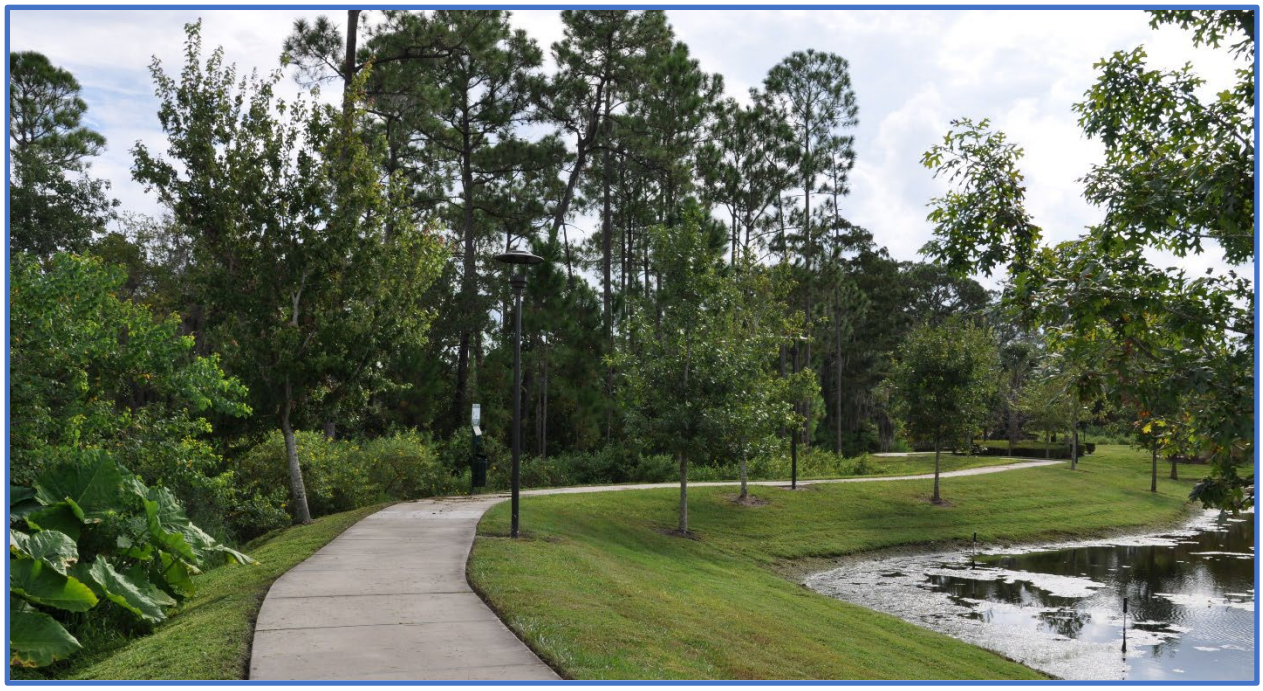
Chapter 5

A Beautiful and Environmentally-Friendly Community

Contents



"Cities thrive when they incorporate nature-based solutions like wetlands. These ecosystems are invaluable in combating pollution, promoting green spaces, and enhancing quality of life for urban residents."

– **Environmental Protection Agency (EPA)**

CHAPTER INTRODUCTION

The City of Orlando is dedicated to creating a sustainable, vibrant, and environmentally conscious community for current residents, visitors, and future generations. As the city grows, it is essential to find a balance between development and the protection of our natural environment. This balance ensures that Orlando can continue to serve while preserving the natural beauty and resources that define our community. By thoughtfully integrating growth with environmental stewardship, the city can foster an urban landscape where both human progress and nature coexist harmoniously.

Central to this effort is the careful management of both natural and environmental resources. Natural resources include materials such as water, minerals, and energy sources, both renewable and non-renewable. These resources are critical to supporting the city's infrastructure, economy, and quality of life. Environmental resources, on the other hand, encompass the broader ecosystem services that sustain the health of the environment, such as clean air, water, and biodiversity. These elements are vital to ensuring that Orlando remains a

place where residents can enjoy a high quality of life while maintaining a connection to the natural world.

In order to create an environmentally sustainable urban environment, it is necessary to focus on land conservation and the careful use of resources. This includes prioritizing open space design that preserves natural habitats, improves air and water quality, and supports wildlife corridors. Land conservation efforts ensure that essential green spaces are preserved within the city, providing recreational areas and ecological benefits while mitigating the impacts of urban sprawl. By preserving and enhancing these areas, Orlando can continue to grow while maintaining its environmental integrity.

The design and planning of urban spaces must also consider the effective use of resources. This involves implementing strategies for energy efficiency, water conservation, waste reduction, and the promotion of sustainable building practices. Incorporating green infrastructure, such as energy-efficient buildings, renewable energy sources, and water management systems, allows Orlando to reduce its environmental footprint and promote long-term sustainability. Sustainable urban planning also supports the city's resilience to climate change and ensures that future generations can enjoy the same resources and natural beauty that current residents and visitors do.

Ultimately, the goal of the City of Orlando is to be a forward-thinking, sustainable city that balances development with environmental responsibility. Each decision made in urban planning, development, and community design should be informed by a commitment to environmental preservation. In doing so, the city will remain a vibrant, livable, and resilient place, capable of meeting the needs of its citizens now and in the future.

Conservation Element

OUR GUIDANCE

- Section 163.3177, Florida Statutes – Required and optional elements of the comprehensive plan; studies and surveys.
- FDEP Onsite Sewage Program.
- 2024 FDEP Hazardous Waste Facility List.
- 2018 Green Works Orlando Community Action Plan.
- 2019 City of Orlando Lake Water Quality Report.
- 2022 City of Orlando Water Supply Facilities Work Plan.
- 2023 City of Orlando Wetlands and Open Space Study.
- 2018 Flood Insurance Rate Maps.
- 2021 Florida Ozone and Particular Matter Air Quality Trends.
- 2020 City of Orlando Bicycle Plan.
- 2021 Orlando EV Readiness Plan.

Our Trends:

Orlando, renowned as 'The City Beautiful', is rich in natural beauty and diverse ecosystems. Central to our urban identity are the expansive green spaces, lakes, and the iconic wetlands that support a variety of wildlife and flora. The history of Orlando is deeply intertwined with its commitment to preserving these natural treasures. From the serene Lake Eola at the heart of downtown to the sprawling wetlands of the Orlando Wetlands Park, our commitment to conservation ensures that these habitats not only enrich the quality of life for our residents but also sustain the ecological balance necessary for our region.

The Conservation Element for Orlando provides a framework that emphasizes sustainable management and the protection of our natural resources from urban pressures and environmental challenges. This plan focuses on collaborative efforts, regulatory strategies, and innovative practices to maintain and enhance the ecological functions of our natural environments. Our goal is to preserve these assets so that they continue to offer recreational opportunities, support biodiversity, and foster a healthy community for generations to come. This Conservation Element also provides an overview of the sustainability and resiliency policies and programs being undertaken through Orlando's Green Works Initiative.

Identification and Analysis of Natural Resources

The City of Orlando is committed to the sustainable management and protection of its diverse natural resources, recognizing their essential role in supporting ecological balance and enhancing the quality of life for residents. These resources include lakes, rivers, floodplains, wetlands, air quality, and endangered/threatened species. Each resource is vital to the city's environmental, social, and economic well-being.

LAKES, RIVERS, AND DRAINAGE BASINS

Orlando's hydrological system includes 123 named water bodies spread across six major drainage basins. Among these, 85 are natural lakes, while the remaining 38 originated as borrow pits or stormwater ponds, many of which have been repurposed for ecological and recreational use. These water bodies provide essential services, such as supporting biodiversity, offering recreational opportunities, and managing stormwater runoff. Orlando's lakes are depicted on **Figure C-3**. Information regarding drainage basins can be found in the Stormwater and Aquifer Recharge Element; specifically, **Figure S-6** shows the locations of the drainage basins within the Orlando city limits.

These lakes and rivers are central to Orlando's ecological and urban systems, playing key roles in recreation, biodiversity, and water management. They also face significant challenges due to urbanization, including nutrient loading from stormwater runoff and pollution from nearby development. Nutrients such as nitrogen and phosphorus, carried by runoff from roads and lawns, can cause eutrophication, leading to algal blooms and diminished water quality. Efforts to address these challenges include implementing best management practices, retrofitting stormwater infrastructure, and conducting restoration projects. The City's 2019 Lake Water Quality Report highlights ongoing trends, showing that many lakes are improving in water quality due to these initiatives, while others continue to require targeted interventions.

FLOODPLAINS

Floodplains, characterized by their relatively flat terrain, lie adjacent to water bodies and serve as critical overflow zones during periods of heavy rainfall or riverine flooding. These areas play a dual role in water management and ecosystem sustainability by absorbing excess water during floods and releasing it gradually during drier periods. This natural functionality mitigates flood risks, sustains steady water flow, and supports aquatic and terrestrial habitats.

Floodplain wetlands in Orlando provide vital ecological services, such as water storage, groundwater recharge, and habitat for diverse species. The city's floodplains are primarily found in low-gradient downstream sections of rivers, including areas around Lake Nona, Lake Mann, and Clear Lake. These lakes, along with others not explicitly listed, exemplify areas prone to flooding within the city. Narrowly confined channels along Shingle Creek, Boggy Creek, and Howell Branch, as well as landform depressions, enclosed sub-basins, and landlocked lakes, also experience flooding dynamics.

The 2018 U.S. Geological Survey Flood Insurance Rate Maps are used for composite floodplain maps. This data is essential, as Orlando relies on FEMA maps to delineate floodplain elevations

and flow velocity within floodways. **Figure C-1** below provides 100-year floodplain acreage by basin, while the physical location of Orlando's floodplains are depicted on **Figures C-4**.

Figure C-1 – Floodplain Acreage

Basin	100-Year Floodplain
Wekiva River	3.73
Howell Branch	689.78
Little Econ	3,752.36
Shingle Creek	3,410.46
Lake Hart	6,684.36
Little Wekiva	1,057.33
Boggy Creek	5,356.59
Big Econ	2,346.95
Total Acreage	**23,301.56**

Source: City of Orlando Engineering Bureau, GIS, 2024

Orlando has demonstrated the efficacy of floodplain restoration through projects like the Greenwood Urban Wetlands initiative. This project combined stormwater treatment with habitat creation, transforming a degraded area into a functional ecosystem that manages urban runoff while providing recreational opportunities. Similarly, the Shingle Creek Regional Park restoration enhanced floodplain functionality by restoring native vegetation and creating water retention areas, significantly improving flood resilience and biodiversity.

WETLANDS

Wetlands offer a wide range of socioeconomic and environmental benefits, including flood control, erosion management, recreational opportunities, aesthetics and avenues for education and research. They enhance community livability by filtering pollutants, trapping sediments, producing oxygen and recycling nutrients. Wetlands support diverse ecosystems and provide habitats for fish, waterfowl, and other wildlife. However, development pressures have caused significant wetland loss in Florida. Historically unsuitable lands were often altered for agricultural or industrial purposes, leaving only a fraction of Orlando's original wetlands intact.

As Orlando continues to grow, it has incorporated vital ecological habitats. The 2023 City of Orlando Wetlands and Open Space Study identified approximately 11,200 acres of wetlands within Orlando's jurisdiction, highlighting these areas' critical role in biodiversity, water quality and flood mitigation. Notably, the study does not include the additional wetlands from the recent Sunbridge area annexation, which includes 889 acres of wetlands in phase 1 alone.

The City's wetlands, identified in **Figure C-5**, represent critical areas that are safeguarded against removal, alteration, or encroachment unless such actions are found to be in the public interest or there are no reasonable alternatives. In these exceptional cases, impacts are restricted to essential activities like roadway and utility access to otherwise undevelopable uplands. The City maintains a GIS wetlands acreage database.

The City has identified protected wetlands utilizing the Conservation future land use designation. Building on this foundation, the implementation of wetland buffer zones further enhances protection by preserving native vegetation and preventing intrusion. The Transitional Wildlife Habitat Overlay (TWHO) also plays a significant role in protecting interconnected wetland systems and upland habitats, ensuring that semi-aquatic and wetland-dependent species have suitable environments to thrive.

State and federal regulatory agencies play a primary role in managing and protecting wetland systems, ensuring comprehensive oversight to prevent unnecessary duplication or conflicts with city regulations. The Environmental Resource Permit (ERP) program, established in 1994, streamlines the management of surface water, wetland impacts, and dredging in Florida. This program enables applicants to secure comprehensive permits through the Water Management Districts, which coordinate with other permitting authorities as needed. The St. Johns River and South Florida Water Management Districts, along with the U.S. Army Corps of Engineers, oversee permitting for wetland impacts within Orlando, requiring minimal impact and the implementation of mitigation measures.

However, Orlando maintains the right to provide comments or intervene during the permitting process to advocate for local priorities, particularly if there are impacts proposed within the City's Conservation future land use category or in the TWHO. The City also has its own wetlands regulations in the Land Development Code. This layered approach bolsters conservation efforts while addressing localized ecological needs.

Air Quality

Historically, Orlando's air quality policies were limited due to the influence of cross-jurisdictional air currents, with regulation primary handled by state and federal levels. Air quality testing permitting in the Orlando area are managed by the Florida Department of Environmental Protection (FDEP), Division of Air Resource Management, which implements the federal Clean Air Act and relevant Florida Statutes. The FDEP works alongside Orange County and MetroPlan Orlando, the central Florida metropolitan planning organization to actively monitor and report on air quality across the region. These efforts include pollutant tracking, data analysis and coordination of air-related activities at all levels of government.

The FDEP administers Florida's air pollution control programs, promotes pollution prevention and issues permits for major and minor stationary sources of air pollutants, such as incinerators, refineries and industrial facilities. Compliance is ensured through adherence to ambient air quality standards for six pollutants: sulfur dioxide, particulate matter, carbon monoxide, ozone, nitrogen dioxide and lead. Recent data show significant improvements in Florida's air quality, with all monitoring stations statewide now meeting the current Environmental Protection Agency (EPA) National Ambient Air Quality Standard (NAAQS) for ozone, set at 70 parts per billion (*ppb*). This milestone reflects a long-term decline in ozone concentrations since the late 1990s, driven by reductions in nitrogen oxides (NOx) emissions from both industrial processes and vehicles. Florida's air quality consistently ranks among the best in the nation, as highlighted in the 2022 American Lung Association "State of the Air" report, which recognized 20 Florida counties as some of the cleanest in the country and assigned Orange County a grade of B.

