ARTICLE 5

IMPROVEMENT STANDARDS

5.01.00 TRANSPORTATION SYSTEMS

5.01.01 General Provisions

5.01.02 Streets

5.01.03 Rights-of- Way

5.01.04 Vacations of Rights-of-Way

5.01.05 Street Design Standards

5.01.06 Sidewalks and Bikeways

5.01.07 Access

5.02.00 OFF-STREET PARKING AND LOADING

5.02.01 General

5.02.02 Requirements

5.02.03 Standards

5.02.04 Restricted Parking

5.02.05 Large Vehicles

5.02.06 Mobile Recreational Shelters

5.02.07 Residential Parking

5.03.00 UTILITIES

5.03.01 Purpose

5.03.02 General Provisions for All Utilities

5.03.03 Electricity

5.03.04 Telephone

5.03.05 Illumination

5.03.06 Water

5.03.07 Wastewater Systems

5.03.08 Stormwater Management Utility

5.04.00 STORMWATER MANAGEMENT

5.04.01 General

5.04.02 Levels of Service

5.04.03 Performance Standards

5.04.04 Design Standards

5.04.05 Exemptions

5.05.00 TRUCK ROUTES

5.05.01 Definitions

5.05.02 Establishment of Truck Route; Map; Hazardous Material Warning Placards; Exceptions

ARTICLE 5
IMPROVEMENT STANDARDS

5.01.00 TRANSPORTATION SYSTEMS

5.01.01 General Provisions

A. Purpose

This section establishes minimum standards to be met in the development of transportation systems, including public and private streets, bikeways, pedestrian ways, parking and loading areas, and access control to and from public streets. The requirements set out in this section are designed to minimize the traffic impacts of development and to assure that all developments adequately and safely provide for the storage and movement of vehicles.

5.01.02 Streets

A. Street Classification System

l. Table 5.01.01a indicates three categories of roadways as described in the Comprehensive Plan.

1. Private streets and streets that are to be dedicated to the City are classified in a street hierarchy system with design tailored to function. The street hierarchy system shall be defined by road function and average daily traffic (ADT), calculated by trip generation rates prepared by the Institute of Transportation Engineers. The following streets hierarchy is established: local, collector, and arterial.

B. Official Streets

Table II-I of the Traffic Circulation Element of the Comprehensive Plan is made part of this Code. All existing roadways within the jurisdiction of the City shall be identified on this table in accordance with the streets hierarchy scheme. The table shall be the basis for all decisions regarding required road improvements, reservation or dedication of rights-of-way for required road improvements, or access of proposed uses to existing or proposed roadways.

C. Street Classification Standards

Table 5.01.0la specifies the number of lanes and pavement and right-of-way

widths for local, collector, and arterial streets.

TABLE 5.01.01a: Street Classifications; Lane and Right-of-Way Requirements			
Street Type	**Number of Lanes**	**Pavement Width**	**ROW Width**
Local	2	20 feet	50 feet
Collector	2-4	24 feet	60-80 feet
Arterial	2-5	24 feet	120 feet

5.01.03 Rights-of-Way

A. Right-of-Way Reservation

Right-of-way requirements shall be as specified in Table 5.01.01a of this Code. The right-of-way shall be measured from lot line to lot line. Where roadway construction, improvement, or reconstruction is not required to serve the needs of the proposed project, future rights-of-way shall nevertheless be reserved for future use. No part of the reserved area shall be used to satisfy minimum requirements of this Code.

B. Protection and Use of Rights-of-Way

1. No encroachment shall be permitted into existing rights-of-way, except for temporary use authorized by the City.

2. Use of the right-of-way for public or private utilities, including, but not limited to, sanitary sewer, potable water, telephone wires, cable television wires, gas lines, or electricity transmission, shall be allowed subject to the approval by the City.

3. Sidewalks and bicycle ways may be placed within the right-of-way.

4. Setbacks shall not include right-of-way.

5.01.04 Vacations of Rights-of-Ways

Applications to vacate a right-of-way shall be approved upon a finding that all of the following requirements are met:

A. The requested vacation is consistent with the Transportation Circulation Element of the City Comprehensive Plan.

B. The right-of-way does not provide the sole access to any property.

Remaining access shall not be by easement.

