using canals, levees, culverts, and automatic flow-control structures. In general, drainage systems in the Bonnet Creek Basin have been channelized and are controlled by man-made structures. In contrast, the lower portion of the Reedy Creek drainage system remains in a relatively natural state, characterized by the detention of large quantities of runoff.

## **Groundwater**

The District relies on subsurface geologic formations called aquifers as its primary source of potable water. Water is withdrawn from the Floridan Aquifer through wells located throughout the District. Percolation of rainwater into the ground, a process known as recharge, commonly occurs in areas at higher elevations and with porous soils. The level of recharge is generally highest in the northwest part of the District. In most of the District, recharge capabilities are low because of poor drainage and low surface elevations. The District protects high recharge areas from contamination through its land development regulations and through policies in the Conservation Element. Groundwater quality is monitored at various locations within the District.

## **Flood Plains**

Figure 2-4 shows the 100-year flood plain for the District. Most flood-prone areas lie adjacent to Reedy Creek in the western portion of the District, along Bonnet Creek, and in the Reedy Creek Swamp south of I-4. Approximately 10,388 acres, or about 42 percent of the District, lie within the 100-year flood plain. Recognizing the hazards of floods and the inherent environmental values of the Reedy Creek Swamp, over 7,000 acres in the Reedy Creek flood plain are designated as Conservation area. A more detailed analysis of the flood plain may be found in the Conservation Element.

## **Biotic Communities**

The natural vegetative communities within the RCID fall into two broad groups: forested uplands and wetlands. The forested uplands (conifers and hardwoods) occur on the District's drier soils; portions of these areas provide habitat for wildlife. Wetlands are areas that are frequently inundated by surface water or groundwater and that support vegetative or aquatic life requiring saturated soil conditions for growth and reproduction. Such areas cover approximately 13,655 acres, or roughly 55 percent of the District. The location of wetlands in the District is shown in Figure 2-4.

Wetlands include both forested areas and marshes. Forested wetlands, which represent the vast majority of the District's wetland acreage, act as natural storage areas for floodwater and also support wildlife. Marshes also have high value for wildlife and support several species whose range is restricted to wetland areas. Marshes are considered highly fragile and susceptible to variations in water levels. To protect the valuable natural functions that wetlands perform, these areas traditionally have been preserved. In addition

to policies in this element, the Conservation Element includes policies which protect wetlands and provide mitigation measures for development impacts.

### **Historic and Archaeological Resources**

The District and its major landowners have conducted extensive study of potential historic and archaeological resources within District boundaries. The studies have concluded that there are no sites or structures of significance within the boundaries of the RCID.

### **Areas of Critical State Concern**

There are no Areas of Critical State Concern within or adjacent to the District.

## **PUBLIC SERVICES**

### **Introduction**

While natural factors affect the capability of land to support development, public services affect the feasibility of actually developing the land. Without roads, water, and wastewater facilities, even the most ideal site cannot be considered developable. This section addresses those services provided by the RCID, as well as those provided by private entities. Some of the infrastructure serving the District is shared by other jurisdictions; this is especially true of highway facilities. An adequate circulation system is essential both within the District and between the District and points of origin for its visitors.

### **Traffic Circulation**

Access to the RCID from the regional transportation network is provided by Interstate 4, US 192, SR 429, CR/SR 535, SR 536/International Drive, Apopka-Vineland Road, Osceola Parkway, and the Greenway Toll Road. A number of smaller roads in Orange and Osceola Counties such as Reams Road provide access to various support facility areas within the District. Thirteen roadways are owned and maintained by the District: World Drive (portions north of the Magic Kingdom toll plaza are private), Osceola Parkway (west of I-4 and east of Reedy Creek), Epcot Center Drive, Buena Vista Drive, Hotel Plaza Boulevard, Victory Way, Western Way, Flamingo Crossing Boulevard, Epcot Resorts Boulevard, Bonnet Creek Parkway, Flagler Avenue, Backstage Lane, and Overpass Road. There are also private roads serving individual attractions, hotels, and service areas. Road capacities and levels of service are documented and mapped in the Transportation Element.

Traffic reduction measures and capital improvements to maintain the adopted levels of service are discussed in the Transportation Element.

### **Potable Water**

The water distribution system, composed of wells, pumps, storage tanks, and distribution lines, serves all developed areas of the District. Under the June 2007 permit issued by the South Florida Water Management District (SFWMD), the annual water allocation for the RCID is 8,103 billion gallons, equivalent to 22.2 million gallons per day (mgd). Average daily consumption of water during the 12-month period ending December 31, 2019, was 16.37 mgd. Water conservation measures and increased reliance on

reuse water for landscape irrigation have resulted in significant potable water savings despite resort and attraction growth.

The District has taken measures to protect the quality of potable water at its wells. Water quality and water levels are monitored at all well locations. Further information on groundwater and water quality is contained in the Conservation and Infrastructure Elements.

### **Wastewater Facilities**

The RCID wastewater facilities consist of a collection and transmission system that conveys wastewater from developed areas in the District to a wastewater treatment plant (WWTP) located in the western portion of the City of Bay Lake. This facility has an existing capacity of 20.0 mgd and provides tertiary treatment. Treated effluent, the liquid portion of treated waste, is disposed through a network of rapid infiltration basins in the northwest part of the District or is reused for irrigation purposes through the system described above.

Continued expansion of the wastewater treatment and disposal facilities is planned during the next 10 years as demand requires. Additional lift stations and collection lines are planned in new development areas. Because of these planned expansions, treatment and disposal of wastewater is not expected to constrain development within the District. The current collection system has been sized to permit additional future flows and will not require modification as new development occurs.

### **Solid Waste**

Reedy Creek Energy Services, Inc. (RCES) operates the collection system, transfer station, and recycling program for the District. The RCID plans the adequate provision of equipment and facilities for operation, while RCES is charged with day-to-day operation. The two major components of the solid waste program are disposal and recycling. Approximately 74,170 tons of Class I solid waste was delivered to the landfill by the District during 2019, with 61,192 tons recycled.

Non-recycled waste is collected by a fleet of RCES vehicles, compacted at a transfer station, and transported to a private landfill in Osceola County. Recycled waste is collected by a separate fleet of RCES vehicles and is transported to a Materials Recovery Facility in Lakeland. Depending on the material, recyclables are sorted and processed for sale or are composted. The ability to collect and dispose of solid waste is not expected to adversely affect the development potential of the District.

### **Stormwater Management**

The District's Water Control Plan covers a 108,000-acre service area that includes the RCID and off-site lands that convey stormwater through the District boundaries. Ultimately, all discharged stormwater flows into the Reedy Creek system. Retention and detention facilities (such as ponds and lakes) and wetland areas are innovatively incorporated as aesthetic or recreational amenities within District developments.

The stormwater management facilities are monitored by the SFWMD, as well as the RCID. Periodic water quality tests are taken throughout the District and along the boundaries. Repair, maintenance, or corrective measures are applied as needed. Each annual budget establishes funds for repair, maintenance, and emergency corrective measures. Most of the District's flood control needs were met through capital improvement projects during the 1980s and 1990s; the current priority is to maintain existing facilities.

While drainage patterns do not necessarily restrict development, runoff volumes and water quality must be carefully evaluated for each new development. All new development plans in the service area (which includes contributory off-site lands) are reviewed by the District for stormwater discharge volume and quality. The District requires on-site retention of the first inch of runoff or 2.5 times the percent of impervious surface, whichever is greater. District-wide impervious surface coverage (pavement and buildings) is further limited by its SFWMD drainage permit.

As with other public services, planning for adequate drainage requires coordination with surrounding jurisdictions. A significant portion of the Reedy Creek drainage basin lies in Lake, Orange, Osceola, and Polk counties. This topic is further addressed in the Drainage Subelement of this plan.

### **Natural Groundwater Aquifer Recharge**

New development plans are reviewed to ensure that the natural recharge system will be maintained. As mentioned earlier, the highest recharge areas are located in the northwest area of the District.

### **Electric and Gas Utilities**

Through contractual arrangements with various utility companies (see Intergovernmental Coordination Element), the District operates and maintains its own electrical power and natural gas utilities. The District also operates hot and chilled water systems. All systems are adequate for present and committed development. For future development, additional capacity will be needed. Electrical, natural gas, and hot and chilled water system plans are updated annually by the District. Availability of these services is not expected to constrain development.

As previously mentioned two solar farms have been developed within the district and are expected to provide approximately 25% of the power requirements within the District.

## **COMPOSITE SUITABILITY FOR DEVELOPMENT**

There are currently 24,630 acres of land within the boundaries of the RCID. Of this total, 9,725 acres (39.5 percent) are essentially developed, 1,357 acres (5.5 percent) are water, and 13,548 acres (55.0 percent) are undeveloped. The undeveloped land includes lands within existing resort areas as well as areas that are more remote and not yet accessible by road.

### **Suitability Ratings**

For analysis purposes, the District's undeveloped land can be further classified based on its suitability for development. The natural resource data described earlier in this chapter has been used to identify land as *suitable*, *marginally suitable*, *marginally unsuitable*, or *unsuitable*. The distribution of land in each category is shown in Figure 2-5.

**Suitable** – Areas given a suitable rating are generally forested uplands, pasture lands, or other undeveloped sites outside the Conservation areas. There are 2,209 acres (16.5 percent of the undeveloped land) in this category. Lands classified as suitable are generally above the 100-year flood elevation. However, in a few instances, corrective drainage improvements would be required prior to construction.

**Marginally Suitable** – Areas given a marginally suitable rating have identified or recognized constraints for development. This classification corresponds to wetlands that are above the 100-year flood elevation. Development in these areas is permitted to the extent allowable under the District’s Long Term Permits. There are 2,529 acres in this category or 31.5 percent of the undeveloped land area.

**Marginally Unsuitable** – Areas given a marginally unsuitable rating have identified or recognized constraints for development. This classification corresponds to wetlands that are within the 100-year flood elevation. Development in these areas is permitted to the extent allowable under the District’s Long Term Permits and require compensating storage to be provided. There are 1,731 acres in this category or 13.0 percent of the undeveloped land area.

**Unsuitable** – Land in the unsuitable category has the most restrictive development constraints. It has been applied to the Wildlife Management Conservation Area. Most of the acreage is in the Reedy Creek Swamp. Land with this designation is considered unavailable for development. The 6,885 acres with this designation represent 51.6 percent of the undeveloped land area.

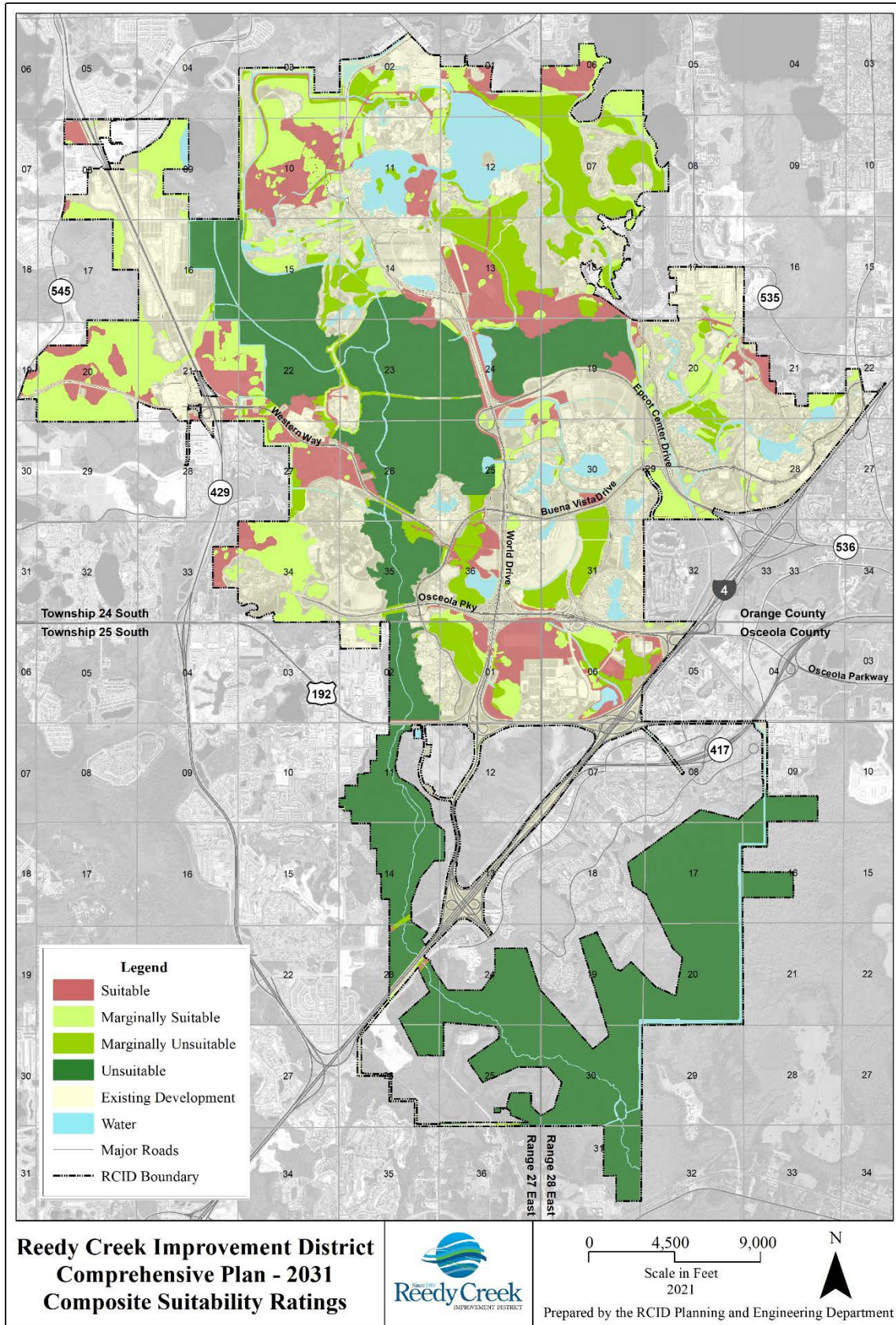
### **Location of Suitable Land**

During the next 10 years, the District’s development is expected to occur in those areas identified as *suitable* in the above analysis. The largest areas of suitable land are located west of Animal Kingdom, between World Drive and I-4 between Osceola Parkway and US 192, around Lake Mable, north of the Magnolia Golf Course, east of the Magic Kingdom parking lot, and west of Disney’s Hollywood Studios. Other areas identified as suitable are scattered throughout the District on sites of less than 100 acres. Figure 2-6, later in this chapter, shows the location of suitable land based on land use designation.

It is also expected that redevelopment will occur within existing developed sites as it has during the past 20 years. This reduces the need for costly extensions of infrastructure. Development will also encompass areas deemed marginally suitable and marginally unsuitable as long as extensive (and more costly) improvements are made to meet requirements the District’s Long Terms Permits and Land Development Regulations.



**Figure 2-5: Composite Suitability Ratings**



# LAND DEMAND

## INTRODUCTION

This section of the Future Land Use Element projects the demand for land in the Reedy Creek Improvement District through 2032. In most cities and counties, land demand is driven by population and economic growth. The need for residential land is determined by the expected density of new housing, expected household size, and size of the future resident population. The need for nonresidential land is determined by regional economic projections and the percentage of regional growth that the local area can expect to capture. Commercial land demand is also driven by population growth, especially for retail and service uses.

Many of these conventional forces are absent in the RCID. A vast majority of the District's land is owned by a single property owner or its subsidiaries. Therefore, it is difficult to predict future land use needs based on past trends. The amount of land developed will be determined not by local population growth or regional economic conditions, but by the global demand for tourism and entertainment facilities as perceived by the landowners.

The Future Land Use Element for the RCID recognizes its desire to be competitive with other destination resorts and attractions around the world, as well as in Central Florida. The Future Land Use Map retains the flexibility to adapt to changing trends and consumer preferences, as well as the changing character of the Orlando region. Past plans for the District have enabled its major landowners to remain at the forefront of the theme park and resort industries for the past five decades. The Walt Disney World Company intends to continue to meet the demand for state-of-the-art vacation experiences during the next decade. Expansion and diversification of facilities, including the development of new facilities, will be necessary.

## GUIDELINES

Seven guidelines or assumptions about the future have been followed to derive land demand figures.

### **1) The RCID will remain a nonresidential, tourist-oriented community.**

Permanent residential development is not expected to occur within the current boundaries of the RCID; births among the existing 43 residents are not expected to generate sufficient demand for new residential areas. As employment in the District grows there will be a demand for residential land in the RCID vicinity. Housing programs are further addressed in the Housing Element of this Plan.

### **2) The density of new development will be somewhat higher than existing development.**

Table 2-5 indicates the existing density of development in the RCID. As the supply of vacant land becomes smaller, new development is projected to occur at somewhat higher densities or on somewhat smaller sites. Infill development within existing activity areas will also tend to increase the overall density of developed areas. While there will be exceptions to this assumption, the overall trend is expected to be towards more dense development.

**Table 2-5: Average Land Use Densities and Intensities for Existing Development**

Land Use	Developed Acreage	Units	Density / Intensity
Residential	20	17 DU	1.18 DU/Acre
Commercial			
<i>Office/Retail/ Restaurant</i>	303	2,683,907 SF	0.20 FAR
Hotel/Resort			
<i>Hotels and Resorts</i>	2,559	39,232	15.3 Keys/Acre
<i>Golf Courses</i>	816	81	10.1 Holes/Acre
Entertainment			
<i>Major Theme Park</i>	1,916	4 parks	479 Acres/Park
<i>Minor Theme Park</i>	446	3 parks	149 Acres/Park

Note: DU = Dwelling Units / FAR = Floor Area Ratio

**3) A continued effort will be made to accommodate theme park visitors within District boundaries.**

The percentage of Walt Disney World visitors staying in overnight accommodations within the District boundaries has been increasing steadily and is projected to continue increasing. The demand for hotel rooms is projected to remain strong and a continued effort to accommodate visitors on-site will be made. The number of hotel and resort units could increase by over 14,000 by 2030. The average density of the hotels and resorts exclusive of the Flamingo Crossings development is slightly less at 14.8 keys/acre.

**4) Attendance at the theme parks will continue to grow.**

In the past a two percent compounded rate of growth has been used; however world events and economic factors during the 20 years have curtailed the consistent year to year growth experienced during 1970s, 1980s, and 1990s. After three decades of growth, attendance at the major theme parks located within the District declined in 2001, 2002, 2009, and 2010 and decline significantly in 2020.

Since there is no accepted method of forecasting acreage needs for entertainment facilities, each of the gated attractions has been examined for its potential to physically expand. Both Epcot and the Magic Kingdom may expand through infill and intensification of previously developed areas. Disney’s Hollywood Studios has recently undergone a substantial redevelopment through demolition of existing attractions and back of house areas. Animal Kingdom has substantial room within its existing boundaries for additional attractions, but it has also undergone a redevelopment of an existing guest area. There are also several undeveloped sites within the District that are large enough for an entirely new theme park. Although Table 2-1 (Maximum Development 2020-2030) allows for development of one major and two minor theme parks there are no plans under review. Approximately 850 acres would be required for these uses.

**5) A broader range of services will become available to RCID visitors.**

The range of services available to District visitors is considerably broader than that traditionally offered at a theme park or resort and is more typical of what one would expect in a city or village. The visitor can shop at a variety of stores, see a movie at a 24-screen theater, purchase gasoline, receive medical care, do banking, visit a health club, and dine out at numerous establishments without ever leaving District boundaries. In this respect, the District is similar to other jurisdictions in its vicinity. As the number of people staying in the District grows, opportunities for new commercial development will arise. Further opportunities also will arise from the addition of convention and meeting facilities at Walt Disney World resorts.

There are presently 303 acres of land developed as commercial uses (office, retail, and restaurant) in the RCID serving the visitor population. By the year 2032 additional commercial land will be needed to serve the larger number of visitors to the theme parks and resorts. Based on projected growth trends for the resorts and theme parks, 120 acres may be needed for additional retail, restaurant, and office development by 2032 although a portion of the increase in commercial uses will most likely come from additional infill development as was the case during the last decade.

**6) New support and public facilities will be required as growth occurs.**

The support service areas north of the Magic Kingdom, around Animal Kingdom, east of ESPN Wide World of Sports, and in the Administration area will need to be expanded as new development occurs within the RCID. New production, warehouse, food service, and maintenance facilities will be needed, and expansion of utilities will be required. A portion of this future need has been anticipated with addition of fourth laundry facility and a new warehouse currently under construction. Also anticipated is the continued use of master stormwater ponds serving multiple new projects and redevelopment of existing venues.

Support acreage needs are projected to grow more slowly than entertainment and resort acreage needs. Many of the support facilities required large land areas initially but can now be expanded incrementally with infill. The District already owns sufficient rights-of way to add lanes to most of its roadways.

**7) The RCID will continue to encourage development of mixed uses within each of the resort areas.**

Existing development in the RCID successfully integrates multiple uses, such as entertainment, hotel, retail, office, and support services within each of its resort areas. This practice is encouraged to create lively, stimulating, pedestrian-oriented environments. Continued promotion of mixed-use development is anticipated, with development guided by performance standards and impact thresholds rather than narrowly defined lists of permitted or prohibited uses.

**Redevelopment Needs**

Redevelopment areas are defined as blighted or containing land uses inconsistent with the community's character and proposed future land uses.

Development in the RCID is less than 30 years old. All facilities were originally planned and developed under highest quality standards and continue to be maintained as such. There are no blighted areas. There are no hazard mitigation reports for the jurisdiction. Moreover, advance planning of development since the District's inception has precluded incompatible land uses or uses which are inconsistent with the community's character, within the RCID boundaries.

Two types of redevelopment activities presently occur within the District. First, facilities are regularly updated to meet consumer expectations and to maintain attendance and occupancy levels. Four resorts—Polynesian, Wilderness Lodge, Coronado Springs, and Caribbean Beach—were partially redeveloped to meet changing consumer demands. Secondly, low-intensity land uses (such as outdoor storage) may be periodically displaced by new development or facility expansion. In these instances, relocation arrangements for these low-intensity uses are made by the District’s major landowners as needed.

### **Development and Redevelopment of Flood-Prone Areas**

The 100-year flood plain boundary, as determined by the RCID, is depicted in Figure 2-2. Drainage studies indicate that portions of the Fort Wilderness campground and Magic Kingdom parking area may be subject to flooding in a 100-year storm event. No flooding has occurred in these areas since development began in 1971. Future development will occur on sites above the 100-year flood elevation since the majority of the flood plain is designated for conservation and unavailable for development. For the few locations in the flood plain designated for future development, construction will be permitted only if: (1) the base flood elevation is maintained; and (2) on-site compensating storage is provided to fully offset drainage impacts.

### **SUMMARY**

Based on the assumptions stated above, potentially 2,033 acres of land will be required to accommodate development in the RCID during the Plan period. The actual amount of land needed will be subject to change as the major landowner's objectives or market conditions change. The 2,033-acre total is intended to provide a benchmark for road and utility plans through the year 2032 and is the basis for this plan. If current trends continue, it is unlikely that all of the development allowed for in Table 2-1 will occur. Based on the amount of Mixed Use land available, the projected 2,033 acres of development would bring the District relatively close to build-out. Most of the sites that would still be vacant in 2032 would be small and odd-shaped. Development beyond 2032 would occur primarily through infill.

Just as it is difficult to predict the amount of land to be developed during the next ten years, it is also difficult to predict the composition of uses in the areas to be developed. Again, this figure could rise or fall significantly as new development ideas and market trends emerge. Even if the overall composition of uses were known, the combination of uses within individual development sites would vary. As mentioned in Guideline 7, multiple uses are often mixed on a single site or integrated in a single building. For this reason, a Mixed Use designation is used for most vacant areas designated for future development.

# FUTURE LAND USE PLAN

## CONCEPT

The Future Land Use Map (FLUM) for the Reedy Creek Improvement District is shown in Figure 2-1. The map depicts the pattern of land uses envisioned through the year 2032. In conjunction with the goals, objectives, and policies of this element, the map sets the course for future development in the District. The absence of rigidly defined land use categories will enable the District to continue the tradition of encouraging innovative mixed use development within its boundaries.

Approximately 50 percent of the District, including most of the Reedy Creek flood plain, will remain undeveloped. The undeveloped areas correspond to lands designated as marginally suitable and unsuitable earlier in this chapter and also include water bodies. Most of the undeveloped land has been designated as Conservation to acknowledge and preserve its sensitive environmental features. Wetlands outside the Conservation area have been designated Resource Management/Recreation (RM/R). This classification permits low-intensity recreational uses, stormwater management, and landscape buffers, and in a limited number of cases, access and utility corridors.

The balance of the RCID (just over 12,000 acres) has been designated for more intensive uses. Approximately 75 percent of this total is already urbanized, while about 25 percent consists of vacant land. The vacant land basically corresponds to areas designated as suitable for development in Figure 2-5. The location of vacant land by land use category is shown in Figure 2-6.

The FLUM identifies existing lodging areas and golf courses as Hotel/Resort. Most of the area with this designation is currently developed. Entertainment areas are designated to identify existing gated attractions, planned expansion areas for these attractions, and new attractions. The map also designates areas for Commercial and Support Facility uses. Most of the land with these two designations is already developed.

Vacant land suitable for development but not included in the above categories has been designated as Mixed Use. A wide variety of land uses will be accommodated in Mixed Use areas. The integration of hotel, entertainment, commercial, and recreational uses will be encouraged. Other uses, such as housing, offices, and support facilities are also permitted. Performance standards in the Land Development Regulations ensure that these uses are compatible and appropriately situated on specific development sites. The regulations also ensure that the Mixed Use areas are developed in a way that does not overburden public services or reduce environmental quality.

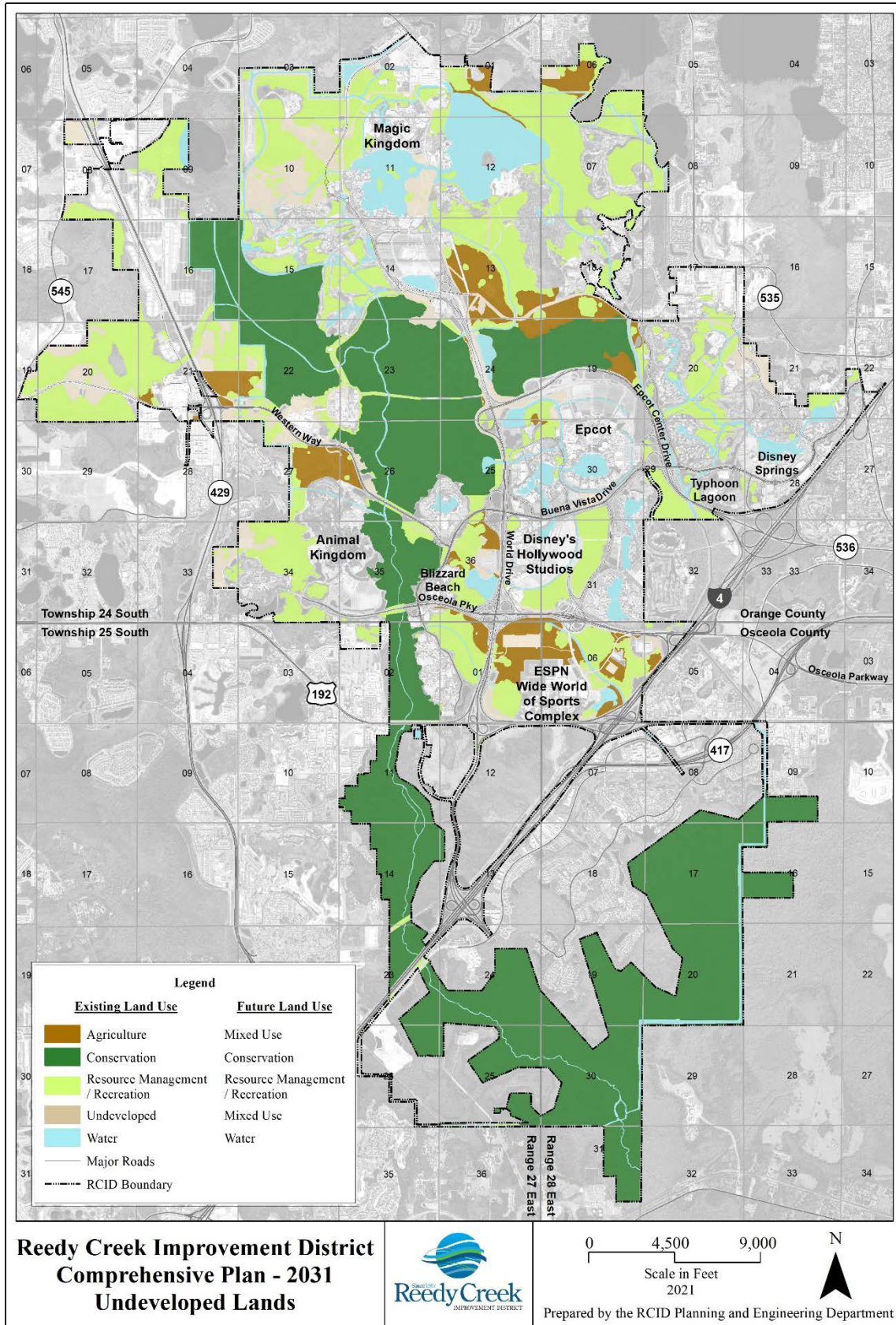
The map designates sufficient developable land to maximize flexibility in site selection. The developable areas provide a wide range of natural settings that can accommodate themed development and respond to changing preferences for recreation and leisure activities. The map also fosters new self-contained attractions or activity centers surrounded by greenbelts that enhance the identity and image of each attraction or center. Much of the appeal of the existing theme parks and resorts is derived from their natural settings and physical separation from existing development. Future development is anticipated to carry on this tradition.

To make certain that the total amount of development during the lifetime of this plan is predictable and does not overburden local services, two growth management measures have been built into the plan. First, development maximums are used to indicate the potential composition of land uses in future mixed use areas. Second, development thresholds are used to limit the total quantity of public service demand that may be generated by new development. The thresholds effectively place five- and ten-year caps on the amount of traffic that may be generated, the amount of water that may be pumped, the amount of wastewater that may be treated, and the amount of solid waste that may be generated within the boundaries of the District.

The thresholds reinforce the concurrency provision that requires public facilities to be in place or committed prior to the approval of new development. Not only must public facilities be provided concurrent with development impacts, but also the amount of new capacity that may be used by 2027 and 2032 is specified. The service caps provide jurisdictions outside the RCID with a projection of development that enables them to plan for local facilities that might be impacted by growth within the RCID, such as roads and transit.

Implementation of the Future Land Use Map will be affected by certain variables, such as changing technology, consumer preferences, and state and federal regulations. The plan has been designed to be flexible enough to respond to these changes while promoting continued economic development in the District. The Land Development Regulations provide more specific direction to guarantee that future development is safe and environmentally sound. The plan is subject to review every five years to ensure that its goals, objectives, and policies reflect both the priorities of the District and the mandates of state planning law.

Figure 2-6: Undeveloped Lands





## MAPPING OF FUTURE LAND USES

### Background

F.S. 163.3177(6)10 sets forth the list of land use categories to be used on the Future Land Use Map. The District's land uses have always departed from this list of required uses. In principle all undevelopable land within the District is categorized as Mixed Use. It is only after land is developed that it is moved into one of the land use categories selected for use within the District. As developable land becomes more scarce, roadways become more congested, and the cost of expanding public services increases, infill development becomes essential and the distinctions between land uses will merge and become truly mixed use.

This Comprehensive Plan combines future residential, commercial, resort, entertainment, and recreational land uses into a Mixed Use category, and uses a Support Facilities category in lieu of an industrial category. Further detail on permitted uses in the Mixed Use areas is presented below and in the Goals, Objectives, and Policies. The Support Facilities category is used to describe areas that might be called industrial parks in cities or counties. Although they visually resemble industrial parks, the Support Facilities areas actually include privately operated facilities that support the theme parks, resorts, and retail, dining, and entertainment establishments in the District.

Public educational buildings are not included on the map because none exist or are planned within District boundaries. However, public schools are permitted within the Mixed Use category. Likewise, a recreational category is not included because the entire District serves a recreational function. A wide range of recreational activities are available within most of the areas designated for entertainment, hotel/resort, commercial and mixed land uses. The Comprehensive Plan does not include an explicit designation for agriculture, because agriculture is not considered a viable long-term land use within the RCID boundaries. Agriculture is an acceptable interim use in all Mixed Use areas.

Consistent with F.S. 163.3177(6)10, the map includes Conservation and Resource Management/Recreation categories used to denote lands that will primarily remain undeveloped open space. The plan includes a broadly defined Commercial category used to identify the existing shopping centers and offices in Lake Buena Vista and to encourage infill of vacant lands in Lake Buena Vista with similar uses. More specific commercial uses are contained within the Hotel/Resort and Entertainment designations. Both of these designations are used to indicate sites that are either already developed with these specific uses or are currently under development. Finally, the plan includes a Public Facilities category that incorporates all land owned by the District including but not limited to wastewater treatment facilities, public roads, solid waste facilities, RCID utility and administrative buildings and facilities, parking structures, and fire stations.

The map does not include historic district designations since there are no historically significant buildings within the RCID boundaries. Finally, future natural resource conditions are depicted on Figure 2-2, the same map showing existing natural resource conditions. The same figure is used for both existing and future resources because no major changes are planned to the District's physical features during the planning period. Flood plain and wetland boundaries are expected to remain the same except as permitted for impact under the District's Long Term Permits. Significant mineral and soil resources are not explicitly labeled because these resources will not be extracted during the time frame of this plan.

## Future Land Use Categories

Future land uses in the District have been classified into nine categories, defined below. Canals, streams, borrow pits, and ponds (lakes less than ten acres) have been incorporated into the figures for the adjoining areas. Limited-access public roads have been tabulated as Public Facilities, while private roads and local public roads have been incorporated into the figures for the adjoining areas. Future roads are shown in the Traffic Circulation Element. The area in each category is summarized in Table 2-6.

**Table 2-6: Future Land Use**

Land Use	2020 Acreage	2020 Percent of Total	2032 Acreage	2032 Percent of Total
Commercial	236	1.0	191	0.8
Hotel/ Resort	3,123	12.6	3,165	12.8
Entertainment	2,305	9.3	2,284	9.3
Support Facilities	548	2.2	597	2.4
Public Facilities/Roads	3,080	12.4	3,306	13.4
Mixed Use	2,729	11.0	2,527	10.3
Resource Management/Recreation	3,410	13.8	4,223	17.1
Conservation	7,939	32.1	6,885	28.0
Water	1,372	5.5	1,452	5.9
TOTAL	24,742	100.0	24,630	100.0

**Commercial** – The Commercial category contains retail, service, office, hotel, and restaurant uses. It has been used to delineate the boundaries of the Lake Buena Vista Business District, including Disney Springs, Team Disney, and adjoining areas. Infilling of vacant land in this area with new commercial uses will be encouraged. New commercial development will also occur in future Mixed Use areas. In those areas, commercial uses will typically be integrated with hotel, recreation, or entertainment projects.

**Hotel/ Resort** – The Hotel/ Resort category is used to delineate resort hotels, campgrounds, and interval ownership units, including their ancillary facilities such as golf courses and equestrian stables. Commercial development that is ancillary to hotels, such as conference facilities, gift shops, and restaurants, are also permitted in these areas. As applied in Figure 2-1, this designation includes all existing resorts and resorts currently under construction or committed for construction in the near future.

**Entertainment** – The Entertainment category delineates the four primary theme parks in the District: the Magic Kingdom, Epcot, Disney’s Hollywood Studios, and Disney’s Animal Kingdom; and the smaller-scale parks or entertainment areas, namely Typhoon Lagoon, Blizzard Beach, and ESPN Wide World of Sports. The category also includes planned expansion areas for these parks. The principal uses are amusement and thrill rides, performance areas, shops and restaurants, educational and cultural displays, and sports fields and venues.

Although nearly all of the acreage with this designation is already developed many areas have the potential for additional construction through infill. For instance, large surface parking lots at the theme parks could potentially be reconfigured or replaced with structured parking to create additional development capacity.

With the development of a Star Wars themed hotel adjacent to Disney's Hollywood Studios, future development of hotels within this land use category offers additional opportunity to make entertainment an essential feature of the District's guests' experience. As ride sharing and the use of autonomous vehicles reduces the need for parking, redevelopment of parking lots becomes an economic necessity.

**Support Facilities** – This category encompasses all private activities needed to support the other urban land uses in the District. Included are existing Support Facilities north of the Magic Kingdom, at the CR 535/Buena Vista Drive junction, and south of Animal Kingdom. Also included are the construction landfill and the Car Care Center. Most of the Support Facilities areas will continue to have an industrial park character, with site planning and landscaping standards set forth in the District's Land Development Regulations. Primary activities are warehousing, administration, production, storage, food services, laundry, maintenance, communication, vehicle repair, and parking. Coupled with the areas designated for new Public Facilities, the Support Facility areas will provide sufficient land to accommodate all service needs generated by additional resort, entertainment, and commercial development.

**Public Facilities** – Most of the land with this designation consists of wastewater treatment facilities and roadways. Wastewater facilities with this designation include the treatment plant and the rapid infiltration basins along SR 429. Roads include extensive land coverage within interchanges as well as medians, roadsides, and roadways associated with I-4, World Drive, US 192, Osceola Parkway, EPCOT Center Drive, Buena Vista Drive, Western Way, Flamingo Crossings Boulevard and a number of smaller roadways. Other public uses include parking garages within the Disney Springs corridor, the RCID Administration Building, and District fire stations. Roads to be built in the future are shown on the 2025 and 2030 Recommended Transportation Network figures found in the Traffic Circulation Element.

**Mixed Use** – This is the predominant category used to identify future development sites in the District. The major permitted uses are resort accommodations, theme parks or other entertainment facilities, campgrounds, and recreational facilities. Additional permitted uses include retail shops, commercial services, offices, educational or research facilities, support facilities, housing, schools, roads, and open space. The Land Development Regulations for the District specify how these uses may be arranged with respect to one another, as well as the requirements for physical site planning. Most of the land with this designation is presently vacant. Development in the Mixed Use areas will be guided by the development maximums and infrastructure caps presented later in this element. These measures set parameters for both the composition of new uses and the quantity of development that can take place.

The overall character of the mixed use areas will be comparable to existing mixed use development within the District boundaries. The purpose of mixing land uses in the District is to create lively, stimulating environments that reduce dependence on the automobile. The intent of using a mixed land use category in this plan is to create opportunities for innovative site planning and land use integration and to allow flexibility in the selection of sites for themed development.

**Resource Management/Recreation (RM/R)** – The RM/R areas correspond to jurisdictional wetlands located outside the Conservation area. These areas possess a combination of soil and drainage conditions that make them poorly suited for urban uses. They also have high habitat values and are an important part of the District's stormwater management system. However, wetland impacts will be allowed to the extent permitted under the District's Long Term Permit. There are currently 386.29 acres of approved wetland impacts that can occur throughout the District with the potential for an additional 694.41 based on the potential mitigation credits upon completion of the Mitigation Plan at Mira Lago). The RM/R areas may also be incorporated as open space or greenbelts in development on adjoining upland sites. They may be used

for stormwater management or for activities that require little or no alteration of the natural landscape, such as hiking trails. As stated in Policy 1.7 of this Element, access and utility corridors may be allowed within these areas under certain conditions if mitigation is provided.

**Conservation** – The Conservation designation has been applied to the most environmentally sensitive portions of the District, namely wetlands and uplands falling within the flood plains of Reedy Creek and Bonnet Creek and covered by conservation easements. In conjunction with modification of the Long Term Permits in 2015, all conservation easements except for the one covering the Wildlife Management Conservation Area (WMCA) were released and transferred to a new off-site mitigation property. Natural resources associated with the Conservation areas (WMCA) and other areas in the District are depicted in Figure 2-2 and are further described in the Conservation Element.

**Water Bodies** – Water bodies include canals, lakes and ponds larger than ten acres, and streams.

## DEVELOPMENT MAXIMUMS

Table 2-1 indicates development maximums for the 2027 five year timeframe and the 2032 ten year timeframe. For each land use listed in the table, the figures represent the estimated maximum amount of development that will be permitted to occur during each time period. The table will be periodically reviewed and, if necessary, amended through the plan amendment process.

Table 2-1 includes a column indicating the plan designations in which each type of use will be permitted to occur. All of the uses listed in Table 2-1 will be allowed in Mixed Use areas; some of the uses will also be permitted in areas designated Commercial, Hotel/Resort, and Entertainment, as appropriate. The need for public and support facilities will be entirely driven by the other land uses listed in the table. Regardless of the type of development, the caps on infrastructure identified in the plan will not be exceeded.

For service planning purposes, this plan forecasts that development will occur at the maximum level shown in Table 2-1 for the ten years through 2032. It is likely that the actual amount of development that occurs will be less than the maximum allowed. However, to ensure that adequate capacity is provided, infrastructure and roadway needs have been based on the most cautious (i.e., aggressive) forecasts for future growth. Assumptions on development will be reassessed at least annually to incorporate the most current information available on proposed development at that time.

Table 2-2 indicates the amount of undeveloped land that would be developed by the year 2020 if development occurred at the maximum level indicated in Table 2-1 at existing average densities. Within any given mixed use area, the actual density will depend on the particular uses that are proposed on that site. For example, a mixed use site proposed for low-rise rooms may be developed at 10-15 rooms per acre, while a similar site with a high rise hotel may be developed at 30-50 units per acre. Densities are increasing within the District. The average density of the 7 Flamingo Crossings hotels is 51.5 rooms per acre and the average density of one of the resorts currently under construction is 25 rooms per acre. The overall amount of undeveloped land used for hotels and resorts during the next ten years is projected to be not more than 946 acres.

## DEVELOPMENT THRESHOLDS

While the maximums in Table 2-1 are intended to provide a directive for the composition of future land uses in the District, the thresholds presented in Table 2-3 provide absolute limits on the overall quantity of development that may occur through 2027 and 2032. The maximum quantity of development will be fixed by placing "maximums" on urban service availability over the five- and ten-year intervals. An amendment to this plan would be required to change the service thresholds above the levels set in Table 2-3.

The first data column in Table 2-3 indicates the amount of road, water, sewer, solid waste, and drainage capacity required by development on an average day in 2020. In the next two columns, the table indicates the maximum quantities of these average daily services that development will be permitted to consume by the years 2027 and 2032. The difference between the 2027 and 2032 figures dictates the amount of incremental new demands on public facilities that will occur.

Most of the thresholds in Table 2-3 will not be reached without some capital improvements or a reduction in the adopted level of service. Since minimum level of service standards will be maintained, new water, wastewater, and solid waste facilities will be required as development approaches the 2032 thresholds. Improvements for the 2027 five-year period are specified in the Capital Improvements Element. Development will not be permitted if it will cause any of the development thresholds shown in Table 2-3 to be exceeded. Major projects will be phased, where feasible, so that the thresholds can remain in place through 2032 and plan amendments kept to a minimum.

Table 2-7 presents the service generation rates that will be used as future development is evaluated for its impact on public facilities. The table provides multipliers to determine water, sewer, and solid waste service needs for the major land uses allowed.

If the incremental addition causes District-wide water consumption and wastewater generation to rise above the thresholds in Table 2-3, then the development would have to be scaled down or the Comprehensive Plan formally amended so that the necessary improvements could be made. A Concurrency Management System tracks all approved development projects and their projected demands on public facilities.

**Table 2-7: Service Generation Factors**

Land Use	Unit	Water (GPD)	Wastewater (GPD)	Solid Waste (lbs/Day)
Residential	Per Unit	350	300	11.5
Hotel/Resort (General)	Per Key	200	180	7.5
<i>Luxury/Deluxe</i>	<i>Per Key</i>	<i>250</i>	<i>230</i>	<i>11.0</i>
<i>First Class</i>	<i>Per Key</i>	<i>200</i>	<i>180</i>	<i>7.5</i>
<i>Moderate/Economy</i>	<i>Per Key</i>	<i>150</i>	<i>130</i>	<i>6.0</i>
Convention Space	Per Square Foot	0.25	0.20	0.0325
Office	Per Square Foot	0.25	0.20	0.0020
Retail/Commercial	Per Square Foot	0.30	0.25	0.0325
Theme Park	Per Guest	50	30	10 to 20 tons/park
Water Park	Per Guest	75	50	.05 to 1.0 tons/park

Once it is shown that a proposed development does not exceed the thresholds, concurrency must still be demonstrated. The public facilities that will support the development must be in place or committed at the time the project is approved. Thus, development approval is a two-step process. First, the project sponsor must show that District-wide service consumption will remain below the maximums in Table 2-1, the acreage figures in Table 2-2, and the thresholds in Table 2-3 after the project (and other approved projects) are completed. Second, the project sponsor must show that the public facilities needed to support the project without a reduction in the adopted levels of service are committed or in place. More specific guidelines for implementing the concurrency and threshold requirements are set forth in the concurrency review provisions contained in the Land Development Regulations.

**Tables 2-1, 2-2, and 2-3 are included in the Future Land Use Element Adoption Document and appear in that portion of this chapter.**

## PROVISIONS TO LIMIT URBAN SPRAWL

F.S. 163.3177(6)(a)9.a.&b. requires the Comprehensive Plan to establish standards which discourage urban sprawl and ensure efficient land use patterns and protection of natural resources. A series of indicators has been developed by the State to identify cases where sprawl may not be adequately discouraged. The State has also identified eight development patterns or urban forms that discourage the proliferation of urban sprawl. These are described below, followed by a discussion of their treatment in the RCID Comprehensive Plan.

### PRIMARY INDICATORS OF SPRAWL

The state has identified 13 primary indicators of a Plan's propensity to encourage or discourage urban sprawl. The performance of the District on each of these indicators is identified below:

1. *Promotes, allows, or designates for development substantial areas of the jurisdiction to develop as low-intensity, low-density, or single use development.*

The RCID Plan encourages more intense and dense development than what currently exists in the jurisdiction and designates most of the vacant land for mixed use rather than single use development. Based on this indicator, the Plan does not contribute to sprawl.

2. *Promotes, allows, or designates significant amounts of urban development to occur in rural areas at substantial distances from existing urban areas while not using undeveloped lands that are available and suitable for development.*

The vast majority of the vacant land supply in the District is adjacent to existing development or major highways. There are no rural areas and all land within the jurisdiction that is suitable for development has been designated for urban uses. Based on this indicator, the Plan does not contribute to sprawl.

3. *Promotes, allows, or designates urban development in radial, strip, isolated, or ribbon patterns generally emanating from existing urban development.*

Historically, the District's site planning has deliberately avoided strip/ ribbon patterns of development in favor of creating mixed use activity centers and nodes. This continues to define planning practice and decision-making in the District today. Based on this indicator the Plan does not contribute to sprawl.

4. *Fails to adequately protect and conserve natural resources, such as wetlands, floodplains, native vegetation, environmentally sensitive areas, natural groundwater aquifer recharge areas, lakes, rivers, shorelines, beaches, bays, estuarine systems, and other significant natural systems.*

The presence of natural resources and environmentally sensitive areas has been the primary determinant of land use designations and the pattern of development in the District. Wetlands, water, and sensitive uplands in the District—representing just under half of its total area—have been designated for open space uses. Consequently, based on this indicator, the Plan does not contribute to sprawl.

5. *Fails to adequately protect adjacent agricultural areas and activities, including silviculture, active agricultural and silvicultural activities, passive agricultural activities, and dormant, unique, and prime farmland and soils.*

Existing agricultural uses in the District consist of pasture, orchards, a tree farm/nursery, and coniferous plantations for logging on Mixed Use land that is not currently slated for development. Given the District's urban character, other than the tree farm/nursery which supplies ornamental plants and forage for use within the District, these are not considered viable long-term uses. There are no areas in the District where urban uses are planned adjacent to agriculturally designated lands in surrounding jurisdictions. Based on this indicator, the Plan does not contribute to sprawl.

6. *Fails to maximize the use of existing public facilities and services.*

The Plan fully maximizes all existing public facilities and services, including roads. Because the District is a master planned community, the existing public facilities have been deliberately designed and planned to support the existing and future land use pattern. Based on this indicator, the Plan does not contribute to sprawl.

7. *Fails to maximize the use of future public facilities and services.*

Future public facilities and services have been planned specifically to support the future land use pattern. Based on this indicator, the Plan does not contribute to urban sprawl.

8. *Allows for land use patterns or timing which disproportionately increase the cost of time, money, and energy of providing and maintaining facilities and services, including roads, potable water, sanitary sewer, stormwater management, law enforcement, education, health care, fire and emergency response, and general government.*

The establishment of development maximums and directly corresponding infrastructure thresholds ensures that the cost of services will be proportional to development and not disproportionately high. The Plan specifically discourages the creation of excess capacity in public services. Consequently, based on this indicator, the Plan does not contribute to sprawl.

9. *Fails to provide a clear separation between rural and urban uses.*

There are no rural uses existing or planned within the District. Where it is appropriate urban uses are clearly separated from other uses by open space and conservation areas. Based on this indicator, the Plan does not encourage sprawl.

10. *Discourages or inhibits infill development and redevelopment of existing neighborhoods and communities.*

The Plan strongly encourages infill development and acknowledges that as the District approaches build-out, a growing share of its future development will occur as infill. Redevelopment is continual within the District due to new technologies and changing consumer tastes and trends; the Plan strongly supports continued reinvestment in and expansion of the established activity centers within District boundaries. Based on this indicator, the Plan does not encourage sprawl.

11. *Fails to encourage a functional mix of uses.*

The guiding principle of the District's land use plan is to create an attractive and functional mix of uses; most of its land use objectives and policies are geared toward that end. Mixed use development is strongly encouraged. Based on this indicator, the Plan does not encourage sprawl.

12. *Results in poor accessibility among linked or related land uses.*

Virtually all of the land uses in the District may be considered linked, since there is one major landowner. The Plan emphasizes both roadway and transit links between different uses, with particular emphasis on transit links between the resorts and the theme parks. The Plan requires that these links continue to be developed and maintained. Based on this indicator, the Plan does not contribute to urban sprawl.

13. *Results in the loss of significant amounts of functional open space.*

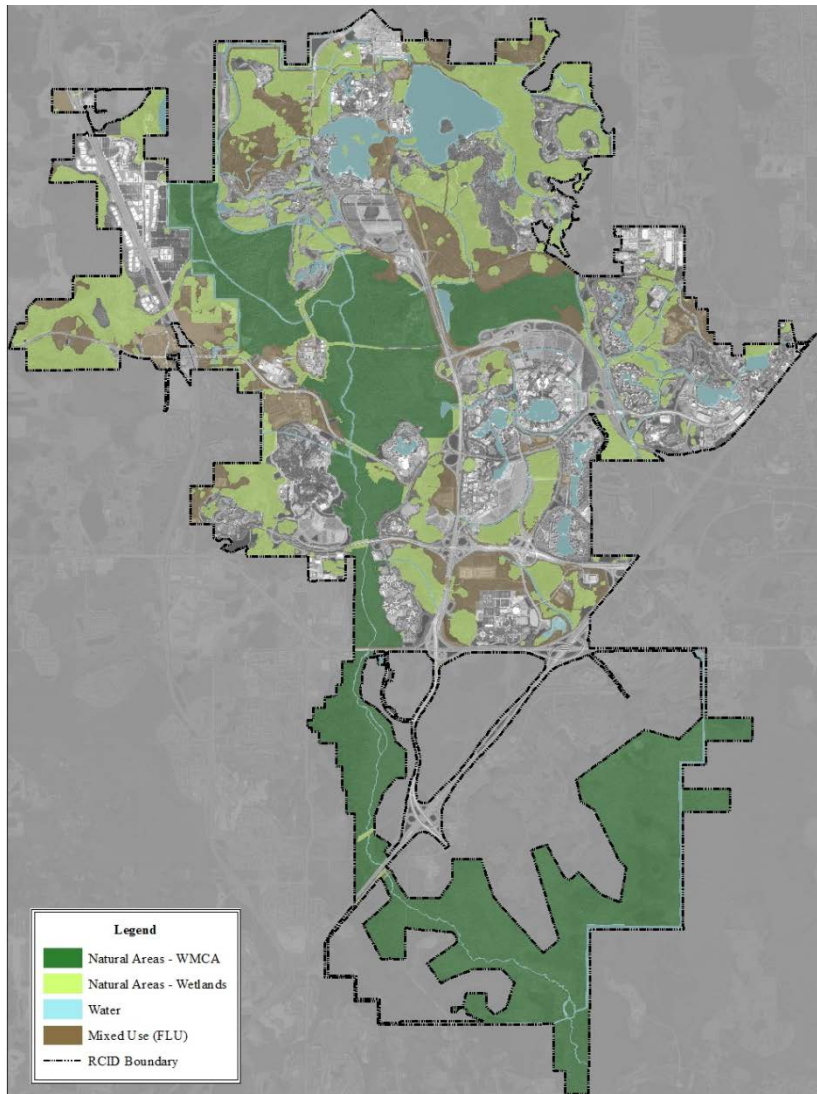
The Plan strongly encourages the protection of existing functional open space (including golf courses, water bodies, wetlands, and landscaped buffers) and the creation of new functional open space within future development areas. Although the Plan designates 386 acres of approved wetland impacts for future development, it also sets aside 11,145 acres for conservation and resource management. Based on this indicator, the Plan does not contribute to urban sprawl.



## DEVELOPMENT PATTERNS OR URBAN FORMS THAT DISCOURAGE URBAN SPRAWL

1. *Directs or locates economic growth and associated land development to geographic areas of the community in a manner that does not have an adverse impact on and protects natural resources and ecosystems.*

The District's Comprehensive Plan and Future Land Use Map have always recognized the important role natural resources and ecosystems play in building a vibrant, sustainable community. Protecting the Reedy Creek from adverse impacts from development was achieved through an easement granted to the SFWMD in 1993 as part of the Long Term Permits. The easement establishing the Wildlife Management Conservation Area (WMCA) created the greater of an undisturbed buffer along the Reedy Creek that extends not less than 550 feet on either side of the centerline of the creek or 50 feet landward of



the jurisdictional wetland boundary to include adjacent upland areas. An additional 436 acres north of Epcot Center Drive has also been included within the WMCA.

The above graphic illustrates the historic pattern of development within the District. For the most part development has been and will continue to be confined to upland areas. Most large swaths of wetlands remain intact and provide important environmental benefits such as receiving stormwater, and removing excess nutrients from water that flows through them. Natural areas provide a physical and visual escape from the built environment and enhance the beauty of developed areas. There are truly wild, natural areas and areas where the wild meets the developed within the boundaries of the Districts.



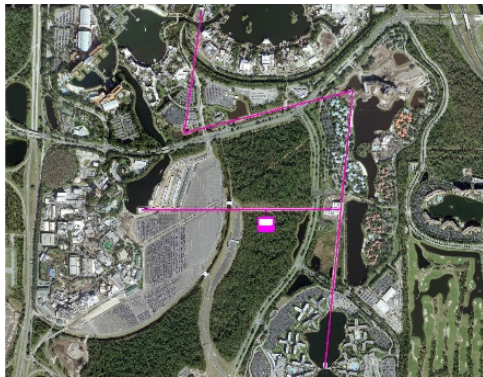
2. *Promotes the efficient and cost-effective provision or extension of public infrastructure and services.*

The most notable development controls established by the Plan which discourage urban sprawl are the development maximums and infrastructure thresholds. These growth management tools create real limits to development potential and provide a strong incentive for the efficient use of land.

3. *Promotes walkable and connected communities and provides for compact development and a mix of uses at densities and intensities that will support a range of housing [lodging] choices and a multimodal transportation system, including pedestrian, bicycle, and transit, if available.*

The District has historically emphasized mixed use, multimodal oriented development. For the most part development has occurred in clusters comprised of multiple resorts adjacent to a major or minor theme park or a retail, dining, and entertainment (RD&E) district. Some of these mixed use clusters are more complete than others – consisting of resorts, theme park(s), RD&E districts, and service and public facilities. These mixed use clusters are also readily serviced by multiple modes of transportation that link all of the uses within a cluster and also between major attractions within all of the clusters. When safe and feasible, sidewalks and trails provide access between the various land uses.

The Epcot Resort Area represents a high mix of land uses and transportation modes. It is comprised of two major theme parks, a miniature golf complex, five resorts, an RD&E district, gasoline/mini-mart station, a central energy plant that provides electricity, chilled water for cooling and hot water for space heating, an employee wellness center, and a fire station, as well as



undeveloped land for future development. The Epcot Resort Area is served by multiple bus systems, monorail service, a gondola, and water taxis.



There are sidewalks linking four resorts, the miniature golf complex, the RD&E district, and the Epcot and Disney's Hollywood Studios theme parks.

The Disney Springs and Magic Kingdom Resort Areas are also very complete in their mix of uses and transportation modes and pedestrian amenities. Three pedestrian Bridges across Buena Vista Drive eliminate all surface level pedestrian crossings for guests and cast members. Pedestrian bridges and water taxis also link Disney Springs to area resorts. A



drawbridge and walkway are currently under construction that will link



the Magic Kingdom to the resorts located on the west side of Seven Seas Lagoon. Many of the resorts provide bicycles and Pargo carts for guest use around the resorts as do a number of the theme parks for

employee use in the backstage areas.

The Flamingo Crossings Resort Area is under development and will consist of a pedestrian oriented mixed use retail, dining, lodging, and commercial district oriented to drivers approaching the District from the north via the Turnpike and SR 429. Two hotel are currently open with 5 under construction along with two apartment complexes that will serve as housing for the Disney College Program. Construction has recently begun on the Town Center retail and dining complex.

The Comprehensive Plan establishes the expectation that future development will be similarly diverse, intense, and based on innovative design and planning principles. The Plan supports the evolution of the District into a more full-service and self-contained community.

4. *Promotes conservation of water and energy.*

Potable water use in the District peaked in 2000 at 19.95 MGD and remains below this number even with the growth in resort rooms and attendance. While much of the benefit of water conservation measures – such as reuse water for irrigation, wash-down, and newer urinals, ultra-low volume plumbing, and recirculating water features – have been realized, the District continues to extend these water conserving measures to all new development and redevelopment projects.

Two solar farms have been added to the mix of fuel sources employed within the District. A 5 MWh Mickey project operated by Duke Entergy and 50 MWh project located at the RIBs. These two projects are projected to generate enough renewable electricity to supply up to 25 percent of the power needs within the District. According to a quote at CleanTechnica.com the Walt Disney World Resort is “striving towards three main environmental goals: divert 60 percent of our waste from landfills by 2020, reduce net emissions 50 percent (from 2012 levels) by 2020, and reduce water consumption across the board.”



## **EVALUATION OF LAND USES AND LOCAL CONDITIONS**

Each land use on the Future Land Use Map is reviewed based on its extent, location, distribution, density, intensity, compatibility, suitability, functional relationship, land use combinations, and demonstrated need over the planning period. The evaluation focuses on the context of each use and characteristics unique to each locality.

Because of the District's unique land use composition, limited geographic area, and highly urban setting, the propensity for future land uses within its boundaries to contribute to urban sprawl is limited. In fact, the District has designated virtually all of its developable land supply for mixed use development. This category has been defined in a manner which makes urban sprawl very unlikely. Given past patterns, the mixed use sites are likely to be intensively developed with high-density, high-intensity uses that are fully supported by public services and utilities. Standards in the land development regulations ensure that multiple uses accommodated on a single parcel are compatible and that uses on adjoining mixed use parcels have a sound functional relationship to each other.

The other urban land use categories in the District's Plan—Commercial, Hotel/Resort, Entertainment, Support Facilities, and Public Facilities—have been primarily applied to existing development rather than vacant land. However, the Plan encourages more intense development in all of these areas and supports redevelopment of underutilized sites (such as storage yards and parking lots) with higher density or intensity hotel or entertainment uses. There are no rural land use categories in the Plan; rural densities would be discouraged in the District due to their inefficient use of the limited amount of vacant land remaining. The

open space categories—Conservation, Resource Management/Recreation, and Water—help frame the urban areas and provide definition and distinction to activity areas within the District.

The overall size and location of areas designated for future growth have been identified based on projections of land demand (the projected growth rate) and assumptions about density and intensity (which dictate that future growth will be at least as dense as past growth). Based on the analysis in this Element, the size of the developable area is only slightly larger than the amount of land projected to be needed for development by 2030. Based on the location of the developable land, extensions of service (including roads) will not induce sprawl.

### **IMPACT OF COMPREHENSIVE PLAN DEVELOPMENT CONTROLS ON URBAN SPRAWL**

The most notable development controls established by the Plan which discourage urban sprawl are the development maximums and infrastructure thresholds. These growth management tools create real limits to development potential and provide a strong incentive for the efficient use of land.

The District's open space requirements have been structured to minimize the propensity for sprawl by identifying future open space areas on a map in the Recreation and Open Space Element rather than requiring open space set-asides within individual projects. This has the net effect of encouraging more dense and intense development on urban sites, and preserving the most environmentally sensitive sites. Although the District has not adopted minimum density or intensity standards, the unique uses and intense market demand for land have dictated a trend toward higher rather than lower intensity development.

The District has historically emphasized mixed use, pedestrian-oriented development. The Comprehensive Plan establishes the expectation that future development will be similarly diverse, intense, and based on innovative design and planning principles. The Plan supports the evolution of the District into a more full-service and self-contained community.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**TRANSPORTATION  
ELEMENT**

**Part A:  
Policies**

# INTRODUCTION

The Transportation Element updates and supersedes the District's previous (1991) Traffic Circulation Element. The element identifies the transportation infrastructure that is required to support the development anticipated in the Future Land Use Element through 2032. The Transportation Element also establishes the policies required to effect trip-making characteristics such as trip length and modal choice, in conjunction with sound land use planning. The element is divided into two components. The first component, "Policies," consists of goals, objectives and policies, as well as required maps and tables. The second component, "Supporting Data and Analysis," consists of the supporting documentation that provides the basis for the goals, objectives, and policies.

## GOALS, OBJECTIVES, AND POLICIES

### GOAL

***It is the goal of the Reedy Creek Improvement District to continue to maintain a safe, convenient and efficient balanced transportation system to meet the multi-modal capacity requirements of existing and future development.***

### Objective 1

*To implement adopted roadway level of service standards, parking, and roadway design criteria.*

Policy 1.1: The RCID shall adopt the following peak-season, peak-hour level of service standards for functionally classified roads in the District:

	State Facilities	County Facilities	RCID Facilities
Principal Arterial (Limited Access)	D	N/A	E
Principal Arterial (Major)	D	N/A	E
Minor Arterial	E	E	E
Collector	N/A	E	E
Local Roads	N/A	N/A	N/A

Policy 1.2: A constrained facility designation shall be provided for CR 535 from Hotel Plaza Boulevard to I-4 and for Hotel Plaza Boulevard. For constrained facilities, a 15 percent degradation in average travel speeds or a 15 percent increase in traffic volume shall be permitted in addition to the standards described above.

- Policy 1.3: The RCID may require a traffic impact analysis detailing trip generation, distribution and capacity analysis for development projects during a preliminary and final site plan review process. Roadway capacity shall be based on those listed in Tables 3-14 and 3-17, unless level of service analyses have been conducted for specific roadway segments to determine a level of service capacity that more accurately reflects existing conditions (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).
- Policy 1.4: The RCID shall ensure the use of sound and proper roadway design criteria to maintain adequate open space, drainage, and safety standards.
- Policy 1.5: The RCID shall ensure that developments provide for safe and convenient on-site traffic flow and vehicle parking through the implementation of standards set forth in the Land Development Regulations that regulate the number and sizes of on-site parking spaces, parking for disabled persons, loading, and the design and control of mechanisms for on-site vehicular and pedestrian traffic circulation.
- Policy 1.6: The RCID shall control access points to roadway facilities by reducing median and curb cuts, and specifying joint access requirements for adjacent building sites during the preliminary and final site plan review process.
- Policy 1.7: The RCID shall adopt Florida Department of Transportation (FDOT) standards as defined in FAC 14-97.003 (February 1991) regarding access to State facilities within the RCID.
- Policy 1.8: At-grade intersections shall be prohibited on US 192 between World Drive and I-4.

## **Objective 2**

*To improve the District's transportation system in a manner that is consistent with the timing and location of the land uses designated in the Future Land Use Element.*

- Policy 2.1: The RCID shall annually ensure that changes to the Future Land Use Element are reflected in the recommended road network contained in the Transportation Element and that any changes to the recommended road network are reflected in a phased program in the Capital Improvements Element.
- Policy 2.2: The RCID shall maintain a monitoring program to determine the current modal split between transit and private automobile. The District shall implement measures to ensure that adequate roadway capacity is in place to accommodate a multi-modal transportation system and that steps are taken to increase the use of non-automobile transportation modes. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)
- Policy 2.3: The RCID shall implement the functional roadway classification system by requiring development to comply with the setback, right-of-way, centerline, and dedication provisions contained in the Land Development Regulations.



- Policy 2.4: The RCID shall encourage landowners and business operators to provide transit service, including watercraft, monorail, buses, and/or other modes of transportation, to hotels and attractions within the District.
- Policy 2.5: The RCID shall require all hotels in the District to promote the uses of available transit service by supplying guests with transit information and notifying them of existing transit service and schedules.
- Policy 2.6: As part of the Land Development Regulations and in conjunction with the policies set forth in the Future Land Use Element, the RCID shall encourage mixed use development to reduce the need for vehicles to travel outside of the District.

### **Objective 3**

*To adopt standards and criteria for pedestrian and other non-motorized facilities.*

- Policy 3.1: The RCID shall use the preliminary and final site plan review process to require development projects to include traffic flow systems designed to minimize conflicts between vehicular and pedestrian or bicycle traffic.
- Policy 3.2: The RCID shall encourage the development of bicycle facilities, exercise trails, riding paths, and pedestrian paths within the resorts, theme parks, commercial areas, and other self-contained developments located within its boundaries as appropriate.

### **Objective 4**

*The District shall participate with other state and local agencies and governments in the area to develop roadway and transit programs and projects outside the District.*

- Policy 4.1: To reduce the impacts of guest vehicle trips on roadways outside the District, provision of directional signage shall be coordinated with area local governments, the Orlando/ Orange County Expressway Authority, and the Florida Department of Transportation.
- Policy 4.2: The RCID shall coordinate with FDOT, Osceola County, Orange County, and other appropriate government entities to pursue recommendations contained in the I-4 PD&E, the Orange County and Osceola County Comprehensive Plans, the Metropolitan Orlando Urban Area Transportation Plan, and any future planning studies which address transportation facilities and conditions within or around its boundaries.
- Policy 4.3: The RCID shall actively participate in OUATS, and other studies to coordinate with all appropriate local, regional, state, and federal agencies regarding the location, classification, planning, and construction of needed roads in the metropolitan area.
- Policy 4.4: The RCID shall continue to conduct an annual traffic monitoring program for public roadways within the RCID, as well as the following adjacent roadways: I-4, US 192, SR 535, CR 535, SR 536, Apopka-Vineland Road, and Reams Road. Appropriate capacities,

daily traffic volumes, and peak-hour traffic volumes shall be determined through this on-site and off-site monitoring program.

- Policy 4.5: The data described in Policy 4.5 shall be used on a continuous basis for evaluating projects, establishing road improvement priorities, and determining the extent of District-generated traffic impacts on road facilities outside the District.
- Policy 4.6: The RCID shall continue to coordinate with the Central Florida Regional Transit Authority (e.g., LYNX), Orange County, and Osceola County on the subject of increasing the level of bus service for visitors and employees.
- Policy 4.7: The District shall continue its participation in Metroplan Orlando by continuing its voting membership on the MPO Technical Committee.
- Policy 4.8: The RCID shall coordinate with FDOT, Osceola County, Orange County, and other appropriate government entities or regional transit authorities to facilitate high speed rail, commuter rail, and bus rapid transit services. (Added by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

## **Objective 5**

*The RCID shall acquire rights-of-way for transportation facility improvements described in this element.*

- Policy 5.1: The RCID shall use the preliminary and final site plan review process to coordinate the location and design of new roadway network facilities, transit corridors, and pedestrian facilities.
- Policy 5.2: Rights-of-way shall be reserved at the minimum width required to accommodate construction of the number of lanes shown on the Future Transportation Network Maps (Figures 3-1 and 3-2).
- Policy 5.3: The RCID shall ensure that developments comply with right-of-way width standards contained in the Land Development Regulations.

## **Objective 6**

*To provide for safe movement of motorized and non-motorized traffic.*

- Policy 6.1: By January 1, 2011, the RCID shall establish an annual monitoring program to assess motorized and non-motorized vehicle accidents within the District. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)
- Policy 6.2: An on-going program shall be established for implementing TSM measures such as traffic signal synchronization, enhanced roadway signage/markings, and use of turn lanes for project access to minimize traffic conflicts.

Policy 6.3: The District shall encourage mixed use development as a means of reducing trip lengths and reliance on motorized vehicles.

Policy 6.4: The District shall ensure that alternative modal choices are available to all major trip generators and attractors within the District.

### **Objective 7**

*To coordinate long-range transportation planning activities, including future updates of the RCID Comprehensive Plan, with the programs and planning activities of regional and state agencies, including the Florida Department of Transportation (FDOT), the Florida Transportation Commission, the Central Florida Regional Transportation Authority, and the Metropolitan Planning Organization (MPO).*

Policy 7.1: The RCID shall establish strategies, agreements, or other mechanisms to coordinate the implementation of its Transportation Element with other local governments and regional and state agencies. These mechanisms shall include coordination with FDOT's Adopted Work Program, participation in MPO technical committees, participation in future planning studies that may affect transportation conditions in and around the RCID, and coordination of RCID transportation and transit studies with nearby local governments and applicable regional and state agencies.

Policy 7.2: The RCID shall continue to develop and implement strategies which facilitate alternatives to the use of Interstate 4 for local traffic such that interregional and intrastate functions may be protected. These strategies may include, but are not limited to, development of alternative roadway facilities, new directional signage, and expansion of local transit systems.

### **Objective 8**

*To ensure that efficient transit services are provided, based upon existing and proposed major trip generators and attractors, safe and convenient terminals, and accommodation of the special needs of the transportation disadvantaged.*

Policy 8.1: Transit service shall be provided to the major trip generators and attractors within the District.

Policy 8.2: Parking shall be located so as to encourage use of alternative transportation modes, such as transit, water taxi, bicycling, and walking.

Policy 8.3: Existing and proposed transit stops, terminals, and vehicles shall be designed and maintained to ensure the safety of pedestrians. Existing transit stops and terminals shall be re-evaluated when traffic circulation patterns change based on infrastructure improvements or new development.

Policy 8.4: Existing and proposed transit stops, terminals, and vehicles shall accommodate the transportation disadvantaged, consistent with the Americans with Disabilities Act (ADA) and the Florida Accessibility Code.

Figure 3-1: 2027 Roadway Network

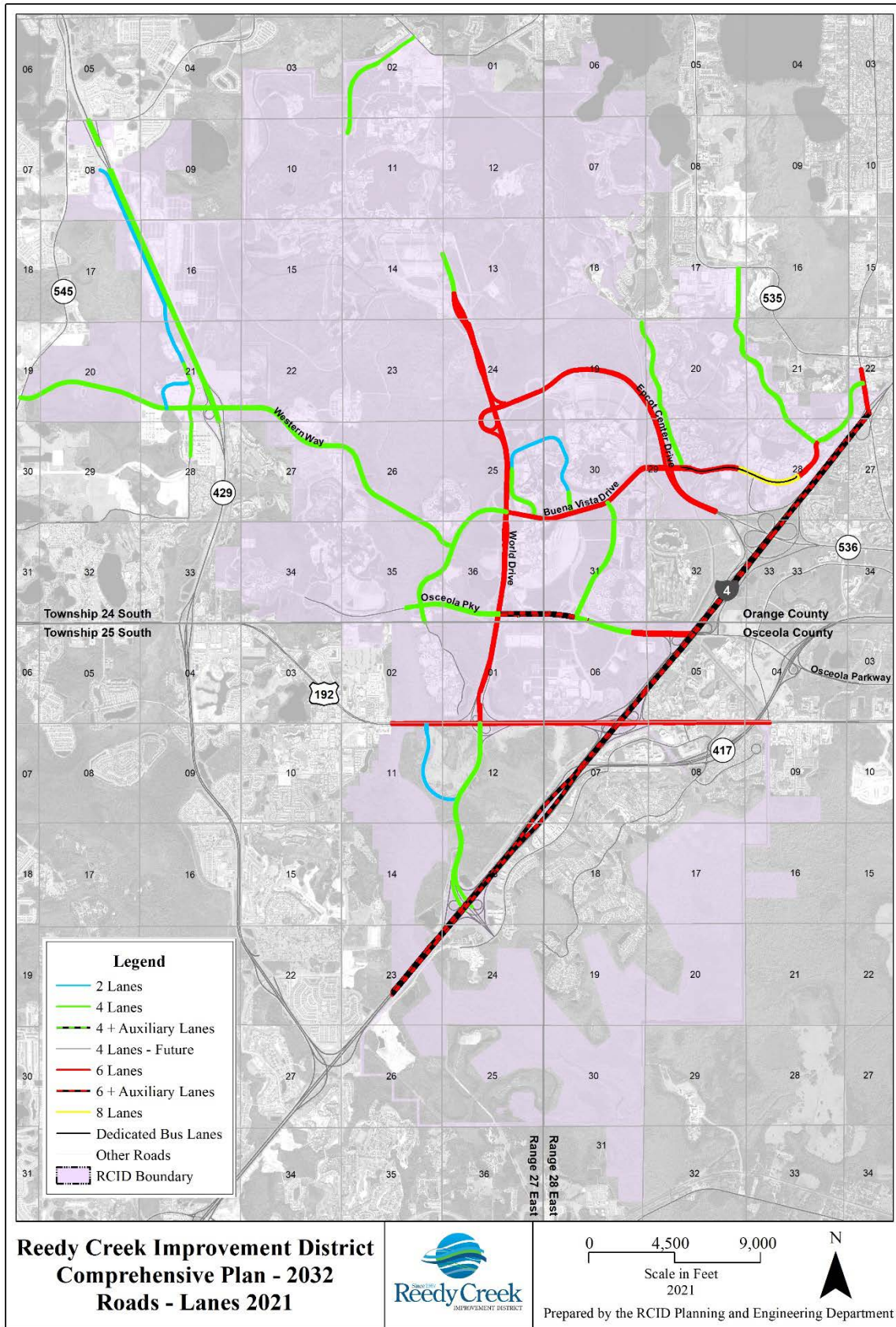
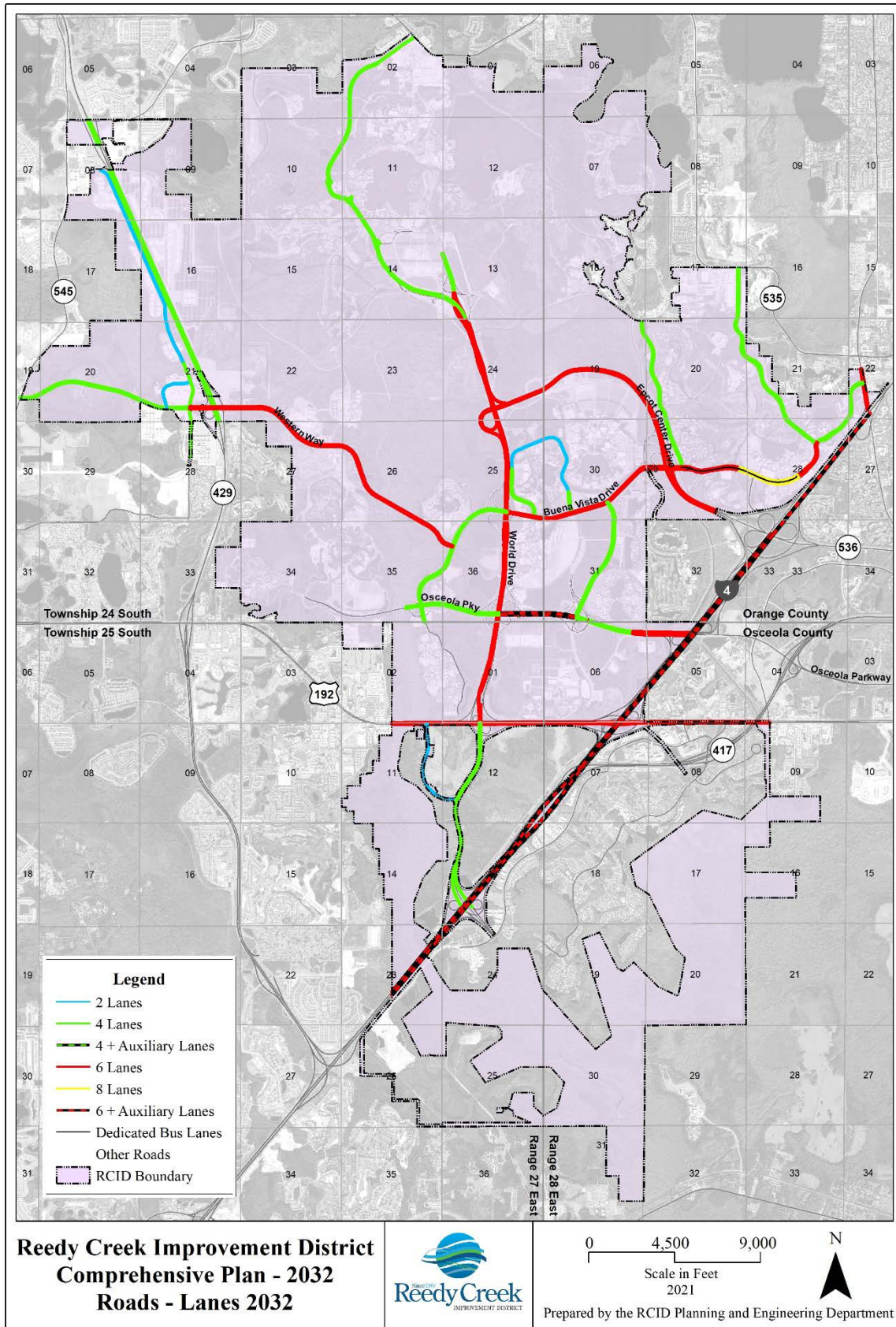


Figure 3-2: 2032 Roadway Network





Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**TRANSPORTATION  
ELEMENT**

**Part B:  
Supporting Data and Analysis**

# PURPOSE

The Transportation Element of the Comprehensive Plan provides guidance in determining the intermodal transportation network required to accommodate future development. The development of this element has been coordinated with the development of the Future Land Use Element to ensure that resource needs identified for transportation address the needs of future land use patterns.

The “Supporting Data and Analysis” component of the Transportation Element is composed of three major sections. The first section documents functional and administrative road classifications, capacities and level of service thresholds, existing traffic volumes, and existing levels of service. The second section documents anticipated future transportation conditions. F.S. 163.3177(6)(b) requires transportation analysis for a short-range planning horizon of five years and a long-range planning horizon of at least 10 years. For the RCID Comprehensive Plan, 2027 and 2032 are used as the planning analysis years. A recommended transportation network is provided in the third section.

According to F.S. 163.3177(6)(b), the purpose of a transportation element is to plan for a multi-modal transportation system that places emphasis on public transportation. Because of the unique transportation characteristics associated with the RCID attractions, the content of this element varies slightly from the requirements of Rule 9J-5. There is an extensive private transit system within the District. This intermodal system includes monorails, various types of water taxis and ferries, a gondola system, and an extensive bus system, as well as interconnected bicycle and pedestrian ways. An overview of these facilities is provided in the supporting data and analysis and has been considered in the determination of public facility needs. Because of the extensive private facilities, public capital improvement requirements for transportation may seem less than would otherwise be expected.

Intergovernmental coordination and other issues required by F.S. 163.3177 are addressed in the goals, objectives, and policies. As a result of the land use trip characteristics in the RCID, as well as the trip characteristics of land uses adjacent to the RCID, transportation issues outside the District's boundaries are addressed in the element.

The data and analysis in this element are consistent with the planning time frames (2026 and 2031) and Capital Improvement Program years (FY 2022 – FY 2027) used throughout the Comprehensive Plan. Updated data, analysis and programmed traffic improvement projects for the current year and future five-year time frame are presented in the Capital Improvement Program Update (CIP Update) of the Capital Improvements Element. Therefore, the CIP Update presents and implements the most up-to-date transportation conditions and planning activities of the District.

# EXISTING CONDITIONS

Access to the Reedy Creek Improvement District is provided principally by I-4, US 192, SR 536, Osceola Parkway, SR/CR 535, Western Way, SR 429, and to a lesser extent by the Central Florida GreeneWay (SR 417). Reams Road also provides a minor access route to the North Service Area of the District, and Sherberth Road provides access to the Animal Kingdom resort area. Within the District, there are public, RCID-maintained arterial and collector facilities, as well as privately maintained roadways.



This section of the Transportation Element presents an analysis of existing transportation conditions in RCID). The first step in the analysis is to assign a functional and administrative classification to each of the public roadways within the RCID. Capacities and level of service thresholds are then defined and compared to existing peak-hour traffic volumes to determine existing levels of service. The existing conditions analysis also includes a discussion of programmed and planned improvements, existing public and private transit service, accident (crash) analysis, pedestrian mobility, availability of transportation facilities to serve existing land uses, growth trends, and travel patterns, and a review of compliance with F.S. 163.3177(6)(b).

## ROADWAY CLASSIFICATION

A roadway system can be classified in two ways—functionally and administratively. Functional classification defines a facility's physical and operational characteristics and administrative classification refers to the governmental entity that is responsible for maintaining the roadway. As part of the existing conditions analysis, the functional and administrative classifications of roads within the RCID have been provided.

### Functional Classification

The function of roadways is two-fold: one function is to provide access to land uses adjacent to the roadway and the other is to provide mobility through an area. These two elements have an inverse relationship and demand a careful balancing throughout an area-wide roadway system. As access to a roadway increases the mobility of through-traffic decreases. Inversely, roadway facilities designed for mobility generally have higher speeds, more limited access, and more capacity.

Public roads within the RCID are functionally classified into four general categories for purposes of analysis in this Element. These categories and descriptions of each are as follows:

- **Principal Arterial (Limited Access)** – A roadway in this category serves major movements of traffic entering or leaving the District. This roadway is generally a multi-lane divided facility designed to serve large volumes of high-speed traffic. Access from adjoining parcels is prohibited, and access to this facility is limited to entrance and exit ramps located at major roadways. Roadway segments within the RCID that have no at-grade intersections are classified as limited access facilities in this Element. These facilities include portions of US 192 and all of Osceola Parkway, World Drive, EPCOT Center Drive, SR 429, and I-4 within the District.
- **Principal Arterial** – Like limited access roadways, these facilities serve major movements of traffic entering or leaving the District. Generally, access to adjacent land is not prohibited; however, since mobility is the primary function of this facility, access is strictly controlled. Principal arterials include those portions of 192 with at-grade crossings, CR 535, and portions of Western Way, Floridian Place, and Hartzog Road.
- **Minor Arterial** – These roadways are similar to a principal arterial but are designed to serve lower volumes of traffic, as well as provide connections to the principal arterial system. These facilities have a lower degree of mobility than principal arterials. These type of roadways allow greater access to adjacent land than the previous two facilities. Buena Vista Drive, Hotel Plaza Boulevard, and portions of Hartzog Road and Western Way fall into this classification.

- **Collector** – This classification serves internal traffic circulation within the District and connects areas to the arterial system. Land access is a function of this type of facility, in addition to local traffic movement. Bonnet Creek Parkway, Epcot Resorts Boulevard, Victory Way, Road B-1 (Griffin Road), and Flagler Avenue are designated as Collectors.

The functional classification of public roadways in the District is shown in Table 3-1 and in Figure 3-3.

### **Administrative Classification**

The administrative classification of public roads in the District relates to the agency that operates and maintains the facility. Four different governmental entities maintain roadways within the District. The three administrative classifications are State (Florida Department of Transportation), Orange County, Osceola County, and the RCID. State-maintained facilities include I-4, US 192, and SR 429. Orange County maintains CR 535 north of I-4 and Osceola County maintains a portion of Osceola Parkway. RCID-maintained facilities include the following:

#### Principal Arterial (Limited Access) / Principal Arterial

- World Drive – from north of US 192 to just north of the Magic Kingdom Toll Plaza and from north of the I-4 to south of the US 192
- Epcot Center Drive – from north of the I-4 to World Drive
- Osceola Parkway – from west of I-4 interchange to the Reedy Creek Bridge west of Buena Vista Drive
- Western Way – from west of SR 429 to Buena Vista Drive
- Floridian Place – From North Service Area to Maple Road (World Drive North Phase 2 and 3 will complete the connection to Southbound World Drive.

#### Minor Arterials

- Buena Vista Drive – from CR 535 to south of Osceola Parkway
- Hotel Plaza Boulevard – from CR 535 to Buena Vista Drive
- Western Way – from Hartzog Road to Flagler Avenue
- Hartzog Road – from CR 545 (Avalon Road) to Western Way

#### Collectors

- Bonnet Creek Parkway – from Buena Vista Drive to Vista Way
- EPCOT Resorts Boulevard – from Buena Vista Drive to Buena Vista Drive
- Victory Way – from Osceola Parkway to Buena Vista Drive
- Road B-1 (Griffin Road) – from World Drive to US 192
- Flagler Avenue – from Western Way to Hartzog Road

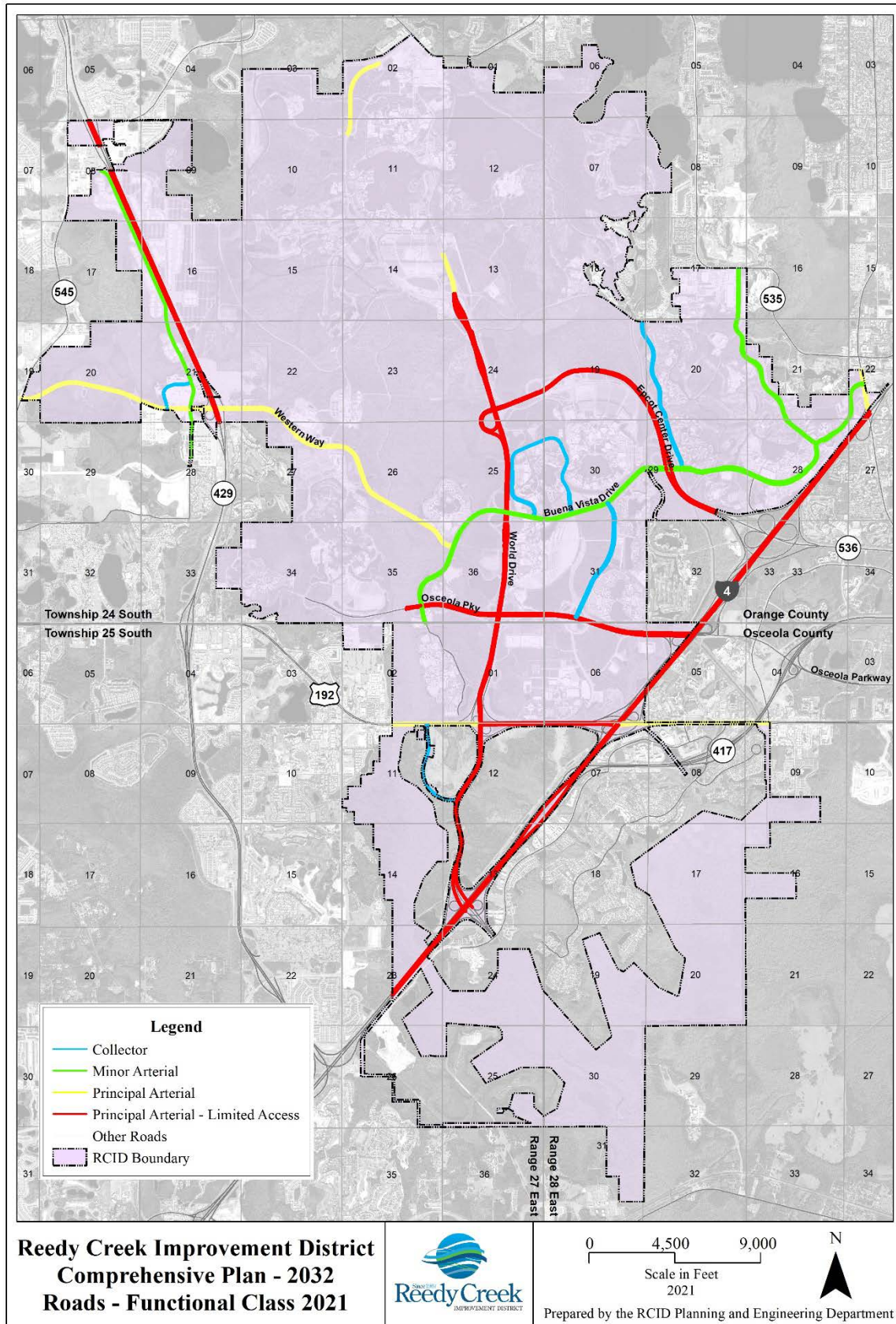
The administrative classification of each roadway is presented in Table 3-1 and in Figure 3-4. The administrative classification is presented in terms of the governmental entity that is responsible for maintaining each segment of public roadway within the District.