Despite these advancements, automobiles remain the primary source of air pollution in the Orlando region, surpassing industrial contributors. The city has implemented several initiatives to address these issues, including expanding electric vehicle (EV) infrastructure, promoting public transit options and improving bike and pedestrian pathways to reduce reliance on personal vehicles. Statewide measures to reduce NOx emissions, such as enhanced vehicle emissions standards and industrial regulations, have further contributed to improving air quality. These reductions in precursor pollutants have been instrumental in lowering both ozone and particulate matter levels across Florida, with particulate matter (PM2.5 and PM10) levels remaining well below federal standards.

The City of Orlando and Orange County continue to take a proactive approach to air quality management, combining local initiatives with state and federal programs to mitigate air pollution. The FDEP supports these efforts through its Bureau of Air Regulation, Bureau of Air Monitoring and Mobile Sources and the Office of Policy Analysis and Program Management. These agencies monitor compliance, track pollutant levels and enforce regulation for both new and existing sources of pollution. In Orange County, the Air Quality Management (AQM) Division operates stationary monitoring sites to assess ambient air for pollutants, including ozone, particulate matter, sulfur dioxide, nitrogen dioxide and carbon monoxide.

Over the past two decades, Orlando has seen improvements in air quality with acceptable levels recorded for pollutants such as ozone, nitrogen dioxide and particulate matter as shown in **Figure C-2.** However, challenges remain particularly in addressing vehicular emissions and the impacts of population growth on air quality. The city's continued focus on sustainable urban

planning, renewable energy and public awareness initiatives ensures that Orlando is well-positioned to meet future air quality challenges while contributing to broader environmental goals.

Figure C-2 – Attainment/Non-Attainment Designations for Orange County

Pollutant	Designations
Carbon Monoxide	Attainment
Nitrogen Dioxide	Attainment
Sulfar Dioxide	Attainment
Ozone	Attainment
Lead	Attainment
Particulate Matter	Attainment

Source: Florida Department of Environmental Protection, Division of Air Resources Management, 2024

Carbon Dioxide and Greenhouse Gases

The City of Orlando has implemented several initiatives to reduce greenhouse gas emissions and lead the way in environmental sustainability. Key actions include a commitment to renewable energy, setting ambitious goals to reduce greenhouse gas emissions by 90% from 2007 levels by 2040, and achieving 100% renewable electricity by 2050. Orlando has already made strides by meeting 10% of its municipal electricity demand with solar energy and is expanding solar infrastructure through partnerships with the Orlando Utilities Commission (OUC) to increase community access to solar power. These efforts include solar installations across various city facilities.

In addition to clean energy, Orlando is enhancing its transportation network to reduce dependency on personal vehicles, which helps lower emissions. The city has adopted a multi-modal approach, expanding bike infrastructure, establishing a bike-share program, and increasing the availability of electric vehicle (EV) charging stations. It also participates in the Autonomous Vehicle Mobility Initiative (AVMI), which demonstrates leadership in low-emission transit solutions like electric buses. To further reduce reliance on automobiles, Orlando is promoting denser development in its urban core. This strategy includes improving pedestrian and public transit infrastructure and increasing housing options near major employment centers to reduce commute times and emissions from personal vehicle use.

Orlando is also dedicated to raising community awareness and fostering green job skills, particularly in low-income communities. Educational initiatives and support programs are in place to promote energy management knowledge, as well as to fund green affordable housing standards. The city incentivizes clean energy upgrades for residents through programs like the

Solar and Energy Loan Fund (SELF). These strategies collectively demonstrate Orlando's dedication to reducing its environmental footprint and transitioning toward a resilient, low-carbon future.

Mineral Extraction

The City of Orlando does not contain any substantial known deposits of commercially valuable minerals. Most of the historic extractions in the Orlando area, principally clay and sand, occurred in unincorporated Orange County to the northwest of the City limits. Some peat mining was done in the Americana Boulevard area, also in unincorporated Orange County. All of these mineral extraction operations have been inactive for many decades.

At the present time, there are no mineral extraction operations within Orlando. All sand, clay, gravel, rock, and peat sources are located outside of Orlando's corporate limits and must be trucked in. New mineral extraction operations are not expected to be pursued within the 2050 planning period, due to the lack of commercially valuable minerals and the fact that most of the lands within the City not set aside for conservation and recreation uses are more valuable as locations for urban development.

Environment and Biodiversity

Topography and General Soil Associations

Orlando is a relatively flat place in terms of topography, with changes in elevation being extremely gradual as shown on **Figure C-6**. **Figure C-7** details the unique pattern of soils, relief, and drainage for the Orlando planning area. The general soils map can be used to compare the suitability of large areas of land for varying types of land use. The soils on the general soils map may differ from one place to another in slope, depth, drainage, and other characteristics that affect land management.

Potential Soil Erosion Problems

Erosion impacts within the City of Orlando are limited by the fact that most of the City is composed of nearly level, gently sloping land. According to the U.S. Natural Resources Conservation Service, there are no continuing soil erosion problem areas near Orlando. However, as a direct result of the rapid urbanization of Orlando since the 1970's, the most noticeable erosion problems occur on unprotected soils located on construction sites.

Water erosion is not a major problem within the City of Orlando. The soils are sandy and nearly level. Water erosion is caused by rapid runoff, which takes place only during heavy rains on unprotected soils that have short, steep slopes. The soils of the uplands and low ridges are the

most susceptible to water erosion when slopes exceed two percent. However, the two percent slope guideline is almost never exceeded within the City of Orlando. Best Management or Conservation Practices, such as maintaining a vegetative cover on the surface layer, reducing runoff, and increasing infiltration all help to control erosion.

Wind erosion is a major problem for the soils of the uplands and low ridges within the City of Orlando, particularly in areas recently cleared for construction. When developers prepare building sites, the soil is often stripped of vegetation and subjected to the forces of wind for three months or more. This form of erosion needs to be controlled in order to improve localized air quality. In order to off-set the adverse impacts of wind erosion, the LDC was revised in 1991 to place conditions on clear-cutting of vegetation. Methods such as sand-fencing, grubbing, and the maintenance of vegetative buffers are now required.

Ecological Communities, Endangered and Threated Species

Of the 26 ecological communities identified by the Soil Conservation Society of America, four are prevalent in the Orlando/Orange County area:

- Longleaf Pine – Turkey Oak Hills
- South Florida Flatwoods
- Cabbage Palm Flatwoods
- Cypress Swamp

The ecological community concept is based on the knowledge that certain soil types usually support specific vegetative communities, which the provide the particular habitat necessary for individual species of wildlife. These vegetative communities create identifiable components of the landscape. Once the vegetative community has been recognized, information about the characteristics of the soil in which it exists and the types of animals and plants that commonly occur is readily available.

The Orlando area is home to several species that are federally listed as endangered, threatened, or of special concern. These include mammals (Florida panther, Sherman's fox squirrel, Florida black bear); birds (bald eagle, Florida scrub-jay, wood stork, red-cockaded woodpecker, snowy egret, tricolored heron, white ibis); reptiles (eastern indigo snake, sand skink, American alligator); and plants (Florida bonamia, scrub lupine, papery whitlow-wort, sand butterfly pea, hand fern, Britton's beargrass, scrub milkwort, Small's jointweed, scrub plum, wild coco, clasping warea). This is not an exhaustive list, as species frequently enter or change categories based on ongoing assessments and environmental factors.

Species inhabiting wetland ecosystems receive greater protection under federal and state laws compared to those in upland areas, which are more susceptible to development pressures.

Upland areas, such as pine flatwoods and xeric oak habitats, are more vulnerable to urbanization due to their suitability for construction and agriculture. To address this, the City of Orlando has implemented the Conservation Use and Transitional Wildlife Habitat Overlay (TWHO) in its future land use planning to safeguard upland habitats adjacent to wetlands. Additionally, the city promotes the Primary Conservation Network (PCN) concept in the Southeast area to maintain wildlife corridors connecting significant wetland regions.

To monitor and protect these species, Orlando collaborates with state and federal agencies such as the Florida Fish and Wildlife Conservation Commission, the Florida Department of Environmental Protection, and the Environmental Protection Agency. These agencies provide regular updates on the status of endangered and threatened species, accessible through their official platforms. Conservation efforts include habitat preservation, hydrological restoration, wildlife corridor establishment, and compliance with regulatory measures.

Urbanization continues to pose challenges, including habitat fragmentation and pollution. To counter these threats, Orlando's conservation strategies align with long-term goals, emphasizing sustainable development and the integration of green infrastructure. Initiatives such as the Florida Wildlife Corridor support habitat connectivity, ensuring that wildlife movement is not restricted by urban growth.

For the most current information on the status of these species and their habitats, please refer to official sources such as the Florida Fish and Wildlife Conservation Commission (FWC), the Florida Department of Environmental Protection (DEP), and the Environmental Protection Agency (EPA).

HAZARDOUS WASTES

As of 2024, the Florida Department of Environmental Protection (FDEP) has identified numerous hazardous waste sites in Orange County, with some identified within City of Orlando's corporate limits. These sites primarily result from chemical spills involving organic compounds, inorganic substances, or heavy metals, leading to violations of state groundwater quality standards.

To mitigate these environmental hazards, FDEP's Division of Waste Management oversees the Storage Tank Compliance Program, which mandates secondary containment for all new and replacement storage tank systems to prevent leaks and spills from contaminating soil and groundwater. This program also requires existing single-wall storage tank systems to be upgraded to include secondary containment, enhancing environmental protection.

Additionally, FDEP collaborates with local agencies, including the Orange County Environmental Protection Division (EPD), to conduct annual compliance inspections of storage tank facilities. These inspections ensure adherence to state regulations and help identify and address potential contamination sources. The FDEP maintains a comprehensive inventory of storage tanks within Orange County and its municipalities, tracking the total number of tanks, instances of contamination, and cleanup efforts. This inventory plays a vital role in monitoring environmental health and directing effective remediation activities.

Residentially produced hazardous waste also presents potential pollution problems. The City of Orlando does not collect hazardous waste from residents; instead, the Orange County EPD manages its collection and disposal. Residents are encouraged to use designated drop-off locations, such as the Orange County Landfill and Porter Transfer Station, to safely dispose of items like paints, chemicals, and electronics. The City of Orlando also promotes the FDEP's Onsite Sewage Program, which regulates septic systems to protect groundwater from contamination. Working alongside FDEP, Orlando is focused on educating the public about proper septic system maintenance and ensuring compliance to safeguard local water quality.

These combined efforts reflect Orlando's commitment to environmental stewardship, collaborating with FDEP and Orange County to manage hazardous and residential waste, protect groundwater, and support programs like the Onsite Sewage Program to enhance public health and environmental sustainability.

Potential Uses of Natural Resource Areas

Urbanized Disturbed Lands

Figure C-8 identifies land areas within the City of Orlando that have been completely developed with urban uses and which do not include significant environmental resources (not including lakes). This area includes Downtown Orlando, surrounding historic districts, and the Traditional City. In these areas, an environmental assessment as described in Policy C.1.4.1 may not be required.

Wekiva Overlay District

The northwest portion of the City is located within the Wekiva Basin as shown in **Figure C-9**. In 2004, the Florida Legislature adopted the Wekiva Parkway and Protection Act. Provisions of the Act require that the City limit impervious surfaces, encourage clustering of development, and preserve open space in order to ensure that stormwater and wastewater do not have a negative impact on sensitive karst features or water quality within the Wekiva Basin.

In 2005, the City adopted Growth Management Plan amendments to create the Wekiva Overlay future land use designation. In the following year, land development regulations were adopted to create the -W- Wekiva Overlay Zoning District and associated development requirements.

In the Wekiva Overlay Zoning District:

- On properties that comprise at least five acres and include a residential component, a minimum of 20 percent of the site must be reserved for open space, as defined in the ordinance.
- Stormwater retention must be designed as a natural amenity and be consistent with the State's Best Practices Manual.
- New golf courses must be designed to be consistent with the State's best practices manual.
- The impervious surface ratio shall not be increased through a variance or PD zoning.
- Density and intensity bonuses are prohibited within areas designated with the Resource Protection Overlay (/RP).
- Density may be transferred from Resource Protection areas to other portions of the property, within limits as defined in the ordinance.
- The Environmental Assessment submitted in conjunction with applications for development approval shall include additional information concerning on-site geological and environmental features.

Conservation Areas

The City of Orlando, through the GMP and LDC, protects environmentally sensitive lands by adopting appropriate future land use and zoning designations. The Resource Protection (RP) Overlay future land use designation and RP Overlay zoning district are used to identify potential conservation areas. The Conservation future land use designation and Conservation (C) zoning district have been created for the purpose of actively protecting lakes, wetland areas, and floodways. The Wekiva Future Land-Use Overlay District and the Wekiva Overlay Zoning District (W) provide open space preservation and protection of environmentally sensitive areas within the Wekiva Basin. The Transitional Wildlife Habitat Overlay (TWHO) future land use designation has been adopted to protect the upland habitats of semi-aquatic and wetland-dependent listed species. This tiered approach acts to protect Orlando's valuable natural resources.

Figure C-10 displays conservation areas which are currently designated with the RP Overlay, the Conservation future land use designation, and the TWHO. This figure also identifies City parks which have outstanding environmental qualities. Please see the Future Land Use Map Series for the exact location of Conservation, RP Overlay and TWHO boundaries.

In order to measure the effectiveness of the above-mentioned land development strategies, the City has committed to maintaining at least 20% of its total land area as open space land. At present, this level of service standard has been attained. However, in order to maintain an appropriate amount of open space and to foster the community's continued livability, the City of Orlando must continue to protect existing environmentally sensitive areas. A discussion of the City's open space system is included in the Parks, Recreation, and Open Space Element.

Recreation Use Areas

As the city of Orlando grows and it expands, it is dedicating more land for conservation and recreational purposes, further supporting its commitment to preserving natural environments and enhancing public access to green spaces. Managed by the Family, Parks, and Recreation Department, Orlando's network includes a number of parks primarily focused on environmental conservation, each offering unique natural features and habitats. **Figure C-10** includes a general location for these areas.