C. The vacation would not jeopardize the current or future location of any utility.

D. The proposed vacation is not detrimental to the public interest, and provides a positive benefit to the city.

(Ord. 97-1 § 2-20-97)

5.01.05 Street Design Standards

A. General Design Standards

1. Streets shall be dedicated to the City upon completion, inspection, and acceptance by the City.

2. The street system of the proposed development shall, to the extent practicable, conform to the natural topography of the site, preserve existing hydrological and vegetative patterns, and minimize erosion potential, runoff, and the need for site alteration.

3. Streets shall be laid out to avoid environmentally sensitive areas.

4. Private streets may be allowed only within mobile home parks that will remain under common ownership.

5. The street layout in all new development shall be coordinated with and interconnected to the street system (existing and projected) of the surrounding area. All streets shall terminate at other streets.

6. Streets in proposed developments shall be connected to rights-of-way in adjacent areas to allow for proper inter-neighborhood traffic flow. If adjacent lands are unplatted, stub outs in the new development shall be provided for future connection to the adjacent unplatted land.

7. Streets shall intersect as nearly as possible at right angles and in no case shall be less than 75 degrees.

8. New intersections along one side of an existing street shall, where possible, coincide with existing intersections. Where an offset (jog) is necessary at an intersection, the distance between center lines of the intersecting streets shall be no less than 150 feet.

B. Construction and Paving Specifications of Local Street

1. Clear, grade and fill, thirty (30) feet wide.

2. Construct road twenty (20) feet wide to include a six inch (6") minimum sub-grade of sand/clay mix to be graded and compacted with an additional six inches (6") of shell to be graded and compacted to ninety-five percent (95%). Lime rock may be substituted for the shell base.

3. Construct six inches (6") soil/cement base if using shell base.

4. Pave roadway with minimum of 1.25" type S hot-mix asphalt.

5. Swale and sod road edges -- five feet (5') on each side of constructed road.

C. Collector and Arterial Streets

Specifications for construction and paving of collector and arterial streets shall be in accordance with Volusia County and FDOT standards.

D. Curbing Requirements

Curbing shall not be required unless it is determined to be needed for drainage or safety reasons during the development review process.

E. Shoulders

Shoulders, where required by the Florida Department of Transportation or Volusia County, shall meet their respective standards.

F. Acceleration, Deceleration, and Turning Lanes

Acceleration, deceleration or turning lanes may be required by the City along roads with a functional classification of collector or arterial, or a design speed of 35 miles per hour or greater. Requirements will be based upon a traffic impact study required of the developer or other information available to the City that indicates a need.

G. Cul-de-sacs

An unobstructed twelve (12) foot wide moving lane with a minimum outside turning radius of thirty-eight (38) feet shall be provided at the terminus of every permanent cul-de-sac.

H. Stub Streets

Stub streets are required as necessary to allow connection to future development on existing unplatted land adjacent to the development. The location and alignment of the stub streets shall ensure that the resulting street system will conform to the general design standards of this Article.

I. Clear Visibility Triangle

In order to provide clear view of intersecting streets to the motorist, there shall be a triangular area of clear visibility formed by two (2) intersecting streets or the intersection of a driveway and a street. The following standards shall be met.

1. Nothing shall be erected, placed, parked, planted, or allowed to grow in such a manner as to materially impede vision between a height of two (2) feet and ten (10) feet above the grade, measured at the centerline of the intersection.

2. The clear visibility triangle of the intersection of any streets shall be formed by the intersection of the edge of the road traveled way with two sides of each triangle being equal in length from the point of the intersection and the third side being a line connecting the ends of the two other sides as indicated below.

3. The distance from the intersection of the edge of the road traveled way shall be twenty five (25) feet for posted speeds of 35 miles per hour and below. The distance from the intersection of the edge of the road traveled way shall be forty (40) feet for posted speeds above 35 miles per hour.