**Table 3-1: Existing Roadway Inventory**

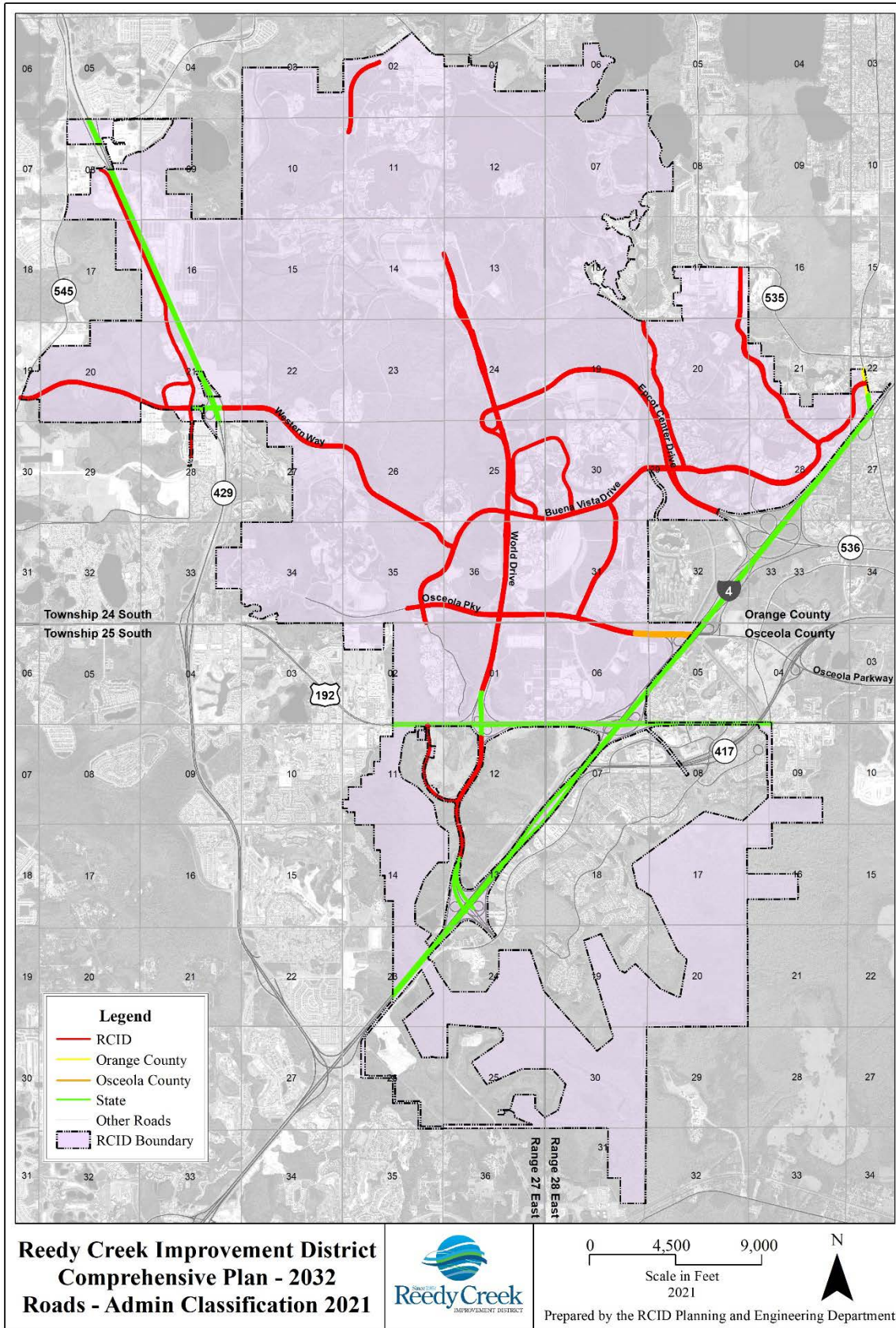
Roadway / Segment	Length (miles)	Number of Lanes	Maintenance Responsibility	Functional Classification
<b>Interstate 4</b>				
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	1.19	6LD	State	PA (Ltd. Access)
World Dr to US 192 (+ Auxiliary Lanes)	2.35	6LD	State	PA (Ltd. Access)
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	1.17	6LD	State	PA (Ltd. Access)
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	1.25	6LD	State	PA (Ltd. Access)
Epcot Center Dr to SR 535 (+ Auxiliary Lanes)	1.56	6LD	State	PA (Ltd. Access)
<b>US 192</b>				
East RCID Boundary to I-4	1.53	6LD	State	Principal Arterial
I-4 to World Dr	1.36	6LD	State	PA (Ltd. Access)
World Dr to Road Griffin Rd	0.53	6LD	State	Principal Arterial
Road Griffin Rd to West RCID Boundary	0.34	6LD	State	Principal Arterial
<b>SR 429</b>				
South of Western Way	0.14	4LD	State	PA (Ltd. Access)
North of Western Way	2.87	4LD	State	PA (Ltd. Access)
<b>CR 535 (15% increase for constrained fac.)</b>				
I-4 to Hotel Plaza Blvd	0.26	6LD	Orange County	Principal Arterial
Hotel Plaza Blvd to Apopka-Vineland Rd	0.14	6LD	Orange County	Principal Arterial
<b>World Drive</b>				
I-4 to Road B-1 (Griffin Rd)	1.15	4LD	RCID	PA (Ltd. Access)
Road B-1 (Griffin Rd) to US 192	0.82	4LD	RCID	PA (Ltd. Access)
US 192 to Osceola Pkwy	1.10	6LD	RCID	PA (Ltd. Access)
Osceola Pkwy to Buena Vista Dr	1.04	6LD	RCID	PA (Ltd. Access)
Buena Vista Dr to Epcot Center Dr	1.05	6LD	RCID	PA (Ltd. Access)
Epcot Center Dr to Vista Blvd	1.44	6LD	RCID	PA (Ltd. Access)
Vista Blvd to WDW Ownership	0.41	4LD	RCID	PA (Ltd. Access)
<b>Epcot Center Drive</b>				
I-4 to Buena Vista Dr (+ Auxiliary Lanes)	0.68	6LD	RCID	PA (Ltd. Access))
Buena Vista Dr to World Dr	2.93	6LD	RCID	PA (Ltd. Access)
<b>Osceola Parkway</b>				
I-4 to Victory Way	1.15	6LD	RCID	PA (Ltd. Access)
Victory Way to World Dr (+ Auxiliary Lanes)	0.75	6LD	RCID	PA (Ltd. Access)
World Dr to Buena Vista Dr	0.96	4LD	RCID	PA (Ltd. Access)
<b>Western Way</b>				
Buena Vista Dr to Bear Island Rd	1.69	4LD	RCID	Principal Arterial
Bear Island Rd to SR 429	1.53	4LD	RCID	Principal Arterial
Hartzog Rd to Flagler Ave	0.23	4LD	RCID	Minor Arterial
Flagler Ave to CR 545 (Avalon Rd)	1.54	4LD	RCID	Principal Arterial
<b>Hartzog Road</b>				
SR 545 to Flagler Ave	2.13	2L	RCID	Minor Arterial
Flagler Ave to Western Way	0.45	4LD	RCID	Minor Arterial
Western Way to RCID Boundary	0.47	4LD	RCID	Minor Arterial
<b>Buena Vista Drive</b>				
CR 535 to Disney Vacation Club Way	1.23	4LD	RCID	Minor Arterial
Disney Vacation Club Way to Hotel Plaza Blvd	0.85	4LD	RCID	Minor Arterial
Hotel Plaza Blvd to Bus Loop Entrance	0.42	6LD	RCID	Minor Arterial
Bus Loop Entrance to Typhoon Lagoon	1.09	8LD	RCID	Minor Arterial
Typhoon Lagoon to Bonnet Creek Pkwy	0.56	6LD	RCID	Minor Arterial
Bonnet Creek Pkwy to Backstage Lane	0.40	6LD	RCID	Minor Arterial
Backstage Lane to Victory Way	0.48	6LD	RCID	Minor Arterial
Victory Way to Epcot Resorts Blvd East	0.37	6LD	RCID	Minor Arterial
Epcot Resorts Blvd East to Epcot Resorts Blvd West	0.40	6LD	RCID	Minor Arterial
Epcot Resorts Blvd West to World Dr	0.26	6LD	RCID	Minor Arterial
World Dr to Western Way	0.72	4LD	RCID	Minor Arterial
Western Way to Osceola Pkwy	0.90	4LD	RCID	Minor Arterial

<b>Roadway / Segment</b>	<b>Length (miles)</b>	<b>Number of Lanes</b>	<b>Maintenance Responsibility</b>	<b>Functional Classification</b>
<b>Hotel Plaza Boulevard (15% increase for constrained fac.)</b>				
West of CR 535	0.44	4LD	RCID	Minor Arterial
East of Buena Vista Dr	0.40	4LD	RCID	Minor Arterial
<b>Floridian Place (World Drive North)</b>				
Center Dr to Floridian Way	0.85	4LD	RCID	Principal Arterial
<b>Bonnet Creek Parkway</b>				
Buena Vista Dr to Overpass Rd	0.24	4LD	RCID	Collector
Overpass Rd to Disney Vacation Club Way	0.25	4LD	RCID	Collector
Disney Vacation Club Way to Vista Way	1.04	4LD	RCID	Collector
<b>EPCOT Resorts Boulevard</b>				
Buena Vista Dr to Water Bridge	0.21	4LD	RCID	Collector
Water Bridge to Dolphin Hotel	1.20	2L	RCID	Collector
Dolphin Hotel to Buena Vista Dr	0.60	4LD	RCID	Collector
<b>Victory Way</b>				
Buena Vista Dr TO Osceola Pkwy	1.25	4LD	RCID	Collector
<b>Road B-1 (Griffin Road)</b>				
World Dr to US 192	0.98	2L	RCID	Collector
<b>Flagler Avenue</b>				
Western Way to Hartzog Rd	0.49	2LD	RCID	Collector

**Figure 3-3: RCID Roadways – Existing Functional Classification**



**Figure 3-4: RCID Roadways – Existing Administrative Classification**



## Roadway Classification Inventory

The length of each of the classified roadways within the RCID is presented in Table 3-1. The length is presented in terms of centerline miles. Table 3-2 provides a summary of the centerline miles of public roadways within the RCID by functional and administrative classification. As indicated in Table 3-2, two-thirds of the classified roadways within the District are maintained by the RCID. The other third are maintained by the State, with small segments of CR 535 and Osceola Parkway maintained by Orange or Osceola Counties.

**Table 3-2: Existing Roadway Classification Inventory**

Jurisdiction	Centerline Miles of RCID Functionally Classified CMS Roadways				
	Principal Arterial (Limited Access) (%)	Principal Arterial (%)	Minor Arterial (%)	Collector (%)	Total (%)
State	12.9	2.8	0.0	0.0	15.7
Counties	0.5	0.3	0.0	0.0	0.8
RCID	11.5	8.6	9.6	5.0	34.7
<b>Total</b>	<b>24.9</b>	<b>11.7</b>	<b>9.6</b>	<b>5.0</b>	<b>51.2</b>

As shown in Table 3-2, 33 percent of the District's existing public roadway centerline miles are limited access roadways, thus providing substantial mobility within the RCID. Roughly 46 percent of the limited access facilities are maintained by the District, with 52 percent maintained by the State.

## EXISTING TRAFFIC CHARACTERISTICS

### Traffic Volumes

Roadway traffic counts for the Element for most segments were collected during July and August 2019 although count collection by FDOT in 2019 were also used. Summer months represent the typical peak season for the tourist-related uses within the District. During these periods, the theme parks are typically at or near capacity, as are the hotels. Table 3-3 presents the daily and p.m. peak-hour traffic volumes for all classified roadways.

**Table 3-3: 2019 Traffic Counts**

Roadway / Segment	# of Lanes	LOS Std.	LOS Capacity	AADT	Peak Hr/ Peak Dir	Deficiency
<b>Interstate 4</b>						
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	6LD	D	6,780	89,000	4,822	Over Capacity Over Capacity
World Dr to US 192 (+ Auxiliary Lanes)	6LD	D	6,780	92,000	5,139	
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	6LD	D	6,780	133,500	6,560	
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	6LD	D	6,780	149,500	7,077	
Epcot Center Dr to CR 535 (+ Auxiliary Lanes)	8LD	D	6,780	179,500	8,498	
<b>US 192</b>						
East RCID Boundary to I-4	6LD	D	3,020	61,000	2,921	Over Capacity
I-4 to World Dr	6LD	D	5,780	65,500	3,136	
World Dr to Road Griffin Rd	6LD	D	3,020	78,500	3,759	
Road Griffin Rd to West RCID Boundary	6LD	D	3,020	65,500	3,136	
<b>SR 429</b>						
South of Western Way	4LD	D	3,890	31,400	1,543	
North of Western Way	4LD	D	3,890	38,000	1,867	
<b>CR 535 (15% increase for constrained facility)</b>						
I-4 to Hotel Plaza Blvd	6LD	E	3,282	61,500	2,911	
Hotel Plaza Blvd to Apopka-Vineland Rd	6LD	E	3,282	55,972	2,023	
<b>World Drive</b>						
I-4 to Road B-1 (Griffin Rd)	4LD	E	4,230	15,200	728	
Road B-1 (Griffin Rd) to US 192	4LD	E	4,230	25,500	1,221	
US 192 to Osceola Pkwy	6LD	E	6,340	36,497	1,814	
Osceola Pkwy to Buena Vista Dr	6LD	E	6,340	34,431	1,764	
Buena Vista Dr to EPCOT Center Dr	6LD	E	6,340	49,834	2,389	
Epcot Center Dr to Vista Blvd	6LD	E	6,340	65,882	3,980	
Vista Blvd to WDW Ownership	4LD	E	4,230	37,771	1,410	
<b>Epcot Center Drive</b>						
I-4 to Buena Vista Dr	6LD	E	7,130	71,149	3,182	
Buena Vista Dr to World Dr	6LD	E	6,130	36,347	1,145	
<b>Osceola Parkway</b>						
I-4 to Victory Way	6LD	E	6,340	33,203	1,578	
Victory Way to World Dr	4LD	E	5,230	38,700	1,344	
World Dr to Buena Vista Dr	4LD	E	4,230	36,660	1,288	
<b>Western Way</b>						
Buena Vista Dr to Bear Island Rd	4LD	E	1,890	26,251	1,945	Over Capacity
Bear Island Rd to SR 429	4LD	E	1,890	23,731	1,744	
Hartzog Rd to Flagler Ave	4LD	E	1,607	4,150	289	
Flagler Ave to CR 545 (Avalon Rd)		E	1,890	4,150	289	
<b>Hartzog Road</b>						
SR 545 to Flagler Ave	2L	E	1,610	5,074	405	
Flagler Ave to Western Way	4LD	E	1,607	5,074	405	
Western Way to South RCID Boundary	4LD	E	1,607	4,282	201	
<b>Buena Vista Drive</b>						
CR 535 to Disney Vacation Club Way	4LD	E	1,800	9,194	809	
Disney Vacation Club Way to Hotel Plaza Blvd	4LD	E	1,800	10,928	546	
Hotel Plaza Blvd to Bus Loop Entrance	6LD	E	2,419	34,415	2,281	
Bus Loop Entrance to Typhoon Lagoon	8LD	E	3,232	39,875	2,527	
Typhoon Lagoon to Bonnet Creek Pkwy	6LD	E	3,232	47,547	2,444	
Bonnet Creek Pkwy to Backstage Lane	6LD	E	2,854	56,160	2,449	
Backstage Lane to Victory Way	6LD	E	2,854	47,524	1,805	
Victory Way to Epcot Resorts Blvd East	6LD	E	2,854	44,016	1,733	
Epcot Resorts Blvd East to Epcot Resorts Blvd West	6LD	E	2,854	42,890	1,701	
Epcot Resorts Blvd West to World Dr	6LD	E	2,854	43,781	1,717	
World Dr to Western Way	4LD	E	1,890	32,030	1,710	
Western Way to Osceola Pkwy	4LD	E	1,890	21,754	1,164	



Roadway / Segment	# of Lanes	LOS Std.	LOS Capacity	AADT	Peak Hr/ Peak Dir	Deficiency
<b>Hotel Plaza Boulevard</b> (15% increase for constrained fac.)						
West of CR 535	4LD	E	1,760	38,139	1,643	
East of Buena Vista Dr	4LD	E	1,760	28,604	1,381	
<b>Floridian Place</b>						
Center Dr to Floridian Way	4LD	E	1,800	6,663	376	
<b>Bonnet Creek Parkway</b>						
Buena Vista Dr to Overpass Rd	4LD	E	1,800	11,912	446	
Overpass Rd to Disney Vacation Club Way	4LD	E	1,800	14,322	678	
Disney Vacation Club Way Dr to Vista Way	4LD	E	1,890	10,509	570	
<b>EPCOT Resorts Boulevard</b>						
Buena Vista Dr to Water Bridge	4LD	E	1,530	13,866	589	
Water Bridge to Dolphin Hotel	2L	E	720	4,119	195	
Dolphin Hotel to Buena Vista Dr	4LD	E	1,530	12,377	581	
<b>Victory Way</b>						
Osceola Pkwy to Buena Vista Dr	4LD	E	1,890	20,222	639	
<b>Road B-1 (Griffin Road)</b>						
World Dr to US 192	2L	E	792	3,600	172	
<b>Flagler Avenue</b>						
Western Way to Flamingo Crossings	2LD	E	832	Open 2021	Open 2021	

Note: From January 2020 FDOT Quality/Level of Service Handbook Tables

## TRAFFIC VOLUMES/LEVEL OF SERVICE

### Level of Service Standards

Level of service (LOS) standards are qualitative measures that describe the operational conditions of a roadway. These standards indicate the quality of traffic flow as measured by driver satisfaction. A number of factors influence the level of service of a roadway. These include: speed and travel time, traffic interruptions, the maneuverability of a facility, safety, driver comfort, convenience, and operating costs. These five designations range from "B" to "F", and are defined in Table 3-4.

**Table 3-4: Level of Service (LOS) Definitions**

LOS Designation	Description
<b>B</b>	Denotes a steady flow of traffic, with only slight delays in vehicle movement and speed. All queues clear in a single signal cycle.
<b>C</b>	Denotes a reasonably steady, high-volume flow of traffic, with some limitations on movement and speed, and occasional backups on critical intersection approaches.
<b>D</b>	Denotes the level where traffic nears an unacceptable flow. Intersections still function, but short queues develop and cars may have to wait through one signal cycle during short peaks.
<b>E</b>	Denotes traffic characterized by slow movement and frequent (although momentary) stoppages. This type of congestion is considered severe, but is not uncommon at peak traffic hours, with frequent stopping, long-standing queues, and blocked intersections.
<b>F</b>	Denotes unsatisfactory stop-and-go traffic characterized by "traffic jams" and stoppages of long duration. Vehicles at signalized intersections usually have to wait through one or more signal cycles, and "upstream" intersections may be blocked by long queues.

As part of the Comprehensive Planning process, local governments are required to set level of service standards for public facilities within their jurisdiction. The LOS standards set for the public roadways within the RCID are as follows:

State Roads (I-4, US 192 & SR 429)	<b>LOS D</b>
All Other Roads	<b>LOS E</b>

The adopted level of service standard for each individual roadway segment is presented in Table 3-5.

### **Capacity**

To adequately evaluate existing transportation conditions, roadway capacity must be determined for each facility to be analyzed. The capacity of a roadway is defined as the maximum number of vehicles that have a reasonable expectation of passing over or through a given roadway segment or intersection under prevailing roadway and traffic conditions. For this analysis, capacities for all roadways were obtained from the FDOT 2020 Quality/Level of Service Handbook unless otherwise indicated. All the classified roadways identified in Figure 3-3 are within the Orlando Urban Area Boundary. As such, the level of service standards established for these roadways and the associated roadway capacities reflect an urban area condition.

Table 3-5 presents the peak-hour directional volumes associated with each LOS threshold (“B” to “E”) for the classified roadways in the RCID. Those service volumes shown in boldface indicate the maximum capacity for each roadway segment. The maximum capacity is the service volume associated with the adopted LOS standard. The existing number of lanes of each classified public roadway within the RCID is also included in Figure 3-5.

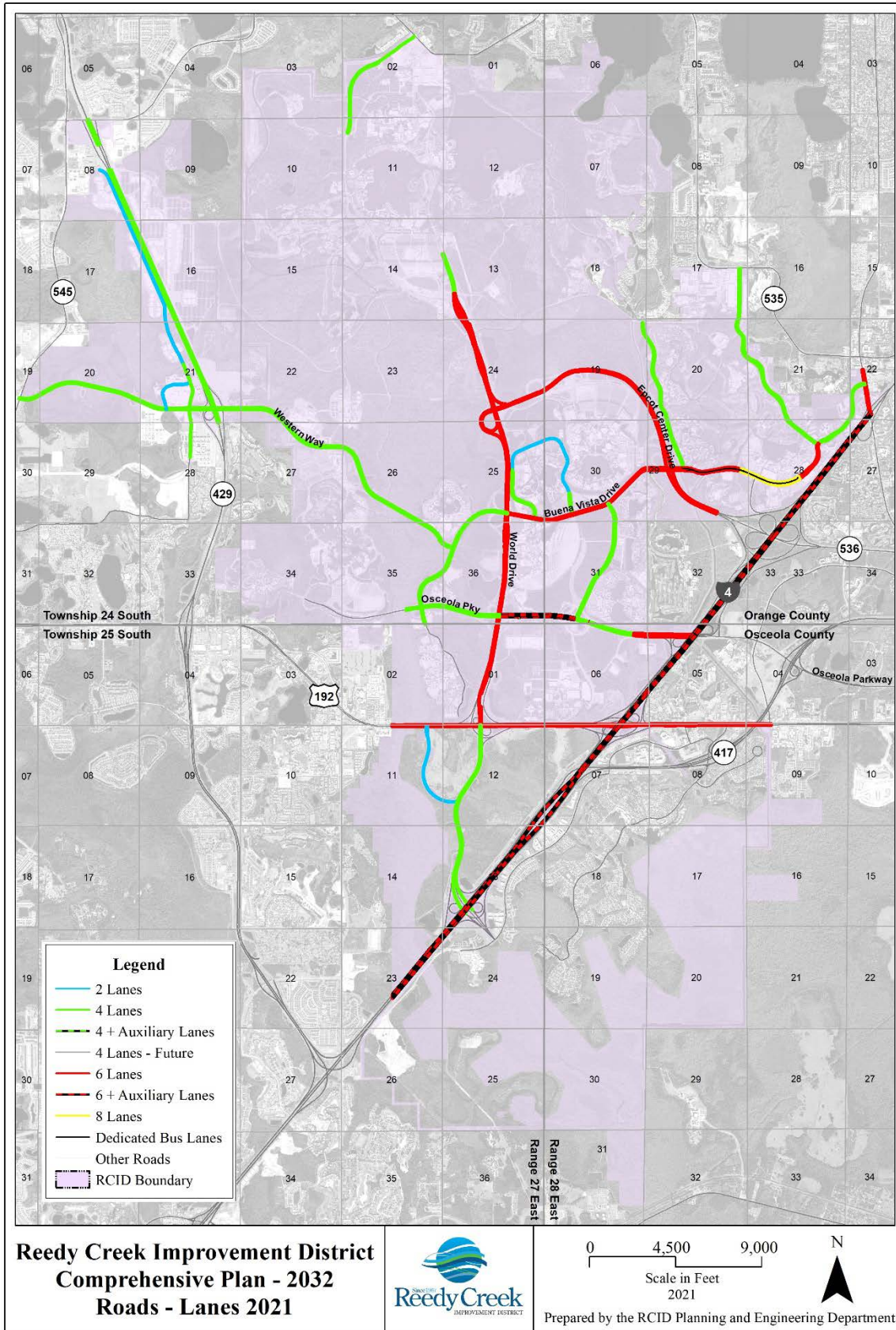
**Table 3-5: Existing Peak Hour / Peak Directional Level of Service Capacities**

Roadway / Segment	LOS Std.	# of Lanes	Level of Service Capacities			
			B	C	D	E
<b>Interstate 4</b>						
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
World Dr to US 192 (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
Epcot Center Dr to SR 535 (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
<b>US 192</b>						
East RCID Boundary to I-4	D	6LD		2,940	<b>3,020</b>	-
I-4 to World Dr	D	6LD	3,410	4,650	<b>5,780</b>	6,340
World Dr to Griffin Rd	D	6LD	-	2,940	<b>3,020</b>	-
Road Griffin Rd to West RCID Boundary	D	6LD	-	2,940	<b>3,020</b>	-
<b>SR 429</b>						
South of Western Way	D	4LD	2,270	3,100	<b>3,890</b>	4,230
North of Western Way	D	4LD	2,270	3,100	<b>3,890</b>	4,230
<b>CR 535 (15% increase for constrained facility)</b>						
I-4 to Hotel Plaza Blvd	E	6LD	-	3,195	3,282	-
Hotel Plaza Blvd to Apopka-Vineland Rd	E	6LD	-	3,195	3,282	-
<b>World Drive</b>						
I-4 to Road B-1 (Griffin Rd)	E	4LD	2,270	3,100	3,890	<b>4,230</b>
Road B-1 (Griffin Rd) to US 192	E	4LD	2,270	3,100	3,890	<b>4,230</b>
US 192 to Osceola Pkwy	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Osceola Pkwy to Buena Vista Dr	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Buena Vista Dr to EPCOT Center Dr	E	6LD	3,410	4,650	5,780	<b>6,340</b>
EPCOT Center Dr to Vista Blvd	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Vista Blvd to WDW Ownership	E	4LD	2,270	3,100	3,890	<b>4,230</b>
<b>Epcot Center Drive</b>						
I-4 to Buena Vista Dr (+ Auxiliary Lanes)	E	6LD	4,410	5,650	6,780	<b>7,340</b>
Buena Vista Dr to World Dr	E	6LD	3,410	4,650	5,780	<b>6,340</b>
<b>Osceola Parkway</b>						
I-4 to Victory Way	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Victory Way to World Dr (+ Auxiliary Lanes)	E	4LD	3,270	4,100	4,890	<b>5,230</b>
World Dr to Buena Vista Dr	E	4LD	2,270	3,100	3,890	<b>4,230</b>
<b>Western Way</b>						
Buena Vista Dr to Bear Island Rd	E	4LD	-	1,805	1,890	-
Bear Island Rd to SR 429	E	4LD	-	1,805	1,890	-
Hartzog Rd to Flagler Ave	E	4LD	-	690	1,540	<b>1,607</b>
Flagler Ave to CR 545 (Avalon Rd)	E	4LD	-	1,805	1,890	-
<b>Hartzog Road</b>						
SR 545 to Flagler Ave	E	2L	580	890	1,200	<b>1,610</b>
Flagler Ave to Western Way	E	4LD	-	690	1,540	<b>1,607</b>
Western Way to South RCID Boundary	E	4LD	-	690	1,540	<b>1,607</b>
<b>Buena Vista Drive</b>						
CR 535 to Disney Vacation Club Way	E	4LD	-	1,719	1,800	-
Disney Vacation Club Way to Hotel Plaza Blvd	E	4LD	-	1,719	1,800	-
Hotel Plaza Blvd to Bus Loop Entrance	E	6LD	-	1,106	2,381	<b>2,419</b>
Bus Loop Entrance to Typhoon Lagoon	E	8LD	-	1,521	3,204	<b>3,232</b>
Typhoon Lagoon to Bonnet Creek Pkwy	E	6LD	-	2,778	2,854	-
Bonnet Creek Pkwy to Backstage Lane (*)	E	6LD	-	2,778	2,854	-
Backstage Lane to Victory Way (*)	E	6LD	-	2,778	2,854	-
Victory Way to Epcot Resorts Blvd East (*)	E	6LD	-	2,778	2,854	-
Epcot Resorts Blvd East to Epcot Resorts Blvd West (*)	E	6LD	-	2,778	2,854	-
Epcot Resorts Blvd West to World Dr (*)	E	6LD	-	2,778	2,854	-
World Dr to Western Way	E	4LD	-	1,805	1,890	-
Western Way to Osceola Pkwy	E	4LD	-	1,805	1,890	-

Roadway / Segment	LOS Std.	# of Lanes	Level of Service Capacities			
			B	C	D	E
<b>Hotel Plaza Boulevard</b> (15% increase for constrained fac.)						
West of CR 535	E	4LD	-	756	1,687	<b>1,760</b>
East of Buena Vista Dr	E	4LD	-	756	1,687	<b>1,760</b>
<b>Floridian Place (Center Dr Phase 2)</b>						
Center Dr to Floridian Way	E	4LD	-	1,719	1,800	-
<b>Bonnet Creek Parkway</b>						
Buena Vista Dr to Overpass Rd	E	4LD	-	1,719	1,800	-
Overpass Rd to Disney Vacation Club Way	E	4LD	-	1,719	1,800	-
Disney Vacation Club Way Dr to Vista Way	E	4LD	-	1,804	1,890	-
<b>EPCOT Resorts Boulevard</b>						
Buena Vista Dr to Water Bridge	E	4LD	-	657	1,467	<b>1,530</b>
Water Bridge to Dolphin Hotel	E	2L	-	333	675	<b>720</b>
Dolphin Hotel to Buena Vista Dr	E	4LD	-	657	1,467	<b>1,530</b>
<b>Victory Way</b>						
Osceola Pkwy to Buena Vista Dr	E	4LD	-	1,805	1,890	-
<b>Road B-1 (Griffin Road)</b>						
World Dr to US 192	E	2L	-	747	792	
<b>Flagler Avenue</b> (Divided)						
Western Way to Flamingo Crossings	E	2LD	-	775	832	-

Note: From 2020 FDOT Quality/Level of Service Handbook Tables

Figure 3-5: RCID Roadways – Number of Lanes



## Operating Level of Service Analysis

The existing operating condition of the classified roadways within the RCID was evaluated by comparing the p.m. peak hour traffic counts for each roadway segment with the associated level of service capacities established for each roadway segment. Table 3-6 presents the level of service for classified roadways within the RCID based on the 2019 traffic counts. This table includes the adopted LOS standard, number of lanes, adopted LOS capacity, the p.m. peak-hour peak-direction traffic volume, and level of service for each roadway segment. The p.m. peak hour directional LOS (based on the traffic counts) for each roadway segment is displayed in Figure 3-6.

Based on the 2019 traffic counts all but one RCID maintained roadways are operating at or above their adopted level of service standard. The Buena Vista Drive to Bear Island Road segment of Western Way is over capacity. Improvements to the intersection at Western Way and Buena Vista Drive are in the planning stages to correct this deficiency. There are no plans at this stage to add additional lanes since the limiting factor is the intersection. In addition to this section of Western Way, the following State maintained roadways are operating below their adopted LOS standard:

- Interstate 4 from Osceola Parkway to Epcot Center Drive
- Interstate 4 from Epcot Center Drive to SR 535
- US 192 from World Drive to Griffin Road.
- US 192 from Griffin Road to West RCID Boundary

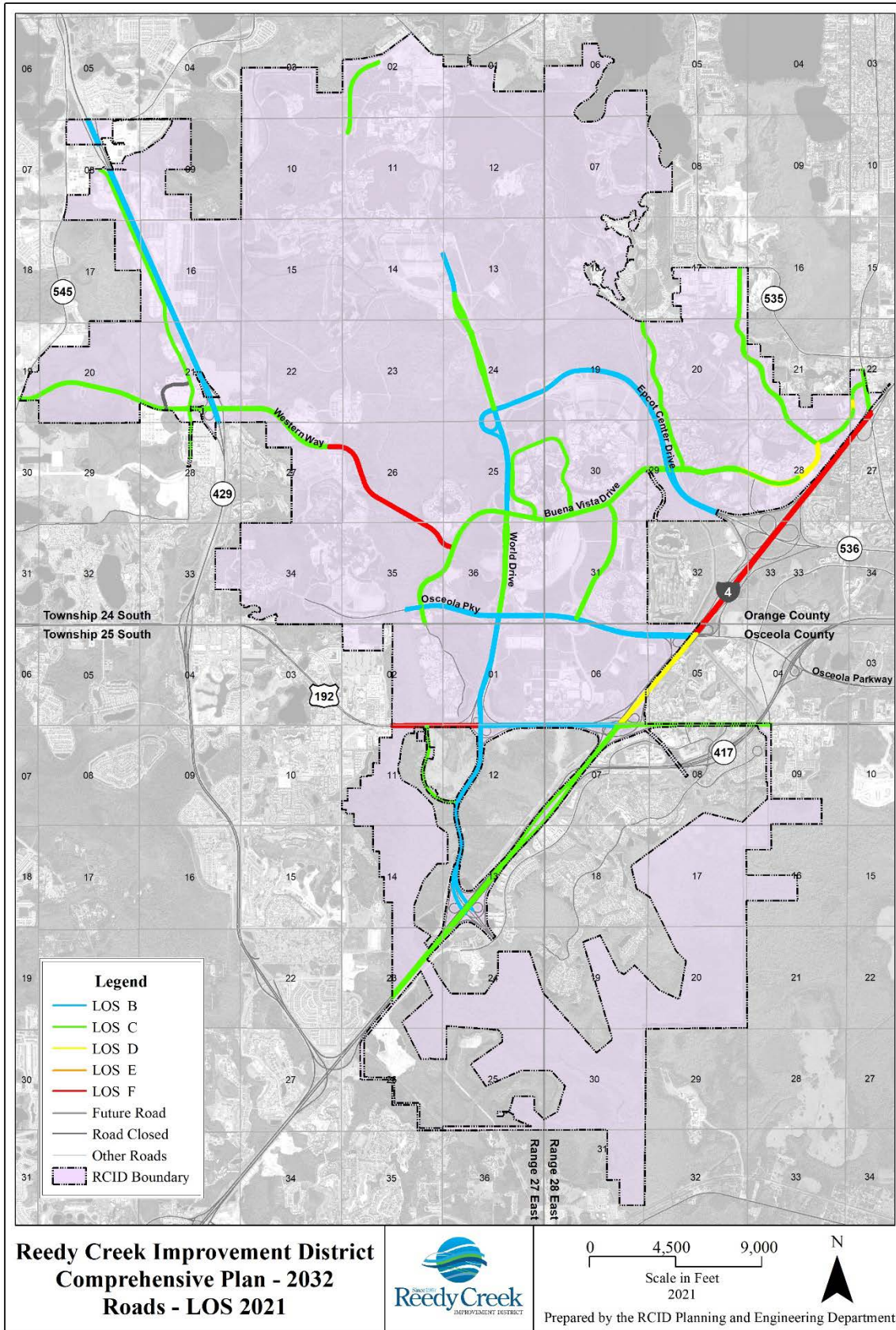
**Table 3-6: RCID Roadways – Existing Level of Service (2019 Traffic Counts)**

Roadway / Segment	LOS Std.	# of Lanes	LOS Capacity	PM Peak Hour / Direction	
				Volume	LOS
<b>Interstate 4</b>					
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	D	6LD	6,780	4,822	C
World Dr to US 192 (+ Auxiliary Lanes)	D	6LD	6,780	5,139	C
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	D	6LD	6,780	6,560	D
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	D	6LD	6,780	7,077	F
Epcot Center Dr to CR 535 (+ Auxiliary Lanes)	D	6LD	6,780	8,498	F
<b>US 192</b>					
East RCID Boundary to I-4	D	6LD	3,020	2,921	C
I-4 to World Dr	D	6LD	5,780	3,136	B
World Dr to Griffin Rd	D	6LD	3,020	3,759	F
Road Griffin Rd to West RCID Boundary	D	6LD	3,020	3,136	F
<b>SR 429</b>					
South of Western Way	D	4LD	3,890	1,543	B
North of Western Way	D	4LD	3,890	1,867	B
<b>CR 535 (15% increase for constrained fac.)</b>					
I-4 to Hotel Plaza Blvd	E	6LD	3,282	2,911	C
Hotel Plaza Blvd to Apopka-Vineland Rd	E	6LD	3,282	2,023	C
<b>World Drive</b>					
I-4 to Griffin Rd	E	4LD	4,230	728	B
Griffin Rd to US 192	E	4LD	4,230	1,221	B
US 192 to Osceola Pkwy	E	6LD	6,340	1,814	B
Osceola Pkwy to Buena Vista Dr	E	6LD	6,340	1,764	B
Buena Vista Dr to Epcot Center Dr	E	6LD	6,340	2,389	B
Epcot Center Dr to Vista Blvd	E	6LD	6,340	3,413	C
Vista Blvd to WDW Ownership	E	4LD	4,230	1,410	B
<b>Epcot Center Drive</b>					
I-4 to Buena Vista Dr (+ Auxiliary Lanes)	E	6LD	7,130	3,182	B
Buena Vista Dr to World Dr*	E	6LD	6,130	1,145	B
<b>Osceola Parkway</b>					
I-4 to Victory Way	E	6LD	6,340	1,578	B
Victory Way to World Dr (+ Auxiliary Lanes)	E	4LD	5,230	1,344	B
World Dr to Buena Vista Dr	E	4LD	4,230	1,288	B
<b>Western Way</b>					
Buena Vista Dr to Bear Island Rd	E	4LD	1,890	1,945	F
Bear Island Rd to SR 429	E	4LD	1,890	1,744	C
Hartzog Rd to Flagler Ave	E	4LD	1,607	289	C
Flagler Ave to CR 545 (Avalon Rd)	E	4LD	1,890	289	C
<b>Hartzog Road</b>					
SR 545 to Flagler Ave	E	2L	1,610	405	C
Flagler Ave to Western Way	E	4LD	1,607	405	C
Western Way to South RCID Boundary	E	4LD	1,607	201	C
<b>Buena Vista Drive</b>					
CR 535 to Disney Vacation Club Way	E	4LD	1,800	809	C
Disney Vacation Club Way to Hotel Plaza Blvd	E	4LD	1,800	546	C
Hotel Plaza Blvd to Bus Loop Entrance	E	6LD	2,419	2,281	D
Bus Loop Entrance to Typhoon Lagoon	E	8LD	3,232	2,527	D
Typhoon Lagoon to Bonnet Creek Pkwy	E	6LD	2,854	2,444	C
Bonnet Creek Pkwy to Backstage Lane	E	6LD	2,854	2,449	C
Backstage Lane to Victory Way	E	6LD	2,854	1,805	C
Victory Way to Epcot Resorts Blvd East	E	6LD	2,854	1,733	C
Epcot Resorts Blvd East to Epcot Resorts Blvd West	E	6LD	2,854	1,701	C
Epcot Resorts Blvd West to World Dr	E	6LD	2,854	1,717	C
World Dr to Western Way	E	4LD	1,890	1,770	C
Western Way to Osceola Pkwy	E	4LD	1,890	1,164	C

Roadway / Segment	LOS Std.	# of Lanes	LOS Capacity	PM Peak Hour / Direction	
				Volume	LOS
<b>Hotel Plaza Boulevard</b> (15% increase for constrained fac.)					
West of CR 535	E	4LD	1,760	1,643	C
East of Buena Vista Dr	E	4LD	1,760	1,381	C
<b>Floridian Place</b>					
Center Dr to Floridian Way			1,800	376	C
<b>Bonnet Creek Parkway</b>					
Buena Vista Dr to Overpass Rd	E	4LD	1,800	446	C
Overpass Rd to Disney Vacation Club Way	E	4LD	1,800	678	C
Disney Vacation Club Way Dr to Vista Way	E	4LD	1,890	570	C
<b>EPCOT Resorts Boulevard</b>					
Buena Vista Dr to Water Bridge	E	4LD	1,530	589	C
Water Bridge to Dolphin Hotel	E	2L	720	195	C
Dolphin Hotel to Buena Vista Dr	E	4LD	1,530	581	C
<b>Victory Way</b>					
Osceola Pkwy to Buena Vista Dr	E	4LD	1,890	639	C
<b>(Griffin Road)</b>					
World Dr to US 192	E	2L	792	172	C
<b>Flagler Avenue</b>					
Western Way to Hartzog Rd	E	2LD	832	Open 2021	N/A



Figure 3-6: RCID Roadways – Existing Level of Service (2019 Traffic Counts)



## 2010-2019 IMPROVEMENTS

Recently completed improvements to public roadways within the District include:

### **Background**

The District has expanded its ownership of a number of roads previously owned by the District's major landowner and has embarked upon an extensive roadway improvement project to meet ongoing growth and future expansion plans, and to address changing regional housing and travel patterns. All projects have been and will be funded by RCID Bond Funds.

***Buena Vista Drive Corridor*** – The redevelopment of the Disney Springs (formerly Downtown Disney) retail, dining, and entertainment district and the construction of three District owned and operated parking garages necessitated significant improvements to Buena Vista Drive (BVD) which was combined with an effort to redirect traffic from C.R. 535 and the District's Hotel Plaza Blvd. (both constrained facilities). The District obtained approval from FHWA and FDOT to construct a slip ramp off of I-4's existing S.R. 536 exit ramp to provide direct access to the BVD commercial corridor that includes Disney Springs, thus eliminating the need for traffic to exit I-4 at C.R. 535 and to then make a left onto Hotel Plaza Blvd. to reach BVD.

The slip ramp was an integral component of the BVD Corridor improvement project. The western most parking garage can be directly accessed from the slip ramp by a bridge over BVD that eliminated one at grade intersection. BVD from Hotel Plaza Blvd. to Bonnet Creek Parkway was reconstructed with 6 to 8 POV lanes and dedicated bi-directional bus only lanes. The project is designed to expedite the peak traffic volumes exiting Disney Springs as well as service the high volume of bus traffic serving Disney Springs.

***Epcot Outbound/Epcot Center Drive/Buena Vista Drive Interchange*** – This project was also in part driven by the redevelopment of Disney Springs in addition to ongoing growth and a desire to improve traffic flow and safety. Capacity improvements to Epcot Center Drive at BVD include two southbound lanes and one northbound lane and a complete reconfiguration of the exit ramps to BVD. Capacity improvements to BVD at Epcot Center Drive include one additional through lane in each direction and infrastructure capacity to add future dedicated bi-directional bus only lanes. Two ramps to Epcot Center Drive were reconfigured and a third ramp was added.

***World Drive Extension*** – The District ownership of World Drive was extended north of Epcot Center Drive to facilitate the design and construction of new ramps and flyovers to separate World Drive traffic from traffic bound for the Magic Kingdom parking lot and to provide direct access for traffic heading south to World Drive from the eastern side of the Magic Kingdom resort area. The project also eliminated a problematic intersection at World Drive and Vista Blvd, thus improving traffic flow and safety, and providing additional capacity.

***Disney Hollywood Studios (DHS) Ramp*** – Previously traffic accessed DHS from BVD and World Drive. The World Drive entrance primarily served traffic traveling east on I-4 and North from U.S. 192 with nearly all of the traffic originating within the District along with the traffic traveling west on I-4 utilizing the entrance on BVD. This new ramp provided access from Osceola Parkway; new signage along I-4 redirect traffic to this ramp thus alleviating traffic congestion on BVD. This ramp was converted to employees only with the completion of the Osceola Parkway/Victory Way Interchange.

***Osceola Parkway/World Drive Interchange*** – This project is the western most segment of a larger project that included capacity improvements to a section of Osceola Parkway and a new interchange at Osceola

Parkway and Victory Way. The scope of this project included new ramps in the southeast and northeast quadrant and widening of the westbound Osceola Parkway bridge over World Drive. With this project a signal and a left turn movement to the existing northbound World Drive ramp was eliminated.

**Osceola Parkway/Victory Way Interchange** – The scope of this project includes a new grade separated interchange at Osceola Parkway and Victory Way, additional through and auxiliary lanes, and a series of ramps providing access to the new DHS guest entrance and exit. Upon completion of this project access to DHS from BVD will be limited to buses and taxis.

**Western Way Extension** – This project extended Western Way from Flagler Ave. to C.R. 545 (Avalon Road) and provide access for employees traveling from the four corners area and the roadway infrastructure necessary for development of land in the area west of Flamingo Crossings.

**Floridian Place (Phase 1)**– During Phase 1 the District constructed a new four lane divided rural extension of Center Drive to Floridian Way just south of Fire Station #3. This project enables employees and local residents of the Horizon West development to bypass the North Service Area support complex and the Magic Kingdom back of house area. The four lane divided rural roadway will be extended to World Drive during Phase 2 and 3 of this construction project.

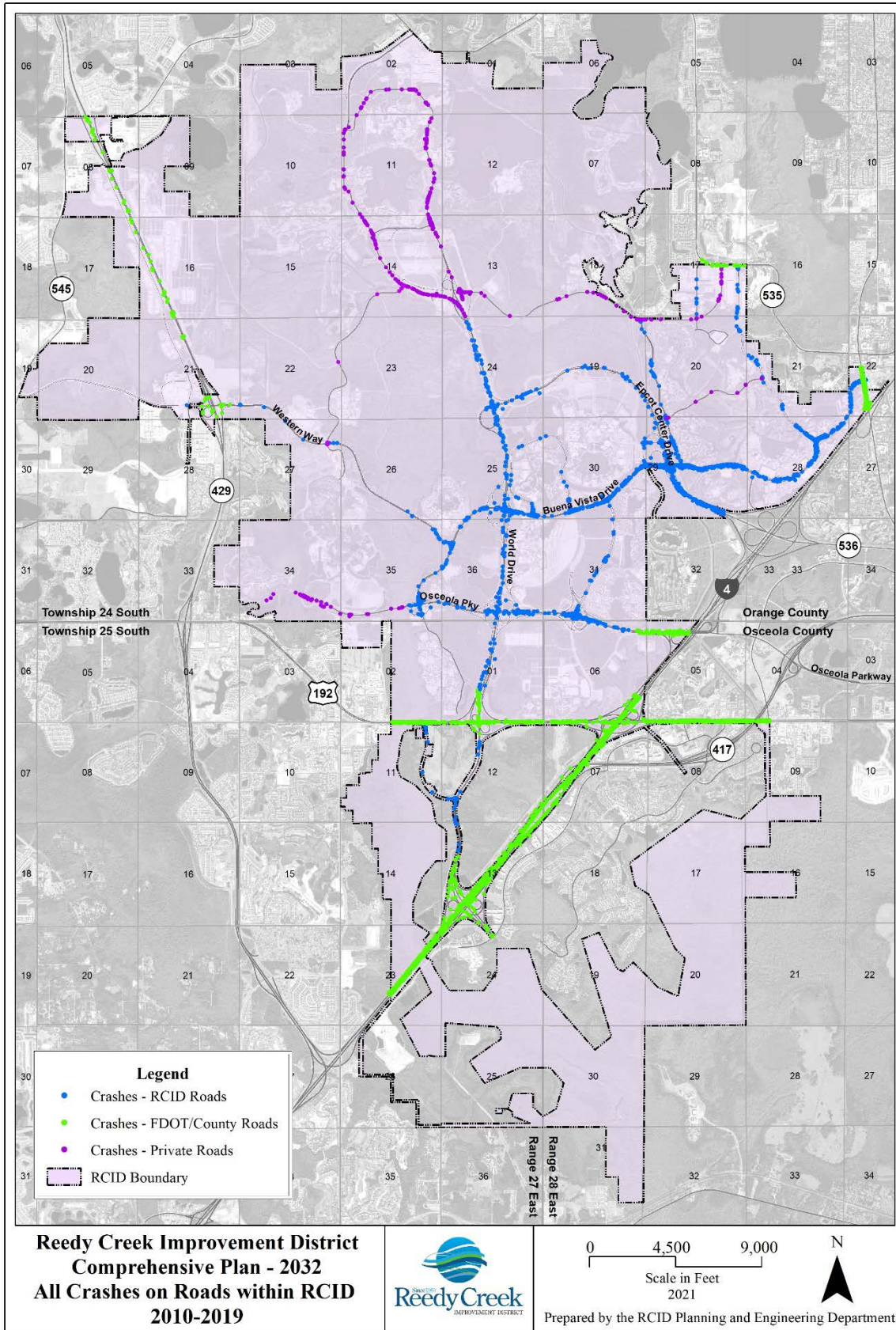
**Improvements to Hartzog Road at RCID / Orange County Jurisdictional Boundary**– This RCID owned portion of Hartzog Road has been reconfigured to four lanes to align with planned improvement to the Orange County portion of Hartzog Road. Developer improvements to accommodate increased left turns were also made.

## ACCIDENT ANALYSIS

Accident information for 2010 through 2019 was obtained from the Florida Signal Four Analytics interactive, web-based system and is summarized below. The following analysis excludes Florida Department of Transportation and Orange and Osceola County roads as well as any accidents occurring within parking lots and roads internal to resorts, theme parks, and back of house service area.

Signal Four Analytics data included 6,785 accidents within the District from 2010 through 2019: 3,221 on state and county roads, 2,911 on RCID roads, and 653 on private roads. Figure 3-7 shows the distribution of these accidents.

Figure 3-7: District Roadways – Distribution of Accidents: 2010 through 2019

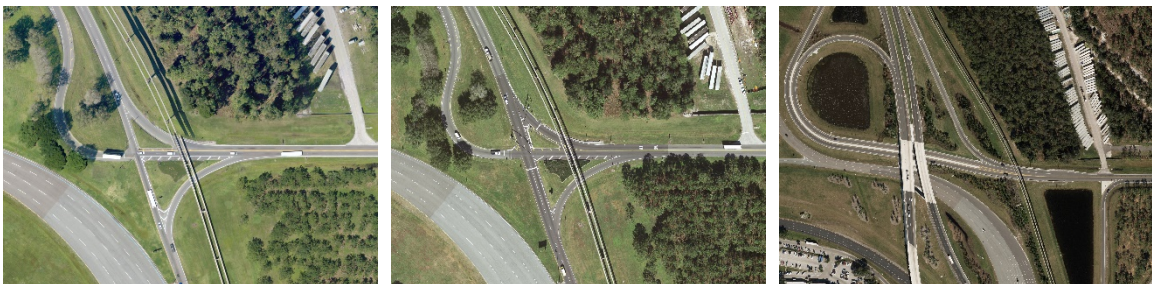


A review of intersections with over 50 accidents provided the following breakdown for the typical types of accidents.

Intersection	Angle	Bike Ped	Left Turn	Off Road	Rear End	Right Turn	Side-swipe	Other	Total
Backstage & Overpass	1	0	17	7	14	0	4	7	50
Backstage & Chelonia	4	0	6	3	38	4	17	6	78
BVD/Bonnet & Creek	9	0	13	4	102	5	24	26	183
BVD & Hotel Plaza	3	2	12	7	81	1	68	26	200
Hotel Plaza & SR 535	5	1	2	1	56	6	39	15	125
Osceola & Victory	18	0	42	2	51	1	13	21	148
BVD & Western	0	1	32	5	15	0	1	6	60
BVD & World Ramps	1	0	43	0	5	0	2	1	52
BVD & DHS BOH	1	0	7	0	35	3	10	11	67
Bonnet Creek & DVC	1	0	9	0	3	1	3	1	18
Vista Jug Handle	36	0	2	2	11	0	10	9	71
<b>Total</b>	<b>79</b>	<b>4</b>	<b>185</b>	<b>31</b>	<b>411</b>	<b>21</b>	<b>191</b>	<b>130</b>	<b>1,052</b>

The District has implemented countermeasures to improve safety at the following intersections:

- Left turn collisions were the leading type of collision at intersections with protected-permissive left turn signals. The BVD & Western Way and BVD & World Drive Ramp intersections have been changed to protected only left turns. The Osceola Parkway & Victory Way intersection was under construction when 37 of the 42 left turn accidents occurred. There have been just two left turn accidents since the intersection began operating in its final configuration. The Backstage Lane & Overpass Road and Bonnet Creek Parkway & Disney Vacation Club Way intersections remain protected-permissive left turns and are being evaluated to determine the feasibility of changing to protected only left turns.
- The Vista jug handle was reconfigured several times during the last ten years to reduce angle collisions. Initially the northbound traffic had the right-of-way and eastbound traffic had a stop sign. In 2016 an additional northbound lane and a traffic signal were added. The final configuration was constructed during the World Drive Extension project which rerouted northbound World Drive to the west and over the Magic Kingdom toll plaza and parking lot entrance and added a direct eastbound ramp to Vista Blvd. Westbound Vista Blvd also gained direct access to southbound World Drive.



A review of fatalities and accidents involving bicycles and pedestrians (Figure 3-8) did not identify any roadway deficiencies that need addressing to prevent similar accidents from happening in the future. Each of the four fatalities resulted from negligence on the part of one of the drivers. Three of the five bicycle accidents occurred on limited access roadways on which Florida Statute 316.091 prohibits the operation of “any bicycle, motor-driven cycle ... or any other vehicle which by its design or condition is incompatible with the safe and expedient movement of traffic.” Two of the pedestrians were struck in crosswalks by vehicles that did not yield the right-of-way and one pedestrian was a safety guard wearing reflective gear assisting with another accident. The other nine pedestrians were deemed at-fault or partially at-fault.

## RCID Roads

### • Fatalities – 3

- **2013 Epcot Center Drive** – Mears bus driver failed to avoid an extremely slow-moving vehicle. Report stated Mears bus driver operated vehicle in careless or negligent manner and was inattentive. The driver of the slow-moving vehicle was pronounced deceased at the hospital.
- **2014 World Drive** – Driver of vehicle 1 failed to observe convoy of three large construction vehicles and a pick-up with warning flashers slowing to pull off onto the median and collided with the rear of the pick-up. Report stated driver of vehicle 1 operated vehicle in careless or negligent manner and was pronounced brain dead the day following the accident.
- **2018 Bonnet Creek Parkway at Overpass Road** – Driver of vehicle 1 entered the path of travel of vehicle 2 and vehicle two collided with the driver side of vehicle 1. A traffic homicide investigation was initiated. Driver of vehicle one was pronounced deceased on scene.

### • Bicycle – 5

- **2010 Griffin Road** – Bicyclist rear ended by motorized vehicle – hit and run.
- **2010 World Drive (Limited Access)** – Bicyclist rear ended by motorized vehicle – hit and run.
- **2019 World Drive (Limited Access)** – The crash occurred at 9:40 PM and the motorized vehicle driver stated he did not see the bicyclist when his right front side mirror side swiped the left side of the bicyclist. The report stated the black bicycle was equipped with front and rear lights; however, due to their small size may not have been observed by the driver.
- **2019 Buena Vista Drive (BVD) at Western Way** – Bicyclist making a left turn in front of motorized vehicle.
- **2019 Epcot Center Drive on Ramp (Limited Access)** – One of three bicyclist was rear-ended when driver failed to maintain a safe distance. It was determined both contributed to the collision.

### • Pedestrian – 7

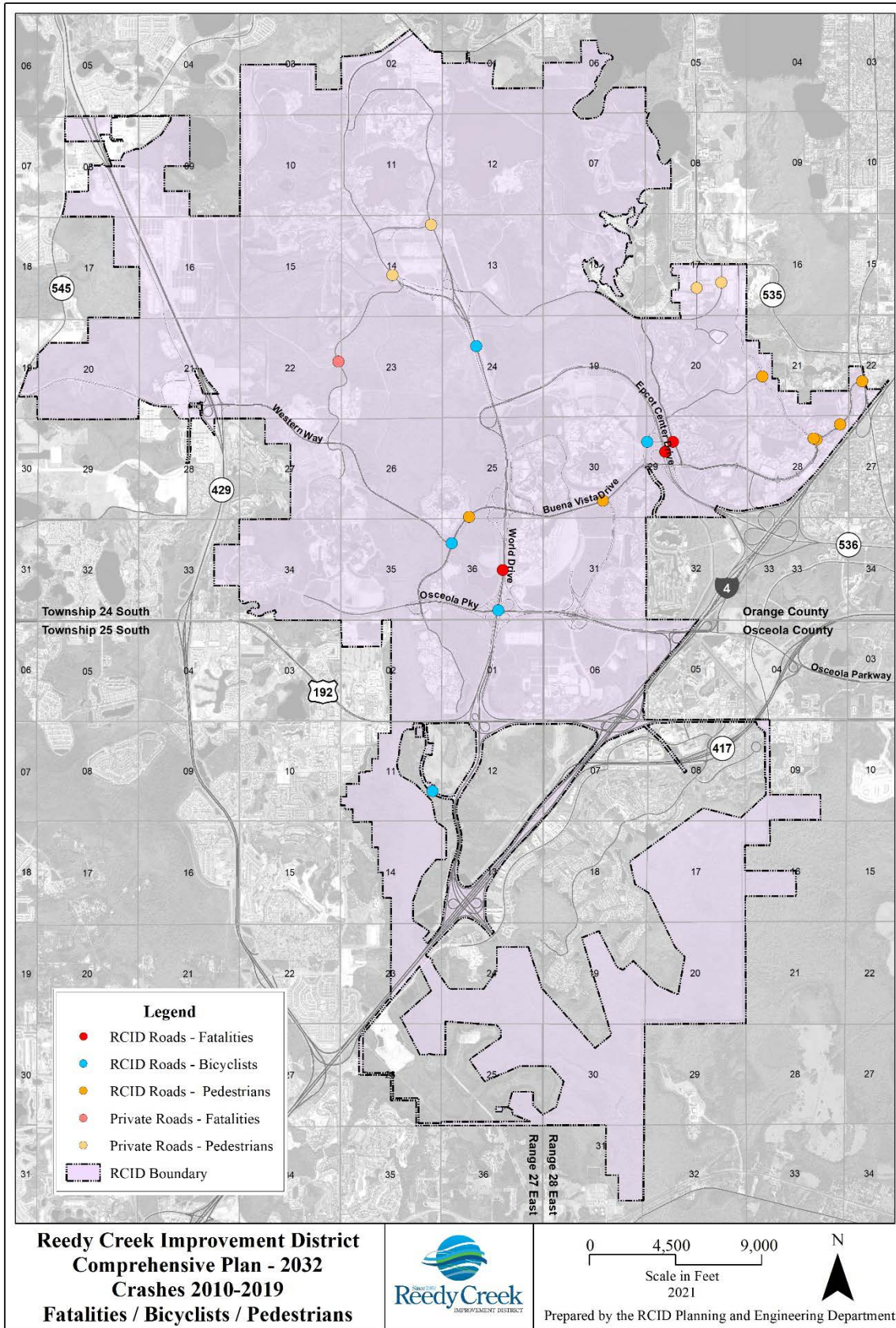
- **2011 Buena Vista Drive north of Coronado Springs** – Pedestrian jogged across road from east to west into path of bus. Pedestrian failed to yield right-of-way.
- **2014 Buena Vista Drive north of Hotel Plaza Blvd** – Pedestrian failed to obey traffic signs and signals. Driver swerved, but the pedestrian was struck by the right-side mirror.
- **2015 Buena Vista Drive north of DVC Way** – Pedestrian has been advised to get out of the road by an Orange County Deputy prior to being struck by the right-side mirror of a vehicle. The officer was unable to determine fault as there was no evidence the vehicle left the road and the pedestrian claimed to have been walking in the grass when struck.
- **2016 Buena Vista Drive** – Pedestrian left the sidewalk to cross the street and struck the right side of vehicle. Pedestrian was charge with leaving place of safety and entering path of vehicle.

- **2017 Hotel Plaza Blvd** – Pedestrian was crossing in a non-designated crossing area into the path of vehicle. Pedestrian continued on to work after providing information to driver.
- **2018 Hotel Plaza Blvd** – Pedestrian was attempting to cross the intersection on a non-marked crosswalk area and failed to obey a traffic control device.
- **2018 Hotel Plaza Blvd** – Driver of vehicle failed to yield right-of-way to pedestrian in the crosswalk while making a left turn.

#### **Private Roads**

- **Fatalities – 1**
  - **2012 Bear Island Road** – Northbound driver of vehicle 1 crossed over the double yellow divider lines and travelled into path of southbound medium/heavy truck. Driver of vehicle 1 was pronounced deceased on scene.
- **Bicycle – 0**
- **Pedestrian – 4**
  - **2013 Seven Seas Drive** – Vehicle and pedestrian entered the same space at the same time.
  - **2016 Vista Blvd** – Driver of vehicle failed to yield right-of-way to pedestrian in the crosswalk. Driver was issued a citation.
  - **2017 Floridian Way** – Drive of Vehicle failed to slow and yield to a security guard wearing reflective gear crossing the road to assist with another crash.
  - **2017 Bonnet Creek Road north of Live Oak Drive** – Pedestrians was struck when gate on passing vehicle swung open. Pedestrian did not think driver of vehicle, who did not stop, was aware of the incident.

**Figure 3-8: Locations of Fatalities, Bicycle, and Pedestrian Accidents: 2010 through 2019**





## PEDESTRIAN MOBILITY

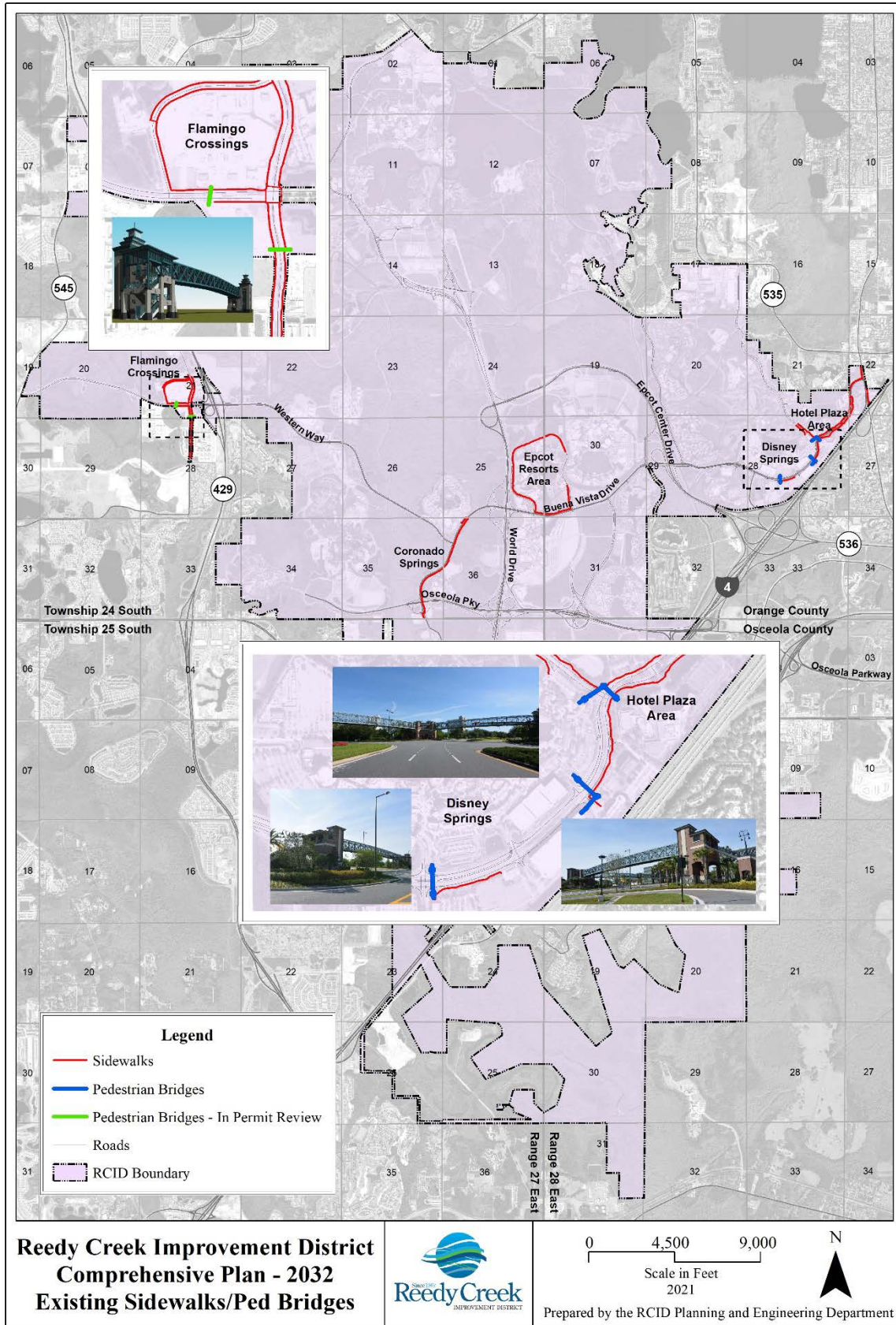
Public walkways (sidewalks) are located along a number of public roadways within the District. These roadways are all lower order facilities located within the major pedestrian activity centers in the District. These major pedestrian activity centers include the Hotel Plaza Boulevard Corridor, Disney Springs, the Epcot Resort Boulevard area, and the Flamingo Crossings planned development. The Disney Springs Retail, Dining and Entertainment complex is served by three pedestrian bridges that provide safe pedestrian access across Buena Vista Drive for employees working at Partners Credit Union, the Casting Center, and Team Disney, for guests staying at the Disney Springs Resorts, and for guests and employees parking in the Grapefruit Garage or surface parking lots across from Disney Springs. Pedestrian Bridges are also being added to the Flamingo Crossings planned development to eliminate at grade crossings at locations on Hartzog Road and Western Way to facilitate safe pedestrian access from two college housing developments to the Flamingo Town Center commercial development. All pedestrian bridges provide access via elevators rather than accessible ramps. Extensive privately owned pedestrian facilities exist throughout the District. An inventory of the public sidewalks within the District is provided in Table 3-7.

**Table 3-7: Inventory of Existing Public Sidewalks and Pedestrian Bridges**

Adjacent Roadway	Limits	Side of the Road
CR 535	Hotel Plaza Blvd to Apopka-Vineland	West
	I-4 to Apopka-Vineland	East
Hotel Plaza Boulevard	CR 535 to Buena Vista Drive	Both
Buena Vista Drive	Hilton – Buena Vista Palace to Hilton to SunTrust to Casting Center to Hess to Team Disney Three Pedestrian Bridges cross Buena Vista Drive – 1) at Buena Vista Drive/Hotel Plaza Blvd intersection, 2) at Grapefruit Garage and the Casting Center and 3) at the Cast Service Building/Team Disney intersection	East and South (portion of North across from Team Disney)
	Saratoga Springs Resort to The Marketplace	West
	Coronado Springs to Blizzard Beach to MacDonald's to All-Star	East (portion of West at Coronado Springs)
Epcot Resorts Boulevard	Boardwalk Resort to Buena Vista Drive	West
	Yacht and Beach Club Resort to Swan and Dolphin Resorts	South and East (portion of West at Yacht and Beach)
Flamingo Crossings Planned Development (Western Way, Hartzog Road and Flagler Ave.	This is planned as a pedestrian oriented tourist commercial district with sidewalks along all roadways. Two Pedestrian Brides 1) across Hartzog Road south of Western Way and 2) across Western Way west of Hartzog Road	Both

The locations of public sidewalks and pedestrian bridges within the District are shown in Figure 3-9.

**Figure 3-9: Existing Roadways with Sidewalks and Pedestrian Bridges**



## **TRANSIT SERVICE**

The RCID is serviced by both public and private transit providers. The region's public transit provider, LYNX, operates nine routes that service the RCID. The private transit system within the District is a comprehensive intermodal transit network that provides links to various resorts and attractions within the RCID.

### **Public Transit**

Currently, the Central Florida Regional Transportation Authority (LYNX) provides public transit service to the District. LYNX currently operates nine routes as shown in Table 3-8 with proposed changes effective December 2021 shown in Table 3-9.

The 2045 Metropolitan Transportation Plan identified four key strategies to “optimize use of public and private mobility services to support complete end-to-end trips:”

1. Continue commitment to transit safety and security;
2. Optimize LYNX and SunRail route structure, hours, and frequency to support access to jobs and services;
3. Expand first/last mile options; and
4. Improve coordination and operations of transportation disadvantaged (paratransit) service.

The proposed December 2021 changes to the various Disney area links will enable LYNX and Disney Transportation to work together to implement strategies 2 and 3 within the RCID. LYNX will simplify its operation and provide quicker, more direct routes to the District, including a new direct route from the Ocoee/Pine Hills area. This will enable LYNX to more efficiently utilize its fleet of buses to cover its 2,500 square miles while taking advantage of the extensive Disney Transportation system to shuttle employees to and from their end destinations. Disney Transportation will, for the most part, utilize its existing transportation system with the exception of early morning arrivals when it will utilize three dedicated buses to transport employees to their end destination. LYNX will continue to provide transit service for eight end destination for the Downtown Disney Resort Area and the Magic Kingdom Resort Area. The Orlando Sentinel's December 2019 “Laborland” special report drew attention to the reality of tourist sector workers spending as much as 3 hours to travel 15 miles by bus. By eliminating stops within the District, LYNX can shift resources to offer quicker, more direct service to the RCID from downtown Orlando and the Ocoee/West Orange county area, thus improving the transit experience for many LYNX riders, which could helping to increase ridership.

RCID and LYNX execute an annual Bus Service Agreement under which RCID reimburses LYNX for the operating costs for three routes: Link 50, Link 56, and Link 306.

**Table 3-8: Existing LYNX Service**

Link/Route	Hours of Operation	Headway
<b>Link 50</b> – with service from LYNX Central Station (Downtown Orlando) to Sea World, the Magic Kingdom Transportation and Ticket Center (TTC) including stops along Hotel Plaza Blvd, the intersection of Hotel Plaza Blvd & Buena Vista Drive, and at the Disney Springs Westside Transfer Center (Disney Springs).	Monday thru Sunday & Holidays 5:15 AM to 12:55 AM	20-30 Minutes
<b>Link 56</b> – with service from Kissimmee Intermodal Station to Disney University including stops at Plaza Del Sol, US 192/Old Town, and Transportation and Ticket Center	Monday thru Sunday & Holidays 5:30 AM to 12:08 AM	30 Minutes
<b>Link 300</b> – with service from Lynx Central Station to Disney Springs including stops along Hotel Plaza Blvd and the intersection of Hotel Plaza Blvd & Buena Vista Drive and on Palm Pkwy and SR 535	Monday thru Sunday & Holidays 6:30 AM to 7:19 AM (To) 5:15 PM to 5:59 PM (From)	1 AM and 1 PM Trip Only
<b>Link 301</b> – with service from Silver Star Rd & Hiawasse Rd to Disney’s Animal Kingdom including stops at Silver Star Rd & Pine Hills Rd, Colonia Drive & Pine Hills Rd, Kirkman Rd & Raleigh St, Disney Springs, Epcot Cast Entrance, Riviera Resort, Pop Century Resort Cast Building, All Star Resort, and Animal Kingdom Lodge	Monday thru Sunday & Holidays 6:04 AM to 7:43 AM (To) 2:20 PM to 4:12 PM (To) 4:18 PM to 6:28 PM (From)	1 AM and 2 PM Trips Only
<b>Link 302</b> – with service from Rosemont Super Stop to Disney’s Polynesian Resort including stops at North Ln & Pine Hills Rd, Silver Star Rd & Pine Hills Rd, Mercy Drive & Princeton St, Old Winter Garden Rd & Ivey Ln, Kirkman Rd & Raleigh St, Disney Springs, Fort Wilderness, Wilderness Lodge, Contemporary Resort, and Disney University	Monday thru Sunday & Holidays 5:48 AM to 7:47 AM (To) 2:17 PM to 4:05 PM (To) 4:16 PM to 6:33 PM (From)	1 AM and 2 PM Trips Only
<b>Link 303</b> – with service from Colonial Drive and John Young Parkway to Disney’s All-Star Resorts including stops at Washington Shores Super Stop, Vineland Rd & Conroy Rd, Universal Orlando Parking Garage, Disney Springs, the Epcot Resorts Blvd Resorts, Disney’s Hollywood Studios, and Coronado Springs Resort	Monday thru Sunday & Holidays 6:10 AM to 7:25 AM (To) 2:30 PM to 3:45 PM (To)	1 AM and 1 PM Trips Only
<b>Link 304</b> – with service from Orange Blossom Trail and Anderson St to Disney Springs including stops at Rio Grande Ave & Michigan St, Holden Ave & Rio Grand Ave, Rio Grand Ave, & Oak Ridge Rd, International Drive & Oak Ridge Rd, Mandarin Drive & Lake Rd, Disney Springs Westside Transfer Center, Hotel Plaza Blvd and the intersection of Hotel Plaza Blvd & Buena Vista Drive, SR 535 & Meadowbrook Dr, Marriott World Center, and Caribe Royale Resort	Monday thru Sunday & Holidays 6:08 AM to 7:34 AM (To) 2:21 PM to 3:54 PM (To) 4:28 PM to 6:29 PM (From)	1 AM and 2 PM Trips Only
<b>Link 305 (AM only)</b> – with service from Kirkman Rd & Raleigh St to Disney’s All-Star Resorts including stops at Conroy Rd & Vineland Rd, International Drive & Oak Ridge Rd, Mandarin Drive & Sand Lake Rd, Disney Springs and Coronado Springs Resort	Monday thru Sunday & Holidays 6:03 AM to 7:22 AM (To)	1 AM Trip Only
<b>Link 306</b> – with service from Poinciana Walmart Super Stop to Hilton Hotel at Bonnet Creek including stops at Poinciana Sun Rail and the Disney Springs Westside Transfer Center.	Monday thru Sunday & Holidays 6:12 AM to 7:13 AM (To) 5:07 PM to 6:24 PM (From)	1 AM and 1 PM Trip Only

**Table 3-9: Proposed LYNX Service Beginning December 2021**

Link/Route	Hours of Operation	Headway
<b>Link 50 to become Link 350</b> – with service from LYNX Central Station (Downtown Orlando) to Disney Springs including stops at Destination Pkwy Superstop (NEW), Sea World, along Hotel Plaza Blvd, the intersection of Hotel Plaza Blvd & Buena Vista Drive, (discontinues service to Magic Kingdom Transportation and Ticketing Center (TTC)).	Monday thru Sunday & Holidays 5:15 AM to 12:55 AM	30 Minutes
<b>Link 56</b> – with service from Kissimmee Intermodal Station to Disney University including stops at Plaza Del Sol, US 192/Old Town, and Transportation and Ticket Center (UNCHANGED)	Monday thru Sunday & Holidays 5 AM to 12:10 AM daily	30 Minutes
<b>Link 300</b> – direct express service between Lynx Central Station, Disney Springs Westside Transfer Center, and TTC. (Replaces Link 50 service between TTC and Disney Spring.	Monday thru Sunday & Holidays 6:30 AM to 7:19 AM (To) 5:15 PM to 5:59 PM (From)	30 Minutes
<b>Link 301</b> – with service between Pine Hills and Disney Springs. Extend AM route to operate on Conroy Rd to I-4. (Disney Transportation will provide service from Disney Springs to Disney properties and resorts.) AM route change will cover portions of discontinued Link 305.	Monday thru Sunday & Holidays 6:04 AM to 7:43 AM (To) 2:20 PM to 4:12 PM (To) 4:18 PM to 6:28 PM (From)	1 AM and 2 PM Trips Only
<b>Link 302</b> – with service between Rosemont Super Stop and Disney’s Springs. (Disney Transportation will provide service from Disney Springs to Disney properties and resorts.) Service to Fort Wilderness, Contemporary, MK Cast Services, Wilderness Lodge will be provided by new Link 312.	Monday thru Sunday & Holidays 5:48 AM to 7:47 AM (To) 2:17 PM to 4:05 PM (To) 4:16 PM to 6:33 PM (From)	1 AM and 2 PM Trips Only
<b>Link 303</b> – with service between John Young Pkwy/Washington Shores and Disney Springs. (Disney Transportation will provide service from Disney Springs to Disney properties and resorts.)	Monday thru Sunday & Holidays 6:10 AM to 7:25 AM (To) 2:30 PM to 3:45 PM (To)	1 AM and 1 PM Trips Only
<b>Link 304</b> – with service from Orange Blossom Trail and Anderson St to Disney Springs including stops at Rio Grande Ave & Michigan St, Holden Ave & Rio Grand Ave, Rio Grand Ave, & Oak Ridge Rd, International Drive & Oak Ridge Rd, Mandarin Drive & Lake Rd, Disney Springs, Hotel Plaza Blvd and the intersection of Hotel Plaza Blvd & Buena Vista Drive, SR 535 & Meadowbrook Dr, Marriott World Center, and Caribe Royale Resort. AM route will now operate on I-Drive, Municipal, Vanguard, Mandarin, and Sand Lake Rd to I-4 to cover portions of discontinued Link 305.	Monday thru Sunday & Holidays 6:08 AM to 7:34 AM (To) 2:21 PM to 3:54 PM (To) 4:28 PM to 6:29 PM (From)	1 AM and 2 PM Trips Only
<b>Link 305 – DISCONTINUED</b> due to low ridership and availability of alternative services.		
<b>Link 306</b> – with service from Poinciana Walmart Super Stop to Hilton Hotel at Bonnet Creek including stops at Poinciana Sun Rail and the Disney Springs Westside Transfer Center. Route extended to JW Marriott at Bonnet Creek.	Monday thru Sunday & Holidays 6:12 AM to 7:13 AM (To) 5:07 PM to 6:24 PM (From)	1 AM and 1 PM Trip Only
<b>Link 312 NEW ROUTE</b> – with service from West Oaks Mall Superstop and Ocoee to Winter Garden Village, TTC, Disney University, and Disney Springs. Route will also cover portions of Link 302 service to Disney resorts.	Monday thru Sunday AM (To) PM (From)	1 AM and 1 PM Trip Only

## Private Transit

Private landowners within the District have developed a comprehensive multi-modal transit network that links every resort and attraction in the RCID provided at no cost to guests. This network consists of four modes of transportation: bus, monorail, gondola, and watercraft (including ferries and water taxis). In addition, private carriers provide bus service to major destinations outside the District, including the Orlando International Airport and Port Canaveral.

Express and local monorail service is provided between the Ticketing and Transportation Center (TTC) and the Magic Kingdom. The express monorail beam provides direct service between the TTC and the Magic Kingdom, while the local monorail beam provides service to the Contemporary, Polynesian, and Grand Floridian Resorts. In addition, express monorail service is provided between the TTC and Epcot. Average headways for the local beam are 5 minutes, while average headways for the express beam are 3 minutes. Twelve units currently provide monorail service, with each unit providing a seating capacity for 360 passengers. There are about 15 miles of monorail guideway.

Extensive bus service is provided between resorts, attractions, and the TTC. Headways generally vary from 5 to 35 minutes. Presently, there are over 400 buses in the Walt Disney World Transportation Fleet.

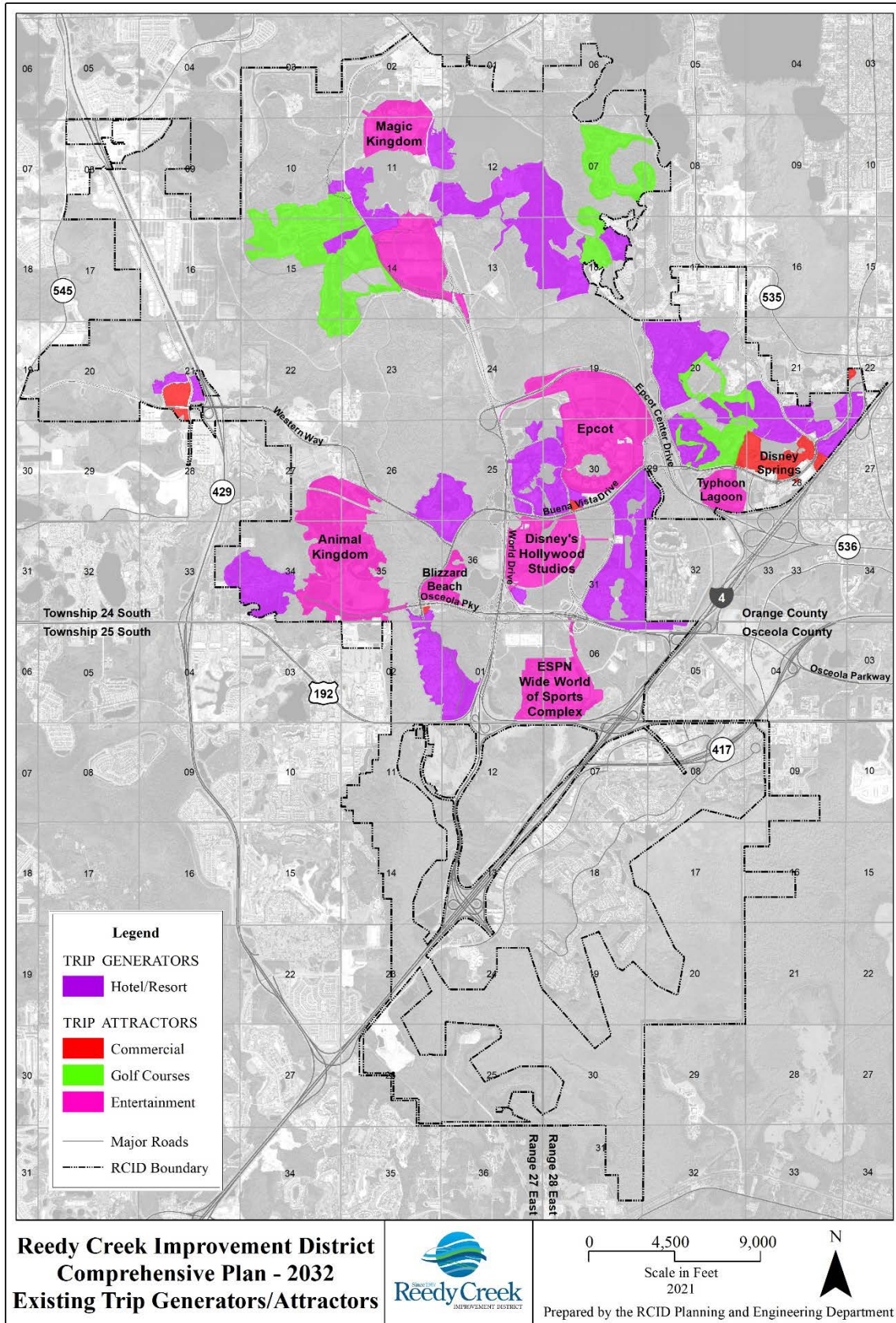
Thirty-five water taxis provide service to three general areas within the Districts. Watercraft service is provided between the Magic Kingdom theme park and all nearby resorts, including the Fort Wilderness Campground area. The Epcot resorts are linked by watercraft service to Epcot and Disney's Hollywood Studios. Watercraft service is also provided between the three venues at Disney Springs and to the Saratoga Springs, Treehouse Villas, and Port Orleans Resorts. Ferryboats, with a 600-person capacity, supplement monorail service by providing transportation to guests from the TTC to Magic Kingdom.

In 2019 the Disney Skyliner gondola system began operation connecting Disney's Hollywood Studios and Epcot with two stations directly serving four resorts. The Epcot station at the International Gateway is within easy walking distance or water taxi service to an additional five resorts.

As a result of the extensive transit system within the RCID, a substantial portion of the District hotel guests visiting the attractions use the private transit service. In addition to the on-site transit network, a large number of private charter companies transport District hotel guests to and from the Orlando International Airport. These transit services immeasurably improve traffic circulation by significantly reducing the vehicle trip demand for roads in the District.

Figure 3-10 graphically depicts the major trip generators and attractors for both automobile and transit trips within the District. For purposes of this analysis, hotel/resort uses are defined as generators and entertainment and commercial uses are defined as attractors, even though each of these uses may have both attractor and generator characteristics. Trip generators and attractors within the District function as attractors for roadways located outside the RCID boundary.

Figure 3-10: Trip Generators and Attractors



## **Transportation Disadvantaged**

Transportation disadvantaged persons within the District are adequately provided for. Transportation disadvantaged persons are defined as the young (under 16), the elderly, and those with physical limitations. The District's transportation infrastructure incorporates a large number of Americans with Disabilities Act (ADA) compliant vehicles and facilities into the overall transportation system to address these needs.

## **AVAILABILITY OF TRANSPORTATION FACILITIES TO SERVE EXISTING LAND USES**

The RCID has excellent access from the regional transportation network. The District is served by the following major facilities: Interstate 4, US 192, SR 536/International Drive, Osceola Parkway, SR/CR 535, SR 429, and the Central Florida GreeneWay (SR 417). Approximately 39 centerline miles of public roads provide access and mobility within the District. The area is also served by an extensive private roadway system that serves the major developments in the District. Land uses in the RCID are also well served by public transit and an extensive private multi-modal transit network. Public and private bus routes serve all on-site hotels and resorts, major attractions, and commercial districts.

## **GROWTH TRENDS AND TRAVEL PATTERNS**

The District's growth during the last twenty years has moderated since the robust growth during the 1980s and 1990s. World events and economic conditions have periodically impacted national and international travel and reduced growth and development opportunities within the District.

### **Residential Development**

The RCID is a non-residential, tourist-oriented community with a permanent population of 43 residents. This population is expected to remain generally constant through the year 2030.

### **General Land Uses**

Based on existing densities the projected total acreage to be developed during the next ten years is 2,033 acres. New development is expected to occur at higher densities and on smaller parcels of land. As it has in the past, the RCID will continue to encourage mixed use development, with multiple uses clustered around existing resort areas. This pattern of growth suggests that for the most part, travel demand patterns within the District will remain as they are today.

The same basic mix of uses as currently exists is projected to continue within the District. The mixed use character of development provides extensive opportunities for guests to remain on-site and take advantage of the extensive private transportation options for traveling around the District and to and from the airport.

# **PROJECTED CONDITIONS ANALYSIS**

The design of a comprehensive transportation system is ultimately based on the traffic anticipated to be generated by existing and new land uses, as well as the distribution of traffic in a specified geographic area. The District's roadway network is comprised of all District maintained roadways, State and county maintained roadways wholly within District boundaries. State maintained roadways located within District



boundaries are Interstate 4 and US 192. CR 535 is the only county maintained roadway located within District boundaries.

## **FUTURE TRAVEL DEMAND**

Based on the development maximums contained in the Future Land Use Element Table 2-1, the projected maximum daily trip generation for the District is as follows:

<b><u>Year</u></b>	<b><u>Vehicles Per Day</u></b>	<b><u>Incremental</u></b>
Base	269,430	
2027	373,000	103,570
2032	422,000	152,570

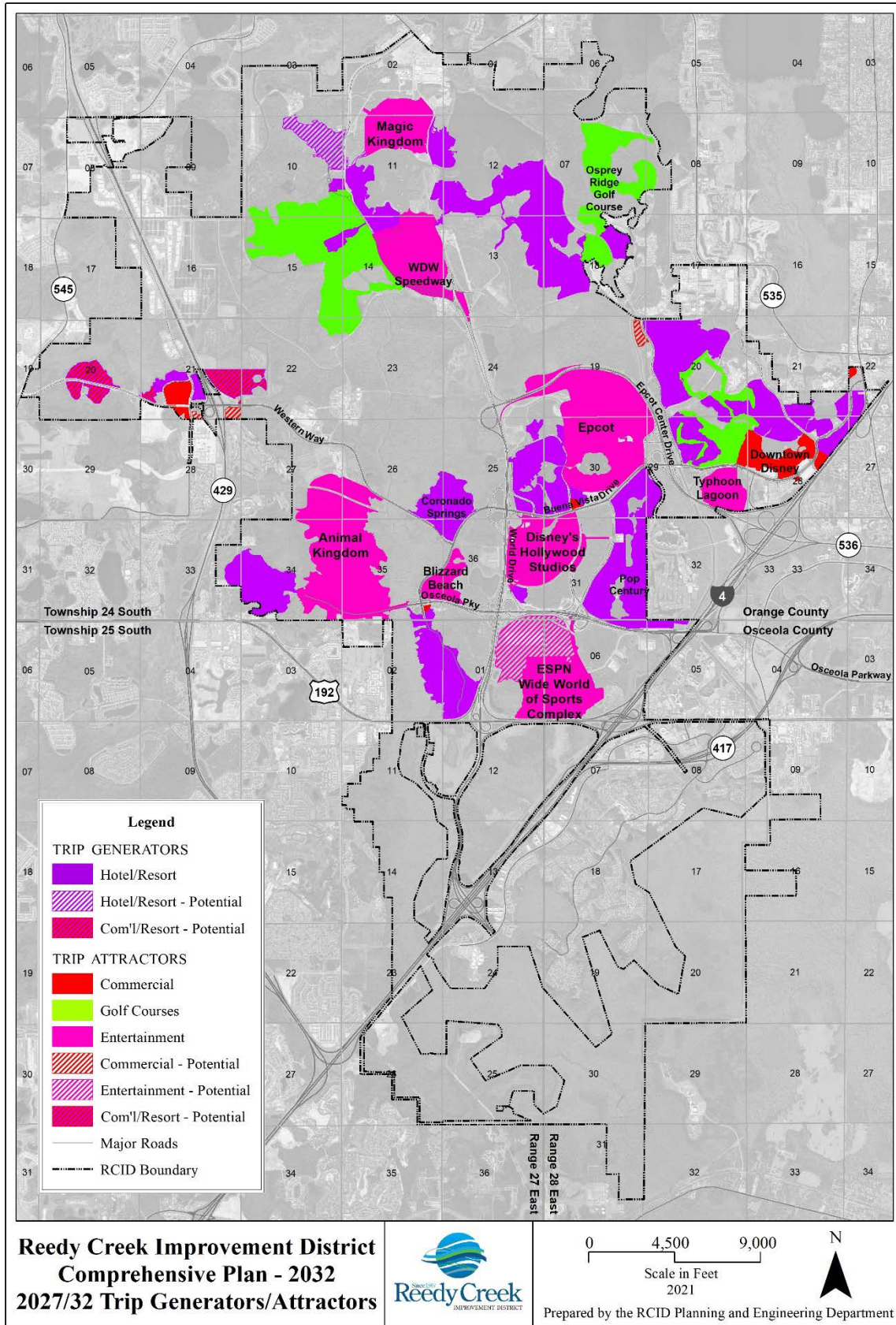
As with the previous Comprehensive Plan update, the base is equal to the sum of the most recent Average Daily Traffic volumes at each of the entrance points into the District. The base in 1998 was 189,767 and 238,015 in 2018. Development during the last 10 years was less than allowed for in the Maximum Development Table 2-1 for 1010 through 2020. This is very likely to also be the case for the 2022 through 2032 planning period.

Figure 3-11 shows the projected 2022-2032 Trip Generators and Attractors. The most significant difference between this exhibit and the one from the previous Comprehensive Plan update is the proposed development at the Western Way and SR 429 interchange, i.e., the Flamingo Crossings tourist commercial planned development. Most of the land associated with the Flamingo Crossings development was annexed into the District in 2005 in anticipation of the completion of SR 429 and Western Way. Most of the other areas anticipated for development during the 2022/2032 planning periods are similar to those shown as future generators and attractors in the previous Comprehensive Plan update. The mix of development also remains relatively unchanged.

The District eliminated transportation concurrency in 2016 and typically requests a traffic study only when daily peak hour traffic volumes exceed 120 vehicles per hour. The traffic study is used to determine if there are any intersection or turn lane improvements required by the development project.

The District and its major landowner actively engage in ongoing roadway master planning, thus anticipating needed roadway improvements to meet future development.

Figure 3-11: 2027/2032 Trip Generators and Attractors



## 2027 ROAD NETWORK

### Programmed and Planned Improvements

Programmed roadway improvements continue the expansion of the District's ownership of a number of roads previously owned by the District's major landowner and an extensive roadway improvement project to meet ongoing growth, future expansion plans, and to address changing regional housing and travel patterns. All projects have been and will be funded by RCID Bond Funds on hand. Construction of these projects will ensure maintenance of the adopted levels of service standard as additional development occurs and as surrounding areas within Orange, Osceola, and Lake Counties expand residential development. All listed projects are consistent with the Future Land Use Map and with the improvement programs of Orange and Osceola counties.

Programmed improvements are defined as projects that have funding committed towards construction within the next five years. Planned improvements have no financial commitment towards construction within the next five years. Instead, planned improvements include those projects with funding toward some aspect of the project other than construction, as well as those projects included in a government agency's long-range transportation plan.

### Programmed Improvements 2022-2027

Programmed improvements within the District and FDOT programmed and planned improvements included within the Capital Improvements Element are summarized below.

***World Drive North (Phase 2 and 3)*** – During Phase 1 (World Drive Extension) the District's ownership of World Drive was extended north of Epcot Center Drive to facilitate the design and construct new ramps and flyovers to separate World Drive traffic from traffic bound for the Magic Kingdom Toll Plaza and to provide direct access for traffic heading south to World Drive from the eastern side of the Magic Kingdom resort area. The project also eliminated a problematic intersection at World Drive and Vista Blvd, thus improving traffic flow and providing additional capacity. World Drive North (Phase 2) will provide direct access for northbound traffic heading to the western side of the Magic Kingdom resort area. This traffic currently has to enter the Magic Kingdom Toll Plaza. The Phase 2 project includes a regional stormwater pond, structure, and conveyance system which is currently under construction. Start of construction of the roadways, ramps, and bridges will begin in FY 2021. World Drive North (Phase 3) is a four lane divided rural roadway extending Phase 2 to Floridian Place and is currently under design, with construction expected to begin in FY 2022. This project primarily serves employees of the District residing in western Orange County

***Intersection Improvements at Buena Vista Drive and Western Way*** – This is a T intersection with an overall level of service B during the AM peak-hour but with an overall level of service F during the PM peak-hour as the southbound Buena Vista Drive right turn movement experiences significant queuing due to friction with the northbound left turn. The District is currently proposing construction of an interim design to correct the LOS deficiency. Ultimately a grade separated intersection improvement may be required to overcome environmental and economic constraints at this location.

***I-4 Beyond the Ultimate*** – New interchange at Daryl Carter Parkway.

### Planned Improvements 2022-2027

***I-4 Beyond the Ultimate*** – This project adds four managed lanes from east of SR522/Osceola Parkway to west of SR 528/Beachline Expressway. This project is funded for preliminary engineering and right-of-way.

### **Roadway Inventory**

Table 3-9 (2026 Roadway Inventory), Figure 3-12 (RCID Roadways – 2027 Functional Classification), Figure 3-13 (RCID Roadways – 2027 Administrative Classification), and Table 3-10 (2027 Peak Hour / Peak Directional Level of Service Capacities) update the District’s future conditions for 2027.

Except for the intersection improvements at Buena Vista Drive and Western Way the roadway projects included in the Five-Year Schedule of Capital Improvement for Roads are not intended to address any immediate needs for additional capacity. All other District owned roadways are operating above their adopted LOS standards based on 2018-2019 traffic counts.

The following State maintained roadway segments are currently operating below their adopted LOS standard based on 2018-19 traffic counts:

- Interstate 4 from Osceola Parkway to Epcot Center Drive
- Interstate 4 from Epcot Center Drive to SR 535
- US 192 from World Drive to Griffin Road.
- US 192 from Griffin Road to West RCID Boundary

There are no projects in the Adopted MetroPlan Orlando TIP within the FY 2021/22 through FY 2025/26 planning period that will correct the above deficiencies to State maintained roadways. Funds are programmed in the MetroPlan Orlando TIP for preliminary engineering and right-of-way acquisition for I-4 in Orange County and for construction of a new interchange at Daryl Carter Parkway; however, the capacity of the Interstate 4 segments will not change during the 2027 planning period.