Orlando Wetlands Park, a 1,650-acre area near Christmas, FL, showcases six distinct plant communities, including wetlands and naturally occurring cypress domes, and is home to diverse wildlife such as herons, alligators, and whitetail deer. OUC wilderness park, an undeveloped 250-acre site near the Stanton energy center, has limited access but provides valuable ecosystems like pond cypress and oak hardwood swamps, supporting species like the marsh rabbit and bobcat.

Closer to downtown, Mayor Carl T. Langford park spans 23 acres and serves as both a nursery and educational center, featuring a variety of native vegetation, including oaks, palms, and shrubs. Harry P. Leu gardens, a 50-acre attraction within the city, includes extensive walkways and sitting areas, allowing visitors to observe numerous plant species in a curated botanical setting. Bill Frederick Park at Turkey Lake, covering 173 acres, offers outdoor recreation opportunities like camping, hiking, and fishing.

Additional parks such as Eagles Nest Park, Airport Lakes Park, Greenwood Urban Wetlands, and Park of the Americas contribute to the city's conservation goals with valuable wetlands, lake shores, and mature tree canopies. Through these expansions and the dedication of more land to recreation and conservation, Orlando provides residents with increased opportunities for outdoor activities while actively protecting diverse wildlife and plant communities, striking a balance between urban growth and environmental stewardship.

GREEN WORKS INITIATIVE

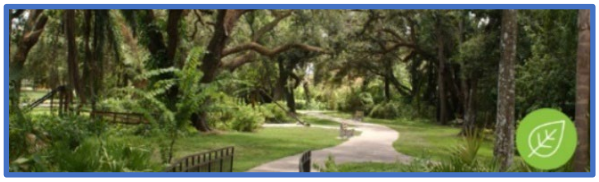
As part of the Green Works Orlando Initiative, Orlando prepared a Municipal Operations Sustainability Plan and Progress Report (2012, 2017), which focuses on goals and strategies that the City and its employees can implement to make Orlando a true leader in sustainable practices. Each topic has an area dedicated to resiliency, which is the capacity of a system to undergo disturbance and maintain its function and controls. The City understands that it must be prepared for disturbances such as hurricanes, possible fuel shortages, drought, extreme rain events, electricity outages, as well as the urban heat island effect.

And in creating and implementing the Green Works Initiative Community Action Plan (2013, 2018), the City is working to strategize and implement sustainability initiatives and best practices to help advance its goals, while incorporating themes of social equity, climate resiliency, and smart technology innovation as a guiding framework for more advanced sustainability. Orlando's sustainability focus areas include:

Local Food Systems

Food systems can be very complex. From growing the food we eat, to processing, packaging, transportation and end sales, food can travel long miles to reach your plate. These processes use a lot of water, energy and vehicle fuel to bring food to the table, and thinking locally can help reduce your environmental food-print. The City is working towards a local food system that encompasses the entire cycle of food production and consumption, including growing, transporting, and the use of disposal.

Livability



A city's livability can be compared to the quality of life for people of all ages. This includes preservation of the natural environment and tree canopy, entertainment and recreational activities, economic prosperity, walkability, culture, and equity. Orlando's strategies for livability focus on creating a series of unique, vibrant, pedestrian-friendly, and walkable places. The inclusion of pedestrian and bicycle trails, shaded sidewalks, smart grids, integrated stormwater management and/or solar orientation for buildings, and the creation of meaningful destinations are essential elements.

Transportation & Mobility

The transportation choices we make have a profound impact on the health, safety and viability of a community. When private automobiles are the only option, lower income residents or those who cannot drive (such as children or the elderly) are put at a disadvantage, making traveling to work, buying groceries or going to the doctor difficult.

To address these issues, the City of Orlando is committed to finding ways to enable residents to reduce reliance on private automobiles and invest in infrastructure to encourage more sustainable choices like bike lanes, bike racks, sidewalks, carpooling, transit, electric vehicle charging stations, and use of alternative fuels, guided by the following goals and targets:

Zero Waste

Orlando continues to strive to become a "zero waste" community, aiming to eliminate sending solid waste to landfills by 2040. Everything that we throw away has potential value. It takes energy, water and natural resources to make these products. Finding ways to reduce, reuse and recycle these materials makes a positive impact on the environment and helps to save money.

We are finding innovative ways to put waste to work and find solutions for our continually evolving waste stream, such as employing next-generation waste and recycling technology, increasing commercial and residential recycling participation, developing food waste diversion and composting programs, and creating policies and standards that reduce overall waste generation (please see the Solid Waste Element for additional details).

Clean Water

Water not only supports the lives of people and wildlife, it remains a valuable resource that could provide greater opportunity for economic development and recreation. Despite the large areas of freshwater in Central Florida, water availability and lake water quality continue to be a concern as the region experiences severe and prolonged periods of drought as well as episodes of intense rainfall and floods.

Orlando is fortunate to have a clean, accessible source of water from the Floridian Aquifer. However, our current demand for water, coupled with a rapidly growing population, exceeds the rate at which water underground can be naturally replenished. Orlando needs to continue water conservation investments and begin searching for new supplies of drinking water so that it will be available to support future economic growth in the City and the region (please see the Potable Water Element for additional information).

Clean Energy and Buildings

Orlando is a national leader in energy efficiency for new and existing commercial buildings that reduce waste and pollution, while saving businesses and residents significant amounts of money.

The majority of the air pollution and greenhouse gas (GHG) emissions and a significant amount of water used across the City of Orlando comes from powering buildings. In order to address this problem, the City has made a commitment to shift away from energy that is generated through the burning of fossil fuels towards investments in clean, renewable energy.

We're also seeking out ways to make our buildings more energy efficient – meaning that less energy and money is wasted through the process of powering the building – and encouraging green building practices. By pursuing these goals, we will curb waste, save businesses and residents money, boost the local economy, create new jobs, and support a cleaner, healthier environment. The following strategies have been advanced by Orlando's Green Works Initiative in recent years:

LEED for Cities. In January 2020, the City of Orlando was recognized for achieving the LEED For Cities Gold certification for its citywide sustainability and resiliency efforts, the highest level of performance for any city in the Southeast United States. Orlando is part of a growing group of cities to be certified using the LEED for Cities and Communities rating system developed by the U.S. Green Building Council (USGBC). LEED, or Leadership in Energy and Environmental Design, is the most widely used green building and sustainability rating system in the world.

LEED is designed to help buildings, communities, and cities achieve high performance in areas that impact environmental and human health. Cities and communities are evaluated on 14 key metrics that include energy, water, waste, transportation, education, health, safety, prosperity and equitability. Orlando's certification was made possible through a grant from USGBC and Bank of America Charitable Foundation.

In relation to our LEED for Cities designation:

- Since 2007, the city has committed to meeting LEED standards for all newly constructed city buildings;
- As part of the **Better Buildings Challenge**, the city is undergoing $17.5M of energy efficiency upgrades at 55 of our buildings, which will save us up to $2.5 million per year;
- As part of the Connected Cities initiative, we are tracking and improving our energy and water use. This allows Orlando to focus on the buildings that need improvements and attention.
- In August 2017, the Orlando City Council approved a resolution committing the City to meeting 100% of the entire community's electricity consumption demand with renewable energy sources by 2050.
- In December 2017, the City of Orlando, together with our partners at Orlando Utilities Commission, the Florida Solar and Energy Center at UCF, and Greenlink Analytics, were selected as one of nine diverse teams of stakeholders nationwide to participate in the Solar Energy Innovation Network (SEIN) to research solutions to real-world challenges associated with solar energy adoption. Over 18 months, project partners developed a roadmap (PDF, 3MB) to achieve the City of Orlando's 2030 goal of 100% renewable energy for municipal operations and 2050 goal of 100% renewable energy city-wide.
- Orlando's clean energy strategy involves both installed **rooftop solar and community solar subscriptions to power city facilities**. Prior to 2020, the city had installed 1 megawatt of solar on government rooftops; this increased to 2.24 installed capacity by the end of 2021 (including City Hall, 17 fire stations, and the Orlando Police Department Headquarters). The city subscribed an additional 33 buildings to cover the city's neighborhood centers, senior centers and main parks, and in October 2021 the City of Orlando became a founding member of OUC's 2030 Solar Pledge, which asks businesses to pledge to use at least 10% solar energy upon signing and requires 100% solar energy for all business facilities by 2030. These initiatives meet 9.31% of the city's energy needs through clean, solar power.

Resilience Hubs. A Resilience Hub is infrastructure and programming - traditionally located in or near underserved neighborhoods, centers of employment, transit centers, or other public spaces - built to support residents and coordinate resource distribution and services before, during, or after a natural hazard event. As part of our sustainability and resilience efforts, as well as in alignment with the Future-Ready City Master Plan, the City of Orlando is working with internal and external partners to establish these hubs throughout the city.

In 2021, six neighborhood centers were selected to serve as the city's first resilience hubs - Callahan, Dover Shores, Engelwood, Northwest, Dr. James R. Smith and Rosemont - with a goal for all neighborhood centers in the city to become hubs in the years to come. Each facility will be updated to support additional energy load, utilize on site solar and storage wherever feasible, and provide tools and services to residents in response extreme weather events and a changing climate.

Spotlight: Leading by Example

Electric Fleet Vehicles. The City of Orlando has integrated a variety of alternative fuel and electric vehicles into its fleet, working toward a goal of 100% by 2030. As of 2022, 92% of the city fleet is alternatively fueled, and as more makes and models of electric vehicle options become available across different classes, the city is evaluating and piloting which are best suited to support critical city services. Current EVs in the fleet include Chevy Bolts and Volts, Nissan Leafs, Ford Cargo Vans and a F150 Lightning. Departments across the city are embracing the future. These clean vehicles are saving taxpayer dollars spent on operations and maintenance and reducing the emissions released in the process.

CNG and Hydraulic Hybrid Garbage Trucks and Recycling Trucks. Today, over 90% of the City of Orlando's refuse and recycling collection trucks have been replaced by compressed natural gas (CNG) vehicles. These CNG trucks are significantly quieter on our city streets and reduce CO2 emissions by up to 12.5 thousand metric tons – the equivalent to taking 325 cars off the road - each year. And they further reduce the city's use of more expensive diesel fuels.

GOALS, OBJECTIVES AND POLICIES: CONSERVATION

The following goals, objectives and policies have been developed for the use of local policy makers to help guide and direct the decision-making process pertaining to Orlando's conservation efforts. For purposes of understanding, goals are generalized statements of desired end states toward which objectives and policies are directed. The objectives provide the attainable ends toward which specific efforts are directed and typically include a timeframe. Policies are the specific recommended actions that the city will pursue to achieve the stated goal.

The following goals, objectives, and policies are consistent with the requirements of Chapter 163, Florida Statutes, the State Comprehensive Plan (Chapter 187, Florida Statutes), and with the goals and policies of the East Central Florida Regional Planning Council's 2060 Strategic Regional Policy Plan. The goals, objectives, and policies are the legally adopted portions of the Growth Management Plan and are used to evaluate development proposals and City investments.

CONSERVATION GOAL 1: NATURAL SYSTEMS/RESOURCE MANAGEMENT

To balance important environmental and conservation concerns, including air quality, water quality, groundwater, the protection of environmentally sensitive lands and endangered species with the need for residential, industrial, and commercial development. Within this balance, the community should protect the natural environment and the functioning of natural systems and protect sites and structures of historic and cultural importance.

Objective C.1.1 The City of Orlando shall cooperate with Orange County and Metroplan Orlando in its efforts to retain its designation as an "attainment" area for all National Ambient Air Quality Standards (NAAQS) criteria pollutants throughout the planning period.
(Amended February 7, 2000, Effective March 9, 2000, Doc. No. 32636; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.1.1 The City of Orlando shall ~~i~~integrate innovative transportation alternatives in order to reduce automobile emission pollution.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.1.2 The City of Orlando shall regulate open burning consistent with Chapter 24 – Code of Ordinances, and other similar practices which have a negative impact on air quality.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.1.3 The City of Orlando shall continue to abide by the guidelines of the Florida Department of Environmental Protection for air quality.
(Amended February 7, 2000, Effective March 9, 2000, Doc. No. 32636)

Objective C.1.2 The City of Orlando shall maintain a systematic program for identifying and evaluating water quality problems related to the area's surface and groundwaters. Existing and potential sources of water quality degradation shall be identified throughout the planning period.

Policy C.1.2.1 The quality of water sources, including cones of influence, water recharge areas, and waterwells, shall be protected from future degradation through the utilization of the Engineering Standards Manual (ESM). The stormwater management section of the ESM has four basic functions. It is designed to:

1. regulate land development practices which would alter the drainage patterns, velocities, volumes, physical chemicals, and biological characteristics of stormwater runoff;
2. regulate land development activities involving soil disturbance and earth movement;
3. maintain vegetative cover and control disturbances to vegetation; and
4. prevent the use of water resources for dilution and disposal of domestic, municipal, or industrial wastes unless it can be demonstrated that such wastes will not lower the water quality level of service as specified in Objective C.1.3 of this Element and in Policy SA.2.1.1 of the Stormwater and Aquifer Recharge Element.

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103)

Policy C.1.2.2 By 2050, the City shall increase the number of lakes meeting good water quality standards (Trophic State Index less than 61).
(Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.2.3 The City of Orlando shall ensure through its Engineering Standards Manual (ESM) that design standards for all stormwater retention and detention systems are adhered to in order to prevent the degradation of surface water bodies.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103)

Policy C.1.2.4 The City shall continue to work with adjacent residents and the relevant environmental protection agencies to create a plan for improving water quality where problems arise.
(Amended November 16, 1992, Effective January 15, 1993, Doc. No. 26150; Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103).

Policy C.1.2.5 The City shall implement best practices as identified in the Central Florida Water Initiative Regional Water Supply Facilities Plan to maintain and

enhance a healthy ecosystem, including aquifers, lakes, streams, and wetlands.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Objective C.1.3 The City of Orlando shall continue to identify and eliminate all known sources of water pollution throughout the planning period. This shall include, but not be limited to, water bodies, drainage wells, and septic tanks. Water bodies shall be monitored and maintained to meet the minimum criteria of Chapter 62-303, F.A.C. (Impaired Water Rule). Drainage wells shall be periodically monitored to determine potential impact to the aquifer. A continuing review of the City's wastewater system shall be conducted to identify the location of septic tanks and rely on the Orange County Department of Environmental Protection to eliminate inoperative septic tanks.
(Amended February 7, 2000, Effective March 9, 2000, Doc. No. 32636; Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.3.1 The City of Orlando shall require that impervious surfaces be limited in prime recharge areas. Post-development groundwater infiltration rates and volumes within primary groundwater recharge areas shall meet the least restrictive of the following standards:

1. Post-development rates and volumes must be at least equal to pre-development rates and volumes; or
2. Any other method which conforms to the Engineering Standards Manual (ESM).