**Table 3-9: 2027 Roadway Inventory**

Roadway / Segment	Length (miles)	Number of Lanes	Maintenance Responsibility	Functional Classification
<b>Interstate 4</b>				
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	1.19	6LD	State	PA (Ltd. Access)
World Dr to US 192 (+ Auxiliary Lanes)	2.35	6LD	State	PA (Ltd. Access)
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	1.17	6LD	State	PA (Ltd. Access)
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	1.25	6LD	State	PA (Ltd. Access)
Epcot Center Dr to SR 535 (+ Auxiliary Lanes)	1.56	6LD	State	PA (Ltd. Access)
<b>US 192</b>				
East RCID Boundary to I-4	1.53	6LD	State	Principal Arterial
I-4 to World Dr	1.36	6LD	State	PA (Ltd. Access)
World Dr to Road Griffin Rd	0.53	6LD	State	Principal Arterial
Road Griffin Rd to West RCID Boundary	0.34	6LD	State	Principal Arterial
<b>SR 429</b>				
South of Western Way	0.14	4LD	State	PA (Ltd. Access)
North of Western Way	2.87	4LD	State	PA (Ltd. Access)
<b>CR 535 (15% increase for constrained fac.)</b>				
I-4 to Hotel Plaza Blvd	0.26	6LD	Orange County	Principal Arterial
Hotel Plaza Blvd to Apopka-Vineland Rd	0.14	6LD	Orange County	Principal Arterial
<b>World Drive</b>				
I-4 to Road B-1 (Griffin Rd)	1.15	4LD	RCID	PA (Ltd. Access)
Road B-1 (Griffin Rd) to US 192	0.82	4LD	RCID	PA (Ltd. Access)
US 192 to Osceola Pkwy	1.10	6LD	RCID	PA (Ltd. Access)
Osceola Pkwy to Buena Vista Dr	1.04	6LD	RCID	PA (Ltd. Access)
Buena Vista Dr to Epcot Center Dr	1.05	6LD	RCID	PA (Ltd. Access)
Epcot Center Dr to Vista Blvd	1.44	6LD	RCID	PA (Ltd. Access)
Vista Blvd to WDW Ownership	0.41	4LD	RCID	PA (Ltd. Access)
<b>Epcot Center Drive</b>				
I-4 to Buena Vista Dr (+ Auxiliary Lanes)	0.68	6LD	RCID	PA (Ltd. Access))
Buena Vista Dr to World Dr	2.93	6LD	RCID	PA (Ltd. Access)
<b>Osceola Parkway</b>				
I-4 to Victory Way	1.15	6LD	RCID	PA (Ltd. Access)
Victory Way to World Dr (+ Auxiliary Lanes)	0.75	6LD	RCID	PA (Ltd. Access)
World Dr to Buena Vista Dr	0.96	4LD	RCID	PA (Ltd. Access)
<b>Western Way</b>				
Buena Vista Dr to Bear Island Rd	1.69	4LD	RCID	Principal Arterial
Bear Island Rd to SR 429	1.53	4LD	RCID	Principal Arterial
Hartzog Rd to Flagler Ave	0.23	4LD	RCID	Minor Arterial
Flagler Ave to CR 545 (Avalon Rd)	1.54	4LD	RCID	Principal Arterial
<b>Hartzog Road</b>				
SR 545 to Flagler Ave	2.13	2L	RCID	Minor Arterial
Flagler Ave to Western Way	0.45	4LD	RCID	Minor Arterial
Western Way to RCID Boundary	0.47	4LD	RCID	Minor Arterial
<b>Buena Vista Drive</b>				
CR 535 to Disney Vacation Club Way	1.23	4LD	RCID	Minor Arterial
Disney Vacation Club Way to Hotel Plaza Blvd	0.85	4LD	RCID	Minor Arterial
Hotel Plaza Blvd to Bus Loop Entrance	0.42	6LD	RCID	Minor Arterial
Bus Loop Entrance to Typhoon Lagoon	1.09	8LD	RCID	Minor Arterial
Typhoon Lagoon to Bonnet Creek Pkwy	0.56	6LD	RCID	Minor Arterial
Bonnet Creek Pkwy to Backstage Lane	0.40	6LD	RCID	Minor Arterial
Backstage Lane to Victory Way	0.48	6LD	RCID	Minor Arterial
Victory Way to Epcot Resorts Blvd East	0.37	6LD	RCID	Minor Arterial
Epcot Resorts Blvd East to Epcot Resorts Blvd West	0.40	6LD	RCID	Minor Arterial
Epcot Resorts Blvd West to World Dr	0.26	6LD	RCID	Minor Arterial
World Dr to Western Way	0.72	4LD	RCID	Minor Arterial
Western Way to Osceola Pkwy	0.90	4LD	RCID	Minor Arterial

Roadway / Segment	Length (miles)	Number of Lanes	Maintenance Responsibility	Functional Classification
<b>Hotel Plaza Boulevard</b> (15% increase for constrained fac.)				
West of CR 535	0.44	4LD	RCID	Minor Arterial
East of Buena Vista Dr	0.40	4LD	RCID	Minor Arterial
<b>Florida Place (World Drive North)</b>				
Center Dr to Floridian Way	0.85	4LD	RCID	Principal Arterial
World Drive North Phase 2	1.06	4LD	RCID	Principal Arterial
World Drive North Phase 3	1.70	4LD	RCID	Principal Arterial
<b>Bonnet Creek Parkway</b>				
Buena Vista Dr to Overpass Rd	0.24	4LD	RCID	Collector
Overpass Rd to Disney Vacation Club Way	0.25	4LD	RCID	Collector
Disney Vacation Club Way to Vista Way	1.04	4LD	RCID	Collector
<b>EPCOT Resorts Boulevard</b>				
Buena Vista Dr to Water Bridge	0.21	4LD	RCID	Collector
Water Bridge to Dolphin Hotel	1.20	2L	RCID	Collector
Dolphin Hotel to Buena Vista Dr	0.60	4LD	RCID	Collector
<b>Victory Way</b>				
Buena Vista Dr TO Osceola Pkwy	1.25	4LD	RCID	Collector
<b>Road B-1 (Griffin Road)</b>				
World Dr to US 192	0.98	2L	RCID	Collector
<b>Flagler Avenue</b>				
Western Way to Hartzog Rd	0.49	2LD	RCID	Collector

Note: New Roadway Segment

Figure 3-12: RCID Roadways – 2027 Functional Classification

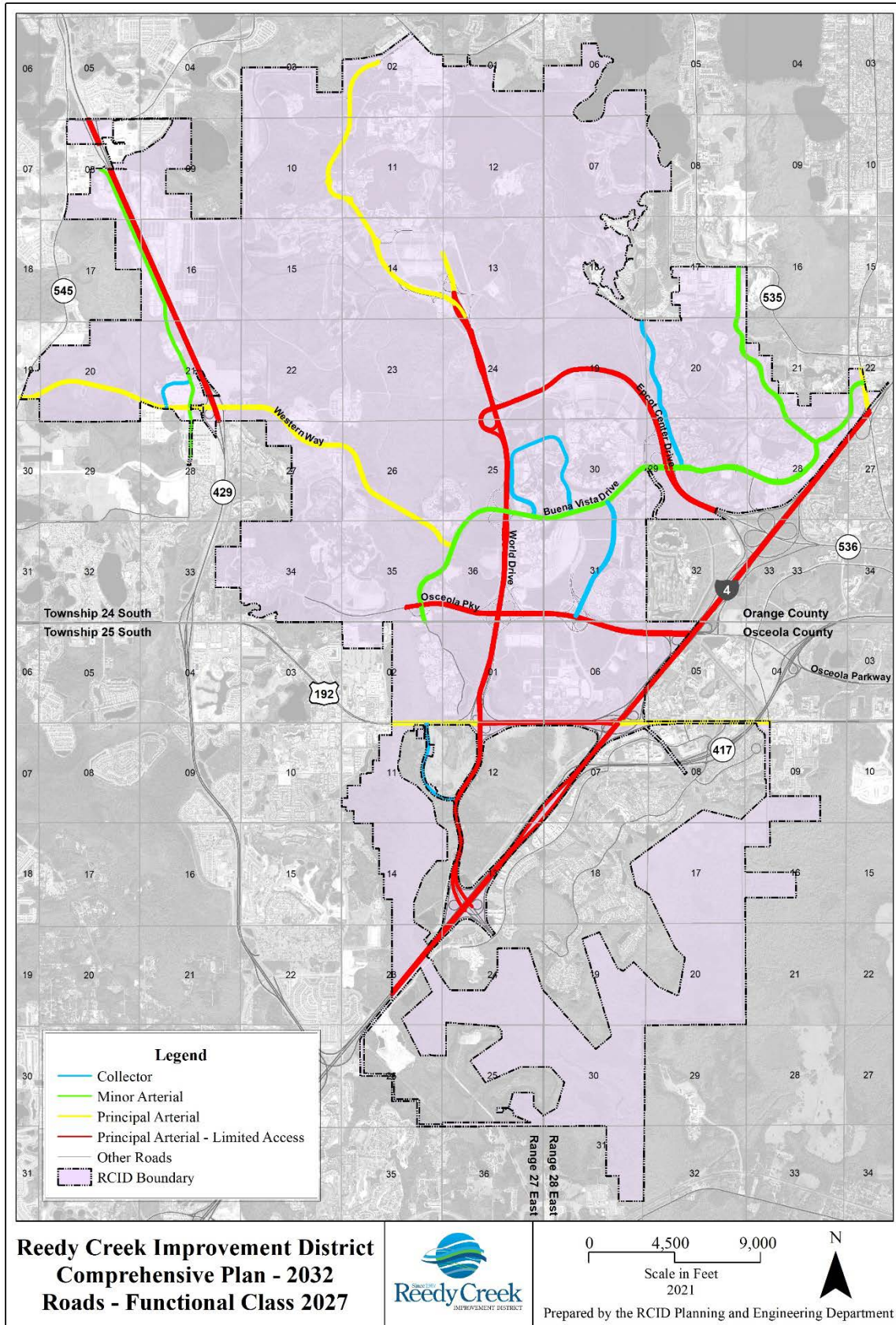
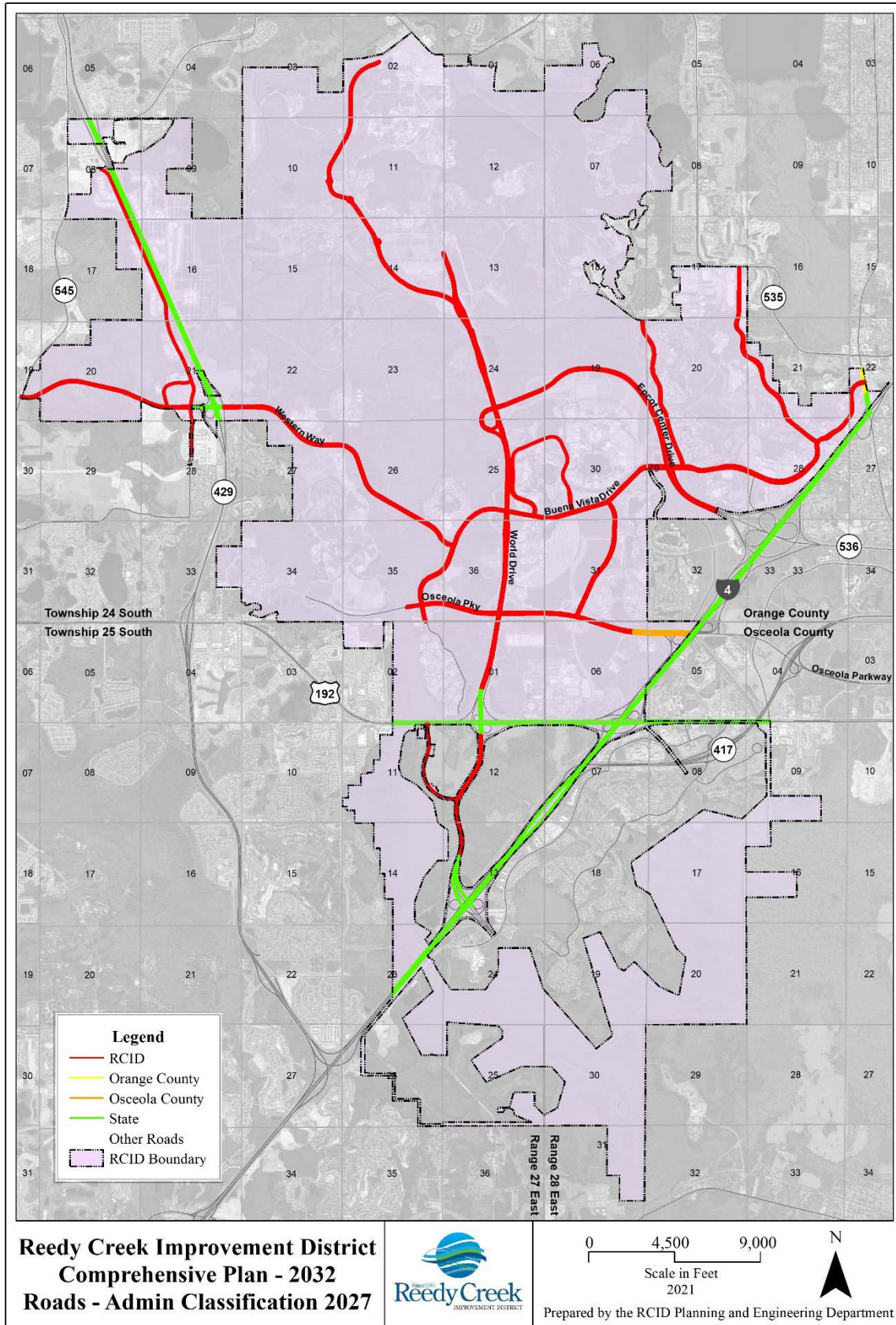


Figure 3-13: RCID Roadways – 2027 Administrative Classification





**Table 3-10: 2027 Peak Hour / Peak Directional Level of Service Capacities**

Roadway / Segment	LOS Std.	# of Lanes	Level of Service Capacities			
			B	C	D	E
<b>Interstate 4</b>						
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
World Dr to US 192 (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
Epcot Center Dr to SR 535 (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
<b>US 192</b>						
East RCID Boundary to I-4	D	6LD		2,940	<b>3,020</b>	-
I-4 to World Dr	D	6LD	3,410	4,650	<b>5,780</b>	6,340
World Dr to Griffin Rd	D	6LD	-	2,940	<b>3,020</b>	-
Griffin Rd to West RCID Boundary	D	6LD	-	2,940	<b>3,020</b>	-
<b>SR 429</b>						
South of Western Way	D	4LD	2,270	3,100	<b>3,890</b>	4,230
North of Western Way	D	4LD	2,270	3,100	<b>3,890</b>	4,230
<b>CR 535 (15% increase for constrained facility)</b>						
I-4 to Hotel Plaza Blvd	E	6LD	-	3,195	3,282	-
Hotel Plaza Blvd to Apopka-Vineland Rd	E	6LD	-	3,195	3,282	-
<b>World Drive</b>						
I-4 to Road B-1 (Griffin Rd)	E	4LD	2,270	3,100	3,890	<b>4,230</b>
Road B-1 (Griffin Rd) to US 192	E	4LD	2,270	3,100	3,890	<b>4,230</b>
US 192 to Osceola Pkwy	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Osceola Pkwy to Buena Vista Dr	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Buena Vista Dr to EPCOT Center Dr	E	6LD	3,410	4,650	5,780	<b>6,340</b>
EPCOT Center Dr to Vista Blvd	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Vista Blvd to WDW Ownership	E	4LD	2,270	3,100	3,890	<b>4,230</b>
<b>Epcot Center Drive</b>						
I-4 to Buena Vista Dr (+ Auxiliary Lanes)	E	6LD	4,410	5,650	6,780	<b>7,340</b>
Buena Vista Dr to World Dr	E	6LD	3,410	4,650	5,780	<b>6,340</b>
<b>Osceola Parkway</b>						
I-4 to Victory Way	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Victory Way to World Dr (+ Auxiliary Lanes)	E	4LD	3,270	4,100	4,890	<b>5,230</b>
World Dr to Buena Vista Dr	E	4LD	2,270	3,100	3,890	<b>4,230</b>
<b>Western Way</b>						
Buena Vista Dr to Bear Island Rd	E	4LD	-	1,805	1,890	-
Bear Island Rd to SR 429	E	4LD	-	1,805	1,890	-
Hartzog Rd to Flagler Ave	E	4LD	-	690	1,540	<b>1,607</b>
Flagler Ave to CR 545 (Avalon Rd)	E	4LD	-	1,805	1,890	-
<b>Hartzog Road</b>						
SR 545 to Flagler Ave	E	2L	580	890	1,200	<b>1,610</b>
Flagler Ave to Western Way	E	4LD	-	690	1,540	<b>1,607</b>
Western Way to South RCID Boundary	E	4LD	-	690	1,540	<b>1,607</b>
<b>Buena Vista Drive</b>						
CR 535 to Disney Vacation Club Way	E	4LD	-	1,719	1,800	-
Disney Vacation Club Way to Hotel Plaza Blvd	E	4LD	-	1,719	1,800	-
Hotel Plaza Blvd to Bus Loop Entrance	E	6LD	-	1,106	2,381	<b>2,419</b>
Bus Loop Entrance to Typhoon Lagoon	E	8LD	-	1,521	3,204	<b>3,232</b>
Typhoon Lagoon to Bonnet Creek Pkwy	E	6LD	-	2,778	2,854	-
Bonnet Creek Pkwy to Backstage Lane (*)	E	6LD	-	2,778	2,854	-
Backstage Lane to Victory Way (*)	E	6LD	-	2,778	2,854	-
Victory Way to Epcot Resorts Blvd East (*)	E	6LD	-	2,778	2,854	-
Epcot Resorts Blvd East to Epcot Resorts Blvd West (*)	E	6LD	-	2,778	2,854	-
Epcot Resorts Blvd West to World Dr (*)	E	6LD	-	2,778	2,854	-
World Dr to Western Way	E	4LD	-	1,805	1,890	-
Western Way to Osceola Pkwy	E	4LD	-	1,805	1,890	-

Roadway / Segment	LOS Std.	# of Lanes	Level of Service Capacities			
			B	C	D	E
<b>Hotel Plaza Boulevard</b> (15% increase for constrained fac.)						
West of CR 535	E	4LD	-	756	1,687	<b>1,760</b>
East of Buena Vista Dr	E	4LD	-	756	1,687	<b>1,760</b>
<b>Florida Place (Center Dr Phase 2)</b>						
Center Dr to Floridian Way	E	4LD	-	1,719	1,800	-
World Drive North Phase 2	E	4LD	-	1,719	1,800	-
World Drive North Phase 3	E	4LD	-	1,719	1,800	-
<b>Bonnet Creek Parkway</b>						
Buena Vista Dr to Overpass Rd	E	4LD	-	1,719	1,800	-
Overpass Rd to Disney Vacation Club Way	E	4LD	-	1,719	1,800	-
Disney Vacation Club Way Dr to Vista Way	E	4LD	-	1,804	1,890	-
<b>EPCOT Resorts Boulevard</b>						
Buena Vista Dr to Water Bridge	E	4LD	-	657	1,467	<b>1,530</b>
Water Bridge to Dolphin Hotel	E	2L	-	333	675	<b>720</b>
Dolphin Hotel to Buena Vista Dr	E	4LD	-	657	1,467	<b>1,530</b>
<b>Victory Way</b>						
Osceola Pkwy to Buena Vista Dr	E	4LD	-	1,805	1,890	-
<b>Road B-1 (Griffin Road)</b>						
World Dr to US 192	E	2L	-	747	792	
<b>Flagler Avenue</b> (Divided)						
Western Way to Flamingo Crossings	E	2LD	-	775	832	-

Note: From 2020 FDOT Quality/Level of Service Handbook Tables  
[New Roadway Segment](#)

## 2027 Conditions

Table 3-11 presents the 2027 peak hour / peak direction level of service conditions based on the capacities shown in Table 3-10, and Figure 3-14 provides a graphic representation of the LOS conditions for the District's roadways. Based on 2027 projected traffic volumes, the five State maintained roadway facilities will operate below their adopted LOS standards:

- Interstate 4 from Osceola Parkway to Epcot Center Drive,
- Interstate 4 from Epcot Center Drive to CR 535,
- US 192 from East RCID Boundary to I-4,
- US 192 from World Drive to Griffin Road, and
- US 192 from Griffin Road to West RCID Boundary.

And nine segments of District roadways will function below their adopted LOS based on projected 2027 traffic volumes:

- Western Way from Buena Vista Drive to Bear Island Road
- Western Way from Bear Island Road to SR 429
- Western Way from Hartzog Road to Flagler Ave
- Buena Vista Drive from Hotel Plaza Blvd to Bus Loop Entrance
- Buena Vista Drive from Bonnet Creek Parkway to Backstage Lane
- Buena Vista Drive from World Drive to Western Way
- Buena Vista Drive from Western Way to Osceola Parkway
- Hotel Plaza Blvd West of CR 535
- Flagler Ave from Western Way to Hartzog Road

**Interstate 4** – These segments are included in the I-4 Beyond the Ultimate’s Segment 1B Phase to add four managed lanes; this phase is funded for preliminary engineering and right-of-way acquisition through 2023/24, but is not funded for construction. An interim Daryl Carter Parkway interchange project will add three new ramps connecting to I-4 including exit ramps from both directions and an entrance ramp to eastbound I-4. A westbound I-4 entrance ramp will be built as part of a future project. This project will also include construction of a single buffer-separated, managed lane to be constructed in three separate projects with the finished lane extending from west of Sand Lake Road to west of SR536. Construction and drainage improvements are currently funded in 2021/22 with landscaping funded in 2024/25. Letting for this design-bid-build project is anticipated in June 2022.

**US 192** – These roadway segments are not scheduled for any improvements. The new hotels and commercial development at Flamingo Crossings may relieve US 192 of some congestion by offering an alternative to the US 192 tourist destination.

**Western Way** – The need to widen this roadway to six lanes was foreseen at the time of its design and construction. The sub-structure for the two bridges on Western Way were designed and constructed to accommodate additional decking when the roadway is widened from four to six lanes. The widening can be accommodated within the existing right-of-way. Prior to the widening of Western Way, the T-intersection at Buena Vista Drive would have to be redesigned to accommodate the projected future traffic volume. Additional capacity improvements to **Buena Vista Drive from World Drive to Western Way and Western Way to Osceola Parkway** are tied to the redesign of the intersection at Western Way and Buena Vista Drive. Sufficient right-of-way exists to widen these segments of Buena Vista Drive from four to six lanes.

**Buena Vista Drive from Hotel Plaza Blvd to Bus Loop Entrance** – Capacity was added to this segment during the redevelopment of Disney Springs and the improvements to the Buena Vista Drive/Epcot Center Drive Projects. There are no plans for additional capacity within the Disney Springs although intersection improvements at Entrance 5 will improve reliability throughout the corridor.

**Bonnet Creek Parkway to Backstage Lane** – Capacity was added to these segments during the improvements to the Buena Vista Drive/Epcot Center Drive interchange. There is existing infrastructure in place to extend the dedicated bus lanes from Bonnet Creek Parkway to Backstage Lane and funds have been included in the Five-Year Schedule of Capital Improvements Roads to extend dedicated bus lanes to World Drive.

**Hotel Plaza Blvd** – This roadway is a constrained facility. The Hotel Plaza corridor is fully developed, primarily with hotel uses. The RCID has made a policy decision not to provide additional through lanes for this roadway in order to preserve existing land uses, support pedestrian mobility, and retain the attractive tree-lined character of the boulevard. As a constrained segment, the capacity on this roadway is allowed to exceed the minimum adopted standard. The increased congestion will create slower traffic speeds, improving pedestrian mobility and safety, while encouraging motorists to use other routes or modes of travel. A slip ramp to Buena Vista Drive was added from the I-4 ramp to CR 536 and very effort is made to direct vehicular travel away from Hotel Plaza Blvd to the slip ramp with signage and with directions provided by the resort owners within the District.

**Flagler Avenue** – There are no plans for additional capacity improvements to this road. This roadway is primarily for accessing hotels along Flagler Avenue and has been designed to encourage guests to walk between the hotels and the Flamingo Crossings Town Center commercial (retail and dining) development.

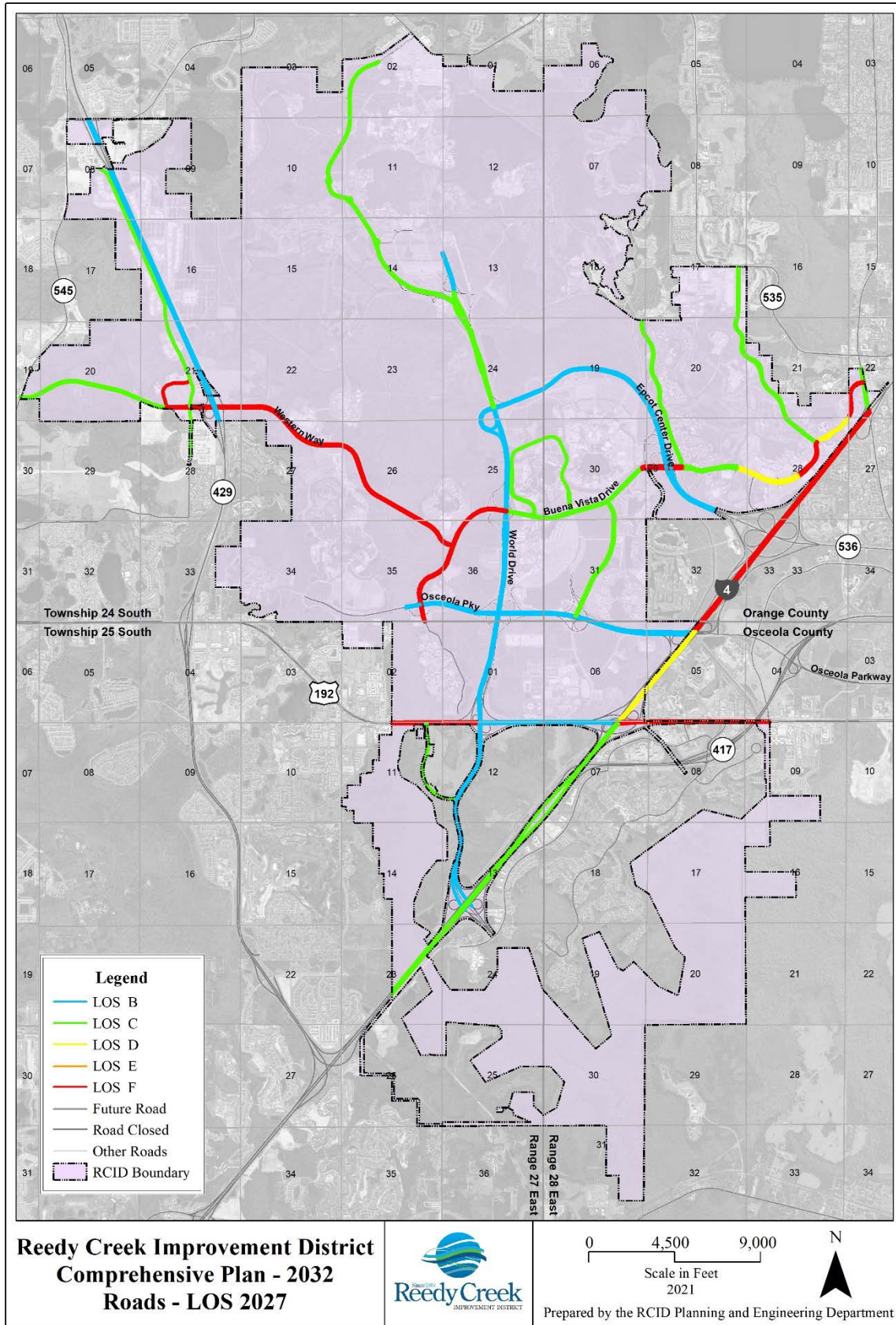
**Table 3-11: RCID Roadways – 2027 Level of Service (Future Conditions)**

Roadway / Segment	LOS Std.	# of Lanes	LOS Capacity	PM Peak Hour / Direction	
				Volume	LOS
<b>Interstate 4</b>					
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	D	6LD	6,780	5,211	C
World Dr to US 192 (+ Auxiliary Lanes)	D	6LD	6,780	5,325	C
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	D	6LD	6,780	6,972	D
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	D	6LD	6,780	7,584	F
Epcot Center Dr to CR 535 (+ Auxiliary Lanes)	D	6LD	6,780	9,346	F
<b>US 192</b>					
East RCID Boundary to I-4	D	6LD	3,020	3,142	F
I-4 to World Dr	D	6LD	5,780	3,311	B
World Dr to Griffin Rd	D	6LD	3,020	3,883	F
Road Griffin Rd to West RCID Boundary	D	6LD	3,020	3,597	F
<b>SR 429</b>					
South of Western Way	D	4LD	3,890	2,070	B
North of Western Way	D	4LD	3,890	2,225	B
<b>CR 535 (15% increase for constrained fac.)</b>					
I-4 to Hotel Plaza Blvd	E	6LD	3,282	3,056	C
Hotel Plaza Blvd to Apopka-Vineland Rd	E	6LD	3,282	2,429	C
<b>World Drive</b>					
I-4 to Griffin Rd	E	4LD	4,230	1,089	B
Griffin Rd to US 192	E	4LD	4,230	1,587	B
US 192 to Osceola Pkwy	E	6LD	6,340	2,393	B
Osceola Pkwy to Buena Vista Dr	E	6LD	6,340	2,212	B
Buena Vista Dr to Epcot Center Dr	E	6LD	6,340	2,800	B
Epcot Center Dr to Vista Blvd	E	6LD	6,340	4,397	C
Vista Blvd to WDW Ownership	E	4LD	4,230	1,749	B
<b>Epcot Center Drive</b>					
I-4 to Buena Vista Dr (+ Auxiliary Lanes)	E	6LD	7,130	4,083	B
Buena Vista Dr to World Dr*	E	6LD	6,130	1,498	B
<b>Osceola Parkway</b>					
I-4 to Victory Way	E	6LD	6,340	3,212	B
Victory Way to World Dr (+ Auxiliary Lanes)	E	4LD	5,230	2,509	B
World Dr to Buena Vista Dr	E	4LD	4,230	2,277	B
<b>Western Way</b>					
Buena Vista Dr to Bear Island Rd	E	4LD	1,890	3,553	F
Bear Island Rd to SR 429	E	4LD	1,890	3,346	F
Hartzog Rd to Flagler Ave	E	4LD	1,607	1,922	F
Flagler Ave to CR 545 (Avalon Rd)	E	4LD	1,890	1,078	C
<b>Hartzog Road</b>					
SR 545 to Flagler Ave	E	2L	1,610	509	C
Flagler Ave to Western Way	E	4LD	1,607	1,216	C
Western Way to South RCID Boundary	E	4LD	1,607	1,085	C
<b>Buena Vista Drive</b>					
CR 535 to Disney Vacation Club Way	E	4LD	1,800	887	C
Disney Vacation Club Way to Hotel Plaza Blvd	E	4LD	1,800	503	C
Hotel Plaza Blvd to Bus Loop Entrance	E	6LD	2,419	2,664	F
Bus Loop Entrance to Typhoon Lagoon	E	8LD	3,232	2,880	D
Typhoon Lagoon to Bonnet Creek Pkwy	E	6LD	2,854	2,706	C
Bonnet Creek Pkwy to Backstage Lane	E	6LD	2,854	3,013	F
Backstage Lane to Victory Way	E	6LD	2,854	2,476	C
Victory Way to Epcot Resorts Blvd East	E	6LD	2,854	2,426	C
Epcot Resorts Blvd East to Epcot Resorts Blvd West	E	6LD	2,854	2,235	C
Epcot Resorts Blvd West to World Dr	E	6LD	2,854	2,280	C
World Dr to Western Way	E	4LD	1,890	2,658	F
Western Way to Osceola Pkwy	E	4LD	1,890	2,203	F

Roadway / Segment	LOS Std.	# of Lanes	LOS Capacity	PM Peak Hour / Direction	
				Volume	LOS
<b>Hotel Plaza Boulevard</b> (15% increase for constrained fac.)					
West of CR 535	E	4LD	1,760	1,643	F
East of Buena Vista Dr	E	4LD	1,760	1,381	D
<b>Floridian Place</b>					
Center Dr to Floridian Way			1,800	791	C
World Drive North Phase 2		4LD	1,800	798	C
World Drive North Phase 3		4LD	1,800	821	C
<b>Bonnet Creek Parkway</b>					
Buena Vista Dr to Overpass Rd	E	4LD	1,800	314	C
Overpass Rd to Disney Vacation Club Way	E	4LD	1,800	572	C
Disney Vacation Club Way Dr to Vista Way	E	4LD	1,890	460	C
<b>EPCOT Resorts Boulevard</b>					
Buena Vista Dr to Water Bridge	E	4LD	1,530	626	C
Water Bridge to Dolphin Hotel	E	2L	720	232	C
Dolphin Hotel to Buena Vista Dr	E	4LD	1,530	609	C
<b>Victory Way</b>					
Osceola Pkwy to Buena Vista Dr	E	4LD	1,890	773	C
<b>(Griffin Road)</b>					
World Dr to US 192	E	2L	792	178	C
<b>Flagler Avenue</b>					
Western Way to Hartzog Rd	E	2LD	832	858	F

Note: New Roadway Segment

Figure 3-14: RCID Roadways – 2027 Level of Service



## **2032 ROAD NETWORK**

### **Programmed or Planned Improvements**

There are no programmed or planned roadway improvements within the District during 2027 through 2032. Impending improvements are discussed under **2032 Conditions**.

### **Roadway Inventory**

Table 3-12 (2032 Roadway Inventory – unchanged), Figure 3-15 (RCID Roadways – 2032 Functional Classification – unchanged), Figure 3-16 (RCID Roadways – 2032 Administrative Classification – unchanged), and Table 3-13 (2032 Peak Hour / Peak Directional Level of Service Capacities – unchanged) show the District’s future conditions for 2032.

**Table 3-12: 2032 Roadway Inventory**

Roadway / Segment	Length (miles)	Number of Lanes	Maintenance Responsibility	Functional Classification
<b>Interstate 4</b>				
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	1.19	6LD	State	PA (Ltd. Access)
World Dr to US 192 (+ Auxiliary Lanes)	2.35	6LD	State	PA (Ltd. Access)
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	1.17	6LD	State	PA (Ltd. Access)
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	1.25	6LD	State	PA (Ltd. Access)
Epcot Center Dr to SR 535 (+ Auxiliary Lanes)	1.56	6LD	State	PA (Ltd. Access)
<b>US 192</b>				
East RCID Boundary to I-4	1.53	6LD	State	Principal Arterial
I-4 to World Dr	1.36	6LD	State	PA (Ltd. Access)
World Dr to Road Griffin Rd	0.53	6LD	State	Principal Arterial
Griffin Rd to West RCID Boundary	0.34	6LD	State	Principal Arterial
<b>SR 429</b>				
South of Western Way	0.14	4LD	State	PA (Ltd. Access)
North of Western Way	2.87	4LD	State	PA (Ltd. Access)
<b>CR 535 (15% increase for constrained fac.)</b>				
I-4 to Hotel Plaza Blvd	0.26	6LD	Orange County	Principal Arterial
Hotel Plaza Blvd to Apopka-Vineland Rd	0.14	6LD	Orange County	Principal Arterial
<b>World Drive</b>				
I-4 to Road B-1 (Griffin Rd)	1.15	4LD	RCID	PA (Ltd. Access)
Road B-1 (Griffin Rd) to US 192	0.82	4LD	RCID	PA (Ltd. Access)
US 192 to Osceola Pkwy	1.10	6LD	RCID	PA (Ltd. Access)
Osceola Pkwy to Buena Vista Dr	1.04	6LD	RCID	PA (Ltd. Access)
Buena Vista Dr to Epcot Center Dr	1.05	6LD	RCID	PA (Ltd. Access)
Epcot Center Dr to Vista Blvd	1.44	6LD	RCID	PA (Ltd. Access)
Vista Blvd to WDW Ownership	0.41	4LD	RCID	PA (Ltd. Access)
<b>Epcot Center Drive</b>				
I-4 to Buena Vista Dr (+ Auxiliary Lanes)	0.68	6LD	RCID	PA (Ltd. Access))
Buena Vista Dr to World Dr	2.93	6LD	RCID	PA (Ltd. Access)
<b>Osceola Parkway</b>				
I-4 to Victory Way	1.15	6LD	RCID	PA (Ltd. Access)
Victory Way to World Dr (+ Auxiliary Lanes)	0.75	6LD	RCID	PA (Ltd. Access)
World Dr to Buena Vista Dr	0.96	4LD	RCID	PA (Ltd. Access)
<b>Western Way</b>				
Buena Vista Dr to Bear Island Rd	1.69	4LD	RCID	Principal Arterial
Bear Island Rd to SR 429	1.53	4LD	RCID	Principal Arterial
Hartzog Rd to Flagler Ave	0.23	4LD	RCID	Minor Arterial
Flagler Ave to CR 545 (Avalon Rd)	1.54	4LD	RCID	Principal Arterial
<b>Hartzog Road</b>				
SR 545 to Flagler Ave	2.13	2L	RCID	Minor Arterial
Flagler Ave to Western Way	0.45	4LD	RCID	Minor Arterial
Western Way to RCID Boundary	0.47	4LD	RCID	Minor Arterial
<b>Buena Vista Drive</b>				
CR 535 to Disney Vacation Club Way	1.23	4LD	RCID	Minor Arterial
Disney Vacation Club Way to Hotel Plaza Blvd	0.85	4LD	RCID	Minor Arterial
Hotel Plaza Blvd to Bus Loop Entrance	0.42	6LD	RCID	Minor Arterial
Bus Loop Entrance to Typhoon Lagoon	1.09	8LD	RCID	Minor Arterial
Typhoon Lagoon to Bonnet Creek Pkwy	0.56	6LD	RCID	Minor Arterial
Bonnet Creek Pkwy to Backstage Lane	0.40	6LD	RCID	Minor Arterial
Backstage Lane to Victory Way	0.48	6LD	RCID	Minor Arterial
Victory Way to Epcot Resorts Blvd East	0.37	6LD	RCID	Minor Arterial
Epcot Resorts Blvd East to Epcot Resorts Blvd West	0.40	6LD	RCID	Minor Arterial
Epcot Resorts Blvd West to World Dr	0.26	6LD	RCID	Minor Arterial
World Dr to Western Way	0.72	4LD	RCID	Minor Arterial
Western Way to Osceola Pkwy	0.90	4LD	RCID	Minor Arterial



<b>Roadway / Segment</b>	<b>Length (miles)</b>	<b>Number of Lanes</b>	<b>Maintenance Responsibility</b>	<b>Functional Classification</b>
<b>Hotel Plaza Boulevard</b> (15% increase for constrained fac.)				
West of CR 535	0.44	4LD	RCID	Minor Arterial
East of Buena Vista Dr	0.40	4LD	RCID	Minor Arterial
<b>Florida Place (World Drive North)</b>				
Center Dr to Floridian Way	0.85	4LD	RCID	Principal Arterial
World Drive North Phase 2	1.06	4LD	RCID	Principal Arterial
World Drive North Phase 3	1.70	4LD	RCID	Principal Arterial
<b>Bonnet Creek Parkway</b>				
Buena Vista Dr to Overpass Rd	0.24	4LD	RCID	Collector
Overpass Rd to Disney Vacation Club Way	0.25	4LD	RCID	Collector
Disney Vacation Club Way to Vista Way	1.04	4LD	RCID	Collector
<b>EPCOT Resorts Boulevard</b>				
Buena Vista Dr to Water Bridge	0.21	4LD	RCID	Collector
Water Bridge to Dolphin Hotel	1.20	2L	RCID	Collector
Dolphin Hotel to Buena Vista Dr	0.60	4LD	RCID	Collector
<b>Victory Way</b>				
Buena Vista Dr TO Osceola Pkwy	1.25	4LD	RCID	Collector
<b>Road B-1 (Griffin Road)</b>				
World Dr to US 192	0.98	2L	RCID	Collector
<b>Flagler Avenue</b>				
Western Way to Hartzog Rd	0.49	2LD	RCID	Collector

Figure 3-15: RCID Roadways – 2032 Functional Classification

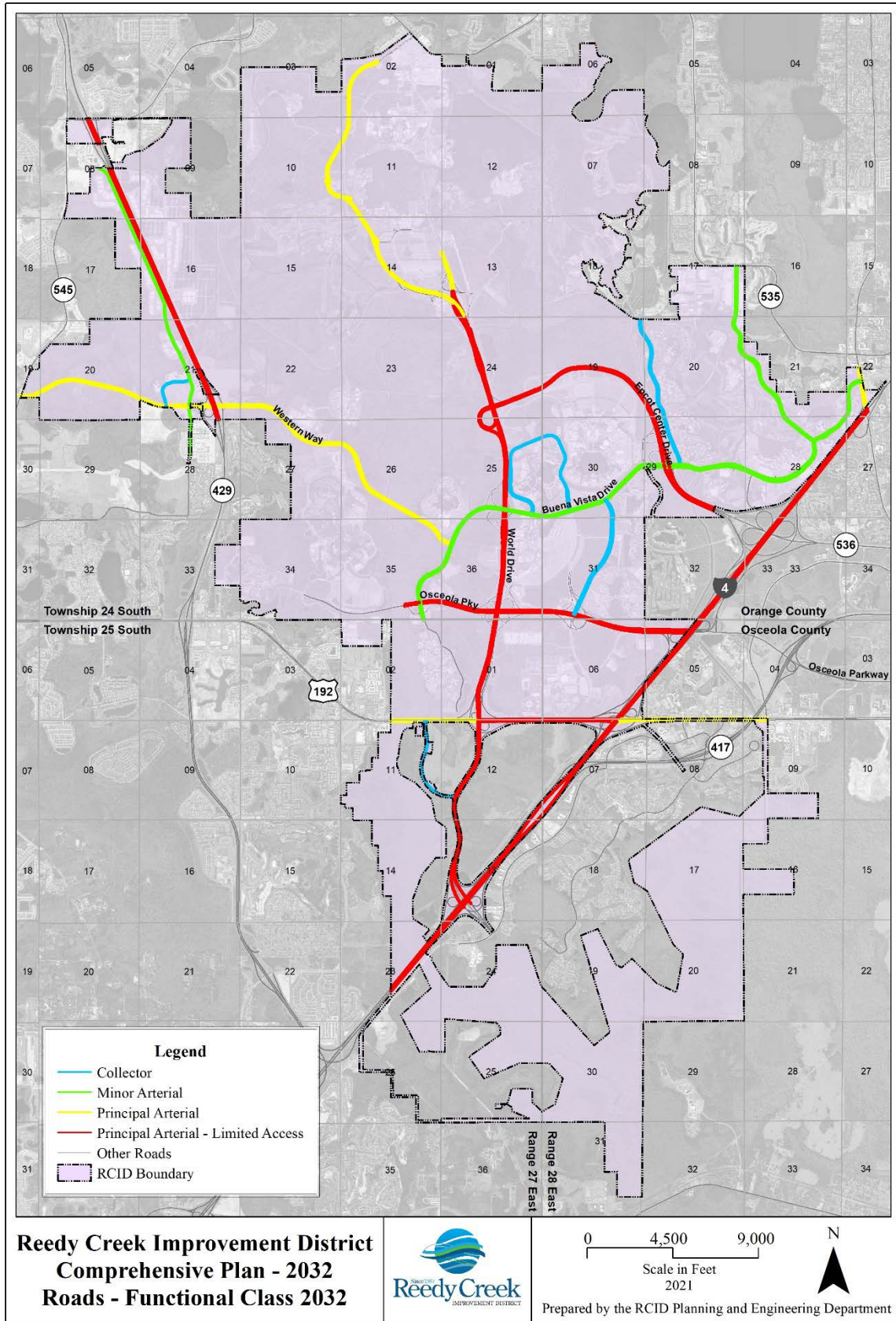
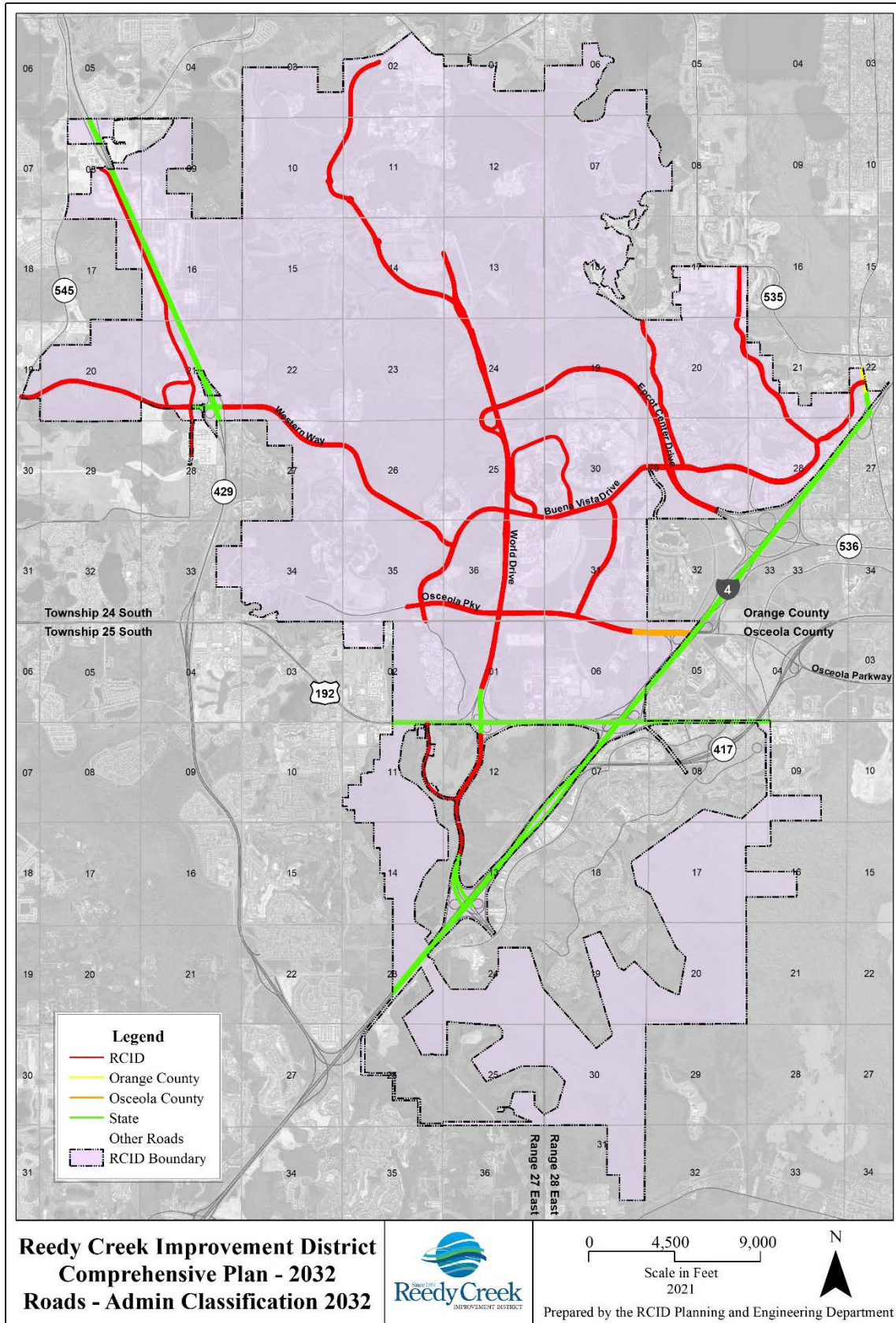


Figure 3-16: RCID Roadways – 2032 Administrative Classification



**Table 3-16: 2032 Peak Hour / Peak Directional Level of Service Capacities**

Roadway / Segment	LOS Std.	# of Lanes	Level of Service Capacities			
			B	C	D	E
<b>Interstate 4</b>						
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
World Dr to US 192 (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
Epcot Center Dr to SR 535 (+ Auxiliary Lanes)	D	6LD	4,410	5,650	<b>6,780</b>	7,340
<b>US 192</b>						
East RCID Boundary to I-4	D	6LD		2,940	<b>3,020</b>	-
I-4 to World Dr	D	6LD	3,410	4,650	<b>5,780</b>	6,340
World Dr to Griffin Rd	D	6LD	-	2,940	<b>3,020</b>	-
Griffin Rd to West RCID Boundary	D	6LD	-	2,940	<b>3,020</b>	-
<b>SR 429</b>						
South of Western Way	D	4LD	2,270	3,100	<b>3,890</b>	4,230
North of Western Way	D	4LD	2,270	3,100	<b>3,890</b>	4,230
<b>CR 535 (15% increase for constrained facility)</b>						
I-4 to Hotel Plaza Blvd	E	6LD	-	3,195	3,282	-
Hotel Plaza Blvd to Apopka-Vineland Rd	E	6LD	-	3,195	3,282	-
<b>World Drive</b>						
I-4 to Road B-1 (Griffin Rd)	E	4LD	2,270	3,100	3,890	<b>4,230</b>
Road B-1 (Griffin Rd) to US 192	E	4LD	2,270	3,100	3,890	<b>4,230</b>
US 192 to Osceola Pkwy	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Osceola Pkwy to Buena Vista Dr	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Buena Vista Dr to EPCOT Center Dr	E	6LD	3,410	4,650	5,780	<b>6,340</b>
EPCOT Center Dr to Vista Blvd	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Vista Blvd to WDW Ownership	E	4LD	2,270	3,100	3,890	<b>4,230</b>
<b>Epcot Center Drive</b>						
I-4 to Buena Vista Dr (+ Auxiliary Lanes)	E	6LD	4,410	5,650	6,780	<b>7,340</b>
Buena Vista Dr to World Dr	E	6LD	3,410	4,650	5,780	<b>6,340</b>
<b>Osceola Parkway</b>						
I-4 to Victory Way	E	6LD	3,410	4,650	5,780	<b>6,340</b>
Victory Way to World Dr (+ Auxiliary Lanes)	E	4LD	3,270	4,100	4,890	<b>5,230</b>
World Dr to Buena Vista Dr	E	4LD	2,270	3,100	3,890	<b>4,230</b>
<b>Western Way</b>						
Buena Vista Dr to Bear Island Rd	E	4LD	-	1,805	1,890	-
Bear Island Rd to SR 429	E	4LD	-	1,805	1,890	-
Hartzog Rd to Flagler Ave	E	4LD	-	690	1,540	<b>1,607</b>
Flagler Ave to CR 545 (Avalon Rd)	E	4LD	-	1,805	1,890	-
<b>Hartzog Road</b>						
SR 545 to Flagler Ave	E	2L	580	890	1,200	<b>1,610</b>
Flagler Ave to Western Way	E	4LD	-	690	1,540	<b>1,607</b>
Western Way to South RCID Boundary	E	4LD	-	690	1,540	<b>1,607</b>
<b>Buena Vista Drive</b>						
CR 535 to Disney Vacation Club Way	E	4LD	-	1,719	1,800	-
Disney Vacation Club Way to Hotel Plaza Blvd	E	4LD	-	1,719	1,800	-
Hotel Plaza Blvd to Bus Loop Entrance	E	6LD	-	1,106	2,381	<b>2,419</b>
Bus Loop Entrance to Typhoon Lagoon	E	8LD	-	1,521	3,204	<b>3,232</b>
Typhoon Lagoon to Bonnet Creek Pkwy	E	6LD	-	2,778	2,854	-
Bonnet Creek Pkwy to Backstage Lane (*)	E	6LD	-	2,778	2,854	-
Backstage Lane to Victory Way (*)	E	6LD	-	2,778	2,854	-
Victory Way to Epcot Resorts Blvd East (*)	E	6LD	-	2,778	2,854	-
Epcot Resorts Blvd East to Epcot Resorts Blvd West (*)	E	6LD	-	2,778	2,854	-
Epcot Resorts Blvd West to World Dr (*)	E	6LD	-	2,778	2,854	-
World Dr to Western Way	E	4LD	-	1,805	1,890	-
Western Way to Osceola Pkwy	E	4LD	-	1,805	1,890	-

Roadway / Segment	LOS Std.	# of Lanes	Level of Service Capacities			
			B	C	D	E
<b>Hotel Plaza Boulevard</b> (15% increase for constrained fac.)						
West of CR 535	E	4LD	-	756	1,687	<b>1,760</b>
East of Buena Vista Dr	E	4LD	-	756	1,687	<b>1,760</b>
<b>Florida Place (Center Dr Phase 2)</b>						
Center Dr to Floridian Way	E	4LD	-	1,719	1,800	-
World Drive North Phase 2	E	4LD	-	1,719	1,800	-
World Drive North Phase 3	E	4LD	-	1,719	1,800	-
<b>Bonnet Creek Parkway</b>						
Buena Vista Dr to Overpass Rd	E	4LD	-	1,719	1,800	-
Overpass Rd to Disney Vacation Club Way	E	4LD	-	1,719	1,800	-
Disney Vacation Club Way Dr to Vista Way	E	4LD	-	1,804	1,890	-
<b>EPCOT Resorts Boulevard</b>						
Buena Vista Dr to Water Bridge	E	4LD	-	657	1,467	<b>1,530</b>
Water Bridge to Dolphin Hotel	E	2L	-	333	675	<b>720</b>
Dolphin Hotel to Buena Vista Dr	E	4LD	-	657	1,467	<b>1,530</b>
<b>Victory Way</b>						
Osceola Pkwy to Buena Vista Dr	E	4LD	-	1,805	1,890	-
<b>Road B-1 (Griffin Road)</b>						
World Dr to US 192	E	2L	-	747	792	-
<b>Flagler Avenue</b> (Divided)						
Western Way to Flamingo Crossings	E	2LD	-	775	832	-

Note: From 2020 FDOT Quality/Level of Service Handbook Tables

## 2032 Conditions

Table 3-14 presents the projected 2032 peak hour / peak direction level of service conditions based on the capacities shown in Table 3-13. Figure 3-17 provides a graphic representation of the LOS conditions for the District's roadways. Based on 2032 projected traffic volumes, six State maintained roadway segments will operate below their adopted LOS standards:

- Interstate 4 from US 192 to Osceola Parkway,
- Interstate 4 from Osceola Parkway to Epcot Center Drive,
- Interstate 4 from Epcot Center Drive to CR 535,
- US 192 from East RCID Boundary to I-4,
- US 192 from World Drive to Griffin Road, and
- US 192 from Griffin Road to West RCID Boundary.

The ten segments of District roadways projected to function below their adopted LOS based on projected 2027 traffic volumes will continue to function below their adopted LOS based on projected 2032 traffic volumes without any roadway improvements:

- Western Way from Buena Vista Drive to Bear Island Road
- Western Way from Bear Island Road to SR 429
- Western Way from Hartzog Road to Flagler Ave
- Hartzog Road from Flagler Ave to Western Way
- Buena Vista Drive from Hotel Plaza Blvd to Bus Loop Entrance
- Buena Vista Drive from Bonnet Creek Parkway to Backstage Lane
- Buena Vista Drive from World Drive to Western Way
- Buena Vista Drive from Western Way to Osceola Parkway

- Hotel Plaza Blvd West of CR 535
- Flagler Ave from Western Way to Harzog Road

**Interstate 4** – These segments are included in the I-4 Beyond the Ultimate’s Segment 1B Phase to add four managed lanes; this phase is funded for preliminary engineering and right-of-way acquisition through 2023/24, but is not funded for construction. An interim Daryl Carter Parkway interchange project will add three new ramps connecting to I-4 including exit ramps from both directions and an entrance ramp to eastbound I-4. A westbound I-4 entrance ramp will be built as part of a future project. This project will also include construction of a single buffer-separated, managed lane to be constructed in three separate projects with the finished lane extending from west of Sand Lake Road to west of SR536. Construction and drainage improvements are currently funded in 2021/22 with landscaping funded in 2024/25. Letting for this design-bid-build project is anticipated in June 2022.

**US 192** – These roadway segments are not scheduled for any improvements. The new hotels and commercial development at Flamingo Crossings may relieve US 192 of some congestion by offering an alternative the US 192 tourist destination.

**Western Way** – The need to widen this roadway to six lanes was foreseen at the time of its design and construction. The sub-structure for the two bridges on Western Way were designed and constructed to accommodate additional decking when the roadway is widened from four to six lanes. The widening can be accommodated within the existing right-of-way. Prior to the widening of Western Way, the T-intersection at Buena Vista Drive would have to be redesigned to accommodate the projected future traffic volume. Additional capacity improvements to **Buena Vista Drive from World Drive to Western Way and Western Way to Osceola Parkway** are tied to the redesign of the intersection at Western Way and Buena Vista Drive. Sufficient right-of-way exists to widen these segments of Buena Vista Drive from four to six lanes.

**Hartzog Road** – There are no plans for additional capacity improvements to this road.

**Buena Vista Drive from Hotel Plaza Blvd to Bus Loop Entrance** – Capacity was added to this segment during the redevelopment of Disney Springs and the improvements to the Buena Vista Drive/Epcot Center Drive Projects. There are no plans for additional capacity within the Disney Springs although intersection improvements at Entrance 5 will improve reliability throughout the corridor.

**Bonnet Creek Parkway to Backstage Lane** – Capacity was added to these segments during the improvements to the Buena Vista Drive/Epcot Center Drive interchange. There is existing infrastructure in place to extend the dedicated bus lanes from Bonnet Creek Parkway to Backstage Lane and funds have been included in the Five-Year Schedule of Capital Improvements Roads to extend dedicated bus lanes to World Drive.

**Hotel Plaza Blvd** – This roadway is a constrained facility. The Hotel Plaza corridor is fully developed, primarily with hotel uses. The RCID has made a policy decision not to provide additional through lanes for this roadway in order to preserve existing land uses, support pedestrian mobility, and retain the attractive tree-lined character of the boulevard. As a constrained segment, the capacity on this roadway is allowed to exceed the minimum adopted standard. The increased congestion will create slower traffic speeds, improving pedestrian mobility and safety, while encouraging motorists to use other routes or modes of travel. A slip ramp to Buena Vista Drive was added from the I-4 ramp to CR 536 and very effort is made to direct vehicular travel away from Hotel Plaza Blvd to the slip ramp with signage and with directions provided by the resort owners within the District.

**Flagler Avenue** – There are no plans for additional capacity improvements to this road. This roadway is primarily for accessing hotels along Flagler Avenue and has been designed to encourage guests to walk between the hotels and the Flamingo Crossings Town Center commercial (retail and dining) development.

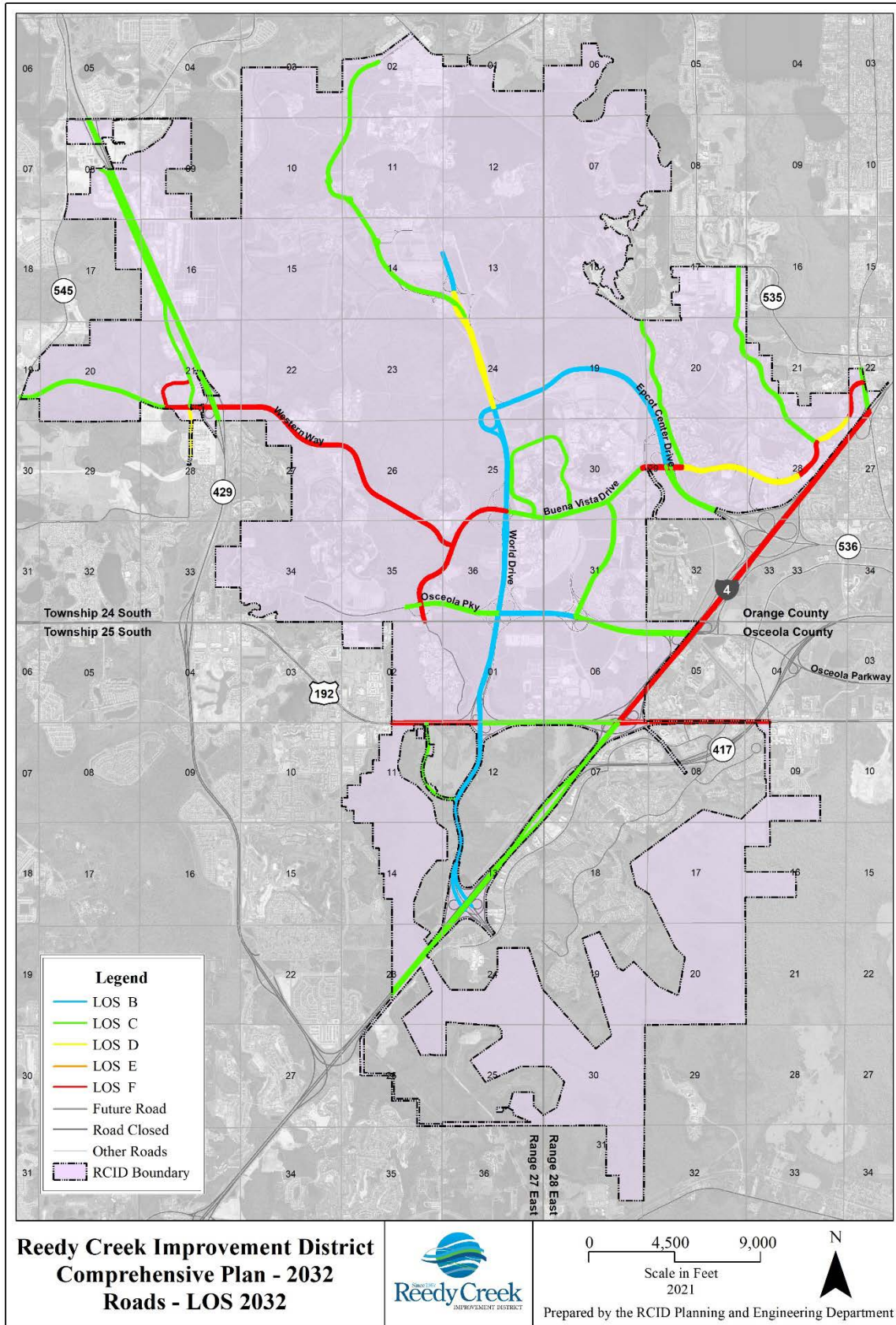
**Table 3-14: RCID Roadways – 2032 Level of Service (Future Conditions)**

Roadway / Segment	LOS Std.	# of Lanes	LOS Capacity	PM Peak Hour / Direction	
				Volume	LOS
<b>Interstate 4</b>					
S.W. RCID Boundary to World Dr (+ Auxiliary Lanes)	D	6LD	6,780	5,566	C
World Dr to US 192 (+ Auxiliary Lanes)	D	6LD	6,780	5,611	C
US 192 to Osceola Pkwy (+ Auxiliary Lanes)	D	6LD	6,780	7,384	F
Osceola Pkwy to Epcot Center Dr (+ Auxiliary Lanes)	D	6LD	6,780	8,095	F
Epcot Center Dr to CR 535 (+ Auxiliary Lanes)	D	6LD	6,780	10,039	F
<b>US 192</b>					
East RCID Boundary to I-4	D	6LD	3,020	3,352	F
I-4 to World Dr	D	6LD	5,780	3,537	C
World Dr to Griffin Rd	D	6LD	3,020	4,143	F
Griffin Rd to West RCID Boundary	D	6LD	3,020	3,923	F
<b>SR 429</b>					
South of Western Way	D	4LD	3,890	2,348	C
North of Western Way	D	4LD	3,890	2,663	C
<b>CR 535 (15% increase for constrained fac.)</b>					
I-4 to Hotel Plaza Blvd	E	6LD	3,282	3,268	C
Hotel Plaza Blvd to Apopka-Vineland Rd	E	6LD	3,282	2,663	C
<b>World Drive</b>					
I-4 to Griffin Rd	E	4LD	4,230	1,284	B
Griffin Rd to US 192	E	4LD	4,230	1,803	B
US 192 to Osceola Pkwy	E	6LD	6,340	2,704	B
Osceola Pkwy to Buena Vista Dr	E	6LD	6,340	2,475	B
Buena Vista Dr to Epcot Center Dr	E	6LD	6,340	3,089	B
Epcot Center Dr to Vista Blvd	E	6LD	6,340	4,662	D
Vista Blvd to WDW Ownership	E	4LD	4,230	1,838	B
<b>Epcot Center Drive</b>					
I-4 to Buena Vista Dr (+ Auxiliary Lanes)	E	6LD	7,130	4,607	C
Buena Vista Dr to World Dr*	E	6LD	6,130	1,728	B
<b>Osceola Parkway</b>					
I-4 to Victory Way	E	6LD	6,340	3,810	C
Victory Way to World Dr (+ Auxiliary Lanes)	E	4LD	5,230	3,001	B
World Dr to Buena Vista Dr	E	4LD	4,230	2,726	C
<b>Western Way</b>					
Buena Vista Dr to Bear Island Rd	E	4LD	1,890	4,291	F
Bear Island Rd to SR 429	E	4LD	1,890	4,073	F
Hartzog Rd to Flagler Ave	E	4LD	1,607	2,356	F
Flagler Ave to CR 545 (Avalon Rd)	E	4LD	1,890	1,470	C
<b>Hartzog Road</b>					
SR 545 to Flagler Ave	E	2L	1,610	594	C
Flagler Ave to Western Way	E	4LD	1,607	1,729	F
Western Way to South RCID Boundary	E	4LD	1,607	1,389	D
<b>Buena Vista Drive</b>					
CR 535 to Disney Vacation Club Way	E	4LD	1,800	956	C
Disney Vacation Club Way to Hotel Plaza Blvd	E	4LD	1,800	500	C
Hotel Plaza Blvd to Bus Loop Entrance	E	6LD	2,419	2,813	F
Bus Loop Entrance to Typhoon Lagoon	E	8LD	3,232	3,037	D
Typhoon Lagoon to Bonnet Creek Pkwy	E	6LD	2,854	2,832	D
Bonnet Creek Pkwy to Backstage Lane	E	6LD	2,854	3,267	F
Backstage Lane to Victory Way	E	6LD	2,854	2,748	C
Victory Way to Epcot Resorts Blvd East	E	6LD	2,854	2,734	C
Epcot Resorts Blvd East to Epcot Resorts Blvd West	E	6LD	2,854	2,472	C
Epcot Resorts Blvd West to World Dr	E	6LD	2,854	2,534	C
World Dr to Western Way	E	4LD	1,890	3,081	F
Western Way to Osceola Pkwy	E	4LD	1,890	2,419	F



Roadway / Segment	LOS Std.	# of Lanes	LOS Capacity	PM Peak Hour / Direction	
				Volume	LOS
<b>Hotel Plaza Boulevard</b> (15% increase for constrained fac.)					
West of CR 535	E	4LD	1,760	1,879	F
East of Buena Vista Dr	E	4LD	1,760	1,612	D
<b>Floridian Place</b>					
Center Dr to Floridian Way			1,800	831	C
World Drive North Phase 2		4LD	1,800	839	C
World Drive North Phase 3		4LD	1,800	861	C
<b>Bonnet Creek Parkway</b>					
Buena Vista Dr to Overpass Rd	E	4LD	1,800	327	C
Overpass Rd to Disney Vacation Club Way	E	4LD	1,800	588	C
Disney Vacation Club Way Dr to Vista Way	E	4LD	1,890	476	C
<b>EPCOT Resorts Boulevard</b>					
Buena Vista Dr to Water Bridge	E	4LD	1,530	633	C
Water Bridge to Dolphin Hotel	E	2L	720	239	C
Dolphin Hotel to Buena Vista Dr	E	4LD	1,530	610	C
<b>Victory Way</b>					
Osceola Pkwy to Buena Vista Dr	E	4LD	1,890	781	C
<b>(Griffin Road)</b>					
World Dr to US 192	E	2L	792	178	C
<b>Flagler Avenue</b>					
Western Way to Hartzog Rd	E	2LD	832	970	F

Figure 3-17: RCID Roadways – 2032 Level of Service



# TRANSPORTATION NETWORK

Based on the existing and future conditions analyses provided in the preceding sections of this element, a transportation network for the Reedy Creek Improvement District has been developed for both 2027 and 2032. These roadway networks are presented in Figures 3-1 and 3-2 (in the Policies section).

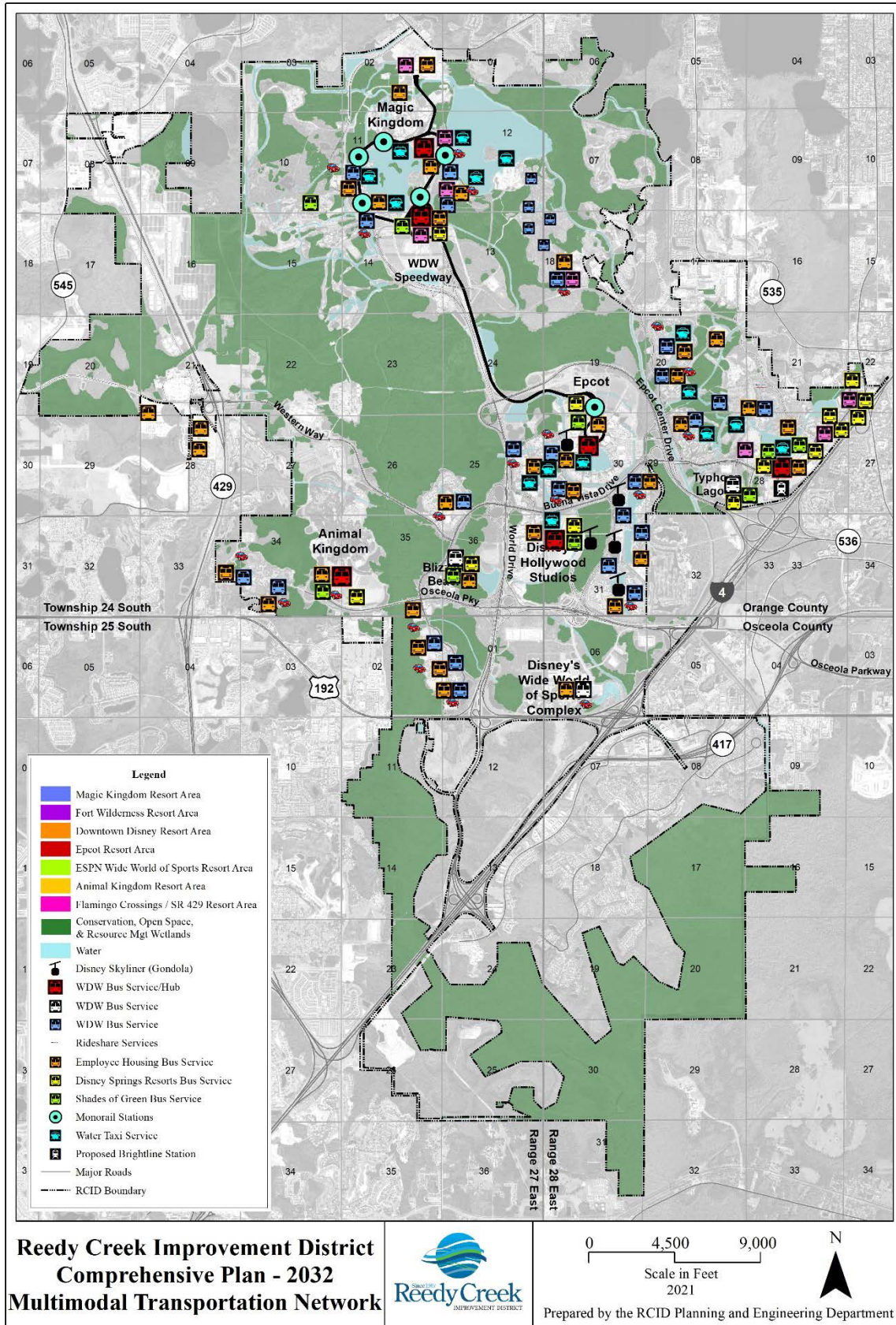
## **2027/2032 TRANSPORTATION NETWORK**

The Districts 2027/2032 transportation network will be little changed from the existing network with the exception of a new roadway completing the linking of World Drive to Reams Road. Additional roadway improvements are likely to be required as discussed previously, but not necessarily adding additional lanes to deficient roadways. Building new lanes adds capacity, but decades of traffic data across the United States shows that adding new road capacity doesn't actually improve congestion. The District will instead most likely concentrate on maintaining travel time reliability by improving intersection functionality and encouraging the use of other transportation options. Private bus service within the District is extensive and buses and routes will be added as demand dictates. Additional LYNX service within the District will also be dictated by demand. Although no new sidewalks are planned to be added to existing roadways, pedestrian facilities are an integral feature of the Disney Springs and Flamingo Crossings developments with pedestrian bridges planned to facilitate the safe crossings of Harzog Road and Western Way as residential development within Orange County brings additional traffic to the Flaming Crossings commercial development and to access SR-429.

As shown in Figure 3-18, RCID has an extensive public/private multimodal transportation network that includes:

- efficient roadway system utilizing destination signage with an aggressive plan for the additional of dynamic messaging,
- extensive bus service with dedicated bus lanes through the busy Disney Springs corridor,
- water based transportation between resorts, attractions, and commercial districts,
- monorail service between resorts and attractions,
- gondola service between resorts, attractions, and commercial districts,
- ride-share services,
- pedestrian bridges in pedestrian friendly, high traffic corridors, and
- proposed future Brightline and Sunrail service to Disney Springs.

Figure 3-18: Multimodal Transportation Network





Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**HOUSING  
ELEMENT**

**Part A:  
Policies**

# INTRODUCTION

The RCID Housing Element addresses the need for suitable housing both within the District and beyond District boundaries. Because the RCID is a major regional employment center, the element's focus is on the housing needs of persons employed within District boundaries rather than its small population of permanent residents. The element analyzes existing and future employee housing needs, evaluates housing market conditions around the District, and identifies any potential gaps between supply and demand. The element has two major components: the "Policies" component contains the goals, objectives, and policies which will guide the District's housing program during the coming years; and the "Supporting Data and Analysis" component includes an assessment of housing needs for residents and employees.

## GOALS, OBJECTIVES, AND POLICIES

### GOAL A

***It is the goal of the Reedy Creek Improvement District to facilitate the provision of an adequate and affordable supply of housing that accommodates all current and future permanent residents of the District.***

#### Objective 1

*To maintain the structural integrity and aesthetic quality of existing residential areas, conserve existing affordable housing within its boundaries, and facilitate the development of new affordable housing (including manufactured and mobile homes) as needed to accommodate the District's existing and projected permanent resident population.*

Policy 1.1: The District shall ensure that the permanent residential areas in the cities of Bay Lake and Lake Buena Vista are maintained in excellent condition. The District will promptly respond to any problems associated with structural deficiencies or visual blight in these areas.

Policy 1.2: In the event that future development would result in the displacement of either of the existing permanent residential areas, the District shall adopt a resident relocation plan prior to project approval.

Policy 1.3: The RCID shall ensure that vacant land is made available on the Future Land Use Map to accommodate the development of affordable housing for the projected permanent resident population.

## Objective 2

*To ensure that RCID planning, development, and building regulations allow the private sector to construct housing, including group homes, foster care facilities, manufactured homes, and mobile homes, within District boundaries.*

- Policy 2.1: Housing, including group homes, foster care facilities, manufactured homes, and mobile homes, shall be permitted land uses in all areas designated for mixed use development.
- Policy 2.2: In the event that new permanent residential development is proposed within designated Mixed Use areas, the District shall adopt performance standards which ensure that such development is buffered or appropriately separated from potentially incompatible adjoining uses also permitted in these areas. These standards shall be adopted prior to the approval of such development.
- Policy 2.3: Any new housing in the RCID shall continue to be available to all persons, regardless of race, religion, sex, familial status, national origin, disability, or color.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 2.4: Any new housing within the RCID shall be located close to employment centers and shall have infrastructure existing or committed at the time of development.

## GOAL B

***Recognizing the District's historic and projected role as a major regional employment center, it is the goal of the Reedy Creek Improvement District, to the extent required by Chapter 163 Part II, F.S., to facilitate the provision of an adequate supply of affordable housing for any unmet affordable housing need generated by employment growth within the District.***

## Objective 3

*To identify ~~a specific~~ geographic areas extending beyond District boundaries within which the District will facilitate the creation of affordable housing opportunities.*

- Policy 3.1: Because no increase in the District's permanent resident population is projected through ~~2020~~2032 and because increases in employment within the District are projected, the focus of the District's housing programs shall be on facilitating affordable housing production for persons employed within District boundaries.
- Policy 3.2: The District's affordable housing programs will be directed within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 3.3: Deleted (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance

Nos. 135 and 131 adopted 5/24/2022)

Policy 3.2: The RCID's activities with regard to housing shall be particularly targeted to "low" and "very low" income households as defined in Chapter 420 F.S., for the Orlando MSA. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

#### **Objective 4**

*To implement an affordable housing program within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services that facilitates access to affordable housing for persons employed within the District.*

(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 4.1: Projects outside RCID boundaries which do not meet the affordability criteria described above may receive water or sewer capacity from the RCID through interlocal agreements. In such instances, the developers of such projects shall be required to pass along savings resulting from the District's provision of these services in the form of more affordable sale and rental prices or other public or community amenities.

Policy 4.2: The District shall work with public transit providers to increase the availability of public transportation between the District and affordable housing projects or areas. As appropriate, the District shall also work with the major landowners and private transportation companies to consider the feasibility of private transit services (including shuttle buses, vans, etc.) between affordable housing and District employment centers.

Policy 4.3: The RCID will consider modifications to its stormwater permit fees (for example, allowing such fees to be paid in interest-free installments over five years) as a means of reducing front-end developer costs for affordable housing projects in the Reedy Creek drainage basin.

Policy 4.4: To the extent feasible, the District will ensure that rental units created through affordable housing programs sponsored by the District or its major landowners meet the Housing Finance Agency requirements to remain affordable for a specified period of time.

Policy 4.5: All hearings or public meetings conducted by the RCID regarding housing shall continue to be publicly noticed.

#### **Objective 5**

*To work collaboratively with the primary employers within its boundaries to ensure that affordable housing opportunities are provided to local employees.*



- Policy 5.1: The RCID will work with the District's primary employer to establish a Housing Information component in their recruitment and/ or employment processes.
- Policy 5.2: The RCID will encourage the District's primary employer to continue to develop housing for its employees, similar to its current Flamingo Crossings Village programs.
- Policy 5.3: The RCID will encourage the District's primary employer to pursue a range of strategies to facilitate the production of affordable and attainable housing within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- (1) Investments in federal low income housing tax credit (LIHTC) programs, particularly where such investments enable new rental housing units to meet HUD affordability criteria for "low" and "very low" income employee households.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
  - (2) Silent second mortgages for "low" and "very low" income employee households. Through this program, the primary employer would make second mortgage loans and defer repayment until the units are resold. Implementation of this program will require setting an upper limit on the purchase price of the unit, and could be implemented at particular projects selected to encourage short commutes (such as the Southlake project) or could be made available for use within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
  - (3) Mortgage interest rate subsidies for "low" and "very low" income employee households. This would also require setting an upper limit on the purchase price of the unit and could be targeted to specific units or made available for use within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 5.4: Deleted (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 5.5: The following additional activities may be employed by the RCID and primary employer to achieve the objective of providing additional affordable housing units, provided that the activity or combination of activities has the benefit of reducing the costs of the unit by at least 5 percent:

- (1) Acquisition and donation of land for affordable housing development within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- (2) Affordable housing construction outside of the District but within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services, which is provided with assistance by RCID or an employer within RCID.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- (3) Direct rental assistance provided by RCID, or employers within RCID, to “low” and “very low” income households.
- (4) Participation in community service projects such as Habitat for Humanity.
- (5) Technical assistance to nonprofit organizations involved in the provision of affordable housing or housing services  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022).
- (6) Down payment assistance to persons employed within the RCID.
- (7) Transportation assistance between affordable housing projects and employment locations within the RCID.
- (8) Any other activities identified in this element or developed in the future relating to the provision of affordable housing units within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 5.6: The RCID will encourage employers within its boundaries to provide job training and other programs creating economic opportunities for “low” and “very low” income persons. By providing a stable and reliable income source, such programs can assist “low” and “very low” income households in obtaining adequate housing.

Policy 5.7: The RCID will encourage the continued participation of the primary employer in the Second Harvest Food Bank program, providing food for “very low” income households and thereby providing greater disposable income for shelter and other needs.

Policy 5.8: The District shall encourage lessees, tenants, and third party employers not directly affiliated with the primary employer to participate in RCID housing programs.

## Objective 6

*To maximize the effectiveness of District housing programs by coordinating and collaborating with adjacent jurisdictions and other public agencies.*

- Policy 6.1: The District shall continue to work with the East Central Florida Regional Planning Council (ECFRPC) in its ongoing efforts to assess affordable housing needs and develop solutions to meeting unmet needs. The District shall actively seek representation on any ECFRPC task force created to address the issue of affordable housing.
- Policy 6.2: The District shall work cooperatively with adjacent local governments to facilitate the production of affordable housing and assure that a sufficient supply of land to meet affordable housing needs is retained within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services. Interlocal agreements with Orange County shall be developed as necessary and appropriate to create affordable housing opportunities within the Horizons West area to the north and northeast of District boundaries.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 6.3: Interlocal agreements governing any future deannexation of land from the District into the adjacent counties shall address the issue of affordable housing. The receiving county will be encouraged to explore affordable housing opportunities within the area being deannexed.
- Policy 6.4: The District shall support efforts to partner with Orange, Osceola, Lake, and Polk counties, and other jurisdictions as appropriate, to develop performance standards, policies, and developer incentives to encourage/ facilitate development of innovative communities and affordable housing. The District shall also support public/private partnerships between developers and local governments, including the District's major landowners and nearby local governments, to produce affordable housing.
- Policy 6.5: To the extent feasible and appropriate, future affordable housing activities of the District and its primary employer shall be integrated with State and County programs, such as the SAIL (State Apartment Incentive Loan) program, SHIP (State Housing Initiative Partnership) program, and HOME (Home Investment Partnership) program. Although the District is ineligible to receive such funds directly, they may assist nonprofit developers who receive these funds, thereby further improving the affordability of housing.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**HOUSING  
ELEMENT**

**Part B:  
Supporting Data and Analysis**

# PURPOSE

The purpose of a Housing Element is to set forth the goals, objectives, and policies a community will follow to ensure that its current and future residents are provided with adequate housing. This does not present a significant challenge within the Reedy Creek Improvement District because the existing population is very small and no growth is anticipated. However, since the District includes a major employment center, this element focuses on the affordable housing needs of persons *employed* within District boundaries. The District's activities with regard to affordable housing are primarily targeted to "low" and "very low" income households, as defined in Chapter 420 F.S., for the Orlando Metropolitan Statistical Area (MSA).

The Housing Element includes a discussion of existing housing and projected housing needs for the residents of Bay Lake and Lake Buena Vista. It continues with a discussion of employee-generated housing needs.

Goals, objectives, and policies are included in the preceding part of the Housing Element.

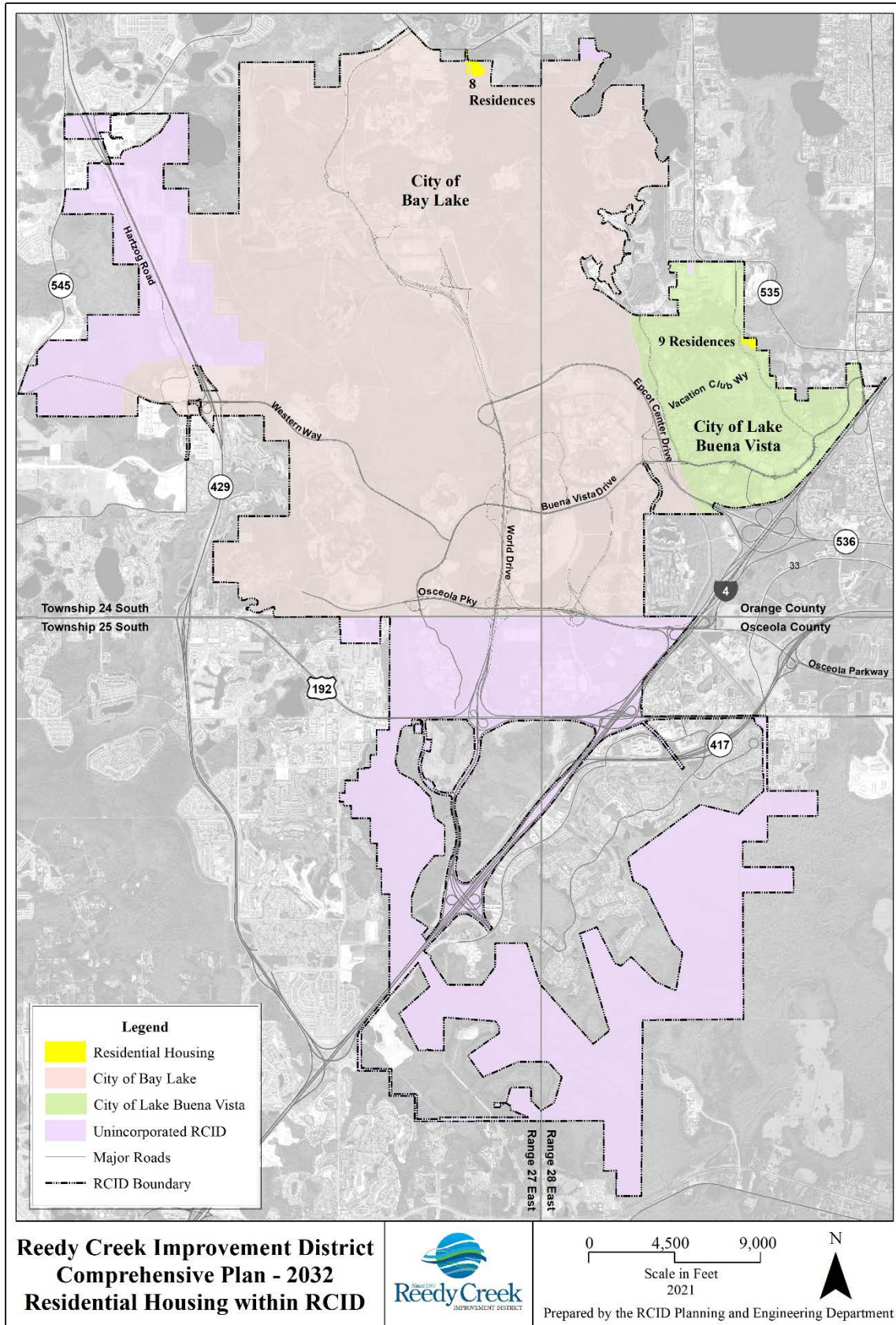
# HOUSING PROFILE OF THE DISTRICT

## PERMANENT HOUSING

The RCID has a permanent population of 34 residents living in 17 manufactured homes. The supply of housing in the District is sufficient to meet the needs of these residents. The homes are in two licensed mobile home parks, one in Lake Buena Vista off of Buena Vista Drive, and the other in Bay Lake. The Lake Buena Vista complex has 9 units and a permitted capacity of 9 units. The Bay Lake complex has 8 units and a permitted capacity of 9 units. Housing costs for these residents fall within state guidelines for affordability, i.e., expenses for housing of no greater than 30 percent of gross monthly income.

Figure 4-1 shows the location of all permanent housing units in the District. There are no other housing types within District boundaries. Although group homes and foster care facilities are permitted in all Mixed Use areas, these housing types do not currently exist. All housing within the District has complete plumbing, central heating, complete kitchens, and air conditioning. There are no publicly subsidized units, nor are there any homes listed on the Florida Master Site File, the National Register of Historic Places, or local historic inventories.

Figure 2-1: Residential Housing within RCID



## TOURIST HOUSING

There are various types of transient housing for visitors to the District: hotel/resort rooms, villas, suites, campsites (includes recreational vehicle sites) and cabins. Table 4-1 includes a breakdown of these units and the average daily population by unit type. Tourist housing types are shown in Table 4-2 below.

**Table 4-1: Permanent and Transient Housing Within the RCID**

Type	Units	Average Population
Permanent Housing	17	34
Transient Housing		
Hotel/Resort Rooms	36,506	93,535
Campsites and Cabins	1,223	3,816
Total Transient	37,729	97,351

*Note: Population for transient housing is based on average guests and occupancy rates per housing type.*

There are currently 48 operating hotels/resorts as follows:

**Table 4-2: Hotel/Resort Type**

Ownership	Classification	# of Hotels/Resorts
Disney Entities	Campground	1
	Value	5
	Moderate	5
	Deluxe	8
	Deluxe Villa	12
Third Party Entities	Value	2
	Moderate	3
	Deluxe	4
	Suites	5
	Deluxe Villa	3

## EMPLOYMENT-GENERATED HOUSING NEEDS

Since the adoption of the 1991 Comprehensive Plan, the District's Housing Element has focused on the housing needs of persons employed within RCID boundaries. Although the District has only 34 residents, it has an employment base of about 70,000 workers. These employees represent a broad range of incomes and household types. The District's adopted policies and programs strive to encourage an adequate supply of affordable housing for employees and their households. Historically, this has included measures to assist employees in finding suitable housing, and encouraging measures to support the development of affordable housing within the vicinity of the District.

The District's affordable housing efforts were focused within a "Housing Target Zone" (HTZ) that encompassed most of the southwest quadrant of greater Orlando. The purpose of the HTZ was to recognize the distribution pattern of employee residences and concentrate affordable housing programs within that area.

The District completed its first Affordable Housing Study in 1996 to fulfill the requirements of a 1992 Compliance Agreement between the District and the Florida Department of Community Affairs. The purposes of the Study were:

- To refine the boundaries of a "Housing Target Zone" (HTZ) that encompassed most of the southwest quadrant of greater Orlando. The purpose of the HTZ was to recognize the distribution pattern of employee residences and concentrate affordable housing programs within that area. In essence, the HTZ was the "commuter-shed" for the District. Although some employees lived beyond this zone, the HTZ was mapped to provide all employees with an opportunity for affordable housing within a reasonable commute of District employment centers.
- To assess unmet affordable housing needs arising from employment growth during the 1990-1995 and 1995-2000 periods.
- To suggest appropriate mitigation measures to serve any unmet needs for "low" and "very low" income workers for the 1995-2000 period.

Since the completion of the 1996 Affordable Housing Study the District updated the study three times: in 1998, 2005, and 2008. The analysis was based on an approved East Central Florida Regional Planning Council (ECFRPC) Affordable Housing Methodology which was adopted in 1999 and which served as the guiding methodology for all Development of Regional Impact applications across the State of Florida. Despite rising housing and commuter cost, these affordable housing studies based on the ECFRPC methodology failed to adequately recognize the growing need for affordable housing within the Orlando MSA. The ECFRPC methodology is no longer accepted.

Central Florida has a critical shortage of affordable housing. Although local governments are expected to create an environment that is favorable to development of affordable housing by the private sector, land values, construction costs, and zoning requirements are frequently present insurmountable roadblocks to affordable and attainable development projects. HUD Data and data from The Rental Market Study prepared by the Shimberg Center for Housing Studies at the University of Florida are presented in Tables 4-3 thru Tables 4-6 to show the extent of the problem.



**Table 4-3: 2022 Income Limits and Rent Limits Based on U.S. Department of HUD**

Income Category % of AMI (Area Median Income)	Income Limit by Number of Persons in Household				Rent Limit by Number of Bedrooms			
	1	2	3	4	0	1	2	3
<b>Lake, Orange, and Osceola, Counties – AMI = \$80,100</b>								
Very Low (30%)	\$17,400	\$19,900	\$23,030	\$27,750	\$435	\$466	\$575	\$752
Low (50%)	\$29,050	\$33,200	\$37,350	\$41,450	\$726	\$778	\$933	\$1,078
Moderate (80%)	\$46,450	\$53,050	\$59,700	\$66,300	\$1,161	\$1,243	\$1,492	\$1,724
Attainable (120%)	\$69,720	\$79,680	\$89,640	\$99,480	\$1,743	\$1,867	\$2,241	\$2,587
Attainable (140%)	\$81,340	\$92,960	\$104,580	\$116,060	\$2,033	\$2,178	\$2,614	\$3,018
<b>Polk County – AMI = 67,500</b>								
Very Low (30%)	\$14,200	\$18,310	\$23,030	\$27,750	\$355	\$406	\$575	\$752
Low (50%)	\$23,650	\$27,000	\$30,400	\$33,750	\$591	\$633	\$760	\$877
Moderate (80%)	\$37,800	\$43,200	\$48,600	\$54,500	\$945	\$1,012	\$1,215	\$1,404
Attainable (120%)	\$56,760	\$64,800	\$72,960	\$81,000	\$1,419	\$1,519	\$1,824	\$2,106
Attainable (140%)	\$66,220	\$75,600	\$85,120	\$94,500	\$1,655	\$1,772	\$2,128	\$2,457

The Florida Minimum Wage is currently \$10 per hour or approximately \$20,800 per year; and is scheduled to increase to \$15 per hour or approximately \$31,200 per year on September 30,2026.