In addition to the above standards, the following new land uses shall be prohibited in all primary groundwater recharge areas: (1) Junk Yards; (2) Outside Storage of Hazardous or Toxic Wastes; and (3) Tank Farms.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.1.3.2 The City of Orlando shall protect water drainage wells from man-made and natural sources of pollution.
(Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.1.3.3 The City of Orlando shall continue to plan for the conservation of water sources in accordance with the policies of the Regional Policy Plan, South Florida Water Management District and the St. Johns River Water Management District. The City of Orlando shall enforce the provisions of the applicable Water Management District's emergency water shortage plans.
(Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.1.3.4 The City of Orlando shall regulate development in areas identified as natural hazard areas, including floodplains and flood zone areas in order to maintain flood-carrying and flood storage capabilities.

Policy C.1.3.5 The City of Orlando shall regulate all development within the 100 year floodplain, through the utilization of the Engineering Standards Manual and the Land Development Code. The City's regulations are consistent with the policies and regulations of the National Flood Insurance Program. The LDC and ESM shall include standards to regulate construction in the floodplain, including residential and commercial development.

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.3.6 The City of Orlando shall analyze and estimate the seasonal pollutant load for each lake located within the City's stormwater system, as required by the federal Environmental Protection Agency's National Pollutant Discharge Elimination System permit. This analysis shall identify deficiencies within the City's stormwater system and enable the City to effectively prioritize capital improvement projects. The City shall coordinate with the water management districts to identify and eliminate point and non-point sources of water quality degradation in locations that shall be prioritized consistent with water management district initiatives.

(Amended February 7, 2000, Effective March 9, 2000; Doc. No. 32636; Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.1.3.7 If a lake located within the City's jurisdiction fails to meet the minimum criteria of Chapter 62-303, F.A.C. (Impaired Water Rule), the City shall take the following actions:

1. Implement projects and/or programs in order to remove the lake from the impaired water list.
2. If the lake fails to improve, the Florida Department of Environmental Protection (FDEP) should adopt a Basin Management Action Plan.
3. Implement projects and/or programs identified in the Plan.
4. Monitor implementation of the Plan to ensure that the City's allocation of FDEP's established Total Maximum Daily Load pollutant loading is not exceeded.
5. Require new development to conduct a pollutant load analysis and demonstrate the post development loads do not exceed the predevelopment loads from the site.

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Objective C.1.4 The City of Orlando shall, throughout the planning period, implement the following GMP policies and the regulations found in Chapter 63 of the Land Development Code, in order to further protect the City's Environmentally Sensitive Lands. Environmentally Sensitive Lands are defined as wetlands, the habitat of Endangered and Threatened Species and Species of Special Concern, natural aquifer recharge areas, or some combination thereof.
(Amended May 17, 1993, Effective July 8, 1993, Doc. No. 26610)

Policy C.1.4.1 The City of Orlando shall protect Environmentally Sensitive Lands within its jurisdiction through the utilization of the Resource Protection Overlay Future Land Use Designation and – RP - (Resource Protection) Overlay Zoning District, the Conservation Future Land Use Designation and C - (Conservation) Zoning District, the Wekiva Overlay Future Land Use Designation and W – (Wekiva) Overlay Zoning District, the Transitional Wildlife Habitat Overlay Future Land Use Designation and the Environmentally Sensitive Lands regulations specified in Chapter 63 of the Land Development Code.

Specifically, annexation, master plan, rezoning, subdivision, and Growth Management Plan amendment applications within the City shall include an Environmental Assessment. Waivers from these requirements may be granted by the Planning Official on a case-by-case basis under distinct circumstances, to include properties located in the Urbanized Disturbed Land area depicted on Figure C-8.

The Environmental Assessment shall consist of two levels. The requirements of the two levels of Environmental Assessment shall be outlined in Chapter 65 of the Land Development Code.

The City shall consider the findings of the Environmental Assessment in the development review process, and shall apply the appropriate policies found in this Conservation Element and the Land Development Code. After review of the Environmental Assessment, the City's recommendations may include, but are not limited to:

1. Protection of the Environmentally Sensitive Lands consistent with the applicable environmental regulatory agencies, and require that the applicant submit signed copies of all environmental permits prior to issuance of engineering permits or final plat by the City;
2. Require site design to minimize impact of development on environmentally sensitive features when development is adjacent to wetlands;
3. Require creation of buffers and conservation easements;
4. Require additional onsite mitigation consistent with the Land Development Code such as enhancement plantings, removal of onsite

exotic or nuisance species, restoration of natural drainage patterns, and creation of proportional functioning wetland areas;

5. Request other permitting agencies to protect wetlands of special value to the City which may otherwise be exempted from their permitting process; and/or
6. Require a contribution to the Environmental Trust Fund. Such conditions shall become part of the development approval.

(Amended December 12, 2005, Effective February 28, 2006, Doc. No. 051212903; Amended September 21, 2015, Effective November 6, 2015, Doc. No. 1509211203; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.4.2 Because wetlands are an essential component of a healthy ecosystem, the City of Orlando shall penalize those responsible for the unauthorized destruction or substantial degradation of wetlands, as identified by the City. All City building permits shall be withheld until the damage is repaired or applicable permits are issued by the appropriate Regulatory Agency. In addition, any violation shall be punishable as prescribed in Section 1.08 of the City Code.

(Amended May 17, 1993, Effective July 8, 1993, Doc. No. 26610)

Policy C.1.4.3 The City of Orlando shall continue to coordinate with the U.S. Army Corps of Engineers, the Florida Department of Environmental Protection, and the South Florida and St. Johns River Water Management Districts to identify and regulate wetland areas within their jurisdiction.

(Amended February 7, 2000, Effective March 9, 2000, Doc. No. 32636)

Policy C.1.4.4 The City of Orlando has adopted a tiered approach to wetlands regulation. The exact boundaries of wetland systems shall be construed to coincide with the jurisdictional boundaries set by the appropriate Water Management District, by the Department of Environmental Protection, or by the U. S. Army Corps of Engineers.

TIER ONE -

a. Definition: A high-functioning wetland which has been determined to be fully capable of performing its natural ecological functions, based on plant species, soil types and depth to water table. These are typically part of a wetlands system that is 5 acres or larger in size, or has unique features as described in the wetlands assessment.
b. The removal, alternation, or encroachment within an area designated as a Tier One Wetland shall only be allowed in order to accommodate low density and intensity land uses. It is the intention of the City to restrict development in Tier One Wetlands to those activities that have minimum or no post-development impacts upon the functions of the wetland, so that no net loss of wetland functions results from the activity. Regulation

of Tier One Wetlands shall not constitute a taking of private property. Allowable uses of property may include any natural use of the wetland environment, walking trails, private and public parks of passive orientation, wetland enhancement projects, and single family residential at a density of 1 dwelling unit per 5 acre lot. Silviculture pursuant to current Florida Department of Agriculture-Division of Forestry Best Management Practices may also be approved in limited circumstances. A limited Transfer Development Rights option has also been provided, as specified in Conservation Policy C.1.4.6.

In addition, necessary activities shall be permitted to protect the public safety and health, provided that the City has determined that: a hazard exists; the proposed activity would eliminate or prevent the hazard; elimination of the hazard unavoidably impacts the wetland; and the proposed activity results in minimal impact to the wetland.

The removal, alteration, or encroachment within an area designated as a Tier One Wetland shall only be allowed where the applicant is able to demonstrate that there is no practical alternative which reduces or avoids the adverse impact to the wetland. Impacts to these wetlands shall only be allowed if approved by City Council as part of a comprehensive wetlands management and mitigation plan.

When impacts to Tier One Wetlands are permitted, mitigation above and beyond that required by other environmental regulatory agencies shall be required, consistent with state statutes and as specified in Chapter 63 of the Land Development Code, except for projects in the public interest.

TIER TWO –

a. Definition: A wetland which has been determined to be partially degraded by the effects of nearby urbanization, based on plant species, soil types and depth to water table and does not qualify as Tier One. These are typically part of a wetlands system that is greater than 0.5 acres but less than 5 acres in size, or has unique features as described in the wetlands assessment.
b. Requirements: The City of Orlando shall protect these environmentally sensitive lands consistent with the mitigation standard in Conservation Policy C.1.4.9, the Land Development Code and applicable environmental regulatory agencies' permitting requirements. The City reserves the right to contact and provide comments to those agencies, or to intervene during the permit application review and issuance process. The City shall not issue engineering permits for site alterations without prior issuance

of the required permits from the other environmental regulatory agencies.

TIER THREE –

a. Definition: A wetland which has been determined to be significantly changed by urbanization, based on plant species, soil types and depth to water table. These are typically isolated wetlands and/or less than 0.5 acres in size. These wetlands do not qualify as Tier One or Two.
b. The City shall consider whether the wetlands contain Endangered or Threatened Species, or Species of Special Concern, or are of special significance. If any of these conditions are met, the City may require mitigation standards consistent with Conservation Policy 1.4.9 and the Land Development Code. The applicable environmental regulatory agencies' permitting requirements still apply.

REQUIREMENTS FOR ALL TIERS –

In all cases where approval of Federal and/or State Regulatory Agencies is necessary, applicants are requested to provide the City of Orlando with a complete copy of all permits or permit applications submitted to the Water Management Districts, Florida Department of Environmental Protection, or Army Corps of Engineers, or a statement from the applicant's environmental consultant explaining why no permit is required.

The functional assessment used as the basis for the initial adoption of the tiered approach to wetlands regulation included only those wetlands within the jurisdictional boundaries of the City as of 1992 and updated in 2024 (see Figure C-5 Urban Area Wetland for general map locations). For any lands proposed for future annexation after the adoption date of these amendments, the Environmental Assessment as described in Policy C.1.4.1 shall be made of the site to determine if environmentally sensitive lands are present on site and, if present, to classify those lands using the 3-tiered system. If such wetlands are classified as Tier One, the city database shall be updated to include those areas and the Future Land Use Map shall be revised to designate these areas as Conservation.

(Amended February 21, 1994, Effective April 14, 1994, Doc. No. 27272; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.4.5 The City's Land Development Code shall require buffer zone areas for all wetlands to provide spatial and vegetative transition from the wetland to the developed parts of a development site, to protect the wetland ecosystem from impacts of surrounding development, and to control and to assist infiltration of stormwater runoff into the wetland. Requirements for Buffer Zones shall be found in Chapter 63 of the Land Development Code.

The width of the natural buffer is measured perpendicularly out from the edge of the wetland. The native plant communities shall be preserved undisturbed, in their entirety, with no understory removed, except for the minimum necessary for approved riparian access or the removal of exotic and nuisance species. If the onsite wetlands do not have the required minimum existing natural buffer, then a buffer zone shall be created to the required width, and the required plantings installed, as specified in Chapter 63 of the Land Development Code.

(Amended February 7, 2000, Effective March 9, 2000, Doc. No. 32636; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.4.6 The City of Orlando is dedicated to balancing the need for continued economic growth with the need to protect valuable natural resources. For the purpose of determining the maximum permitted intensity of development on a development site, the area covered by Tier One or Two wetlands may be included. Although no development, other than for uses specified in Policy C.1.4.4, shall be permitted within these Tier One or Two wetlands, development may be clustered or transferred to other areas of the development site so as to achieve its available permitted intensity. By allowing this transfer, growth shall be directed away from natural areas unsuitable for urban development.

(Amended February 7, 2000, Effective March 9, 2000, Doc. No. 32636; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.4.7 Because semi-aquatic and wetland-dependent State listed wildlife species may require connected and intact upland habitat in order to fulfill important biological functions, the City shall utilize the Transitional Wildlife Habitat Overlay future land use designation to limit or reduce land use densities and intensities where interspersed Tier One Wetlands and associated upland strands provide habitat for semi-aquatic and wetland-dependent State listed wildlife species. The overlay shall extend between 50 and 200 feet from the landward extent of the Tier One Wetland, inclusive of the 50 foot Tier One Wetland buffer specified in Conservation Policy C.1.4.5, depending upon individual site characteristics. Factors for consideration in delineating the extent of the overlay shall include evidence regarding the presence or absence of semi-aquatic and wetland-dependent State listed wildlife species or habitat for said species, past agricultural or development activity, and existing physical constraints such as the presence of built structures, roadways, or other public utilities.

In addition, the City shall take into consideration the balancing of these provisions with the protection of property rights, the encouragement of economic development, the promotion of other State, Regional and local planning goals by the development, the utilization of alternative, innovative

solutions to provide equal or better protection than the overlay, and the degree of harm created by the lack of the overlay. The overlay shall incorporate and be consistent with the wetland buffer requirements specified in Conservation Policy C.1.4.5. Furthermore, the provisions specified in this policy shall work in conjunction with the other applicable GMP objectives and policies and shall not supersede such policies.

Depending on the configuration and characteristics of each individual site, and the option chosen, the density/intensity reduction may vary, but at no time shall the density or intensity within the overlay area (outside of the Tier One Wetland buffer) exceed 5.7 dwelling units per acre for residential uses, or 0.25 floor area ratio (F.A.R.) for non-residential uses. The applicant shall utilize one of the following options:

1. Density Transfer Option. The density transfer option requires that no residential or non-residential development activity occur within the overlay area. In this option, development at the maximum intensity allowed by the zoning classification may be transferred to less environmentally sensitive locations on the development site. A conservation easement consisting of the retained open space area, not otherwise used for access, stormwater management, or passive recreation, shall be required at time of plat or master plan approval, pursuant to Section 704.06, F.S.

   Stormwater retention and passive recreation uses shall be permitted, subject to the terms of the conservation easement. However, the combined total of said uses shall not exceed 50% of the upland retained area. The stormwater retention area shall not fall within the 50 foot Tier One Wetland buffer area. The stormwater retention and passive recreation areas shall be designed so as to allow freedom of movement for the targeted semi-aquatic and wetland dependent State listed wildlife species.

   Further alteration or encroachment within the overlay area shall only be allowed where the applicant is able to demonstrate that there is no practical alternative which reduces or avoids the adverse impact. If the applicant has demonstrated that there are no reasonable alternatives, impacts within the retained open space area shall only be allowed to provide roadway and utility access to other upland areas which could not otherwise be developed. When possible, road crossings shall occur at the most narrow point of the retained open space area and be designed so that wildlife movement is not interrupted.