**Table 4-4: Low Income (≤60% AMI) / Cost Burdened (>40%) Renter Households**

County	All Renter Households	Low Income (≤60% AMI) / Cost Burdened (>40%) Renters	Low Income / Cost Burdened Renters as % of All Renters in County	Low Income / Cost Burdened Renters as a % of State Total
Lake	33,965	9,246	27%	1.16%
Orange	223,433	67,432	30%	8.48%
Osceola	46,286	15,639	34%	1.97%
Polk	78,539	20,305	26%	2.55%
<b>Total</b>	<b>382,223</b>	<b>112,622</b>	<b>29.46%</b>	<b>14.16%</b>

*Shimberg Report*

**Table 4-5: Low Income (≤60% AMI) / Cost Burdened (>40%) Renter Households by Household Size**

County	1-2 Persons	% 1-2 Persons	3-4 Persons	% 3-4 Persons	5 or More Persons	% 5 or More Persons
Lake	6,362	68.8%	2,075	22.4%	810	8.8%
Orange	38,901	57.7%	20,801	30.8%	7,730	11.8%
Osceola	7,215	46.1%	5,141	32.9%	3,282	21.0%
Polk	11,727	57.8%	6,035	29.7%	2,543	12.5%
<b>Total</b>	<b>64,205</b>	<b>57.01%</b>	<b>34,052</b>	<b>30.24%</b>	<b>14,365</b>	<b>12.75%</b>

*Shimberg Report*

**Table 4-6: 2019 Renter Households by Detailed Income and Cost Burden**

Counties	0-30% AMI			30.01-60% AMI			60.01-80% AMI		
	All Renters in Income Category	Cost Burdened (>40%) Renters in Category	% Cost Burdened	All Renters in Income Category	Cost Burdened (>40%) Renters in Category	% Cost Burdened	All Renters in Income Category	Cost Burdened (>40%) Renters in Category	% Cost Burdened
Lake	5,739	4,159	72%	8,913	5,087	57%	5,126	1,000	20%
Orange	34,914	27,297	78%	54,546	40,136	74%	30,484	9,764	32%
Osceola	9,133	7,044	77%	11,521	8,595	75%	6,447	1,840	29%
Polk	13,406	9,168	68%	18,151	11,136	61%	10,949	2,695	25%
<b>Total</b>	<b>63,192</b>	<b>47,666</b>	<b>75%</b>	<b>93,131</b>	<b>64,954</b>	<b>70%</b>	<b>53,006</b>	<b>15,299</b>	<b>29%</b>

**Table 4-6: 2019 Renter Households by Detailed Income and Cost Burden**

Counties	80.01-120% AMI			120.01-140% AMI		
	All Renters in Income Category	Cost Burdened (>40%) Renters in Category	% Cost Burdened	All Renters in Income Category	Cost Burdened (>40%) Renters in Category	% Cost Burdened
Lake	6,791	642	9%	1,933	X	X
Orange	45,079	3,640	8%	15,505	X	X
Osceola	9,898	0	N/A	2,751	X	X
Polk	16,478	1,362	8%	6,137	X	X
<b>Total</b>	<b>78,246</b>	<b>5,644</b>	<b>7%</b>	<b>26,326</b>	<b>X</b>	<b>X</b>

Notes: X indicates results are not statistically significantly different from zero.

## THE ORANGE COUNTY HOUSING FOR ALL 10-YEAR ACTION PLAN

In April 2019, Mayor Jerry L. Demings launched the Housing for All Task Force to prioritize solutions to address the affordable housing crisis in Orange County. As the tables above show, an affordable housing crisis exists throughout the Central Florida region. In November 2019, Orange County published its Housing for All 10-year Action Plan, a collaborative effort of the Task Force consisting of representatives from non-profit organizations, major employers, local homebuilders, real estate developer associations, community partners, and financial institutions. Continued involvement from these industries and groups, among others, is crucial to fully realizing the mission and goals of the Action Plan.

The Housing for All 10-year Plan proposes targeting 35 percent of the total number of housing units (86,100) projected to be developed in Orange County during the next 10 years to create and preserve 11,000 affordable and 19,300 attainable housing units (30,300 total) by:

- Creating 6,600 missing middle housing units;
- Eliminating regulatory barriers to create 10,500 housing units; and
- Integrating affordable, attainable, and market rate housing units to create 13,200 units.

The recommended tools and strategies are projected to create a variety of housing types, as well as preserving existing units, to provide more Orange County residents with housing options they can afford. The Action Plan primarily focuses on housing that is either affordable or attainable. Affordable housing units are those units that serve households with incomes between 30 percent and 120 percent of the area median income (AMI) in 2019 or between \$25,750 and \$83,280 for a family of four. Attainable housing or “work force housing” serves households with income between 120 percent and 140 percent of AMI or \$83,280 and \$97,160.

The Task Force formed three subcommittees – Design & Infrastructure, Accessibility & Opportunity, and Innovation & Sustainability – to address:

- What housing products are needed?
- Where they should be located? and
- How could financial and regulatory incentives support a broad range of housing construction and preservation efforts throughout the County?

The Plan focuses on tools and strategies to address four areas:

- Remove regulatory barriers and introduce new policies;
- Create new financial resources;
- Target areas of access and opportunity; and
- Engage the community and industry.

A senior vice president with the Walt Disney Resort served on the Accessibility & Opportunity Subcommittee of the Housing for All Task Force which was tasked with recommendations related to providing easy access to housing by encouraging development of affordable units near employment centers, transit, and essential services, as well as opportunities for adaptive reuse of existing buildings. This sub-committee was also charged with assessing tools and potential partnerships to increase awareness of affordable housing needs and developing public outreach recommendations.

Many of the recommendations of the Housing for All Task Force are similar to requirements of the SHIP program mandates that all municipalities receiving SHIP funds establish local initiatives that foster affordable housing development. To guide advisory committees, the SHIP Statute provides eleven affordable housing incentives; each strategy must be considered by the AHAC.

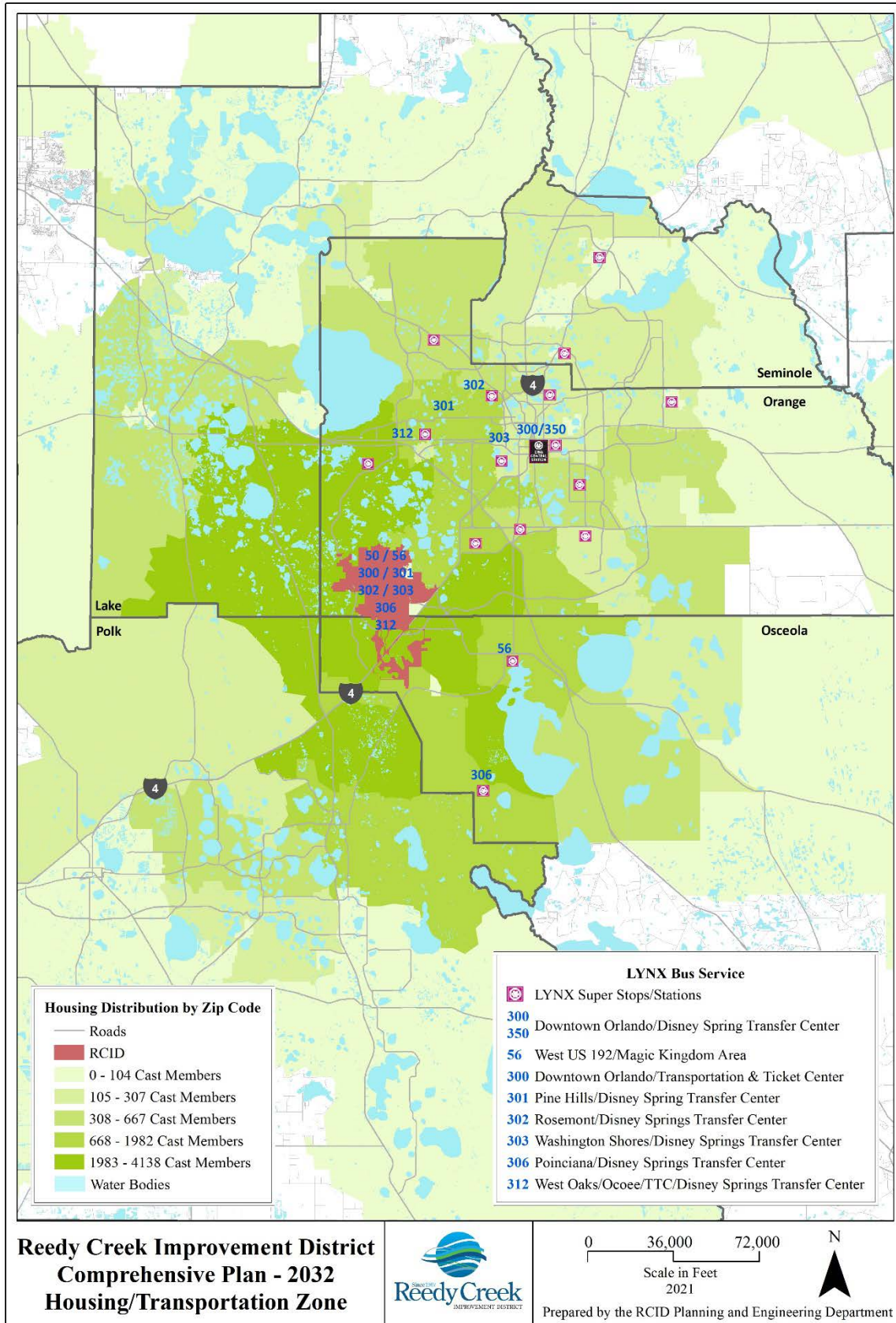
Florida Statutes, Sec. 420.9076 (4):

- (a) Expediting processing approvals of development orders or permits for affordable housing projects over other housing projects.
- (b) Modifying impact-fee requirements, including reduction or waiver of fees and alternative methods of fee payment for affordable housing.
- (c) Allowing flexibility in densities for affordable housing.
- (d) Reserving infrastructure capacity for housing for very low-income persons, low-income persons, and moderate-income persons.
- (e) Allowing affordable accessory residential units in residential zoning districts.
- (f) Reducing parking and setback requirements for affordable housing.
- (g) Allowing flexible lot configurations, including zero-lot-line configurations for affordable housing.
- (h) Modifying street requirements for affordable housing.
- (i) Establishing a process by which a local government considers, before adoption, policies, procedures, ordinances, regulations, or plan provisions that increase the cost of housing.
- (j) Preparing a printed inventory of locally owned public lands suitable for affordable housing.
- (k) Supporting development near transportation hubs and major employment centers and mixed-use developments.

Not all these incentives are equally important or relevant to a particular SHIP jurisdiction. The guidebook emphasizes those incentives that are valuable to most jurisdictions. The two most important incentives are the required two that must be adopted as a threshold for receiving funding: (a.) expedited permitting and (i.) establishing a process by which a local government considers, before adoption, policies, procedures, ordinances, regulations, or plan provisions that increase the cost of housing.

Figure 2-2: shows the distribution by zip code of Disney employees and access to LYNX bus service. As home of the largest employer in Central Florida, Task Force recommendations to encourage development of affordable and attainable units near employment centers and transit services will greatly benefit the employees of the RCID. RCID will work with LYNX to provide residents not employed within the RCID of the proposed Disney affordable housing project with transportation to other employment centers.

**Figure 2-2: Distribution of Disney Employees and Availability of Public Transportation Service**



## **EFFORTS FROM WITHIN THE RCID**

On April 6, 2022, Disney announced plans to build at least 1,300 affordable housing units on about 80 acres in Orange County near the Flamingo Crossings mixed use development. These units will be available to qualified applicants among its employees and the general public. This project is “still in the early planning stages,” so no details are available other than that a variety of affordable and attainable housing choices will be included. The development will offer amenities and will be located close to schools. The District will work with LYNX to provide public transportation to and from this area.

Additionally, Disney assists in addressing the affordable housing needs of persons employed within the District by providing two apartment complexes to serve the affordable housing needs of the national and international students participating in their college internship program. These two new complexes, also located in the Flamingo Crossings mixed use development, replaced four apartment complexes located near the Little Lake Bryan mixed use development area. The two complexes consist of 2,613 units designed to house 10,456 residents. Bus loops have been incorporated into the design of the complexes to provide transportation from the two apartment complexes to the various employment locations within the RCID. Two pedestrian bridges currently under construction and slated for completion within the next few months will provide safe access to the Flamingo Crossings Town Center retail and dining complex.

The District has facilitated the provision of affordable housing in the past and will continue to do so in the future. Policies in the Element provide specific direction on how this goal may be achieved. In addition, efforts have been directed toward increasing the availability of public transportation between the RCID and Orange and Osceola Counties. In addition to providing affordable housing and transit services, The Walt Disney Company 2021 Corporate Social Responsibility Report highlights the following:

### **Competitive Pay & Benefits**

With the exception of participants of the WDW college program, which includes benefits such as housing and transportation, and tipped employees, most full-time and part-time employees in their parks and resorts earn a minimum of \$15 per hour; the median hourly earnings is more than \$17 per hour.

### **Education**

In August 2018, Disney Aspire was launched through a five-year \$150 million commitment and offers full-time and part-time hourly employees the opportunity for educational and personal development with tuition cost paid up front at a network of schools and programs, ranging from learning a new trade to high school completion and college and post-graduate degrees. At the end of 2021 over 12,500 employees had enrolled in courses, and as of the end of FY 2021, 40 percent of Disney Aspire graduates have earned a bachelor’s or master’s degree with another 40 percent of graduates enrolled in a second program.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**INFRASTRUCTURE  
ELEMENT**

**Part A:  
Policies**

# INTRODUCTION

The Infrastructure Element addresses the provision of water, sewer, solid waste, and stormwater management services within the Reedy Creek Improvement District. It is divided into four “Subelements,” corresponding to these topics. The element consists of a “Policies” component, which includes adopted goals, objectives, and policies for infrastructure, and a “Supporting Data and Analysis” component, which provides narrative text, tables, and maps describing existing and future conditions.

## GOALS, OBJECTIVES, AND POLICIES

### GOAL

***It is the goal of the Reedy Creek Improvement District to provide water, sewer, solid waste, and stormwater management services to existing and future development within its boundaries in the most efficient, cost-effective, and environmentally sound manner possible.***

### POTABLE WATER

#### Objective 1

*To extend and increase the capacity of central water facilities in a manner that meets future needs and maintains current levels of service.*

Policy 1.1: The following level of service standards are adopted for the purposes of determining the adequacy and design capacity for potable water facilities:

Land Use	Unit	Gallons/Day
Residential	dwelling	350
Hotel/ <u>Resort</u> (general)	keys	200
Luxury/Deluxe/ <u>DVC</u>	keys	250
First Class	keys	200
Moderate/Economy	keys	150
Convention Space	square foot	0.25
Support/ Office	square foot	0.25
Retail/General Commercial	square foot	0.30
Restaurant	seat	25
Theme Parks (general)	guest	50
Theme Parks (water)	guest	75

The Hotel/Resort standards listed above presume that reclaimed water is available for irrigation use. In the event that reclaimed water is not available, hotel and other resort standards shall be multiplied by 1.5.

(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135



and 131 adopted 5/24/2022)

Policy 1.2: The adopted level of service standards shall be used as the basis for replacing, expanding, or increasing the capacity of potable water facilities and potable water supplies. (Amended by Ordinance/Resolution No. 482 adopted 09/24/2008 and Ordinance Nos. 121 and 122 adopted 09/22/2008)

Policy 1.3: Development approvals shall be conditioned upon a specific finding that the increase in potable water demand resulting from the development can be met without a reduction in the adopted level of service no later than the date on which the District anticipates issuing a certificate of occupancy. (Amended by Ordinance/Resolution No. 482 adopted 09/24/2008 and Ordinance Nos. 121 and 122 adopted 09/22/2008)

Policy 1.4: Potable water system improvements shall be undertaken in accordance with the priority list identified in the Capital Improvements Element. This list shall be based on the following criteria:

- (1) first priority shall be for correcting deficiencies in the system, should such deficiencies arise in the future, and for improvements that serve health and safety functions or maximize the efficiency of the existing system;
- (2) second priority shall be for extensions to the system that accommodate development through 2027; and
- (3) third priority shall be for extensions to the system that accommodate development beyond 2032.

(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 1.5: All new development in the District shall continue to include a water system of sufficient size and design to supply water for fire protection within each building or structure to be erected within the development.

Policy 1.6: The potable water system shall have the following minimum design criteria:

- (1) *Design Flow:* The greater of instantaneous peak demand or fire flow (3,500 gpm minimum) plus peak-day demand.
- (2) *Storage Capacity:* Volume sufficient to meet peak firefighting demands, plus maximum day system demand, for a minimum four hours in duration and at least 25% of the peak day demand.
- (3) *Pressure:* Greater than or equal to 50 pounds per square inch at remote points in the system under normal operating conditions and greater than 30 psi under fire flow conditions.

(Amended by Ordinance/Resolution No. 482 adopted 09/24/2008 and Ordinance Nos. 121

and 122 adopted 09/22/2008)

## **Objective 2**

*To ensure that groundwater resources are used efficiently and conservatively within the District and that their use results in no anthropogenic adverse impacts to surface waters and wetlands.*

*(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)*

- Policy 2.1: The RCID building and plumbing codes shall continue to require the use of water-saving showerheads, faucets, and other fixtures in new construction that minimize the consumption of water, consistent with the State Water Conservation Act (Section 553.14, Florida Statutes).
- Policy 2.2: The District shall continue to promote educational programs that foster water conservation and reduction measures by collecting information from water control districts, publications, and other sources and making it available to current and future uses.
- Policy 2.3: The District shall restrict irrigation to evenings, nights, and early morning hours, continually review and revise building codes to reflect new water conservation technology, comply with all water restrictions imposed by the Water Management District, and maintain an emergency water conservation plan that is consistent with Water Management District standards. Consideration will be given to revising rate structures to provide incentives for water conservation. (Amended by Ordinance/Resolution No. 482 adopted 09/24/2008 and Ordinance Nos. 121 and 122 adopted 09/22/2008)
- Policy 2.4: All landscaped areas within new development parcels shall be required to either connect to the water reuse system or use native plant material in accordance with the UF/IFAS Florida-Friendly Landscaping Program. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 2.5: A continuing effort shall be made to reduce the use of potable water for irrigation and expand the reclaimed water system to serve older development areas within District boundaries. The success of this effort may be measured in part by the ratio of average day wastewater flows to average day potable water withdrawal (0.55 in 1991, 0.60 in 1997, 0.78 in 2007, and 0.88 in 2019). As the District shifts away from using potable water for irrigation, a larger volume of potable water will be returned to the treatment plant and this ratio will rise closer to the theoretical maximum of 1.0. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 2.6: The District shall continue to investigate feasible techniques for other applications of reclaimed and treated effluent which will result in the reduced use of potable water.
- Policy 2.7 To ensure efficient use of reclaimed water, RCID shall require all new development and all conversions of existing irrigation systems from potable water to reclaimed water to be equipped with weather sensors that control the amount and rate of reclaimed water application to match the needs of the vegetation. Such weather sensors shall measure

effective rainfall and calculate evapotranspiration rates to determine the optimum irrigation rate and duration. Overriding of the weather sensors for the purpose of increasing landscape irrigation shall not be permitted. (Added by Ordinance/Resolution No. 482 adopted 09/24/2008 and Ordinance Nos. 121 and 122 adopted 09/22/2008) (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

### **Objective 3**

*To maintain levels of potable water quality that meet or exceed state and federal standards.*

- Policy 3.1: The District shall locate future wells in accordance with all appropriate SFWMD and FDEP regulations, and in compliance with its own Land Development Regulations (LDRs). The well protection standards given in the LDRs shall be updated as necessary to ensure that they meet or exceed state and federal standards.
- Policy 3.2: The RCID shall not establish new wells in areas where the potential for unsuitable groundwater exists because of current or historic activities and land uses.
- Policy 3.3: The RCID shall not establish new wells in areas where the groundwater withdrawal impacts may adversely affect surface waters or wetland. (Added by Ordinance/Resolution No. 482 adopted 09/24/2008 and Ordinance Nos. 121 and 122 adopted 09/22/2008)

### **Objective 4**

*To maintain an administrative system that ensures the efficient, safe, and reliable delivery of potable water services and ensures that land use and water facility planning are integrated.*

- Policy 4.1: The RCID shall continue to provide potable water services to customers within its boundaries.
- Policy 4.2: The RCID shall continue to require new development within the current utility service area to be linked to the District's water system.
- Policy 4.3: The RCID shall maintain a Master Utilities Plan which estimates potable and reclaimed water demand and identifies water and reclaimed water facility needs. The District shall update this Plan not less than once every five years.
- Policy 4.4: The RCID shall continue to ensure compliance with standards in its Land Development Regulations that specify the procedure for delivery of water services to new development.
- Policy 4.5: The RCID shall continue its current program of preventive maintenance for the potable water system.
- Policy 4.6: The RCID shall not extend water services to land outside its boundaries unless provided for by interlocal agreements. Water extensions beyond District boundaries may be

considered appropriate if the area to be served will be developed with affordable housing or other uses providing local and regional benefits and consistent with the receiving jurisdiction's comprehensive plan.

- Policy 4.7: The RCID shall meet with the major landowners as needed but not less than once a year to discuss pending development plans and their probable impacts on water facility needs.
- Policy 4.8 The RCID shall strive to make additional interconnections with Orange County and Toho Water Authority to provide and receive supplies in times of emergency. (Added by Ordinance/Resolution No. 482 adopted 09/24/2008 and Ordinance Nos. 121 and 122 adopted 09/22/2008)
- Policy 4.9 The RCID shall partner with neighboring local utilities and the water management districts in the development, implementation, funding, and regionalization of alternative water supply sources to match future needs as identified in the Infrastructure Element, Part B: Supporting Data and Analysis Table 5-12. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

## **Objective 5**

*To maintain a Water Supply Facilities Work Plan for at least a ten (10) year planning period for constructing the water supply facilities to serve existing and new development necessary to achieve and/or maintain the level of service standards adopted in this Element.*

- Policy 5.1 The conversion of non-potable uses of groundwater to reclaimed water has the greatest potential and appears to be the easiest and least costly for RCID and is the alternative water supply source selected by RCID to meet future water use demand.
- Policy 5.2: The RCID shall convert all potable water irrigation and cooling towers to reclaimed water use as shown in Table 5-7: Candidate Irrigation Sites for Conversion to Reclaimed Water and Table 5-8: RCID Cooling Tower Conversions as necessary to achieve and maintain the level of service standards adopted in this Element.
- Policy 5.3 Deleted. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)
- Policy 5.4 Deleted. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 5.5

The following Five-Year Schedule of Capital Improvements for water supply facilities (in thousands) is adopted:

<b>Project Description</b>	<b>Source</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>
Indirect Potable/Reuse Project	Bonds: Non-taxable		500	1,000	1,000	1,000	1,000
Contemporary RW Conversion	Bonds: Non-taxable			350			
Epcot RW Conversions	Bonds: Non-taxable	200	1,600			150	3,550
Golf Course Booster Pump Station Rehabs (4)	Bonds: Non-taxable				100	400	
RW Extension Along World Drive to Service Disney's Hollywood Studios	Bonds: Non-taxable	208					
Remote RW Storage & Re-pump SRF	Bonds: Non-taxable				200	3,500	
<b>Total</b>		<b>\$408</b>	<b>\$2,100</b>	<b>\$1,350</b>	<b>\$1,300</b>	<b>\$5,050</b>	<b>\$4,550</b>

(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

## SANITARY SEWER

### Objective 6

*To extend and increase the capacity of sanitary sewer facilities in a manner that meets future needs and maintains current levels of service.*

Policy 6.1: The following level of service standards are adopted for the purposes of determining the adequacy and design capacity for sanitary sewer facilities:

<u>Land Use</u>	<u>Unit</u>	<u>Gallons/Day</u>
Residential	dwelling	300
Hotel/ <u>Resort</u> (general)	keys	180
Luxury/Deluxe/DVC	keys	230
First Class	keys	180
Moderate/Economy	keys	130
Convention Space	square foot	0.20
Support/ Office	square foot	0.20
Retail/General Commercial	square foot	0.25
Restaurant	seat	20
Theme Parks (general)	guest	30
Theme Parks (water)	guest	50

(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 6.2: The adopted level of service standards shall be used as the basis for replacing, expanding, or increasing the capacity of sanitary sewer facilities.

Policy 6.3: Development approvals shall be conditioned upon demonstration that the increase in sanitary sewer demand resulting from the development can be met at the time of its occupancy without a reduction in the adopted level of service.

Policy 6.4: Development in the RCID shall continue to require wastewater collection lines of sufficient size to receive and carry wastewater from all buildings and structures to the District's main system. Minimum gravity sanitary sewer size for lines maintained or owned by RCID will be eight inches in diameter. Non-RCID laterals may be less than eight inches in diameter but not less than four inches.

Policy 6.5: The District shall continue to maintain a treated effluent disposal system which minimizes the potential for surface water pollution. The disposal system should be designed so that a majority of the District's treated effluent can be disposed through the reclaimed water system during dry weather periods.

## **Objective 7**

*To maintain levels of effluent quality that meet or exceed state and federal standards.*

Policy 7.1: The following annual average effluent quality standards shall be maintained at the RCID wastewater treatment plant:

- 1) 5 mg/l biochemical oxygen demand;
- 2) 5 mg/l total suspended solids;
- 3) 3 mg/l total nitrogen;
- 4) 1 mg/l total phosphorus; and
- 5) pH 6.0 to 8.5.

Policy 7.2: New technologies to improve the quality of wastewater effluent shall continue to be explored as they become available and economically feasible.

## **Objective 8**

*To maintain an administrative system that ensures the efficient, safe, and reliable delivery of sanitary sewer services, and ensures that land use and wastewater facility planning are integrated.*

Policy 8.1: The RCID shall continue to provide sanitary sewer services to customers within its boundaries.

Policy 8.2: The RCID shall continue to require all new development to be linked to the central wastewater system. New, independent package plants and collection systems serving individual developments shall not be permitted, unless accompanied by a bona fide plan for feasible connection to the central system within five years. Independent package plants and circulation systems may be permitted to treat pools within animal related exhibits at theme parks, provided that their backwashings and other liquid wastestreams are discharged to the sanitary sewer.

Policy 8.3: The RCID shall maintain a Master Utilities Plan which estimates long-term wastewater demand and wastewater facility needs. The District shall update this plan not less than once every five years.

Policy 8.4: The RCID shall continue to ensure compliance with standards in its Land Development Regulations that specify the procedure for delivery of sanitary sewer services to new development.

Policy 8.5: The RCID shall continue its current program of preventive maintenance for the sanitary sewer system.

Policy 8.6: The RCID shall not extend sanitary sewer services to land outside its boundaries unless provided for by interlocal agreements. Wastewater extensions beyond District boundaries may be considered appropriate if the area to be served will be developed with affordable

housing or other uses providing local and regional benefits and consistent with that jurisdiction's comprehensive plan.

Policy 8.7: Septic tanks shall continue to be permitted only under the following circumstances:

- 1) residential development with an average gross density of one unit per acre or less, no central sewer available, and demonstration that soils are suitable for septic tank use; or
- 2) free-standing recreational or service buildings more than one-quarter mile from a developed area with average daily wastewater flow not to exceed 1,000 gpd, no central sewer available, and demonstration that soils are suitable for septic tank use.

Policy 8.8: The RCID shall meet with the major landowners as needed but not less than once a year to discuss pending development plans and their probable impacts on sanitary sewer facility needs.



## SOLID WASTE

### Objective 9

*To increase the capacity of solid waste facilities in a manner that meets future needs and maintains current levels of service.*

Policy 9.1: The following level of service standards are adopted for the purposes of determining the adequacy and design capacity of solid waste facilities:

<u>Land Use</u>	<u>Unit</u>	<u>Lbs/Day</u>
Residential	dwelling	11.5
Hotel/ <u>Resort</u> (general)	keys	7.5
Luxury/Deluxe	keys	11.0
First Class	keys	7.5
Moderate/Economy/ <u>DVC</u>	keys	6.0
Value	keys	3.5
Convention Space	square foot	0.0325
Support/ Office	square foot	0.002
Retail/General Commercial/Restaurant	square foot	0.0325
Theme Parks (general)	park	10 to 20 tons*
Theme Parks (water)	park	0.5 to 1.0 tons*

\*depending on size and amenities

(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 9.2: The adopted levels of service standards shall be used as the basis for replacing, expanding, or increasing the capacity of solid waste facilities. The primary facility to which the level of service standards shall be applied will be the solid waste transfer station. The service standards may also be used to estimate vehicle fleet requirements and capacity requirements for recycling and processing facilities.

Policy 9.3: Development approvals shall be conditioned upon demonstration that the increase in demand for solid waste services resulting from the development can be met at the time of its occupancy without a reduction in the adopted level of service.

Policy 9.4: The RCID shall continue to transport its commercial and domestic solid wastes to permitted landfill facilities. The transfer of wastes to permitted facilities shall be governed by written service agreements.

Policy 9.5: Growth in solid waste volumes shall continue to be accommodated through expansion of the solid waste transfer station, addition of vehicles and equipment, and development of new facilities for processing, recycling and resource recovery. New landfills may not be established within the District.

Policy 9.6: Within new development, sites for solid waste compacting and collection equipment shall be provided in an efficient and cost-effective manner.

## **Objective 10**

*To provide capacity to divert at least 50 percent of the Class I waste generated within District boundaries from landfill disposal.*

- Policy 10.1: The RCID shall maintain and expand its program for recycling newspaper, office paper, aluminum cans, glass, and plastics.
- Policy 10.2: The RCID shall promote the processing of lawn and gardening waste, biosolids, food, and other materials.
- Policy 10.3: All new development that employs or houses more than ten people shall be required to set aside areas for source separation of solid waste.
- Policy 10.4: The RCID shall maintain an effective public awareness and information program to increase and maintain public participation in recycling and waste reduction programs.
- Policy 10.5: The RCID shall continue to investigate and review the latest available technology for resource recovery and other alternative solid waste management technologies.
- Policy 10.6: The RCID shall continue to encourage innovative and experimental plans and programs that maximize the efficient collection, storage, handling, disposal, and recovery of solid waste materials.
- Policy 10.7: The RCID shall continue to explore options for reducing the percentage of construction debris requiring landfill disposal.
- Policy 10.8: The RCID shall promote the application of new technologies, including waste pelletization, to reduce landfill disposal needs.

## **Objective 11**

*To ensure environmental safety in the collection, storage, handling, and disposal of all solid wastes, including hazardous materials.*

- Policy 11.1: The RCID shall prohibit the holding of hazardous materials, as defined by the Florida Substances list, within the 100-year flood plain, and within 200 feet of a designated Section 404 wetland.
- Policy 11.2: The RCID shall maintain agreements with off-site landfills for the disposal of a majority of the non-recyclable Class III (construction) waste-stream. The existing construction landfill within District boundaries will not be expanded and will only be used for disposal of small quantities of non-recyclable construction and plant debris, or as a stockpiling area for materials to be recycled.

## Objective 12

*To maintain an administrative system that ensures the efficient, safe, and reliable delivery of solid waste services.*

- Policy 12.1: The District shall ensure that its waste collection, transfer, and landfill transportation system is economical, efficient, and environmentally sound. On-site collection and transfer services will be provided by a District vehicle fleet. Transfer to landfills may occur by third-party contractors, as provided by service agreements.
- Policy 12: The RCID shall continue preparing regular reports indicating the amount of solid waste generated at each major collection point and the percentage of this waste diverted from landfills. This information shall be used to evaluate the need for additional collection and recycling vehicles. The tonnage of waste requiring handling at the transfer station shall be compared to transfer station capacity to determine if additional capacity is needed.
- Policy 12.3: The RCID shall update its transfer station as needed to incorporate new technologies, particularly technologies which reduce the volume of waste requiring landfill disposal.
- Policy 12.4: The RCID shall continue to ensure compliance with standards in its Land Development Regulations that specify the solid waste provisions that must be made in new developments.
- Policy 12.5: The RCID shall meet with the major landowners as needed, but not less than once a year, to discuss pending development plans and their probable impacts on solid waste facility needs.
- Policy 12.6: As needed but not less than once every two years, the District shall assess its waste disposal agreements and ensure that adequate long-range capacity exists at the landfills where its solid waste is disposed.

## **STORMWATER MANAGEMENT**

### **Objective 13**

*To correct any stormwater management system deficiencies identified in this Plan, or identified in the future.*

Policy 13.1: The following criteria shall be used for determining stormwater management system priorities:

- 1) Flooding projected to occur within existing developed areas in a 10-year storm event.
- 2) Flooding projected to occur within existing developed areas in a 50-year storm event.
- 3) Flooding projected to occur within vacant areas programmed for development in the Future Land Use Element in a 10-year storm event.
- 4) Flooding projected to occur within vacant areas programmed for development in the Future Land Use Element in a 50-year storm event.

Policy 13.2: The District shall, at least biennially, reassess stormwater management system conditions by running its drainage model.

Policy 13.3: The District shall continue to prepare an annual report assessing the operation of its stormwater management facilities and identifying capital improvement needs and operation and maintenance needs.

### **Objective 14**

*To achieve and maintain adopted level of service standards for stormwater management.*

Policy 14.1: The following level-of-service standards shall be adopted:

- 1) The main District Drainage System shall convey the 50-year, 3-day storm event as determined by the RCID stormwater model.
- 2) The discharge at S-40 shall be limited to 3,282 cubic feet per second during a 10-year, 3-day storm event.
- 3) Arterial roadways shall remain above the 50-year, 3-day storm event elevation as determined by a stormwater model acceptable to the District.
- 4) The first floor of all habitable structures and public facilities shall be a minimum of one foot above the 100-year, 3-day storm event elevation, as determined by a stormwater model acceptable to the District.

- 5) In accordance with the SFWMD permit, all project sites shall retain the first one inch of runoff, or 2.5 times the site acreage times the percentage of impervious surface, whichever is greater, before discharge to the District's system.

Policy 14.2: In order to ensure that the level-of-service standards described in Policy 14.1 are maintained as new development occurs, the District shall annually assess the need for facility improvements and shall program capital improvements as required to maintain adopted level of service standards.

Policy 14.3: When new development is proposed, the District shall require an evaluation of the need for drainage improvements. These improvements may include, but shall not be limited to, construction of on-site detention ponds and modifications to canals and water control structures.

Policy 14.4: Any canal realignment or water control facility relocation proposed in conjunction with new development shall ensure that the adopted levels of service are maintained.

Policy 14.5: The District shall ensure that no development occurs within the 100-year floodplain, unless compensating storage is provided within the sub-basin, and the flood carrying capacity of the floodway is maintained.

Policy 14.6: In order to ensure that the level of service standards described in Policy 14.1 are achieved, all stormwater management permit applications proposing to use the benefits of the RCID Conceptual Stormwater Permit shall be approved by the District prior to submission to the South Florida Water Management District. The District shall require stormwater permit applications to include sufficient data and exhibits to ensure that the level of service standards are not exceeded. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

Policy 14.7: All stormwater discharges from sources outside the District shall limit their drainage contributions into the District to the amount contributed prior to development occurring on the parcel.

Policy 14.8: All stormwater discharges from sources outside the District shall meet the standards found in Chapter 62, Florida Administrative Code.

Policy 14.9: The District shall require a Drainage Agreement and collection of a use fee for any drainage entering the District in accordance with Circuit Court Order #66-1061, Section IV in Osceola County or Circuit Order #66-1061, Section V in Orange County, as is appropriate. In those cases where a SFWMD analysis is required a copy of the SFWMD permit shall be delivered to the District upon issuance by SFWMD, and in those cases where the SFWMD analysis is not required, the District shall require a report similar to that prepared by the SFWMD prior to executing a drainage agreement. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

- Policy 14.10: All drainage within the District or contributing to the District's Drainage system shall be required to be consistent with the schedule of improvements in the *RCID Comprehensive Plan Capital Improvements Element*, or meet pre-development stormwater discharge standards; or include total funding for the required improvements. The geographic area covered by Policies 14.7 through 14.11 is shown in Figure 5-5.
- Policy 14.11: All requests for modifications to the SFWMD Surface Water Management Permit shall be submitted to the District for review and approval and shall be accompanied by appropriate text and drawings signed and sealed by a civil engineer registered in Florida.
- Policy 14.12: The District's drainage model shall include a maximum area within District boundaries that may be covered by impervious surfaces. All new development shall be reviewed to ensure that it does not cause this maximum to be exceeded. The maximum may be modified in conjunction with the annual update of the District's drainage model.

### **Objective 15**

*To continue a maintenance and inspection program which ensures that existing stormwater management facilities are maintained.*

- Policy 15.1: Bridges over the RCID's waterways shall be inspected at least biennially to ensure that their structural integrity is maintained.
- Policy 15.2: Drainage structures and levees shall be inspected at least semi-annually to guarantee proper maintenance and ensure that their structural integrity is maintained.
- Policy 15.3: Any improvements necessitated by the inspections described in Policies 15.1 and 15.2 shall be included in the annual Capital Improvements Element, unless such improvements are regular maintenance or repair expenses.
- Policy 15.4: The District shall conduct periodic major cleanouts of its canal system. Where warranted by the scale of the cleanout, these projects may be scheduled as capital improvements.

### **Objective 16**

*To retain the unimproved portion of Reedy Creek in its natural condition.*

- Policy 16.1: Except as required at roadway bridge crossings, there shall be no structural improvements made to the portion of Reedy Creek south of the L-410 Canal.
- Policy 16.2: Any future crossings of Reedy Creek south of the L-410 canal, and any improvements to existing crossings in this area, shall be designed to minimize impacts to the creek and adjoining wetlands and shall not reduce the carrying capacity of the floodway.

*(See Conservation Element Policy 7.2 for discussion of the wetland buffer zone along Reedy Creek)*

## **Objective 17**

*To maintain stormwater pollution control measures which ensure compliance with state and federal pollution control standards.*

Policy 17.1: The District shall ensure that Best Management Practices are used during construction to preclude degradation of the stormwater management system.

Policy 17.2: Any stormwater quality standards to be adopted by the RCID shall be at least as stringent as those identified in its National Pollution Discharge Elimination System (NPDES) permit, or the successor to this permit.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**INFRASTRUCTURE  
ELEMENT**

**Part B:  
Supporting Data and Analysis**



# PURPOSE

The Infrastructure Element of the Reedy Creek Improvement District Comprehensive Plan addresses the provision of potable water, wastewater, solid waste, and stormwater management services in the RCID.<sup>1</sup> This element is divided into four subelements, corresponding to the topic headings listed above. Each subelement includes an analysis of existing conditions, a projection of future conditions based on the development scenario described in the Future Land Use Element, and a description of needed capital improvements.

The data and analysis in this element focus on five-year (2027) and ten-year (2032) timeframes. The five-year timeframe coincides with the Capital Improvement Program (CIP) years (FY 2022 - FY 2027) for consistency. Future updates of the District's CIP may result in amendments to the Capital Improvements Element. In such cases, the Infrastructure Element will be updated for internal consistency, but the most current and comprehensive data on capital improvements will be found in the Capital Improvements Element.

# POTABLE WATER

## OVERVIEW

**Note: In accordance with Section 119.071(3), Florida Statutes, maps of the RCID water supply and distribution system are not provided herein due to the sensitive nature of these facilities and the security thereof.**

Reedy Creek Improvement District is the sole provider of water services for the District. All of the District's water facilities are located within its boundaries and all development is connected to the central water system. Currently, the service area is contiguous with the District boundary, with the exception of the CrossRoads retail, dining, entertainment center (closed since August 2021) and the Vista Way Apartments (currently vacant) which were formerly within the District and then de-annexed. The District also delivers wholesale water services under an interlocal agreement with Orange County to the Northeast Resort Parcel which was de-annexed in 2008 and the Flamingo Crossings College Housing Parcels which were de-annexed in 2018. Some of the more remote and undeveloped portions of the District lack direct access to potable water infrastructure at this time.

The area receiving services contains two separate subdistricts. In general, Subdistrict I serves the City of Bay Lake and Subdistrict II serves the City of Lake Buena Vista. The central water system currently accounts for 99 percent of the pumping capacity in the RCID; independent wells account for less than one percent. Additional water is provided for non-potable purposes through a reclaimed water system originating at the wastewater treatment plant. This system is described later in this element (see "Reclaimed Water System").

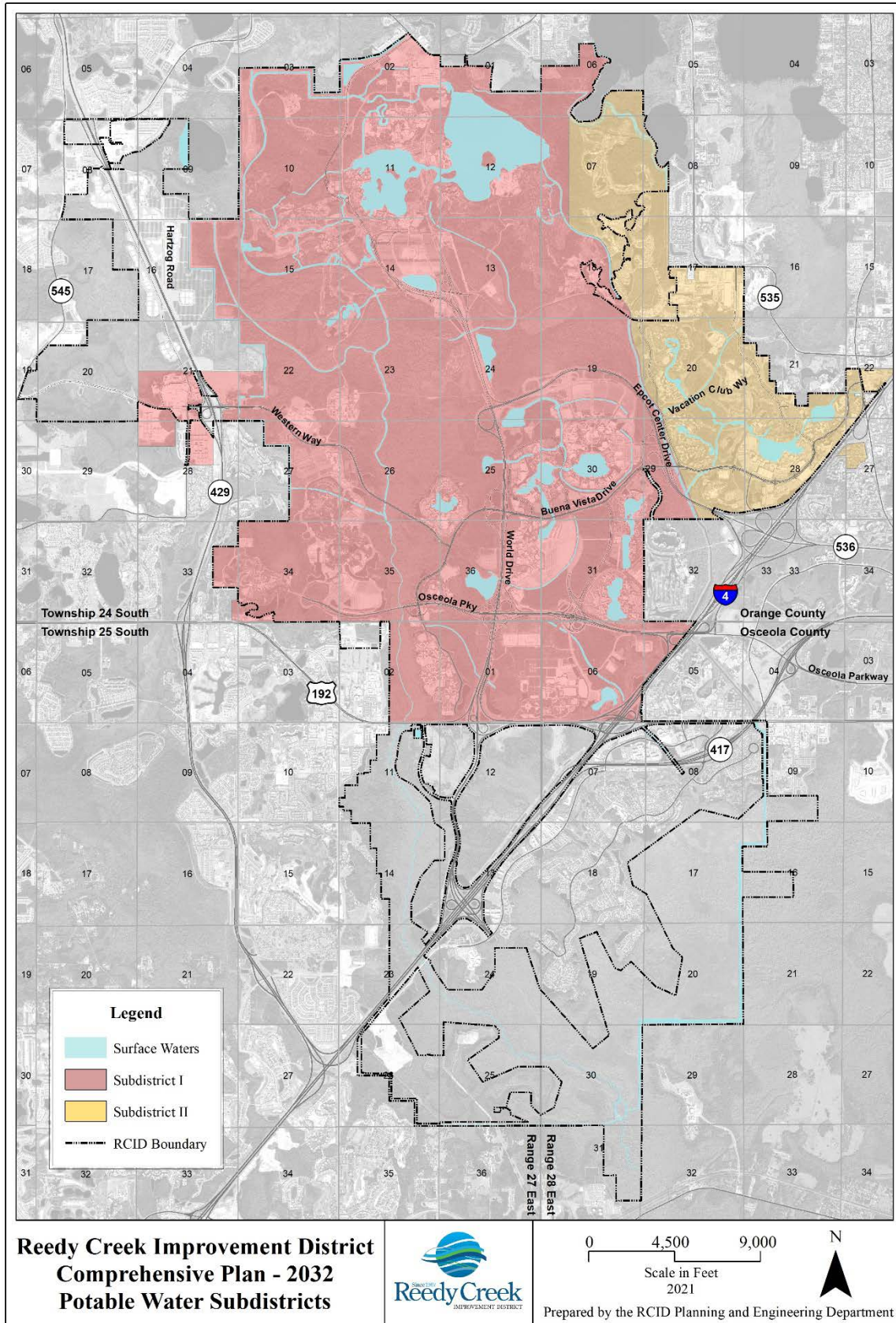
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<sup>1</sup> *The Groundwater Recharge Subelement is contained within the Conservation Element.*

The predominant land uses served by potable water are similar in both subdistricts. These uses are characterized by large-scale resort and entertainment complexes and support service areas. There are no major residential, industrial or agricultural water users. Each subdistrict contains several areas of concentrated development, other areas that have yet to be developed, and areas reserved for long-term open space. Most of the service demand in Subdistrict I is associated with the four major theme parks and related resorts. Water from the Subdistrict I system is also used at the service area north of the Magic Kingdom, the Fort Wilderness Resort and Campground, Disney's Wide World of Sports Complex, and Blizzard Beach Water Park.

Subdistrict II is about half as large as Subdistrict I and comprises fewer acres of developed land. It includes the Hotel Plaza Boulevard resorts, the Disney Springs retail, dining, and entertainment complexes, office uses, the Administration Area, the Typhoon Lagoon Water Park, Old Key West Vacation Club, and the Saratoga Springs Vacation Club. Irrigation systems at the Lake Buena Vista golf course have been converted from independent groundwater wells to the reclaimed water system. About 145,000 gallons a day (gpd) from the Subdistrict II system were provided to Vista Way Apartments, currently vacant, and about 60,000 gpd to CrossRoads, a retail, dining, and entertainment area just outside the District boundaries closed since August 2021 and scheduled for demolition as part of the I-4 Beyond the Ultimate project. All other Subdistrict II water users are within District boundaries. The boundaries of Subdistricts I and II are shown in Figure 5-2.

**Figure 5-1: RCID Potable Water Subdistricts**



**Reedy Creek Improvement District  
Comprehensive Plan - 2032  
Potable Water Subdistricts**



0 4,500 9,000  
Scale in Feet  
2021  
Prepared by the RCID Planning and Engineering Department

## **REGULATORY FRAMEWORK**

The federal Safe Drinking Water Act (Public Law 93-523) directed the U.S. Environmental Protection Agency (EPA) to establish minimum standards for potable water. These standards are divided into "primary" (required for public health) and "secondary" (recommended for aesthetic quality). Florida subsequently adopted the Florida Safe Drinking Water Act (403.850, Florida Statutes); the Florida Department of Environmental Protection (FDEP) is responsible for implementing this act. FDEP has promulgated rules classifying and regulating public water systems (Chapter 62-550, Florida Administrative Code). The South Florida Water Management District is responsible for managing water supplies to meet existing and future demands and issuing permits for consumptive use.

## **WATER SOURCES**

Both subdistricts receive their water supply from the Upper Floridan Aquifer (UFA). Groundwater is pumped to the central system from 8 wells, with depths varying from 350 to 900 feet. Water quality is excellent and requires only chlorination to meet state and federal drinking water standards. Extracted potable water is replenished principally by rainfall and by groundwater flow from recharge areas south and west of the District.

### **Subdistrict I**

Subdistrict I is divided into northern and southern regions. Water is provided by Pump Station A in the north and by Pump Stations B and D in the south. The characteristics of the Subdistrict I wells are listed in Table 5-1.

Pump Station A, north of the Magic Kingdom, is fed by Wells 9 and 10. The wells have been operational since 1970. The two active wells have a combined capacity of 8,000 gallons per minute (gpm), while the pump station has a firm capacity of 12,000 gpm.

**Table 5-1: Characteristics of Subdistrict I Potable Wells**

Subdistrict I		
Well Number	Capacity (gpm)	Pump Station Served
2A	3,000	B
9	4,000	A
10	4,000	A
17	3,500	B
18	4,000	B or D
19	4,000	D
<i>Independent wells</i>		
11	40	<i>Irrigation for Bay Court</i>
14	(*) 2000	N/A
13	(*) 3000	N/A
20	(**) 500	N/A

*Notes:*

(\*) indicates reclaimed water augmentation well – back-up to reuse system only

(\*\*) indicates irrigation well

Pump Stations B and D are located in the vicinity of Disney’s Hollywood Studios and the All Star Resorts respectively. Pump Station B is fed by Wells 2A, and 17 and has a firm capacity of 6,500 gpm. Well 2A has been operational since 1982, and Well 17 became operational during 1989. Water is chlorinated at an adjacent ground storage reservoir and is boosted to system pressure (90+ psi) by high service pumps. Well 2 was abandoned for the Toy Story Land project at Disney’s Hollywood Studios and Well 21 was abandoned to improved production of nearby Toho well.

Wells 18 and 19 are located on the south side of Osceola Parkway west of World Drive. Well 19 feeds Pump Station D, and Well 18 can be routed to either Station B or D, depending on a valve choice.

With emergency and inactive wells excluded, the Subdistrict I wells have a combined pumping capacity of about 22,500 gpm. Wells 13 and 14 serve as backup supplies to the reclaimed water system and cannot provide water to the potable system with the current piping arrangement.

Two independent wells (11 and 20) in Subdistrict I serve small areas not linked to the central water system. Well 11 provides irrigation for the mobile homes on the north shore of Bay Lake. Well 20 provides irrigation water to support facilities in the Bear Island Road area, including the tree farm, and is used as an indirect augmentation source to the reclaimed water system should demands exceed supplies. Well 20 is typically inactive since the area is serviced with reclaimed water.

## Subdistrict II

Wells 6, and 16 provide the major source of water in Subdistrict II. Wells 6 and 16, with a cumulative pumping capacity of 7,500 gpm, pump groundwater to Pump Station C. The Pump Station has a firm capacity of 10,200 gpm and is located on the east side of Buena Vista Drive near the Saratoga Springs. Well 5 was abandoned due to low production.

With emergency and inactive wells excluded, wells in the Subdistrict II system have a cumulative pumping capacity of 7,500 gpm. Water is provided at a pressure of 65+ psi.

The characteristics of the Subdistrict II wells are listed in Table 5-2.

**Table 5-2: Characteristics of Subdistrict II Potable Wells**

Subdistrict II		
Well Number	Capacity (gpm)	Pump Station Served
6	3,500	C
16	4,000	C

## Surface Water Withdrawal

Until the mid-1990s, the District relied heavily on surface water to irrigate golf courses in the Magic Kingdom vicinity; however, since 1998, no surface water has been used for golf course irrigation and all irrigation needs have been met with reclaimed water.

## STORAGE AND PRESSURE SYSTEMS

To augment the water production facilities during peak periods, there are five storage reservoirs (three in Subdistrict 1 and two in Subdistrict II) with a combined capacity of 7.75 million gallons. Subdistrict I has approximately 75 percent of the storage capacity, with the balance in Subdistrict II. Each reservoir is accompanied by pumping and booster stations for pressurization. With the exception of Pump Station "A" which is fed from two independent power sources, the pumps are equipped with emergency diesel-powered generators for system reliability.

## **Subdistrict I**

Wells 2A, and 17 (and sometimes 18) pump directly into a 2.0 million gallon concrete reservoir located adjacent to Pump Station "B." The pump station pressurizes the distribution system via six 3,000 gpm booster pumps. Wells 9 and 10 pump water to a 2.5 million gallon concrete reservoir located adjacent to Pump Station "A." The pump station provides pressure to the distribution system using five 3,000 gpm high service pumps. Water from Wells 18 and 19 is stored in a 1.25 million gallon reservoir at Pump Station "D."

## **Subdistrict II**

There are two reservoirs adjacent to Pump Station "C" (which is adjacent to Well 6), each with a capacity of one million gallons. Six booster pumps with a combined capacity of 10,200 gpm withdraw water from the reservoir and provide the operating pressure for the distribution system. These booster pumps provide the primary water supply for Subdistrict II.

## **DISTRIBUTION SYSTEMS**

The distribution system consists of a looped network comprised predominantly of polyvinyl chloride (pvc), and ductile iron pipes ranging in size from 4 to 24 inches. The water system is equipped with valves that permit segments of the system to be isolated for repairs without disrupting service.

The northern and southern areas of Subdistrict I are connected by a 20-inch main along World Drive. In the northern area, Pump Station "A" delivers water through one loop serving the Magic Kingdom and another serving the surrounding resorts. The Fort Wilderness area is served by lines that branch off the second loop. In the southern area, Pump Stations B and D also deliver water to looped systems serving various activity areas. Subdistrict II uses two main loops to serve development in the Lake Buena Vista area.

The two subdistricts are interconnected at three locations to let water flow from more than one direction during emergencies and other high demand periods. The pipe sizes in the major looped system range from 12 to 30 inches in diameter. The majority of the pipes larger than 12 inches are constructed of cement-lined ductile iron pipe, and the smaller pipes are PVC or HDPE. Nearly 700 isolation valves are located throughout the water distribution system to allow for repair and maintenance without shutdowns, and fire hydrants are located throughout the system to provide for fire protection.

## FIRE FLOWS

A major service provided by the distribution system is water for fire protection. In many cases, the demand imposed by fire protection dictates the design parameters for the system. A required fire flow of 3,500 gpm has been established for the RCID, based on Insurance Service Office (ISO) guidelines. The minimum acceptable system pressure during highest flow conditions has been established at 30 psi. Requirements for water storage are also related to fire flow needs. A four-hour duration for the needed fire flow plus net system demand has been established for each pump station. Most of the wells have emergency power supplies. Fire hydrants are located throughout the distribution network, providing sufficient coverage for fire protection.<sup>2</sup>

## CAPACITY AND DEMAND

If all the wells connected to the central system were to operate concurrently at their maximum capacity, the system would produce or 59,760,000 gallons per day.<sup>3</sup> It is extremely unlikely that all wells and pump stations would ever operate at their design capacity simultaneously. However, even with several wells and a pump station out of service the system is capable of pumping a larger amount of water than what is permitted for withdrawal by the District's Water Use Permit. The South Florida Water Management District (SFWMD) issued a renewed consumptive water use permit to the District in June 2007, allowing a peak month withdrawal of 933.9 million gallons. The SFWMD further allows an annual withdrawal of 8.552 billion gallons of water, or 22.2 million gpd on an average day. Average-day withdrawal in 2019 was 16.37 MGD. The 2020 average day withdrawal of 11.56 MGD reflects COVID 19 business closures. The expiration date of the District's permit is June 14, 2027.

Table 5-3 indicates the amount of water consumed on a yearly basis from 1990 through 2018. Table 5-3 also indicates the peak-month water demand during this time. Consumption steadily increased from 12.92 MGD in 1994 to 19.95 MGD in 2000, then declined sharply in 2001 to 14.61 MGD. The decline is attributed to changes in the economy following 9/11, imposition of water restrictions due to drought, and conversion of additional areas to reclaimed water. As the economy recovered during 2002 through 2006 demand began to once again increase, but declined slightly with the "great recession." Demand has increased moderately during the ensuing years, but remains well below the highest average daily withdrawal recorded in 2000. Demand decreased in 2017 and again in 2018 as the Polynesian Resort was converted from potable to reuse landscape irrigation and a number of redevelopment projects started construction.

"Peaking factors" have been developed by the District to estimate water needs during periods of maximum demand. These factors reflect the ratio of water use during a peak day (or peak hour) to average day (or average hour) demand and are used for more detailed design studies of water infrastructure needs. Peak-day peaking factors range from 1.3 to 1.8, depending on land use; peak-hour peaking factors are as high as 6.0 for the water parks and are in the range of 2.0 to 3.0 for most uses.

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<sup>2</sup> Wells 2, 2A, 6, 9, 10, 16, 17, 18, 19, and 21 have emergency power provisions

<sup>3</sup> The combined capacity of Pump Stations A, B, C, and D is about 43,000 gpm. The pump stations are designed for maximum fire flow needs, while the wells are designed for peak-day needs.



**Table 5-3: Annual Potable Water Use Characteristics: 1991 through 2020**

<b>Year</b>	<b>Average Daily Withdrawal (MGD)</b>	<b>Average Day in Peak Month (MGD)</b>
1991	13.33	14.05
1992	13.36	15.83
1993	13.17	15.72
1994	12.92	15.26
1995	14.16	16.84
1996	15.14	17.98
1997	16.48	18.40
1998	18.64	23.69
1999	19.18	22.10
2000	19.95	25.07
2001	14.61	16.56
2002	14.32	18.11
2003	13.47	14.89
2004	14.83	16.67
2005	15.39	17.87
2006	16.48	18.71
2007	15.85	17.53
2008	15.55	17.18
2009	16.23	17.18
2010	16.52	19.02
2011	16.21	18.17
2012	16.62	18.31
2013	16.73	17.88
2014	16.66	18.24
2015	17.14	18.43
2016	17.63	18.85
2017	16.73	18.54
2018	16.07	17.03
2019	16.37	17.79
2020	11.56	15.12

## **OPERATION AND MAINTENANCE**

All water facilities in the District are maintained in excellent condition. Water quality is monitored regularly in accordance with state and federal procedures (the Conservation Element may be consulted for additional information on water quality). The District regulates land uses and activities within a 500 foot radius around each of its wells to ensure that the potable water supply remains reliable.

# **10-YEAR WATER SUPPLY FACILITIES WORK PLAN**

## **Introduction**

The District is located within the planning area of the Central Florida Water Initiative (CFWI), a collaborative project of the three Water Management Districts (Southwest, South, and St. Johns) having authority over the region. Historically, groundwater from the Floridan Aquifer system has supplied the majority of the water used within the CFWI planning area. However, withdrawals from this traditional water source are already causing adverse impacts in areas of Central Florida where withdrawal have reached and in some cases exceeded sustainable limits. Total water demand is projected to increase from an average of 800 MGD to 1,100 MGD in 2035. It is estimate that an additional 50 MGD could be supplied by traditional groundwater withdrawal, but only with coordinated management strategies to address unacceptable environmental impacts. Consequently, the CFWI planning area is facing a deficit of 250 MGD that will need to be met through increased water conservation and non-traditional alternative water supplies.

In accordance with the requirements of Section 163.3177(6)(c), Florida Statutes, the Reedy Creek Improvement District (RCID) must include within the Infrastructure Element of its Comprehensive Plan a water supply facilities work plan for at least a 10-year planning period for constructing the necessary public, private, and regional water supply facilities to serve existing and new development. This plan must be coordinated with the 2015 Final Central Florida Water Initiative Regional Water Supply Plan.

## **WATER CONSERVATION MEASURES AND RECLAIMED WATER SYSTEM**

### **Overview**

The District has instituted a number of measures to reduce per capita water consumption. While the total volume of water consumed is projected to increase with development and attendance, the rate of increase is likely to drop as per capita use declines. The installation of water-saving plumbing fixtures, required by the RCID building and plumbing codes, will make an important contribution to conservation. Implementation of a drought management plan, continued development of the reclaimed water system, and increased emphasis on native vegetation in landscaping will also help mitigate future demands.

The District's 2006 application for renewal of its water use permit outlined the following conservation measures:

- Limitation of turf and ornamental irrigation to hours when evaporation is lowest.
- Use of Xeriscape (Florida Friendly Landscaping) principles (adopted in the District's Land Development Regulations).

- Requiring ultra-low volume plumbing in new construction.
- A preventative maintenance program that ensures leaks are detected and fixed.
- Requirements for rain-sensor overrides for new turf grass sprinkler systems.
- The use of reclaimed water for landscape irrigation and for theme park wash-down.

The most significant conservation measure implemented during recent years is the development of a reclaimed water system, discussed below.

### **Reclaimed Water System**

Construction of a reclaimed water system began in the early 1990s. Tertiary-quality effluent from the wastewater plant is distributed through a network of mains to irrigate turf grass, golf courses, and roadway and development landscaping throughout the District. Reclaimed water use in 2018 averaged 5.79 MGD and has fluctuated between 4.93 MGD in 1998 and 6.53 MGD in 2007. Reclaimed water is meeting less than 30% of the District's water resource needs. The District expects to continue to rely on its reclaimed water system and anticipates it will eventually provide over one-third of the District's future water resource needs.

The reclaimed water system consists of pumps and a network of distribution mains. Storage is provided by three 5.0 million gallon tanks adjacent to the wastewater plant and by a privately-owned pond at the Four Seasons golf course. Additional storage capacity is planned. A pump station at the storage tanks delivers water to the distribution system and to the storage pond. A 42-inch line extends from the wastewater plant area east to World Drive, where it branches into several lines serving development areas.

The District has determined that existing demand for reclaimed water exceeds 7.0 MGD (annual average), and could potentially be as high as 11.0+ MGD upon "buildout" of future development areas. Extension of the system to established development areas will be required to realize this potential.

Reclaimed water use exhibits much greater seasonal variations than potable water use, since much more irrigation water is required during hot and dry periods than during cool or wet periods. During periods of drought, less effluent is directed to the rapid infiltration basins and more is directed to the reuse system; conversely, during periods of wet weather, the rapid infiltration basins receive the larger share of water.

### **Potential Future Conservation Measures**

The District continues to explore other methods of water reuse and conservation. These include the use of membrane treatment technologies at the treatment plant or within the distribution system to generate effluent of sufficient quality for higher end uses, such as cooling water for industrial processes, lake augmentation, wetlands augmentation, and possibly aquifer storage and recovery. Such improvements could further mitigate the impacts of groundwater withdrawals.

## **WATER DEMAND PROJECTIONS**

### Potable Water

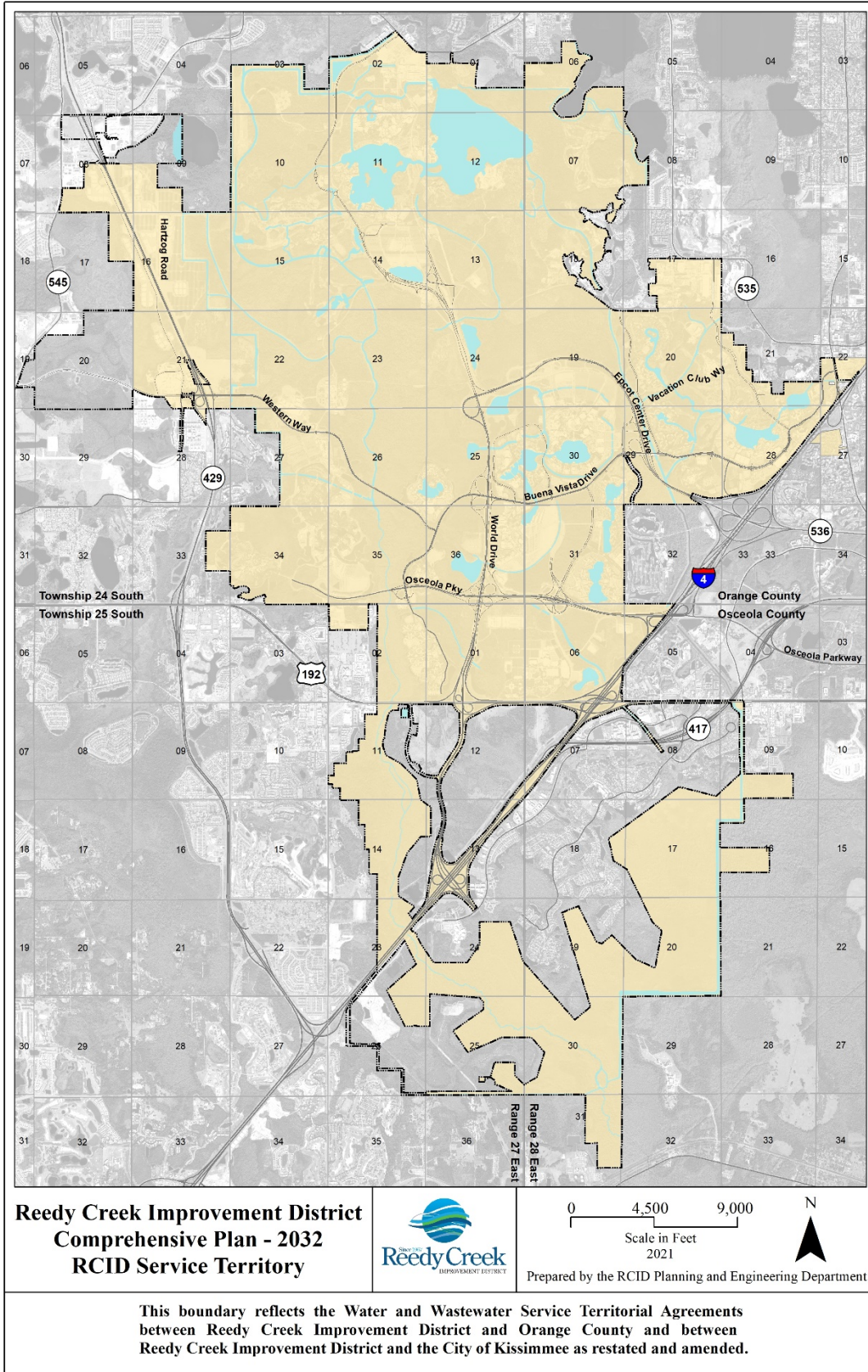
RCID was issued Water Use Permit, Number 48-00009-W, by the SFWMD in June 2007, which expires in

June 14, 2027. This permit has an annual allocation of 8,103 million gallons (MG) – which equates to an average day use of 22.2 MGD – and maximum monthly allocation of 933.888 MG (about 31 MGD average day flow for the maximum month). The permit contains a number of limiting conditions; one that specifically applies to water supply planning is Condition No. 25:

Should the Permittee determine that the groundwater allocations in this permit are insufficient to meet its demands beyond 2013, the Permittee shall also develop, in partnership with other Permittees or by itself, one or more Alternative Water Supply (AWS) source(s) needed to meet all of the Permittee's public supply water demands through 2027 that are not met by the allocations authorized by the District.

RCID does not purchase water from other utilities and is entirely self-sufficient in water supply and distribution. With just a few exceptions, RCID serves only those customers within its territorial boundary. Those exceptions are served under a territorial service agreement between RCID and Orange County.

**Figure 5-2: RCID Water Service Territory**



This boundary reflects the Water and Wastewater Service Territorial Agreements between Reedy Creek Improvement District and Orange County and between Reedy Creek Improvement District and the City of Kissimmee as restated and amended.

### Reclaimed Water

By the early 1990's, discharge of treated wastewater to surface waters was on the decline in Central Florida due to permitting pressures. RCID was one of many utilities that began construction of zero-discharge types of wastewater reuse systems in response to the permitting constraints. The first of these for RCID was a groundwater recharge system that consisted of 85 Rapid Infiltration Basins (RIBs). These basins allow highly treated wastewater to percolate through surficial sands which overlay the UFA. This practice provides some return of the withdrawn groundwater to its source. Studies by the USGS (O'Reilly et al) demonstrated that approximately 70% of the applied water to the RCID RIBs reached the UFA as recharge. The balance recharges the surficial aquifer.

A second zero-discharge system was employed by RCID in 1993 – the reclaimed water distribution system, which provides water for non-potable purposes, principally irrigation of turf grass and landscaping and theme park wash down. This system has grown annually in size and extent since the initial backbone of the piping was installed in the early 1990's. The reuse system, as it is commonly known, provides 25% to 30% of the District's water resource needs and is used by 80% of the irrigated areas throughout the District. The distribution system rivals that of the potable system in extent and line size and is operated at the same pressure. New development within RCID is required to connect to the system. Because of these attributes, the reuse system has become a second water supply source for RCID.

### **Level of Service Standards**

Level of service standards for potable water are shown in Table 5-4. The level of service standards differentiate between the various classes of hotels and resorts (luxury/deluxe/interval ownership, first class, and moderate/economy/campgrounds), and between theme parks and water parks. These standards are used when evaluating potable water use for all proposals for future development.

**Table 5-4: Level of Service Standards for Potable Water**

Land Use		Unit	Gallons per Day
Residential		Dwelling	350
Hotel/Resort (general)		Keys	200
	Luxury / Deluxe / DVC	Keys	250
	First Class	Keys	200
	Moderate / Economy	Keys	150
Convention Space		Square Foot	0.25
Support / Office		Square Foot	0.25
Retail / General Commercial		Square Foot	0.30
Restaurant		Seat	25
Theme Parks (general)		Guest	50
Theme Parks (water)		Guest	75

**Demand Forecast – Potable Water**

Means and methods for demand predictions with RCID are atypical. RCID's customer base is almost entirely commercial in nature (99+ %) and grows in response to planned developments by the principal landowners. There is virtually no residential development within RCID and the District has no plans for future residential service. The commercial development consists of guest accommodations (hotels and resorts), theme parks, water parks, support facilities, employee offices, as well as typical commercial activities such as restaurants, retail shops, and gas stations. Because of the nature of the customer base within RCID the normal methods of predicting demand from population growth by traffic zone does not apply to RCID. Instead, RCID has worked with the landowners to determine the appropriate pace of future development and predicted water supply needs on this basis.

For the recently issued Water Use Permit from SFWMD, RCID predicted a potable water demand of 23.8 MGD for the 2026 timeframe in the permit application. This demand was based on the summation of the planned and existing commercial development. RCID's Water Use Permit was issued based on the demand forecasts for the year 2013 - 22.2 MGD. Therefore it seems logical to assume that the demand for 2032 will be somewhere between these two figures (22.2 MGD and 23.8 MGD).

Table 5-5 below provides a projection of the maximum potable water demand.

**Table 5-5: Projected Maximum Potable Water Demand (million gallons per day)**

Year		Average Day)	Gallons withdrawn per year (billions)	Peak-month factor	Average day in peak month
January 1, 2020 (2019 AADF)		16.370	5.975	1.25	20.463
	(*Estimate)	0.372			
	Development 2022-2027)	1.730			
	Attendance Growth (2022-2027)	1.200			
January 1, 2027		19.672	7.180	1.25	24.590
	Development (2027-2032)	1.710			
	Attendance Growth (2027-2032)	1.220			
December 31, 2032		22.602	8.250	1.25	28.253
Permitted Withdrawal (SFWMD)		22.200	8.100		30.125
Projected 2032 Deficit		0.402			

*Note: \*Projected demand for projects completed and opened during 2020-2021 and projects currently under construction. Figures do not reflect potential reduced withdrawal due to implementation of the Districts 10-Year Water Supply Facilities Work Plan program which is projected to reduce withdrawals by 0.946 MGD by 2031, thus keeping the District in compliance with its permitted withdrawal.*

Table 5-5 above is a summary of the projected demands by development category for RCID for the Comprehensive Plan 2032 timeframe and is based on the development of all potential projects that could be permitted under the *Future Land Use Table 2-1: Development Maximums – Through 2032*. This is a fairly aggressive development plan and closely adheres to the development plan used in preparation of the District’s Water Use Permit. Historically, the level of development within the District parallels economic conditions, so any social and financial disruptions impacting tourism could periodically reduce the demand for potable water.

Based on recent economic conditions, it is highly unlikely the District will see the entirety of the development allowed in Table 2-1 over the next ten years constructed or even approved for construction by the end of 2032. It is more likely that the projects currently under construction, approved for construction, or under review will provide the basis for potable water demand for the period ending January 1, 2027, thus reducing demand from 19.672 MGD to 18.332 MGD and for December 31, 2032 from 22.602 MGD to 21.262 MGD based on the higher level of development shown in table 5-5 for 2027-2032.

RCID’s groundwater withdrawals and the estimated withdrawal have thus far fallen below the *Central Florida Water Initiative Regional Water Supply Plan 2015* estimates for **RCID**:

Demand Projections MGD					
2010	2015	2020	2025	2030	2035
16.50	18.20	20.60	22.50	23.60	24.70



## Demand Forecast – Reclaimed Water

Because reclaimed water plays such a vital role in the water resources of the District, it is prudent that the supply and demand forecast for this resource be included in the analysis. Table 5-6 below indicates the historic consumption of reclaimed water to meet non-potable purposes and the amount of water discharged to the RIBs. Table 5-6 also indicates the contribution that reclaimed water makes to the total water resource picture for RCID.

**Table 5-6: Historic Use of Reclaimed Water**

Year	Volume to Reuse (MGD AADF)	Volume to RIBs (MGD AADF)	Total Wastewater Volume (MGD AADF)	Total Potable or Groundwater Volume (MGD AADF)	Percent of Total Demand Met by Reuse System	Percent of Wastewater Returned from Potable Water Consumed
1998	4.93	5.78	10.71	18.64	20.93	57.46
1999	5.29	5.61	10.91	19.18	21.64	56.89
2000	6.19	4.58	10.76	19.95	23.67	53.93
2001	5.92	3.97	9.90	14.61	28.84	67.76
2002	5.84	4.31	10.15	14.32	28.98	70.88
2003	5.21	5.10	10.31	13.47	27.89	76.54
2004	5.90	5.58	11.48	14.83	28.42	77.41
2005	5.75	5.42	11.17	15.39	27.19	72.58
2006	6.42	4.72	11.14	16.48	28.03	67.60
2007	6.53	5.89	12.42	15.85	29.17	78.36
2008	6.08	5.81	11.89	15.55	28.10	76.46
2009	5.95	5.69	11.64	16.23	26.82	71.72
2010	5.81	6.29	12.10	16.52	26.02	73.24
2011	6.01	5.59	11.60	16.21	27.05	71.56
2012	6.03	6.33	12.36	16.62	26.63	74.37
2013	5.72	7.15	12.87	16.73	25.48	76.93
2014	4.96	8.32	13.28	16.66	22.93	79.71
2015	5.02	8.47	13.49	17.14	22.65	78.70
2016	5.79	7.76	13.55	17.63	24.72	76.86
2017	6.47	7.80	14.26	16.73	27.88	85.24
2018	5.85	8.30	14.15	16.07	26.68	88.05
2019	6.23	8.07	14.33	16.37	27.57	87.54
2020	5.35	5.22	10.35	11.56	31.64	89.53

The last column of the table indicates the percentage of wastewater generated from the consumed potable water. The overall trend in percent returned wastewater is increasing because of the RCID policy that requires new development to use reclaimed water for non-potable purposes. This trend is expected to continue to increase in the future until a maximum of about 85%-90% of non-potable needs could be met with reclaimed water. Irrigation around swimming pools and water features at the water parks is now and will continue to be irrigated with potable water. The percentage for 2017 and 2018 are most likely overstated as the increase in wastewater compared to the decrease in the amount of potable water could be attributed to the increased construction activity directing onsite runoff to sanitary sewer rather than to the stormwater system.

In the RCID Water Use Permit, condition number 28 requires that RCID use at least 30% of its treated wastewater for aquifer recharge via the RIBs. During the last ten years between 2.11 MGD and 4.43 MGD of excess treated wastewater was discharge to the RIBs that could have been used to satisfy non-potable demands still being served with potable water. New resort developments generally generate sufficient wastewater to cover their reclaimed water demands.

## **SUPPLY DEFICIT PLANNING**

There are numerous ways for RCID to plan for meeting the forecast supply deficit for 2032. These include:

- Seeking additional groundwater allocation from the UFA
- Seeking additional groundwater from the Lower Floridan Aquifer (LFA)
- Conservation and demand reduction
- Conversion of non-potable uses to reclaimed water
- Development of alternative surface water supplies (Kissimmee River or St. Johns River)
- Brackish and salt water sources
- Purchase water from a neighboring utility

For the past 15+ years, RCID has been evaluating these options and has concluded the following:

- It is unlikely that the UFA will be allocated for any additional withdrawals, since modeling results indicate that impacts to wetlands and surface waters will not be acceptable for volumes beyond the 2013 allocations currently permitted.
- The LFA is not well confined within the RCID and therefore withdrawals from this source would likely result in similar wetland and surface water impacts. Permitting this source will therefore be difficult and unlikely.
- Conservation is a viable and easily implemented option and will continue to be a mechanism and practice for RCID. However, RCID has had conservation measures in place for over two decades and believes that most of the gains have been realized. A summary of the key changes are as follows:
  - The RCID *Epcot Plumbing Code*, Section 604.4, requires the use of low water using plumbing fixtures in new construction.

- Per RCID Resolution 370, irrigation with potable water is not allowed between the hours of 10:00 AM and 4:00 PM. This was subsequently modified by RCID Resolution 479 to also limit irrigation to two (2) days per week in accordance with 40E-24.201 Year-Round Landscape Irrigation Conservation Measures. (RCID is exempt for 12.66 acres owned by the District irrigated with potable water utilizing a weather and evapo-transpiration (ET) irrigation based control system.
- RCID Land Development Regulation 4-50.4 requires all new irrigation systems to use reclaimed water for irrigation if available or use highly drought tolerant Florida friendly landscaping plants.
- As a result of the 2000-2001 drought, the theme parks within RCID stopped using potable water for hardscape wash-down and converted to reclaimed water. Also, all non-recirculating fountains /water features within RCID were converted to re-circulating or were discontinued. These practices have continued since the end of the drought.
- The bulk of the irrigation within RCID, including reclaimed irrigation, is controlled by a computerized system that only applies that amount of water necessary to meet the plant requirements. This helps ensure that irrigation is as efficient as possible.

Due to the extent of the above measures, it is believed that future additional conservation measures will have minimal impact on new and future development. Future goals to significantly enhance conservation would require the retrofitting of all existing facilities with low water use fixtures and requiring all irrigation to be computer controlled. As older attractions and resorts are redeveloped some additional water conservation and demand reduction may be achieved

- Conversion of non-potable uses of groundwater to reclaimed water has a high potential for RCID and appears to be the easiest and least costly to implement. Reclaimed water is currently used for landscape and turf irrigation, cooling tower make-up, street and sidewalk wash-down, decorative fountain make-up, vehicle washing, dust control, toilet flushing, and fire protection. Additional irrigated land exists as candidate sites for conversion, and up to 0.60 MGD of cooling tower makeup water (for evaporative losses) is still available for conversion.
- RCID has decided that surface water sources, such as the Kissimmee River, are not a viable option for providing some future water supply and are not participating in this pursuit by the Water Cooperative of Central Florida.
- RCID is actively pursuing brackish, but not and salt water sources, for 1 MGD of potable water in partnership with the Water Cooperative of Central Florida. This project will be discussed in detail below.
- Purchasing water from the nearby local utilities is a viable option and RCID currently has interconnections with Orange County Utilities and Toho Water Authority. Additional interconnection sites with these utilities are under consideration. However, these utilities face the same water supply challenges as RCID, and perhaps more acutely. Therefore the quantity of water that may be available for purchase from these entities will likely be limited in both volume and duration.

## Reclaimed Water Conversions

RCID developed a master plan for conversion of the older irrigated portions of the property to reclaimed water in 2002. This plan was reviewed and updated for this analysis. Table 5-7 below presents the current list of candidate sites, the estimated irrigated area and the estimated annual average irrigation demand.

**Table 5-7: Candidate Irrigation Sites for Conversion to Reclaimed Water**

Site Name	Irrigated Acres	Project Description	Estimated Volume (MGD AADF)
Contemporary Hotel	13.0	Main extension down World Drive	0.042
Epcot Theme Park	78.9	Main extension from World Drive	0.245
<b>Totals</b>	<b>91.9</b>		<b>0.287</b>

Several sites listed for conversion under the original Water Supply Facilities Work Plan were converted or partially converted and others were removed from the list after further evaluation of the cost effectiveness of the conversions. Portions of Magic Kingdom were converted at the time of the Fantasyland redevelopment, and the Magic Kingdom Toll Plaza was fully converted with the World Drive roadway improvement to bypass the toll plaza. Portions of Disney's Hollywood Studios were converted in conjunction with development of the new guest entrance off of Osceola Parkway and construction of Toy Story Land and Galaxy's Edge; this conversion is expected to reduce groundwater withdrawal by approximately 25.8 million gallons per year. A portion of the Caribbean Beach resort was converted with the demolition of 576 Caribbean Beach resort keys (rooms) to create the site for Disney's Riviera Resort. Disney's Polynesian Resort was fully converted to reclaimed water irrigation in 2017, generating a projected groundwater withdrawal savings of approximately 24 million gallons per year.

Nearly all Walt Disney Company and RCID irrigation systems are computer controlled with a weather driven system that takes into account evapotranspiration (calculated using temperature, relative humidity, solar radiation, and wind run), rain fall, vegetation type, soil type, slope, aspect, etc. This system allows the exact amount of irrigation to be applied for the given conditions and ensures the resource is conserved. Both potable and reclaimed water sourced irrigation systems employ the same control mechanism. All Walt Disney Company and RCID developments and road rights-of-way since 1989 utilize a computerized, weather driven irrigation system. All new development within RICD, regardless of ownership, is required to utilize a weather driven irrigation system as will all existing developments at the time of conversion from potable water irrigation to reclaimed water irrigation.

The RCID cooling towers provided an additional group of candidate conversions to reclaimed water. RCID owns and operates centralized cooling facilities at four locations: North Service Area, Epcot, Disney's Hollywood Studio (previously converted to reclaimed) and a satellite facility located near the Contemporary Hotel. Review of the metered data for the make-up water consumed to off-set evaporative losses by the North Service Area, Epcot, and Contemporary facilities showed a potential demand reduction of about 0.60 MGD as shown in Table 5-8.

**Table 5-8: RCID Cooling Tower Conversions**

<b>Location</b>	<b>Project Description</b>	<b>Makeup Demand (MGD AADF)</b>	<b>Year Converted or Projected Conversion Date</b>
North Service Area Central Energy Plant	Install pipe section, manipulate valves	0.300	2020
Contemporary Hotel Chilled Water Plant	Install pipe section, manipulate valves	0.050	2020
Epcot Central Energy Plant	Install pipe section, manipulate valves	0.250	2020
<b>Total</b>		<b>0.600</b>	

Evaporative losses vary greatly with the seasons and cooling load and will peak in the summer period as much as three times the average, and may be nearly non-existent on cold winter days. The above figures were derived from metered data and are intended to represent annual average conditions.

Between the cooling tower conversions and the irrigation system conversions, RCID believes it has the potential to reduce groundwater withdrawals by an additional 0.887 +/- MGD. This exceeds the forecasted deficit projected for 2032 under the most aggressive development program possible by about 0.485 MGD and provides some cushion for extreme weather events and to counter any estimating errors. As indicated above, RCID should have between 2.11 MGD and 4.42 MGD of reclaimed water available to meet this additional demand.

#### **Reclaimed Conversions Implementation Plan**

The majority of the conversion projects involve extension of the reclaimed water distribution system to the various customer points of connection. Many of these involve a single pipeline. A few will benefit from economies of scale where a single pipeline extension will serve multiple customers. For example, a pipeline extension from World Drive to the west side of the Epcot could eventually provide conversion for the Yacht & Beach Resorts and associated vacation ownership units. Similarly, a pipeline extension from Floridian Way to the Contemporary Hotel Satellite Chiller facility would provide service to the Contemporary Hotel and the east side of Magic Kingdom.

Table 5-9 below provides a proposed implementation plan for the identified conversions. It is the intention of RCID to accomplish these conversions in a steady and consistent pace over the course of the next 5-6 years. Most of the identified locations have a single point of connection per named entity, which will facilitate connection and minimize the cost of the effort.

**Table 5-9: Proposed Implementation Plan for Reclaimed Water Conversions**

Locations to be Converted	Irrigated Acres	Project Description	Estimated Volume MGD/AADF	Projected Conversion Year
Contemporary Hotel		Extend main down World Drive	0.041	2025
Epcot		Extend main from World Drive	0.245	2022-2027
Total			0.286	

The above plan could be accelerated or delayed depending on circumstances and actual demands experienced during the course of the planning period.

### Five-Year Schedule of Capital Improvements Reuse

Table 5-10 below provides the Five-Year Schedule of Capital Improvements to be implemented in the 2022-2027 timeframe. This schedule could be modified depending on actual demand over the next five year planning period.

**Table 5-10: Capital Improvement Schedule for Reuse Water (in thousands)**

Project Description	Source	2022	2023	2024	2025	2026	2027
Indirect Potable/Reuse Project	Bonds: Nontaxable		500	1,000	1,000	1,000	1,000
Contemporary RW Conversion	Bonds: Nontaxable			350			
Epcot RW Conversions	Bonds: Nontaxable	200	1,600			150	3,550
Golf Course Booster Pump Station Rehabs (4)	Bonds: Nontaxable				100	400	
RW Extension Along World Drive to Service Disney's Hollywood Studios	Bonds: Nontaxable	208					
Remote RW Storage & Re-pump SRF	Bonds: Nontaxable				200	3,500	
<b>Total</b>		<b>\$408</b>	<b>\$2,100</b>	<b>\$1,350</b>	<b>\$1,300</b>	<b>\$5,050</b>	<b>\$4,550</b>

### Additional Planning Efforts – Central Florida Water Initiative Regional Water Supply Plan

Although RCID anticipates that its groundwater allocation under its water use permit, in conjunction with conversions of potable irrigation and cooling tower make-up water and other non-potable consumption along with continued conservations practices will meet all of its public water supply demands through 2032

the current groundwater allocation is not guaranteed and therefore some uncertainty exists. Consequently, RCID initially selected the Cypress Lake Wellfield Water Supply project numbers 4 and 5 as the only *Central Florida Water Initiative Regional Water Supply Plan (CFWIRWSP)* AWS projects to actively pursue. RCID partnered with the Water Cooperative of Central Florida [City of St Cloud, Tohopekaliga Water Authority (TWA), Orange County and Polk County] on the Cypress Lake Wellfield projects.

The Cypress Lakes Wellfield project proposes to develop a Lower Floridan aquifer brackish groundwater wellfield located in Osceola County and includes construction of a new water treatment plant (WTP), production wells, concentrate disposal well(s), transmission service pumps, raw water pipelines, and finished water transmission mains to partner utilities at points determined under a separate water wheeling study. A total of 12 Lower Floridan aquifer wells are proposed with seven constructed during the 15 MGD phase and five during the 30 MGD phase. A groundwater withdrawal of 37.5 MGD has been authorized for this project by the SFWMD under Water Use Permit No. 49-02051-W, a 30-year water use permit (WUP) issued to WCCF partners and RCID on October 3, 2011. The project has two finished water construction phases: a 15 MGD phase and a 30 MGD phase. RCID allocation of the 30 MGD future production is 1 MGD. Finished water delivery is estimated to be delivered somewhere near/in the RCID service boundary off US192 in Osceola County

The following planning efforts have been completed to date:

- Two test/production wells were constructed within the Cypress Lake Wellfield and tested to provide the partners with water quality data within the LFA which was used to estimate raw water quality and to provide a basis of design for the new water treatment plant (WTP).
- The partners were issued a 30-year 37.5 MG water use permit (30 MGD finished and 7.5 MGD treatment process reject) with an expiration of October 3, 2041 by the SFWMD to withdraw groundwater from the LFA as an alternative water supply source. The water will be treated and distributed to the partners as follows:
  - Water Cooperative of Central Florida
    - Toho Water Authority 12 MGD
    - Polk County 3 MGD
    - City of St. Cloud 5 MGD
    - Orange County 9 MGD
    - RCID 1 MGD
- A Conceptual Development Plan (April 2014) recommended reverse osmosis as the treatment process for the LFA brackish groundwater supply and deep well injection as the most cost effective and permissible reverse osmosis concentrated management option.
- A Preliminary Design Report (October 2014) presented a basis of design, preliminary layout of proposed facilities (buildings, site, and yard piping), facility implementation, overview of regulatory requirements, and estimate of probable capital and O&M costs for the Cypress Lake WTP, wellfield, and raw water main.
- On January 30, 2017, the Florida Department of Environmental Protection issued a Class V Group 4 Injection Well permit for up to three injection wells for disposal of brine concentrate from the proposed reverse osmosis water treatment plant.
- The Cypress Lake Wellfield project is currently in the land acquisition, well testing, and final design of the treatment facility phase.
- RCID has negotiated a recent agreement addendum that future participation in the project would be via bulk water purchase from the facility through the Toho Water Authority (TWA) rather than

future capital expenditures. RCID has until November 12, 2022 to enter into a bulk agreement with TWA or exit participation in the project.

**Table 5-12: 2015\_4,5 Central Florida Water Initiative Regional Water Supply Plan Project**

County	Utility/Entity	Project	Water Source	Status
Orange/Osceola	Water Cooperative of Central Florida	Cypress Lake AWS WTP & Associated Pipelines This project is associated with the Cypress Lake Wellfield. The project is to construct an AWS WTP plant, raw water mains, finished water mains, and a deep injection well for concentrate disposal	Brackish Ground Water	Project is currently in the design phase.
Orange/Oseola	Water Cooperative of Central Florida	Cypress Lake Wellfield: Brackish Groundwater Wellfield – Wellfield Construction	Brackish Ground Water	Cypress Lake Wellfield was issued Water Use Permit No. 49-02051-W on October 3, 2011, with an expiration date of October 3, 2041, authorizing the new use of groundwater from the Lower Floridian Aquifer for public water supply for the Water Cooperative of Central Florida, Orange County Utilities and Reedy Creek Improvement District with an annual allocation of 13,688 million gallons (MG). The monthly allocation is not to exceed 1140.6 MG

**Additional Planning Efforts – RCID**

RCID is pursuing Alternative Water Supply by exploring Indirect Potable Reuse (IPR).. Potable water reuse (the process of using treated wastewater for drinking water) provides another option for expanding a region’s water resource portfolio. Indirect potable reuse uses an environmental buffer, such as a lake, river, or a groundwater aquifer, before the water is treated at a drinking water treatment plant. Current work includes data collection and feasibility analysis to determine if water quantity and quality parameters make IPR a viable water supply. The next phase includes extended pilot testing to review the feasibility analysis and project operation and maintenance costs.

Conservation will continue to play a role in the water resources of RCID and the District will continue to pursue this through building codes, enforcement, and periodic updates to the codes. Additional conservation may result in some demand reduction, but since the majority of the customer base is commercial, it is believed that the potential reduction will be minor, probably no greater than 2 to 3%. Because of the uncertainties in forecasting conservation measures, RCID does not intend to rely on conservation measures for significant demand reductions and therefore they have no quantification herein.



## **Future Goals and Objectives**

In looking beyond 2032, it is apparent that any additional water demands beyond what is supplied by the 22.2 MGD Water Use Permit after maximizing reuse irrigation conversions will have to be met with more strict conservation methods and/or water from an alternative water source. The simplest method to start with would be to adopt the following conservation objectives:

- All existing facilities within RCID to convert to low water use plumbing fixtures that meet the maximum flow rate and consumption requirements of the RCID *Epcot Plumbing Code*.
- All irrigation systems within RCID to be equipped, maintained and operated with a rain sensor device or switch that overrides the irrigation system when adequate rainfall has occurred.

These requirements currently only apply to new construction or renovations exceeding a certain threshold.

## **Summary**

The most promising option for RCID to meet the demand deficit projected for the 2032 planning horizon is to convert irrigation to reclaimed water while actively moving ahead with indirect potable reuse and the two Cypress Lake projects.

RCID will continue to cooperate on a regional planning basis to develop additional alternative water supplies to ensure its longer term resource needs are met and will continue to practice conservation.

# SANITARY SEWER

## OVERVIEW

**Note: In accordance with Section 119.071(3), Florida Statutes, maps of the RCID wastewater collection and treatment system are not provided herein due to the sensitive nature of these facilities and the security thereof.**

The RCID is the primary purveyor of sanitary sewer services within the District boundaries and serves all development within the District except the support service complex south of the Animal Kingdom.<sup>4</sup> The District also provides wastewater services to a now vacant apartment complex in unincorporated Orange County (Vista Way) on a site formerly within District boundaries, to the closed since August 2021 CrossRoads commercial area (also formerly within District boundaries), and to a portion of Orange County's service area known as Horizon's West while the county constructs a new Wastewater Treatment Facility. All of the RCID's wastewater treatment and disposal facilities lie within District boundaries.

The predominant land uses in the service area are described in the Potable Water Subelement. Nearly all development is connected to the centralized wastewater system. There are a few exceptions where isolated development operates on septic systems (about four of the golf course comfort stations utilize septic tank systems).

Independent package plants and circulation systems are generally discouraged in the District but may be permitted within animal-related exhibits at the theme parks. This is necessary because the attributes of effluent from such exhibits differs from those for which the District's treatment plant was engineered. One such example serves the hippo tank at the Animal Kingdom and is not permitted to treat human waste.

The District's initial wastewater treatment needs were met by a 3.3 MGD facility constructed on a 25-acre site in the west-central part of the District off of Bear Island Road. When it opened in 1970, that system served the Magic Kingdom theme park, the Bay Lake resorts, and the Lake Buena Vista hotels. Since that time, wastewater treatment needs have increased dramatically as a result of growth. The treatment plant was expanded to 6.0 MGD in 1981 to accommodate EPCOT Center and again in 1989 to 9.0 MGD to accommodate the Disney's Hollywood Studios and other new development. Capacity was increased to 15.0 MGD in 1993 to accommodate resorts and anticipated theme park and commercial development. The capacity of the facility was expanded to 20 MGD in 2015.

In addition to capacity expansions, the system has been regularly upgraded in response to state and federal requirements for effluent quality. Several innovative measures have been used to comply with these requirements. During the last 25 years, effluent disposal has shifted from a system which relied on wetlands for nutrient removal to a system which uses rapid infiltration basins and reclaimed water lines for treated wastewater percolation and irrigation. This system results in complete reuse of the treated effluent.