2. Cluster Option. Within the overlay area, the applicant shall cluster development in such a way that a minimum of 30% of the upland area is retained as open space. The land area within the 50 foot Tier One Wetland buffer shall not be utilized to meet the 30% requirement. A portion of the 30% retained area may be used for stormwater purposes, not to exceed 25% of the upland retained area. However, the stormwater retention area shall not fall within the 50 foot Tier One Wetland buffer area. The stormwater retention area shall be designed in such a way as to allow freedom of movement for the targeted semi-aquatic and wetland-dependent State listed wildlife species. The open space shall be situated in such a way as to provide optimum benefits for wildlife preservation. By clustering, the applicant may achieve the above-mentioned 5.7 units per acre and 0.25 F.A.R. intensity. A conservation easement consisting of the retained open space area, not otherwise used for stormwater management, shall be required at time of plat or master plan approval, pursuant to Section 704.06, F.S.

3. Non-Cluster Option. The non-cluster option requires that development densities and intensities within the overlay area be limited to 1 dwelling unit per 2 acres for residential uses, and 0.10 F.A.R. for non-residential uses. Stormwater retention and passive recreation uses shall be permitted. However, the stormwater area shall not fall within the 50 foot Tier One Wetland buffer area.

For each proposed development option, the reduced allowable densities and intensities shall be reflected in all level of service analyses, land use projections, and concurrency evaluations. In conjunction with the above-mentioned overlay, because density and intensity reductions cannot in and of themselves guarantee the protection of wildlife habitat for semi-aquatic and wetland-dependent State listed wildlife species, the City shall require, where appropriate, the utilization of wildlife corridors to provide connectivity between Tier One Wetland systems through transitional uplands. The wildlife corridors shall be defined during project master plan review, and shall be clearly represented on the final approved master plan. The extent (width and configuration) of such wildlife corridors shall be established on a case-by-case basis, depending on the recommendations of the applicable wildlife agencies, vegetative communities, soil associations, and the likely occurrence of endangered and threatened species and species of special concern and their habitat. The wildlife corridor area may be included in the 30% retained area specified in Option 2. The wildlife corridors shall be buffered from the developed portions of the development site using Best Management Practices, and a conservation easement shall be applied to the wildlife corridors, pursuant to Section 704.06, F.S.

(Amended February 27, 1995, Effective May 5, 1995, Doc. No. 27962-1; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.4.8 The City's Land Development Code shall include standards for preparation of a Wetland Management Plan, the purpose of which is to ensure preserved wetlands are properly maintained and cared for over time.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.4.9 The City's Land Development Code shall include mitigation standards to offset the impacts of development to Environmentally Sensitive Lands: enhancement plantings, removal of onsite exotic or nuisance species, restoration of natural drainage patterns, creation of proportional functioning wetland areas, and payment for impacts. The City's Land Development Code shall require protection and/or mitigation for wetland systems based on the environmental assessment described in Policy C.1.4.1. Mitigation standards shall be based primarily on preserving the functional quality of viable wetlands within the City's boundary.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.4.10 Because the state and federal governments maintain comprehensive regulations relating to the protection of endangered and threatened species, the protection of wetlands, and because they have superior expertise and experience with the oversight and remediation of Formerly Used Defense Sites (FUDS), the City shall defer to the regulatory oversight of the appropriate state and federal agencies for the protection of endangered and threatened species, and wetlands, for properties undergoing remediation and/or regulation of Formerly Used Defense Sites.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.4.11 The City acknowledges the unique role that the Orlando International Airport plays in the economic health and well-being of the Central Florida area. In order to protect this role, and the public investment in the airport, it is necessary to allow expansion of airport facilities consistent with reasonable protection of existing wetland systems and mitigation for necessary impacts. Therefore, on Orlando International Airport property, issuance of a permit by the Department of Environmental Protection and/or the South Florida Water Management District for impacts to wetlands shall be sufficient to demonstrate compliance with the City wetland regulations.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Objective C.1.5 The City of Orlando shall regulate development through the authority of the Land Development Code, in order to minimize impairments to the functioning of vital natural systems, including the protection and conservation of soils, native wetland and vegetative communities, rare

upland areas, urban woodlands, tree canopy, historic trees and other Environmentally Sensitive Lands throughout the planning period.
(Amended February 7, 2000, Effective March 9, 2000, Doc. No. 32636; Amended August 6, 2018, Effective September 20, 2018, Doc. No. 1808061201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.5.1 The City of Orlando shall utilize the soil association classifications within the Soil Survey of Orange County, Florida, in order to determine the development potential of proposed construction sites within the City's corporate limits.

Policy C.1.5.2 The City's tree canopy is of vital importance to public health and the overall livability of the City. Trees provide many benefits that include producing oxygen, reducing smog by intercepting airborne particulates, sequestering carbon, and providing shade, water filtration and water retention. Because trees are a public resource and essential to the community's livability, the City of Orlando shall continue to protect existing woodlands and encourage the renewal of urban woodlands. The Land Development Code shall discourage the removal of medium and large size canopy trees, by requiring a tree removal permit. The Land Development Code shall specify standards for tree removal and criteria to determine if a replacement tree(s) is required on site. And if a tree is removed without a permit, the code may include fines in addition to the tree permit fee. The Land Development Code shall also contain minimum setback requirements, in order to prohibit development within the undisturbed areas around the canopy tree.

In addition, the City Council may allow Modifications of Standards as a condition of Preliminary Plat approval for any 1 or 2 family development where they find that the design alternatives are essential for the protection of existing trees on the development site. Finally, the Parks Official shall be authorized to designate certain trees as Historic Trees based on their size, age, historic association, species, or other unique characteristics. Trees so designated shall be protected without regard to their location within the City.
(Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended August 6, 2018, Effective September 20, 2018, Doc. No. 1808061201)

Policy C.1.5.3 The City, through the Land Development Code, shall maintain standards to protect the root system of retained trees during construction. The LDC shall designate minimum undisturbed area setbacks where development is prohibited. The developer shall be required to enclose the entire undisturbed area within a fence or similar barrier approved by the City Parks Official.

Policy C.1.5.4 Because buffering, screening and landscaping between different uses act to eliminate or minimize potential nuisances such as dirt, litter, noise and the glare of lighting, the City shall maintain standards for buffering and screening, as found in the Land Development Code. These standards shall require minimum planting areas or setbacks for trees within bufferyards, and other bufferyard design requirements such as the retention of ground cover, and the use of xeriscape. Xeriscape practices require a mixture of native plants with drought-resistant properties, including canopy trees, understory trees, and shrubbery.

Objective C.1.6 The City of Orlando shall, throughout the planning period, act to protect Endangered and Threatened Species, and Species of Special Concern.
(Amended May 17, 1993, Effective July 8, 1993, Doc. No. 26610)

Policy C.1.6.1 The City of Orlando shall protect all endangered, threatened and special concern species in accordance with the Endangered Species Act of 1973, the Florida Endangered and Threatened Species Act of 1977 and applicable federal and state regulations. If an environmental assessment (Policy C.1.4.1) identifies such species on a development site, the applicant must coordinate with appropriate wildlife agencies to implement protection measures such a preservation, habitat management, relocation or authorized incidental taking. The City shall not approve developments that conflict with Federal and State Management Plans.
(Amended February 7, 2000, Effective March 9, 2000, Doc. No. 32636; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Objective C.1.7 The City shall maintain, throughout the planning period, the most appropriate means of protecting environmentally sensitive lands. Alternative methods shall include acquisition, regulation, and maintenance of City-owned lands, or 3any combination of the above.
(Amended May 17, 1993, Effective July 8, 1993, Doc. No. 26610)

Policy C.1.7.1 The City of Orlando shall establish an Environmental Trust Fund for the purpose of protecting important natural resources. The Fund shall be used for the purchase, improvement, creation, restoration, maintenance and replacement of natural habitat within the City, or an environmentally sensitive area immediately adjacent to the City, in cooperation with Orange County.
(Amended May 17, 1993, Effective July 8, 1993, Doc. No. 26610; Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103)

Policy C.1.7.2 The City shall identify the location of habitat corridors and shall protect these corridors through strategies such as the purchase of these properties with Environmental Trust Fund monies, the use of conservation easements, and/or designation with the Conservation Land Use and the -C- Conservation zoning district.
(Amended May 17, 1993, Effective July 8, 1993, Doc. No. 26610)

Policy C.1.7.3 The City of Orlando shall maintain its land development regulations in association with environmentally sensitive lands throughout the planning period.

Policy C.1.7.4 The City of Orlando, through the auspices of the Parks and Recreation Department, shall protect and maintain the unique environmental features of the following parks: Orlando Wetlands Park, OUC Wilderness Park, Mayor Langford Park, Harry P. Leu Gardens, Greenwood Urban Wetland, Turkey Lake Park, Dickson Azalea Park, Constitution Green and Park of the Americas.
(Amended February 7, 2000, Effective March 9, 2000, Doc. No. 32636; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.7.5 The City of Orlando shall protect all of its environmentally sensitive areas, which includes floodways, surface water bodies, areas where upland strands are interspersed with Tier One Wetlands and where there is a high likelihood of occurrence for semi-aquatic and wetland dependent State listed species or habitat of said species, and wetlands, by utilizing the Resource Protection Overlay Future Land Use Designation, implemented by the Resource Protection Overlay Zoning District; the Conservation Future Land Use Designation, implemented by the -C- (Conservation) Zoning District; the Wekiva Overlay Future Land Use Designation, implemented by the W (Wekiva) Overlay Zoning District, and the Transitional Wildlife Habitat Overlay Future Land Use Designation. The RP Overlay Future Land Use Designation on the Future Land Use Map and the RP Overlay Zoning District shall be used to identify the locations of all potential environmentally sensitive areas. The Conservation Future Land Use Designation and -C- (Conservation) Zoning District shall be used to identify the locations of all potential environmentally sensitive areas and for the purpose of protecting lakes, wetland areas, open spaces, and floodways. The Wekiva Overlay Land Use Designation and W (Wekiva) Overlay Zoning District shall be used to optimize open space and promote patterns of development that protect the most effective recharge areas, karst features and sensitive natural habitats located within the Wekiva Study Area. The Transitional Wildlife Habitat Overlay Designation shall be used to protect sensitive upland areas adjacent to Protected Wetlands which provide habitat for semi-aquatic and wetland-dependent State listed wildlife species. Other regulations protecting these

areas are included in Chapter 63 - Environmental Protection, of the Land Development Code.

(Amended December 12, 2005, Effective February 28, 2006, Doc. No. 051212903; Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.1.7.6 The City of Orlando shall continue to cooperate with Orange County and neighboring municipalities, in order to conserve, appropriately use, and/or protect wetlands and other sensitive vegetative communities which exist within more than one jurisdiction. This cooperation shall take the form of informal and formal City/County staff communication in developing consistent wetland regulations, so that uniform standards may apply to environmentally sensitive areas which exist in both jurisdictions.

Policy C.1.7.7 The Wekiva Overlay Future Land Use Designation shall apply to all property located within the boundary depicted on Conservation Figure C-9. This overlay is intended to identify and regulate property within the Wekiva Study Area, as defined in the Wekiva Parkway and Protection Act. All development within this overlay shall optimize open space and protect the most effective recharge areas, karst features and sensitive natural habitats through upland and wetland preservation, density transfer and cluster development.
Open space shall comprise at least 20% of the gross development area of any residential development site of five acres or more. Such open space may include stormwater retention areas, up to 50% of the total open space required, and passive recreation areas. However, such open space may not include required setback areas, privately owned yards of single-family lots, street rights-of-way, parking lots, impervious surfaces, active recreation areas or golf courses. Stormwater retention areas may not be located within a protected wetland buffer area.

Development shall be discouraged within the RP (Resource Protection) Overlay Zoning District of the Wekiva Study Area. To balance development interests with protection of the Wekiva Study Area, development may be clustered on or transferred to other areas of a development site outside of the RP Overlay; provided however that the total net density or intensity of the area outside of the RP area may not be increased by more than 40%. The RP Overlay shall incorporate and be consistent with the wetland buffer requirements provided in Conservation Policy C.1.4.5 and all other applicable GMP objectives and policies and shall not be interpreted to supersede any other policies of this GMP.

(Amended December 12, 2005, Effective February 28, 2006, Doc. No. 051212903, Amended October 1, 2007, Effective December 25, 2007, Doc No. 071002205; Amended August 6, 2018, Effective September 20, 2018, Doc. No. 1808061201)

Policy C.1.7.8 Throughout the planning period, the City shall maintain the W (Wekiva) Overlay Zoning District to implement the Wekiva Overlay Future Land Use Designation.
(Amended December 12, 2005, Effective February 28, 2006, Doc. No. 051212903; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.1.7.9 Density and/or intensity bonuses shall not be permitted in RP (Resource Protection) areas located within the W (Wekiva) Overlay Future Land Use Designation.
(Amended December 12, 2005, Effective February 28, 2006, Doc. No. 051212903; Amended April 9, 2007, Effective June 28, 2007, Doc. No. 0704091007)

Objective C.1.8 The City of Orlando shall, throughout the planning period, implement policies and regulations to promote water conservation and ensure adequate quantities of potable water are available to serve the City's population.
(Amended January 22, 2007, Effective April 9, 2007, Doc. No. 0701221004)

Policy C.1.8.1 In order to conserve potable water supplies throughout the planning period, the City shall maintain regulations that require water reduction devices in new development, require Xeriscaping for all development except one and two family building sites, and decrease use of potable water supplies for non-potable water uses. The City shall continue to improve conservation rates by periodically updating the Building Code and Land Development Code to incorporate advances in water conservation practices.
(Amended January 22, 2007, Effective April 9, 2007, Doc. No. 0701221004)

Policy C.1.8.2 The City shall reduce the use of potable water for irrigation purposes throughout the planning period by adopting and enforcing regulations that require property owners in the reclaimed water service area to connect to the reclaimed water network where available.
(Amended January 22, 2007, Effective April 9, 2007, Doc. No. 0701221004)

Policy C.1.8.3 The City shall reduce the use of potable water for irrigation purposes by maintaining regulations throughout the planning period that require the use of native vegetation or other drought resistant species in new development.
(Amended January 22, 2007, Effective April 9, 2007, Doc. No. 0701221004)

Policy C.1.8.4 The City shall maintain land development regulations for landscaping that promote growth of the tree canopy and conserve water.
(Amended January 22, 2007, Effective April 9, 2007, Doc. No. 0701221004; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

CONSERVATION GOAL 2: SUSTAINABILITY AND ENERGY EFFICIENCY

To improve air quality and increase energy conservation through more efficient urban form and transportation system design; increase the conservation and efficient use of energy in the design and operations of buildings, public utility systems and other infrastructure and related equipment; and promote the increased use of renewable energy resources.