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<sup>4</sup> *The support service area along Backstage Road (off Sherberth Road) south of the Animal Kingdom receives sewer services from the City of Kissimmee.*

## **REGULATORY FRAMEWORK**

The Federal Water Pollution Control Act (PL 92-500) is the primary federal legislation relating to sanitary sewer service. The US Environmental Protection Agency (EPA) has responsibility for implementing this act. Florida has adopted legislation entitled Sewage Disposal Facilities: Advanced and Secondary Waste Treatment (Chapter 403.086) that implements the federal law on the state level. The Florida Department of Environmental Protection (FDEP) has the responsibility for implementing the state legislation and has adopted rules for the regulation of wastewater facilities (Chapter 62-600, Florida Administrative Code). The Florida Department of Health and Rehabilitation Services has adopted rules for septic tank and drain-field installations (Chapter 10D-6, Florida Administrative Code). The SFWMD is charged with implementing the FDEP rules as they apply to stormwater management. The sanitary and stormwater sewer systems are physically separated.

## **WASTEWATER COLLECTION AND TRANSMISSION SYSTEM**

The District's wastewater collection and transmission system consists of gravity sewers, lift stations, and force mains. The existing collection system connects the primary development areas with more than 29 sewage lift stations and associated force mains (pressurized sewers). The approximately 60 miles of gravity sewers range in size from 8 inches in diameter for the smallest collector mains up to 30 inches in diameter for the largest interceptor (backbone) mains. Mains range from six to eight feet deep for collector sewers up to 30 feet deep for some interceptors. Manholes and cleanouts located throughout the collection system provide for maintenance access. There are approximately 39 miles of force mains that range in size from 4 to 36 inches in diameter. The majority of the wastewater pipelines are constructed of ductile iron pipe, with PVC making up the remainder.

The gravity sewer system is relatively young, with the original facilities developed in 1970, and approximately 40-50% constructed since 1980. Because of the design standards utilized by the District and the relative newness of the collection system, infiltration is not a significant problem. The District contracts to outside vendors to periodically video the interior of some of the sewer pipelines and has recently developed a strategic plan focused on condition assessments and replacement or rehabilitation of aging assets to ensure system reliability.

Each of the District's 29 lift stations contain two and in some cases four, pumps for redundancy. All stations have some form of telemetry and alarms to inform operators of faulty conditions. For the more critical and larger lift stations, multiple pumps are provided to allow pump rate flexibility, and backup diesel generators are permanently installed for reliability. All lift stations are checked on a daily basis.

Each of the major activity areas in the District has a master pump station for pressurization of wastewater and delivery to the wastewater treatment plant via force main. Each station has between two and eight pumps for system reliability. Three major transmission systems convey wastewater to the treatment plant. One system serves the Magic Kingdom area and resorts, the second serves the Epcot/Hollywood Studios area and Lake Buena Vista, and the third serves the Animal Kingdom theme park and associated resorts.

## TREATMENT FACILITIES

The 20 MGD capacity wastewater treatment plant incorporates influent screening, odor control, flow equalization, grit removal, a five stage Bardenpho process providing phosphorous removal, nitrification and denitrification, secondary clarification, sand filtration, sodium hypochlorite disinfection, and filter belt thickening for biosolids.

Improvements to the plant during the early 1980s substantially reduced the nitrogen and phosphorus levels in treated effluent. Subsequent improvements during the 1990s allowed the District to switch from a wetlands disposal system to a rapid infiltration disposal system, discussed below. These improvements also facilitated the use of treated effluent for landscape irrigation through a reclaimed water system.

In November 2014 FDEP revised the District's permit No FLA-108219-015 to authorize the operation of the wastewater treatment facility for a capacity of 20 MGD. The permit has an expiration date of June 17, 2022. Effluent quality standards, as permitted by the FDEP and EPA, are shown in Table 5-14.

**Table 5-14: Wastewater Treatment Plant Characteristics**

Attributes	Standards
Plant Capacity	20.0
Type	Tertiary (Nutrient Removal)
Effluent Standards	
5-Day CBOD <sub>5</sub>	5 mg/l (*)
Total Suspended Solids	5 mg/l (*)
Total Nitrogen	6 mg/l (*)
Total Phosphorus	1 mg/l (*)
Fecal Coliform	High level disinfection as defined in 62-600 F.A.C.
pH	6.0-8.5

*Notes:*

*Standards are for effluent exiting the treatment plant. Standards for CBOD-5, TSS, and fecal coliform are based on monthly averages*

*(\*) Standards vary depending on the period of record evaluated.*

As mentioned above, the District allows septic tanks in remote areas; only four septic tank systems are in service within the District today. All existing septic tanks have been approved by the Orange County Health Department. At the time new permits are issued, the County conducts tests to determine soil suitability and predict drain field functionality. Septic tanks are not allowed in areas of unsuitable soils unless appropriate approved modifications of soils are completed.

## EFFLUENT DISPOSAL SYSTEM

The effluent disposal system includes a 1,000 acre site consisting of 85 rapid infiltration basins (RIBs) with a total wetted area of approximately 86.3 acres and a permitted average capacity of 12.5 million gallons

per day. The ponds have lined sides and sandy bottoms. A rotational cycle is used to balance the flow of reclaimed water to each pond and ensure that sufficient time is provided for percolation. Monitoring wells around the RIB's are periodically tested for levels of nitrogen, nitrate, nitrite, total dissolved solids, chloride, and turbidity.

Effluent is also utilized via the District's reclaimed (or reuse) water system. As discussed earlier in this element, reclaimed water is directed to a network of distribution mains which irrigate the tree farm, medians and rights of way, golf courses, and landscaping in all new development areas, in most of the developments constructed since 1990, and in many of the older developed areas as conversions from potable irrigation take place.

The proportion of wastewater directed to the rapid infiltration basins versus the reclaimed water distribution system varies seasonally. Reclaimed water flows are highest during hot, dry periods, when a large amount of water is needed for irrigation. As of 2018, flows to the basins averaged 6.12 MGD while flows to the reclaimed system averaged 5.79 MGD.

The RIBs are permitted to accept 12.5 MGD, but were designed and modeled to accept 17.5 MGD. Actual flows are not expected to reach these volumes since the reuse system will be handling a growing share of the effluent as new development comes on line. The District's water use permit requires 30 percent of the effluent from the wastewater treatment plant to be directed to the ribs for percolation into the groundwater. The District's operating permit allows the reclaimed water system to carry an average annual flow of 10.0 MGD. Due to economic and practical considerations, it is unlikely that this quantity will be reached in the foreseeable future.

## **BIOSOLID DISPOSAL SYSTEM**

The District engaged Harvest Power Orlando to Design/Build/Own/Operate a 3.2 megawatt biogas-to-energy facility that began limited operation in October 2013. The facility produced electricity by processing wet biosolids from the wastewater treatment facility along with food waste, oil, and grease generated within the District. The facility generated enough power to support its own parasitic loads and to support the energy requirements of the District's wastewater treatment plant. Harvest Power sold the sludge as a Class A solid to be used as a fertilizer. In 2020, Harvest Power went out of business and the District acquired portable centrifuges to dewater the plants biosolids before transporting them for disposal at an offsite composting facility. A new permanent dewater facility will be constructed and the District will continue to dispose of the biosolids at an offsite facility.

## **CAPACITY AND DEMAND**

As previously noted, this element focuses on five- and ten-year planning horizons. Future updates of the Capital Improvements Element may result in changes to the descriptions of proposed projects. Although this element will be updated for internal consistency, the Capital Improvements Element should be consulted for the most comprehensive data on future wastewater improvements.

In 2015 the capacity of the treatment facility was increased to 20 MGD. The expansion consisted of the addition of two final clarifiers (bring the total to four), the conversion of three previously idle tanks into flow equalization tanks, demolition of six older and smaller clarifiers, and pump and piping additions. Tankage associate with one of the four treatment trains will continue to be idle, even at the expanded capacity. The

District is currently receiving wastewater flows from western Orange County while the County constructs a new Wastewater Treatment Facility to service the area. The wastewater from this area is primarily domestic in nature.

Wastewater flows during the 1990s and 2010s are shown in Table 5-15. The volume treated at the plant grew at a fairly steady rate for the first ten years of this period, averaging about 6 percent a year. Flows during the last two decades have fluctuated with economic condition that have impacted tourism. Peak-month flows fluctuated similarly over the period.

**Table 5-15: Wastewater Flow Characteristics:**

Year	Average Daily Flow (MGD)	Average Day during Peak Month (MGD)	Wastewater as a Percent of Potable Water Consumed
1991	7.34	8.13	55.06
1992	7.49	8.41	56.06
1993	8.10	8.80	61.50
1994	8.43	9.45	65.25
1995	9.23	10.56	65.18
1996	9.61	10.56	63.47
1997	9.87	11.07	59.89
1998	10.71	12.03	57.46
1999	10.91	12.07	56.89
2000	10.76	12.56	53.93
2001	9.90	11.44	67.76
2002	10.15	11.55	70.88
2003	10.31	12.23	76.54
2004	11.48	12.73	77.41
2005	11.17	12.47	72.58
2006	11.14	12.38	67.60
2007	12.42	13.90	78.36
2008	11.89	13.14	76.46
2009	11.64	12.89	71.72
2010	12.10	12.93	73.24
2011	11.60	13.05	71.56
2012	12.36	13.15	74.37
2013	12.87	13.48	76.93
2014	13.28	14.08	79.71
2015	13.49	14.50	78.70
2016	13.55	14.00	76.86
2017	14.26	15.19	85.24
2018	14.15	15.23	88.05
2019	14.33	15.48	87.54
2020	10.35	14.18	89.53

The gap between potable water and wastewater flow volumes should become narrower as more of the District is connected to the reclaimed water system.

## OPERATION AND MAINTENANCE

The wastewater collection, treatment, and disposal system is in good to excellent condition. All components of the system are less than 36 years old. A preventive maintenance program ensures the continued reliability of the collection lines and lift stations. Force mains and lift stations are regularly serviced and operate satisfactorily. The District recently conducted exploratory videotaping of its sewer mains and continues to videotape a percentage of its system annually, with follow-up repairs accomplished as required.

Operations at the treatment plant and disposal facilities are continuously monitored in accordance with state and federal regulations. All testing is done to regulatory standards. Additional sampling, monitoring, and reporting are required at the rapid infiltration basins and on the reclaimed water system.

## SANITARY SEWER DEMAND PROJECTIONS

### Level of Service Standards

Level of service standards for sanitary sewer are shown in Table 5-16. As with potable water, the level of service standards differentiate between the various classes of resort hotels, other resorts, and between the theme parks and water parks. These standards are used when evaluating sanitary sewer generation for all proposals for future development.

**Table 5-16: Level of Service Standards for Sanitary Sewer**

Land Use	Unit	Gallons per Day
Residential	Dwelling	300
Hotel (general)	Keys	180
Luxury / Deluxe	Keys	230
First Class	Keys	180
Moderate/ Economy	Keys	130
Other Resort	Keys	230
Convention Space	Square Foot	0.20
Support / Office	Square Foot	0.20
Retail / General Commercial	Square Foot	0.25
Restaurant	Seat	20
Theme Parks (general)	Guest	30
Theme Parks (water)	Guest	50



## Current Conditions

Based on the current quantity of development in the District and the amount of wastewater treated, the service levels shown in Table 5-16 are presently being met. The average daily wastewater flow was 14.15 MGD in 2018, during a year of all-time peak attendance. Based on the Walt Disney World FY 2019 annual report attendance was flat during 2019, and is expected to decline significantly during 2020 due to current social and economic conditions.

## Future Conditions

The approach used to project future sanitary sewer demand taken in this element is similar to that used for potable water. The levels of service for the various uses listed in Table 5-16 have been applied to the quantities of projected development identified in the Future Land Use Element. Wastewater flow projections for 2025 and 2030 have been developed in this manner. The projections are given in Table 5-17.

**Table 5-17: Projected Maximum Wastewater Flows**

Year	Average Day	Plant Capacity	Surplus (Deficit)	Peak-month factor	Average day in peak month
January 1, 2020 (2019 Avg. Day)	14.330	20.0	5.670	1.121	16.064
(*Estimate)	0.320				
Development (2020-2026)	1.560				
Attendance Growth (2020-2026)	0.720				
January 1, 2027	16.930	20.0	3.07	1.121	18.978
Development (2027-2031)	1.550				
Attendance Growth (2027-2031)	0.710				
December 31, 2031	19.190	20.0	0.810	1.121	21.512

Note: \*Projected demand for projects completed and opened during 2020-2021 and projects currently under construction.

Plant capacity is based on annual average daily flows which accounts for variations above this figure to accommodate peak month and day conditions. Peak month can exceed annual average daily flows by 10 to 15 percent and peak day can exceed annual average daily flows by 20 to 25 percent.

## FACILITY NEEDS

Wastewater facilities may be divided into the following categories: (1) collection and transmission facilities, including lift stations; (2) treatment facilities; and (3) reuse facilities. Major facility needs in each category are discussed below. The District has prepared a Master Utilities Plan which provides more specific guidance in the design and engineering criteria for these facilities. The Plan is periodically updated in response to changes in the major landowners' development program.

## **Collection and Transmission**

New sanitary sewer collection lines will be added to accommodate development during upcoming years. These are identified in the District's Master Utilities Plan. Projects planned for the 2022-2027 period are listed in the Capital Improvements Element.

## **Treatment**

The total amount of development as shown in the *Future Land Use Table 2-1: Development Maximums – Through 2032*, if realized during the next ten years would require an increase in the capacity of the wastewater treatment plant. However, based on recent economic conditions, it is highly unlikely the District will see the entirety of the development allowed in Table 2-1 over the next ten years constructed or even approved for construction by the end of 2032. It is more likely that the projects currently under construction, approved for construction, or under review will provide the basis for potable water demand for the period ending January 1, 2027, thus reducing demand from 16.930 MGD to 15.730 MGD and for December 31, 2032 from 19.190 MGD to 17.990 MGD based on the higher level of development shown in table 5-17 for 2027-2032. The District is currently receiving wastewater flows from western Orange County while the County constructs a new wastewater treatment facility to serve that area.

## **Reuse System**

The District's future effluent disposal needs will be adequately met through the continued development of the treated effluent reuse system and continued use of the rapid infiltration basins. Based on projected flows, the rapid infiltration basins may never require expansion due to the increasing demands of the reuse system. As mentioned in the Potable Water Subelement, extension of the reclaimed water system into previously developed areas will further increase the demand for reclaimed water and reduce the need for the RIBs.

## **Problems and Opportunities for Replacing, Expanding or Adding New Facilities**

At this time, no major wastewater collection, treatment, or disposal problems exist within the District.

Operation of sanitary sewer facilities will continue to be monitored regularly to protect public health and safety and ensure the conservation of the natural environment. The District will continue to investigate technologies that improve the quality of treated effluent and facilitate its reuse. At this point, no water quality problems have been reported or are anticipated.

The District's priorities for the coming years are: (1) to maintain adequate wastewater plant capacity to accommodate planned development through 2032, and (2) to expand the reclaimed water system to serve both new development areas and areas that were developed prior to the system's construction.

# SOLID WASTE

## OVERVIEW

Solid waste in the RCID may be broadly categorized as either Class I, Class III, or hazardous wastes. Class I waste consists primarily of materials disposed by visitors to the major activity centers and is ultimately recycled or directed to landfills. Class III waste consists of inert materials, such as construction debris and yard trimmings. Construction debris is disposed at privately operated landfills, while some yard waste is processed for compost amendment. Hazardous wastes are temporarily held in specially designated areas and are then transported by licensed carriers to disposal sites around the United States. Hazardous wastes are distinguished from other types of solid waste by their propensity for causing health or environmental hazards if improperly managed.

## REGULATORY FRAMEWORK

The Federal Resource Conservation and Recovery Act (PL-580) established resource recovery as a national priority. The EPA reviews the impacts of solid waste disposal on air and water quality, while the U.S. Army Corps of Engineers monitors dredge and fill impacts. The Florida Resource Recovery and Management Act (Chapter 403.706, Florida Statutes) required each county to prepare a solid waste management plan. The FDEP has adopted rules dealing with solid waste handling and disposal (Chapter 62-701, Florida Administrative Code (F.A.C.)) and composting (Chapter 62-709, F.A.C.). The SFWMD provides review of water quality and quantity impacts associated with runoff from waste disposal and storage sites. Facility siting also is subject to appeal by the SFWMD. Actual construction and operation of solid waste facilities requires permits and review by the FDEP.

Hazardous wastes also are regulated by the U.S. Resource Conservation and Recovery Act and the Florida Resource Recovery and Management Act. The latter act directed the FDEP to develop and implement a hazardous waste management program. Florida also has passed the Solid Waste Management and Reduction Act (Chapter 403, Part IV, Florida Statutes), which is designed to reduce the amount of solid waste going to landfills.

Within District boundaries, the Reedy Creek Improvement District provides solid waste and recycling collection and transfer and recycling services to customers. Orange and Osceola Counties regulate solid waste services through their public utilities divisions. Although the counties operate and maintain the region's principal refuse disposal facilities and ensure their compliance with state and federal regulations, local governments are not obligated to use these facilities. Most of the District's Class I waste is actually hauled to a private landfill in Okeechobee County.

## COLLECTION SYSTEM

The RCID Solid Waste Department maintains a fleet of collection trucks, including fifteen roll-off trucks, six front loader trucks, one rear loader, food collection trucks, two flatbed tractor-trailers, one box-type truck, one container transport vehicle, one yard spotter, and four pickup trucks. These include the fleet of vehicles that collect recyclable materials. The District owns approximately 950 metal containers for collecting solid

waste and recyclables. The District also owns approximately 2,000 plastic recycling collection containers. Each facility in the District is equipped with dumpsters and, where warranted, all-in-one compactors for special handling of wet refuse and collection of recyclable materials. In the Magic Kingdom, collection capabilities are augmented by a privately operated Automated Vacuum Collection system that channels solid waste from 15 collection points via 20-inch vacuum mains.

Solid waste collection services are provided seven days a week, with most customers receiving service once or twice weekly. Collection vehicles operate about 22 hours a day. All areas are served according to need. Frequent collection at the major hotels and attractions prevents the overloading of containers, vandalism, and the negative effects of inclement weather. The permanent residential units receive service twice a week, but generate a very small portion of the total waste.

## **TRANSFER SYSTEM**

Class 1 solid waste generated within the District is delivered to the District's transfer station and is then transferred to 100-cubic yard transfer trailers. The transfer station consists of an enclosed tipping floor, truck scales, vehicle maintenance facility, offices, and parking for the fleet and personnel.

## **DISPOSAL**

A contractor hauls transfer trailers of Class I waste to Progressive Waste Solutions of Florida, Inc.'s solid waste management facility near St. Cloud, Osceola County, Florida, which has a projected remaining life of approximately 30 to 40 years.

Construction and demolition debris (C&D) is disposed at permitted off-site C&D or Class III landfills. Republic Services of Florida, under contract with the District, collects and disposes or recycles C&D debris. The District uses the WDW Bay Lake landfill as a sorting and transition area for its Class III debris. Acceptable wood and landscape materials recovered for recycling are transferred to the RCID Yard and Waste Facility, transferred to 100-cubic yard transfer trailers, and subsequently hauled to an off-site recycling and composting facility. Acceptable metals are also recovered and recycled; the remaining Class III materials are transported by Republic to its Cedar Trails Landfill in Bartow, Florida for disposal.

The District continues to collect herbivore manure from Disney's Animal Kingdom and Fort Wilderness and transfers it to an off-site recycling and composting facility.

**Table 5-18: Solid Waste Trends**

Year	Class I Tons			Class III Tons	
	Landfilled	Avg. Daily	Recycled (%)	Landfilled	Recycled (%)
1991	43,864	120	3,567 (7.5%)	98,248	39 (0.04%)
1992	45,274	124	6,610 (12.7%)	76,836	27,860 (26.6%)
1993	45,104	124	13,373 (22.9%)	59,557	76,541 (56.2)%
1994	41,555	114	17,419 (29.5%)	126,864	53,094 (29.5%)
1995	45,909	126	22,369 (32.8%)	46,266	51,076 (52.5%)
1996	50,392	138	24,081 (32.3%)	139,851	25,889 (15.6%)
1997	51,068	140	25,769 (33.5%)	70,618	20,177 (22.2%)
1998	66,555	182	17,944 (21.2%)	59,190	31,029 (34.4%)
1999	76,891	211	Unavailable	Unavailable	Unavailable
2000	82,761	227	Unavailable	Unavailable	Unavailable
2001	Unavailable	Unavailable	Unavailable	Unavailable	Unavailable
2002	60,823	167	14,915 (19.7%)	47,780	6,754 (12.4%)
2003	59,993	164	17,003 (22.1%)	57,365	4,758 (7.7%)
2004	68,871	189	14,918 (17.8%)	62,239	7,728 (11.0%)
2005	72,590	199	15,860 (17.9%)	50,908	4,210 (7.6%)
2006	79,595	218	15,893 (16.6%)	43,468	2,505 (5.4%)
2007	83,689	229	20,361 (14.9%)	50,380	3,619 (6.7%)
2008	72,470	199	20,361 (21.9%)	44,455	2,728 (5.8%)
2009	64,502	177	21,379 (24.9%)	30,407	2,588 (7.8%)
2010	70,916	194	18,415 (20.6%)	30,529	3,213 (9.5%)
2011	72,884	200	17,760 (19.5%)	36,413	4,067 (10.0%)
2012	73,433	201	18,665 (20.2%)	42,183	4,579 (9.8%)
2013	74,938	205	21,046 (21.9%)	42,304	6,348 (13.0%)
2014	69,860	191	26,656 (27.6%)	42,973	20,603 (32.4%)
2015	68,011	186	36,802 (35.1%)	47,658	23,780 (33.3%)
2016	76,427	209	27,183 (26.2%)	60,023	27,626 (31.5%)
2017	79,265	217	31,032 (28.1%)	48,246	25,152 (34.3%)
2018	80,112	219	33,836 (29.7%)	46,245	26,038 (36.0%)
2019	74,170	203	61,192 (45.5%)	8,447	31,210 (78.7%)
2020	32,624	89	28,931 (47.0%)	3,544	12,639 (78.1%)

Class I solid waste tonnage between 1991 and 2020 is shown in Table 5-18 above. Solid waste tonnage processed at the transfer station and going to the landfill, as with potable water and wastewater, fluctuates with social and economic impacts affecting the tourism industry. Fluctuations in the tonnage going to the landfill also result from the effectiveness of recycling efforts which during the last ten years have reached a

high of 47% for Class I in 2020 and 78.7% for Class III in 2019 to a low of 19.5% for Class I in 2011 and 9.8% for Class III in 2012. The District achieved a combined Class I and Class III recycling rate of 53% in 2019 and 54.5% in 2020.

## **SPECIAL PROGRAMS**

### **Resource Recovery**

The District delivers its food waste and other organic wastes (biosolids and fats, oils, and greases) off site for processing and disposal.

The District collects baled cardboard and baled film plastic and delivers it to an area at the site of the former outdoor compost facility. The baled materials are then transported to Republic Services' Materials Recovery Facility (MRF) in Lakeland, Florida. There are approximately 118 balers in service throughout the resort for processing of corrugated containers at the point of generation. The District collected 10,644 tons of baled corrugated containers and plastic film in 2018 or approximately 29 tons per day.

Aluminum and steel cans, plastic bottles, office paper, newspaper and loose cardboard are delivered to the transfer station. These recyclables are kept separate from the Class I waste and separately loaded into transfer trailers and transported to Republic Services' MRF for processing and amounted to 5,348 tons (14.6 tons per day) in 2018.

### **Hazardous Wastes**

Hazardous wastes in the RCID are collected, held, and transported by the private sector in accordance with state and federal regulations. Hazardous wastes are held in 32 designated accumulation areas, each engineered for safety and security. Typically the accumulation areas consist of a poured monolithic slab with curbs, a roof, and perimeter fencing; two of the areas are fully enclosed. Each area usually contains two drums, with a capacity of eight to 12 drums. Drums are regularly collected on a weekly basis and transported to a central compound near the wastewater treatment plant. From there all wastes go to EPA-approved sites via licensed haulers. The receiving sites are visited at least once a year by a representative of the Walt Disney World Company to ensure that wastes are being properly disposed of and the facilities are in compliance. All generators of and persons working with hazardous materials are trained to properly handle these materials. All wastes are labeled, sealed, and separated by type to prevent additional hazards that could result from mixing, in the event of a leak or spill. Paints and solvents are the most common hazardous wastes generated in the District.

## **OPERATION AND MAINTENANCE**

The District's transfer station and recycled materials staging facility are in excellent operating condition. In April 2019 an FDEP inspection found that the water from washing out dump trucks inside the building on the tipping floor resulted in leachate draining from the building to the stormwater system. The problem was immediately corrected and documentation provided of measures taken to prevent the leachate discharge. A permanent fix is currently in progress requiring replacement of the tipping floor, installation of a new trench drain and new sanitary pipe connecting into an existing sanitary line already protected by an existing grease trap.

The fleet of collection vehicles are regularly serviced and maintained, with new vehicles added to the fleet as needed.

## SOLID WASTE DEMAND PROJECTIONS

### Level of Service Standards

Level of service standards for solid waste are shown in Table 5-19. The standards are based on the actual quantities of waste disposed at the residential units, hotels and resorts, theme parks, offices, and commercial uses within the District. The District tracks solid waste disposal and recycling volumes at each of the major resorts and attractions on a monthly basis. An annual report is published at year's end.

**Table 5-19: Level of Service Standards for Solid Waste**

Land Use		Unit	Pounds per Day
Residential		Dwelling	11.5
Hotel (general)		Keys	7.5
	Luxury / Deluxe	Keys	11.0
	First Class	Keys	8.5
	Moderate/ Economy	Keys	6.0
	Value	Keys	3.5
Other Resort		Keys	6.0
Convention Space		Square Foot	0.0325
Support/Office		Square Foot	0.002
Retail/General Commercial/Restaurant		Square Foot	0.0325
Theme Parks (general)		Park	10 to 20 Tons
Theme Parks (water)		Park	0.5 to 1.0 Tons

### Current Conditions

Based on the current quantity of development in the District and the amount of solid waste disposed of, the service levels shown in Table 5-19 are presently being met. On average 219 tons of solid waste were generated per day in 2018. Total tonnage to the landfill and percentage recycles have increased relatively steadily during the last 20 years with decreases in tonnage to the landfill coinciding with 9/11 and the Great Recession.

### Future Conditions

The projections in this sub-element have been developed by applying level of service standards to the various land uses in the ten-year development mix shown in the Future Land Use Element. Table 5-20 indicates projected solid waste tonnage for 2025 and 2030. These numbers assume recycling rates remain at current levels.

**Table 5-20: Projected Class I Solid Waste Generation to Landfill**

Year	Average Day (Tons)
January 1, 2020 (2019 Tonnage)	203
(*Estimate)	8
Development (2020-2025)	32
Attendance Growth (2020-2025)	0
January 1, 2026	243
Development (2026-2030)	32
Attendance Growth (2026-2030)	1
December 31, 2030	276

Note: \*Projected demand for projects completed and opened during 2020-2021 and projects currently under construction.

Table 5-20 above is a summary of the projected demands by development category for RCID for the Comprehensive Plan 2032 timeframe and is based on the development of all of potential projects that could be permitted under the *Future Land Use Table 2-1: Development Maximums – Through 2030*. The CIP for Solid Waste includes an expansion of the transfer station to meet the demand in excess of the current permitted capacity of 275 tons per day. The total amount of development as shown if realized during the next 10 years would require an increase in the capacity of the transfer station. However, based on current economic conditions, the more likely average daily tonnage at January 1, 2027 will be around 218 tons and 251 tons at the end of this 10 year planning period.

## **FACILITY NEEDS**

Facilities for solid waste disposal may be categorized in the following categories: (1) Transfer stations; (2) Landfill facilities, including construction landfills; (3) Materials Recovery Facilities; and (4) Hazardous waste storage and disposal facilities. The need for each facility type during the next 10 years is discussed below. In addition to the facilities listed below, the District will expand its collection fleet and collection receptacles (dumpsters, etc.) as demand warrants.

### **Transfer Stations**

In 2012 the District completed construction of a new solid waste transfer station at the South Service area just north of the wastewater treatment plant. The need for additional transfer station capacity has been under consideration for the last decade. Increasing its landfill diversion rate enabled the District to delay the expansion from the anticipated 2018 at to 2020 or beyond given current social and economic conditions resulting from the Covid-19 pandemic. The District has programmed an expansion of the transfer station in its CIE in 2020.

### **Landfill Facilities**

As mentioned earlier, the Progressive Waste Solutions facility has ample capacity to meet the District's disposal needs for the next ten years and beyond.



The District will continue to use a private off-site construction landfill for disposal of Class III waste. The existing on-site landfill will continue to be used for specialty and sensitive items only. No new facilities, other than the transfer station, are projected to be required during the next ten years.

### **Material Recovery Facilities**

The District no longer operates its own MRF. Republic Services' Materials Recovery Facility (MRF) in Lakeland, Florida handles all Class I recyclable materials.

### **Hazardous Waste Facilities**

No new RCID hazardous waste facilities are proposed at this time. The private sector will continue to operate a centrally located accumulation area near the wastewater treatment plant. Although additional small accumulation areas may be proposed by the private sector in conjunction with new development, no major changes or facilities are anticipated.

### **Problems and Opportunities**

At present there are no significant solid waste service problems in the RCID.

# STORMWATER MANAGEMENT

## INTRODUCTION

The Stormwater Management Subelement of the RCID Comprehensive Plan describes the regulatory environment, stormwater control facilities, levels of service, and facility needs for stormwater control. The ultimate objective of the subelement is to ensure flood protection for developed areas, water conservation within designated wetland and flood-prone areas, and stormwater quality treatment to meet clean water requirements. Stormwater management has been one of the primary functions of the District since its inception. Since the mid-1960s, the District has constantly made improvements so that the current system is capable of accommodating a 50-year storm.

The District is responsible for approval, operation, and maintenance of all public drainage facilities within its boundaries. The planning, construction, operation, and maintenance of stormwater control facilities in each development project is the responsibility of the owner/developer unless the facilities are dedicated to the District.

## REGULATORY FRAMEWORK

The construction and operation of stormwater management facilities within the District is subject to regulation at the federal, state, and local levels. State and federal legislation addresses the management of flood waters, drainage modifications impacting wetlands, and the use of land in flood plain areas. The Federal Water Pollution Control Act (PL 92-500) is the primary law dealing with quality of stormwater runoff. The EPA is responsible for implementing this act. The Florida Water Resources Act (Chapter 403, Florida Statutes) provides the FDEP with the authority to establish water quality guidelines and recognizes stormwater runoff as an important resource. The FDEP has adopted a Stormwater Rule to fulfill part of the state's responsibilities under Section 208 of the federal act.

Stormwater management facilities are also subject to permitting and monitoring requirements by the South Florida Water Management District (SFWMD). The District was issued an SFWMD permit for operation of its stormwater management system in 1979; the permit was revised in 1992 and again in 2015. The development parameters established by the permit are discussed later in this chapter.

Presently, the RCID coordinates its stormwater management activities with Orange and Osceola Counties by reviewing development proposals upstream of District boundaries but within the Reedy and Bonnet Creek watersheds. The Counties may withhold development approval until developers and the RCID reach agreement on the mitigation of drainage impacts. The RCID currently reviews outside proposals only for consistency with the South Florida Water Management District permit requirements.

## SERVICE AREAS

The District's Reclamation Plan, approved by the State of Florida in 1966, provided for a system of water control that permitted maximum beneficial use of District lands, contributed to the preservation of natural resources, and facilitated the conservation of water. Provisions for the increased drainage requirements to

accommodate new development were included. The Plan of Reclamation incorporated inflows of runoff from tributary lands to the District in Orange and Osceola Counties.

The service area includes all land within the Reedy Creek Improvement District and approximately three times that acreage in contributory peak-lands. A total of 108,000 acres are included. Within the District, the predominant land uses are theme parks, resort hotels, associated support uses, and open space.

## **EXISTING CONDITIONS**

### **Natural Drainage Features**

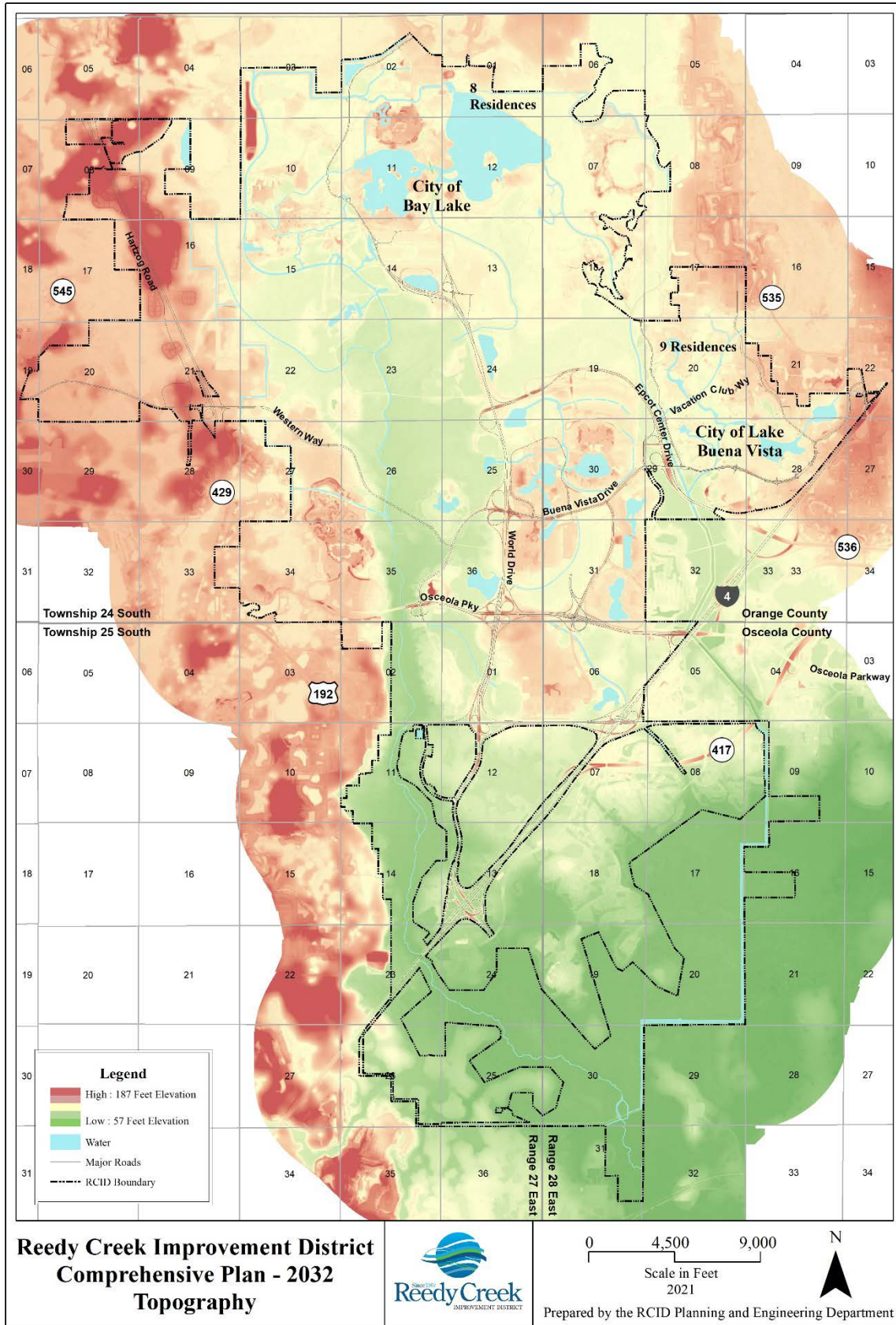
Drainage patterns in the RCID are shaped by topography, soils, and vegetation, as well as buildings and man-made drainage improvements. Topography ranges from about 150 feet elevation in the northwest part of the District to about 70 feet at the point where Reedy Creek leaves the southern boundary. A low ridge extends from Bay Lake southward through the EPCOT Center area, across US 192, and then southeasterly to the District boundary. The ridge provides a natural drainage divide between Reedy and Bonnet Creeks, the District's two main natural drainageways. Runoff from the west side of this ridge and from the rolling areas along Hartzog Road flows to the low-lying areas along Reedy Creek and ultimately to Reedy Creek itself. North of the Bear Island Road bridge, most of Reedy Creek has been channelized with earthen berms. South of this bridge, the creek is in its natural banks and is adjoined by wetlands on either side. South of I-4, the creek is adjoined by a broad flood plain and conservation area that is saturated most of the year.

Drainage from lands lying east of the ridge and in the City of Lake Buena Vista flows to Bonnet Creek. The Creek has been channelized and is now contained within an earthen berm canal (C-1) for most of its length within the District. Through man-made improvements, both the Reedy Creek and Bonnet Creek watersheds have been subdivided into many small sub-basins. The topographic features are shown in Figures 5-3.

Drainage is also a function of soil and vegetative characteristics. As the Conservation Element indicates, the loose sandy soils typical of the District's higher elevations have the ability to absorb more runoff than the lower areas. The saturated soils or clay soils generally found in the Reedy Creek flood plain and in the wetland areas have a much slower rate of absorption and a much higher water table. The higher areas are managed to prevent erosion, while the emphasis in the low-lying areas is on flood protection and conservation.

Most rainfall in the RCID vicinity falls during the summer months; some summer thunderstorms may exceed four inches of precipitation. Because the most extreme storms have the capability to overload the natural drainage system, the District has implemented an extensive stormwater conveyance system to avoid flood hazards.

Figure 5-3: Topography



## Man-made Drainage Features

Man-made alterations affecting drainage include canals, storm sewers, culverts, inlets, lakes, basins, and grading changes that affect the topography and direction of runoff. The initial stormwater control plan was developed and implemented between 1966 and 1979. As additional areas within the District have been developed, new stormwater control measures have been implemented and new facilities have been added. Drainage permits are periodically reviewed and modified as land use and hydrologic conditions change.

With current drainage improvements, the District still consists of two major watersheds. The western half of the District still drains to Reedy Creek, while the eastern half drains to Bonnet Creek. There are 66 linear miles of man-made canals and natural creek, and 23 gated control structures. Weir and gate structures are used to maintain surface elevations in the canals and to link some of the canals to nearby lakes. Water storage recorders have been placed at ten separate locations within RCID boundaries and at a number of peak- locations both upstream and downstream.

Both sub-basins discharge stormwater into the designated Conservation Area at the south end of the District. The South Florida Water Management District has limited the discharge from the District to 3,282 cubic feet per second (cfs) in a ten year/three day storm event. The design capacity of the control structure at the discharge point is estimated to be 2,984 cfs, based on the District's drainage model.

Runoff hydrographs were developed using a combination of the Soil Conservation Service Unit Hydrograph Method and the Santa Barbara Urban Hydrograph Method. The hydrographs provide criteria for assessing existing stormwater management facilities and designing new facilities. Channel performance is evaluated based on a computer program that simulates storm conditions throughout the system.

New primary facilities are typically designed to accommodate a three-day storm producing 12.91 inches of rain. Such a storm has a 1 in 50 chance of occurring in any given year (a "50-year return frequency" or "50-year storm event"). Stormwater facilities are also checked for their performance in a three-day storm producing 14.27 inches of rain; such a storm has a return frequency of 100 years. Secondary stormwater management facilities are sized in accordance with a 10-year return frequency, 72-hour duration storm.

The District's drainage model uses runoff coefficients based on the amount of impervious surface that is estimated to be in place when the District is fully built out. The following acreage parameters are used by the model and are included in the District's 1992 SFWMD permit:

	<u>Acres</u>
Water:	1,641 acres
Pavement (roads, parking, walkways, etc.)	6,134 acres
Building Coverage (footprints)	2,629 acres
Preserved Areas (primarily wetlands)	9,215 acres
Other Pervious Areas (golf courses, turf grass, landscaping, medians, etc.)	7,467 acres
<b>Total Acres</b>	<b>27,086 acres</b>

The SFWMD permit includes portions of Celebration, a planned community that was deannexed from the District in 1992. Although land use on the Celebration site is under Osceola County's jurisdiction, its water management areas remain subject to RCID stormwater management jurisdiction.

Approximately 10,800 acres in the District are used for the storage of runoff, either in surface water bodies or wetland areas. The wetlands and lakes retard the flow of surplus waters, thereby reducing the peak flow discharged from the District at the south boundary through the S-40 water control structure.

Tributary lands outside the District have been considered in the design of primary channel and structural improvements. Hydrologic characteristics of the tributary lands were obtained from U.S. Geological Survey (USGS) Quadrangle Maps, Soil Conservation Service soils maps, and U.S. Weather Bureau statistical rainfall data. Runoff from the tributaries enters through 12 inflow points along the District perimeter, shown in Figure 5-1 (see Policies).

### **Water Quality**

In addition to flood protection, the District's stormwater management system provides surface water quality treatment. Stormwater runoff becomes a pollution source when materials such as oil, grease, fertilizer, and heavy metals are washed into the drainage system by rainfall. Provisions to divert or screen runoff prior to its discharge to natural surface waters are an important part of the District's drainage plan. Surface water quality in the District is monitored continuously by the RCID's Environmental Protection Department at various locations in the Reedy Creek and Bonnet Creek watersheds. In accordance with the National Pollution Discharge Elimination System (NPDES) program, the District conducts biosampling of stormwater impact. Sample results from two monitoring stations are reported to the EPA on an annual basis.

## **OPERATION AND MAINTENANCE**

Operation and maintenance of water control works is provided by District personnel. Maintenance is performed on a regularly scheduled basis and includes monthly and semi-annual inspection of water control facilities, periodic water quality monitoring, monthly mowing and erosion control, canal clearing, and structure repair, as required. Surface inspections of the control gates are performed biennially and underwater inspections of the control structures are performed periodically. As needed the District rip-raps control structures to abate bank erosion, repaints control structures, removed earth plugs and vegetation on canals, and rebuilds sections of the levee system. These types of activities ensure that the water control facilities can operate at their design capacities and effectively prevent flooding during extreme rainfall.

Since the water control facilities of the District are essentially in place and have been planned with future development in mind, future improvements will consist primarily of expansion and maintenance of existing facilities. The District reviews the water control facilities annually to prioritize modifications and improvements.

## **NEEDS ASSESSMENT**

### **Level of Service Standards**

Levels of service for stormwater management facilities are based on the level of protection provided during storms of varying intensity. The standards for the Reedy Creek Improvement District are given below:

- development in the 100-year flood plain must provide compensating storage and may not increase the 100-year flood elevation or reduce the base carrying capacity of the floodway;

- the first floor of all habitable structures and public facilities shall be a minimum of one foot above the 100-year, 3-day storm event elevation, as determined by a stormwater model acceptable to the District;
- arterial roadways shall remain above the 50-year, 3-day storm elevation as determined by a stormwater model acceptable to the District;
- the main District Stormwater Management System shall convey the 50-year, 3-day storm event as determined by the RCID stormwater model;
- the secondary District Stormwater Management System shall convey the 10-year, 3-day storm event as determined by the RCID stormwater model;
- the discharge at S-40 shall be limited to 3,282 cfs during a 10-year, 3-day storm event; and
- in accordance with the 1992 SFWMD permit, all project sites shall retain the first one-inch of runoff on-site before discharge to the District's system, or retain 2.5 inches times the percentage of impervious surface area on the site, whichever is greater.

### **Performance Assessment**

The general performance and condition of existing facilities of the District have been favorable because of regular inspections and maintenance. Records of canal water levels in the District, maintained by Reedy Creek Energy Services, are published weekly and indicate that design water surface elevations have not been exceeded. Appreciable *reduction* of water surface levels below those maintained by primary control structures also has not been detected since monitoring was initiated in 1982. Consequently, the water control facilities have helped maintain groundwater levels adjacent to the canal system.

The structural facilities of the District are in good condition. The original culverts were installed in the 1970s and most of the water control gates were installed between 1969 and 1985. With continued proper maintenance, these structures should have an expected life of 50 to 75 years.

In accordance with its SFWMD permit, the District is required to complete an annual analysis of its stormwater management system. The analysis is submitted to the SFWMD prior to March 30th each year and the findings are used as the basis for designing improvements to the system. The drainage analysis also includes mapping of the flood plain, including elevations at various cross-sections. A current flood plain map may be found in the Conservation Element of this Plan.

The District had previously established a three-tiered system of priorities for stormwater management improvements. "Priority One" improvements were those that would prevent the flooding of existing developed areas in a ten-year and 50-year storm event. "Priority Two" improvements were those that would prevent 10-year and 50-year intensity flooding in areas where development was projected during the next five years. "Priority Three" improvements were those that would prevent 10-year and 50-year intensity flooding in areas projected to develop beyond a five year time horizon. *At this point in time, all Priority One improvements have been completed and no Priority Two or Three improvements have been identified.* The

District's single priority is to maintain the existing stormwater management system and provide improvements as needed for specific future development areas.

When the District instituted the three-tiered priority system in the early 1990s, the drainage model indicated a 10-year frequency storm could trigger flooding in portions of Fort Wilderness campground, the area northwest of the Magic Kingdom, and the undeveloped area west of the wastewater treatment plant. The model further indicated that a 50-year frequency storm could cause flooding in parts of Walt Disney World Village (now Disney Springs). The Fort Wilderness and Disney Village flood hazards were identified as "Priority One" and were programmed for correction. Flood improvements in the area northwest of the Magic Kingdom were considered, but were later determined to be infeasible because of potential wetland impacts. Moreover, a subsequent drainage study determined the L-407 canal had greater storage capacity than the 1991 drainage study had indicated. Consequently, flood hazards in this area were less serious than originally suspected.

Most of the improvements constructed during the early and mid-1990s involved replacement of control structures and widening of culverts. The S-404B, S-404D, and S-404E culverts on the L-404 canal were enlarged and the S-14A was enlarged. At the S-101 control structure, capacity was increased using a bypass pipe and weir system. As a result of these improvements, only the wetland and lakeshore areas at Disney Springs would be subject to flooding in a 100-year storm. Flooding at the Fort Wilderness campground would be minor and would be due to a secondary, privately-owned drainage system rather than the RCID system.

## **FACILITY NEEDS**

With the completion of several capital improvement projects during the early and mid-1990s, the District has largely corrected flooding problems and constructed the facilities necessary to ensure that existing developed areas are safe from future flood hazards. The priority at this time is to maintain components of the existing system. This requires periodic cleanout of the canals, maintenance of levees, and replacement of storm-water control structures as needed.

Within future development areas, the District will require modeling of drainage impacts and construction of appropriate improvements to mitigate flood hazards on- and off-site. This may require on-site detention ponds in some instances. It may also require specific on-site and peak-period improvements to the canal and weir system. No specific improvements have been identified at this time.





Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**CONSERVATION  
ELEMENT**

**Part A:  
Policies**

# INTRODUCTION

The Conservation Element addresses the management of natural resources in the District, including groundwater and surface water, soil and minerals, air, and plant and animal life. The element begins with adopted goals, objectives, and policies (the “Policies” component) addressing conservation issues. The second part of the element is a “Supporting Data and Analysis” component which provides background data on current conditions, and discussions of issues and future conditions.

## GOALS, OBJECTIVES, AND POLICIES

### GOAL

***It is the goal of the Reedy Creek Improvement District to protect and conserve the natural resources of the District.***

### Objective 1

*To maintain the quantity and quality of local groundwater resources.*

Policy 1.1: The District will encourage research and analysis of groundwater recharge conditions in the region. The findings of such research, including the ongoing USGS groundwater study, will be considered in future land use and development decisions. Until more current groundwater maps are available, the District will rely on the most current maps available from the SFWMD or otherwise deemed acceptable by the SFWMD to identify recharge areas.

Policy 1.2: The RCID shall continue to ensure compliance with Land Development Regulations which specify conditions for construction and development in high recharge areas. These conditions include provisions to minimize impervious surface cover in recharge areas so that recharge potential is maximized, and to regulate land uses within recharge areas.

Policy 1.3: The RCID shall continue to ensure compliance with Land Development Regulations which specify measures for maintaining water quality in the District’s potable water wells.

Policy 1.4: Prior to the development of any site larger than five acres, the RCID shall make a determination of the site’s recharge potential and shall specify appropriate measures to minimize the loss of that potential.

Policy 1.5: The RCID shall continue to cooperate and coordinate with the SFWMD and other agencies and jurisdictions in their efforts to protect groundwater resources in Central Florida.

Policy 1.6: The RCID shall continue to use locally derived water supplies wherever possible and shall avoid the importation of water from other jurisdictions or watersheds.

Policy 1.7: The RCID shall maintain standards which require the containment of sludge and hazardous materials so that there will be no impact on groundwater quality.

## **Objective 2**

*To protect groundwater recharge functions through the designation of extensive public and private open space areas within the District.*

Policy 2.1: The RCID shall continue to maintain stormwater retention requirements for new development areas and ensure that all retention structures in developed areas are maintained.

Policy 2.2: The District shall continue to construct capital improvements such as rapid infiltration basins, canals, and reclaimed water mains which provide opportunities for aquifer recharge and help maintain groundwater elevations.

Policy 2.3: The District shall continue to support the designation of high recharge areas for Public Facility, Conservation, or Resource Management/ Recreation uses on the Future Land Use Map.

## **Objective 3**

*To ensure that adopted surface water quality standards are enforced.*

Policy 3.1: The District shall limit the introduction of nutrients into District waterways; establish minimum criteria for surface water discharges; classify receiving waters according to their uses; and prohibit surface water discharges which constitute human health hazards.

Policy 3.2: All District surface waters and their related improvement programs shall continue to meet the Class III surface water quality standards promulgated in Chapter 62, Florida Administrative Code in effect at the time of Plan adoption.

Policy 3.3: The District shall continue to maintain a surface water quality sampling program that monitors dissolved oxygen, Ph, total nitrogen, and total phosphorus at least monthly and heavy metals, pesticides, and herbicides at least semi-annually.

## **Objective 4**

*To protect potable water wellfields in the RCID from contamination by harmful land uses and to limit potable water withdrawal to 8.103 billion gallons per year unless changed through the plan amendment process.*

Policy 4.1 Potable groundwater withdrawal shall be limited to a peak-month flow of 933.9 million gallons.

- Policy 4.2: The District shall use the following protection criteria around existing and proposed well sites as set forth in the RCID Land Development Regulations: A wellhead protection area consisting of a 500 foot radius around each potable water well shall be designated and certain land uses shall be excluded therein: groundwater protection measures contained within F.A.C. 62-521.400 Ground Water Protection Measures in Wellhead Protection Areas are adopted by reference (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).
- Policy 4.3: The District shall continue to maintain a groundwater sampling program which, at a minimum includes quarterly sampling of nutrients, metals, and organic compounds.
- Policy 4.4: In accordance with Chapter 62 of the Florida Administrative Code, groundwater quality shall continue to be monitored to determine the effect of treated effluent discharge and other activities on the potable water supply.

***Policies on water conservation are contained in the Potable Water Subelement of this Plan.***

### **Objective 5**

*To conserve soil and mineral resources through implementation of the policies shown below.*

- Policy 5.1: Best Management Practices shall be required for soil erosion and sedimentation control along District canals and lakes.
- Policy 5.2: No mineral extraction, other than that needed on a temporary basis during construction or landscaping, shall be permitted in areas designated on the Future Land Use Map as Conservation, Resource Management/Recreation, or Public Facilities.
- Policy 5.3: All new construction sites shall ensure that the turbidity of the receiving water body does not exceed the current state standards as found in Chapter 62, F.A.C.
- Policy 5.4: Mitigation of any violations that may result from the implementation of Policy 5.3 shall be completed prior to continuing construction on those portions of the project generating the violation.

### **Objective 6**

*To implement programs, collaboratively with other jurisdictions and agencies in Central Florida, which ensure that the region's Air Quality Index does not exceed 100, i.e., the top of the moderate range, except during the most extreme atmospheric conditions (such as thermal inversions).*

- Policy 6.1: The RCID shall encourage the Florida Department of Environmental Protection to establish air quality monitoring stations in the District in the event that regional air quality conditions deteriorate.

Policy 6.2: The RCID shall work with its major landowners to promote the use of alternative forms of transportation in the District, such as bike paths, watercraft, monorails, and buses.

Policy 6.3: The RCID shall require the major landowners to continue the use of parking technologies which minimize carbon monoxide, lead, and nitrogen emissions from idling automobiles.

## Objective 7

*To ensure the protection of wetlands within the District by maintaining a wetland classification system which establishes appropriate regulations for each class of wetlands.*

Policy 7.1: The RCID Land Development Regulations shall ensure the protection and conservation of all wetlands within its jurisdiction not approved for impact by Long Term Permits (LTPs). Wetlands shall be designated as Class I areas or Class II areas based on the following criteria:

(1) *Class I Criteria*

- (a) Any functional wetland currently protected by a conservation easement within the Reedy Creek Improvement District.
- (b) Any area included within the Wildlife Management/Conservation Area (WMCA) as defined by SFWMD.
- (c) Any wetland identified by the Florida Game & Fresh Water Fish Commission or U.S. Fish & Wildlife Service as providing critical and essential habitat for species on either the federal or state list of threatened or endangered species.

(2) *Class II Criteria.* All wetlands within the District which do not meet the criteria as a Class I wetland and which are not approved for impact by LTPs.

Class I and Class II wetlands are depicted on Figure 6-1.

(Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016)

Policy 7.2: The RCID shall continue to maintain a conservation easement over an undisturbed buffer area along Reedy Creek. The existing buffer area, known as the Wildlife Management Conservation Area (WMCA), extends not less than 550 feet on either side of the centerline of the creek, or 50 feet landward of the jurisdictional wetland boundary, whichever is greater.

Policy 7.3: The protection, conservation, and continued viability of wetlands shall be the principal consideration in the review of all projects affecting wetlands. Development within Class I wetlands shall be prohibited unless approved in accordance with the LTPs or Deed of Conservation Easement and an amendment to the conservation easement is obtained. Removal, encroachment or alteration of Class II wetlands will be allowed only when deemed appropriate and necessary, when the type, extent, and location of an impact is minimized to the maximum extent feasible, when consistent with Future Land Use Policies 3.8, and when all required State and federal permits are obtained. (Amended by

Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016 and Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinances Nos. 135 and 131 adopted 5/24/2022).

Policy 7.4: Deleted (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).

Policy 7.5: Mitigation shall be required for unavoidable losses of Class II areas and may occur anywhere within the Reedy Creek Watershed, within or outside of the District (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).

## **Objective 8**

*To ensure that sufficient habitat within the District is conserved to sustain wildlife, particularly rare, endangered, and threatened species.*

Policy 8.1: The District shall designate the most environmentally sensitive areas within its boundaries for Conservation and Resource Management/ Recreation land uses. The boundaries of these areas should be defined in a manner which preserves natural resource corridors within and across the District. Except as provided for in Future Land Use Policies 1.7 and 1.8, development shall be prohibited in the Conservation area and shall be limited to low intensity recreational uses in the Resource Management/ Recreation areas.

Policy 8.2: The District shall require the conservation of plant and animal habitat within the designated Conservation Area and shall encourage the enhancement of this habitat to sustain wildlife populations.

Policy 8.3: The District shall continue its program of stocking native game fish in the lakes and limiting fishing to ensure continued species development.

Policy 8.4: The District shall ensure that, at a minimum, the requirements of the following laws are met:

- (1) The Bald Eagle Protection Act (16 USC 688-668d) and (50 CFR 22)
- (2) Section 9 of the Endangered Species Act of 1973 (16 USC 1531)
- (3) The Migratory Bird Treaty Act (16 USC 703-711)

Policy 8.5: Although the gopher tortoise has been permitted for taking within the District, relocation of the species to sites designated for Conservation, Resource Management/ Recreation, or Public Facility uses is encouraged in the event gopher tortoises are discovered on future development sites.

Policy 8.6: In the event that significant populations of the Florida Scrub Jay are determined to be present on future development sites, the District shall require compliance with Florida

Game and Freshwater Fish Commission mitigation requirements if impacts to a scrub jay nest are deemed unavoidable.

## **Objective 9**

*To ensure the conservation of natural vegetation and energy resources.*

- Policy 9.1 Existing natural vegetation and ecological communities shall be preserved and integrated into landscape plantings where appropriate and feasible.
- Policy 9.2 The District shall encourage the use of renewable or alternative energy resources.
- Policy 9.3 The District shall encourage participation in the Florida Department of Environmental Protection's Florida Green Lodging Program.
- Policy 9.4 The District shall explore the feasibility of using renewable or alternative energy resources in its utility operation.

(Added by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

## **F.S.163.3177(6)(d) Requirements Discussed in Other Elements**

2. *The element must contain principles, guidelines, and standards for conservation that provide long-term goals and which:*
- i. *Manages hazardous waste to protect natural resources.*

The management of hazardous wastes to protect natural resources is addressed within the Infrastructure Element – Solid Waste Sub-element.

2. *Current and projected needs and sources for at least a 10-year period based on the demands for industrial, agricultural, and potable water use and the quality and quantity of water available to meet these demands shall be analyzed. The analysis shall consider the existing levels of water conservation, use, and protection and applicable policies of the regional water district water management plan approved pursuant to s. 373.036(2). This information shall be submitted to the appropriate agencies.*

The 10-year water supply plan is addressed within the Infrastructure Element – Potable Water Sub-element. Due to the unique character of the District analysis of demands for industrial and agriculture are not relevant.

(Added by Ordinance/Resolution No. 605 adopted 05/25/2022 and Ordinance Nos. 135 and 131 adopted 05/24/2022)



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay Lake  
**COMPREHENSIVE PLAN**

**CONSERVATION  
ELEMENT**

**Part B:  
Supporting Data and Analysis**



# PURPOSE

The purpose of the RCID Conservation Element is to:

- identify and analyze the District's natural and man-made environmental resources; and
- promote the conservation, use, and protection of these resources.

The Conservation Element demonstrates the District's intent to continue using natural resources as a foundation for planning and a basis for future land use decisions. It is based on in-depth studies pertaining to water resources, geology, soils, air and water quality, flora, and fauna within and around the District.

This element promotes the protection of the area's natural environment to ensure the health, safety, and welfare of the District's residents, employees, and visitors. In addition to the area's abundant natural resources, the RCID and the major landowners have created environmental features, such as wetlands and lakes that emulate the function and value of existing natural systems. The continued use of such features in new development areas is encouraged in this element. The element includes an inventory, description, and analysis of the RCID's natural systems. The "Policies" component which precedes this section presents goals, objectives, and policies for effectively managing the ecological balance that must be maintained in the overall planning of the District.

# GROUNDWATER AQUIFER RECHARGE

## INTRODUCTION

This section of the Comprehensive Plan meets the Florida requirement for a Natural Groundwater Aquifer Recharge Subelement. It addresses the management of subsurface water resources within the District.

The quantity and quality of groundwater are directly influenced by the activities that occur on the ground surface. Thus, land use and development must be regulated in a manner which ensures that groundwater is conserved and protected. Groundwater pollution can be avoided through careful planning of land uses in areas with high recharge potential, management of wastewater and runoff, and regular monitoring to detect potential problem areas.

## REGULATORY FRAMEWORK

The Federal Safe Drinking Water Act (PL-523), as amended, sets chemical standards for potable water and requires states to ensure the safety of public water supplies. States are required to work with local governments to map well field areas and develop land use controls to provide long-term protection from contamination in these areas. The federal Environmental Protection Agency (EPA) is required to develop criteria for selecting critical aquifer protection areas; state and local governments are to map the areas and develop protection plans. Upon approval of the plan, the EPA may enter into an agreement with the local government to implement it.

Pursuant to the Florida Safe Drinking Water Act (Chapter 403, Florida Statutes), the Florida Department of Environmental Protection (FDEP) has developed rules classifying aquifers and regulating their use. The FDEP also has established regulatory requirements for facilities that discharge to groundwater and inject materials directly underground. In 1995, the FDEP adopted an aquifer protection rule which limits activities within 500 feet of a potable water well. RCID's standards are stricter than the FDEP standards.

The South Florida Water Management District (SFWMD) is responsible for defining and inventorying groundwater resources and levels, identifying prime recharge areas, and assisting the RCID in aquifer protection. The SFWMD issues permits for wells and other water facilities; manages surface water storage; and regulates withdrawal, discharge, and injection. The RCID Planning and Engineering Department is responsible for ensuring compliance with state and federal regulations.

Orange and Osceola Counties have initiated a number of programs to protect groundwater. Orange County can require that recharge facilities be incorporated in projects located in high recharge areas. These facilities may retain runoff on-site for percolation to the aquifer. Osceola County has been divided into four water districts that regulate the supply and distribution of water and the construction of new water facilities. Each county monitors water quality near landfills, drainage wells, and other areas where the potential for groundwater contamination exists. The RCID conducts groundwater monitoring in areas adjacent to hazardous waste-holding areas and effluent disposal sites, and around potable water wells. There are 10 groundwater monitoring wells at the rapid infiltration basins, and six wells located at various points where treated effluent is used for irrigation. Quarterly monitoring reports are prepared demonstrating compliance with FDEP standards.

## **RECHARGE CHARACTERISTICS**

### **Characteristics of the Aquifer**

There are two main aquifers in the RCID vicinity: a surficial aquifer and the Floridan Aquifer. The two aquifers are usually separated by clayey sands known as the Hawthorne Formation, which ranges from zero to 200 feet in thickness. Some parts of the Hawthorne Formation contain limestone and provide secondary aquifers.

The surficial aquifer lies just below the ground and is contained within the Recent, Pleistocene, and Pliocene rock system. This aquifer may be at or near the surface in wetland areas but is well below ground in the higher elevation areas. It may extend to depths of 200 feet. Because the surficial aquifer is not capped by impermeable rock, its upper level (also called the water table) fluctuates with precipitation. The surficial aquifer is primarily composed of quartz sands, depending on its clay content. It is relatively porous and can store water prior to infiltration to the Floridan Aquifer.

The Floridan Aquifer underlies much of Central Florida, including the District. This aquifer is a formation of permeable rock that absorbs and retains large quantities of water. The Floridan Aquifer provides the agricultural, commercial, and domestic water supply for all of Orange and Osceola counties. Although it contains an abundant quantity of water, the supply is finite and must be constantly replenished. This occurs either naturally through precipitation, or artificially through injection wells or percolation.

The Floridan Aquifer is confined by an impermeable layer that naturally pressurizes water. In some cases, the pressurization is sufficient to bring water to the surface without pumping when wells are drilled. Such

wells are classified as “artesian” (the elevation to which water is naturally drawn by a well is called the potentiometric surface). Within the Floridan Aquifer, there are two limestone formations that are separated by a semi-permeable layer. The Avon Park Formation is the upper producing zone that lies about 150 to 600 feet below the ground surface and is between 400 and 600 feet thick. The Lake City Formation, the lower producing zone, lies 1,100 to 1,500 feet below the ground surface and may be as thick as 2,000 feet.

The Floridan Aquifer contains numerous cavities, permitting high transmission of water within the system. Water flows continuously throughout the cavities and moves from formation to formation as water is withdrawn and recharged. Water quality in the aquifer is good; in the District only chlorination is required prior to domestic consumption.

The surficial aquifer generally produces water under non-artesian conditions. These conditions occur where the upper surface of the zone of saturation is not confined and water is free to rise and fall directly in response to variations in recharge and discharge. The water is contained in sediments of quartz sand and the aquifer is irregular in thickness and composition. Wells 20 to 40 feet deep may yield five to ten gallons per minute (gpm) of water. By contrast, wells in the Floridan Aquifer yield up to 3,500 gpm. The surficial aquifer generally is not used for potable water supply.

Several artesian aquifers may exist 40 to 90 feet below the ground surface within the confining beds of the Hawthorne Geologic Formation. In the District, the Hawthorne forms a somewhat impervious barrier between groundwater and the Floridan Aquifer. It may contain pockets of porous materials from which limited supplies of water could be obtained.

### **Factors Affecting Recharge**

Recharge potential is based on the amount of rainfall that occurs in an area; the conductivity, size, and extent of the surficial aquifer; the height difference between the water table of the surficial aquifer and the potentiometric surface of the Floridan Aquifer; the number and extent of sinkholes breaching the Hawthorne Formation; and the conductivity of the Floridan Aquifer. Soil and topographic surveys provide the best indicator of these characteristics and provide much of the basis for distinguishing areas with high recharge potential. High recharge areas include areas of coarse, sandy soils, and sinkholes, with water tables well below the surface. Recharge in the high areas may be up to 20 inches a year.

Recharge may also occur artificially, through injection wells. Artificial recharge also occurs through rapid infiltration basins, which allow highly treated effluent to percolate back to the aquifer from man-made ponds. Although artificial recharge replenishes the aquifer, its downside is the increased risk of groundwater contamination, particularly where stormwater runoff is injected directly into the Floridan Aquifer.

### **Sinkhole Potential**

A summary of sinkhole potential at the District was performed as part of the application for renewal of the SFWMD Consumptive Use Permit in 1996. The potential for sinkhole formation within the RCID is described in that application as low, and the likelihood that groundwater withdrawal will induce sinkholes is also described as low. No sinkholes have been observed within the RCID during recent years. The rapid infiltration basins are visually inspected weekly for evidence of sinkhole activity.

## Recharge Characteristics of the RCID

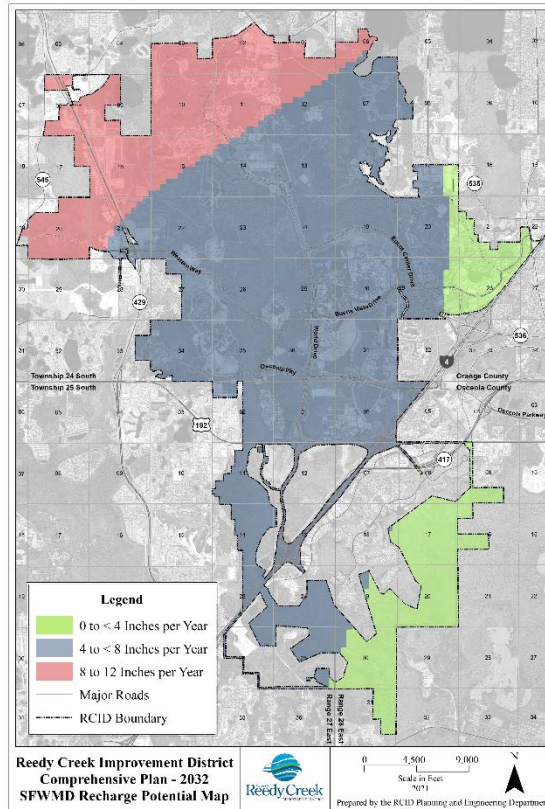
Although portions of the District have potentially high recharge characteristics, there are no areas within the RCID that have been designated by the South Florida Water Management District (SFWMD) as prime recharge areas. The SFWMD published a groundwater recharge potential map for Central Florida in 1996; recharge potential in the District as shown on the SFWMD map is displayed in Figure 6-1. Because of the large-scale nature and numerous assumptions inherent within the data bases employed for completion of the recharge potential mapping project, the resulting map product is intended to be used only as a regional ground-water management planning aid. District specific data and knowledge of soil types, land use and cover, and elevation confirm the limitations of the SFWMD map. Figure 6-2 uses soils, land use and cover, and to a lesser extent elevation, to show areas within the District with the highest recharge potential.

The potential for recharge is highest in the District's sandy, well-drained soils, which are concentrated in the area along SR 429 Road. This area also contains the highest surface elevations in the District and has characteristics that allow surface water to percolate to the aquifer. The balance of the District, including the theme parks and resort areas, are dominated by poorly drained soils that have low recharge characteristics. Recharge areas must be sufficiently high in elevation so that surface water can infiltrate against its upward-tending groundwater pressure.

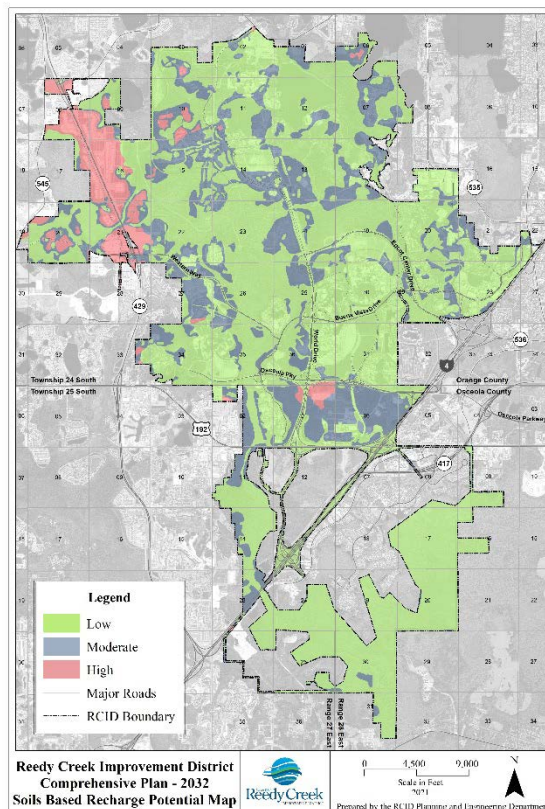
Stormwater retention facilities are also used to accomplish groundwater recharge. The District's entire system of water control structures is designed to retain and maintain shallow groundwater elevations similar to those that existed in pre-development times, while at the same time providing a conveyance and flood control mechanism. In 1991, the District completed 85 rapid infiltration basins on the western side of the District. The basins are located in the area identified on Figure 6-1 and Figure 6-2 as having the highest recharge potential. A site specific analysis of groundwater recharge potential is

required for all development projects five acres or greater.

**Figure 6-1: Recharge Potential – SFWMD Map**



**Figure 6-2: Recharge Potential Map – Soil Based**



## **WITHDRAWAL CHARACTERISTICS**

In Central Florida, groundwater withdrawal is regulated through consumptive use permits from the St. Johns or South Florida Water Management Districts. The RCID is permitted to withdraw up to 8.552 billion gallons annually, or 22.2 million gallons per average day. Actual withdrawal in 2008 was 5.962 billion gallons or about 15.55 million gallons per average day. This represents about 70 percent of the permitted amount. Additional information on the District's wells and withdrawal patterns is contained in the Potable Water Subelement of the Comprehensive Plan.

As a result of rapid development, groundwater withdrawal has increased both in the District and in the surrounding region. In the RCID, annual consumption rose about 5.0 billion gallons in 1990 to over 7 billion gallons in 2000. Since peaking in 2000, the annual consumption in the District has declined to between 5.5 billion gallons and 5.8 billion gallons. The RCID has taken a number of proactive measures to reduce the rate of withdrawal and increase the rate of recharge. Implementation of the treated effluent reuse program, described in the Potable Water Subelement, has resulted in the reduction in potable water requirements for new development and existing developments as they undergo redevelopment and has reduced the rate of growth in groundwater withdrawal. At the same time, the rate of recharge has been augmented as a result of the rapid infiltration basins. The RCID basins are located in an area with high recharge potential and offer significant environmental benefits. Extensive hydrological and geological tests have been carried out to ensure that treated effluent is sufficiently filtered by the time it reaches the aquifer. Groundwater monitoring wells have been drilled in this area to ensure that aquifer water quality is maintained in the vicinity of the basins.

## **WATER QUALITY CONSIDERATIONS**

Certain land uses and activities are potential sources of contamination and can pose a threat to groundwater under certain conditions. Industrial uses, such as manufacturing and processing plants, may use liquids and solids that can mix with water if not properly disposed of or contained. Percolation from retention ponds or borrow pits adjacent to these uses may transport diluted hazardous wastes to the aquifer. Similarly, absorption of pesticides in agricultural areas may result in groundwater contamination. Both kinds of risks can be minimized through sound land use planning and management guidelines defined by the U.S. Soil Conservation Service (Best Management Practices).

Groundwater problems have been rare in the Orlando metropolitan area, but increased urbanization creates potential new risks. The potential sources of groundwater pollution in the RCID, namely the construction landfill, underground storage tanks, septic tanks, hazardous waste holding areas, and industrial (support service) areas, are all managed in a manner that minimizes potential risks. The District's development has generally occurred in areas with low recharge potential. The semi-confining sedimentary formation between the surficial aquifer and Floridan Aquifer further reduces the potential for contamination.

As development continues in the District and the surrounding area, conservation of groundwater and protection of groundwater quality remain an important priority of the RCID. Groundwater quality continues to be monitored at various locations around the District to guarantee the safety of the local drinking water supply and ensure that groundwater levels are maintained. Finally, the District's continued efforts toward improving surface water quality (through advanced wastewater treatment and retention ponds) will provide groundwater quality benefits because of the high transmissivity between surface water bodies and the aquifers.

# SURFACE WATER AND WATER QUALITY

## **SURFACE WATER CHARACTERISTICS**

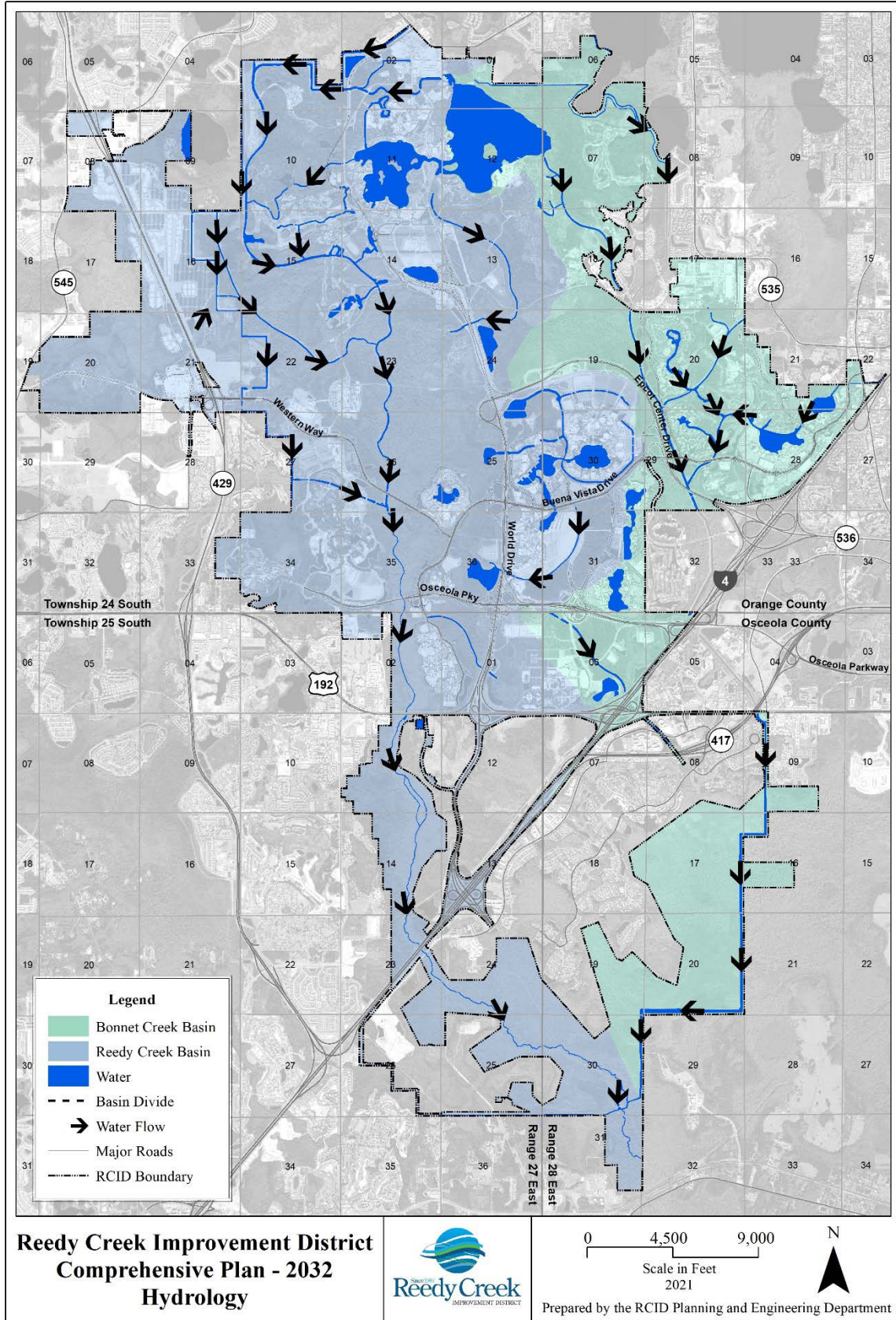
The RCID lies in the northern tributary sub-basin of Reedy Creek, which is part of the Kissimmee River Drainage Basin. Major tributaries to Reedy Creek are Whittenhorse, Davenport, and Bonnet Creeks. Cypress Creek is a northern tributary to Bonnet Creek. Within the District, Bonnet Creek (C-1 Canal) and Reedy Creek are the major drainage basins (see Figure 6-3). These sub-basins collect stormwater runoff from the eastern and western portions of the District, respectively.

The Reedy Creek Basin is characterized by low, undulating hills; relatively flat uplands; wide, swampy valleys; man-made canals; and lakes. The lakes and swamps retain large quantities of runoff, overflowing across wide, shallow marshes during the normally wet summer months and other periods of heavy rainfall. The Bonnet Creek Basin is characterized by similar upland terrain, but has less water entering the wetlands and more diverted into canals. The Bonnet Creek system is controlled at several locations by man-made structures, whereas the Reedy Creek system uses the natural characteristics of the existing riverine section south of the L-405 Canal to control flow.

Since 1967, drainage in the District has been improved with the use of canals, levees, culverts, and automatic flow-control structures. Drainage is characterized by relatively slow runoff rates and a high proportion of storage in lakes, ponds, and wetlands. The stormwater storage capacity in the District includes a portion of the Conservation area located along Reedy Creek north and south of Interstate-4. The RCID operates water-control structures designed to simulate the actual hydrologic conditions that would occur without these structures. Other surface water features in the District include Bay Lake, Seven Seas Lagoon, Village Lake, Black Lake, canals, stormwater ponds, and borrow pits.

The water levels of the Magic Kingdom waterways, Bay Lake, Seven Seas Lagoon, Village Lake, etc. are regulated by water-control structures. Bay Lake, which is connected to Seven Seas Lagoon, has controlled outlets to the headwaters of both Bonnet and Reedy Creeks. Lakes tributary to Bonnet Creek include Lake Mabel, Village Lake, Black Lake and numerous stormwater ponds. An extensive canal network provides conveyance of excess flow from these lakes and stormwater ponds to both Reedy and Bonnet Creeks. Black Lake supplies surplus water to Village Lake. Black Lake is a natural lake with fluctuations in water level dependent on rainfall, evapotranspiration, and groundwater inflow.

Figure 6-3: Hydrology



Reedy Creek's existing natural drainage systems require continued maintenance. Clearing and snagging of debris in streambeds, in lieu of channelization, is used wherever possible by the District to increase the flow rate. At the inception of the District, a reclamation plan was developed to maintain, as nearly as possible, natural ground and surface water levels within the framework of flood protection during periods of extreme rainfall. To accomplish this, a system of canals, water-control structures, and levees was designed in accordance with state laws governing water control plans.

The RCID Plan of Reclamation was approved in 1966, and a major portion of the improvements were constructed and in operation by 1971. The South Florida Water Management District periodically issues permits for the continued operation of water control facilities.

Previous studies by the RCID have documented the quantity and quality characteristics of incoming surface water and the surface water discharged downstream, together with intensive investigations of shallow and deep water aquifers. Because these studies are expected to continue in the future, the District will be able to effectively plan its water related facilities to avoid or mitigate adverse impacts on the environment. Furthermore, the reports provide valuable data relative to the effects of growth and development on water resources.

## **WATER QUALITY**

The District maintains water quality in its surface waters to meet Class III (Recreational Use) standards. Most of the recreational lakes are of higher quality than the Class III criteria. The District has a state-of-the-art environmental laboratory, the staff of which regularly monitors surface water and groundwater quality conditions. The monitoring program for drinking water has been certified by the Florida Department of Environmental Protection. Monitoring is done by District's Environmental Services Department, in coordination with the Planning and Engineering Department. An annual report summarizing water quality data is submitted to the RCID Board of Supervisors.

Reedy Creek is sampled weekly for measurements of dissolved oxygen, Ph, total phosphorus, and total nitrogen. Heavy metals, pesticides, and herbicide conditions are sampled semiannually at various locations throughout the District. Macro-invertebrates are sampled quarterly in Reedy Creek and in other locations as needed.

As development occurs in the Reedy Creek drainage basin the potential for surface water pollution increases. Water quality is affected by both point and nonpoint sources. Until the early 1990s, the principal point source in the District was the wastewater treatment facility, since that facility once discharged treated effluent into Reedy Creek and adjacent wetlands. The shift in wastewater effluent disposal from an "outfall" type system to rapid infiltration basins and effluent recycling, combined with the upgrade from secondary to tertiary treatment have decreased nitrate concentrations in Reedy Creek and its wetlands. The principal nonpoint pollution source is stormwater runoff. Runoff impacts on surface waters are somewhat mitigated by the use of retention/detention ponds to capture and filter runoff adjacent to developed areas. The District continues to explore and implement new programs to reduce pollution of surface waters from urban runoff.

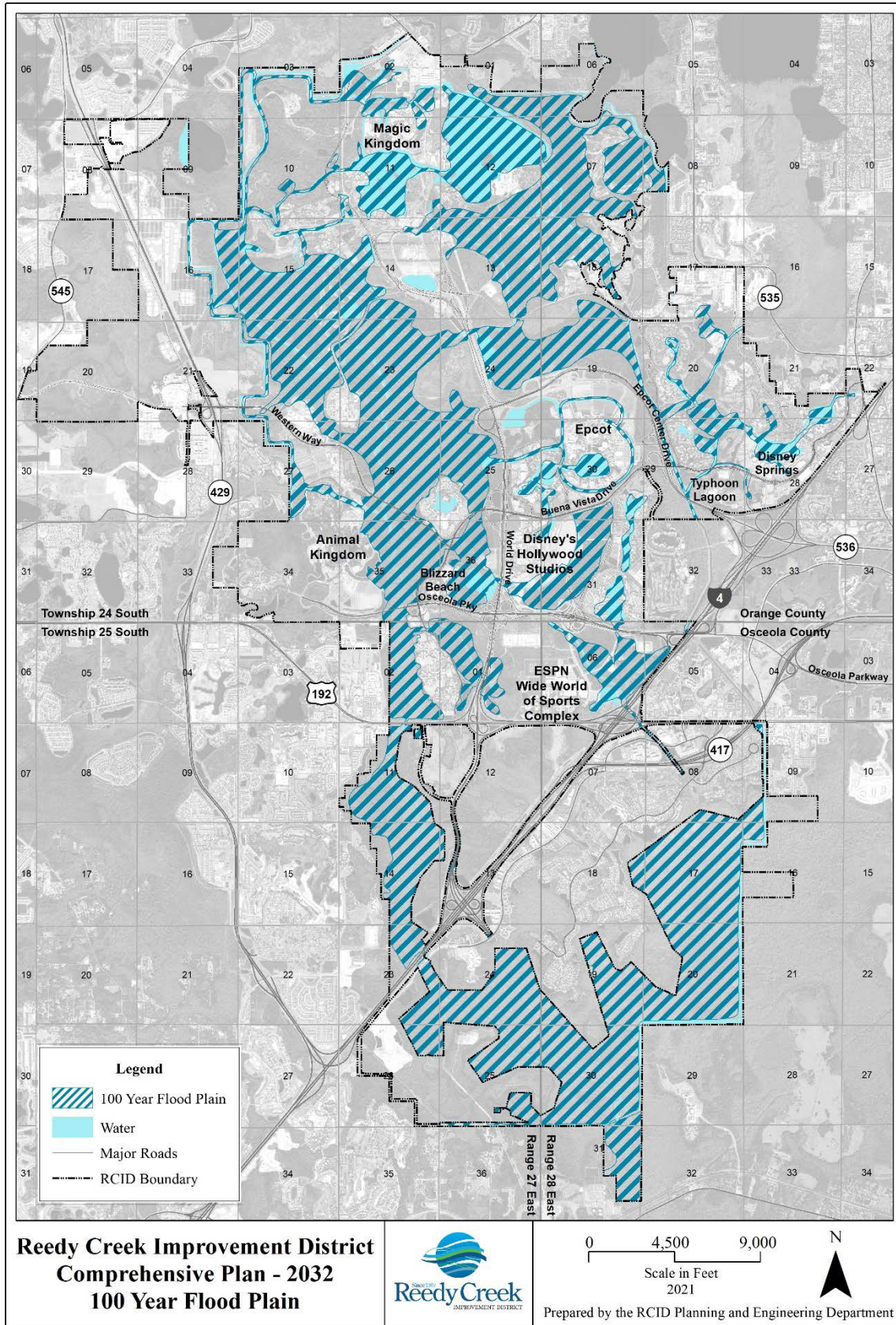


## **FLOOD PLAIN**

The District conducts regular mapping of the 100-year flood plain in the Bonnet Creek and Reedy Creek drainage basins north of the S-40 control structure. A drainage model is used to simulate the impacts of a 100-year storm. The model is periodically updated to reflect increases in impervious surface coverage and changes to the drainage system. Figure 6-4 indicates the boundaries of the flood plain as of 2020. These boundaries encompass 10,656 acres.

Limiting development in the flood plain protects public safety and minimizes potential property damage. Flood plain conservation also aids in maintaining the natural drainage system in the District and in preserving ecologically sensitive areas that are periodically inundated. At the present time, the 100-year flood plain consists of portions of the Fort Wilderness campground and nearby golf courses, and large areas that are undeveloped and managed for conservation. These areas contain relatively few structural improvements.

Figure 6-4: Flood Plain



## PRECIPITATION

The average annual rainfall in the District is 52.7 inches or 35.7 billion gallons of water. Approximately 36.9 inches of the total annual rainfall, or 25 billion gallons, is returned to the atmosphere through evaporation from land and water surface and through plant transpiration. Another 10.5 inches, or 7.1 billion gallons, of the annual rainfall is discharged through runoff into the District's streams and water control system. Generally, the remaining 5.3 inches (3.6 billion gallons) percolates into the soil to replenish the groundwater supply. Rainfall characteristics are summarized in Table 6-3.

**Table 6-3: Summary of RCID Water Resources**

<b>Rainfall Characteristics</b>	<b>Rainfall Amount (in inches)</b>	<b>Annual Water Yield (Billions of Gallons)</b>
Annual Evapotranspiration	36.9	25.0
Runoff & Infiltration	10.5	7.1
Natural Groundwater Recharge	5.3	3.6
Annual Rainfall	52.7	35.7

*NOTE: Formula for Yield: rainfall in feet x acreage x 325,851 gallons per acre-foot.*

# GEOLOGY, SOILS, AND MINERALS

## GEOLOGY

General surface elevations in the District vary from a minimum of 65 feet above sea level to a maximum of 135 feet above sea level (see Figure 5-4). From surface and subsurface samples, the geology appears to consist of approximately 20 to 60 feet of Pleistocene sands overlain on 40 to 90 feet of Miocene (Hawthorne Formation) fine sands, with occasional clay layers. The Pleistocene sands are fine or fine-to-medium grained and are somewhat silty or clayey. They may be overlain by organic materials at the surface. Along the west boundary of the District, there are sand dunes believed to be relic shoreline features from sea level fluctuations during the Pleistocene epoch.

## SOILS

Soils with similar profiles constitute a soil series. All the soils of one series are similar in thickness, arrangement, and other important characteristics. Soils of one series may differ in texture of the surface layer and in slope, or some other characteristic that affects use of the soil. On the basis of such differences, a soil series is divided into phases. The name of the soil phase indicates a feature that affects land use management, such as slope. This information can be used to evaluate sites for roads, buildings, and other structures, and to determine the suitability of the soils for agriculture, recreation, or industry, and groundwater recharge.

The general characteristics of soils in the District are described below. Figure 6-5 identifies the location of the major soil types.

## **Generalized Soil Types**

**Soils of the Uplands and Low Ridges** – This category includes the Candler and Tavares soil series found in the northwest part of the District. The soils are nearly level to gently sloping and are excessively drained. They are located on upland areas and are sandy and highly permeable throughout. A seasonal high water table is located at a depth of more than 80 inches. The soils are typically used for citrus crops or pasture. Candler soils require little or no corrective measures when developed. In the RCID, the Candler and Tavares soils have been developed with rapid infiltration basins.

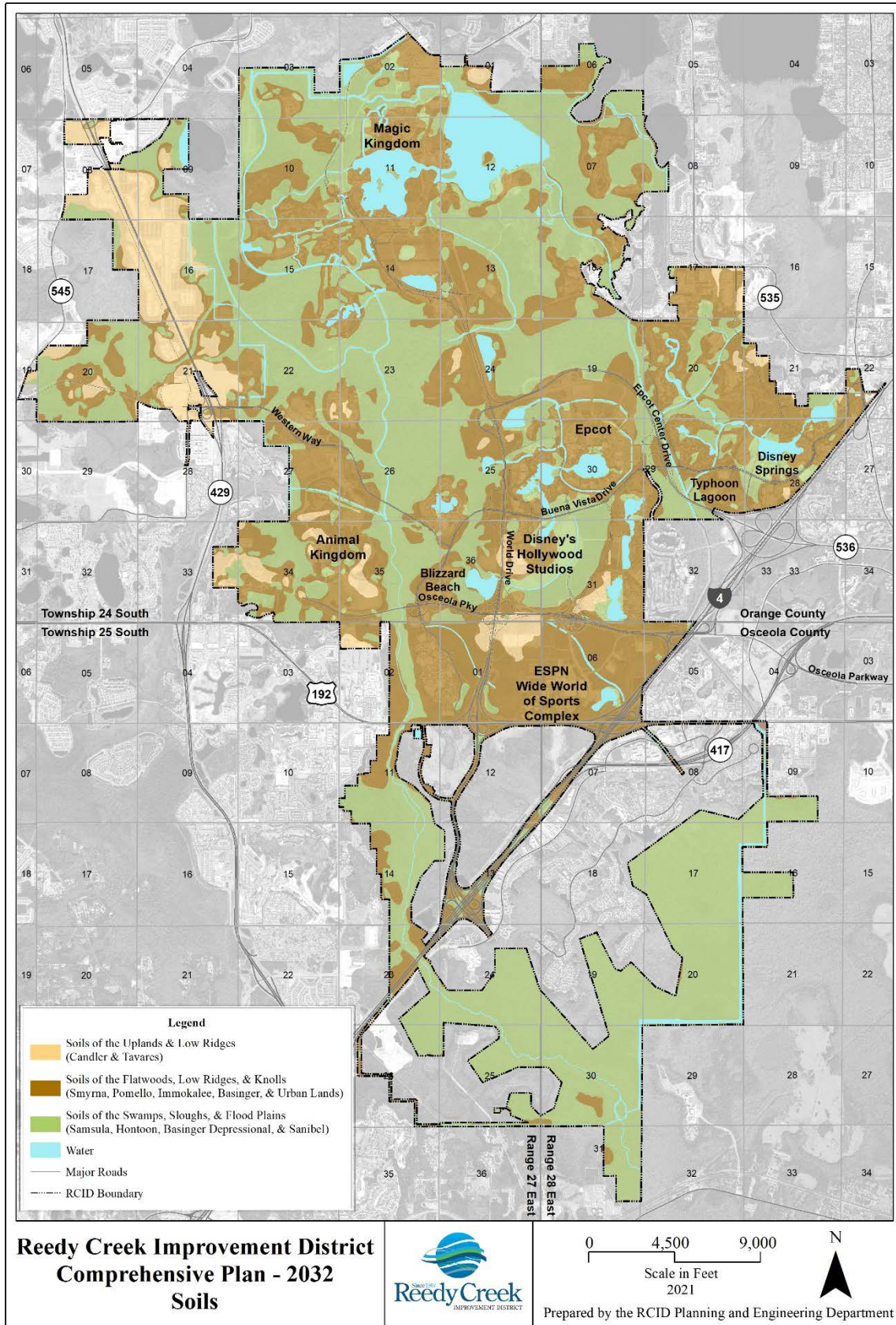
**Soils of the Flatwoods and Low Ridges** – These are the predominant soil types in the urbanized portions of the District. They occur in broad flatwood areas interspersed with low ridges and knolls. Representative soils include the Smyrna, Pomello, Myakka, and Immokalee Series, as well as Basinger Fine Sand. These soils are nearly level and poor to moderately well drained. In many areas, the water table is close to the surface for several months of the year. The natural vegetation on these soils consists of longleaf and slash pine.

The upper layers of these soils are typically sandy. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil. Some of the soils are considered well suited for citrus crops and pasture. Due to the wetness of the soil and high water table, and the high sand content, these soils have a number of limitations for road and building construction. Water control measures and stabilization are typically required to accommodate urban development. Consequently, within developed areas, many of the soils in this association have been overcovered or mixed with other soil types through fill and earthmoving operations.

**Soils of the Swamps, Sloughs, and Flood Plains** – This category includes the Samsula, Hontoon, Floridana, Riviera, and Terra Ceia soil series, and Basinger depressional soils. Most of these soils correspond to freshwater swamps and marshes or low-lying flood plain areas. The soils are nearly level and are poorly to very poorly drained. The soils may be flooded for long periods after heavy rains and typically have a water table within 10 inches of the surface for more than half the year. The areas may be ponded for several months of the year.

Under natural conditions, these soils have many limitations for agricultural and urban uses. Flooding and wetness limit their suitability for urban uses, and major flood control facilities are typically required before these soils may be developed. In some locations, drainage improvements have altered the natural conditions on some of these soils and reduced some of the naturally occurring development constraints.

Figure 6-5: Soils



## Classification System

The capabilities and limitations of soils are used as a planning guide in selecting desirable development sites or road corridors and as a basis for further investigations. In no way do the general classifications described in the Comprehensive Plan eliminate the need for detailed on-site studies and tests required in the planning, design, and construction of a specific project. Soil limitations are classified as slight, moderate, severe, and very severe.

## Drainage and Recharge

The drainage and recharge capabilities of each soil type in the District are described below. Soils with essentially the same characteristics have been grouped together to form the following four categories:

**Excessive Drainage, High Recharge** – These soils are excessively drained, with the water table usually five feet or more below the surface. Recharge of the Floridan Aquifer most likely occurs in these areas. The Candler and Tavares series (see Figure 6-5) fall in this category. Land uses that accommodate recharge and minimize risks to groundwater quality should be planned in these areas.

**Moderate Drainage, Secondary Recharge** – These soils are moderately drained, with the water table two to five feet below the surface. High water loss from evapotranspiration makes aquifer recharge somewhat less likely than compared to high recharge areas.

**Poor Drainage, Poor Recharge** – The water table of the soils in this category is at or near the surface during much of the year. While surface sands are permeable, underlying confining beds have a high clay content, thus allowing only minimal aquifer recharge.

**Very Poor Drainage/Swamp, Very Poor Recharge** – These soils are inundated for much of the year. In many of these areas, no recharge to the Floridan Aquifer can occur under natural conditions.

## Soil Erosion

Soil erosion is effectively managed and monitored by the District. Erosion by wind and surface runoff is reduced to a minimum through the use of:

- Best Management Practices during construction;
- A well-managed and maintained water control system; and
- Retention of natural vegetation in undeveloped areas.

During construction, exposed sites are watered frequently, natural windbreaks are left in place, and detention ponds are used to cleanse surface runoff prior to discharge off-site. Temporary outfall locations are protected with filter fabric fencing and hay bales.

The District policy of retaining land in its natural state prior to development greatly reduces wind and water erosion. The District water control plan requires maintenance of canals, and as conditions warrant, all canals are dredged to remove silt deposits. Canal slopes are also maintained through periodic reshaping and monthly mowing.

## MINERAL DEPOSITS

The District contains an abundance of sand. Its degree of purity and consistency is of no commercial value other than as a source of fill dirt for construction and highway purposes. There are a number of excavation sites in the District where sand has been extracted for construction.

## AIR QUALITY

The District does not currently monitor air quality. Orange County operates two sampling stations at which all federal air quality standards are monitored. The location nearest to the RCID is located in Winter Park, about 20 miles to the northeast. Carbon monoxide, nitrogen oxides, ozone, sulfur dioxide, PM<sub>10</sub>, wind speed, and wind direction are measured at this location. More limited air pollution data is collected at other locations in the region. The closest location at which ozone is measured is the Kissimmee station, located about four miles from the Magic Kingdom.

On March 12, 2008 the U.S. Environmental Protection Agency (EPA) lowered the National Ambient Air Quality Standard for ozone, the principle component of smog. Both the primary and secondary standards are now 75 parts per billion. Both standards are evaluated over an eight-hour time period, and compliance is based on the three-year average of the annual fourth highest maximum daily eight-hour concentration. It is possible that Orange County could become a nonattainment area as a result of the lower federal standard. However, DEP maintains recent nitrogen oxide control equipment requirements for power plants, new state rules requiring control of gasoline vapor emissions from gas stations in all counties, and EPA emission control rules for new passenger cars, diesel trucks, and buses will reduce ozone level in Florida. A summary of 2019 data from the Winter Park station is shown in Table 6-4.

**Table 6-4: Orange County Air Quality Measurements**

Parameter	State Standard	Measurement	2019 Highest
Total Particulate Matter	150	Micrograms per cubic meter in 24 hr. period	22
Ozone	75	parts per billion in eight hour on 6/28	68
Carbon Monoxide	35	parts per million in one hour	1
Sulfur Dioxide	75	parts per billion in one hour	6
Nitrogen Dioxide	0.053	parts per million in one hour	0.037

SOURCE: <https://fldep.dep.state.fl.us/air/flaqs/HighReport.asp?HighestYear=2019&SiteId=120952002>

## FLORA AND FAUNA

The natural vegetative communities of the RCID fall into two general categories: forested uplands and wetlands. The forested uplands consist primarily of coniferous forest, hardwood forest, and mixed forest. Wetland communities include forested wetlands, mixed wetlands, and marshland. The District's ecological communities are categorized according to the Florida Land Use and Cover Classification System.

## PLANT COMMUNITIES

### Forested Uplands

Forested uplands (shown in Figure 6-6) include the drier areas of the District. They have a tree-crown density of 10 percent or more and consist of trees capable of producing timber or other wood products. The following communities are represented:

**Coniferous Forest** – Any natural forest whose canopy is at least two-thirds dominated by coniferous species is classified as a Coniferous Forest. At approximately 693 acres, this is the largest vegetative community of uplands in the District. It is primarily composed of pine flatwoods, slash pine, and upland pond pine.

- **Pine Flatwoods** – This plant community represents most of the District’s coniferous forest acreage. It is dominated by longleaf pine on the drier sites and slash pine on the wetter ones. Typical understory includes saw palmetto, wiregrass, wax myrtle, fetterbush, and gallberry. Fire and water create major stress conditions; when they are non-existent, a successional move to hardwoods will result. This community has good wildlife values and is well suited to deer, raccoons, squirrel, quail, and many songbirds.
- **Slash Pine** – This is a transitional vegetative community including pine flatwoods with successional hardwoods in the understory. These occur in relatively small areas, mainly adjacent to wetlands. There are just over 200 acres of slash pine forest within the District.
- **Upland Pond Pine** – Upland pond pine communities are typically located on the fringes of wetlands. The pond pine is relatively fire resistant and is particularly successful in reestablishing itself after a fire. It occurs in association with sweetgum and pond cypress.
- **Other Pine Communities** – Smaller areas within the District are vegetated with longleaf pine/ xeric oak, sand pine, and mixed pine forest.

**Hardwood Forest** – A hardwood forest has a dominant tree crown of hardwood species as a result of natural seeding. As shown in Figure 6-6, this area is primarily located north of Disney’s Wide World of Sports and west of Animal Kingdom. Hardwood forest represents just over one percent of the District’s naturally vegetated area. Xeric oak is the dominant community and is described below.

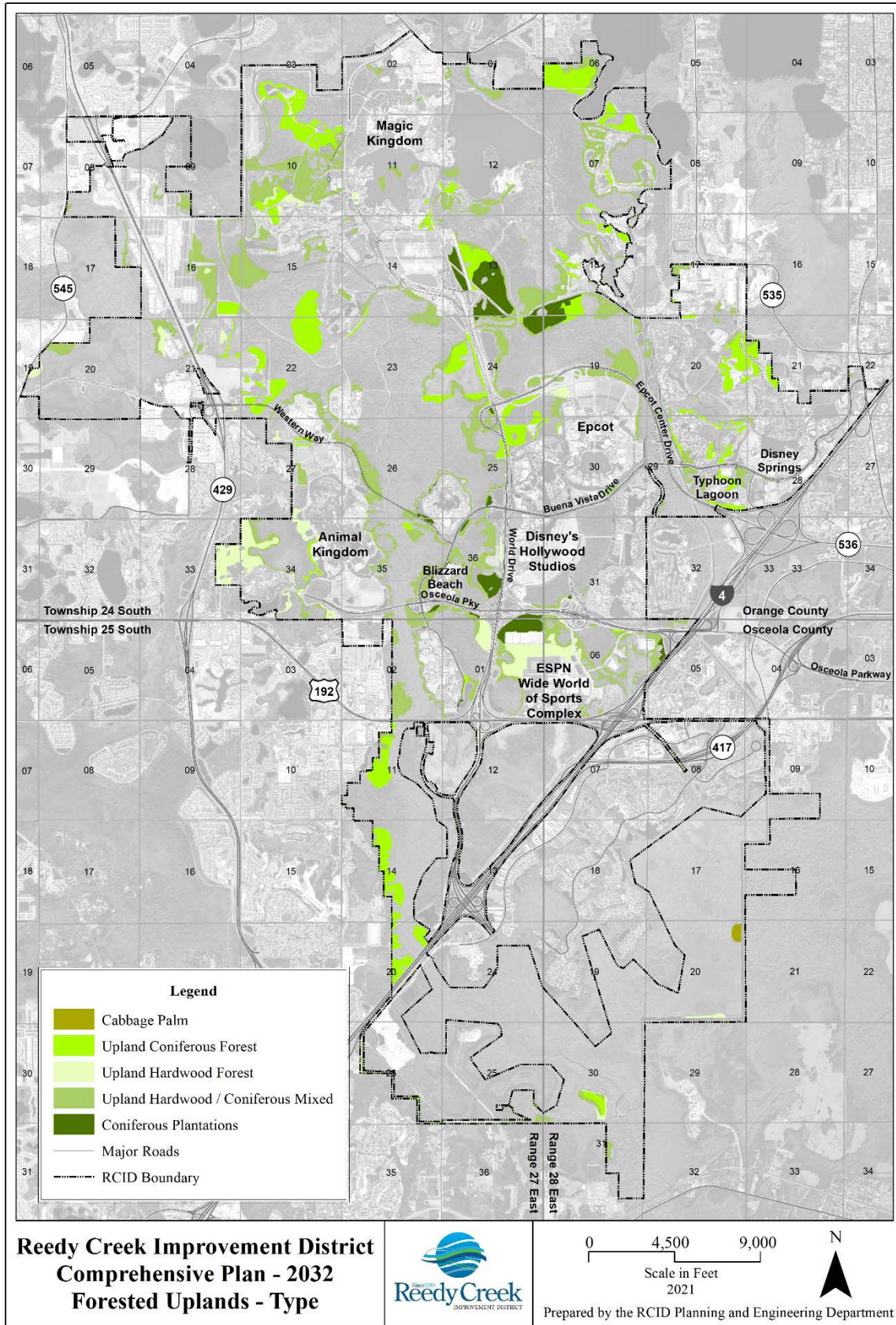
- **Xeric Oak** – Generally located on well-drained upland sands, this forest area is dominated by xeric oak. Typical species are live oak and turkey oak. This is a relatively small community that occurs on low ridges within depressed topographical areas.
- **Other Hardwood Communities** – Other hardwoods in the District include upland hardwood forest, wax myrtle-willow, live oak, cabbage palm, and mixed hardwoods. These areas represent a combined total of less than 50 acres. Trees within these areas include holly, flowering dogwood, laurel oak, live oak, sweetgum, and willow. Understory vegetation includes American beautyberry, sparkleberry, wax myrtle, aster, greenbriar, wild grape, yellow jessamine, blackberry, and panicum.



This type of vegetation makes a good habitat for deer, turkey, squirrels, raccoons, and many songbirds.

**Mixed Forest** – As shown on Figure 6-6, a few areas of mixed forest occur in the District. These areas consist of forested areas in which neither coniferous nor hardwood species dominate. Native vegetation includes turkey oak, live oak, longleaf pine, wiregrass, gallberry, and saw palmetto. The largest mixed forest areas are located on the edges of the Magnolia Golf Course.

Figure 6-6: Forested Uplands



## Wetlands

There are approximately 11,020 acres of wetlands in the RCID, representing 45 percent of the District's total area and more than 81 percent of its naturally vegetated areas. Wetlands are divided into three major categories; forested wetlands, mixed wetland, and marshland. Wetlands are shown on Figure 6-7. Shallow areas of water with submerged vegetation are classified as water and not included in this category.

Within wetland areas, the water table is at, near, or above the land surface for significant portions of most years. Soils are very poorly drained and are high in organic and mineral content. The quality of the wetlands within the District varies, with those located south of US 192 generally considered to have higher ecological value. Many of the northerly wetlands have been disturbed or partially disturbed as a result of drainage improvements and adjacent development. The RCID has raised water control elevations on some of the canals to restore impacted wetlands, but full restoration has proven to be difficult on a large scale basis.

**Forested Wetlands** – A forested wetland is any wetland with a significant component of woody vegetation. About 95 percent of all wetlands in the District fall into this category. Plant communities include cypress, pond pine, wetland hardwoods, bay swamps, shrub wetland, slash pine, stream and lake swamps, titi swamps, and wetland forested mixed.

**Cypress Wetlands, Pond Pine Wetlands, and Slash Pine Wetlands.** These three wetland types are found primarily in the Reedy Creek swamp south of US 192. A large cypress swamp is located within District boundaries to the east of Celebration. Typical plants in the cypress swamp are bald cypress, pond cypress, black gum, and maple. Understory plants include buttonbush, wax myrtle, cinnamon fern, greenbriar, and narrowleaf sawgrass. Pond pine dominates the small wetlands in the southern part of the District west of Reedy Creek, mostly on wet, flat land with low pH soils. A narrow band of Slash Pine wetlands is located just north of EPCOT Center. The submerged and saturated condition of the soils of pine wetlands and the general absence of fires reduces competition from hardwoods and keeps the communities from successional change. Coniferous wetlands are a valuable resource. They provide water storage areas by holding excess water and slowly releasing it into the water table. By absorbing nutrients from the water, cypress swamps enhance water quality. Fluctuation of the water table is needed for natural regeneration. Drastic changes in the water table or a stabilized water level may change the plant community. Important as a wildlife refuge area, these wetlands are well suited for waterfowl, wading birds, and aquatic animals. Permanent residents of cypress swamps may be relatively few; however, much of the wildlife of other ecosystems is dependent on these areas for breeding. The most common animals found are deer, raccoons, alligators, frogs, turtles, and water snakes. Many birds are found in this habitat, including anhinga, ibis, egrets, herons, and wood duck.

**Shrub Wetland** – Shrub Wetlands are located to the south and east of Celebration, just south of the Cypress Swamp area. These wetlands are characterized by a predominance of evergreen shrubs such as sweet pepperbush, large gallberry, and wax myrtle. Pond pine and slash pine may also be present. Water levels are often high, although the surface of these wetland areas may dry during drought periods. An abundance of fruits and shrubs attracts many birds and mammals.

**Wetland Hardwoods** – Areas of wetland hardwood forest occur west of Animal Kingdom, south of Blizzard Beach, and east of Celebration. As a result of natural seeding, hardwoods dominate the crown closure. Characteristic vegetation includes red maple, pond cypress, black gum, bald cypress, water hickory, and willows. Buttonbush, dahoon holly, cinnamon fern, royal fern, and lyonia are typical understory plants. Wildlife in these areas are adapted to wet conditions. Periodic flooding is essential to maintain this system.

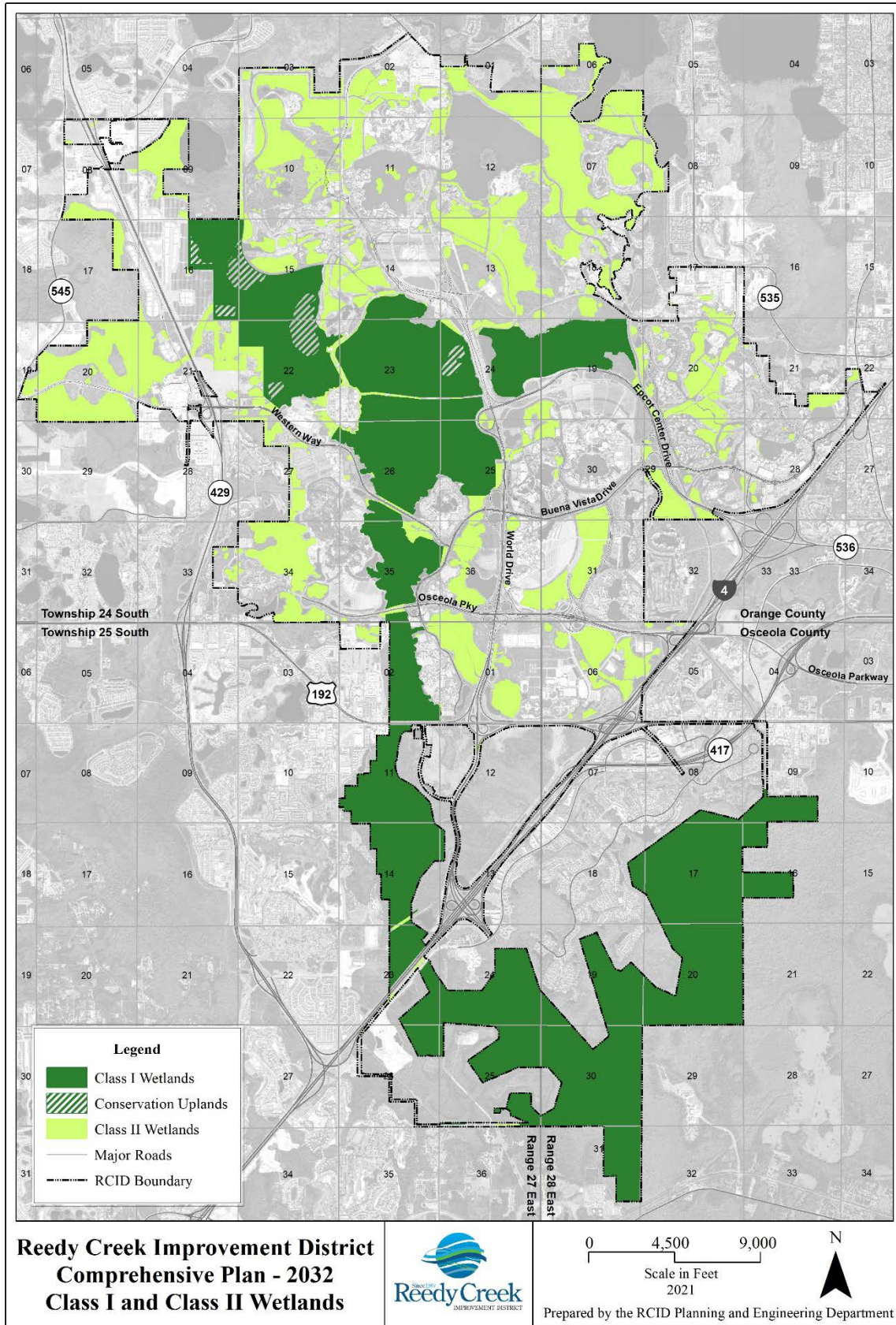
Hardwood areas are of great value for wildlife and for maintaining good water quality. The community is highly sensitive to changes in the water cycle and will change if the water table is lowered. These areas improve water quality and act as natural storage areas for floodwaters. A large variety of wildlife is found in the wetland hardwood community. Typical wildlife includes squirrel, raccoon, otter, wood duck, owls, warblers, woodpeckers, and Carolina wren. Undisturbed areas provide good travel routes for all forms of wildlife.

**Bay Swamps, Stream and Lake Swamps, and Titi Swamps** – These three wetland communities are actually subsets of the wetland hardwood community. Bay swamps are so named because bay trees such as loblolly bay, swamp bay, and sweetbay predominate. Bay swamps are dominated by evergreen trees and shrubs and typically occur in depressions. Soils are kept moist by seepage from adjacent uplands, providing a refuge for plants and animals and providing highly organic soil often overlain by peat. Such areas are located to the north and east of Bay Lake, northwest of the Magic Kingdom, and in the Reedy Creek Swamp south of Celebration. Titi swamps are a variety of Bay swamps dominated by titi (an evergreen shrub) but sometimes also containing slash pine or pond pine. A small Titi swamp is located southwest of Animal Kingdom. Both Bay and Titi swamps have a dense understory of shrubs. Stream and lake swamps are located along the bottomlands of streams and are characterized by hardwoods like tupelo, water ash, red maple, and sweetgum. These trees are essential to the swamp ecosystem, providing food and shelter for a variety of animals. A Stream and Lake Swamp area is located along both sides of Reedy Creek between US 192 and I-4.

**Wetland Forested Mixed** – This is the largest plant community in the District and the predominant wetland plant community. It includes most of the Reedy Creek flood plain as well as extensive areas north of EPCOT, west of the Magic Kingdom, southeast of Disney/MGM Studios, west of Hartzog Road, and around the Eagle Pines Golf Course. The community includes a mix of hardwoods and conifers; however, neither the hardwoods nor conifers achieve the two-thirds crown dominance in these areas. The area contains broadleaf deciduous and evergreen trees, needle-leaf trees, and a variety of plants adapted for flood plain conditions. These areas are richly endowed with animal life to match their plant species diversity.

**Marshlands** – A very small number of fresh water marshes and wet prairies occurs in the District. These are vegetated, but non-forested, wetlands. Usually confined to level areas, uniform identification of this category is difficult because long-term drought or high rainfall can change the wetland area. The largest freshwater marsh is located west of World Drive north of EPCOT Center Drive. Sawgrass, cattail, and wet prairie species are the predominant vegetation of a freshwater marsh. They appear as open expanses of grasses, sedges, and other herbaceous plants, such as blue flag, pickerelweed, and pennywort. Marshes are excellent habitats for many wildlife species, including a variety of birds and waterfowl. Animals common to the area are otter, raccoon, marsh rabbit, deer, salamander, frogs, turtles, snakes, alligator, herons, egrets, ibis, limpkins, and hawks. Serving as a filter system, marshes protect rivers and lakes from eutrophication and retain water during drought. As a community, they become highly endangered as variations in water patterns change the plant diversity and productivity.

Figure 6-7: Wetlands



## Wetlands Management

**Long Term Permits** – Due to the sensitive nature of wetlands and their important ecological functions, wetland alterations are subject to extensive regulatory controls. Permits from state and federal agencies are required before wetlands may be filled and extensive mitigation is mandatory. In 1992, certain wetlands within the RCID were approved for impact and mitigation. Through the Long Term Permits, the District and its major landowners agreed to extensive on-site and off-site mitigation to offset the impacts of development on about 729 acres of on-site wetlands. On-site mitigation included conservation of the 8,322 acre Wildlife Management Conservation Area (WMCA) and a 410-acre wetland north of Epcot, degraded by diversion of Bonnet Creek, was restored by raising the water elevation several feet.. Off-site mitigation included the purchase, enhancement, restoration, and management of the 8,480 acre Walker Ranch, now known as the Disney Wilderness Preserve. The ranch, located 13 miles south of the RCID in Osceola and Polk Counties, is within the Reedy Creek drainage basin and includes xeric, mesic, flatwood, hydric, and aquatic plant communities. Approximately 1,673 acres of wetlands and 912 acres of uplands on the site have been restored or enhanced.

The issuing agencies and permit numbers for the outstanding Long Term Permits are as follows:

<b>Agency</b>	<b>Permit Number</b>
South Florida Water Management District	#48-00714-S
Army Corps of Engineers	#199101901 (IP-GS)

The Long Term Permits were modified in the fall of 2015 to provide for impacts to an additional 575 acres of wetlands in addition to the remaining 228.35 acres of wetland impacts mitigated under the initial Long Term Permits. The additional 575 acres of wetland impacts have been off-set through implementation of a mitigation plan at a site known as Mira Lago, the lone remaining large parcel, entitled for development, located among a mosaic of other conservation lands including the Disney Wilderness Preserve, Lake Kissimmee State Park, Lake Wales Ridge State Forest, Catfish Creek Preserve State Park, Southport Mitigation Bank, Hatchineha Ranch Mitigation Bank, and Bullfrog Bay Mitigation Bank. The 3,004 acre Mira Lago site is located within strategic areas of several federal, state, and regional landscape and ecosystem planning initiatives including areas important for ecological connectivity, habitat for protected or rare species, and managing, restoring, and protecting water resources. A significant regional environmental benefit has been realized through the acquisition and change in land use on Mira Lago from development to conservation. The property site consists of environmentally sensitive lands whose preservation will be provided through a conservation easement. As with the Disney Wilderness Preserve, implementation of hydraulic improvements consisting of ditch blocks and low water crossings to restore historic water flow across the site and to re-establish natural wetland hydro-periods will result in wetland restoration and upland habitat enhancement.

A functional assessment using Uniform Mitigation Assessment Method (UMAM) estimated a functional gain on the Mira Lago property through the implementation of the mitigation plan of 1,269.41 UMAM units. These UMAM credits are available to offset wetland impacts within the RCID/WDW property on a 1 UMAM to 1 acre of wetland impact. Currently the SFWMD and ACOE Long Term Permits only provide for the use of 575 of the 1,269.41 UMAM units. The remaining 694.41 UMAM could become available to offset wetland impacts within the RCID/WDW property with a modification to the Long Term Permits upon the successful completion of the Mira Lago mitigation plan. The regional significance of the preservation of the Mira Lago property far exceeds the ecological value of the Class II Wetland within the RCID. A cumulative impact

assessment was conducted and no unacceptable cumulative impact will occur since the compensatory mitigation provided within the same watershed as the RCID/WDW property will fully offset wetland functional loss.

The Long Term Permits require that a number of practices and policies be adopted by the District to further protect wetlands from development impacts. These are included in the Future Land Use Element of this Plan and have also been codified in the Land Development Regulations. A two-tiered system was set up to classify wetlands. Class I Criteria applies to all areas (wetland and upland) within the Wildlife Management Conservation Area (WMCA), any wetlands covered by conservation easements, and all wetlands that provide habitat for protected species. All other wetlands not identified for impact are defined as Class II. Figure 6-7 identifies the location of Class I wetlands (and uplands within the WMCA) and Class II wetlands.

The District's policies and development regulations further require that wetlands are protected by an undisturbed upland buffer at least 15 feet wide (and averaging 25 feet wide), and that adjacent development not adversely affect either the wetland or the buffer. Development within Class I wetlands is strictly limited to what is allowed by the Deed of Conservation Easement subject to any restrictions contained within the Deed. Class II wetlands not approved for impact under the Long Term Permits may be used for passive recreation (i.e., trails) and, in special circumstances, for access and utility corridors. The loss of wetland acreage within the District is fully mitigated according to the policies set forth in the Future Land Use Element, Land Development Regulations and by the preservation of more regionally significant landscapes.

## **RARE, ENDANGERED, AND THREATENED SPECIES**

Since 1970, the RCID has conducted ongoing programs to inventory all plant and animal species within the District. More than 500 species of flora and nearly 300 species of fauna have been identified and/or observed. These species are listed in tables in appendices to this Plan. About 20 of the identified animal species have been identified as threatened, endangered, or species of special concern by the Florida Game and Freshwater Fish Commission or the U.S. Fish and Wildlife Service.

Table 6-7 lists endangered or threatened species, and species of special concern observed in the District. Endangered refers to a species that is, or soon may be, in immediate danger of extinction unless the species or its habitat is fully protected and managed. Threatened refers to a species that is very likely to become endangered in the near future unless its habitat is fully protected and managed. A species of special concern is one that warrants special protection because:

- it may become threatened due to pending degradation or human disturbance, unless protective management strategies are employed;
- it cannot be classified as threatened until its status is more fully understood;
- it occupies such an essential ecological position that its decline might adversely affect associated species; or
- it has not sufficiently recovered from a past decline.

The following species have been removed or reclassified since 2010:

- Snowy Egret (Previously State Species of Special Concern)

- White Ibis (Previously State Species of Special Concern)
- Limpkin (Previously State Species of Special Concern)
- Wood Stork (From Federally Endangered to Federally Threatened)
- Florida Black Bear ((Previously State Threatened)
- Sherman’s Fox Squirrel (Previously State Species of Special Concern)
- Florida Mouse (Previously State Species of Special Concern)
- Gopher Frog (Previously State Species of Special Concern)
- Florida Pine Snake (From State Species of Special Concern to State Threatened)

**Table 6-7: Protected Species Observed Within the District**

Common Name	December 2018		Habitat
	USFWS	State	
<b>Birds</b>			
Little Blue Heron	--	ST	Marshes, lakeshores, ponds, ditches, and pasture
Florida Sandhill Crane	--	ST	Wet prairies, lake margins, pastures; nests in pickerelweed, and maidencane marshes
Florida Scrub Jay	T	FT	Oak scrub with open ground
Wood Stork	T	FT	Forage in freshwater and brackish marsh; nest in cypress and mangrove swamps
<b>Mammals</b>			
Florida Panther	E	FE	Rarely observed within the RCID
<b>Reptiles and Amphibians</b>			
Alligator	T(S/A)	FT(S/A)	Lakes, ponds, sloughs, and marshes
Eastern Indigo Snake	T	FT	Varied habitat from wet prairie to xeric pineland and scrub
Short-Tailed Snake	Under Review	ST	Turkey oak-longleaf pine, occasionally upland hammock and sand pine scrub
Gopher Tortoise	Candidate	ST	Sandhills, sand pine scrub, live oak hammocks, palmetto prairie, pine flatwoods, abandoned grove and pasture.
Florida Pine Snake	Under Review	ST	Uplands
Sand Skink	T	FT	Rosemary scrub, sand pine scrub, oak scrub, and scrubby flatwoods

Legend: F = Federally  
 S = State  
 E = Endangered  
 S/A = Similarity of Appearance  
 SSC = State Species of Special Concern

The mix of wetlands, uplands, pine flatwood, and xeric oak habitats creates high quality habitat in much of the RCID. Most of the wetland communities, and some of the forested uplands, have been designated for non-development uses to ensure that they continue to function as viable wildlife habitat. The Florida scrub jay and gopher tortoise are among the species of greatest concern in these areas. Wood storks, sandhill cranes, and herons are also sighted with some frequency in the wetland areas, as are alligators. The Florida panther is periodically sited in the vicinity.

A family of threatened scrub jays was relocated from the District to the Archibold Biological Station in the early 1990s. Although no other scrub jays have been observed within the District, suitable habitat is



present. The District continues to require pre-development wildlife surveys and will require consultation with the Florida Game and Freshwater Fish Commission regarding appropriate mitigation measures in the event that proposed development may impact a scrub jay nest.

Several areas within District boundaries provide suitable habitat for the gopher tortoise. The District is permitted to remove gopher tortoises under a 1991 take permit issued by the Florida Game and Fresh Water Fish Commission with mitigation for habitat loss being provided through the Walker Ranch habitat restoration program described above. However, as a matter of course, the District continues to relocate gopher tortoises to suitable habitat when they are encountered on new development sites. The tortoise is typically found in pine flatwoods, xeric oak, and abandoned pasture land.

There are also 29 threatened plant species within the RCID. Although plants are not protected from development impacts by state or federal law, the District and its major landowners routinely conduct botanical surveys and encourage site plans and construction practices which minimize harmful impacts.

**Note: Hazardous waste is covered in the Solid Waste Subelement of this Plan.**

# ENERGY CONSERVATION AND REDUCTION OF GREENHOUSE GASES

## THE BUILD ENVIRONMENT

The District's primary landowner published a Corporate Responsibility Report 2019 Report wherein the company committed to minimizing its overall impact on the environment while encouraging and activating environmentally responsible behavior on the part of its employees, guests, and business associates. Specifically the company aims to conserve water, energy and ecosystems; to reduce greenhouse gas emissions; to minimize waste; and to inspire public consciousness in support of environmental sustainability. Key focus areas include:

### **Water and Energy Conservation**

Invest in new technologies and systems that enhance water and energy conservation. Include water and energy management as an integral part of planning for future projects to reduce their consumption.

### **Greenhouse Gas (GHG) Emissions Reductions**

Reduce GHG emissions by identifying the sources and implementing solutions, including source elimination, efficiency improvement, minimizing transportation and other fuels, and increasing the use of clean fuels.

- Hundreds of Walt Disney World buses use R50 (50%) renewable diesel fuel made from used cooking oil and non-consumable food waste and
- Two solar energy facilities provide 55 megawatts of enough power to operate two of the four theme parks

## **Environmental Goals**

The company participates in the Florida Department of Environmental Protection's *Florida Green Lodging Program (GLP)*, a voluntary initiative that recognizes hotels that adopt cost-saving, environmental practices in six areas of sustainable operations: communication and education (customers employees, and guests); waste reduction, reuse, and recycling; water conservation, energy efficiency, indoor air quality, and transportation. At this time all but one of the company-owned resorts have been certified. Five of the nine non-company-owned resorts have also been certified. To remain certified, lodgings are required to annually submit environmental performance data for water, waste, and energy and to implement at least two new environmental practices from any of the six areas of sustainable operations.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay  
Lake

## **COMPREHENSIVE PLAN**

### **RECREATION AND OPEN SPACE ELEMENT**

#### **Part A: Policies**

# INTRODUCTION

The Recreation and Open Space Element describes provisions for recreational facilities and open space within the District. Although recreation and open space elements traditionally focus on permanent residents, this element examines primarily private recreation, and addresses the needs of employees and visitors, as well as residents. The element consists of a “Policies” component, which includes goals, objectives, and policies, and a “Supporting Data and Analysis” component, which provides narrative text, tables, and maps describing existing and future conditions.

## GOALS, OBJECTIVES, AND POLICIES

### GOAL

*It is the goal of the Reedy Creek Improvement District to promote the creation of state-of-the-art vacation and recreation facilities; to maintain and expand access to these facilities; and to retain the visual, environmental, and psychological benefits provided by open space in the District.*

#### Objective 1

*To promote the creation of high quality recreational facilities by the private sector that utilize technological advances, new concepts, and innovative designs.*

Policy 1.1: The RCID shall continue to maintain building codes and Land Development Regulations that permit the practical application of new and advanced concepts, designs, and ideas in recreation and entertainment.

Policy 1.2: The Land Development Regulations shall permit and encourage the integration of recreational areas, facilities, and activities in existing and new commercial uses, such as shopping centers or office development.

Policy 1.3: The Land Development Regulations shall permit and encourage a broad range of recreational experiences in the District, including expanded opportunities for cultural programs, such as the performing and visual arts.

#### Objective 2

*To increase public access to recreational amenities in the District.*

Policy 2.1: The District’s Land Development Regulations and Building Codes shall continue to ensure barrier-free design within new recreational developments and shall include provisions for handicapped parking and handicapped-accessible transport.

Policy 2.2: The RCID shall continue to encourage the private sector in its community outreach efforts and shall support programs that encourage access to recreational attractions by economically disadvantaged children and their families.

### **Objective 3**

*To ensure that parks and recreational facilities are adequately and efficiently provided, and that public and private resources are coordinated to meet demands for recreational facilities.*

Policy 3.1: Representatives of the RCID and its major landowners shall meet as needed but not less than once a year to review pending plans for private recreational facilities and to determine the need for public improvements to serve these facilities.

Policy 3.2: The RCID shall support efforts by the major landowners to construct pedestrian and bicycle trails linking the major private recreational facilities within the District.

Policy 3.3: The RCID shall encourage the District's major landowners to maintain adequate facilities for employee recreation.

Policy 3.4: A level of service standard of two acres of neighborhood parkland per 1,000 permanent residents shall be used by the RCID.

Policy 3.5: A level of service standard of 20 acres of community parkland per 10,000 permanent residents shall be used by the RCID.

Policy 3.6: Parkland provisions, standards, requirements, and procedures shall be set forth in the Land Development Regulations.

### **Objective 4**

*To retain at least 20 percent of the area outside the Wildlife Management Conservation Area (WMCA) as open space.*

Policy 4.1: For the purposes of calculating the 20 percent requirement in Objective 4, open space shall be defined as:

- (1) all areas that are designated for Resource Management/Recreation (RM/R) uses on the Future Land Use Map;
- (2) all areas outside the Wildlife Management Conservation Area (WMCA) that are designated for Conservation uses on the Future Land Use Map;
- (3) lakes and waterways; and
- (4) golf courses excluding clubhouses, maintenance facilities and parking lots;

(5) fields, paths, etc. at the ESPN Wide World of Sports Complex.

The 20 percent calculation excludes large landscaped areas, including rapid infiltration basins, turf areas, and buffers within hotels and attraction development parcels.

(Amended by Ordinance/Resolution No. 605 adopted 05/25/2022 and Ordinance Nos. 135 and 131 adopted 05/24/2022)

Policy 4.2: In the event the District annexes or de-annexes land, the total open space requirement shall be adjusted upward or downward to ensure that a 20 percent set-aside is maintained. (Amended by Ordinance/Resolution No. 605 adopted 05/25/2022 and Ordinance Nos. 135 and 131 adopted 05/24/2022)

Policy 4.3: The District shall maintain an Open Space Map (Figure 7-1) indicating the location of those areas counted towards the 30 percent open space requirement.

Policy 4.4: In addition to the areas shown on the Open Space Map, the District shall encourage the retention of open space areas within future development sites. The location of such areas shall be based on the vegetation, habitat potential, hydrological, and aesthetic characteristics of the site.

Policy 4.5: Development parcels shall not include any part of the Conservation Area or any public rights-of-way.

Policy 4.6: Subsequent versions of the Future Land Use Map shall continue to designate wetlands and other sensitive natural areas in a manner that ensures their retention as open space (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).

Policy 4.7: In the event that permanent residential areas are created in the District, a method of maintaining common open space areas shall be required as a condition of development approval.

## **Objective 5**

*To incorporate provisions for visitor access to lakes and creeks within any development that encompasses or adjoins waters identified as belonging to the State of Florida.*

Policy 5.1: New development adjacent to Bay Lake, Seven Seas Lagoon, Little Lake Bryan, Reedy Lake, Lake Mable, South Lake, Village Lake, Lake Buena Vista, and Reedy Creek shall make provisions for visitor access to shoreline areas. Such provision shall be comparable to those that have been made at existing development on the shores of these water bodies.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay  
Lake

## **COMPREHENSIVE PLAN**

### **RECREATION AND OPEN SPACE ELEMENT**

#### **Part B: Supporting Data and Analysis**

# PURPOSE

The Recreation and Open Space Element assesses the need for recreational facilities and open space within the Reedy Creek Improvement District. The element reflects the unique role of the District as a public service provider to one principal landowner, as well as that landowner's unique role as a private service provider in the international market for resort and entertainment facilities. The Walt Disney World Resort was established to provide a unique recreational experience and to create a dynamic environment for offering innovative concepts in leisure activities. These concepts involve a broad spectrum of recreational uses that serve cultural, educational, entertainment, relaxation, and physical fitness functions.

Recreational facilities in the District far exceed what is demanded locally. All recreational facilities are privately owned and operated, but all are open to the general public and meet a "public" need for a specific type of recreation. The District contains four major theme parks (Magic Kingdom, EPCOT Center, Disney's Hollywood Studios, and Disney's Animal Kingdom) and three minor theme parks (Typhoon Lagoon, Blizzard Beach, and Disney's Wide World of Sports), several entertainment-oriented shopping areas, 27 hotel/resort and interval ownership properties, 81 holes of golf, an auto speedway, and a campground. It is the largest agglomeration of recreational uses in the United States and is the most frequently visited destination resort complex in the world. The entire community is oriented around recreation and leisure. Even the most commonplace activities—shopping, eating, and traveling—are recreational experiences in the District.

In this plan element the public sector's role is to assist the private sector in broadening the range of recreational experiences available and to ensure that access to these facilities is made available to a wide range of socioeconomic groups. The public sector's role is also to require that adequate recreational opportunities are available for employees in the District and to establish standards for parks and open space for residential areas, should such areas be constructed in the future.

This element also emphasizes the preservation of open space within the District for aesthetic, environmental, and recreational purposes. The recreational value of the RCID is enhanced by the large tracts of open space that surround the existing developed areas. The extensive open space within the District creates a sense of escape from the urban boundary and adds to the physical beauty of the developed areas. In addition to its psychological value, the District's open space is home to numerous plant and animal species and is a significant ecological resource. One purpose of this element is to protect and enhance the regional open space resources that are partially contained within District boundaries.

The Supporting Data and Analysis begins with a description of existing recreation opportunities and open space areas and continues with an assessment of recreation and open space needs in the District

## EXISTING RECREATION AND OPEN SPACE

### EXISTING RECREATION FACILITIES

The major and minor theme parks focus on entertainment and cultural activities, although all of the parks offer opportunities for physical or resource-related recreation. The theme parks include thrill rides,



children's rides, educational and artistic exhibits, movies, shows, concerts, parades, fireworks, and a diverse array of spectator and participatory athletic events.

The hotel/resort and interval ownership properties (resorts) within the Walt Disney World Resort contain numerous athletic and recreational facilities, including many facilities that one might find in a neighborhood or community park. All of the resorts include swimming pools and children's play areas, most include tennis courts, and many include jogging and hiking trails and exercise rooms. The resorts also offer organized recreational programs and provide opportunities for passive recreational activities such as fishing and boating. Activities such as horseback-riding, volleyball, basketball, kayak rentals, archery, and golfing are also available. Disney Springs offers recreational opportunities as well as shopping, dining, and entertainment.

The recreation facilities in the District may be broadly grouped into five categories as described below and shown on Figure 7-2.

**Private Facilities with Admission Charge** – Most of these facilities are "gated attractions" and are accessible to the general public with payment of an admission fee. These facilities and their associated parking areas and roadways cover 2,299 acres in the District or about 9.3 percent of its total area. A variety of admission fee structures are available.

The gated attractions include major theme parks and minor theme parks. The major theme parks are:

- *Magic Kingdom* – a theme park offering rides, shops, restaurants, and live entertainment based on favorite Disney themes
- *EPCOT* – a showcase for technology and international culture
- *Disney's Hollywood Studios* – a theme park oriented to the movie and television industries
- *Disney's Animal Kingdom* – a theme park featuring live animal displays and adventure rides with animal themes.

The minor theme parks are:

- *Typhoon Lagoon* – a water-oriented park featuring water slides and water thrill rides with a tropical island theme.
- *Blizzard Beach* – a water-oriented theme park featuring water slides and water thrill rides with an alpine theme.
- *Disney's Wide World of Sports* – a sports complex comprised of a major league baseball stadium; four major league baseball fields and one practice infield; seven grass playing areas and four convertible fields that can be configured for baseball, softball, and traditional sports fields for football, soccer and lacrosse; six fields that can be configured to accommodate softball and youth baseball, a tennis complex with ten clay tennis courts and a 1,000 seat stadium, a track and field complex, the 70,000 square-foot Milk House indoor arena, and the recently added Jostens Center, a multi-sport 44,800 square-foot facility designed to house basketball courts, volleyball courts, and inline hockey rinks.

Special recreational and cultural events are also held throughout the year at the gated attractions, including festivals and special events and a number of special races and athletic challenges tied to theme park festivals, special events, and attractions.

In addition to the gated attractions, private recreational facilities also include two miniature golf courses, four 18-hole championship golf courses, and one 9-hole golf course.

**Private Facilities with No Admission Charge** – The District contains several commercial developments that serve dual retail and recreational functions. Each of these areas is accessible to the general public without payment of an admission fee.

Disney Springs is oriented towards area residents and visitors to the theme parks and features specialty shops, entertainment, themed restaurants, theaters, and live entertainment. In addition to indoor amenities, Disney Springs includes park-like features such as waterfront promenades, boat rental, outdoor performances, eating areas, fountains, sculpture, and gardens. Special recreational, art, and musical events are held throughout the year at Disney Springs; most of these events are offered free of charge.

The Boardwalk Hotel also includes retail, dining, and entertainment at the promenade level.

**Resort Accommodations with Restricted Admission** – Each resort property offers privately owned recreational facilities for its guests. Paid guests staying in the resorts generally have unlimited access to the recreational facilities available at their resorts. Typical resort facilities include tennis courts, jogging trails, swimming pools, and evening music and dance clubs. Many hotels also provide children's playgrounds, arcade rooms, exhibits, and movies. The campground offers tennis, biking, hiking, swimming, horseback riding, boating, archery, movies under the stars, and live shows.

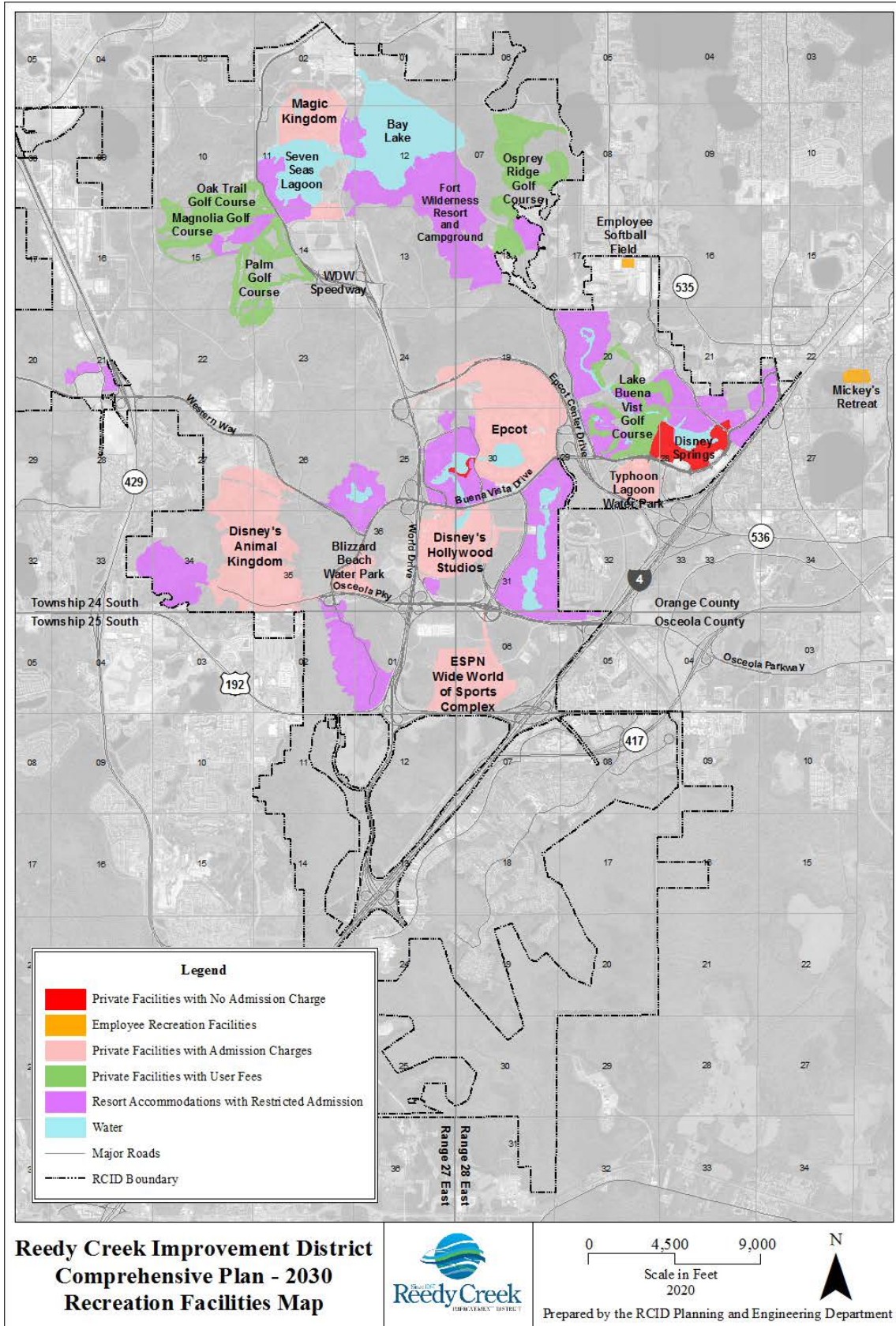
**Employee Recreation Facilities** – The Walt Disney World Company provides recreational facilities for the exclusive use of its employees and their families and guests at no admission cost. Most of these facilities are located adjacent to Little Lake Bryan, in an area that was de-annexed from the District in the early 1990s. The Little Lake Bryan complex is equivalent to a large community park, and includes a clubhouse, two swimming pools, a screened pool room, volleyball courts, picnic and barbecue pavilions, basketball courts, three tennis courts, a soccer field, four softball fields (including two lighted fields), a sandy beach and lake (with boating and swimming), and a fitness trail. In addition to these facilities, Walt Disney World Company also provides athletic fields within the District.

The District's principal employer offers a wellness program and encourages employee participation in athletic activities, arts and crafts programs, and organized outings. Some of the hotels set aside time for employees to use their facilities. Walt Disney World organizes many recreational events for employees. These events include softball, volleyball, and basketball competitions; aerobic classes; canoe races; etc. These events are all offered at very reasonable prices—usually a very modest sign-up fee.

Employees are also permitted to enter the theme parks without an admission charge and have limited access to the athletic fields and facilities at Disney's Wide World of Sports complex.

**Public Facilities** – Currently, there are no publicly owned recreation facilities in the District. There is no need for public parks to serve the District's very small permanent population. Residents of the District's 17 dwelling units reside in a very low-density wooded setting and have access to open space around their homes. These residents also have access to the theme parks and employee facilities. Providing parks to serve the local population would duplicate private sector facilities already available to the residents of the District.

Figure 7-2: Recreational Facilities



## Recreation Needs of Special Groups

The District's principal employer provides recreational opportunities for many groups of people. Millions of individuals and hundreds of groups, representing a diverse range of interests, cultures, and socioeconomic groups, visit the District each year. Special programs are available for learning disabled and physically challenged individuals. All activities are accessible to persons with disabilities.

## EXISTING OPEN SPACE AREAS

Open space refers to land that is completely undeveloped and land that is only lightly developed. It includes environmentally sensitive lands valued for their natural processes and wildlife habitat and lands valued for their agricultural and forest production, recreational opportunities, and aesthetic beauty. Open space provides a range of essential and irreplaceable services such as:

- Protecting and enhancing water quality by naturally filtering out pollutants, replenishing water supplies, and providing natural flood mitigation;
- Removing air pollutants and moderating the effect of climate change;
- Providing recreational opportunities;
- Minimizing habitat fragmentation and allowing wildlife to move freely through corridors;
- Preserving working lands and valuable agricultural soils;
- Providing natural separation between various land uses; and
- Preserving special places that define our communities and cultural heritage.

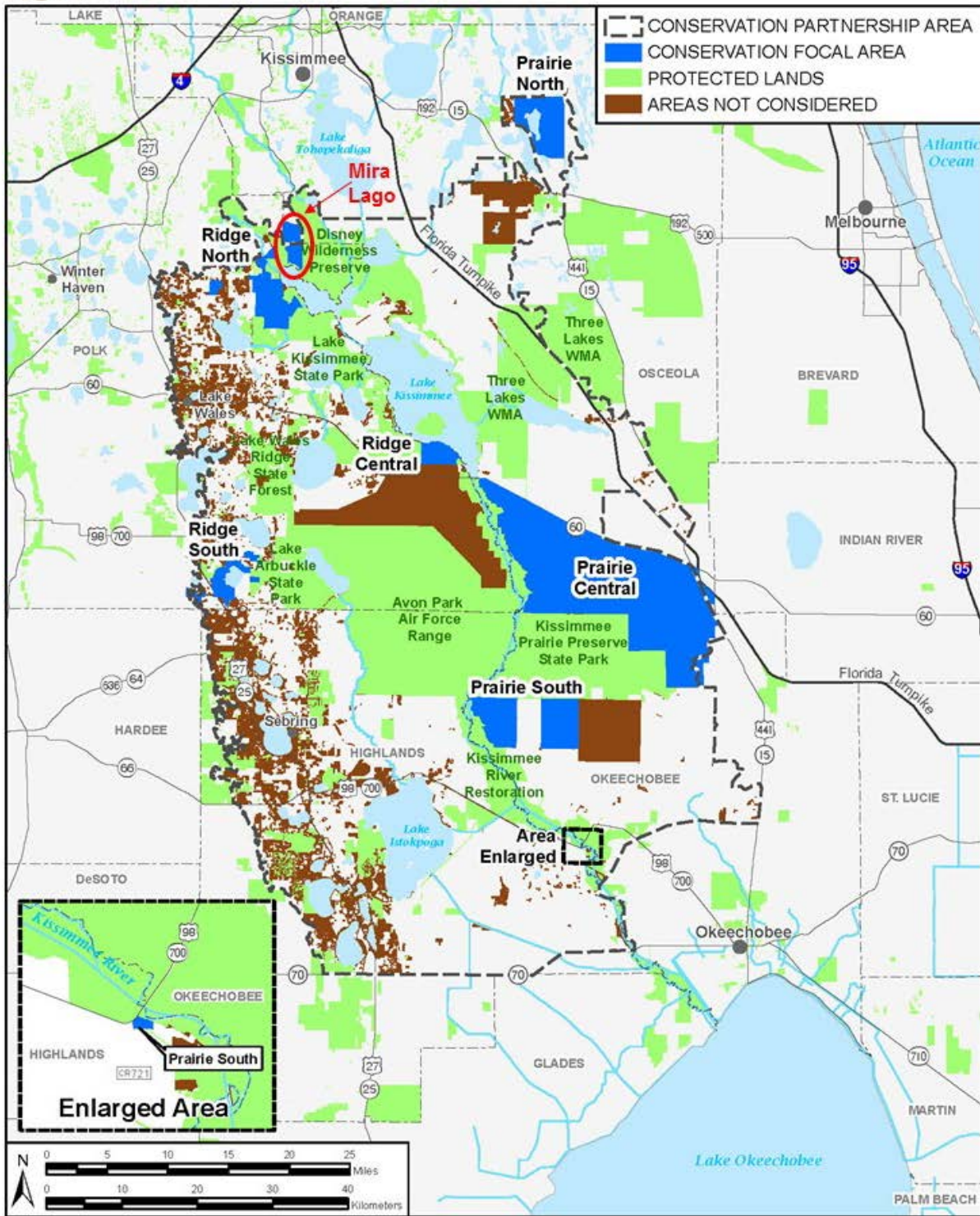
The Wildlife Management Conservation Area (WMCA) totals 8,322 acres and incorporates the thread of the Reedy Creek, including associated uplands and transitional areas and an enhancement project located north of Epcot. 7,030 acres of the WMCA are located within the District and comprise 28 percent of the District's total land area. 1,292 acres of the WMCA are located outside of the District within Osceola County. The WMCA is an exceptional example of the type of lands an open space objective seeks to protect. The District's open space requirement is in addition to the open space provided by the WMCA.

By definition open space with the District has been historically comprised of all land classified as Resource Management/Recreation (wetlands without conservation easements), all areas outside the Wildlife Management Conservation Area (WMCA) that are designated for Conservation uses on the Future Land Use Map (current none); Water, and golf course fairways. The 30 percent Open Space requirement was attainable before the purchase and restoration of wetlands on the Mira Lago property; however, there are simply not enough wetlands outside of the WMCA to maintain the 30 percent open space requirement under the current formula. Disney's acquisition of the Mira Lago property and the restoration of the wetlands provide for the conservation of 3,004 acres of open space located in a regional significant area targeted for conservation as shown on Figure 7-1 (Refer to the Conservation Element for additional information on Mira Lago). The District has therefore reduced its Open Space requirement from 30 percent to 20 percent.



# Everglades Headwaters Conservation Partnership

National Wildlife Refuge and Conservation Area



Initially the SFWMD and the ACOE approved 575 additional wetland impacts with the recording of the Mira Lago conservation easement; an additional 694 acres of mitigation credits would become available upon

completion of the the Mira Lago Mitigation Plan. That mitigation plan has now been completed. Currently 386 acres of approved wetland impacts remain available from the 575 approved under the long term permits. The additional 694 acres plus the 386 acres may eventually reduce Open Space outside the WMCA to 4,600 acres, resulting in 26 percent open space rather than the required 30 percent. The potential redevelopment of golf courses due to the ongoing decline in the popularity of this leisure activity could further reduce the acreage used for the District's Open Space calculation. Since golf course fairways make-up a small portion of the open space provided by golf courses, the District has modified its Open Space calculation to include the entirety of the golf courses while excluding clubhouses, maintenance facilities and parking lots. In recognition of the benefits of maintaining a variety of landscape types as open space, portions of the ESPN Wide World of Sports Complex have been added to the District's Open Space calculation. It should also be noted that, while not included in the Open Space calculation, some uplands because of their remote location may never be developed while wetlands adjacent to existing developments are likely to be developed.

Existing open space areas in the RCID are tabulated in Table 7-1.

**Table 7-1: Existing Land Uses and Open Space Uses within the District – 2027**

Land Use		Acres	Percent
<b>Developed Uses</b>		<b>8,856</b>	<b>36.0</b>
Residential		20	0.1
Commercial		238	1.0
Support Facilities		813	3.3
Entertainment (Minus portions of Sports Complex)		2,101	8.5
Public Facilities including Roads		3,281	13.3
Hotel/Resort (Minus Golf Courses)		2,403	9.8
<b>Undeveloped Uses</b>		<b>2,186</b>	<b>8.9</b>
Agriculture		939	3.8
Undeveloped		1,247	5.1
<b>Open Space Uses</b>		<b>13,588</b>	<b>55.1</b>
Conservation (WMCA)		6,885	27.9
Conservation (WMCA Water)		145	0.6
Water		1,307	5.3
Resource Management/Recreation		4,260	17.3
Golf Courses		816	3.3
Fields, Paths, etc. at Sports Complex		175	0.7
<b>TOTAL</b>		<b>24,630</b>	<b>100.0</b>

Currently 64 percent of the land area within the District is undeveloped (no buildings and little to no hardscape) or classified as open space. Open space land uses include Conservation (wetlands and uplands with conservation easements), Resource Management/Recreation (jurisdictional wetlands and other environmentally sensitive lands), and Water (lakes, ponds, and canals larger than ten acres) and comprise

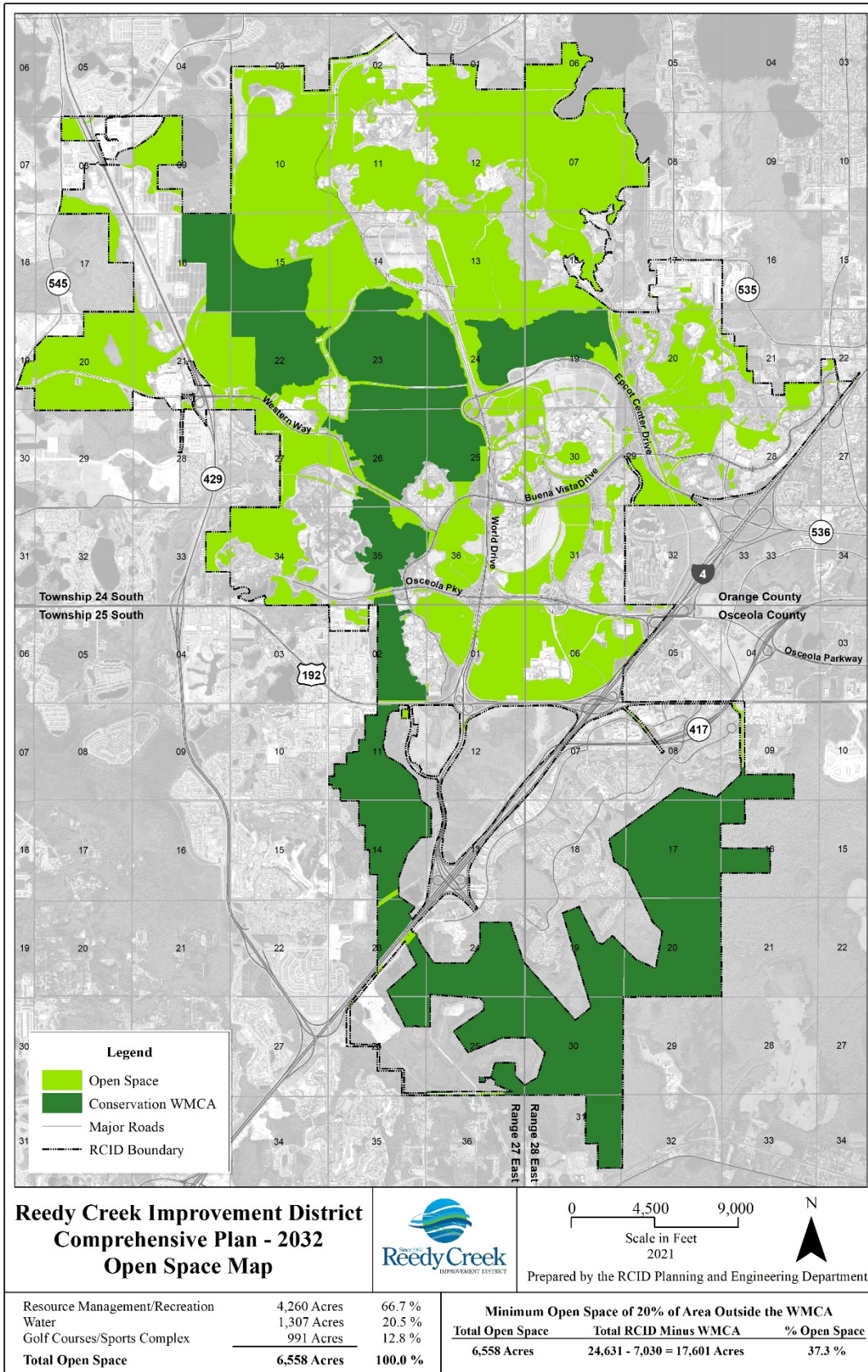
51.1 percent of the land area within the District. Golf courses are classified as Hotel/Resort and exclude clubhouses, maintenance facilities, driveways, parking lots, and adjacent hardscape and landscaped areas. Sports fields/venues at ESPN Wide World of Sports are classified as Entertainment and exclude all enclosed sports venues, The Stadium, buildings, surrounding hardscape and all paved and some unpaved parking lots. Landscaped areas within theme parks, resorts, and rights-of-way, retention ponds, water bodies under 10 acres, and the District's rapid infiltration basins are not included in the open space calculation although all provide similar aesthetic and/or ecological benefits. Table 7-2 provides the make-up of the District's previous and current open space calculation.

**Table 7-2: Open Space Calculation**

<b>Previous Open Space Calculation</b>	<b>Acres</b>
Resource Management/Recreation Land Use	4,260
Water Land Use	1,452
Golf Course Fairways	117
<b>Total Open Space (Existing)</b>	<b>5,683</b>
<b>Percent Open Space (Existing)</b>	<b>32.3%</b>
<b>Current Open Space Calculation</b>	<b>Acres</b>
Resource Management/Recreation Land Use	4,260
Water Land Use	1,307
Golf Courses (Excluding Clubhouses, Maintenance Facilities, Parking Lots, etc.)	816
Fields, Paths, etc. at ESPN Wide World of Sports Complex (Excluding Enclosed Sports Venues, The Stadium, Ancillary Buildings, Maintenance Facilities, Hardscape, Parking Lots, etc.)	175
<b>Total Open Space</b>	<b>6,558</b>
<b>Percent Open Space</b>	<b>37.3%</b>
<b>20 percent of 17,601 acres</b>	<b>3,520</b>

Existing open space areas in the RCID are shown on Figure 7-3.

Figure 7-3: Open Space Map





# ANALYSIS

## EXISTING NEED FOR RECREATIONAL FACILITIES

The permanent residents of the District have more than adequate recreational facilities available for their use. As stated previously, residents have unlimited use of all theme parks and employee recreational facilities. There is no need for neighborhood, community, or regional parks to serve the local population.

The current supply of private recreational facilities appears sufficient to meet public demands by local, national, and international users.

## FUTURE NEED FOR RECREATIONAL FACILITIES

As a public agency, the District ensures: that sufficient recreational opportunities are provided for residents and employees, that private recreational facilities are safely designed, and that open space is conserved for natural resource management. The District will continue to pursue these goals in the future. Projected recreation and open space needs through 2020 are discussed below.

### Public Facilities

Population projections for the District indicate that no increase in the permanent population is anticipated between 2020 and 2030. Consequently, there is no anticipated need for additional public recreational facilities to serve this population. A later section of this element addresses the standards to be applied if historic trends change and residential development occurs within the District.

### Private Facilities

Private recreational facilities will be added and existing facilities will be enhanced by the primary landowners in response to market demand. The District's responsibility is to ensure that land and infrastructure can be made available to facilitate construction of these facilities and that the facilities are sited and designed in a manner that protects public health and safety. Approximately 2,403 acres of land have been designated for Mixed Use development, a category that permits the construction of additional resorts, attractions and retail, dining and entertainment venues. New recreational development is also likely to occur on infill sites within already developed theme parks and resort areas.

In addition to the recreational opportunities offered in Mixed Use areas, the areas classified as Resource Management/Recreation on the Future Land Use Map could support resource-related activities that involve minimal disturbance of the natural landscape. Additional nature trails, fishing areas, wetland boardwalks, and nature observation areas may be created within areas designated for open space uses.

### Access to Private Recreational Facilities

The District will continue to assist the major landowners in maximizing access to private recreational facilities. Access improvements will involve: (1) improvements to the traffic circulation system that facilitate movement to existing and planned attractions; (2) maintenance of barrier-free (handicapped-accessible)

design within the theme parks, attractions and resorts; and (3) promotion of programs that enable economically disadvantaged children and their families to visit the facilities.

The Transportation Element identifies the capital improvements and programs that will be required to maintain ingress and egress to existing and new recreation facilities. The District's Epcot Building Code contains provisions for barrier-free design, so that all visitors are physically able to enter all recreation facilities. The major landowners sponsor a number of programs that enable economically disadvantaged youngsters to visit the theme parks.

### **Physical Adequacy of Private Recreational Facilities**

The physical adequacy of the private recreational facilities is ensured through the District's Epcot Building Code. The District monitors water quality at all swimming pools and water supply systems in cooperation with the Orange County Health Department. The District's standards for fire protection are among the most stringent in the state. Design and landscaping standards are maintained by both the public and private sector and ensure maintenance of a high-quality visual environment within the District.

### **Assessment of Employee Recreational Needs**

The District does not presently have standards or requirements for employee recreation areas. The private sector provides about 70 acres of recreational facilities for the exclusive use of employees (and their guests and families) off-site at Little Lake Bryan and another 10 acres on-site at the Administration Area. Employees are also provided with free and/or reduced fee access to the attractions. Some of the major employment centers within the District have on-site recreational facilities specifically for employees. Although there are no industry standards for employee recreation areas, existing provisions District-wide are believed to be sufficient to meet employee needs. Employees have access to a much wider array of recreational amenities and opportunities than residents of a conventional city or town.

### **Standards for Future Development Areas**

Residential uses are permitted in the Mixed Use areas shown on the Future Land Use Map. There is one residential units provided for in the Future Land Use Element Table 2-1 which establishes development maximums for the 2030 planning horizon. While there are presently no plans to construct permanent residences in the District, this element sets forth acreage standards for parks in the event such neighborhoods are built.

A level of service standard of two acres of neighborhood parkland per 1,000 permanent residents has been established. Neighborhood parks should be at least two acres in size, and should have a service area radius of one-quarter to one-half mile. If a proposed residential area has fewer than 1,000 residents, three options should be considered: (1) creation of a pocket park less than two acres in size and with fewer facilities than a conventional neighborhood park; (2) payment of in-lieu fees to the District for the eventual purchase of parkland after its total population reaches 1,000 residents; or (3) provision of privately operated recreational facilities that are free to residents - such as a swimming pool or clubhouse.

A level of service standard of one community park for every 10,000 permanent residents of the District also has been established. Community parks should be 20 to 40 acres in size and should include playing fields, natural areas, picnic areas, water features, and facilities for active recreation (such as tennis courts). Community parks may incorporate sensitive environmental areas (such as wetlands) provided minimal

disturbance or alteration of these areas occurs. The need for a community park can be eliminated if all residents are provided with free access to private recreational facilities - including new facilities that may be built within the residential areas, or existing facilities open to guests or employees at Walt Disney World Resort.

### **Preservation of Open Space**

Initially, the District ensured the provision of open space within new development areas by requiring portions of large development sites to be set aside as open space. The policy was ineffective in practice as it did not consider the unique character of each development site or the specific land use being developed. In the early 1990s, the District adopted an open space map which designated areas to be retained as open space. A minimum of 20 percent of land area outside of the WMCA is to be retained as Open Space which will result in a minimum of 42.8 percent of the District classified as Open Space. For the purposes of the map, open space is defined to include Resource Management/Recreation areas, Water, golf course, and sports fields and currently equals 37.3 percent. The District's drainage model is based on specific percentages of impervious surface for each land use classification—for example 90 to 100 percent for Entertainment, 80 percent for Mixed Use, 62 percent for Resorts, and 30 percent for Campgrounds. Based on these percentages, 40 percent of the land area outside the WMCA and 68 percent of the total land area within the District could remain uncovered by pavement or buildings.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay  
Lake

## **COMPREHENSIVE PLAN**

### **INTERGOVERNMENTAL COORDINATION ELEMENT**

#### **Part A: Policies**

# INTRODUCTION

The Local Government Comprehensive Planning and Land Development Regulation Act of 1985 (Chapter 163, Section 3161 *et seq.*, Florida Statutes, as amended), requires that all local government comprehensive plans include an element that addresses coordination among units of government. Intergovernmental coordination is needed to minimize duplication and incompatible activities and to promote cooperation and efficiency at the local, regional, state, and federal levels.

This element fulfills that requirement and addresses coordination between the District, the cities of Bay Lake and Lake Buena Vista, surrounding cities and counties, special districts, and regional and state agencies. It is divided into two major sections. The “Policies” component contains goals, objectives, and policies. The “Supporting Data and Analysis” component describes existing interlocal agreements and contains an analysis of future intergovernmental coordination needs.

## GOALS, OBJECTIVES, AND POLICIES

### GOAL

***It is the goal of the Reedy Creek Improvement District to promote intergovernmental coordination with the two cities within its boundaries; the two counties in which it is located; other local governments in the immediate vicinity; and regional, state and federal governmental entities for the mutual benefit of all involved parties.***

### Objective 1

*To continue to improve the coordination of planning and the provision of housing and public services, to implement existing agreements and, within one year after adoption of this Plan, to propose a multi-purpose joint planning agreement to Orange County and use best efforts to enter into this agreement.*

Policy 1.1: The RCID shall continue to fulfill its obligations under all joint planning and other interlocal agreements with Orange County. This includes all agreements in effect at the time this Plan is adopted and such agreements that may be executed subsequent to that time.

Policy 1.2: Within a year of adoption of this Plan, the District shall propose a joint planning agreement to Orange County and use best efforts to enter into this agreement. This agreement shall be consistent with the requirements of Chapter 163.3171(3), FL Statutes. Specific provisions will include:

- (1) The parties will each provide the other with notice of proposed land use changes, rezonings, and plats, and with copies of specific building permits if so requested;

- (2) Orange County will not issue any certificate of occupancy for any project that would discharge surface water into the geographic area of the District without the RCID agreeing to the discharge;
- (3) Within any area subject to joint planning, neither party will approve any development inconsistent with a plan developed by both parties;
- (4) The parties will establish a process to meet, as needed, to coordinate level of service standards for infrastructure, particularly for roads and water quality;
- (5) The parties will cooperate on reviewing and approving development within the Reedy Creek and Bonnet Creek watersheds that may have a negative impact on water quality or flood control within the District;
- (6) The parties will enter into separate interlocal agreements regarding the provision of water and wastewater services for areas to be annexed to or deannexed from the District;
- (7) The parties will coordinate on protecting flora and fauna as specific issues arise;
- (8) The parties will cooperate in achieving the goals, objectives, and policies of the Housing Element in this Plan; and
- (9) Other coordinative relationship issues that may be applicable.

Policy 1.3: The RCID shall continue to annually renew the existing solid waste disposal agreement with Orange County.

Policy 1.4: The RCID shall not extend water, sanitary sewer or other services which it provides within the District to land outside its boundaries and within Orange County unless provided for by an interlocal agreement that is consistent with the comprehensive plan of Orange County.

Policy 1.5: The RCID shall not deannex any of its land to, or annex land from, Orange County unless provided for by an interlocal agreement that ensures that services can be efficiently provided and values effectively protected.

## **Objective 2**

*To continue to improve the coordination of planning and the provision of housing and public services, to implement existing agreements and, within one year after adoption of this Plan, to propose a multi-purpose joint planning agreement to Osceola County and use best efforts to enter into this agreement.*

Policy 2.1: The RCID shall continue to fulfill its obligations under all joint planning and other interlocal agreements with Osceola County. This includes all agreements in effect at the time this Plan is adopted and such agreements that may be executed subsequent to that time.

Policy 2.2: Within a year of adoption of this Plan, the District shall propose a joint planning agreement to Osceola County and use best efforts to enter into this agreement. This agreement shall

be consistent with the requirements of Chapter 163.3171(3), FL Statutes. Specific provisions will include:

- (1) The parties will each provide the other with notice of proposed land use changes, rezonings, and plat approvals, and with copies of specific building permits if so requested;
- (2) Osceola County will not issue any certificate of occupancy for any project that would discharge surface water into the geographic area of the District without the RCID agreeing to the discharge;
- (3) Within any area subject to joint planning, neither party will approve any development inconsistent with a plan developed by both parties;
- (4) The parties will establish a process to meet, as needed, to coordinate level of service standards for infrastructure, particularly for roads and water quality;
- (5) The parties will cooperate on reviewing and approving development within the Reedy Creek and Bonnet Creek watersheds that may have a negative impact on water quality or flood control within the District;
- (6) The parties will enter into separate interlocal agreements regarding the provision of water and wastewater services for areas to be annexed to or deannexed from the District;
- (7) The parties will coordinate on protecting flora and fauna as specific issues arise;
- (8) The parties will cooperate in achieving the goals, objectives, and policies of the Housing Element in this Plan; and
- (9) Other coordinative relationship issues that may be applicable.

Policy 2.3: The RCID shall not extend water, sanitary sewer or other services which it provides within the District to land outside its boundaries and within Osceola County unless provided for by an interlocal agreement that is consistent with the comprehensive plan of Osceola County.

Policy 2.4: The RCID shall not deannex any of its land to, or annex land from, Osceola County unless provided for by an interlocal agreement that ensures that services can be efficiently provided and environmental values effectively protected.

### **Objective 3**

*To maintain and continue to enhance existing intergovernmental coordination processes and mechanisms among the District, the City of Bay Lake and the City of Lake Buena Vista.*

Policy 3.1: The RCID, City of Bay Lake, and City of Lake Buena Vista shall separately adopt and update this unified Comprehensive Plan and the Land Development Regulations for the areas within the three jurisdictions.

#### **Objective 4**

*To continue to coordinate with other local jurisdictions and agencies on matters of mutual interest.*

Policy 4.1: The RCID shall continue to follow and, as necessary, update its procedures for dealing with local jurisdictions other than Orange and Osceola counties on matters that may affect it.

Policy 4.2: The RCID shall, upon written request, distribute copies of its Comprehensive Plan to local governments and other local entities.

Policy 4.3: The RCID shall coordinate its water supply facilities planning with the South Florida Water Management District's *Central Florida Water Initiative Regional Water Supply Plan (CFWIRWSP) approved November 2015*, and all subsequent updates. (Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

#### **Objective 5**

*To continue to actively participate in the planning and coordination of all modes of transportation with the Florida Department of Transportation, the Metropolitan Planning Organization, and the adjacent local governments.*

Policy 5.1: The RCID shall continue to fulfill its obligations under all joint planning and other interlocal agreements regarding transportation planning and coordination. This includes all agreements in effect at the time this Plan is adopted and such agreements that may be executed subsequent to that time.

Policy 5.2: The RCID shall participate in regional and subregional planning efforts, including those sponsored by the Metropolitan Planning Organization, that may affect the District.

Policy 5.3: The RCID shall cooperate with the Florida Department of Transportation and the federal government in transportation planning that may affect the District, especially on I-4.



## Objective 6

*To continue to participate in regional and subregional coordination and cooperation with the ECFRPC and other governmental and nongovernmental entities to solve problems that cannot effectively be addressed by a single jurisdiction.*

- Policy 6.1: The RCID shall continue to cooperate with the East Central Florida Regional Planning Council and other local governments by providing all nonproprietary planning-related information on matters of interlocal concern.
- Policy 6.2: The RCID shall participate in any newly established regional or subregional planning committees that deal with potential impacts on the District or with impacts that activities within the District may have on other jurisdictions.
- Policy 6.3: The RCID shall continue formal liaison with state and federal agencies that have permitting authority within the District, and inform them of development projects that are within their review authority.
- Policy 6.4: The RCID shall encourage the Florida Department of Environmental Protection to establish air quality monitoring stations in the District in the event that regional air quality conditions deteriorate.
- Policy 6.5: The RCID shall cooperate with the appropriate regional agencies in improving regional air quality.
- Policy 6.6: The RCID shall continue to encourage the participation of professional staff in local and regional organizations that serve to promote intergovernmental coordination.
- Policy 6.7: The RCID shall continue to appoint representatives to all public boards and committees to which it is invited.
- Policy 6.8: The RCID shall transmit copies of its Comprehensive Plan or plan amendments to all planning and regulatory agencies and governing bodies as required by F.S 163.3184(3). (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)
- Policy 6.9: In the event the RCID is unable to resolve disputes with other local governments or establish interlocal agreements as called for in this element, the RCID shall ask the East Central Florida Regional Planning Council for assistance through its informal mediation process, provided that this assistance shall not include binding arbitration or decision making imposed upon the RCID.
- Policy 6.10: If the RCID is not able to consummate any of the joint planning agreements specified in policies 1.2 and 2.2, RCID will continue to enter into interlocal agreements on a case by case basis. (Amended by Ordinance/Resolution No. 510 adopted 07/28/2010 and Ordinance Nos. 128 and 125 adopted 07/14/2010)

## **Intergovernmental Coordination Policies in Other Elements**

### ***Future Land Use Element:***

- Policy 5.1 Public road improvements and other applicable measures shall be undertaken so that the District transportation system can accommodate the traffic volumes indicated in Table 2-3 without reductions in the adopted levels of service. These improvements and service levels shall be specified in the Transportation Element and Capital Improvements Element.
- Policy 6.1 The District shall maintain an affordable housing program, as defined in the Housing Element of this Comprehensive Plan, which ensures that new housing opportunities are provided in proximity to the District's employment centers.
- Policy 6.3 The RCID shall not deannex any developed property unless the proposed use is consistent with the receiving government's comprehensive plan, and there is an interlocal agreement in place that addresses public facility and service issues.
- Policy 6.4 The extension of District water and sewer lines to property outside District boundaries shall only be permitted if the area to be served is designated for urban land uses on the adjacent jurisdiction's Future Land Use Map, and if development of the area would be consistent with the goals, objectives, and policies of the jurisdiction's Comprehensive Plan.
- Policy 6.5 All annexations shall comply fully with the provisions of Chapter 171, F.S. In the event that annexation is proposed, an annexation report shall be submitted demonstrating that the District can meet the traffic, water, sewer, solid waste, and stormwater management demand generated by the most intensive uses that could be permitted in the area to be annexed.

### ***Transportation Element:***

- Policy 4.1 To reduce the impacts of guest vehicle trips on roadways outside the District, provision of directional signage shall be coordinated with area local governments, the Orlando/Orange County Expressway Authority, and the Florida Department of Transportation.
- Policy 4.2 The RCID shall coordinate with FDOT, Osceola County, Orange County, and other appropriate government entities to pursue recommendations contained in the I-4 PD&E, the Orange County and Osceola County Comprehensive Plans, the Metropolitan Orlando Urban Area Transportation Plan, and any future planning studies which address transportation facilities and conditions within or around its boundaries.
- Policy 4.3: The RCID shall actively participate in OUATS, and other studies to coordinate with all appropriate local, regional, state, and federal agencies regarding the location, classification, planning, and construction of needed roads in the Metropolitan area.
- Policy 4.4: The RCID shall continue to conduct an annual traffic monitoring program for the public roadways within the RCID, as well as the following adjacent roadways: I-4, US 192, SR

535, CR 535, SR 536, Apopka-Vineland Road, Reams Road and SR 429. Appropriate capacities, daily traffic volumes, and peak-hour traffic volumes shall be determined through this on-site and off-site monitoring program.

- Policy 4.6: The RCID shall continue to coordinate with the Central Florida Regional Transit Authority (d.b.a. LYNX), Orange County, and Osceola County on the subject of increasing the level of bus service for visitors and employees.
- Policy 4.7: The District shall continue its participation in Metroplan Orlando by continuing its voting membership on the MPO Technical Committee.
- Policy 4.8: The RCID shall coordinate with FDOT, Osceola County, Orange County, and other appropriate government entities or regional transit authorities to facilitate high speed rail, commuter rail, and bus rapid transit services.

***Housing Element:***

- Policy 1.1 The District shall ensure that the permanent residential areas in the cities of Bay Lake and Lake Buena Vista are maintained in excellent condition. The District will promptly respond to any problems associated with structural deficiencies or visual blight in these areas.
- Policy 4.4: Projects outside RCID boundaries which do not meet the affordability criteria described above may receive water or sewer capacity from the RCID through interlocal agreements. In such instances, the developers of such projects shall be required to pass along savings resulting from the District's provision of these services in the form of more affordable sale and rental prices or other public or community amenities.
- Policy 4.5: The District shall work with public transit providers to increase the availability of public transportation between the District and affordable housing projects or areas. As appropriate, the District shall also work with the major landowners and private transportation companies to consider the feasibility of private transit services (including shuttle buses, vans, etc.) between affordable housing and District employment centers.
- Policy 4.6: The RCID will consider modifications to its stormwater permit fees (for example, allowing such fees to be paid in interest-free installments over five years) as a means of reducing front-end developer costs for affordable housing projects in the Reedy Creek drainage basin.
- Policy 5.5: The following additional activities may be employed by the RCID and primary employer to achieve the objective of providing additional affordable housing units, provided that the activity or combination of activities has the benefit of reducing the costs of the unit by at least 5 percent:
- (1) Acquisition and donation of land for affordable housing development within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services.

- (2) Affordable housing construction outside of the District but within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services, which is provided with assistance by RCID or an employer within RCID.
- (3) Direct rental assistance provided by RCID, or employers within RCID, to “low” and “very low” income households.
- (4) Participation in community service projects such as Habitat for Humanity.
- (5) Technical assistance to nonprofit organizations involved in the provision of affordable housing or housing services.
- (6) Down payment assistance to persons employed within the RCID.
- (7) Transportation assistance between affordable housing projects and employment locations within the RCID.
- (8) Any other activities identified in this element or developed in the future relating to the provision of affordable housing units within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services.

(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 6.1: The District shall continue to work with the East Central Florida Regional Planning Council (ECFRPC) in its ongoing efforts to assess affordable housing needs and develop solutions to meeting unmet needs. The District shall actively seek representation on any ECFRPC task force created to address the issue of affordable housing.

Policy 6.2: The District shall work cooperatively with adjacent local governments to facilitate the production of affordable housing and assure that a sufficient supply of land to meet affordable housing needs is retained within high access and opportunity areas with proximity to transit, employment centers, and other centers of commerce offering essential goods and services. Interlocal agreements with Orange County shall be developed as necessary and appropriate to create affordable housing opportunities within the Horizons West area to the north and northeast of District boundaries.  
(Amended by Ordinance/Resolution No. 605 adopted 5/25/2022 and Ordinance Nos. 135 and 131 adopted 5/24/2022)

Policy 6.3: Interlocal agreements governing any future deannexation of land from the District into the adjacent counties shall address the issue of affordable housing. The receiving county will be encouraged to explore affordable housing opportunities within the area being deannexed.

Policy 6.4: The District shall support efforts to partner with Orange, Osceola, Lake, and Polk counties, and other jurisdictions as appropriate, to develop performance standards, policies, and developer incentives to encourage/ facilitate development of innovative communities and affordable housing. The District shall also support public/private partnerships between developers and local governments, including the District's major landowners and nearby local governments, to produce affordable housing.

Policy 6.5: To the extent feasible and appropriate, future affordable housing activities of the District and its primary employer shall be integrated with State and County programs, such as the SAIL (State Apartment Incentive Loan) program, SHIP (State Housing Initiative Partnership) program, and HOME (Home Investment Partnership) program. Although the District is ineligible to receive such funds directly, they may assist nonprofit developers who receive these funds, thereby further improving the affordability of housing.

***Infrastructure Element: Potable Water Subelement***

Policy 4.6: The RCID shall not extend water services to land outside its boundaries unless provided for by interlocal agreements. Water extensions beyond District boundaries may be considered appropriate for health and safety reasons, or if the area is to be served will be developed with affordable housing or other uses providing local and regional benefits and consistent with that jurisdiction's comprehensive plan.

***Infrastructure Element: Sanitary Sewer Subelement***

Policy 8.6: The RCID shall continue to not extend sanitary sewer services to land outside its boundaries unless provided for by interlocal agreements. Wastewater extensions beyond District boundaries may be considered appropriate for health and safety reasons, or if the area is to be served will be developed with affordable housing or other uses providing local and regional benefits and consistent with that jurisdiction's comprehensive plan.

***Infrastructure Element: Solid Waste Subelement***

Policy 9.4: The RCID shall continue to transport its commercial and domestic solid wastes to permitted landfill facilities. The transfer of wastes to permitted facilities shall be governed by agreements.

Policy 12.6: As needed but not less than once every two years, the District shall assess its waste disposal agreements and ensure that adequate long-range capacity exists at the landfills where its solid waste is disposed.

***Infrastructure Element: Stormwater Management Subelement***

- Policy 14.9: The RCID shall require outside drainage system sources to pay a connection fee prior to executing a drainage agreement in accordance with Circuit Court Order #66-1061 in Osceola County or Circuit Order #66-1061 in Orange County, as is appropriate.
- Policy 14.10: The District shall require a copy of the SFWMD staff report for any drainage entering the District prior to executing a drainage agreement in accordance with Circuit Court Order #66-1061, Section IV in Osceola County or Circuit Order #66-1061, Section V in Orange County, as is appropriate. In those cases where the SFWMD analysis is not required, the District shall require a report similar to that prepared by the SFWMD prior to executing a drainage agreement.

***Conservation Element:***

- Policy 1.1: The District will encourage research and analysis of groundwater recharge conditions in the region. The findings of such research, including the ongoing USGS groundwater study, will be considered in future land use and development decisions. Until more current groundwater maps are available, the District will rely on the most current maps available from the SFWMD or otherwise deemed acceptable by the SFWMD to identify recharge areas.
- Policy 1.5: The RCID shall continue to cooperate and coordinate with the SFWMD and other agencies and jurisdictions in their efforts to protect groundwater resources in Central Florida.
- Policy 6.1: The RCID shall encourage the Florida Department of Environmental Protection to establish air quality monitoring stations in the District in the event that regional air quality conditions deteriorate.

***Recreation and Open Space Element:***

There are no intergovernmental coordination policies in this element.

***Capital Improvements Element:***

- Policy 5.1: The District shall continue to work cooperatively with the FDOT and with adjacent local governments in the planning of improvements to I-4, US 192, CR/SR 535, Osceola Parkway, and the Western Beltway.
- Policy 5.2: In the event any vacant area is deannexed from the District, an interlocal agreement with the receiving county shall address the construction of capital improvements and provision of public services to the deannexed area.
- Policy 5.3: In annually updating its CIP and CIE, the RCID shall evaluate the FDOT five-year plan, the SFWMD facility improvement plan, and any other state or regional plans that may potentially impact the District. Projects proposed by these agencies should be evaluated based on:

- (1) their proximity to the District;
- (2) the degree to which they facilitate or hinder implementation of this Plan;
- (3) the degree to which they commit financial resources that would otherwise be committed to improvements within the District; and
- (4) the degree to which they induce growth in areas outside the District but in close enough proximity to impact RCID facilities.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay  
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## **COMPREHENSIVE PLAN**

### **INTERGOVERNMENTAL COORDINATION ELEMENT**

#### **Part B: Supporting Data and Analysis**



# PURPOSE

This Element sets forth the intergovernmental coordination plans for the Reedy Creek Improvement District. The RCID was established in 1967 by the Florida Legislature (Chapter 67-764) in order to provide a full range of urban-related services within its jurisdiction. The RCID is governed by an elected Board of Supervisors and its staff is managed by a District Administrator.

The northern portion of the District is located in Orange County, which includes Orlando (the county seat) and is the most populated county in the Orange-Seminole-Osceola Metropolitan Statistical Area. The southern portion of the District is in Osceola County, which has the highest growth rate in the Central Florida area. The county seat of Osceola County is Kissimmee. Figure 1-1 shows the location of the District in relation to the two counties. This Element addresses relationships between the RCID and these two counties.

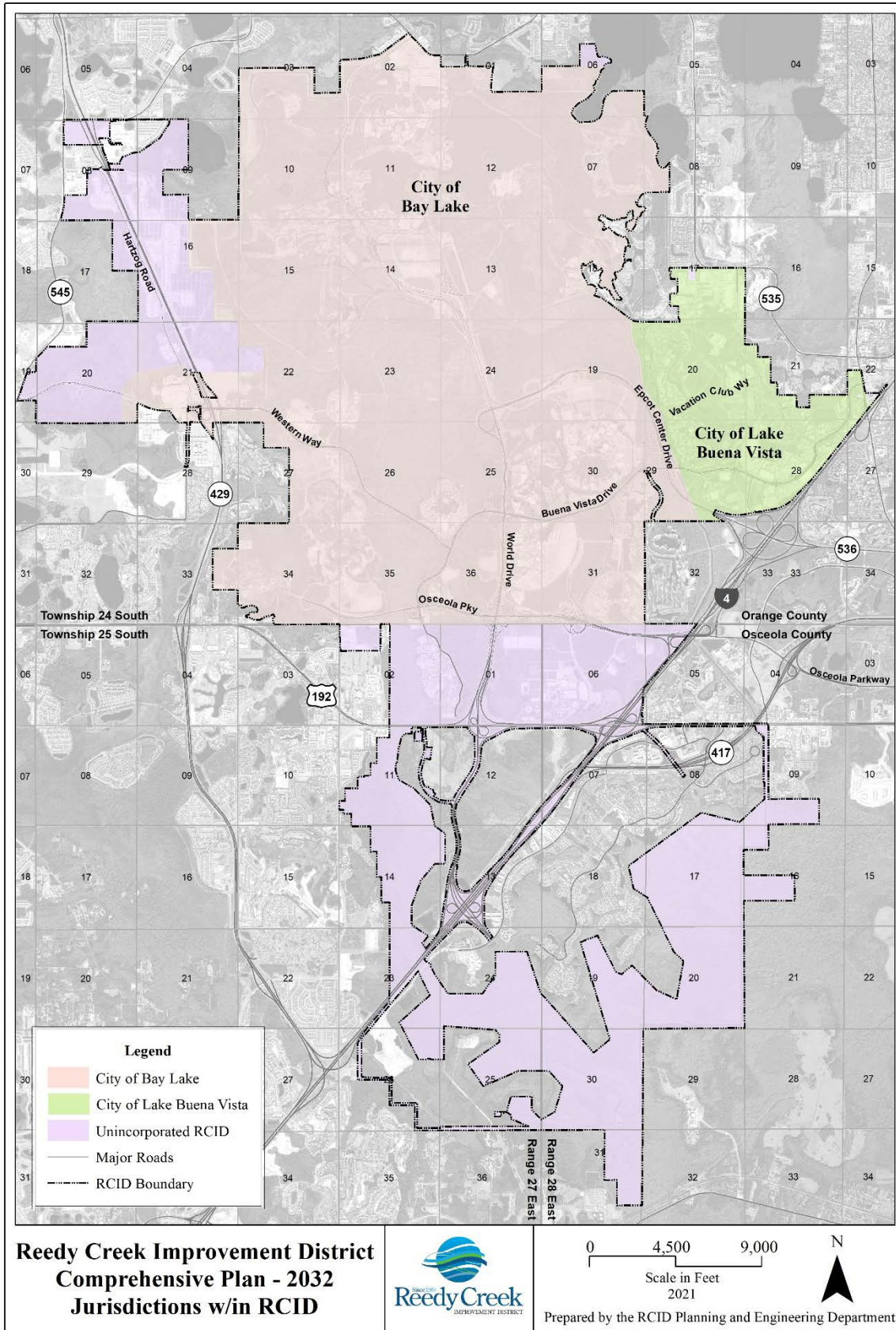
Two cities exist within the boundaries of the RCID (see Figure 8-1). The City of Bay Lake was established in 1967 (Chapter 67-1104) and the City of Lake Buena Vista was established the same year (Chapter 67-1965). (The City of Lake Buena Vista was known originally as the City of Reedy Creek.) Both cities have elected mayors and city councils. The staff of the RCID serves as the staff to both cities.

Legislation establishing the RCID and the two cities provides for joint agreements relating to their common powers, duties, and functions. As an example, this revised Comprehensive Plan was prepared under a joint agreement between the RCID and the two cities; therefore, it serves as the plan for all three entities. This element addresses other intergovernmental relationships between the RCID and the cities of Bay Lake and Lake Buena Vista.