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103)

Objective C.2.1 Throughout the planning period, the City of Orlando shall implement the Green Works Orlando Community Action Plan to transform Orlando into one of the most environmentally-conscious cities in America. The purpose of Green Works Orlando is to reduce non-renewable energy use, potable water use, use of non-renewable or toxic materials and promote healthy lifestyles.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.2.1.1 The City shall lead by example and promote environmental stewardship, by partnering with other governments and nonprofits, educating citizens about "going green", and encouraging others to incorporate concern for the environment into the everyday workings of government, private business, and home life.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103)

Policy C.2.1.2 The City shall promote sustainable infrastructure and conservation by:

1. Creating healthy, livable urban centers that promote walkable neighborhoods, mixed use transit-oriented development, affordable housing, job creation, and open space;
2. Partnering with Orange County and the Orlando Utilities Commission to determine the feasibility of having a private entity design, build, own and operate innovative technologies and facilities that will separate valuable material from the waste stream; including mixed waste processing, solid waste gasification, anaerobic digestion, and future technologies still in development;
3. Expanding the City's reclaimed water projects to incorporate a third multi-jurisdictional regional reclaimed water supply system;
4. Creating green office standards for City operations and expanding the program community-wide for businesses;
5. Pilot testing a green power reactor which will utilize waste water sludge to create renewable resource energy; and
6. Developing low-impact development and green infrastructure policies.

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.2.1.3 The City shall promote energy efficiencies and green building practices by:

1. Designing all new City buildings in compliance with LEED standards, with a goal of achieving LEED certification or appropriate green building standards for all municipal buildings;
2. Developing a comprehensive Green Building Program that will encourage and create standards for environmentally friendly buildings.
3. Working with the Florida Building Commission to advocate for improved energy and resource efficiency as part of any updates to the Florida Building Code;
4. Maintaining Land Development Code regulations that include options for natural and water conserving landscaping, green roofs and other residential and commercial development elements that encourage conservation (power, water and natural resources).

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.2.1.4 The City shall reduce its air quality impacts and promote efficient and sustainable transportation system design by 20~~30~~40:

1. Transitioning the entire City fleet to bio-diesel, alternative fuels, flex fuels, hybrid, and/or electric vehicles;
2. Converting every stop light and pedestrian signal to Light Emitting Diode (LED) technology;
3. Supporting alternatives to single occupancy vehicles, such as micromobility and car sharing programs;
4. Improving bicycling and pedestrian opportunities through expansion of existing networks; and
5. Enhancing transportation choices by partnering with regional transportation providers including Commuter Rail, LYNX, and LYMMO.

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.2.1.5 The City shall promote its “green spaces” by:

1. Developing a master plan for park and open space expansion including tree placement;
2. Restoring and enhancing the City’s tree canopy with the One Person One Tree Initiative. The program will assess the trees’ ability to reduce carbon dioxide levels through carbon sequestration in order to make recommendations for future program expansion;
3. Promoting the Orlando Easterly Wetlands project, a green space that also serves as an advanced wastewater treatment system, wildlife habitat and a recreational and educational center;
4. Assessing City owned vacant land with potential to create urban agriculture projects or urban stormwater solutions; and

5. Partnering with local community organizations, neighborhood associations, non-profits and businesses to implement community gardens.

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.2.1.6 The City shall provide "green" advocacy and education leadership by:

1. Partnering with Orange County and the Orlando Utilities Commission to promote conservation and efficiency programs;
2. Implementing to greatest extent possible the climate change initiatives outlined through national commitments, including Mayors National Climate Action Agenda, Carbon Disclosure Project, and Compact of Mayors;
3. Implementing to the greatest extent possible the State of Florida's Energy Plan;
4. Implementing to the greatest extent possible the US EPA's 50% food waste reduction goal by 2040; ~~goal.~~
5. Seeking community green designations from relevant organizations such as EcoDistricts designation, the Florida Green Building Coalition, Cities for Climate Protection and Best Workplace for Commuters, LEED and Audubon Cooperative Sanctuary; and
6. Increasing awareness by educating, encouraging and empowering City employees, residents and business owners to reduce climate pollution and live an environmentally-friendly lifestyle through such community programs as Green Up Orlando, One Person One Tree, PACE Financing Program, Keep Orlando Beautiful, Trees in the Parkway, Backyard Composting and Recycling, and the Community Footprint Reduction Campaign and to pursue grants to develop complimentary programs.

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.2.1.7 The City shall continuously improve its environmental performance as a land owner, large employer, builder and maintainer of capital facilities, to not only improve the natural environment but also to set an example for others. In the operations of City government, Orlando shall strive to reduce the use of resources and toxic materials, prevent pollution, reuse existing resources such as historic structures, control waste, and protect natural areas and biodiversity. Green building practices should be employed in the maintenance and repair of City-owned buildings.

(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103)

Policy C.2.1.8 The City shall collect data and regularly report on the sustainability measures and quantitative goals in this GMP, the Land Development Code, and other

programs to inform and enable citizens and decision-makers to consider alternative policies or programs, where outcomes differ from what was intended.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103)

Policy C.2.1.9 The City shall revise the City Code to adopt the Building Energy and Water Efficiency Strategy (BEWES), to require tracking the energy and water efficiency of large commercial, institutional, and multi-family buildings. The City shall also consider measures to require audits and/or retrofits as part of the code amendment.
(Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Objective C.2.2 Throughout the planning period, the City of Orlando shall coordinate with the Orlando Utilities Commission and Orange County Government to identify, encourage and implement renewable energy alternatives.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103)

Policy C.2.2.1 The City shall work with OUC and Orange County to implement the Green Works Community Action Plan in order to provide a cleaner, greener and more secure energy future for the Central Florida community and for generations to come.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.2.2.2 In order to develop reliable green energy alternatives for the Central Florida community, the City of Orlando shall partner with the Orlando Utilities Commission and Orange County Government (the Green Partnership) to develop a strategic energy plan with a focus on sustainable urban growth strategies.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.2.2.3 The City of Orlando shall cooperate with the Orlando Utilities Commission as they implement such energy conserving programs as the Solar Photovoltaic (PV) aggregate program which generates electricity and the Solar Thermal rebate program which generates heat for domestic water heating systems.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended August 28, 2017, Effective October 27, 2017, Doc. No. 1708281201)

Policy C.2.2.4 The City shall support renewable energy technologies, with local partners, to the extent that such projects are practical and financially feasible.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103; Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.2.2.5 The City shall support and encourage the development projects that employ green design and building practices by providing incentives.
(Amended June 8, 2009, Effective August 25, 2009, Doc. No. 0906081103)

CONSERVATION GOAL 3: A FUTURE-READY CITY

To become America's premier future-ready city by becoming a center of innovation, technological advancement and resilience, by putting people first, and by ensuring the City Beautiful remains a global destination where everyone can thrive.

(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Objective C.3.1 Throughout the planning period, the City shall implement the Orlando Future-Ready City Master Plan to leverage technology, innovation, and collaboration that enhance services and investments for all Orlando residents, businesses, and visitors.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.3.1.1 The City shall enhance digital inclusion and bridge the digital divide in Orlando by exploring programs such as public Wi-Fi expansion, device loaner programs, and digital literary programs. These efforts aim to provide access to essential online resources and ensure our residents can participate in an increasingly digital world.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

Policy C.3.1.2 The City shall seek and nurture partnerships with entrepreneur organizations to support and empower startup companies who help solve city challenges. This collaboration will foster innovation and drive impactful solutions to improve Orlando's quality of life.
(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

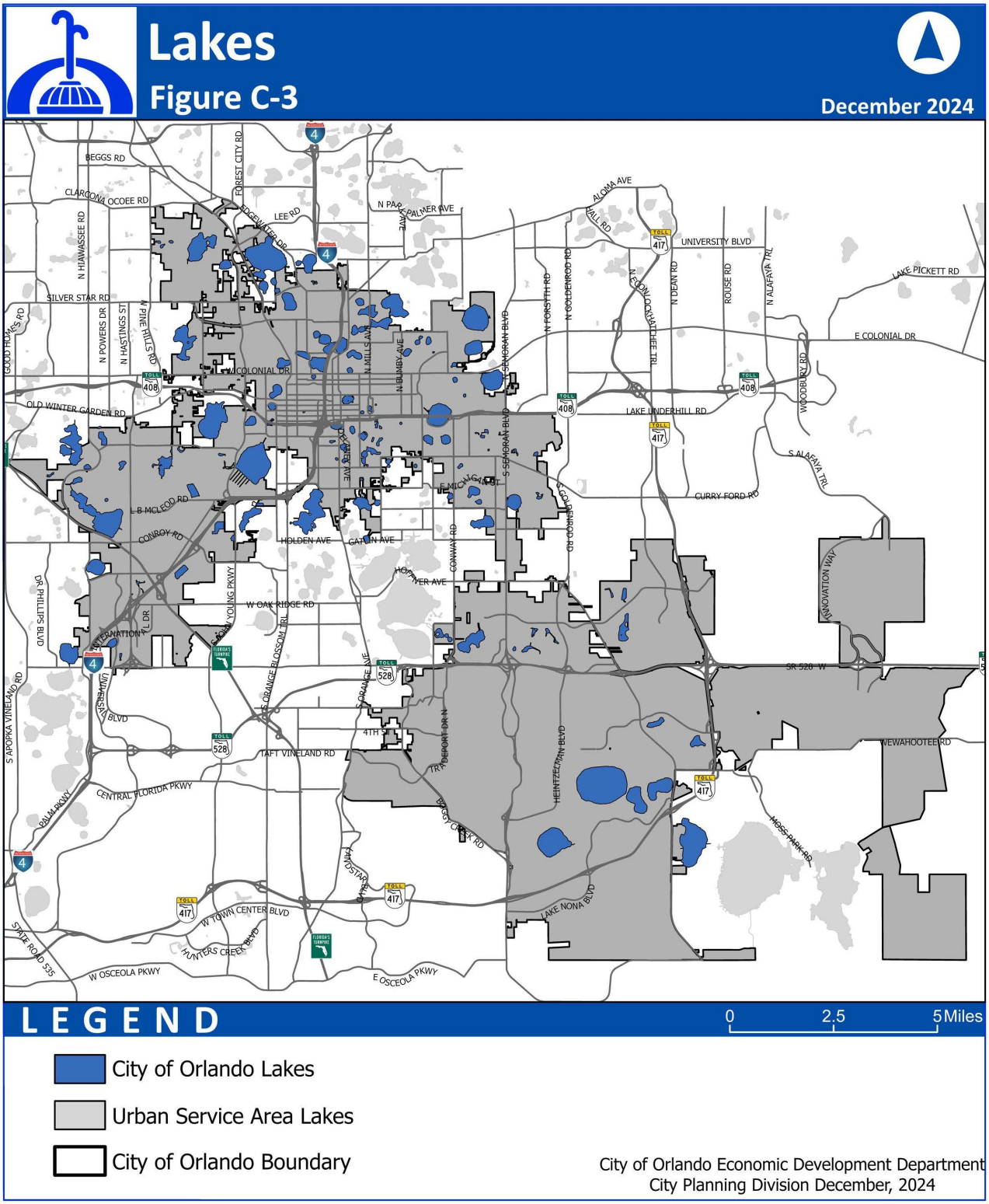
Maps & Figures: **Conservation**

Maps & Figures that support this Element include:

Figure C-1: Floodplain Acreage
Figure C-2: Attainment/Non-Attainment Designations for Orange County
Figure C-3: Lakes
Figure C-4: Floodplains
Figure C-5: Urban Area Wetlands
Figure C-6: Urban Area Topography
Figure C-7: General Soil Associations
Figure C-8: Urbanized Disturbed Lands
Figure C-9: Wekiva Study Area
Figure C-10: Designated Open Spaces

Figures C-8, C-9, and C-10 are adopted parts of the Growth Management Plan (Orlando's comprehensive plan) and any amendments to those figures will be adopted by ordinance. The remaining figures are provided for reference and are not regulatory in nature.