The RCID and the two cities are within the jurisdictional boundaries of the East Central Florida Regional Planning Council; Lake Buena Vista is a member of the council. The RCID coordinates with a number of federal and state agencies in such areas as highway construction and maintenance, water quality management, and fish and game management. This element presents more details of these relationships.

The legislation establishing the RCID specifically authorizes it to enter into cooperative agreements with the state, counties, cities, or other public bodies or agencies. This element discusses a number of these agreements.

**Figure 8-1: Governmental Jurisdictions**



# EXISTING COORDINATION

## PLANNING

### General

This Comprehensive Plan has been prepared by the RCID for itself and the two cities within its jurisdictional boundaries. The planning staff for the District serves as the planning staff for the two cities. The RCID has often coordinated closely with Orange and Osceola counties and occasionally with Lake and Polk counties. The RCID also coordinates with regional and state planning agencies.

The RCID has executed a number of interlocal agreements with the Cities of Bay Lake and Lake Buena Vista, Orange County, Osceola County, the East Central Florida Regional Planning Council, the Florida Department of Community Affairs, and private companies setting forth conditions for annexations and deannexations, development approvals, and development criteria on a case by case basis.

## ENVIRONMENTAL QUALITY

### General

The RCID works closely with the U.S. Environmental Protection Agency regarding issues of water quality, wetlands protection, and hazardous waste disposal. It also works closely with the Florida Department of Environmental Protection (FDEP), especially on water quality issues. In addition to water quality, the FDEP is involved in water quantity (implemented by the South Florida Water Management District), drinking water, solid waste, air quality, and noise control. The FDEP permitting programs require coordination with the Florida Department of Natural Resources and the U.S. Army Corps of Engineers. The SFWMD issues permits and monitors drainage facilities.

The RCID has executed agreements with the Orange County Soil Conservation District for assistance in preparing a soil and water conservation plan; The Florida Department of Environmental Protection for resource commitment for monitoring and controlling pollution; Orange County and Osceola County for the acceptance of drainage from outside the District; South Florida Water Management District for the removal of and mitigation for specific wetlands and for the operation of all existing drainage facilities; and the Celebration Community Development District for drainage into District stormwater management systems.

## WATER, WASTEWATER, AND SOLID WASTE SERVICES

### General

The RCID owns a potable water system, a wastewater reclamation plan, a sewage collection system, and a solid waste disposal system. All water comes from wells owned by the District, except for a small area south of Animal Kingdom that is served by the City of Kissimmee. Wastewater is disposed of within the jurisdictional boundaries, except for the above-mentioned area south of Animal Kingdom. Solid waste, with the exception of construction wastes, is transported to an Okeechobee County landfill. The SFWMD sets

annual and daily water allocations for pumping water from the Floridan Aquifer. Water, wastewater, and solid waste services must comply with standards established by the Florida Department of Environmental Protection.

The District has agreements for utility services, solid waste disposal, water resources, wastewater reuse and canal maintenance easements with various governmental and private entities including: Reedy Creek Energy Service, Inc., Orange County, Orange County Utilities, Chambers Waste Systems of Florida, Inc., CWI of Florida, Inc., U.S. Geological Survey, SFWMD, City of Kissimmee, and Walt Disney World Co.

The District has also entered into an agreement with the City of Saint Cloud, Orange County Utilities, and Tohopekaliga Water Authority to work cooperatively on water supply projects and water use permit issues.

## **OTHER UTILITY SERVICES**

### **General**

The RCID owns a natural gas distribution system, an electric generation and distribution system, a chilled water system, and a hot water system. The District has an agreement with Reedy Creek Energy Services, Inc. for the operation of these utility facilities. The District purchases gas and most of its electricity from external sources including Florida Gas Transmission Company, People's Gas Company, Florida Power Corporation, Tampa Electric Company, Orlando Utilities Commission, and Orlando Cogeneration Limited.

## **HEALTH AND SAFETY**

### **General**

The RCID provides fire protection services within its jurisdictional boundaries. It is a party to several mutual aid agreements for fire protection and emergency rescue. The District also is involved in traffic signal maintenance and elevator inspection and has executed agreements with the Florida Department of Transportation and the Florida Department of Business Regulation, respectively. It cooperates with the Florida Department of Health and Rehabilitative Services in the inspection of restaurant facilities within its jurisdictional boundaries. The City of Bay Lake and the City of Lake Buena Vista have agreements with the Orange County Sheriff's Office for the latter to provide police services.

The RCID has executed agreements to provide firefighting and medical services in times of emergencies with Osceola County, Orange County, City of Kissimmee, City of Orlando, and with Four Corners Fire Protection and Rescue.

## **TRANSPORTATION**

### **General**

The RCID works closely with the Florida Department of Transportation with respect to the state road program. Of particular interest is increasing capacity of roads that serve the District. The two entities exchange information that enables each to do better planning. The RCID has representatives on the Transportation Technical Committee of the Metropolitan Planning Organization. It also coordinates with Orange County, Osceola County, and the City of Kissimmee on traffic planning.

The District's primary employer has an agreement with the Florida Department of Transportation to purchase trips on Interstate -4 pursuant to a Joint Participation Agreement and Donation Agreement for the Construction of Interstate-4 Improvements as a means of satisfying concurrency for trips on I-4.

The District has periodically entered into agreements for cost sharing on specific roadway projects including improvements fo I-4, Osceola Parkway, World Drive, Vineland Road, Southern Connector, and US 192 with the Florida Department of Transportation, Orange County, the Celebration Community Development District, Osceola County, and the Enterprise Community Development District.

## **HOUSING**

### **General**

Housing for permanent residents within the RCID jurisdictional boundaries consists of 17 manufactured homes; therefore, the vast majority of people employed within the boundaries live in the surrounding area. The number of these employees has been increasing and additional increases are anticipated.

## **SCHOOLS**

### **General**

The RCID has a very low permanent school-age population; therefore, the RCID has limited coordination with school boards.

### **Executed Agreements**

None.

## **RCID OFFICE WITH PRIMARY RESPONSIBILITIES**

Because of the small size of the RCID staff and acknowledged importance of interlocal coordination to the District, all such coordination is the responsibility of the District Administrator.

# ANALYSIS

## LOCAL GOVERNMENTS AND AGENCIES

### The Cities of Lake Buena Vista and Bay Lake

The RCID, City of Lake Buena Vista, and City of Bay Lake maintain a close working relationship because they share the same planning staff.

### Orange County

The RCID has several interlocal agreements with Orange County, such as the agreements dealing with the deannexations. Other topics covered by interlocal agreements between the two jurisdictions include drainage and water quality, solid waste disposal, fire protection and rescue, and I-4 improvements. An administrative process is in place to comment on land development proposals. The two jurisdictions are coordinating issues on a case-by-case basis. Generally the relations appear to be good, and no significant disputes or unresolved issues are known to exist.

An analysis of the level of projected growth and development shown in the Orange County Comprehensive Plan shows it to be consistent with the growth and development proposed by this Plan and indicates that the existing level of planning coordination is satisfactory.

### Osceola County

The RCID has several interlocal agreements with Osceola County, such as the transportation agreements dealing with improvements to I-4 and US-192. Other topics covered by interlocal agreements between the two jurisdictions include drainage and water quality, as well as fire protection and rescue. An administrative process is in place to comment on land development proposals. The two jurisdictions are coordinating issues on a case-by-case basis. Generally the relations appear to be good, and no significant disputes or unresolved issues are known to exist.

An analysis of the level of projected growth and development shown in the Osceola County Comprehensive Plan shows it to be consistent with the growth and development proposed by this Plan and indicates that the existing level of planning coordination is satisfactory.

### Other Local Governments and Agencies

The RCID has agreements with other local governments, especially mutual aid agreements on fire protection and rescue. These agreements appear to be working well. The RCID coordinates with the City of Kissimmee on traffic planning. Major issues regarding coordination problems with other local governments and agencies have not been identified.

The City of Bay Lake and City of Lake Buena Vista have an agreement with the Orange County Sheriff's Office to provide public safety services within both cities. The RCID is not a party to this agreement because it does not have legal authority or responsibility to provide police services.

The RCID has limited coordination with local school boards, such as providing bus shelters in the District. Significant coordination is not required because of the low school age population.

## **REGIONAL AND STATE AGENCIES**

### **Regional Agencies**

The RCID maintains a close working relationship with the East Central Florida Regional Planning Council, although it does not hold membership. (The City of Lake Buena Vista, however, is a member.) The RCID has significant contact with the South Florida Water Management District—extensive coordination occurs between these two entities and the working relationship appears to be exceptionally good.

The RCID is extensively involved in regional transportation issues. It has representation on the Transportation Technical Committee of the Metropolitan Planning Organization.

An analysis of the level of growth and development of this plan and the comprehensive plans for Orange County, Osceola County, City of Orlando, and City of Kissimmee, appears to indicate that existing levels of planning coordination are satisfactory.

### **State Agencies**

The RCID coordinates with the Florida Department of Environmental Protection more frequently than it does with other state agencies. No significant problems appear to exist. The relationship between the RCID and the Department of Community Affairs appears to be satisfactory. The same situation exists with respect to coordination with the Florida Department of Transportation and the Department of Environmental Protection. The RCID's coordination with the Division of Historic Resources appears to be limited, but adequate.

## **COORDINATION NEEDS BY PLAN ELEMENT**

### **Land Use**

**Review of Development Near Jurisdictional Boundaries** – A comprehensive interlocal agreement is needed with Orange County and Osceola County to formalize existing procedures for dealing with the review of proposed development located proximate to the RCID and county boundaries.

**Review of Plans** – The RCID should send copies of its Comprehensive Plan, and amendments thereto, to Orange and Osceola Counties. Upon receipt of the comprehensive plans from these jurisdictions, the RCID should review them for compatibility.

## **Traffic Circulation**

**Vehicle Reduction Strategies** – Ongoing coordination is needed with Orange County, Osceola County, and other applicable agencies to encourage car pooling, as well as the development and use of transit facilities.

**Transit Service Improvements** – Ongoing coordination is needed with the LYNX public bus system on transit service improvements, including the designation of bus stops and the construction of shelters.

**Levels of Service Standards** – Ongoing coordination is needed with Orange County, Osceola County, and FDOT in the coordination of level of service standards for roads. In addition, the RCID should update, as needed, during its monitoring and evaluation process, level of service standards for state and federal roadways within the District.

**Capacity of Off-site Roadway Improvements** – Ongoing coordination is needed with Orange County, Osceola County, and FDOT to increase the capacity of off-site roadways.

**Signage** – Ongoing coordination is needed with the appropriate agencies on directional signage for guest vehicles.

## **Housing**

**Housing Assistance Programs** – Ongoing coordination is needed with housing assistance programs in other jurisdictions, primarily Orange, Osceola, Polk, and Lake Counties.

**Land Availability** – Ongoing coordination is needed with Orange, Osceola, and Lake Counties to address the availability of land for affordable housing.

**Unmet Needs** – If an unmet need is determined to exist for affordable housing for people employed with the District, coordination is needed with Orange, Osceola, Polk, and Lake Counties to address the problem.

## **Infrastructure**

**General** – Ongoing coordination is needed with Orange County and Osceola County on level of service standards for infrastructure. Coordination is also needed with the City of Kissimmee on level of service standards for the support area at Disney's Animal Kingdom.

**Potable Water** – An interlocal agreement will be required before water will be provided to lands deannexed to or annexed from Orange County or Osceola County. Coordination is needed with the SFWMD and FDEP on standards for the selection of new well sites.

**Sanitary Sewer** – An interlocal agreement will be required before sanitary sewer service will be provided to lands deannexed to or annexed from Orange County or Osceola County. Coordination is needed with potentially impacted sanitary sewer districts in Orange and Osceola counties with respect to wastewater system planning.

**Drainage** – Ongoing coordination is needed with all local governments and development districts in the Reedy Creek Basin with respect to preparation, monitoring, and amendments to drainage plans.



**Groundwater Recharge** – Ongoing coordination is needed with the U.S. Geological Survey, Soil Conservation Service, and SFWMD to periodically update the map of "Prime Recharge Areas" within the District.

### **Conservation**

**Flora and Fauna Protection** – Ongoing coordination is needed with Orange and Osceola counties and other state and federal agencies to coordinate programs to protect flora and fauna.

**Air Quality** – Ongoing coordination is needed with the FDEP in the event that air quality monitoring stations are established within the District.

**Well Protection** – Ongoing coordination is needed with the SFWMD and adjacent jurisdictions with respect to modifying, as necessary, cones of influence around the District's water wells.

### **Recreation and Open Space**

No specific intergovernmental coordination problems or needs were identified in this element.

### **Intergovernmental Coordination**

**Dispute Resolution** – The East Central Florida Regional Planning Council should be asked for assistance in resolving intractable interjurisdictional disputes in the event that such disputes should arise.

### **Capital Improvements**

**Road Improvements** – Ongoing coordination is needed with FDOT and other local governments in planning and financing any needed improvements serving the District.

**Deannexed Areas** – Interlocal agreements addressing construction of capital improvements in areas deannexed from the District will be required with the receiving county.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay  
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## **COMPREHENSIVE PLAN**

### **CAPITAL IMPROVEMENTS ELEMENT**

#### **Part A: Policies**

# INTRODUCTION

The Capital Improvements Element addresses the financial feasibility of providing the public facilities necessary to meet the level of service standards for the development as described in the Future Land Use Element of this Plan. The element includes two components: the Policies and the Supporting Data and Analysis. The Policies part includes the goals, objectives, and policies formally adopted by the RCID. The Supporting Data and Analysis part provides background data on current conditions and supporting data for a discussion of issues and future conditions.

## GOALS, OBJECTIVES, AND POLICIES

### GOAL

***It shall be the goal of the Reedy Creek Improvement District to provide adequate public facilities to existing and planned development areas in a manner that is concurrent with the impacts of such development and efficient and consistent with available financial resources.***

### Objective 1

*To develop a schedule for capital improvements that accommodates planned and projected growth, corrects deficiencies in existing public facilities, and replaces obsolete or worn-out facilities.*

Policy 1.1: The District shall continue to prepare, as part of the annual budgeting process for the government funds and the Proprietary Funds, an annual construction budget. Facilities shall be itemized as capital outlays in the General Fund and the Capital Projects Fund, or as capital expenditures in the Utility Enterprise Fund. The list of improvements shall be consistent with the facility needs identified in the Transportation Element of this Comprehensive Plan (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016).

Policy 1.2: The District shall continue to maintain a Capital Improvements Committee for the purpose of evaluating, ranking, and recommending in order of priority all projects for inclusion in the Capital Improvements Program (CIP) and the Capital Improvements Element (CIE).

- (1) For purposes of the utility-related portion of the budget, the Committee shall be composed of the:
  - (a) District Administrator;
  - (b) Director of Finance and Planning;
  - (c) Director of Administration and Services;
  - (d) Director of Activities of RCES; and
  - (e) Manager of Planning and Engineering of RCES.

- (2) For purposes of the non-utility related portion of the budget, the Committee shall be composed of the:
  - (a) District Administrator;
  - (b) Director of Finance and Planning; and
  - (c) Director of Administration and Services.

Policy 1.3: The members of the Capital Improvements Committee shall continue to meet annually to discuss the need for capital improvements and the location of these projects based on pending developments during the upcoming five-year period.

Policy 1.4: The Administrative departments (including Fire, Water Control and Roadway Maintenance) and the Utility departments (including Potable Water, Wastewater, Reclaimed Water, Solid Waste, Electric, Natural Gas, Hot Water, and Chilled Water Departments) of the RCID shall annually continue to submit a one-year list of capital projects and a five-year projection of capital project needs to the District Comptroller. The five-year projection shall continue to be itemized by year. The list shall identify the location, function, and approximate cost of the project, and the suggested revenue source.

Policy 1.5: The annual submittals in Policy 1.4 shall continue to be used to prepare an annual update of the CIP and CIE. Both the CIP and the CIE shall contain five-year schedules of improvements that prioritize and identify a funding source for each listed improvement.

Policy 1.6: The cost estimates for capital improvements in excess of \$25,000 and having a service life of five years or greater may include land, structures, design and permitting fees, and initial furnishings.

Policy 1.7: Capital improvements costing less than \$25,000 or having a service life shorter than five years shall be identified in the annual operating budget for each service category.

Policy 1.8: All capital improvements shall continue to be developed through an assessment of existing capacity, existing demand, and projected demand over the next five-year period for each of the services listed above.

Policy 1.9: A program for replacement and renewal of existing deteriorating or obsolete capital facilities shall be included as part of the annual budgeting process. The criteria for selecting projects are given in Policy 1.11. Priority shall be given to those projects that protect public health and safety.

Policy 1.10: The District shall continue each year to deposit five percent of the annual gross revenues (less expenses for fuel and purchased power) of the Utility Enterprise Fund in a Renewal and Replacement Fund for the replacement of worn-out or obsolete public facilities.

Policy 1.11: Existing public facilities shall continue to be inspected on an ongoing basis to determine the need for their renewal or replacement. The renewal and replacement program shall be based on the following criteria:

- (1) **Age of the Facility.** Public buildings and improvements and the utility distribution and collection system shall generally be considered due for replacement and

renewal when they are between 35 and 50 years old; other property and equipment shall generally be considered due for renewal and replacement when they are between 5 and 30 years old. All facilities shall be replaced or substantially rehabilitated at least once during these time horizons.

- (2) **Level of Service.** All public facilities shall be renewed or replaced as needed to maintain the level of service standards adopted in this Plan.
- (3) **Safety.** All public facilities shall be renewed or replaced to correct any problems that would jeopardize the safety of employees within, or visitors to, the District.
- (4) **Operational Capability.** All public facilities shall be renewed or replaced to correct functional problems that interfere with operational capability.
- (5) **Technological Obsolescence.** As funding permits, public facilities and improvements within the District may be replaced before the end of their usable life if facilities that permit more efficient, cost-effective, and environmentally sound service provision are developed.

Policy 1.12: Future capital improvements shall be located and scheduled in accordance with the Future Land Use Map in a manner consistent with the goals, objectives, and policies contained in all other elements of this Plan.

Policy 1.13: The RCID shall include in the annual update of its financially feasible Five-Year Schedule of Capital Improvements projects listed in the Ten-Year Water Supply Facilities Work Plan as necessary to achieve and/or maintain the level of service standards adopted in this Plan.

Policy 1.14 The following financially feasible Capital Improvement Schedules are adopted:

- (1) Table 9-8: Five Year Schedule of Capital Improvements for Roads,
- (2) Table 9-9: Five Year Schedule of Capital Improvements for Potable and Reuse Water,
- (3) Table 9-10: Five Year Schedule of Capital Improvements for Sanitary Sewer,
- (4) Table 9-11: Five Year Schedule of Capital Improvements for Solid Waste, and
- (5) Table 9-12: Five Year Schedule of Capital Improvements for Stormwater Management.

## **Objective 2**

*To coordinate land use planning and capital improvement programming so that no new development is permitted that would result in a reduction in the levels of service adopted in this Comprehensive Plan.*

Policy 2.1: Capital improvements shall be prioritized as follows (also see Policy 4.5):

- (1) First priority shall be given to projects that correct deficiencies, should they arise in the future; eliminate deficiencies in the levels of service; fulfill a legal commitment to provide facilities; and maximize the efficient use of existing facilities.

- (2) Second priority shall be given to projects for which development orders have already been issued, but have not yet been built.
- (3) Third priority shall be given to projects that deliver the adopted levels of service to areas planned for development during the next five years, but for which no development orders have been issued.
- (4) Fourth priority shall be given to projects that deliver the adopted levels of service to areas planned for development beyond five years or increase capacity to a standard higher than the adopted level of service.

Policy 2.2: The adequacy of public facilities shall be measured for the required public facility types using the following level of service standards:

- (1) The level of service standards for water shall be as set forth in Policy 1.1 of the Potable Water Subelement of the Infrastructure Element.
- (3) The level of service standards for sanitary sewer shall be as set forth in Policy 5.1 of the Sanitary Sewer Subelement of the Infrastructure Element.
- (4) The level of service standards for solid waste shall be as set forth in Policy 8.1 of the Solid Waste Subelement of the Infrastructure Element.
- (5) The level of service standards for drainage shall be as set forth in Policy 13.1 of the Stormwater Management Subelement of the Infrastructure Element.

(Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016)

Policy 2.3 The adequacy of public facilities shall be measured for the public facility types not subject to concurrency on a statewide basis using the following level of service standards:

- (1) The level of service standards for roads shall be as set forth in Policy 1.1 of the Transportation Element. A constrained facility designation shall be provided for CR 535 from Hotel Plaza Boulevard to I-4 and for Hotel Plaza Boulevard, as set forth in Policy 1.2 of the Transportation Element.
- (2) The level of service standards for parks and recreation shall be as set forth in Policy 3.4 and Policy 3.5 of the Recreation and Open Space Element.

(Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016)

Policy 2.4: Facilities that provide a higher level of service than that specified in this Plan may be permitted if the facility is consistent with the policies of the other plan elements and if the facility does not make financially infeasible the construction of other facilities that are required to meet the adopted level of service.

Policy 2.5: Capital improvements shall not result in a service capacity that exceeds the growth maximums set forth in Table 2-6 of the Future Land Use Element unless the improvements

will result in a long-term cost savings or if it would be economically infeasible to limit the expansion to the amount implied by the growth maximums. In such cases, a monitoring program shall be established to ensure that the quantity of the service provided does not exceed the growth cap prior to the 2027 or 2032 horizon years.

(Amended by Ordinance/Resolution No. 605 adopted 05/25/2022 and Ordinance Nos. 128 and 125 adopted 05/24/2022)

- Policy 2.6: All permits for development shall be conditioned on the availability of public facilities and services, including adequate potable water, sanitary sewer, solid waste collection and disposal capacity, and drainage capacity, necessary to meet the adopted level of service standards in the RCID. Such facilities and services must be scheduled to be in place no later than the date on which the District anticipates issuing a certificate of occupancy. (Amended by Ordinance/Resolution No. 580 adopted 10/26/2016 and Ordinance Nos. 133 and 130 adopted 11/9/2016)
- Policy 2.7: Where completion of a proposed development would exceed the adopted levels of service, the District shall permit the development to be phased concurrent with the phasing of the public facility improvements needed to mitigate the development's impact.
- Policy 2.8: No building permit shall be issued unless the level of service standards for the resulting development will achieve the measurements in Policy 2.2. The District shall determine whether there is or will be sufficient capacity to attain these standards prior to the issuance of development orders.
- Policy 2.9: The availability of those capital improvements not subject to the concurrency provisions of this Comprehensive Plan shall not apply to the issuance of development orders.
- Policy 2.10: All future amendments to the Comprehensive Plan shall be evaluated for their potential impacts on levels of service, the need for capital improvements, and the fiscal capacity of the District.
- Policy 2.11: Pursuant to Florida Statutes Section 163.3187, the schedule of capital improvements may be amended two times during the calendar year, as allowed for in emergencies, and certain small-scale development activities.
- Policy 2.12: Pursuant to Florida Statutes Section 163.3177, the schedule of capital improvements also may be adjusted by ordinance rather than through an amendment for corrections, updates, and modifications concerning costs, revenue sources, or public dedication of privately owned facilities that are consistent with this Plan.
- Policy 2.13: The District shall maintain and enforce a concurrency management system that ensures that issuance of a development order or permit is conditioned upon the availability of public facilities and services necessary to serve new development. The District shall use the level of service standards as set forth in Policy 2.2 in this management system, adopt a financially feasible plan that demonstrates these standards will be met, adopt a system of monitoring and ensuring adherence to these standards and the availability of public facility capacity, implement a system of applying these standards to development applications, and adopt provisions in the Land Development Regulations that ensure the concurrency management system is effectively implemented.

- Policy 2.13: The District's concurrency management system shall ensure that capital improvements that maintain the adopted levels of service shall be constructed to serve all developments approved prior to the adoption of this Plan, including projects under construction and projects that are approved but not yet built. Approval of new projects will not be permitted until capital improvements serving previously approved projects are financially committed, or until applications for such projects are withdrawn or expire.
- Policy 2.14 The Five Year Schedule of Capital Improvements for Roads, Potable and Reuse Water, Sanitary Sewer, Solid Waste, and Drainage, ~~and Parks and Recreation~~ for 2022-2027 are adopted as contained in the Supporting Data and Analysis Section of the CIE.  
(Amended by Ordinance/Resolution No. 605 adopted 05/25/2022 and Ordinance Nos. 128 and 125 adopted 05/24/2022)

### **Objective 3**

*To ensure that future development pays not less than 50 percent of the cost of the capital improvements, either by directly financing and constructing these improvements, by paying ad valorem taxes or utility revenues sufficient to retire bonds issued by the RCID to construct these improvements, or by using other methods, such as payment of impact fees.*

- Policy 3.1: Current measures for capital cost recovery shall be continued. Future development shall bear a pro rata share of the costs required to facilitate service provision to that development and maintain the adopted levels of service, as provided in Policies 3.5 and 3.6. Consideration will be given for upfront contributions and the effect of ad valorem tax and other revenue benefits to the District resulting from new development.
- Policy 3.2: Rate fees for all services provided by the District shall be reviewed and adjusted as part of the annual operating budget update.
- Policy 3.3: Utility rates shall be set so that net revenues are sufficient to pay at least 125 percent of annual debt service and that net revenues plus other funds (such as interest earned) are sufficient to pay at least 100 percent of annual debt service.
- Policy 3.4: The District shall continue its current practice of using revenue bonds for the construction of major revenue-producing capital facilities, including water, sewer, and solid waste facilities. Such bonds shall be secured with a pledge of the revenue generated through the sale of the utilities undergoing improvement.
- Policy 3.5: The District shall continue its current practice of using general obligation bonds for the construction of major non-revenue producing capital facilities, including road and drainage facilities. Ad valorem taxes shall be used to cover the principal and interest payments associated with the bonds. The District can also use general obligation bonds for other purposes permitted by its enacting legislation.
- Policy 3.6: In lieu of using ad valorem taxes, the District shall permit the private sector to use other methods to pay for the capital costs of facilities, including private construction of the facilities (to District standards), dedication of land, payment of impact fees, and voluntary contributions for facility construction.



Policy 3.7: In the event that permanent residential areas are created in the District, a method of maintaining common open space areas shall be required as a condition of development approval.

Policy 3.8: The District shall determine if all utility improvements will pay for themselves within five years. If the determination shows that any will not, the District shall require that the applicant make an appropriate contribution toward the cost of such improvement.

#### **Objective 4**

*To manage growth in such a way that the public facility needs generated by planned development and previously approved development do not exceed the District's financial ability to fund the listed capital improvements in accordance with the adopted schedule.*

Policy 4.1: The District Comptroller shall continue to prepare an annual five-year projection of assessed valuation in the District based on past trends, committed developments, and projected future conditions. The amount available for debt service during each year over the five-year period shall be included in this projection.

Policy 4.2: The schedule of capital improvements shall continue to be based on a realistic, financially feasible program of funding from existing revenue sources.

Policy 4.3: Capital costs shall continue to be funded in a manner that does not place a financial burden on the operating budgets for public services.

Policy 4.4: The District shall continue to disapprove the construction of any capital facility unless it is determined that the means are available to pay for the operating and maintenance costs of the facility.

Policy 4.5: In addition to the priorities listed in Policy 2.1, the annual update of capital improvements shall consider the following project selection criteria (not in priority order):

- (1) elimination or avoidance of public health or safety hazards;
- (2) provision of service to existing development or elimination of existing deficiencies;
- (3) impact on the operating budgets of the General Fund and Utility Enterprise Fund;
- (4) locational needs based on growth patterns;
- (5) accommodation of new development;
- (6) impact on debt capacity or availability of capital outlay funds;
- (7) relationship to plans of the Florida Department of Transportation and the South Florida Water Management District;
- (8) relationship to the Comprehensive Plan, particularly the Future Land Use Element;
- (9) provision of a logical extension of existing services; and
- (10) necessity to maximize efficiency of the system or avoid future improvement costs.

- Policy 4.6: If the District projects that it will be unable to generate sufficient revenue in any future year to cover its expected capital costs in any future year, it shall remove, via the plan amendment process, facilities from the CIP and CIE according to the following priorities:
- (1) first to be removed would be projects providing capacity in excess of the adopted levels of service;
  - (2) second to be removed would be projects that reduce operating costs but do not add capacity;
  - (3) third to be removed would be projects not subject to the concurrency provisions of this Plan; and
  - (4) fourth to be removed would be projects subject to the concurrency provisions of this Plan.

## **Objective 5**

*To coordinate the construction of local capital facilities with capital facilities in adjoining jurisdictions.*

Policy 5.1: The District shall continue to work cooperatively with the FDOT and with adjacent local governments in the planning of improvements to I-4, US 192, CR/SR 535, Osceola Parkway, and the Western Beltway.

Policy 5.2: In the event any vacant area is deannexed from the District, an interlocal agreement with the receiving county shall address the construction of capital improvements and provision of public services to the deannexed area.

Policy 5.3: In annually updating its CIP and CIE, the RCID shall evaluate the FDOT five-year plan, the SFWMD facility improvement plan, and any other state or regional plans that may potentially impact the District. Projects proposed by these agencies should be evaluated based on:

- (1) their proximity to the District;
- (2) the degree to which they facilitate or hinder implementation of this Plan;
- (3) the degree to which they commit financial resources that would otherwise be committed to improvements within the District; and
- (4) the degree to which they induce growth in areas outside the District but in close enough proximity to impact RCID facilities.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay  
Lake

**COMPREHENSIVE PLAN**

**CAPITAL IMPROVEMENTS  
ELEMENT**

**Part B:  
Supporting Data and Analysis**

# PURPOSE

The purpose of the Capital Improvements Element is to demonstrate the financial feasibility of the Reedy Creek Improvement District Comprehensive Plan. The element determines the costs of the public facilities identified in the other elements of the plan, analyzes the ability of the District to pay these costs, and prioritizes improvements based on fiscal criteria and the goals, objectives, and policies in the other plan elements. Simply put, the element translates growth into dollars; policies for spending, financing, and generating revenue are included.

The District presently owns and operates electric, water, natural gas, chilled water and hot water utilities, a sanitary sewage collection system, a wastewater treatment system, a reclaimed water system a solid waste collection, recycling, and disposal system, in addition to other authorized functions such as emergency services and ownership and maintenance of roadways and water control systems. Each major category of public facilities in the District will be impacted by future development. To maintain the current levels of service enjoyed by visitors to the District, expansion of these facilities will be required to accommodate growth. A five-year schedule of capital improvements specifying the location, timing, and approximate cost of each project has been developed based on the infrastructure needs identified in each element of the plan. The schedule is evaluated and updated each year as the land use plan, funding sources, and budget conditions change.

Each year, the District incurs three major types of expenses. The first type, operation and maintenance costs, cover the day-to-day expenses of roads, utilities, and other public services. These costs include personnel, equipment and supply purchases, periodic repairs, and regular maintenance. The second type, debt service costs, cover the principal and interest payments on the outstanding bonds issued by the District to finance past capital improvements. The third type, capital costs (or construction costs), cover the expense of adding new facilities or replacing worn-out facilities. Because the facilities in the District are relatively new and well maintained, most capital costs are incurred as a result of new development or redevelopment or for improvements to infrastructure operations, conservation, and utilization.

Capital costs can be further classified into two categories: those that fall under the concurrency provisions of Florida's Growth Management Act, and those that do not. Both types of facilities are included in the annual operating and construction budgets, but only the former type is covered in this element. This category includes roads, water, sanitary sewer, solid waste, drainage, and parks and recreation and schools. Because parks and recreational facilities in the District are privately operated and because the District lacks a significant permanent population, parks and recreation are not included as a concurrency service in this element. The District, the City of Bay Lake, and the City of Lake Buena Vista requested and received an exemption from school concurrency requirements pursuant to a letter from the Department of Community Affairs dated May 16, 2008. The second category includes fire protection, public buildings, electric, natural gas, chilled water, and hot water services. While the annual revenues and expenses for these services are included in the General Fund or Utility Enterprise Fund operating budgets and the capital costs are included in the construction budgets, these costs are considered in this element only to the extent that they impact funds available for the concurrency services. With the exception of fire protection and public administration, the non-concurrency services are paid for through service charges and user fees.

# REVENUE AND FUNDING MECHANISMS

## REVENUE SOURCES

### Financial Structure

The District's finances are organized on the basis of funds and account groups. All of the District's funds can be divided into three categories: governmental, proprietary funds, and fiduciary funds.

Governmental funds include the General Fund, Debt Service Fund, and Capital Projects Fund. The General Fund is the general operating fund of the District. The Debt Service Fund is used for the accumulation of resources for the payment of general long-term debt principal, interest, and related costs. The Capital Projects Fund is used for acquisition or construction of major capital facilities, excluding those that are financed through the Utility Enterprise Fund.

The District maintains only one proprietary fund, the Utility Enterprise Fund, used to account for the District utilities. These utilities include water, sanitary sewer, solid waste, natural gas, electricity, hot water, and chilled water. The Utility Enterprise Fund is financed and operated in a manner similar to a private business. The intent of the governing body is that the cost (expenses including depreciation) of providing goods or services be recovered (or financed) through user charges. This fund also includes an operating budget and a construction fund, which is used to disburse proceeds from bonds.

Fiduciary funds are used to account for resources held for the benefit of parties outside the government and are not available to support the District's own programs.

Account groups include the General Fixed Asset Account Group, used to maintain control and cost information for all fixed assets used in Governmental Fund operations, and the Long-Term Debt Account Group, used to record long-term obligations backed by the full faith and credit of the District, except for long-term debt of the Utility Enterprise Fund. All roads, bridges, curbs and gutters, streets and sidewalks, drainage systems, and lighting systems are recorded as capital outlays in the Statement of Net Assets. These facilities are not depreciated over time as the District has elected to use the "Modified Approach" as defined by GASB Statement No. 34 for infrastructure reporting. On the other hand, water, sewer, and other utility investments recorded as assets in the Utility Enterprise Fund are depreciated on a straight-line basis according to their projected useful lives (5 to 50 years).

As of the fiscal year ending September 30, 2021 (FY 2021), Capital Assets, net of depreciation, totaled \$917,979,553, while the property, plant, and equipment, net of depreciation, in the Utility Fund equaled \$303,838,086.

### Overview of Revenues and Expenditures

District revenue sources for governmental funds (including general, debt service, and capital projects) and the Utility Fund for the fiscal year ending September 30, 2021, (FY 2021) are summarized in Table 9-1.

**Table 9-1: Revenue Sources (Excluding Bond Proceeds) in the RCID – Fiscal Year 2021**

Revenues/Expenditures	Governmental Funds	Percent	Utility Fund (*)	Percent
Ad Valorem Taxes	\$139,410,395	96.7%		
Building Permits and Fees	2,879,924	2.0%		
Emergency Services	9,651	0.0%		
Interest Income	300,566	0.2%	309,074	0.2%
Drainage Fees	927,339	0.6%		
Other	735,662	0.5%		
Utility Sales (**)			154,884,383	99.8%
<b>TOTAL REVENUES</b>	<b>\$144,263,537</b>	<b>100.0%</b>	<b>\$155,193,457</b>	<b>100.0%</b>
General Government Expenses	16,374,521	8.9%		
Public Safety	41,887,010	22.8%		
Physical Environment	9,466,393	5.1%		
Transportation	24,284,239	13.2%		
Capital Outlay	33,197,945	18.1%		
Debt Service – Principal	31,365,000	17.1%		
Debt Service – Interest/Other	27,254,504	14.8%	5,078,237	4.0%
Purchased Power and Fuel			52,402,524	40.8%
Labor Support			27,341,764	21.3%
Operating Costs			12,656,650	9.8%
Taxes			2,424,237	1.9%
Repairs and Maintenance			6,622,843	5.1%
Insurance			1,035,912	0.8%
Depreciation			20,495,185	16.0%
Loss on Assets and Inventory			429,285	0.3%
<b>TOTAL EXPENSES</b>	<b>183,829,412</b>	<b>100.00%</b>	<b>128,486,637</b>	<b>100.00%</b>
<b>NET REVENUES (EXPENSES)</b>	<b>(39,565,875)</b>	<b>(27.4%)</b>	<b>26,706,820</b>	<b>17.2%</b>
Bond Proceeds				
(Transfer Out) / Transfer In	68,006		(734,059)	
Bond Issue Costs			(331,750)	
Capital Contributions			6,601,797	
<b>NET CHANGES IN FUNDS</b>	<b>(39,497,869)</b>		<b>32,242,808</b>	
<b>BEGINNING FUND BALANCE</b>	<b>210,826,317</b>		<b>265,198,414</b>	
<b>ENDING FUND BALANCE</b>	<b>171,328,448</b>		<b>297,441,222</b>	

Notes:

(\*) Utility Fund includes non-concurrency service revenues (electricity, natural gas and chilled water).

(\*\*) Interdepartmental Utility Sales have been excluded.

## Ad Valorem Taxes

Ad Valorem Taxes provided 96.7 percent of the District’s revenue in FY 2021, which is consistent with prior years. The RCID Board of Supervisors has the power to levy and assess an ad valorem (property) tax on all real and tangible property within the District in order to pay the principal and interest on any general obligation bonds of the District, to provide for sinking funds or other funds associated with the bonds, and to defray the costs of projects and activities undertaken by the District. These taxes are in addition to those paid by the landowners in the District to Orange and Osceola counties.

Property taxes are billed and collected each fiscal year, with the millage established each September. State statutes permit the District to levy property taxes at a rate of up to 30 mills of assessed valuation. Ad valorem tax revenue totaled approximately \$148.5 million in FY 2020 and 139.4 million in FY 2021. This is a 9.1 (6.1 percent) million decrease due to a lower millage rate. As shown in Table 9-2, the rate assessed by the District during the fiscal year 2020, was 12.2908 per \$1,000 of assessed valuation and was 11.1429 for FY 2021, a 9.34 percent decrease from FY2020, but an 18.91 percent increase from FY 2010. Millage rates are continuously reviewed and adjusted to meet the need for government operations and capital improvements. Increased millage rates were anticipated for amortization of bonds and operating expenses for the three parking garages added to the Disney Springs resort area and for ongoing roadway improvements.

**Table 9-2: Assessed Valuation (\$ in thousands) and Millage**

Fiscal Year	Assessed Value (\$ in Thousands)	Debt Service Millage	General Operating Millage	Total Millage	(*)Tax Bill Amount (\$in Thousands)	Percent Change in Assessed Value
2010	\$7,197,469	3.6247	6.7180	10.3427	\$74,441	
2011	6,948,863	3.8609	7.0500	10.9109	75,818	-3.45
2012	7,101,269	3.6850	7.7240	11.4090	81,018	2.19
2013	7,297,853	3.4813	7.6000	11.0813	80,870	2.77
2014	7,714,277	4.3008	7.5045	11.8053	91,069	5.71
2015	8,281,651	4.7131	7.8618	12.5749	104,141	7.35
2016	9,328,586	4.9323	7.3388	12.2711	114,472	12.64
2017	9,876,278	4.8993	7.5000	12.3993	122,459	5.87
2018	10,617,333	5.0670	6.9630	12.0300	127,727	7.50
2019	11,699,205	5.4806	6.9190	12.3996	145,065	10.19
2020	12,625,711	4.9677	7.3231	12.2908	155,180	7.92
2021	13,703,812	4.2962	6.8467	11.1429	152,700	8.54

Note: (\*)Tax bill does not equal ad valorem revenue because of adjustments and exemptions made by the county assessor after the taxes are levied and discounts taken by taxpayers.

Millage levied by the Cities of Bay Lake and Lake Buena Vista are used to cover the administrative costs of the two cities. Orange County and Osceola County collect additional ad valorem taxes on property within the District to fund county services. Millage rates are summarized in Table 9-3.

**Table 9-3: Other Ad Valorem Taxes Paid by the Taxpayers in the RCID**

	<b>FY 2018 Millage</b>	<b>FY 2019 Millage</b>	<b>FY 2020 Millage</b>	<b>FY 2021 Millage</b>	<b>Purpose</b>
<b>City of Bay Lake</b>	1.9165	1.8384	1.7256	1.6237	Administration
<b>City of Lake Buena Vista</b>	1.728	1.7018	1.6690	1.5615	Administration
<b>Orange Count</b>					
Commission	4.4347	4.4347	4.4347	4.4347	County Services/Debts
Schools	7.4700	7.1090	7.1090	6.7370	Education
SFWMD	0.2936	0.2795	0.2675	0.2572	Flood Control
Library	0.3748	0.3748	0.3748	0.3748	Library
<b>Total</b>	<b>12.5895</b>	<b>12.198</b>	<b>12.186</b>	<b>11.8037</b>	
<b>Osceola County</b>					
Commission	6.8858	6.8858	6.8635	6.8626	County Services/Debts
Schools	6.2400	6.2400	6.0260	5.8970	Education
SFWMD	0.2936	0.2795	0.2675	0.2572	Flood Control
Library	0.3000	0.3000	0.3000	0.3000	Library
<b>Total</b>	<b>13.7194</b>	<b>13.7053</b>	<b>13.4570</b>	<b>13.3168</b>	

Non Ad Valorem revenues were directly affected by the shutdown and the operation of resorts, theme parks, and entertainment venues at reduced capacities.

### **Building Permits and Fees**

The District charges a variety of fees for construction of improvements and installation of temporary structures. These fees are based on the expected costs of providing the services relating to the permit, such as building, electrical, or plumbing inspections. Fees totaled 3,812,501 in FY 2020 representing 2.4 percent of the total revenue of the three governmental funds; this was a 33.8 percent decrease from FY 2019's \$5,671,586 due to a suspension of construction projects within the District during the COVID 19 pandemic. The decrease in revenue from building permits and fees continued into FY 2021 with a 24.5 percent decline to \$2,879,924.

### **Drainage Fees**

Increased effort to collect and increased construction activity adjacent to the District resulted in a 220 percent increase in drainage fee revenue (\$927,339) collected in FY 2021 compared FY 2020 when drainage fee revenue totaled \$290,024. Drainage Fees are collected for development projects located outside of the District that discharge stormwater into the District's system of canals. These fees are unplanned and used only for major repairs and maintenance to the canal system.



## **Interest and Investment Income**

Interest and investment income were also directly affected by economic conditions due to the pandemic and the lowering of interest rates by the Federal Reserve. During FY 2020, the three governmental funds had a net positive balance of \$210,826,317 at year's end. Funds invested by the District earned \$2,302,550 (including general fund interest of \$698,534, debt service fund interest of \$223,951, and capital projects fund interest of \$1,380,065) during FY 2020. In FY 2021 the District earned only \$300,566 in interest and investment income.

## **Emergency Services**

The District collects fire service fees for properties receiving fire protection services within its boundaries. These fees alone are not sufficient to cover the department's expenditures; however, they do provide a source of revenue to the General Fund. Emergency service fees were \$417,299 in FY 2020, but only \$9,651 in FY 2021

## **Other Fees**

In FY 2021 the District received other miscellaneous revenue totaling \$735,662, a 9 percent increase over FY 2020's \$687,857.

## **Maintenance Tax**

In addition to ad valorem taxes, the Board of Supervisors has the authority to levy a special ad valorem maintenance tax at a rate not to exceed ten mills for the purpose of defraying maintenance, financing, administrative, and operational costs. The District does not currently levy such a tax.

## **Special Assessments**

The District has the authority to levy special assessments on properties that benefit from the construction or reconstruction of assessable improvements. These special assessments are used to retire the bonds issued to finance the improvements. At the present time, no special assessments are being levied in the District.

## **Utility Sales and Connection Fees**

The District has the power to set rates and collect fees, rents, tolls, fares, or other charges for the facilities and services it furnishes including the authority to recover the cost of making connections to any District facility or system through connection fees. The rates must be uniform for users of the same class and may be computed based on the amount of service furnished, the number of persons occupying the premises, or any other factor affecting the use of the facilities. The rates, together with other funding sources, must sufficiently cover all operation and maintenance costs, debt service, and authorized reserve funds. Utility sales (including connection fees) were the source of 99.8 percent of the revenue to the Utility Fund during FY 2021 and totaled \$154,884,383 (excluding interdepartmental sales); while this is a 10.8 percent increase from FY 2020's \$139,779,7187, it still reflects the effects of the resort, theme park, and RD&E shutdowns within the District during the COVID 19 pandemic. Utility rates were increased to offset a portion of the decrease in utility demand.

The District has maintained rates and charges that, together with investment earnings, have produced sufficient revenues to pay for all normal operation and maintenance expenses, interest on outstanding bonds, deposits to the renewal and replacement fund and the emergency repair fund, and needed capital improvements. During the fiscal year ending September 30, 2021, utility revenues exceeded operating and non-operating costs by \$26,375,070, a 53.8 percent increase from FY 2020's \$5,563,243.

### **Utility Tax**

The District has the power to impose, levy, and collect a utility tax on each purchase of electricity, metered or bottled gas, water service, telephone service, or telegraph service. At the present time, no utility tax has been levied.

## **DEBT FINANCING SOURCES**

### **General Obligation Bonds**

The District has the authority to levy general obligation bonds for capital improvements so long as the aggregate principal amount of bonds outstanding at any one time does not exceed 50 percent of the assessed valuation of taxable property within the District and the maximum bond debt service requirement of the proposed and then outstanding bonds does not exceed 85 percent of the maximum annual collection from Ad Valorem Taxes calculated for the current year. The total assessed valuation of taxable property within the District in Orange County was \$11,822,289,506 for FY 2020 and \$12,922,628,065 for FY 2021; the taxable property in Orange County consists of a substantial percentage of the developed property within the District. In Osceola County the taxable property consists primarily of land set aside for conservation areas, water storage areas, agricultural uses, and a small percentage of developed property; the total assessed valuation of taxable property within the District in Osceola County was \$803,421,136 for FY 2020 and \$781,183,662 for FY 2021. The District levies ad valorem taxes based on assessed valuations that are certified to the District by the property appraisers of Orange and Osceola Counties. The outstanding principal on ad valorem bonds at FYE 2021 was \$766,467,348 or 5.9 percent of the District's 2021 assessed valuation. Ad valorem bonds must be approved by an election in accordance with the constitution of the State of Florida and must provide benefits to all landowners.

General obligation bonds are retired through ad valorem tax collections. The millage rate may be raised to cover the cost of debt service (principal and interest) associated with the bonds. The District's policy has been to fund small-scale capital improvements with internally generated revenues and to borrow money only for major road and utility improvements. By state law, the District cannot finance operational costs with bond monies.

In September 2013, the District issued \$344,960,000 Ad Valorem Tax Bonds (2013A) at interest rates of 4.5% to 5.25%, interest only until June 2020. The proceeds were used to finance the costs to design, construct, equip, and improve roadways and parking facilities within and outside the District.

In September 2013, the District issued \$40,950,000 Ad Valorem Tax Refunding Bonds (2013B) at interest rates of 4.0% to 5.0%. The proceeds were used for the current refunding of the 2005A and 2005B Ad Valorem Tax Bonds maturing on and after June 1, 2015.

In April 2015, the District issued \$50,925,000 Ad Valorem Tax Refunding Bonds (2015A) at interest rates of 2.0% to 5.0%. The proceeds were used for the advance refunding of the 2004A and 2004B Ad Valorem Tax Bonds maturing on and after June 1, 2015

In July 2016, the District issued \$165,000,000 Ad Valorem Tax Bonds (2016A) at interest rates of 4.0% to 5.0%, interest only until June 2019. The proceeds are being used to finance the costs to design, construct, equip, and improve roadways and other facilities within and outside the District.

In October 2017, the District issued \$199,375,000 Ad Valorem Tax Bonds (2017A) at interest rates of 3.0% to 5.0%, interest only until June 2019. The proceeds are being used to finance additional transportation projects and were also used to retire the District's 2017 Bond Anticipation Note.

In February 2020, the District issued \$338,025,000 Ad Valorem Tax Refunding Bonds (2020A) at interest rates of 1.463% to 2.547%. The proceeds are to be used to refund the Refunded Series 2013 Bonds (listed above) and to pay the costs of issuance of the Series 2020A Bonds. A 12 percent NPV savings is anticipated from this transaction. Any amounts remaining after redemption of the Refunded Series 2013 Bonds will be distributed to the District and made available for any lawful purpose of the District.

The District anticipates financing future improvements to its roadways and other facilities with ad valorem tax bonds. During FY 2021, the District paid \$58,524,773 on debt service, including \$31,365,000 in principal payments and \$27,254,504 in interest payments. Table 9-4 indicates the debt service schedule for the outstanding bonds.

**Table 9-4: Debt Service (Principal and Interest) on General Obligation Bonds Outstanding**

<b>FYE 9/30</b>	<b>Series 2013A</b>	<b>Series 2013B</b>	<b>Series 2015A</b>	<b>Series 2016A</b>	<b>Series 2017A</b>	<b>Series 2020A</b>	<b>Total Debt Service</b>
2022	13,682,000	4,821,100	2,138,000	10,209,000	15,412,950	12,251,110	58,514,160
2023	13,681,500	4,819,500	2,136,000	10,213,500	15,413,450	12,250,302	58,513,752
2024			2,130,500	10,211,000	15,411,450	30,756,724	58,509,674
2025			7,586,250	9,826,500	15,411,200	25,692,346	58,516,296
2026				17,408,750	15,411,700	25,692,340	58,512,790
2027				17,410,000	15,411,950	25,692,510	58,514,460
2528				17,405,000	15,410,950	25,696,705	58,512,655
2029				17,412,750	15,407,700	25,692,935	58,513,385
2030				17,407,550	15,411,200	25,695,851	58,514,601
2031				17,407,050	15,409,950	25,699,148	58,516,148
2032				17,410,050	15,411,350	25,696,433	58,517,833
2033				17,409,800	15,410,350	25,701,198	58,521,348
2034				17,409,800	15,414,100	25,697,491	58,521,391
2035				17,406,600	15,414,650	25,699,417	58,520,667
2036				17,409,600	15,412,250	25,700,678	58,522,528
2037					32,817,750	25,703,295	58,521,045
2038						25,698,160	25,698,160
<b>TOTAL</b>	<b>\$27,363,500</b>	<b>\$9,640,600</b>	<b>\$13,990,750</b>	<b>\$231,956,950</b>	<b>\$263,992,950</b>	<b>\$415,016,643</b>	<b>\$961,961,393</b>
<b>Deferred Discount/Premium</b>							<b>47,372,348</b>
							<b>\$1,009,333,741</b>

## Revenue Bonds & Direct Borrowings

The District has the power to issue revenue bonds from time to time if the net revenues (revenues of the system less operating expenses excluding depreciation and lease payments to WDWC) for twelve consecutive prior months are equal to 125 percent of the maximum annual debt service of the proposed and then outstanding bonds. The bonds may be secured by or may be payable from the gross or net pledge of the revenues to be derived from any project or combination of projects, from the rates, fees, tolls, fares or other charges to be collected from the users of the project or projects, from any revenue-producing activity of the District, or from any other source or pledged security. Revenue bonds payable from the proceeds of a utility service tax may also be issued. Industrial revenue bonds or private activity bonds may be issued by the District to assist the private sector in the completion of new facilities. The FYE 2021 outstanding principal balance of utility revenue bonds was \$84,377,453 and of direct borrowings was \$126,371,000.

All of the revenue bonds issued in the RCID have been used to finance expansion of the utility system and have been backed by pledged revenues generated by the system.

In July 2013, the District issued \$54,915,000 Utilities Revenue Refunding Bonds (2013-1) at interest rates of 2.5% to 5.0%. The proceeds were used to refund the 2003-1 and 2005-1 Utilities Revenue Bonds.

In March 2015, the District issued \$30,080,000 Utilities Revenue Bonds (2015-1) at an interest rate of 1.83%, interest only until October 2020. The proceeds are being used to pay for construction and acquisition of improvements to the utility systems.

In July 2018, the District issued \$26,230,000 Utilities Revenue Bonds (2018-1) at an interest rate of 5.0%. The proceeds are being used to pay for construction and acquisition of improvements to the utility systems.

In July 2018, the District issued \$19,750,000 Taxable Utilities Revenue Bonds (2018-2) at an average interest rate of 3.44%. The proceeds are being used to pay for improvements to certain existing utility systems

In February 2021, the District issued \$35,095,000 Utilities Revenue Bonds (2021-1) at an interest rate of 1.72%. The proceeds are being used to pay for construction and acquisition of improvements to the utility systems.

In February 2021, the District issued \$55,130,000 Taxable Utilities Revenue Bonds (2021-2) at interest rates of 1.03%-1.58%. The proceeds are being used to pay for improvements to certain existing utility systems.

In February 2021, the District issued \$20,976,000 Taxable Utilities Revenue Refunding Bonds (2021-3) at an interest rate of 1.00%. The proceeds are being used to advance refund the 2011-2 Utility Revenue Bonds.

In July 2021, the District issued \$20,976,000 Utilities Revenue Refunding Bonds (2021-4) at an interest rate of 0.79%. The proceeds are being used to currently refund the 2021-3 Taxable Utility Revenue Refunding Bonds.

The District anticipates financing future improvements to its electrical, water, wastewater, solid waste, chilled water, and hot water systems with utility revenue bonds. During FYE 2021, the District paid \$77,411,758 on debt service, including \$71,376,000 in principal payments and \$6,035,758 in interest payments. Bonds payable totaled \$210,748,453 at the end of FY 2021. Table 9-5 indicates the debt service schedule for the outstanding bonds.

### **Bond Anticipation Notes**

The District has the power to issue bond anticipation notes to borrow money for the purposes for which bonds have been authorized. These notes are payable from the proceeds of the bonds when they are issued, or may be retired from revenues, taxes, or assessments.

**Table 9-5: Debt Service (Principal and Interest) on Utility Revenue Bonds Outstanding**

<b>FYE 9/30</b>	<b>Series 2013-1</b>	<b>Series 2015-1</b>	<b>Series 2018-1</b>	<b>Series 2018-2</b>	<b>Series 2021-1*</b>	<b>Series 2021-2*</b>	<b>Series 2021-4*</b>	<b>Total Debt Service</b>
2021	7,415,000	15,447,611	1,311,500	674,185				24,848,296
2022	7,417,000		1,311,500	5,374,185	150,000	6,625,000	5,182,000	26,059,685
2023	7,419,500		1,311,500	5,370,072	350,000	5,900,000	5,223,000	25,574,072
2024	8,031,750		1,311,500	5,373,615	50,000	5,000,000	5,265,000	25,031,865
2025	8,032,500		1,311,500	5,369,845	1,000,000	4,100,000	5,306,000	25,119,845
2026			2,791,500		4,000,000	15,005,000		21,796,500
2027			2,792,500		7,000,000	9,320,000		19,112,500
2028			2,794,750		3,000,000	9,180,000		14,974,750
2029			2,793,000		2,115,000			4,908,000
2030			2,792,250		2,150,000			4,942,250
2031			2,792,250		2,185,000			4,977,250
2032			2,792,750		2,225,000			5,017,750
2033			2,793,500		2,260,000			5,053,500
2034			2,794,250		2,300,000			5,094,250
2035			2,789,750		2,345,000			5,134,750
2036			2,790,000		3,965,000			6,755,000
2037			2,789,500					2,789,500
2038			2,793,000					24,848,296
<b>TOTAL</b>	<b>\$38,315,750</b>	<b>\$15,447,611</b>	<b>\$42,856,500</b>	<b>\$22,161,902</b>	<b>\$35,095,000</b>	<b>\$55,130,000</b>	<b>\$20,976,000</b>	<b>\$227,189,763</b>
<b>Deferred Discount/Premium</b>								<b>5,297,453</b>
								<b>\$232,487,216</b>

\*Principal only schedule

## **CONVENTIONAL LOCAL GOVERNMENT FUNDS NOT RECEIVED BY THE RCID**

### **State Funds**

Most local governments in the State of Florida receive a substantial portion of their funds in the form of intergovernmental transfers from the state. Revenue sharing dollars, gas tax proceeds, sales tax proceeds, hotel tax proceeds, liquor tax proceeds, pari-mutuel tax proceeds, and a variety of license taxes and grants are typically disbursed by the state to cities and counties in Florida. The District receives no such revenues from the state. While visitors and persons employed within the District pay sales, gas, and hotel taxes to the various commercial operators, the revenues are returned to Orange and Osceola counties rather than to the District itself.

### **Federal Funds**

The District receives no federal grants or federal funds.

## **SCHOOL FACILITIES**

The District, the City of Bay Lake, and the City of Lake Buena Vista requested and received an exemption from school concurrency requirements pursuant to a letter from the Department of Community Affairs dated May 16, 2008. There are four minors living within the District that may now or may in the future attend Orange County public schools. There are currently no students residing within the District attending any Osceola County public school. Taxpayers in the RCID paid taxes to the Orange County and Osceola County school boards at millage rates of 7.1090 and 6.2400 respectively for FY 2020. There are no schools located within the District.

# **ANALYSIS**

## **PURPOSE**

The purpose of this analysis is to determine if future revenues will be sufficient to meet future capital improvement and operating costs. The analysis takes into consideration the outstanding obligations of the District and projects future obligations based on the capital improvements program and anticipated growth. Five basic steps are followed.

- Step 1: A list of capital improvements is presented, including the cost and timing of each improvement. The list is based on committed development for the next two years and projected development patterns for the three years beyond that.
  
- Step 2: Future revenues are projected for each of the next five years. Yearly increases in ad valorem tax revenues are projected based on the additional value of projected new development each year. Incremental increases in utility sales are projected based on the amount of development projected to be added during each of the next five years.



- Step 3: Future non-capital expenses are projected for each of the next five years. Expenses are based on the operating budgets of the District, the cost of serving new development, and the outstanding debt on bonds.
- Step 4: The amount available for new capital projects (or additional debt service) during each of the next five years is calculated. This amount is equal to Step 2 minus Step 3.
- Step 5: The findings of Step 4 are compared with Step 1 to demonstrate the sufficiency of funds for capital improvements.

## **CURRENT RCID PRACTICES**

### **Organization of Funding**

The day-to-day functions of road maintenance, fire protection, planning, building, safety, administration, environmental protection, and flood control are financed through the General Fund. This fund is predominantly derived from ad valorem taxes, building permits and fees, and interest from investments. The day-to-day operations of the water, wastewater, solid waste, electric, natural gas, hot water, and chilled water systems are financed through the Utility Enterprise Fund. This fund is predominantly derived from service charges to the users of these facilities and through connection fees.

Major capital improvements are funded in one of two ways.

- 1) Roads, drainage, street lighting, fire protection, and land acquisition are generally financed through the governmental Capital Projects Fund. The sources of revenue to this fund are usually general obligation (ad valorem tax) bond proceeds or transfers of revenues out of the General Fund.
- 2) Water, sewer, solid waste, electric, natural gas, hot water, and chilled water projects are financed through the Utility Enterprise Fund. Major projects are financed through revenue bonds, the proceeds of which are disbursed through a construction fund.

### **Preparation of Annual Budgets**

**Governmental Funds** – It is the District's policy that an annual budget for the General Fund be established and approved by the Board of Supervisors. The budget itemizes revenues from taxes, permits, interest, and miscellaneous other sources. These revenues totaled \$87,669,646 during FY 2021, which was 2.2 percent below the budgeted amount of \$89,657,135. The budget also includes expenditures for the various District departments and includes labor costs, operating costs, capital outlays, and insurance. These expenditures totaled \$93,807,340 in FY 2021 – 11.15 percent below the budgeted amount of \$105,580,449. Excess revenues over expenditures equaled (\$6,137,694); the deficiency of revenues under expenditures reduced the General Fund balance from \$43,860,156 to \$37,790,468.

**Utility Fund** – Annual budgets must be prepared prior to 30 days before the end of a fiscal year. The budget contains the estimated expenditures for operation and maintenance and the estimated revenues of the system during the upcoming fiscal year. During the fiscal year ending September 30, 2021, total revenues were \$169,561,375, which was 7.7 percent below the budgeted amount of \$183,727,581, and

operating expenses were \$116,205,758 – 16.5 percent lower than budgeted. Net revenues equaled \$12,263,176 after debt service expenses of \$31,535,126 and capital expenditures of \$13,526,533.

### **Private Sector Contributions**

Land Development Regulations provide for the recovery of major capital costs from the parties generating the demand for the facility or service. The Land Development Regulations include the level of service standards for roads, potable water, wastewater, solid waste, drainage, and parks and recreation. As such, they establish basic parameters for capital improvements serving new development areas.

All construction in the District is subject to the permitting requirements of the RCID. These requirements provide for developer contributions for water and sewer connections, solid waste facilities, provisions for drainage, and road improvements. While the District requires connection fees for water and sewer, it does not presently charge impact fees for any public services. In some instances, facilities are built by the private sector and then dedicated to the District upon completion.

### **Use of User Fees to Recover Capital Costs**

The District's policy is that the cost of providing utility services to its landowners be recovered through user fees paid by the beneficiaries of those services. Rates are set to cover not only the cost of providing service, but also the capital costs and debt service charges incurred as facilities are expanded or replaced. Utility rates are reviewed annually to ensure that they sufficiently cover expenses and debt service. These rates are comparable to rates charged by governmental entities outside the District. Under the terms of its revenue bonds, the District is required to maintain utility rates that ensure that net revenues (revenues minus operating expenses but excluding leases) are sufficient to pay at least 110 percent of annual debt service. Rates during the FYE 2009 produced sufficient revenue to meet this requirement.

### **Use of the Capital Improvement Programs to Direct Public Investment**

The Capital Improvement Program is the principal tool for scheduling major infrastructure improvements in the District. Programs are prepared and updated annually to reflect changing development objectives, the condition of facilities and inventory, unit costs, and revenue forecasts. Although programming for all improvements is carefully coordinated, a number of different departments undertake the task.

**Roads** – The District master plans in consultation with its major landowners all roadway improvements to meet future development and maintain the adopted level of service standards. The timing of major road improvements is based on the construction schedule for various projects or changes in traffic patterns. Once the need for a new road or road improvement is identified, a design and construction timeline is prepared.

Additions to the public road network in the District are planned concurrently with development in the District and are coordinated with the Metropolitan Planning Organization and adjoining local governments, where appropriate. Plans are revised as necessary to reflect county, state, and federal road improvement programs and conditions and to reflect changing land use plans in surrounding local jurisdictions.

**Potable Water, Reuse Water and Sanitary Sewer** – The District maintains a master plan for potable water, reuse water, and sewer facilities that corresponds to the Future Land Use Map. The master plan is updated regularly in response to changing development objectives. The timing of potable water, reuse

water, and sewer projects reflects the anticipated rate and location of new development and is driven by the construction schedule of the major landowner. Potable water, reuse water, and sewer projects are planned and timed to ensure concurrency with development. Adequate potable water must be available no later than the date on which the District anticipates issuing a certificate of occupancy.

**Solid Waste** – Historic records on solid waste generation from the major land uses in the District are used as the basis for projecting future solid waste volumes. The District regularly updates its standards for solid wastes generated per room and per visitor. Applying these standards to the projections of development, future volumes of waste are recalculated and plans for new facilities are updated regularly. The projections are incorporated into a long-range facility plan that allows the District to design, locate, and construct new facilities as needed. This plan is augmented as necessary, reflecting changing state and federal requirements for solid waste disposal and resource recovery..

**Stormwater Management** – The Chief Engineer for Reclamation and Water Control for the RCID prepares an annual report on drainage facilities. The report includes recommendations to correct existing deficiencies and to serve anticipated development. Based on the results of the annual water control structure inspection report routine and non-routine maintenance work is planned, budgeted, and then completed the following year.

## **FISCAL IMPLICATIONS OF THE NEEDED CAPITAL PROJECTS**

### **Introduction**

Five Year Schedules of Capital Improvements for roads, potable water and reused water, sanitary sewer, and solid waste for FY 2022 through FY 2026 are presented in Tables 9-8 through 9-12 and located on Figures 9-1 through 9-5. A combined summary is presented in Table 9-6, which shows total capital improvements of about \$527.0 million, including approximately \$454.2 million for roads, \$19.3 million for potable water and reuse water, \$38.8 million for sanitary sewer, \$13.9 million for solid waste, and \$0.8 million for stormwater management. No District maintained public services or facilities subject to concurrency – potable water, sanitary sewer, solid waste, or stormwater management – are deficient; all are currently operating above their adopted level of service standards and have excess capacity. The list of improvements is based on the projected growth and development patterns consistent with the Future Land Use Element and the Future Land Use Map. Improvements have been prioritized and timed based on the criteria contained in the Infrastructure and Transportation Elements.

**Table 9-6: Summary Five Year Schedule of Capital Improvements (in thousands)**

	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	TOTAL
Roads (RCID)	\$32,000	\$19,160	\$32,500	\$58,000	\$144,500	\$168,000	\$454,160
Potable & Reuse Water	708	2,400	1,650	1,800	7,850	4,850	19,258
Sanitary Sewer	2,350	7,000	13,000	6,000	4,500	6,000	38,850
Solid Waste	120	230	2,500	0	1,000	10,100	13,950
Drainage	800	0	0	0	0	0	800
<b>TOTAL RCID</b>	<b>\$35,978</b>	<b>\$28,790</b>	<b>\$49,650</b>	<b>\$65,800</b>	<b>\$157,850</b>	<b>\$188,950</b>	<b>\$527,018</b>
<b>Roads (County/State/Federal)</b>	<b>\$260,026</b>	<b>\$115,594</b>	<b>\$7,395</b>	<b>\$1,050</b>	<b>\$0</b>	<b>\$0</b>	<b>\$384,065</b>

### Roads

Programmed capital improvement projects for roads are identified on Figure 9-1 and listed in Table 9-7. During the last five years, the District has expanded its ownership of a number of roads previously owned by the District's major landowner and has embarked upon an extensive roadway improvement project to meet ongoing growth, future expansion plans, and to address changing regional housing and travel patterns. All projects have been and will be funded by RCID Bond Funds on hand. Construction of these projects will ensure maintenance of the adopted levels of service standard as additional development occurs and as surrounding areas within Orange, Osceola, and Lake Counties expand residential development. All listed projects are consistent with the Future Land Use Map and with the improvement programs of Orange and Osceola counties.

RCID road projects during FY 2022 through FY 2027 are projected to cost approximately \$454,160,000. Cost estimates include design and engineering, road construction, and all road related infrastructure (including stormwater ponds, signals, signage, lighting, landscaping, and irrigation, etc.).

**World Drive North (Phase 2 and 3)** – During Phase 1 (*World Drive Extension*) the District's ownership of World Drive was extended north of Epcot Center Drive to facilitate the design and to construct new ramps and flyovers to separate World Drive traffic from traffic bound for the Magic Kingdom Toll Plaza and to provide direct access for traffic heading south to World Drive from the eastern side of the Magic Kingdom resort area. The project also eliminated a problematic intersection at World Drive and Vista Blvd, thus improving traffic flow and providing additional capacity. World Drive North (Phase 2) will provide direct access for northbound traffic heading to the western side of the Magic Kingdom resort area. This traffic currently has to enter the Magic Kingdom Toll Plaza. The Phase 2 project included a regional stormwater pond, structure, and conveyance system. Start of construction of the roadways, ramps, and bridges begin in FY 2021. World Drive North (Phase 3) is a four lane divided rural roadway extending Phase 2 to Floridian Place and is currently under design, with construction expected during the first quarter of FY 2023. This project primarily serves employees of the District residing in western Orange County

**Intersection Improvements at Buena Vista Drive and Western Way** – This is a T intersection with an overall level of service B during the AM peak-hour but with an overall level of service F during the PM peak-hour as the southbound Buena Vista Drive right turn movement experiences significant queuing due to friction with the northbound left turn. The District has selected an interim design to correct the LOS deficiency of this intersection and will begin and complete construction in FY 2022.

**Western Way Widening and Buena Vista Drive and Western Way Intersection** – The need to widen this roadway to six lanes was foreseen at the time of its design and construction. The sub-structure for the two bridges on Western Way were designed and constructed to accommodate additional decking when the roadway is widened from four to six lanes. The widening can be accommodated within the existing right-of-way. A preliminary concept has been designed for a grade separated intersection at Western Way and Buena Vista Drive to resolve environmental and economic constraints at this location. These improvements, planned for FY 2025-2029 will address capacity issues on Western Way and Buena Vista Drive.

**Realignment of Vista Way to Connect to Buena Vista Drive** – The realignment of Vista Way directly to connect to Buena Vista Drive will bring traffic to an RCID public road rather than through a support services area not intended for guests.

**Buena Vista Drive Intersection 5** – Typhoon Lagoon Water Park, four Surface Lots, and the speed ramp from the Orange Parking Garage exit onto Buena Vista Drive at Intersection 5, which causes traffic to back up at each of the three exits when the water park and most of its retail, dining, and entertainment venues close for the evening. One design solution under consideration would provide for a grade separated free flowing exit from Disney Springs to allow traffic to by-pass Intersection 5.

**Extension of Dedicated Bus Lanes on Buena Vista Drive** – When dedicated bus lanes were added during the Buena Vista Drive/Disney Springs corridor improvements from the Bus Loop at Entrance 2 to the intersection at Bonnet Creek Parkway, consideration was given to eventually extending them the length of Buena Vista Drive to the southwest. This proposed phased project would extend the bus lanes from Bonnet Creek Parkway to World Drive.

Nine segments of District roadways will function below their adopted LOS based on projected 2027 traffic volumes without roadway improvements; however, deficiencies will be addressed for five of the nine by project addressed above and included in the District's Five Year Schedule of Capital Improvements for Roads Table 9-8.

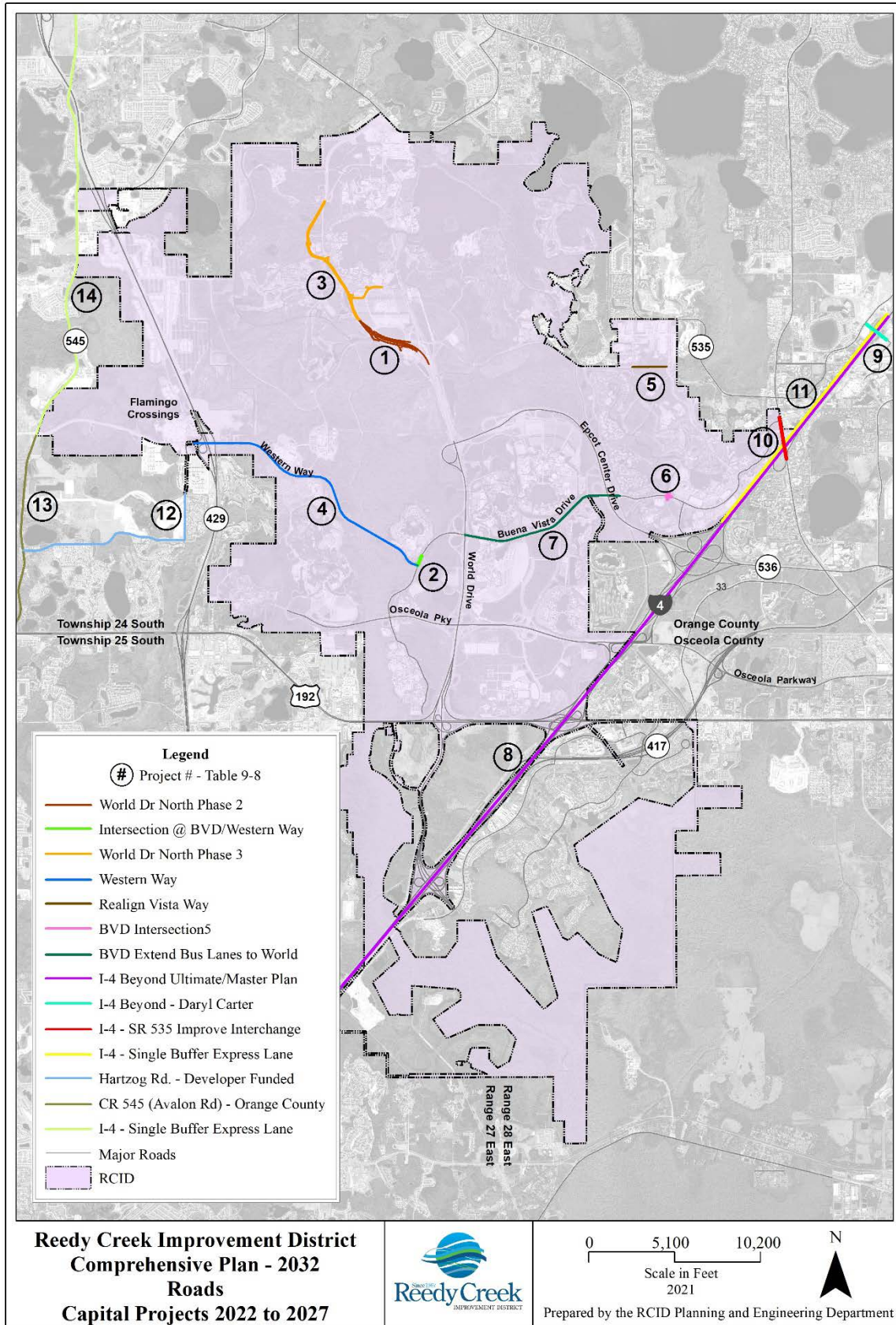
- Western Way from Buena Vista Drive to Bear Island Road – Table 9-8 Project #4
- Western Way from Bear Island Road to SR 429 – Table 9-8 Project #4
- Western Way from Hartzog Road to Flagler Ave – no plans to add capacity
- Buena Vista Drive from Hotel Plaza Blvd to Bus Loop Entrance – no plans to add capacity
- Buena Vista Drive from Bonnet Creek Parkway to Backstage Lane – Table 9-8 Project #7
- Buena Vista Drive from World Drive to Western Way – Table 9-8 Project #4
- Buena Vista Drive from Western Way to Osceola Parkway – Table 9-8 Project #4
- Hotel Plaza Blvd West of CR 535 – Constrained no plans to add capacity
- Flagler Ave from Western Way to Hartzog Road – no plans to add capacity

As outlined in the Transportation Element, the following State maintained roadway segments are currently operating below their adopted LOS standard based on 2018-19 traffic counts:

- Interstate 4 from Osceola Parkway to Epcot Center Drive,
- Interstate 4 from Epcot Center Drive to CR 535,
- US 192 from East RCID Boundary to I-4,
- US 192 from World Drive to Griffin Road, and
- US 192 from Griffin Road to West RCID Boundary.

There are no projects in the Adopted MetroPlan Orlando TIP within the FY 2021/22 through FY 2025/26 planning period that will correct the above deficiencies to State maintained roadways. Funds are programmed in the MetroPlan Orlando TIP for preliminary engineering, right-of-way acquisition, and relocation of railroad utilities for I-4 in Orange and Osceola Counties; for construction of a new interchange, landscaping, and drainage improvements at Daryl Carter Parkway; and for utility relocations for a single buffer-separated westbound managed lane giving motorists on longer-distance I-4 trips a new travel option from Sand Lake Road to west of SR 536.

Figure 9-1: RCID Roadway Capital Projects Location Map



**Table 9-7: Five Year Schedule of Capital Improvements for Roads (in thousands)**

Figure 9-1 Project #	Project Description	Funding Source	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
1	<b>World Drive North Phase 2</b> Construction of approximately 3.2 miles of roadways, ramps, bridges, MSE retaining walls, utility relocations; drainage and the creation of a regional stormwater pond, landscaping and irrigation, etc.	Bond Funds (On Hand)	25,000	1,660			0	0	26,660
2	<b>Intersection Improvements at Buena Vista Drive and Western Way</b> Interim intersection improvements to relieve PM peak delays.	Bond Funds (On Hand)	2,000				0	0	2,000
3	<b>World Drive North Phase 3</b> Construction of a 4 lane divided rural roadway extending WDN Phase 2 to Floridian Place. Project includes utility relocations; drainage, landscaping and irrigation, etc.	Bond Funds (On Hand & New)	5,000	17,500	32,500	35,000	31,500		121,500
4	<b>Western Way and Buena Vista Drive</b> Widening from 4 lane urban and rural divided road to 6 lanes from BVD to East of SR 429 including intersection improvements at Western Way and BVD (flyover). (Total Projected Cost \$250,000,000 / FY 2025-2029)	Bond Funds (New)				20,000	75,000	75,000	170,000
5	<b>Realign Vista Way to Connect to Buena Vista Drive</b> Realign Vista Way where it curves northward toward CR 535 to extend straight across to Buena Vista Drive south of the warehouses. (Total Projected Cost \$34,000,000 / FY2025-2028)	Bond Funds (New)				1,000	8,000	15,000	24,000
6	<b>Buena Vista Drive Intersection 5 (Disney Springs Corridor)</b> Intersection improvements to reduce congestion during nighttime closing.	Bond Funds (New)				2,000	30,000	28,000	60,000
7	<b>Buena Vista Drive Dedicated Bus Lanes</b> Construct additional bus lanes from Bonnet Creek Parkway to World Drive. (Total Projected Cost \$200,000,000 / FY2027-2030)	Bond Funds (New)						50,000	50,000
<b>Total RCID Roads</b>			<b>\$32,000</b>	<b>\$19,160</b>	<b>\$32,500</b>	<b>\$58,000</b>	<b>\$144,500</b>	<b>\$168,000</b>	<b>\$454,160</b>



Figure 9-1 Project #	Project Description	Funding Source	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Total
5	<b>I-4 Beyond the Ultimate</b> From West of SR 528 / Beachline Expy. To West of SR 435 / Kirkman Rd. Add Four Managed Lanes – PE ROW	ACNP DIH	\$25,757	\$11,706					\$37,463
5	<b>I-4 Beyond the Ultimate</b> From East of SR522 / Osceola Pkwy. To West of SR 528 / Beachline Expy. Add 4 Managed Lanes – PE ROW RRU	DIH BNIR ACNP NHPP	197,120	45,000	7,395				249,515
5	<b>I-4 Master Plan</b> From Orange / Osceola Co. Line To Orange / Seminole Co Line – Advance Right-of-Way Acquisition	DIH	79						79
5	<b>I-4 Beyond the Ultimate</b> From West of CR 532 To East of SR 522 / Osceola Pkwy. Add 4 Managed Lanes – PE ROW RRU	DIH ACNP DDR	1,570						1,570
6	<b>I-4</b> New Interchange at Daryl Carter Parkway	RRU CST				106			106
6	<b>I-4</b> Daryl Carter Parkway – Landscaping – CST	DDR DIR				944			944
6	<b>I-4</b> Daryl Carter Parkway – Drainage Improvements – CST	ANCP SA	3,290						3,290
7	<b>I-4</b> From East of SR 535 To West of SR 535 – Improve Interchange – PE CST	ARPA DIH	5,250	58,888					64,138
8	<b>I-4</b> From West of 536 To West of Daryl Carter Pkwy. Single Buffer Express Lane – RRU	GFNP	26,500						26,500
9	<b>Hartzog Rd.</b> Widen to 4 lanes from CR 545 to RCID jurisdiction – CST	Developer Funded							
10	<b>CR 545 (Avalon Rd)</b> Widen to 4 lanes from US 192 to Harzog Rd – PE	CIP	460						460
11	<b>CR 545 (Avalon Rd)</b> Widen to 4 lanes from Hartzog to Water Spring Blvd, from Water Springs Blvd to Schofield Rd, and from Schofield Rd to McKinney Rd – PE ROW CST	Developer Funded							
<b>Total State/Federal/County/Private Funded Roads</b>			<b>\$260,026</b>	<b>\$115,594</b>	<b>\$7,395</b>	<b>\$1,050</b>	<b>\$0</b>	<b>\$0</b>	<b>\$384,065</b>

## Potable and Reuse Water

**Note: In accordance with Section 119.071(3), Florida Statutes, maps of the RCID water supply and distribution system are not provided herein due to the sensitive nature of these facilities and the security thereof.**

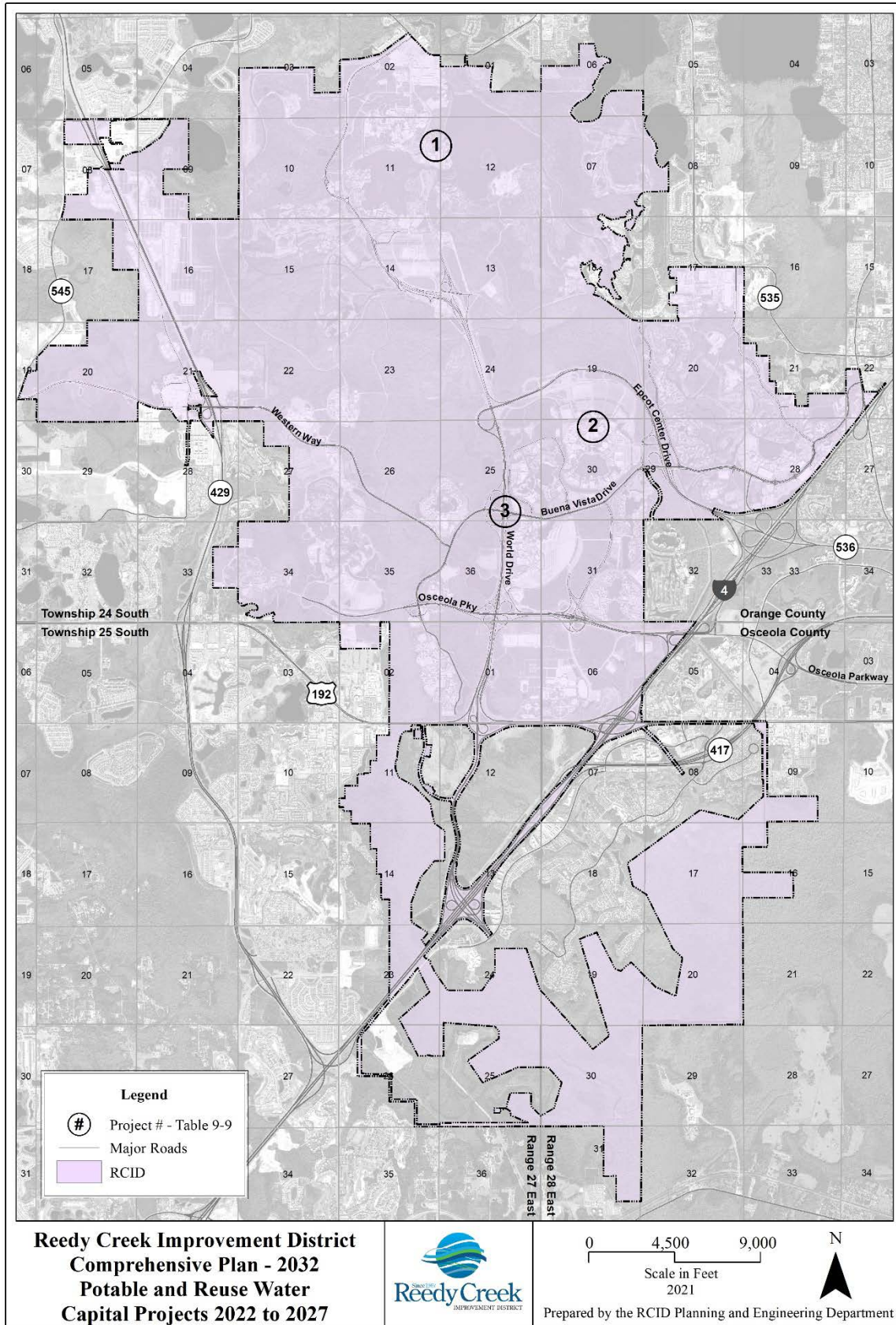
Required capital improvement projects for potable water are located on Figure 9-2 listed in Table 9-8. Construction of these projects will ensure maintenance of the District's adopted level of service standards. All listed projects are consistent with the Future Land Use Map and are intended to accommodate future development and attendance growth. Reuse water projects are included as identified in the Ten-Year Water Supply Facilities Work Plan; these projects are critical to ensuring that an adequate supply of potable water is available to meet the demands of future growth and development. The projects are also consistent with the improvement programs of Orange and Osceola counties, and the South Florida Water Management District.

Projects during FY 2022 through FY 2027 are projected to cost approximately \$19,258,000. Economic conditions affecting demand could change the timing of these capital expenditures.

During FY 2019, the District's average daily demand for potable water was 16.370 million gallons per day. Demand is projected to increase by 6.232 million gallons per day (MGD) to accommodate growth through FY 2032 as presented in the District's 10-Year Water Supply Facilities Work Plan (Work Plan). The District's current water use permit allocation is 22.2 MGD, thus the District is projecting a shortfall of 0.402 MGD. As presented in the District's Work Plan, the shortfall is to be made-up by potable water irrigation conversions to reuse; the conversions are projected to reduce potable water use by 0.887 MGD.

The District's Concurrency Management System for Potable Water shows committed allocations for projects recently completed and opened and currently under construction of 0.372 MGD, which brings the total committed demand for potable water to 16.742 MGD versus a current capacity of 22.2 MGD or a remaining capacity of 5.458 MGD

Figure 9-2: RCID Potable and Reuse Water Capital Projects Location Map



**Table 9-8: Five Year Schedule of Capital Improvements for Potable and Reuse Water (in thousands)**

<b>Figure 9-2 Project #</b>	<b>Project Description</b>	<b>Funding Source</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY2027</b>	<b>Total</b>
Not Shown	Indirect Potable/Reuse Project	Bond Funds Non Taxable		500	1,000	1,000	1,000	1,000	4,500
Not Shown	Well Rehabilitation Program	Bond Funds Non Taxable	300	300	300	330	300	300	1,800
Not Shown	Well #2 Construction	Bond Funds Non Taxable				200	2,500		2,700
1	Contemporary Reclaimed Water Conversions	Bond Funds Non Taxable			350				350
2	Epcot Reuse Water Conversions	Bond Funds Non Taxable	200	1,600			150	3,550	5,500
Not Shown	Golf Course Booster Pump Station Rehab (4 Total)	Bond Funds Non Taxable				100	400		500
3	Reuse Water Extension Along World Drive to Service DHS	Bond Funds Non Taxable	208						208
Not Shown	Remote Reuse Water Storage and Re-pump SRF	Bond Funds Non Taxable				200	3,500		3,700
<b>Total Potable and Reuse Water</b>			<b>\$708</b>	<b>\$2,400</b>	<b>\$1,650</b>	<b>\$1,800</b>	<b>\$7,850</b>	<b>\$4,850</b>	<b>\$19,258</b>

## Sanitary Sewer (Wastewater)

**Note: In accordance with Section 119.071(3), Florida Statutes, maps of the RCID wastewater collection and transmission system are not provided herein due to the sensitive nature of these facilities and the security thereof.**

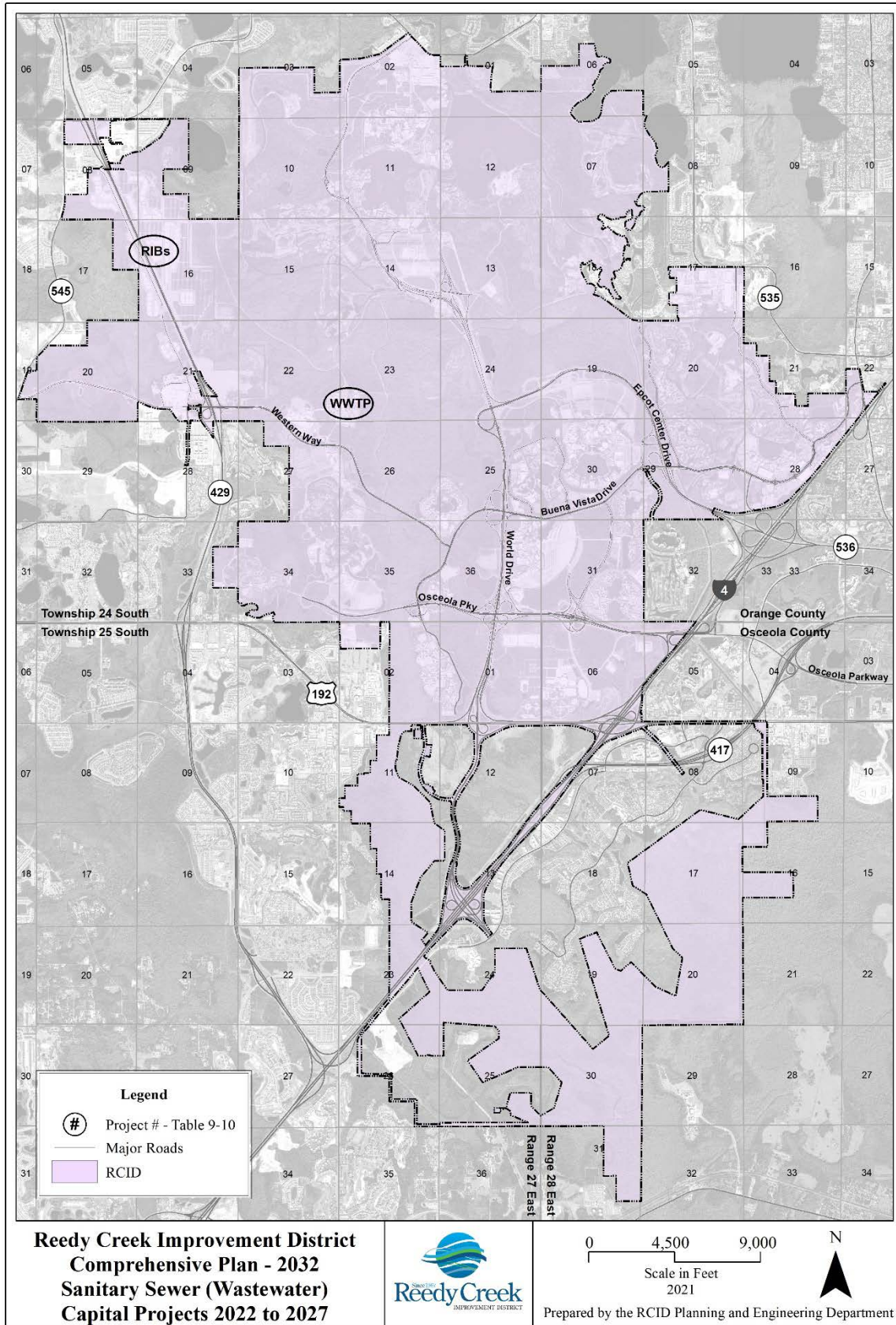
Required capital improvement projects for sanitary sewer (wastewater) are located on Figure 9-3 and listed in Table 9-9. Construction of these projects will ensure maintenance of the District's adopted level of service standards as additional development and attendance growth occurs. All listed projects are consistent with the Future Land Use Map and with the improvement programs of Orange and Osceola counties and the standards of the U.S. Environmental Protection Agency and the Florida Department of Environmental Regulation.

Projects during FY 2022 through FY 2027 are projected to cost approximately \$46,113,000. As shown in Table 9-10; this figure includes projects to maintain capacity and the reliability of the wastewater system.

As with potable water, the 2019 average daily wastewater flow of 14.330 million gallons per day is being used as the basis to project future demand. Demand is projected to increase to 19.190 million gallons per day (MGD) to accommodate growth through FY 2032.

The District's Concurrency Management System for Sanitary Sewer shows committed allocations for projects recently completed and opened and currently under construction of 0.320, which brings the total demand for wastewater treatment to 14.65 MGD versus a current capacity of 20.0 MGD or a remaining capacity of 5.350 MGD.