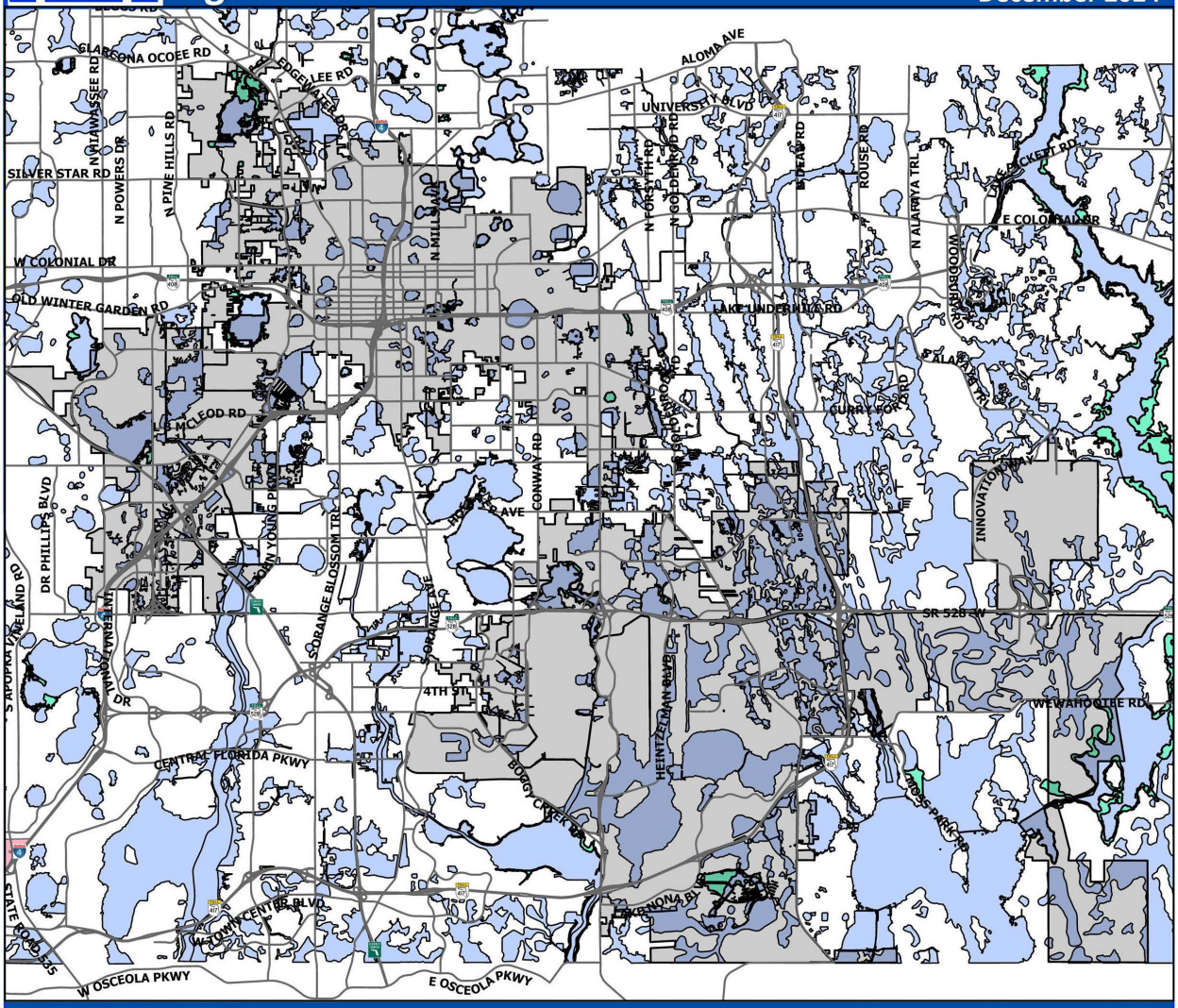
(Adopted Figures Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)

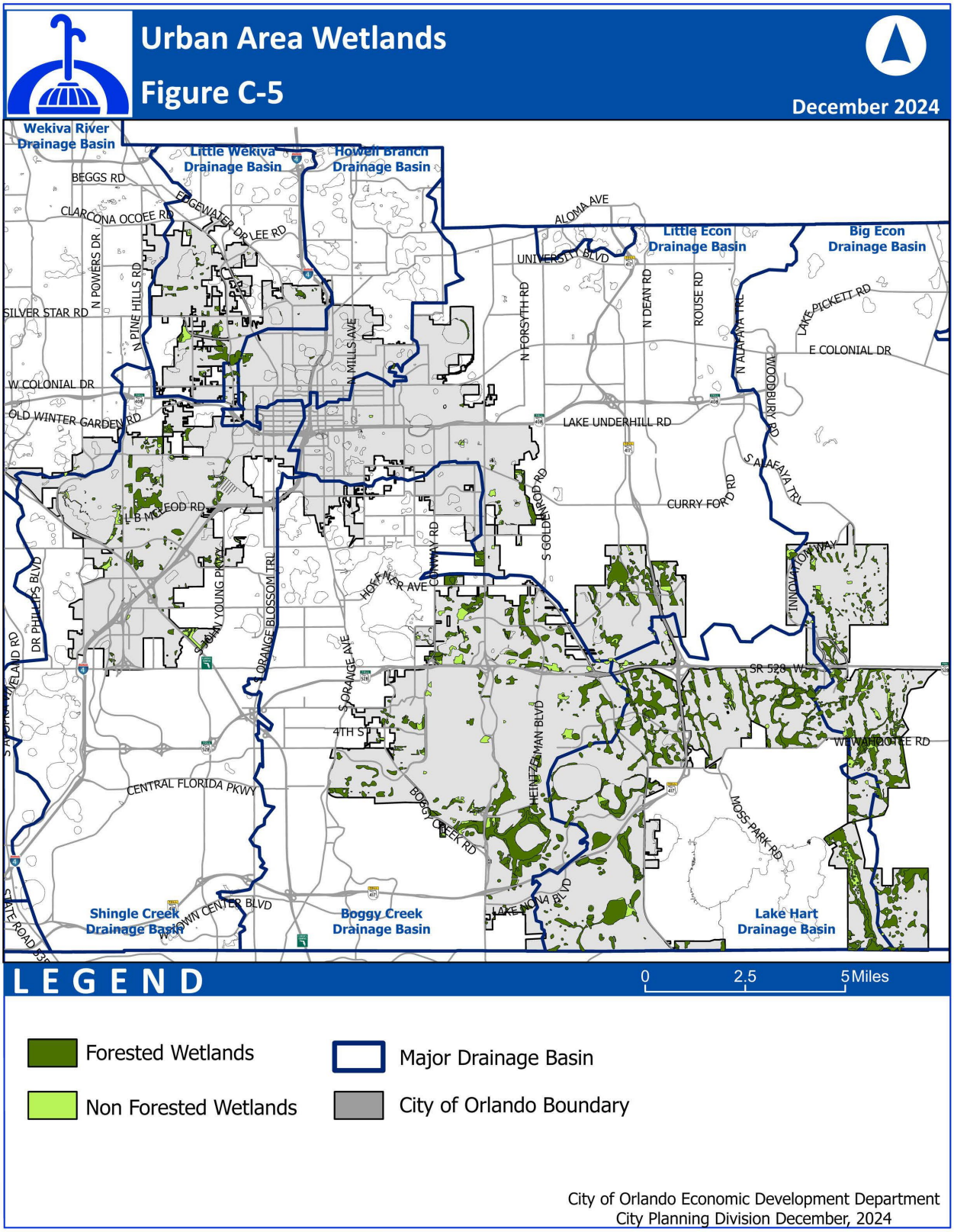

Lakes
Figure C-3
December 2024
BEGGS RD
CLARCONA OCOEE RD
SILVER STAR RD
GOOD HOMES RD
N HIAWASSEE RD
N POWERS DR
N HASTINGS ST
N PINE HILLS RD
FOREST CITY RD
LEE RD
RIDGEWATER DR
N PALMER AVE
W COLONIAL DR
OLD WINTER GARDEN RD
L B MCLEOD RD
CONROY RD
PHILLIPS BLVD
S APOPKA VINELAND RD
INTERNATIONAL DR
UNIVERSAL BLVD
JOHN YOUNG PKWY
W OAK RIDGE RD
HOLDEN AVE
GATLIN AVE
HOFFNER AVE
E ORANGE BLOSSOM TRL
S ORANGE AVE
4TH ST
TAFT VINELAND RD
CENTRAL FLORIDA PKWY
PALM PKWY
W TOWN CENTER BLVD
HUNTERS CREEK BLVD
W OSCEOLA PKWY
STATE ROAD 535
E OSCEOLA PKWY
HYDE PARK AVE
N BUMBY AVE
N MILLS AVE
DEAN AVE
E MICHIGAN ST
CONWAY RD
S SEMORAN BLVD
N SEMORAN BLVD
N FORSYTH RD
N GOLDENROD RD
S GOLDENROD RD
ALOMA AVE
RALL RD
UNIVERSITY BLVD
N LEE VISTA BLVD
N ALAFAYA TRL
ROUSE RD
N DEAN RD
LAKE PICKETT RD
E COLONIAL DR
WOODBURY RD
LAKE UNDERHILL RD
S ALAFAYA TRL
CURRY FORD RD
INNOVATION WAY
SR 528 W
WEWAHOOTEE RD
MOSS PARK RD
LAKE NONA BLVD
HEINTZELMAN BLVD
TPK DEPORT DR N
BEGGY CREEK RD
LEGEND
0
2.5
5 Miles
City of Orlando Lakes
Urban Service Area Lakes
City of Orlando Boundary
City of Orlando Economic Development Department
City Planning Division December, 2024

Floodplains

Figure C-4

December 2024

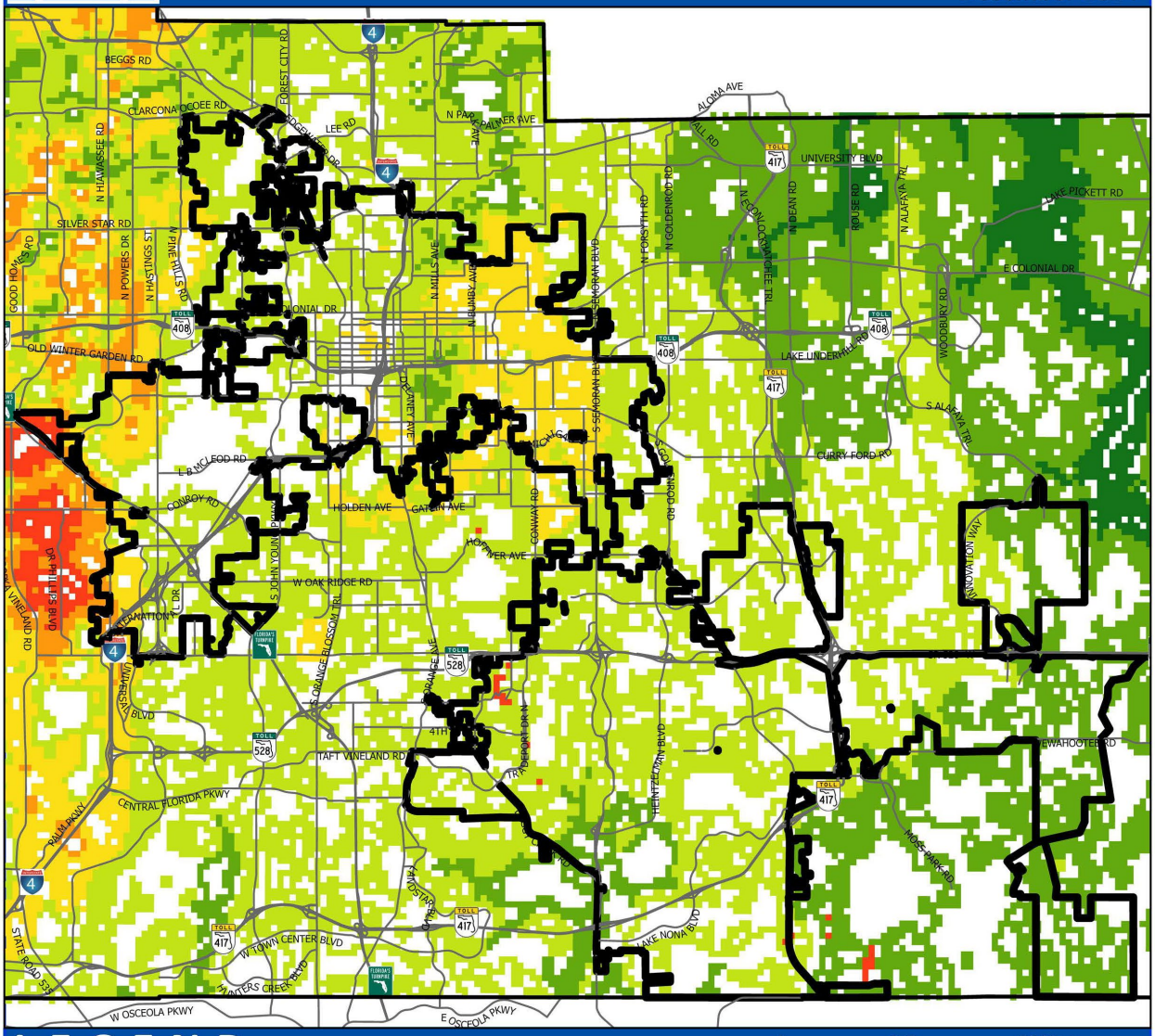



Urban Area Wetlands
Figure C-5
December 2024
Wekiva River Drainage Basin
Little Wekiva Drainage Basin
Howell Branch Drainage Basin
Little Econ Drainage Basin
Big Econ Drainage Basin
Shingle Creek Drainage Basin
Boggy Creek Drainage Basin
Lake Hart Drainage Basin
BEGGS RD
CLARCONA OCOEE RD
EDGEWATER DR
LEE RD
ALOMA AVE
UNIVERSITY BLVD
N POWERS DR
N PINE HILLS RD
SILVER STAR RD
N MILLS AVE
N FORSYTH RD
N DEAN RD
ROUSE RD
N ALAFAYA TRL
LAKE PICKETT RD
E COLONIAL DR
W COLONIAL DR
OLD WINTER GARDEN RD
LAKE UNDERHILL RD
WOODBURY RD
S ALAFAYA TRL
L B MCLEOD RD
CURRY FORD RD
S GOLDENROD RD
CONWAY RD
HOFFNER AVE
JOHN YOUNG PKWY
ORANGE BLOSSOM TRL
DR PHILLIPS BLVD
S ORANGE AVE
4TH ST
SR 528 W
CENTRAL FLORIDA PKWY
HEINTZELMAN BLVD
BOGGY CREEK RD
MOSS PARK RD
WEWAHOOTEE RD
TOWN CENTER BLVD
LAKE NONA BLVD
LEGEND
0 2.5 5 Miles
Forested Wetlands
Non Forested Wetlands
Major Drainage Basin
City of Orlando Boundary
City of Orlando Economic Development Department
City Planning Division December, 2024