**Figure 9-3: RCID Sanitary Sewer (Wastewater) Capital Projects Location Map**



**Table 9-9: Five Year Schedule of Capital Improvements for Sanitary Sewer (in thousands)**

<b>Figure 9-3 Project #</b>	<b>Project Description</b>	<b>Funding Source</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Total</b>
Not Shown	Lift Stations Rehabs and Upgrades: #7 & #60 Master Lift Stations, and Duplex Lift Station Program	Bond Funds Non Taxable	600	3,000	5,000	3,000	2,500	4,000	18,100
Not Shown	Rehabilitation of Collection System	Bond Funds Non Taxable	750			2,000	2,000	2,000	6,750
WWTP	WWTP Dewatering Facility / Food Waste Transfer Station	Bond Funds Non Taxable	1,000	4,000	8,000	1,000			14,000
<b>Total Sanitary Sewer</b>			<b>\$2,350</b>	<b>\$7,000</b>	<b>\$13,000</b>	<b>\$6,000</b>	<b>\$4,500</b>	<b>\$6,000</b>	<b>\$38,850</b>

## **Solid Waste**

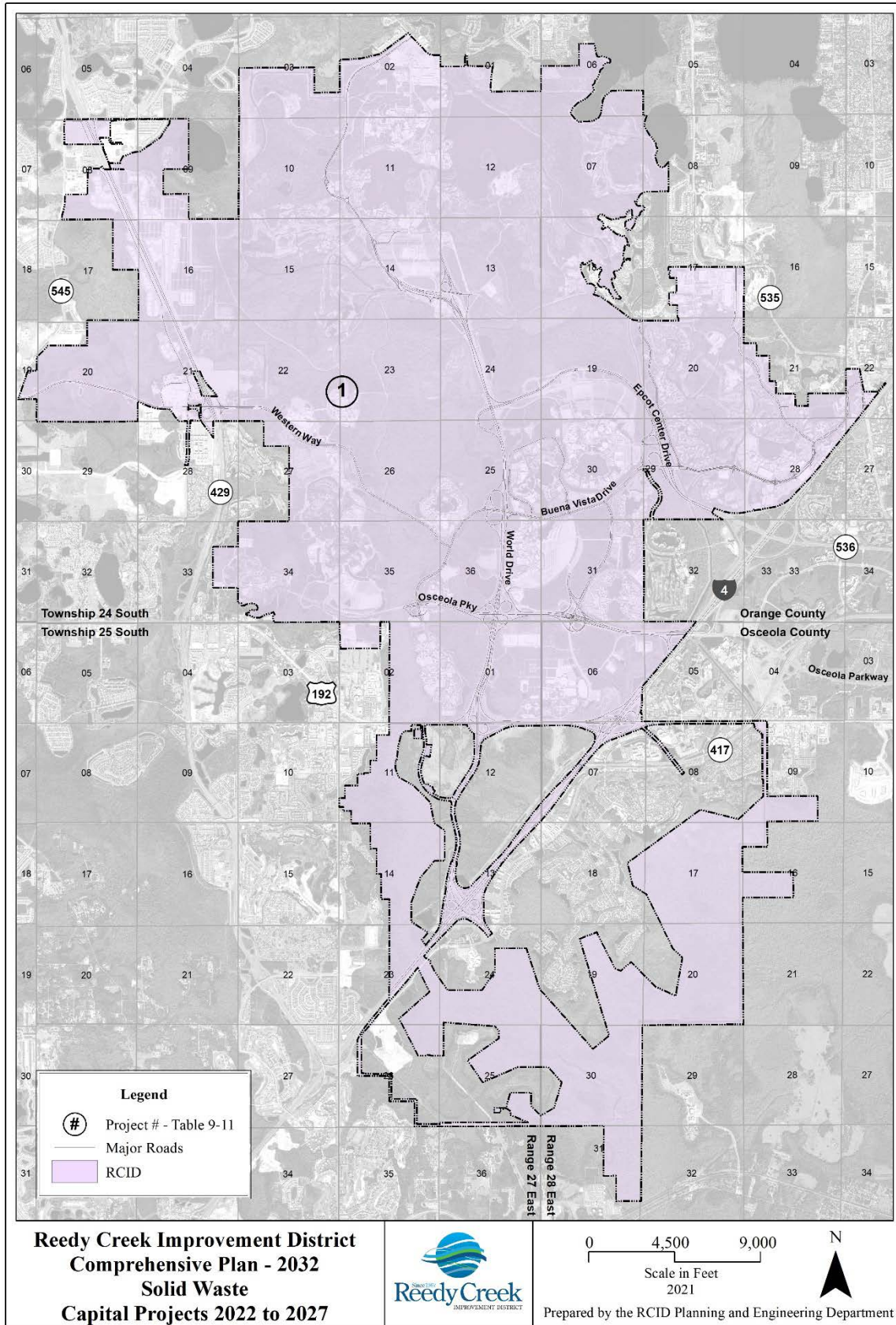
The District's DEP permit provides for operation of the transfer station 24 hours per day, 7 day per week at a capacity of 275 tons per day. The District currently operates about 21 hours per day, 7 days per week at a capacity of about 205 tons per day. Drivers collect, dump, and operate the loading-push pit operation that packs the waste into transfer trailers. A third party contractor then hauls trailers to the Waste Management landfill near Lake Okeechobee, Florida, which has a projected remaining life of at least 75 years.

During FY 2019, the District's handled an average of 203 tons of solid waste per day. Demand is projected to increase to 276 tons per day to accommodate development and attendance growth through FY 2032. This growth will result in the need for greater capacity than the current transfer station is permitted to handle and has been included in Five Year Schedule of Capital improvements for Solid Waste as shown in Table 9-10.

The District's Concurrency Management System for Solid Waste shows committed allocations for projects recently completed and opened and currently under construction of 8 tons per day, which brings the total demand for solid waste processing to 211 tons per day versus a current capacity of 275 tons per day or a remaining capacity of 64 tons per day.



Figure 9-4: RCID Solid Waste Capital Projects Location Map



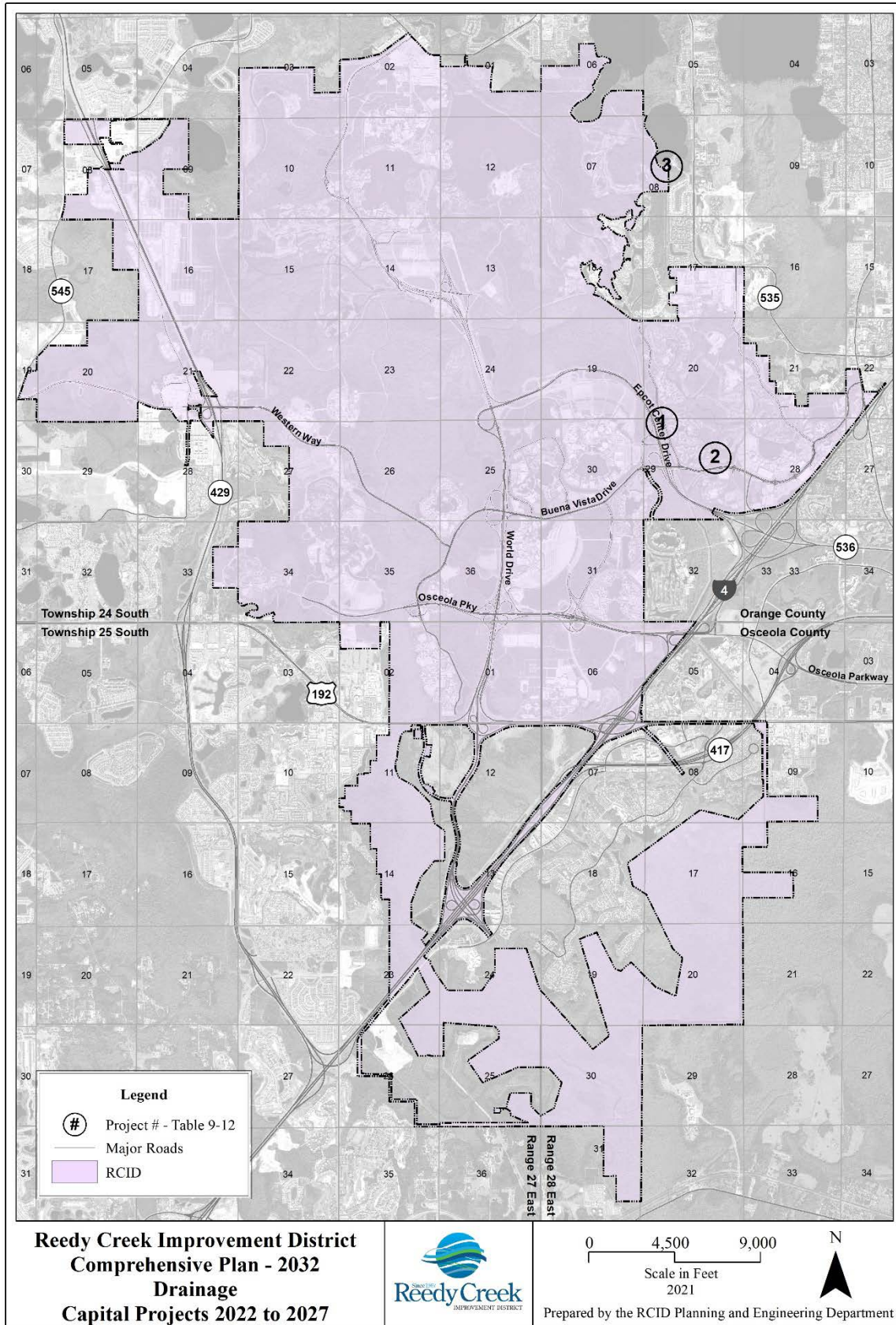
**Table 9-10: Five Year Schedule of Capital Improvements for Solid Waste (in thousands)**

<b>Figure 9-4 Project #</b>	<b>Project Description</b>	<b>Funding Source</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Total</b>
1	Tipping Floor Resurface and Drain System Rehab	Bond Funds Taxable						100	100
1	Transfer Station Expansion	Bond Funds Taxable	120	230	2,500		1,000	10,000	13,850
<b>Total Solid Waste</b>			<b>\$120</b>	<b>\$230</b>	<b>\$2,500</b>	<b>\$0</b>	<b>\$1,000</b>	<b>\$10,100</b>	<b>13,950\$</b>

## **Drainage**

To preserve the operational characteristics of the District's water control system, inspections and routine maintenance are performed throughout the year on the water control structures, the canal channels, and the stormwater ponds. The water control structures (Amil gates and weirs) undergo a full inspection annually at which time both above ground and underwater structure conditions are assessed. The resulting inspection report allows the Planning & Engineering Department to evaluate maintenance needs and then program, budget, and schedule major rehabilitation and non-routine work to ensure the on-going operation of the District's water control system and maintenance of the adopted level of service standard for drainage. Major rehabilitation projects are shown in Table 9-11.

Figure 9-5: RCID Drainage Capital Projects Location Map



**Table 9-11: Five Year Schedule of Capital Improvements for Drainage (in thousands)**

<b>Figure 9-5 Project #</b>	<b>Project Description</b>	<b>Funding Source</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>FY 2026</b>	<b>FY 2027</b>	<b>Total</b>
1	Major Rehabilitation: S-14	Outside Drainage Fees On Hand	\$800	\$0	\$	\$0	\$0	\$0	\$800
<b>TOTAL DRAINAGE</b>			<b>\$800</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>10</b>	<b>\$800</b>

## **Parks and Recreation**

No public parks are planned within District boundaries during the next five years.

## **Impact of New or Improved Public Educational or Public Health Care Systems and Facilities**

No new public education or public health care systems and facilities are proposed for the RCID during the next five fiscal years; thus no impact on infrastructure is anticipated. Advent Health is constructing an Offsite Emergency Department within the District near the Flamingo Crossings/SR 429 area.

## **Impacts of Projects Planned by Other Public Agencies**

Although not currently funded for construction, I-4 Beyond the Ultimate will significantly affect the District once construction begins on Segment 1B which includes an Echelon Interchanges planned for S.R. 535 at Hotel Plaza Blvd. There are no other federal, state, or regional agencies with pending projects that could impact the District other than regional water projects that the District has included in its 10-Year Water Supply Facilities Work Plan. The RCID maintains communication with the South Florida Water Management District, Department of Natural Resources, and Department of Environmental Protection, and is kept apprised of any planned projects that could impact the RCID facilities or future land use plan.

## **ADEQUACY OF FUNDING SOURCES**

### **Introduction**

The assessment of future revenues is based on the following assumptions:

- only historically available revenue sources are relied upon;
- the primary revenue source for the governmental funds is ad valorem taxes;
- the primary revenue source for the proprietary funds is utility sales; and
- Ad Valorem Tax Bonds and Utilities Revenue Bonds provide funding for certain capital projects.

### **Governmental Funds**

**Ad Valorem Taxes** – Table 9-2 shows the historical assessed valuations, millage rates, and tax bills for FY 2010 through FY 2021. From FY 2010 to FY 2021 the assessed valuation increased from \$7,197,469 thousand to \$13,703,812 thousand, an increase of 90.4 percent for the 11-year period. Changes in assessed valuation have been driven by redevelopment and expansion of existing resorts and theme parks. During this time period, Disney's Animal Kingdom, Disney's Hollywood Studios, and Magic Kingdom theme parks redeveloped existing areas within the parks to create Pandora – The World of Avatar, Toy Story Land, Star Wars: Galaxy's Edge, and an expanded Fantasyland along with new individual attractions. New vacation club offerings were added to existing resorts and new hotels were constructed. The millage rate averaged 11.7215 per \$1,000 of assessed valuation for FY 2010 through FY 2021 with a low of 10.3427 mills for FY 2010 to a high of 12.5749 mills for FY 2015. Based on the before mentioned assessed valuations and millage rates, ad valorem taxes increased from \$74,441 thousand in FY 2010 to \$155,180 thousand in FY 2020 – an increase of 108.5 percent. The increase in revenues in FY2020 was due to a budgeted increase in the millage rate partially offset by a 27 percent decrease in revenues from building

permits and fees resulting from the shutdown and halting of construction projects due to the COVID 19 pandemic.

**Table 9-12: Comparison of Summary Statements of Revenues, Expenditures, and Changes in Fund Balances of the General and Debt Service Funds**

<b>Revenues/Expenditures</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
Ad Valorem Taxes (Net)	\$118,319,215	\$124,156,492	\$135,584,888	\$148,461,355	\$139,410,395
Intergovernmental	4,680,245	5,902,035	4,639,448	819,122	0
Building Permits and Fees	5,342,138	6,837,551	5,671,586	3,812,501	2,879,924
Emergency Services	306,355	310,595	266,792	417,299	9,651
Interest Income	516,442	1,259,064	2,126,220	922,485	0
Drainage Fees	385,979	163,154	49,092	290,024	927,339
Other	388,460	441,106	390,685	687,857	735,662
<b>TOTAL REVENUES</b>	<b>129,938,834</b>	<b>139,069,997</b>	<b>148,728,711</b>	<b>155,410,643</b>	<b>143,962,971</b>
Departments	52,115,688	66,927,903	60,984,999	62,429,927	58,261,531
Water Control/Roadways/Parking	14,391,953	15,637,544	19,101,662	21,341,728	33,720,631
Capital Outlays	1,880,885	3,082,284	4,036,180	3,699,151	1,730,447
Debt Service	50,450,652	65,029,732	61,805,590	61,414,092	58,619,504
<b>TOTAL EXPENDITURES</b>	<b>118,839,178</b>	<b>150,677,463</b>	<b>145,928,431</b>	<b>148,884,898</b>	<b>152,332,113</b>
<b>EXCESS OF REVENUES OVER (UNDER) EXPENDITURES)</b>	<b>11,099,656</b>	<b>(11,607,466)</b>	<b>2,800,280</b>	<b>6,525,745</b>	<b>(8,369,142)</b>
Bond Proceeds	0	8,750,000		338,025,000	0
Payments to Escrow Agents	0	0		(336,286,712)	0
Lease Proceeds	0	0			
Operating Transfers In (Out)	(3,899,923)	(4,534,581)	(4,250,775)	(4,403,432)	68,006
<b>TOTAL OTHER SOURCES (USES)</b>	<b>(3,899,923)</b>	<b>4,215,419</b>	<b>(4,250,775)</b>	<b>(2,665,144)</b>	<b>68,006</b>
<b>EXCESS OF REVENUES/OTHER SOURCES OVER (UNDER) EXPENDITURES/USES</b>	<b>7,199,733</b>	<b>(7,392,047)</b>	<b>(1,450,495)</b>	<b>3,860,601</b>	<b>(8,301,136)</b>
<b>BEGINNING FUND BALANCE</b>	<b>44,092,132</b>	<b>51,291,865</b>	<b>43,899,818</b>	<b>42,449,323</b>	<b>46,309,924</b>
<b>ENDING FUND BALANCE</b>	<b>\$51,291,865</b>	<b>\$43,899,818</b>	<b>\$42,449,323</b>	<b>\$46,309,924</b>	<b>\$38,008,788</b>

**Table 9-13: Comparison of Statements of Revenues, Expenditures, and Changes in Fund Balances of the Capital Projects Fund**

Revenues/Expenditures	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
<b>BEGINNING FUND BALANCE</b>	<b>\$238,578,205</b>	<b>\$120,644,154</b>	<b>\$193,756,826</b>	<b>\$126,678,433</b>	<b>\$164,516,393</b>
Interest and Investment Income	1,444,023	4,145,244	4,186,226	1,380,065	300,566
Transportation					(30,001)
Capital Outlays	(128,005,197)	(152,340,754)	(71,264,619)	(31,606,291)	(31,467,298)
Debt Service: Interest and Other Changes	(122,877)	(1,183,647)			
Bond Proceeds	8,750,000	222,491,829			
Insurance Recoveries				785,605	
Osceola Parkway Settlement				67,278,581	
<b>EXCESS OF REVENUES/OTHER SOURCES OVER (UNDER) EXPENDITURES/USES</b>	<b>(117,934,051)</b>	<b>73,112,672</b>	<b>(67,078,393)</b>	<b>37,837,960</b>	<b>31,196,733</b>
<b>ENDING FUND BALANCE</b>	<b>\$120,644,154</b>	<b>\$193,756,826</b>	<b>\$126,678,433</b>	<b>\$164,516,393</b>	<b>\$133,319,660</b>

Following years of investment in attractions and lodging, a break in new development and redevelopment during the next five years has been expected even without the current economic challenges resulting from the COVID-19 pandemic. Tax revenues are not expected to decline unless lower millage rates are implemented if the District’s capital improvements taper off. Capital projects are primarily funded by bond proceeds and ad valorem tax revenues which are also the source of repayment and security for the bonds. As shown in Tables 9-12 and 9-13, the District has historically generated sufficient revenues and funding to support its capital improvement projects.

**Proprietary Funds**

**Utility Sales** – Taken as a whole, District utility rates and charges produce revenues that together with investment earnings are sufficient to pay for all normal operation and maintenance expenses of the system, to pay annual debt service on all Series of Bonds, to meet the required deposits into the Renewal and Replacement Fund and the Emergency Repair Fund, to pay lease obligations, to fund additional capital improvements from revenues, and to provide for a balance available for other purposes. Revenues from water (potable and reuse), sanitary sewer, and solid waste sales accounted for about 25 percent of total utility sales during FY 2020. Revenues for FY 2020 were directly affected by the shutdown and limited reopening of resorts, theme parks, and other retail, dining, and entertainment venues due to the COVID 19 pandemic.



**Table 9-14: Comparison of Utilities Division Operating Fund**

<b>Revenues/Expenditures</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
Walt Disney World Sales	\$136,949,148	\$134,712,984	\$137,035,588	\$110,798,243	\$124,943,103
Other Outside Sales	30,672,893	31,597,431	33,713,805	25,588,793	29,761,915
Inter-Departmental Sales	14,870,999	14,732,060	15,451,343	12,930,175	14,644,446
Prior Year Fuel Adjustment	0	0	0	0	0
Other - Recycling	1,270,506	1,426,287	459,027	146,645	202,411
Connect Fees	4,000	7,500	9,500	23,500	9,500
<b>TOTAL OPERATING REVENUES</b>	<b>183,767,546</b>	<b>182,476,262</b>	<b>186,669,263</b>	<b>149,487,356</b>	<b>169,561,375</b>
Purchased Fuel and Power	60,683,126	59,414,327	59,091,806	53,540,976	52,402,524
Utility Expense	14,870,999	14,732,060	15,450,849	12,930,174	14,644,446
Labor Support	30,278,862	30,676,626	31,210,868	28,794,679	27,341,764
Operating Materials	14,511,997	16,939,963	17,403,223	14,190,915	14,968,609
Outside Services – Landfill	4,691,921	4,693,439	5,426,606	2,850,797	3,018,891
Planned Work	616,610	2,288,224	2,164,541	2,201,535	1,405,287
Gross Receipts Tax	2,784,056	2,743,647	2,770,337	2,321,943	2,424,237
<b>TOTAL OPERATING EXPENSES</b>	<b>128,437,571</b>	<b>131,488,286</b>	<b>133,815,230</b>	<b>116,831,019</b>	<b>116,205,758</b>
<b>OPERATING INCOME</b>	<b>55,329,975</b>	<b>50,987,976</b>	<b>52,854,033</b>	<b>32,656,337</b>	<b>53,355,617</b>
Debt Service	37,497,134	38,077,740	37,661,872	30,638,157	31,535,126
Insurance	999,721	1,031,149	923,822	800,008	1,064,991
<b>TOTAL OTHER EXPENSES</b>	<b>38,496,855</b>	<b>39,108,889</b>	<b>38,585,694</b>	<b>31,656,337</b>	<b>32,600,117</b>
Capital Expenditures	19,958,659	17,410,197	12,873,500	10,389,632	13,526,533
R & R Fund Requirements	984,237	49,170	95,719	215,047	(1,120,999)
Inventory	42,491	1,373,333	3,605,814	691,327	(2,031,950)
<b>TOTAL CAPITAL REQUIREMENTS</b>	<b>20,985,387</b>	<b>18,832,700</b>	<b>16,575,033</b>	<b>11,296,006</b>	<b>10,373,584</b>
Investment Income	442,846	801,894	1,204,282	801,405	251,484
Capital Contributions	10,621,267	1,792,685	1,088,742	455,204	1,429,972
Other	494,878	617,038	95,719	3,315,405	199,804
<b>TOTAL OTHER REVENUES</b>	<b>11,558,991</b>	<b>3,211,617</b>	<b>2,698,552</b>	<b>4,572,014</b>	<b>1,881,260</b>
<b>NET INCOME (LOSS)</b>	<b>7,406,724</b>	<b>(3,741,996)</b>	<b>391,858</b>	<b>\$(5,505,820)</b>	<b>\$12,263,176</b>
<b>SURPLUS FUND – BEGINNING OF YEAR</b>	<b>\$20,227,850</b>	<b>\$27,634,574</b>	<b>\$23,892,578</b>	<b>\$24,284,436</b>	<b>\$24,284,436</b>
<b>SURPLUS FUND – END OF YEAR</b>	<b>\$27,634,574</b>	<b>\$23,892,578</b>	<b>\$24,284,436</b>	<b>\$18,778,616</b>	<b>\$36,547,612</b>

**Table 9-15: Comparison of Utilities Division Status of Construction Fund**

	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
<b>DEPOSIT TO CONSTRUCTION FUND</b>	<b>\$58,015,424</b>	<b>\$83,524,292</b>	<b>\$86,176,454</b>	<b>\$87,912,723</b>	<b>\$183,125,797</b>
Interest and Other Income	2,831,340	557,812	1,709,469	2,004,807	2,061,627
<b>Available for Disbursement</b>	<b>60,846,764</b>	<b>84,082,104</b>	<b>87,885,923</b>	<b>89,917,530</b>	<b>185,187,424</b>
Disbursements: Electric, Natural Gas, Chilled Water System	31,841,662	21,790,070	37,329,054	56,404,461	68,896,612
Disbursements: Water, Wastewater, Solid Waste	11,226,646	3,890,202	7,081,997	11,257,451	17,164,331
Disbursements: Other Utility System Projects	1,600,341	1,745,051	3,203,362	3,322,780	3,384,846
<b>TOTAL EXPENDITURES</b>	<b>44,668,649</b>	<b>27,425,323</b>	<b>47,614,413</b>	<b>70,984,692</b>	<b>89,445,789</b>
<b>FUNDS ON HAND</b>	<b>\$16,178,115</b>	<b>\$56,656,781</b>	<b>\$40,271,510</b>	<b>\$18,932,838</b>	<b>\$95,741,635</b>

The volume and revenues for potable and reuse water, sanitary sewer, and solid waste are influenced by two opposing goals – the need for conservation of resources (and the reduced need for facility expansion) and the need to generate revenues to maintain and expand facilities and cover debt obligations. As shown in Tables 9-14 and 9-15 the utility division has historically generated sufficient revenues and funding to maintain sufficient surplus operating and construction funds to provide for operations, maintenance, and expansion of facilities.

### **CAPACITY TO PAY FOR CAPITAL IMPROVEMENTS**

Tables 9-12 and 9-14 indicate the balance between revenues and operating expenditures and debt service requirements for fiscal years 2022 through 2027 for General and Debt Service Funds and the Utility Operating Fund, respectively. Tables 9-13 and 9-15 indicate the balance between proceeds, returns, and expenditures and debt service requirements for fiscal years 2022 through 2027 for Capital Projects Funds and the Utility Construction Fund, respectively. The net revenues or balances in each year represent the amount available for capital projects and new debt servicing.

### **Roads and Drainage**

The General Fund will continue to be used to finance road and drainage maintenance and to fund minor non-concurrency capital improvements, and the Capital Fund will be used for major capital improvement project. Sufficient bond proceeds are on hand to fund the World Drive North Phase 2 and all but \$25,000,000 for World Drive Phase 3 projects shown in Table 9-7: Five Year Schedule of Capital Improvements for Roads. The District plans to issue additional Ad Valorem Tax Bonds to fund the Road projects proposed to start in FY 2025. As previously noted capital improvements to the stormwater management facilities needed during the next five fiscal years in order to maintain the adopted level of service standard for drainage will be funded by outside drainage fees on reserve or operating revenues.

## **Potable and Reuse Water, Sanitary Sewer (Wastewater), and Solid Waste**

Revenue bond proceeds are on hand to fund the potable and reuse water, sanitary sewer, and solid waste projects detailed in Table 9-8, 9-9, and 9-10: Five Year Schedule of Capital Improvements for Potable and Reuse Water, Sanitary Sewer, and Solid Waste, respectively.

# IMPLEMENTATION

## **SCHEDULE OF IMPROVEMENTS**

Tables 9-7 through 9-11 indicate the schedule of capital improvements for the RCID. The tables indicate the cost, funding source, proposed timing, and function of each project. Implementation of these projects will accommodate growth and maintain established level of service standards. All projects are consistent with the Future Land Use Map and with the goals, objectives, and policies of this plan.

## **CAPITAL IMPROVEMENT UPDATES**

The Capital Improvement Program (CIP), the Five-Year Schedule of Capital Improvements, and the Capital Improvement Element (CIE) will be updated each year in response to new assessments of costs and revenues, changes in development plans, and emerging capital facility needs. While the CIP will address all public services and facilities, the Five-Year Schedule of Capital Improvements and the CIE will address only services subject to the concurrency provisions.

The following steps will be followed in the annual update:

- Step 1: Capacity and demand projections will be revised for each service.
- Step 2: Projections of assessed valuation will be revised based on planned new development.
- Step 3: Data on utility cost and revenues will be updated for all public services.
- Step 4: The list of projects (and their respective priorities) will be updated for all public services.
- Step 5: Utility rate increases will be assessed and implemented as needed.
- Step 6: The revised list of capital projects will be reviewed to ensure consistency with all appropriate other plan elements.
- Step 7: New projects that replace worn out or obsolete facilities will be added to the program as needed.
- Step 8: Funds required pursuant to interlocal agreements will be added as needed.
- Step 9: The effectiveness of the prior year's capital improvements in maintaining the adopted levels of service will be reviewed.

Step 10: The effect of the plans and programs of the state and federal governments and adjoining local governments will be reviewed.

Step 11: The funds available for debt service will be reviewed.

Step 12: Policies regarding front-end capital outlays versus debt financing of capital costs will be reviewed.

As in the past, facilities that are required to replace deficient facilities will receive first priority for funding, facilities that accommodate growth will be assigned second priority, and facilities that create excess capacity will be assigned the lowest priority.

## **CONCURRENCY MANAGEMENT SYSTEM**

### **General**

The policies of this plan provide, in accordance with state law that certain public facilities and services needed to support development are available at the time the impacts of development occur or a certificate of occupancy is issued. These public facilities and services include roads (the District has eliminated transportation concurrency), potable water, sanitary sewer, solid waste, and drainage.

In order to implement these policies, the RCID shall conduct a concurrency review of all new development projects, except those that are specifically exempted below. If the application is deemed concurrent, a Certificate of Concurrency will be issued by the RCID Department of Planning and Development. If the application is deemed to be not concurrent, the applicant will be notified that a Certificate of Concurrency cannot be issued; the applicant will be provided an opportunity to modify the project, mitigate the impacts of the development upon the public services and facilities, or provide the needed capital improvements as set forth in a development agreement. A building permit will not be issued for a development project requiring a concurrency review until a Certificate of Concurrency is issued.

The Concurrency Management System and Land Development Regulations will, in conjunction with the Capital Improvement Element, ensure that development approvals and permits are issued in a manner that will assure that the necessary public facilities will be available to accommodate the impact of development. The RCID has adopted a monitoring system that enables it to determine whether it is adhering to the adopted level of service (LOS) standards and its schedule of capital improvements.

### **Vested Rights**

There are no remaining development projects that vested prior to the adopted date of the 1991 Comprehensive Plan that would not be subject to concurrency.

### **Exempt Projects**

The following development projects are exempt from the Concurrency Management System:

- interior or exterior maintenance, rehabilitation, or replacement of existing facilities or structures, provided the use does not change and the size does not increase;
- relocation of temporary uses;
- wells and septic tanks;
- resurfacing of existing driveways, roads, and parking lots;
- demolitions;
- signs;
- temporary construction trailers;
- fences and walls;
- nature trails constructed entirely in uplands; and
- replacement structures for those that were destroyed, provided the use does not change and the size does not increase.

### **Standards for Concurrency**

**General** – The RCID Department of Planning and Engineering, with assistance from other departments, will conduct the concurrency review. A Certificate of Concurrency will be issued only if the proposed development does not lower the LOS for potable water, sanitary sewer, solid waste, and drainage below the adopted LOS standards.

The concurrency determination will be made by comparing the available capacity of a facility or service with the demand created by the proposed project. Available capacity will be determined by adding together the total excess capacity of existing facilities and the total capacity of any new facilities that meet the previously defined concurrency standards and subtracting any capacity committed through previously approved development orders or previously issued Certificates of Concurrency.

**Potable Water, Sanitary Sewer, Solid Waste, and Drainage** – A project will be deemed concurrent if the proposed development does not lower the adopted LOS standards and one of the following provisions are met:

- the facilities and services necessary to achieve concurrency are in place at the time a development permit is issued;
- the facilities necessary to achieve concurrency are under construction at the time a development permit is issued;
- the development permit is issued subject to the condition that the facilities and services necessary to achieve concurrency will be in place concurrent with the impacts of development (issuance of a certificate of occupancy for potable water); or
- the public facilities and services necessary to achieve concurrency are guaranteed in an enforceable development agreement to be in place concurrent with the impacts of development (issuance of a certificate of occupancy for potable water).

**Roads** – The District master plans in consultation with its major landowner all roadway improvement to meet future development and maintain the adopted level of service standards.

**Procedures** – The applicant is responsible for providing sufficient information to enable the RCID Department of Planning and Engineering to make the concurrency determination. The applicant may request a concurrency determination at any time prior to the issuance of the final development approval. The applicant may request a concurrency determination for all phases or only the initial phase or phases

of a multi-phased project; however, a Certificate of Concurrency for the initial phase or phases of a project shall not establish a vested right to continue subsequent phases for which a concurrency determination has not been made.

A Certificate of Concurrency shall remain in effect for a minimum term of thirty six (36) months. As long as both commencement of actual construction of any building structure related to the primary use of the site and continuous activity toward completion of construction occurs during such thirty-six (36) month term, the Certificate of Concurrency shall continue and remain in effect until construction is completed even if construction is not completed within such thirty-six (36) month term. If construction on a project ceases prior to completion and an applicant anticipates recommencing construction during the thirty-six (36) months following the date such construction ceases, an applicant may apply for and obtain an extension of the Certificate of Concurrency through completion of the project, so long as construction actually recommences within thirty-six (36) months following the cessation of construction and thereafter continuous activity towards completion of construction occurs. If at any time thereafter there are subsequent cessations of construction, an applicant may apply for additional extension periods which will be reviewed and granted by the Planning and Engineering Department on a case by case basis with consideration of extenuating circumstances, such as without limitation, unfavorable economic conditions, changes in regulations, or other mitigating circumstances.

## **MONITORING AND EVALUATION PROGRAM**

The District has implemented a monitoring and evaluation program to ensure that the adopted level of service standards are being maintained and to prescribe corrective measures in the event that they are not. The program consists of the following components.

### **Roads**

Peak-season traffic counts are generally taken biennially on District roadways and the level of service on major road segments are determined. The analysis is used to adjust the District circulation plan, capital improvement priorities, and conditions for development approval.

### **Potable Water**

The amount of groundwater pumped is monitored daily and evaluated at least once each peak season. Pumped volumes are compared with pumping and storage capacity to determine whether additional wells, larger pumps, or additional storage tanks are needed. Groundwater levels and quality are monitored to ensure that the supply is safe and sufficient. Water pressure is evaluated at various locations to determine whether the distribution system is sufficiently sized. Consumption patterns for various users are reviewed annually to ensure that the adopted level of service standards for the eight listed land uses [residential, hotel, other resort, support/office, retail/general commercial, restaurant, theme park (general), and theme park (water)] are accurate. Service charges are reviewed annually to ensure that they will sufficiently cover projected operating and debt service costs.

### **Sanitary Sewer**

The amount of wastewater treated is monitored daily and evaluated at least once each peak season. Treated volumes are compared with the capacity of the treatment plant and disposal system to determine the need for additional facilities. Effluent quality also is monitored in accordance with state and federal

environmental regulations. Wastewater volumes from various users are reviewed annually to ensure that the adopted level of service standards for the eight listed land uses are accurate. Service charges are reviewed annually to ensure that they will sufficiently cover projected operating and debt service costs.

### **Solid Waste**

The amount of solid waste handled at the transfer station is periodically monitored and evaluated at least once each peak season. The amount handled is compared with the capacity of the transfer station to determine the need for expanded transfer facilities. Solid waste volumes from various users are reviewed annually to ensure that the adopted level of service standards for the eight listed land uses are accurate. Service charges are reviewed annually to ensure that they will sufficiently cover projected operating and debt service costs.

### **Drainage**

The Reedy Creek Water Control System has 66 linear miles of canal with 24 water control structures consisting of both Amil gates and Weirs. These structures were designed with minimum maintenance and operation features in mind. Many of the structures are Amil gates that control the water levels at predetermined stages and open automatically in response to rising water levels exceeding the control elevation. The gates then close when the water levels drop. The Amil gates have no manual, electrical, or mechanical controls. These gated structures play an important role in controlling water levels and discharge rates at locations within the District's flood control system as well as at the locations where waters enter the District from tributary basins.

Drainage service levels are monitored through annual inspections of the water control structures and periodic modeling of the conditions that would result under storms of varying intensity given the level of existing and planned development in the District. The results are used to adjust, at least annually, capital improvement priorities and conditions for development approval.

## **ANNUAL EVALUATION OF REVENUE SOURCES**

The District evaluates its revenue sources at least annually to determine whether current services for generating revenue are sufficient. This involves a review of the millage rate and the service charges for various utilities.

It is anticipated that the District will continue to rely on its current sources of revenue for capital improvements. Ad valorem taxes, building permit fees, and investment interest will be the primary revenue sources for the General Fund, while utility sales and connection fees will be the primary revenue source for the Utility Enterprise Fund. Use of impact fees or other charges is not anticipated. The District will continue to operate without state or federal funds.

Debt service policies will be evaluated annually. The split between debt financing and front-end capital outlays will be determined by the following factors:

- the availability of net revenues;
- legal constraints;
- the revenue-generating potential of proposed utility projects;

- the urgency of the project and consequences of delay;
- the burden likely to be created by higher millage or utility rates; and
- interest rates and the availability of tax-exempt financing.





Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay  
Lake  
**COMPREHENSIVE PLAN**

**GLOSSARY**

# GLOSSARY

<b>cfs</b>	cubic feet per second
<b>CIE</b>	Capital Improvements Element
<b>CIP</b>	Capital Improvements Program
<b>CR</b>	County Route
<b>DEO</b>	Florida Department of Economic Opportunity
<b>DRI</b>	Development of Regional Impact
<b>EAR</b>	Evaluation and Appraisal Report
<b>EPA</b>	U.S. Environmental Protection Agency
<b>FDEP</b>	Florida Department of Environmental Protection
<b>FDOT</b>	Florida Department of Transportation
<b>FY</b>	Fiscal Year
<b>gpd</b>	gallons per day
<b>HTZ</b>	Housing Target Zone
<b>LOS</b>	Level of Service
<b>mgd</b>	million gallons per day
<b>MSA</b>	Metropolitan Statistical Area
<b>OUATS</b>	Orlando Urban Area Transportation Study
<b>RCES</b>	Reedy Creek Energy Services, Inc.
<b>RCID</b>	Reedy Creek Improvement District
<b>RM/R</b>	Resource Management/Recreation
<b>SFWMD</b>	South Florida Water Management District
<b>SR</b>	State Route
<b>STA</b>	Special Transportation Area
<b>TAZ</b>	Traffic Analysis Zone
<b>USGS</b>	U.S. Geological Survey
<b>WWTP</b>	Wastewater Treatment Plant

The definitions of the following terms are general in nature. More specific definitions are sometimes found in applicable state legislation and regulations. In particular, see Section 163.3164, Florida Statutes,

## **AASHO Classification**

Used to classify soils according to those properties that affect use in highway construction and maintenance. A soil is placed in one of seven basic groups ranging from A-1 through A-7. Group A-1 are gravelly soils of high bearing strength, the best soils for subgrade (foundation). At the other extreme, Group A-7, are clayey soils that have low strength when wet, and they are the poorest soils for subgrade.

## **Ad Valorem Tax**

Property tax.

## **Affordable Housing**

Housing capable of being purchased or rented by a household with very low, low, or moderate income, based on a household's ability to make monthly payments necessary to obtain housing. Housing is considered affordable when a household pays less than 30 percent of its gross monthly income for housing, including utilities.

**Agriculture**

The cultivation of crops and livestock. Agriculture areas include croplands, pasturelands, orchards, vineyards, nurseries, ornamental horticulture areas, groves, confined feeding operations, specialty farms, and silviculture areas.

**Air Pollution**

Concentrations of substances found in the atmosphere that exceed naturally occurring quantities and are undesirable or in some way harmful.

**Air Quality Index (National Ambient Air Quality Standards)**

The prescribed level of pollutants in the outside air that cannot be exceeded legally during a specified time in a specified geographical area.

**Alluvial**

Soils deposited by stream action.

**Ambient**

Surrounding on all sides; used to describe measurements of existing conditions with respect to traffic, noise, air, and other environments.

**Annex, v.**

To incorporate a land area into an existing district or municipality, with a resulting change in the boundaries of the annexing and annexed jurisdictions.

**Apartment**

(1) One or more rooms of a building used as a place to live, in a building containing at least one other unit used for the same purpose. (2) A separate suite, not owner-occupied, that includes kitchen facilities and is designed for and rented as the home, residence, or sleeping place of one or more persons living as a single housekeeping unit.

**Appropriate**

An act, condition, or state that is considered suitable.

**Aquifer**

An underground, water-bearing layer of earth, porous rock, sand, or gravel through which water can seep or be held in natural storage. Aquifers generally hold sufficient water to be used as a water supply.

**Archaeological**

Relating to the material remains of past human life, culture, or activities.

**Area Median Income**

Established by the U.S. Department of Housing and Urban Development. In metropolitan areas, the "area median income" is the median income for the metropolitan statistical area. In non-metropolitan areas, the "area median income" is the higher of the county median family income or the statewide non-metropolitan median family income.

**Arterial Road**

Medium-speed (30 to 40 mph), medium-capacity (10,000 to 35,000 average daily trips) roadway that provides intra-community travel and access to the county-wide highway system. Access to community arterials should be provided at collector roads and local streets, but direct access from parcels, adjacent to existing arterials is common.

**Artesian**

An aquifer in which water is confined under pressure between layers of impermeable material. Wells tapping into an artesian stratum will flow naturally without the use of pumps. (See "Aquifer.")

**Below-market-rate Housing Unit**

(1) Any housing unit specifically priced to be sold or rented to low- or moderate-income households for an amount less than the fair market value of the unit. (2) The financing of housing at less than prevailing interest rates.

**Biotic Community**

A group of living organisms characterized by a distinctive combination of both animal and plant species in a particular habitat.

**Blight**

A condition of a site, structure, or area that may cause nearby buildings and/or areas to decline in attractiveness and/or utility.

**Borrow Pit**

An excavated area where material has been dug for use as fill at another location.

**Buffer Zone**

An area of land separating two distinct land uses that acts to soften or mitigate the effects of one land use on the other.

**Building**

Any structure used or intended for supporting or sheltering any use or occupancy.

**Buildout; Build-out**

Development of land to its full potential or theoretical capacity as permitted under current or proposed planning or zoning designations.

**Capability Unit**

Groupings are made according to the limitations of the soils when used for agriculture, the risk of damage when they are used, and the way they respond to treatment.

**Class I Soils**

Few limitations.

**Class II Soils**

Moderate limitations.

**Class III Soils**

Severe limitations.

**Class IV Soils**

Very severe limitations.

**Class V Soils**

Limited to erosion, but have other criteria that limit their use largely to pasture, range, woodland, or wildlife.

**Class VI Soils**

Severe limitations, generally unsuitable for cultivation and limited largely to pasture, range, woodland, or wildlife.

**Class VII Soils**

Very severe limitation, etc. Subclass "w" water in or on the soil interferes with plant growth or cultivation.

**Subclass "S" Soil**

Limited, mainly because it is shallow, droughty, or stony.

**Capital Improvement**

Physical assets constructed or purchased to provide, improve, or replace a public facility and that are large-scale and high in cost. The cost of a capital improvement is generally non-recurring and may require multi-year financing. Physical assets that have been identified as existing or projected needs in the individual comprehensive plan elements shall be considered capital improvements.

**Capital Improvement Program**

A program, administered by a city or county government and reviewed by its planning commission, that schedules permanent improvements, usually for a minimum of five years in the future, to fit the projected fiscal capability of the local jurisdiction. The program generally is reviewed annually for conformance to and consistency with the Comprehensive Plan.

**Caps**

(See "Development Thresholds.")

**Carbon Monoxide**

A colorless, odorless, highly poisonous gas produced by automobiles and other machines with internal combustion engines that imperfectly burn fossil fuels (such as oil and gas).

**Carrying Capacity**

The level of land use, human activity, or development for a specific area that can be accommodated permanently without an irreversible change in the quality of air, water, land, or plant and animal habitats. May also refer to the upper limits beyond which the quality of human life, health, welfare, safety, or community character in an area will be impaired. Carrying capacity usually is used to determine the potential of an area to absorb development.

**Census**

The official decennial enumeration of the population conducted by the federal government.

**Channelization**

(1) The straightening and/or deepening of a watercourse for purposes of storm-runoff control or ease of navigation. Channelization often includes lining of stream banks with a retaining material, such as concrete. (2) At the intersection of roadways, the directional separation of traffic lanes through the use of curbs or raised islands that limit the paths vehicles may take through the intersection.

**Collector Road**

Relatively low-speed (25 to 30 mph), relatively low-volume (5,000 to 20,000 average daily trips) street that provides circulation within and between neighborhoods. Collectors usually serve short trips and are intended for collecting trips from local streets and distributing them to the arterial network.

**Commercial**

The sale, rental, and distribution of products or services.

**Community Park**

Land with full public access intended to provide recreation opportunities beyond those supplied by neighborhood parks. Community parks are larger in scale than neighborhood parks, but smaller than regional parks.

**Compatible**

Capable of existing together without conflict or ill effects.

**Comprehensive Plan**

Any or all local comprehensive plans or elements or portions thereof prepared, adopted, or amended pursuant to the Local Government Comprehensive Planning and Land Development Regulation Act, as amended.

**Concurrency**

A system in which development occurs when the necessary public facilities and services to maintain the adopted level of service standards are also available.

**Cone of Influence**

An area around one or more major water wells (the boundary of which is determined by the government agency having specific authority to make such a determination) based on groundwater travel or draw-down depth.

**Conservation**

Areas designated for the purpose of conserving or protecting natural resources or environmental quality, including areas designated for such purposes as flood control, protection of quality or quantity of groundwater or surface water, floodplain management, fisheries management, or protection of vegetative communities or wildlife habitats.

**Consistent**

Free from variation or contradiction. Programs in the Comprehensive Plan are to be consistent, not contradictory or preferential. State law requires consistency between a comprehensive plan and implementation measures, such as the Land Development Regulations.

**Contract, v.**

To reduce the area within a jurisdiction through the deannexation of land.

**Criterion, Criteria**

Standard(s) upon which a judgment or decision may be based. (See "Standards.")

**Dedication**

The turning over by an owner or developer of private land for public use and the acceptance of land for such use by the governmental agency having jurisdiction over the public function for which it will be used. Dedications for roads, parks, school sites, or other public uses often are made conditions for approval of a development by a city.

**Dedication, In Lieu of**

Cash payments that may be required of an owner or developer as a substitute for a dedication of land, usually calculated in dollars per lot, and referred to as in-lieu fees or in-lieu contributions.

**Defease**

Working toward the termination of the bond.

**Density, Control of**

A limitation on the occupancy of land. Density can be controlled through zoning in the following ways: use restrictions, minimum lot-size requirements, floor area ratios, land use/intensity ratios, setback and yard requirements, minimum house-size requirements, ratios comparing number and types of housing units with land area, limits on units per acre, and other means. Allowable density often serves as the major distinction among residential districts.

**Density, Residential**

The number of permanent residential dwelling units per acre of land. Densities specified in the Comprehensive Plan may be expressed in units per gross acre or per net developable acre. (See "Developable Acres, Net.")

**Depth to Water Table**

Described in terms of the depth to seasonal high limit of the portion of ground wholly saturated with water.

**Detention Dam/Basin/Pond**

Dams may be classified according to the broad function they serve, such as storage, diversion, or detention. Detention dams are constructed to retard flood runoff and minimize the effects of sudden floods. Detention dams fall into two main types. In one type, the water is temporarily stored and released through an outlet structure at a rate not to exceed the carrying capacity of the channel down stream. Often, basins are planted with grass and used for open space or recreation in periods of dry weather. In the other type, most often called a **Retention Pond**, the water is held as long as possible and may or may not allow for the controlled release of water. In some cases, the water is allowed to seep into the permeable banks or gravel strata in the foundation. This latter type is sometimes called a **Water-Spreading Dam** or **Dike** because its main purpose is to recharge the underground water supply. Detention dams are also constructed to trap sediment; these are often called **Debris Dams**.

**Developable Land**

Land that is suitable as a location for structures and can be developed free of hazards to, without disruption of, or significant impact on, natural resource areas.

**Developer**

Any person, including a governmental agency, undertaking any development.

**Development**

The carrying out of any building activity or mining operation, the making of any material change in the use or appearance of any structure or land, or the dividing of land into three or more parcels.

**Development Fee**

(See "Impact Fee.")

**Development Threshold**

An absolute limit on the amount of public service demand that may be generated by new development.

**Discourage, v.**

To advise or persuade to refrain from.

**District**

The Reedy Creek Improvement District, unless otherwise clearly indicated.

**Diversion**

The direction of water in a stream away from its natural course (i.e., as in a diversion that removes water for human use from a stream).

**Drainage**

Removal of excess surface water or excess water from within the soil by surface or subsurface drains. Also, the rapidity and extent of the removal of water from the soil by run-off and flow through the soil to underground storage areas.

**Drainage Basin**

An area defined by topographic boundaries that collects stormwater flows from surrounding tributary basins and conveys them to drainage systems, estuarine waters, or the ocean.

**Dwelling Unit**

A room or group of rooms (including sleeping, eating, cooking, and sanitation facilities, but not more than one kitchen) that constitutes an independent housekeeping unit, occupied or intended for occupancy by one household on a long-term basis.

**Easement**

Usually the right to use property owned by another for specific purposes or to gain access to another property. For example, utility companies often have easements on the private property of individuals in order to be able to install and maintain utility facilities.

**Effluent**

Clear overflow that results from sewage treatment processes.

**Encourage, v.**

To stimulate or foster a particular condition through direct or indirect action by the private sector or government agencies.

**Endangered Species**

A species of animal or plant is considered endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes.

**Enhance, v.**

To improve existing conditions by increasing the quantity or quality of beneficial uses.

**Environment**

The physical conditions that exist in the area that will be affected by a proposed project, including land, air, water, mineral, flora, fauna, noise, and objects of historic or aesthetic significance.

**Erosion**

(1) The loosening and transportation of rock and soil debris by wind, rain, or running water. (2) The gradual wearing away of the upper layers of earth.

**Expansive Soils**

Soils that swell as they absorb water and shrink as they dry.

**Fair Market Rent**

The rent, including utility allowances, determined by the United States Department of Housing and Urban Development for purposes of administering the Section 8 Existing Housing Program.

**FAR**

(See "Floor Area Ratio.")

**Family**

(1) Two or more persons related by birth, marriage, or adoption [U.S. Bureau of the Census]. (2) An individual or a group of persons living together who constitute a bona fide single-family housekeeping unit in a dwelling unit.



**Feasible**

Capable of being done, executed, or managed successfully from the standpoint of the physical and/or financial abilities of the implementer(s).

**Feasible, Technically**

Capable of being implemented because the industrial, mechanical, or application technology exists.

**Flood, 100-year**

The magnitude of a flood expected to occur on the average every 100 years, based on historical data. The 100-year flood has a 1/100, or 1 percent, chance of occurring in any given year.

**Flood Elevation, 100-year**

The outer boundary elevation of the flood plain.

**Flood Hazard**

Water standing above the soil surface for some length of time. In Florida this is most common in depressions or low areas without outlets. Soils near streams that overflow also have a flood hazard.

**Flood Plain**

The relatively level land area on either side of the banks of a stream regularly subject to flooding. The areas inundated during a 100-year flood or identified by the National Flood Insurance Program as an A zone or V zone on Flood Insurance Rate Maps or Flood Hazard Boundary Maps.

**Floodway**

The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the "base flood" without cumulatively increasing the water surface elevation more than one foot.

**Floor Area Ratio (FAR)**

The gross floor area permitted on a site divided by the total net area of the site, expressed in decimals to one or two places. For example, on a site with 10,000 net square feet of land area, a floor area ratio of 1.0 will allow a maximum of 10,000 gross square feet of building floor area to be built. On the same site, an FAR of 1.5 would allow 15,000 square feet of floor area; an FAR of 2.0 would allow 20,000 square feet; and an FAR of 0.5 would allow only 5,000 square feet. Also commonly used in zoning, FARs typically are applied on a parcel-by-parcel basis, as opposed to an average FAR for an entire land use or zoning district.

**Freeway**

A high-speed, high-capacity, limited-access transportation facility serving regional and county-wide travel. Such roads are free of tolls, as contrasted with "turnpikes" or other "toll roads." Freeways generally are used for long trips between major land use generators. At Level of Service "E," they carry approximately 1,875 vehicles per lane per hour, in both directions. Major streets cross at a different grade level.

**Future Land Use Element**

A required element of the Comprehensive Plan that uses text and maps to designate the future use or reuse of land within a given jurisdiction's planning area. The Future Land Use Element serves as a guide to the structuring of zoning and subdivision controls, urban renewal and capital improvements programs, and to official decisions regarding the distribution and intensity of development and the location of public facilities and open space.

**Gateway**

A point along a roadway entering the city at which a motorist gains a sense of having left the environs and of having entered the city.

**Geological**

Pertaining to rock or solid matter.

**Goal**

Long-term end toward which programs or activities are ultimately directed.

**Groundwater**

Water under the earth's surface, often confined to aquifers capable of supplying wells and springs.

**Groundwater Recharge**

The natural process of infiltration and percolation of rainwater from land areas or streams through permeable soils into water-holding rocks that provide underground storage ("aquifers").

**Growth Management**

The use by a community of a wide range of techniques in combination to determine the amount, type, and rate of development desired by the community and to channel that growth into designated areas. Growth management policies can be implemented through growth rates, zoning, capital improvement programs, public facilities ordinances, urban limit lines, levels of service standards, and other programs.

**Guidelines**

General statements of policy direction around which specific details may be later established.

**Habitat**

The physical location or type of environment in which an organism or biological population lives or occurs.

**Handicapped**

A person determined to have a mobility impairment or mental disorder expected to be of long or indefinite duration. Many such impairments or disorders are of such a nature that a person's ability to live independently can be improved by appropriate housing conditions.

**Hazardous Material**

Any substance that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. The term includes, but is not limited to, hazardous substances and hazardous wastes.

**High Occupancy Vehicle**

Any vehicle other than a driver-only automobile (e.g., a vanpool, a bus, or two or more persons to a car).

**Highway**

High-speed, high-capacity, limited-access transportation facility serving regional and county-wide travel. Highways may cross at a different grade level.

**Historic; Historical**

An historic building or site is one that is noteworthy for its significance in local, state, or national history or culture, its architecture or design, or its works of art, memorabilia, or artifacts.

**Historic Preservation**

The preservation of historically significant structures and neighborhoods until such time as and in order to facilitate, restoration and rehabilitation of the building(s) to a former condition.

**Historic Resources**

All areas, districts, or sites containing properties listed on the Florida Master Site File, the National Register of Historic Places, or designated by local government as historically, architecturally, or archaeologically significant.

**Hotel**

A facility in which guest rooms or suites are offered to the general public for lodging with or without meals and for compensation, and where no provision is made for cooking in any individual guest room or suite.

**Household**

All those persons—related or unrelated—who occupy a single housing unit. (See "Family.")

**Housing Unit**

The place of permanent or customary abode of a person or family. A housing unit may be a single-family dwelling, a multi-family dwelling, a condominium, a modular home, a mobile home, a cooperative, or any other residential unit. A housing unit has, at least, cooking facilities, a bathroom, and a place to sleep. It also is a dwelling that cannot be moved without substantial damage or unreasonable cost. (See "Dwelling Unit," "Family," and "Household.")

**Hydrography**

A graphic presentation of the distribution of water upon the earth's surface, soil, and atmosphere.

**Hydrologic Group**

These groups are used in watershed planning to estimate run-off from rainfall. Dual hydrologic groups are given for wet soils rated D in their neutral condition that can be adequately drained and improved by at least two classes. The letter applies to the drained condition.

***Hydrologic Group A (low run-off potential)***

Soils that have high infiltration rates.

***Hydrologic Group B (moderately low run-off potential)***

Soils that have moderate infiltration rates.

***Hydrologic Group C (moderately high run-off potential)***

Soils that have slow infiltration rates.

***Hydrologic Group D (high run-off potential)***

Soils having very slow infiltration rates.

**Impact**

The effect of any direct, man-made actions or indirect repercussions of man-made actions on existing physical, social, or economic conditions.

**Impact Fee**

A fee, also called a development fee, levied on the developer of a project by a city, county, or other public agency as compensation for otherwise-unmitigated impacts the project will produce.

**Impervious Surface**

Surface through which water cannot penetrate, such as roof, road, sidewalk, and paved parking lot. The amount of impervious surface increases with development and establishes the need for drainage facilities to carry the increased runoff.

**Implementation**

Actions, procedures, programs, or techniques that carry out policies.

**Improvement**

The addition of one or more structure(s) or utility(ies) on a vacant parcel of land.

**In Lieu Fee**

(See "Dedication, In Lieu of.")

**Industrial**

The manufacture, assembly, and processing or storage of consumer goods. Industrial is often divided into "heavy industrial" uses (such as construction yards, quarrying, and factories) and "light industrial" uses (such as research and development and less intensive warehousing and manufacturing). Industrial, as used in this plan, refers to uses that exist solely to support the RCID's entertainment and resort activities.

**Infill Development**

Development of vacant land (usually individual lots or left-over properties) within areas that are already largely developed.

**Infrastructure**

Public services and facilities, such as sewage-disposal systems, water-supply systems, other utility systems, and roads, necessary to support the development in a given area.

**Issues**

Important unsettled community matters or problems.

**Land**

The earth, water, and air above, below, or on the surface, and including any improvements structures customarily regarded as land.

**Land Development Regulations**

Local zoning, subdivision, building, and other regulations controlling the development of land.

**Land Suitability**

The ranking of the suitability for development of different lands based on the distribution of natural features and public service systems.

**Land Use**

Development that is planned for or has occurred on land.

**Land Use Classification**

A system for classifying and designating the appropriate use of properties.

**Landmark**

Refers to a building, site, object, structure, or significant tree, having historic, architectural, social, or cultural significance and marked for preservation by the local, state, or federal government.

**Landscaping**

Plantings—including trees, shrubs, and ground covers—suitably designed, selected, installed, and maintained to permanently enhance a site or roadway.

**Lease**

A contractual agreement by which an owner of real property (the lessor) gives the right of possession to another (a lessee) for a specified period of time (term) and for a specified consideration (rent).

**Leisure Time**

Any portion of an individual's time not occupied by employment or used in pursuit of essential activities.

**Level of Service (LOS), General**

An indicator of the extent or degree of service provided by or proposed to be provided by a facility based on and related to the operational characteristics of the facility. Level of service shall indicate the capacity or unit of demand for each public facility.

**Level of Service, Traffic**

A scale that measures the amount of traffic a roadway or intersection may be capable of handling. Levels range from A to F, with A representing the highest level of service, as follows:

***Level of Service A***

This level is freely flowing. While traffic density is low, speed is controlled by the driver's desires, speed limits, and physical roadway conditions. Any turning movements are made easily, and there is little or no restriction in maneuverability.

***Level of Service B***

This is the level of stable flow; however, operating speeds are beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom, but they may begin to feel somewhat restricted.

***Level of Service C***

Traffic flow is still stable, but speeds and maneuverability are more closely controlled by higher volumes. Traffic conditions are still tolerable for most drivers and operating speeds are not unsatisfactory.

***Level of Service D***

This level of service approaches unstable flow. Although operating speeds may still be maintained, delays begin to occur frequently because of the high volumes. Drivers have little freedom to maneuver, and comfort and convenience are low. Conditions can be tolerated for short periods of time.

***Level of Service E***

Flow is unstable, and there may be momentary stoppages. This level of service describes a roadway that is near or at full capacity. Speeds are slow, and there is very little driver comfort or independence. Accident potential is high.

***Level of Service F***

This level of service describes forced flow operation at low speeds, where volumes are below capacity. This condition usually results from queues of vehicles backing up from a restriction downstream. Stoppages may occur for long periods of time because of downstream congestion.

**Local Planning Agency**

The agency designed by a local government to prepare the Comprehensive Plan.

**Local Road**

A roadway providing service that is of relatively low traffic volume, short average trip length, or minimal through traffic movements, and high-volume land access for abutting properties.

**Low-income Household**

A household with an annual income usually no greater than 80 percent of the area median family income adjusted by household size, as determined by a survey of incomes conducted by a city or a county, or in the absence of such a survey, based on the latest available eligibility limits

established by the U.S. Department of Housing and Urban Development for the Section 8 Housing Program. (See "Area Median Income.")

**Maintain, v.**

To keep in an existing state. (See "Preserve, v.")

**Major Landowners**

Unless otherwise indicated, refers to the Walt Disney Company and its subsidiaries.

**Marginally Suitable**

Land which is generally unsuitable for development due to environmental constraints, but which could be made suitable through modification of natural conditions (such as wetland fill). Development on such land generally requires mitigation to offset environmental impacts.

**Marsh**

Any area designated as marsh or swamp on the largest scale United States Geologic Survey topographic map published most recently. A marsh usually is an area periodically or permanently covered with shallow water, either fresh or saline.

**May**

That which is permissible.

**Median Strip**

The dividing area, either paved or landscaped, between opposing lanes of traffic on a roadway.

**Metropolitan**

Of, relating to, or characteristic of a large, important city.

**Mill, n.**

A money of account equal to 1/10 cent.

**Millage**

A rate (as of taxation) expressed in mills per dollar.

**Minerals**

Solid minerals, including clay, phosphate rock, lime, shells (excluding live shellfish), sand, heavy minerals, and any rare earths that are found in the soils or waters of the state.

**Minimize, v.**

To reduce or lessen, but not necessarily to eliminate.

**Mining**

The act or process of extracting resources, such as coal, oil, or minerals, from the earth.

**Mitigate, v.**

To ameliorate, alleviate, or avoid to the extent reasonably feasible.

**Mixed-use**

Properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with significant functional interrelationships and a coherent physical design. A "single site" may include contiguous properties.

**Mobile or Manufactured Home**

A structure, transportable in one or more sections, built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities, and includes the plumbing, heating, air conditioning, and electrical systems contained therein. If fabricated after June 15, 1976, each section bears a U.S. Department of Housing and Urban Development label certifying that it is built in compliance with the federal Manufactured Home Construction and Safety Standards.

**Moderate-income Household**

A household with an annual income between the lower income eligibility limits and 120 percent of the area median family income adjusted by household size, usually as established by the U.S. Department of Housing and Urban Development for the Section 8 Housing Program. (See "Area Median Income" and "Low-income Household.")

**Motel**

A facility in which guest rooms or suites are offered to the general public for lodging with or without meals and for compensation. Quite often, provision is made for cooking in individual guest rooms or suites. Motels generally provide guest parking in proximity to the guest rooms. (See "Hotel.")

**Must**

That which is mandatory.

**National Historic Preservation Act**

A 1966 federal law that established a National Register of Historic Places and the Advisory Council on Historic Preservation, and that authorized grants-in-aid for preserving historic properties.

**National Register of Historic Places**

The official list, established by the National Historic Preservation Act, of sites, districts, buildings, structures, and objects significant in the nation's history or whose artistic or architectural value is unique.

**Natural State**

The condition existing prior to development.

**Necessary**

Essential or required.

**Need**

A condition requiring supply or relief.

**Neighborhood Park**

City-owned land intended to serve the recreation needs of people living or working within one-half mile radius of the park.

**Nitrification/Dentrification**

The addition or subtraction of nitrogen.

**Nitrogen Oxide(s)**

A reddish brown gas that is a byproduct of combustion and ozone formation processes. Often referred to as NO<sub>x</sub>, this gas gives smog its "dirty air" appearance.

**Noise**

Any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. Noise, simply, is "unwanted sound."

**Non-attainment**

The condition of not achieving a desired or required level of performance. Frequently used in reference to air quality.

**Objective**

A specific, measurable, intermediate end that is achievable and marks progress toward a goal. Usually an objective requires some sense of time or quantity.

**Open Space**

(1) In the general context, open space is defined as all land and water not covered by buildings, support facilities, or pavement used for the purposes of (a) the preservation of natural resources, (b) the managed production of resources, (c) outdoor recreation, or (d) public health and safety. (2) For the specific purposes of this Comprehensive Plan, open space is defined as all area within the Resource Management/Recreation, Conservation, and Water Future Land Use Map categories, as well as golf course fairways, and "public" land on the annexed land commonly referred to as the "Fletcher" property.

**Open Space, Functional**

Improved sites in a development that still serve an open space function. Functional open space includes golf courses, circulation and utility corridors, landscaping, and land use buffers.

**Ordinance**

A law or regulation set forth and adopted by a governmental authority.

**Outdoor Recreation Use**

A privately or publicly owned or operated use providing facilities for outdoor recreation activities.

**Outfall**

The outlet of a body of water.

**Parcel**

Any quantity of land capable of being described with such definiteness that its location and boundaries may be established, that is designated by its owner or developer as land to be used or developed as a unit or that has been used or developed as a unit.

**Parking Area, Public**

An open area, excluding a street or other public way, used for the parking of automobiles and available to the public, whether for free or for compensation.

**Parks**

Open space lands, the primary purpose of which is recreation. (See "Open Space Land," "Community Park," and "Neighborhood Park.")

**Peak Hour/Peak Period**

For any given roadway, a daily period during which traffic volume is highest, usually occurring in the morning and evening commute periods. Where "F" Levels of Service are encountered, the "peak hour" may stretch into a "peak period" of several hours' duration.



**Performance Standards**

Zoning or land development regulations that permit uses based on a particular set of standards of operation rather than on particular type of use.

**Person**

An individual, corporation, governmental agency, business trust, estate, trust, partnership, association, two or more persons having a joint or common interest, or any other legal entity.

**pH**

Soil reaction that is the degree of acidity or alkalinity of a soil. A soil that tests to pH 7.0 is neutral.

Below 4.5	Extremely acidic
4.5 to 5.0	Very strongly acidic
5.1 to 5.5	Strongly acidic
5.6 to 6.0	Medium acidic
6.1 to 6.5	Slightly acidic
6.6 to 7.5	Neutral
7.6 to 7.8	Mildly alkaline
7.9 to 8.4	Moderately alkaline
8.5 to 9.0	Strongly alkaline

**Plan**

The RCID Comprehensive Plan, unless otherwise clearly indicated.

**Plan of Reclamation**

A system of engineering designs for reclaiming land from inundated water areas through the interconnection of artificial and natural conveyance systems.

**Policy, Policies**

The techniques, programs, and activities conducted to achieve an identified objective.

**Pollutant**

Any introduced gas, liquid, or solid that makes a resource unfit for its normal or usual purpose.

**Pollution**

The presence in the outdoor atmosphere, ground, or water of any substances, contaminants, noise, or unnatural alteration of the chemical, physical, biological, or radiological integrity of air or water, in quantities or at levels that are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property, or unreasonably interfere with the enjoyment of life or property.

**Pollution, Non-Point Source**

Sources for pollution that are not directly definable and usually cover broad areas of land, such as agricultural land with fertilizers that are carried from the land by runoff, or automobiles.

**Pollution, Point Source**

Any source of water pollution that constitutes a discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

**Population, Day Visitor**

All persons who visit theme park attractions in the District but do not stay overnight in the District.

**Population, Overnight Guest**

(See "Population, Seasonal.")

**Population, Permanent**

All persons permanently residing within the boundaries of a jurisdiction. Counted in the same manner used by the U.S. Bureau of Census in the category of total population. Permanent population does not include seasonal population.

**Population, Seasonal**

Population categorized as (1) tourist or overnight guest—persons who stay one or more days and less than six months, or (2) temporary—persons who occupy apartments for less than one year. Day visitors are not considered seasonal population.

**Potentiometric Level**

The elevation in a well to which water is naturally drawn.

**Preserve, n.**

An area in which beneficial uses in their present condition are protected; for example, a nature preserve or an agricultural preserve. (See "Protect.")

**Preserve, v.**

To keep safe from destruction or decay; to maintain or keep intact. (See "Maintain.")

**Primary Employer**

Unless otherwise indicated, refers to the Walt Disney Corporation and its subsidiaries.

**Protect, v.**

To maintain and preserve beneficial uses in their present condition as nearly as possible. (See "Enhance.")

**Public and Quasi-public Facilities**

Institutional, academic, governmental and community service uses, either publicly owned or operated by non-profit organizations.

**Rare, Threatened, or Endangered Species**

A species of animal or plant listed in Title 50, Code of Federal Regulations, Section 17.11 or Section 17.2, pursuant to the Federal Endangered Species Act designating species as rare, threatened, or endangered.

**Recognize, v.**

To officially (or by official action) identify or perceive a given situation.

**Recreation**

The variety of activities with which people elect to occupy their leisure time.

**Recreation, Entertainment/Cultural**

Includes entertainment, cultural, educational, and creative or aesthetic leisure activities.

**Recreation, Physical**

Requires physical effort as the major experience of the activity.

**Recreation, Resource Related**

Requires use of a natural resource, such as water, trees, scenery, or wildlife, to provide the setting or focus for an activity.

**Recycle, v.**

The process of extraction and reuse of materials from waste products.

**Redevelop, v.**

To demolish existing buildings, or to increase the overall floor area existing on a property; or both, irrespective of whether a change occurs in land use.

**Regional**

Pertaining to activities or economies at a scale greater than that of a single jurisdiction and affecting a broad, homogeneous area.

**Regional Park**

A park typically 150 to 500 acres in size, focusing on activities and natural features not included in most other types of parks and often based on a specific scenic or recreational opportunity.

**Rehabilitation**

The repair, preservation, and/or improvement of substandard housing.

**Residential**

Land designated in a Comprehensive Plan for buildings consisting only of dwelling units. May be vacant or unimproved. (See "Dwelling Unit.")

**Residential, Multi-Family**

Usually three or more dwelling units on a single site, which may be in the same or separate buildings.

**Residential, Single-family**

A single dwelling unit on a building site.

**Restore, v.**

To renew, rebuild, or reconstruct to a former state.

**Restrict, v.**

To check, bound, or decrease the range, scope, or incidence of a particular condition.

**Retention Basin/Retention Pond**

(See "Detention Basin/Dam/Pond.")

**Return Frequency**

The average interval of time within which a storm will not be equaled or exceeded.

**Reverse Osmosis**

The flow of fresh water through a semi-permeable membrane when pressure is applied to a solution (such as seawater) on one side of the membrane.

**Right-of-way**

A strip of land occupied or intended to be occupied by certain transportation and public use facilities, such as roadways, railroads, and utility lines.

**Runoff**

The portion of rainwater that falls upon the land and is not absorbed or retained, but flows from the point of contact into natural or artificial conveyance and/or collection systems.

**Sanitary Sewer**

A system of subterranean conduits that carries refuse liquids or waste matter to a plant where the sewage is treated, as contrasted with storm drainage systems (which carry surface water) and septic tanks or leech fields (which hold refuse liquids and waste matter on-site). (See "Septic System.")

**Septic System**

A sewage-treatment system that includes a settling tank through which liquid sewage flows and in which solid sewage settles and is decomposed by bacteria in the absence of oxygen. Septic systems are often used for individual-home waste disposal where an urban sewer system is not available. (See "Sanitary Sewer.")

**Shall**

That which is obligatory or necessary.

**Should**

Signifies a directive to be honored if at all possible.

**Shrink/Swell Potential**

The relative change in volume to be expected of soil material with changes in moisture content. Shrinking and swelling of soils cause damage to building foundations, roads, and other structures. A high shrink-swell potential indicates a hazard.

**Sign**

Any representation (written or pictorial) used to convey information or to identify, announce, or otherwise direct attention to a business, profession, commodity, service, or entertainment and placed on, suspended from, or in any way attached to any structure, vehicle, or feature of the natural or built landscape.

**Significant Effect**

A beneficial or detrimental impact on the environment. May include, but is not limited to, significant changes in an area's air, water, and land resources.

**Siltation**

(1) The accumulating deposition of eroded material. (2) The gradual filling in of streams and other bodies of water with sand, silt, and clay.

**Site**

A parcel of land used or intended for one use or a group of uses and having frontage on a public or an approved private street. A lot. (See "Lot.")

**Slope**

Land gradient described as the vertical rise divided by the horizontal run and expressed in percent.

**Sludge**

Precipitated solid matter produced from sewage treatment processes.

**Soil**

The unconsolidated material on the immediate surface of the earth created by natural forces that serves as a natural medium for growing land plants.

**Soil Drainage**

The frequency and duration of the period when soil is free of saturation. In well-drained soils, the water is removed readily but not rapidly; in poorly drained soils, the root zone is waterlogged for long periods and the roots cannot get enough oxygen; and in excessively drained soils, the water is removed so completely that most crop plants suffer from lack of water. Excessively drained soils are prime recharge areas, whereas poorly drained soils are poor recharge areas.

**Soil Limitations**

The capabilities and limitations of soils in their natural state to support a variety of specific uses:

***Slight***

Favorable conditions with minor limitations that can be easily overcome or modified by planning and design.

***Moderate***

Favorable conditions with minor limitations that can be easily overcome by careful planning and design or by special maintenance.

***Severe***

Unfavorable conditions that are difficult to correct or overcome and require major soil reclamation or special design.

***Very Severe***

Highly unfavorable conditions that are not only the most difficult to overcome, but also are the most costly to correct. These soil limitations are intended for use as a planning guide for selecting desirable sites or corridors and as a basis for further investigations and in no way eliminate the need for on-site detailed studies and testings involved in the planning, design, and construction of a specific project.

**Solid Waste**

General category that includes organic wastes, paper products, metals, glass, plastics, cloth, brick, rock, soil, leather, rubber, yard wastes, agricultural wastes, and wood.

**Standards**

(1) A rule or measure establishing a level of quality or quantity that must be complied with or satisfied. Examples of standards might include the number of acres of park land per 1,000 population that the community will attempt to acquire and improve, or the "traffic Level of Service" that the plan hopes to attain. (2) Requirements in a land development regulation that govern building and development, as distinguished from use restrictions; for example, site-design regulations, such as lot area, height limit, frontage, landscaping, and floor area ratio.

**Storm Duration**

The length of a given storm that, when joined to the return frequency, provides a standard that may be used for design purposes.

**Storm Runoff**

Surplus surface water generated by rainfall that does not seep into the earth but flows overland to flowing or stagnant bodies of water.

**Stormwater Conveyance System**

Any artificial or natural system that provides for controlled flow of stormwater, such as rivulet, swale, ditch, canal, creek, stream, or river.

**Streets, Local**

(See "Streets, Minor.")

**Streets, Major**

The transportation network that includes a hierarchy of freeways, arterials, and collectors to service through traffic.

**Streets, Minor**

Local streets whose primary intended purpose is to provide access to fronting properties.

**Streets, Through**

Streets that extend continuously between other major streets in the community.

**Structure**

Anything constructed or erected that requires location on the ground (excluding swimming pools, fences, and walls used as fences).

**Subsidize**

To assist by payment of a sum of money or by the granting of terms or favors that reduce the need for monetary expenditures. Housing subsidies may take the forms of mortgage interest deductions or tax credits from federal and/or state income taxes, sale or lease at less than market value of land to be used for the construction of housing, payments to supplement a minimum affordable rent, etc.

**Substandard Housing**

Residential dwellings that, because of their physical condition, do not provide safe and sanitary housing.

**Substantial**

Considerable in importance, value, degree, or amount.

**Theme Park, Major**

A theme park that is designed for multiple-day visits. The exhibitions and rides are extensive and normally require more than one day to experience.

**Theme Park, Minor**

A theme park that is designed for single-day or partial-day visits. Visitors are expected to spend shorter amounts of time than they would at a major theme park.

**Third Party Contractor**

An employee of any company or entity other than the Walt Disney Company or its subsidiaries located within RCID boundaries, including independent contractors.

**Topography**

Configuration of a surface, including its relief and the position of natural and built features.

**Tourism**

The business of providing services for persons traveling for pleasure. Tourism contributes to the vitality of the community by providing revenue to local business.

**Traffic Model**

A mathematical representation of traffic movement within an area or region based on observed relationships between the kind and intensity of development in specific areas. Many traffic models operate on the theory that trips are produced by persons living in residential areas and are attracted by various non-residential land uses. (See "Trip.")

**Transit**

The conveyance of persons or goods from one place to another by means of a local or regional public transportation system.

**Transit, Public**

A system of regularly scheduled buses or trains available to the public on a fee-per-ride basis. Also called "Mass Transit."

**Transit-dependent**

Refers to persons unable to operate automobiles or other motorized vehicles, or those who do not own motorized vehicles. Transit-dependent citizens must rely on transit, para-transit, or owners of private vehicles for transportation. Transit-dependent citizens include the young, the handicapped, the elderly, the poor, and those with prior violations in motor vehicle laws.

**Tree Crown Density**

Density when seen from above, looking down, and the ratio of surface covered by the trees' crown rather than the surface covered by other shrubs or bushes.

**Tributary Areas**

Adjacent land areas that contribute runoff to a receiving drainage basin.

**Trip**

A one-way journey that proceeds from an origin to a destination via a single mode of transportation; the smallest unit of movement considered in transportation studies. Each trip has one "production end" (or origin—often from home, but not always), and one "attraction end" (destination). (See "Traffic Model.")

**Trip Generation**

The dynamics that account for people making trips in automobiles or by means of public transportation. Trip generation is the basis for estimating the level of use for a transportation system and the impact of additional development or transportation facilities on an existing, local transportation system. Trip generations of households are correlated with destinations that attract household members for specific purposes.

**Undevelopable**

Specific areas where topographic, geologic, and/or surface soil conditions indicate a significant danger to future occupants and a liability to the governing jurisdiction.

**Undue**

Improper or more than necessary.

**Urban Sprawl**

Scattered, untimely, poorly planned urban development that occurs in urban fringe and rural areas. It manifests itself in leapfrog development; ribbon or strip development; or large expanses of low-density, single-dimensional development.

**Use**

The purpose for which a lot or structure is or may be leased, occupied, maintained, arranged, designed, intended, constructed, erected, moved, altered, and/or enlarged in accordance with the Land Development Regulations and Comprehensive Plan Future Land Use Designations.

**Use Permit**

The discretionary and conditional review of an activity, function, or operation on a site or in a building or facility.

**Vacant**

Lands or buildings that are not actively used for any purpose.

**Variances**

A departure from any provision of the Land Development Regulations for a specific parcel, without changing the regulations or the underlying designation of the parcel.

**Vegetative Communities**

Ecological communities, such as coastal strands, oak hammocks, and cypress swamps, that are classified based on the presence of certain soils, vegetation, and animals.

**Very-Low-income Household**

A household with an annual income usually no greater than 50 percent of the area median family income adjusted by household size, as determined by a survey of incomes conducted by a city or a county, or in the absence of such a survey, based on the latest available eligibility limits established by the U.S. Department of Housing and Urban Development for the Section 8 Housing Program. (See "Area Median Income.")

**Volume-to-Capacity Ratio**

A measure of the operating capacity of a roadway or intersection, in terms of the number of vehicles passing through, divided by the number of vehicles that theoretically could pass through when the roadway or intersection is operating at its designed capacity; abbreviated as "v/c." At a v/c ratio of 1.0, the roadway or intersection is operating at capacity. If the ratio is less than 1.0, the traffic facility has additional capacity. Although ratios slightly greater than 1.0 are possible, it is more likely that the peak hour will elongate into a "peak period." (See "Peak Hour/Peak Period" and "Level of Service, Traffic.")

**Wastewater Irrigation**

The process by which wastewater that has undergone primary treatment is used to irrigate land.

**Water Control Structures**

An artificially created feature for impeding the natural flow of water, the design of which permits the retention, detention, or release of water during wet and dry seasons.

**Watershed**

The total area above a given point on a watercourse that contributes water to its flow; the entire region drained by a waterway or watercourse that drains into a lake or reservoir.

**Waterway**

(See "Watercourse.")

**Weir**

A dam in a stream to raise its water level or direct its flow.

**Wetlands**

Transitional areas between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Under a "unified" methodology now used by all federal agencies, wetlands are defined as "those areas meeting certain criteria for hydrology, vegetation, and soils."

**Wildlife Refuge**

An area maintained in a natural state for the preservation of both animal and plant life.





Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay  
Lake

## **COMPREHENSIVE PLAN**

## **MONITORING AND EVALUATION**

# PURPOSE

One of the basic tenets of the Growth Management Act is that the comprehensive plan be continuously monitored and evaluated to ensure that it reflects current conditions as accurately as possible. The monitoring function, in particular, must be continuous to ensure that public facilities are available concurrent with the impacts of new development. At a minimum, the evaluation function must occur every five years after adoption of the Comprehensive Plan.

The District's monitoring and evaluation procedures are described below. The procedures consist of three major parts:

- annual capital improvement program updates and evaluations;
- concurrency management monitoring; and
- five-year/mid-term evaluation and appraisal.

## **ANNUAL CAPITAL IMPROVEMENT PROGRAM UPDATES AND EVALUATIONS**

This category includes updating of the capital improvement program, the capital improvement program monitoring and evaluation program, and the annual evaluation of revenue sources. These components are further described in the Capital Improvements Element.

## **CONCURRENCY MANAGEMENT MONITORING**

The District's Land Development Regulations include criteria pertaining to traffic, water, wastewater, solid waste, drainage, and parks to determine whether a proposed development is subject to concurrency review. Applicants subject to concurrency review must submit detailed information on the service demands associated with the proposed project. A Certificate of Concurrency is issued if an application is deemed concurrent. In the event a project is found to be not concurrent, the applicant is provided with an opportunity to modify the project, mitigate the impacts, or provide the needed capital improvements as provided in a development agreement.

The concurrency determination is made by comparing the available capacity of a facility or service to the demand created by a proposed project. Available capacity is determined by adding together the excess capacity of existing facilities and the capacity of any new facilities that meet concurrency standards, and subtracting any capacity committed to vested projects and projects previously issued Certificates of Concurrency. An application is deemed concurrent only when level of service standards are not violated. Facilities in each service category are monitored to determine the available excess and committed capacity at any given time.

## **FIVE-YEAR EVALUATION AND APPRAISALS**

An evaluation and appraisal will be prepared on a five-year/mid-term basis, with adoption of once every seven years. Section 163.3191, Florida Statutes, identifies the requirements for an EAR. These requirements are summarized below:

### **Contents**

The EAR must present an assessment and evaluation of the successes and failures of the plan, and contain appropriate findings and recommendations related to the following:

- Population growth and changes in land area, including annexation, since the adoption of the original plan or the most recent update amendments;
- The extent of vacant and developable land;
- The financial feasibility of implementing the comprehensive plan and of providing needed infrastructure to achieve and maintain adopted level-of-service standards and sustain concurrency management systems through the capital improvements element, as well as the ability to address infrastructure backlogs and meet the demands of growth on public services and facilities;
- The location of existing development in relation to the location of development as anticipated in the original plan, or in the plan as amended by the most recent evaluation and appraisal report update amendments, such as within areas designated for urban growth;
- An identification of the major issues for the District and, where pertinent, the potential social, economic, and environmental impacts;
- An assessment of whether the plan objectives within each element, as they relate to major issues, have been achieved. The report shall include, as appropriate, an identification as to whether unforeseen or unanticipated changes in circumstances have resulted in problems or opportunities with respect to major issues identified in each element and the social, economic, and environmental impacts of the issue;
- A brief assessment of successes and shortcomings related to each element of the plan;
- The identification of any actions or corrective measures, including whether plan amendments are anticipated to address the major issues identified and analyzed in the report. Such identification shall include, as appropriate, new population projections, new revised planning timeframes, a revised future conditions map or map series, an updated capital improvements element, and any new and revised goals, objectives, and policies for major issues identified within each element;
- The extent to which the District has been successful in identifying alternative water supply projects and traditional water supply projects, including conservation and reuse, necessary to meet the water needs identified in s. 373.0361(2)(a) within the District's jurisdiction. The report must evaluate the degree to which the District has implemented the work plan for building public, private, and regional water supply facilities, including development of alternative water supplies identified in the element as necessary to serve existing and new development;
- An assessment of the extent to which changes are needed to develop a common methodology for measuring impacts on transportation facilities for the purposes of implementing its concurrency management system in coordination with the municipalities and counties, as appropriate pursuant to s. 163.3180(10);
- Relevant changes to the state comprehensive plan, the requirements of this part, and the appropriate strategic regional policy plan since the adoption of the original plan or the most recent evaluation and appraisal report update amendments; and

- A summary of the public participation program and activities undertaken by the local government in preparing the report.



Reedy Creek Improvement District  
City of Lake Buena Vista and City of Bay  
Lake  
**COMPREHENSIVE PLAN**

**APPENDIX A**  
**POPULATION PROJECTIONS FOR THE RCID**

# POPULATION PROJECTIONS FOR RCID

## INTRODUCTION

This appendix documents 2019, 2027, and 2032 population characteristics for the Reedy Creek Improvement District (RCID). The projections are presented in accordance with F.S.163.3177(1)(f)3 – generated by the local government based upon a professionally acceptable methodology.

Because projections are not provided for the RCID, this appendix has been prepared to document the locally developed functional or daytime population projections methodology. Daytime or “functional” population refers to the total number of persons that are present in the District during a typical daytime period. The figure includes permanent residents, resort guests, theme park visitors, and employees. Estimates of functional population are best expressed as a range, since the figure fluctuates from day to day based on variables such as season, weather, and special events. Precise estimates of the daytime population are difficult to develop because many resort guests are potentially double counted as theme park visitors.

The appendix is divided into three parts, corresponding to the three points in time identified above. In each case, figures are presented for the District's permanent residential population, overnight guest population, theme park guest population, employee population, and a range for total population.

### **Permanent Population**

The permanent population includes all persons residing within the District's boundaries in 17 manufactured homes. The homes located are in two licensed mobile home parks, one in Lake Buena Vista off Buena Vista Drive, and the other in Bay Lake off Reams Road. The Lake Buena Vista complex has 9 units, and the Bay Lake complex has 8 units. The permanent population tends to fluctuate little and is expected to average around 43 residents during the 2027 and 2032 planning periods. There are two vacancies currently and one vacant lot. When the Bay Lake complex was redeveloped a ninth lot was added, so the development maximums in the Future Land Use Element provide for one additional residential unit bringing the total to 9 units in each complex.

### **Overnight Guest Population**

Overnight guests are defined as visitors who stay within District boundaries for more than one day but less than six months. All projections are stated in terms of an average day and are based on historical occupancy rates applied to the total number of hotel/resort keys currently open for business, currently under construction, and included in the development maximums in the Future Land Use Element for the 2027 and 2032 planning periods.

### **Theme Park Visitor Population**

The theme park visitor population is based on estimates by Themed Entertainment Association / AECOM (TEA/AECOM). Theme park attendance provides an indicator of the number of day visitors which is not mutually exclusive of overnight guests. On any given day some of the overnight guests may visit the theme parks and others may not. Some guests may visit multiple theme parks in a single day resulting in double counting.

## Employee Population

There are more than 3,000 different jobs available within the District including jobs in local government; resorts and attractions; retail, dining, and entertainment establishments; environmental, financial, and transportation services; utilities, healthcare, construction, etc. Employment ranges from full-time to part-time to seasonal.

## Total Population

The District's average daily population fall somewhere between the sum of the permanent population plus the theme park visitor population plus the employee population (this assumes all overnight guests visit the theme parks) and the sum of all four categories (this presumes none of the overnight guests visit the theme parks). Obviously the District's average daily population falls between these two extremes.

## Summary

The RCID had an average permanent population of 33 residents during 2019. This figure is very small when compared to the total number of persons "residing in" or visiting the District on a daily basis. To properly measure current and future needs for services and facilities, projections quantify the transient population of the RCID as well as its permanent population as summarized in Table A-1. The projections are worse case and assume all the development permitted in Table 2-1 in the Future Land Use Element takes place.

**Table A-1: Summary of the Population Projections for the RCID**

Year	Permanent Population	Overnight Guest Population	Theme Park Visitor Population	Employee Population	Total Population Range	
					Low	High
2019	33	97,107	172,627	55,000	227,660	324,767
2027	43	115,451	189,870	59,247	249,160	364,611
2032	43	135,227	210,163	63,832	274,038	409,265

## 2019 BASE YEAR POPULATION

### Permanent Population

There were 33 permanent residents in the district in 2019.

### Overnight Guest Population

Type	Total Number of Keys	Average Guests/Room	Average Occupancy	Overnight Guest Population
Hotels/Resorts	31,333	2.8	87%	76,327
Interval Ownership Units	5,073	3.8	88%	16,964
Campgrounds	1,223	3.9	80%	3,816
<b>Total</b>				<b>97,107</b>

### Employee Population

Approximately 71 percent or 55,000 of the 77,000 employed within the District work each day.

### Theme Park Visitor Population

The estimated number of total visits is based on estimates of Themed Entertainment Association / AECOM (TEA/AECOM) Attraction Attendance Report for 2019.

Theme Park	Theme Park Visitor Population
Magic Kingdom	57,433
Disney's Animal Kingdom	38,049
Epcot	34,093
Disney's Hollywood Studios	31,460
Typhoon Lagoon Water Park	6,159
Blizzard Beach Water Park	5,433
<b>Total</b>	<b>172,627</b>

### Total Population

The District's average daily population falls between the sum of the permanent population plus the theme park visitor population plus the employee population (low range) and the sum of all four categories (high range). Obviously the District's average daily population falls between these two extremes.

Year	Permanent Population	Overnight Guest Population	Theme Park Visitor Population	Employee Population	Total Population Range	
					Low	High
2019	33	97,107	172,627	55,000	<b>227,660</b>	<b>324,767</b>



## 2027 POPULATION PROJECTIONS

### Permanent Population

The permanent population within the District is projected to increase to 43 as the two vacant residences are filled and the undeveloped lot in Bay Lake is developed.

### Overnight Guest Population

The projected 2027 overnight guest population assumes all of the hotel keys currently under construction or approved for development are completed and that 3,500 of the hotel/resort keys provided for in Table 2-1 in the Future Land Use Element are built and opened and that all currently operating resorts remain. It's more likely only the hotel and interval ownership key currently under construction or approve for development will be built during this planning period. Following 9/11 and the Great Recession hotel occupancy declined for several years before making gains. According to the Disney Company annual reports occupancy fell below historical averages from 2002 to 2006 (following 9/11) and from 2010 to 2015 (following the Great Recession).

Type	Total Number of Keys	Average Guests/Room	Average Occupancy	Overnight Guest Population
Hotels	34,520	2.8	87%	87,374
Interval Ownership Units	6,989	3.8	88%	24,261
Campgrounds	1,223	3.9	80%	3,816
<b>Total</b>				<b>115,451</b>

### Employee Population

As with the projection for the overnight guest population, the projected employee population is based on the development provided for in Table 2-1 in the Future Land Use Element.

Type	Total Number of Keys	Average Employees/Room	Total Employees	Daily Employee 5/7	Employee Population
2019 Employees Population			77,000	71%	55,000
New Hotels/Resorts	6,451	0.57	3,680	71%	2,628
Office			280	71%	200
Retail/Restaurant			1,917	71%	1,370
Major Theme Park			66	71%	47
Minor Theme Park			3	71%	2
<b>Total</b>					<b>59,247</b>

## Theme Park Visitor Population

Theme park population for 2027 is based a growth rate similar to what occurred from 2010 through 2019.

Theme Park	2019 Estimate	Growth Rate 2022 thru 2027	Theme Park Visitor Population
Magic Kingdom	57,433	12.68%	64,717
Disney's Animal Kingdom	38,049	8.38%	41,237
EPCOT	34,093	7.87%	36,775
Disney's Hollywood Studios	31,460	10.77%	34,850
Typhoon Lagoon Water Park	6,159	8.57%	6,687
Blizzard Beach Water Park	5,433	3.16%	5,605
New Minor Theme Park	0	N/A	0
<b>Total</b>	<b>172,627</b>	<b>9.99%</b>	<b>189,870</b>

## Total Population

The District's average daily population falls between the sum of the permanent population plus the theme park visitor population plus the employee population (low range) and the sum of all four categories (high range). Obviously the District's average daily population falls between these two extremes. The District's total average daily population is projected to increase between 21,500 (9.4 percent) and 39,844 (12.3 percent) through 2027.

Year	Permanent Population	Overnight Guest Population	Theme Park Visitor Population	Employee Population	Total Population Range	
					Low	High
2027	43	115,451	189,870	59,247	249,160	364,611

## 2032 POPULATION PROJECTIONS

### Permanent Population

The permanent population within the District is projected to remain unchanged at 43.

### Overnight Guest Population

The projected 2032 overnight guest population assumes all of the hotel/resort keys (7,000) provided for in Table 2-1 in the Future Land Use Element are built and that all currently operating resorts remain. The historical average occupancy and guests per room were used for 2032.

Type	Total Number of Keys	Average Guests/Room	Average Occupancy	Overnight Guest Population
Hotels	39,868	2.8	87%	97,118
Interval Ownership Units	10,255	3.8	88%	34,293
Campgrounds	1,223	3.9	80%	3,816
<b>Total</b>				<b>135,227</b>

### Employee Population

As with the projection for the overnight guest population, the projected employee population is based on the development provided for in Table 2-1 in the Future Land Use Element.

Type	Total Number of Keys	Average Employees/Room	Total Employees	Daily Employee 5/7	Employee Population
2027 Employee Population			82,946	71%	59,247
New Hotels/Resorts	7,000	0.57	3,953	71%	2,824
Office			187	71%	133
Retail/Restaurant			2,057	71%	1,469
Major Theme Park			0	71%	0
Minor Theme Park			162	71%	116
<b>Total</b>					<b>63,832</b>

### Theme Park Visitor Population

Theme park population for 2032 is based a growth rate similar to what occurred from 2010 through 2019.

Theme Park	2027 Estimate	Growth Rate 2027 thru 2032	Average Population
Magic Kingdom	64,717	10.46%	71,488
Disney's Animal Kingdom	41,237	6.93%	44,097
EPCOT	36,775	6.51%	39,170
Disney's Hollywood Studios	34,850	8.90%	37,952
Typhoon Lagoon Water Park	6,687	7.09%	7,161
Blizzard Beach Water Park	5,605	2.63%	5,752
New Minor Theme Park	0	100%	3,129
<b>Total</b>	<b>189,870</b>	<b>10.69%</b>	<b>210,163</b>

### Total Population

The District's average daily population falls between the sum of the permanent population plus the theme park visitor population plus the employee population (low range) and the sum of all four categories (high range). Obviously the District's average daily population falls between these two extremes. The District's

total average daily population is projected to increase between 24,878 (10 percent) and 44,654 (12.3 percent) from 2027 through 2032.

Year	Permanent Population	Overnight Guest Population	Theme Park Visitor Population	Employee Population	Total Population Range	
					Low	High
2032	43	135,227	210,163	63,832	<b>274,038</b>	<b>409,265</b>