Urban Area Topography

Figure C-6

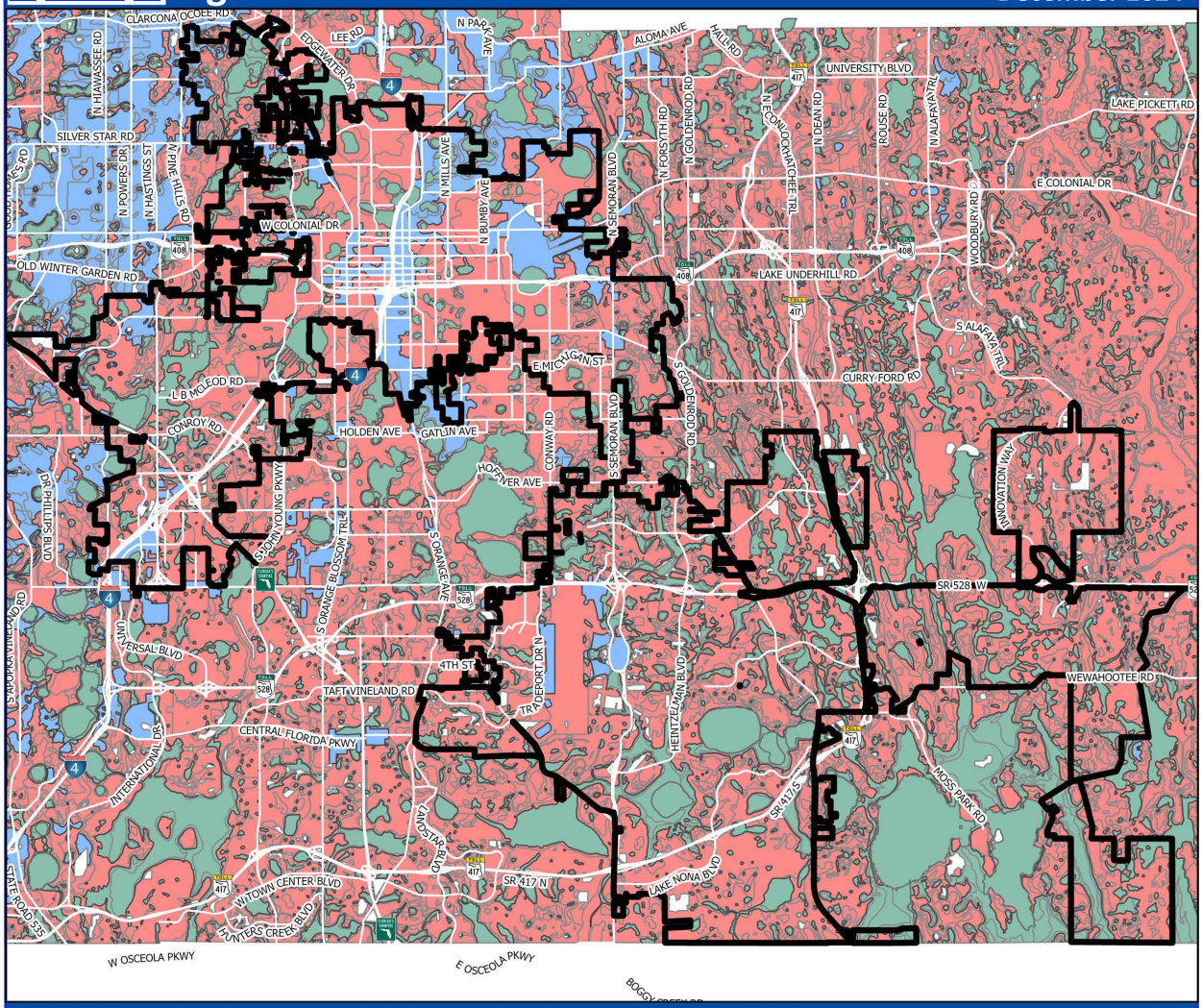
December 2024



General Soil Association

Figure C-7

December 2024

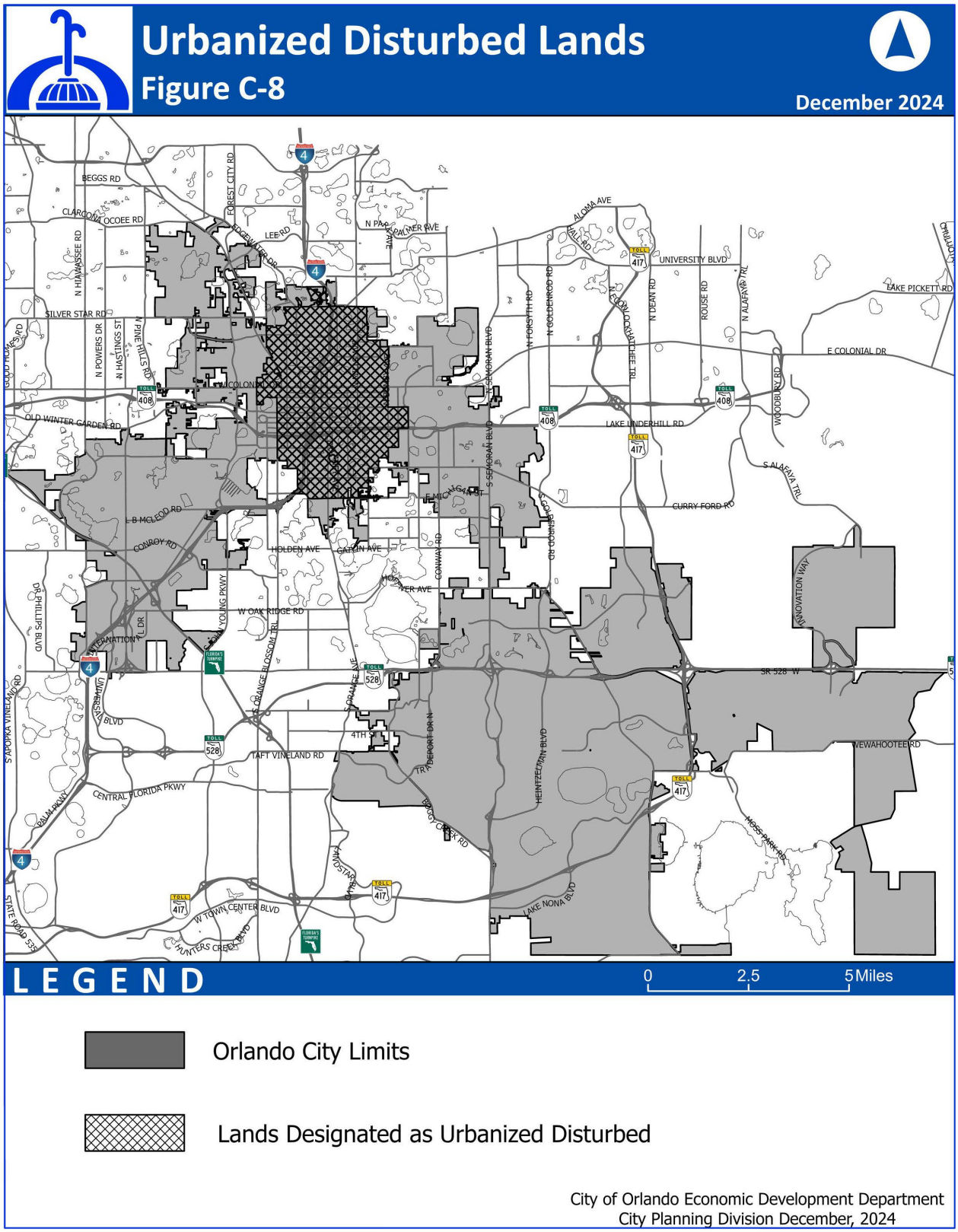


LEGEND

0 2.5 5 Miles

- Soils of Uplands and Low Ridges
- Soils of Flatwoods
- Soils of Wetlands
- City of Orlando Boundary

City of Orlando Economic Development Department
City Planning Division December, 2024



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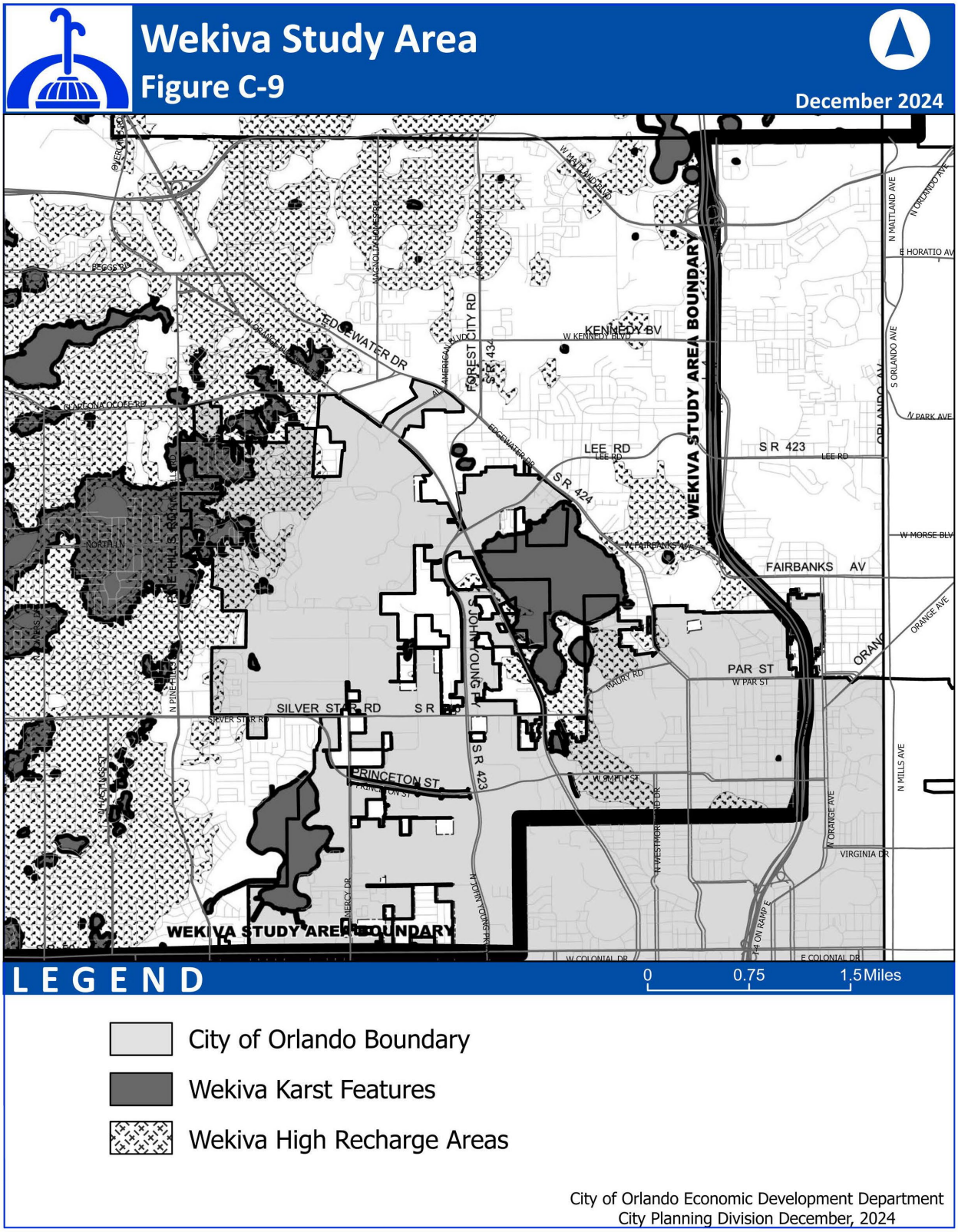

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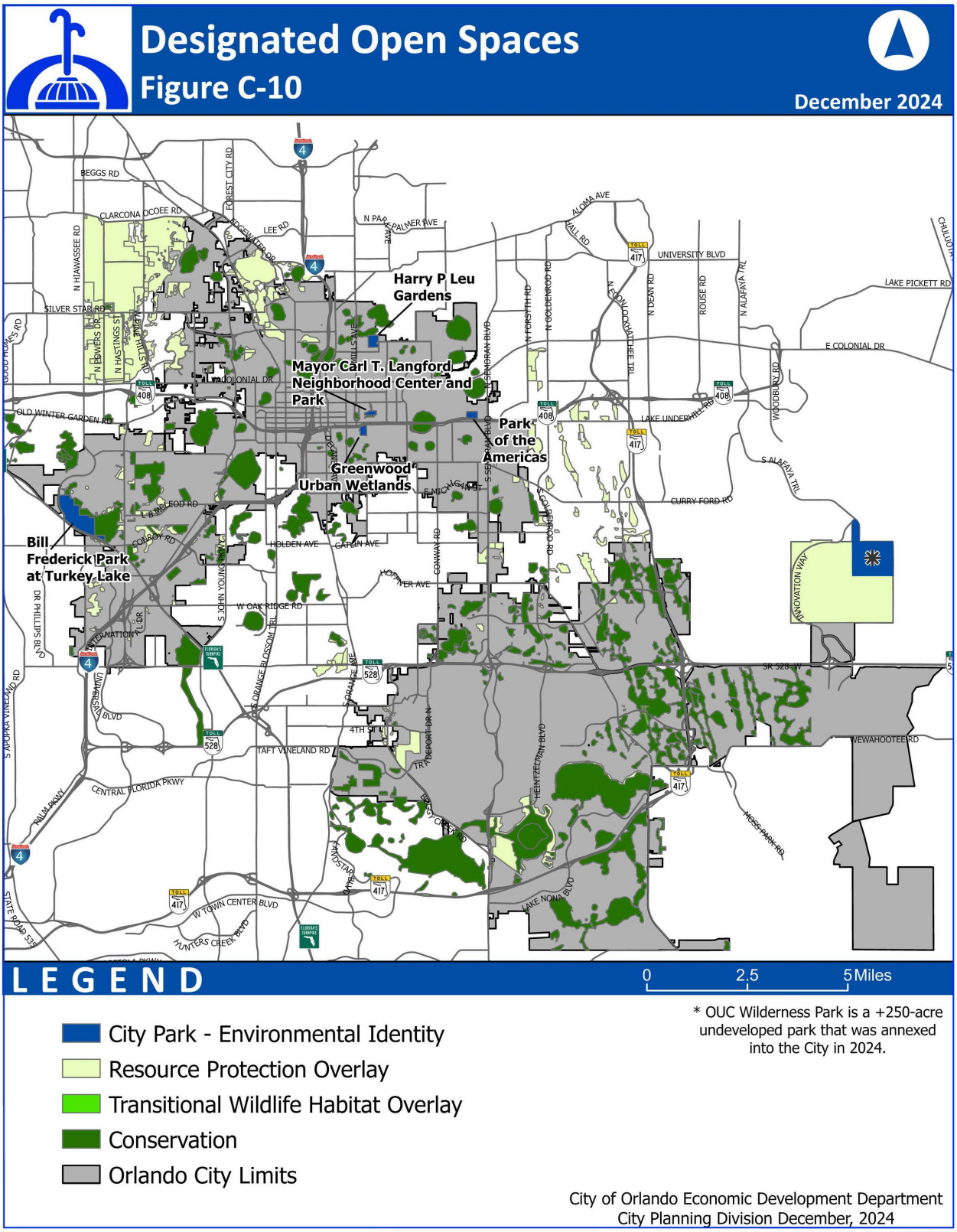

(Amended September 8, 2025, Effective October 9, 2025, Doc. No. 25090812a)