(Ord. No. 2013-01; § 1, 7-11-2013)

J. Signage and Signalization

Sufficient funds shall be deposited with the City to provide all necessary roadway signs and traffic signalization as may be required by the City or County, based upon City, county or state traffic standards. At least two street name signs shall be placed at each four-way street intersection, and one at each "T" intersection. Signs shall be installed under light standards and free of visual obstruction. The design of street name signs shall be consistent with the style established by the City and of a uniform size and color.

K. Street Trees

1. Street trees shall be provided in accordance with the standards established in Section 4.02.03 of this Code.

2. No development shall be approved without reserving an easement authorizing the City to plant trees within five (5) feet of the required right-of-way boundary. No street shall be accepted for dedication until such an easement is granted.

5.01.06 Sidewalks and Bikeways

A. When Required

1. Projects abutting collector or arterial facilities shall provide sidewalks adjacent to the collector or arterial roadway. Location of sidewalks shall be consistent with any planned roadway improvements.

2. Sidewalks shall be provided on both sides of all local streets.

3. Improvements or new construction of collector or arterial roadways shall include provision for sidewalks and bikeways within the right-of-way.

4. When acceleration, deceleration and/or turning lanes are incorporated into a street with on-road bicycle facilities, the extra land width, paved shoulder, or bike lane should be incorporated into the right-hand through lane.

B. Design and Construction Standards

All sidewalks and bikeways shall conform to the latest design and construction standards approved by the Florida Department of Transportation and outlined in the FDOT's Bicycle Facilities Planning and Design Manual. If curbs are constructed as part of a sidewalk, inclined curb approaches or curb cuts having a gradient of not more than one foot in twelve feet and a width of not less than four feet shall be provided for access by wheelchairs.

5.01.07 Access

All proposed development shall meet the following standards for vehicular access and circulation:

A. Number of Access Points

1. Every lot or parcel shall have direct access from a public street.

2. Where a development site comprises more than one building site, the building sites shall not be considered as separate properties for the purpose of the standards associated with access points.

3. The number of access points shall be kept to the minimum required to adequately serve the development. Table 5.01.06a shows the number of access points by type of development.

TABLE 5.01.06a: Number of Access Points and Preferred Type of Access

Type of Development	Number of Access Points	Preferred Type of Access
Non-residential, less than 10 parking spaces	1	Local
Non-residential, more than 10 parking spaces	2	Collector

4. The City Commission may improve access points in excess of those allowed in Table 5.01.06a based upon study results and recommendations of the Volusia County Traffic Engineer.

5. Adjacent users may share a common driveway provided that appropriate access easements are granted between or among the property owners.

B. Separation of Access Points

1. Access points to adjacent properties for which site plans are required shall be separated by at least three hundred (300) feet. The City may allow variance from this requirement in the interest of traffic safety.

2. All vehicular access points shall be located one hundred (100) feet, or two-thirds (2/3) the length of the parcel frontage on the street, whichever is less, from the intersection of any right-of-way lines of streets or a street and a railroad.

5.02.00 OFF-STREET PARKING AND LOADING

5.02.01 General

This section implements the Traffic Circulation Element goals of ensuring an

efficient flow of on-site traffic and providing for adequate parking, loading and fire lane facilities.

5.02.02 Requirements

A. Off-Street Parking

1. The following matrix specifies the required minimum number of off-street automobile and bicycle parking spaces for a specific land use.

2. A plan showing off-street parking shall be submitted to and approved by the appropriate City official before a permit is issued for the construction or use of the building, structure or facility being considered, except for single-family residences. This plan shall show the location and accurately designate the number and size of spaces, access aisles, driveways, loading zones, fire lanes, and dumpster locations. The off-street parking plan shall be included in the site plan submittal requirements.

3. The number of parking spaces for uses not specifically listed in the matrix shall be determined by the appropriate City official. They shall consider requirements for similar uses and appropriate traffic engineering and planning data, and shall establish a minimum number of spaces based upon the principles of this Code.

4. For several uses listed in the matrix the parking requirement is to be determined by the appropriate City official. These uses have a large variability in parking demand, making it impossible to specify a single parking requirement. A developer proposing to develop or expand one of these uses must submit a parking study that provides justification for the requirement proposed. The City official will review this study along with any traffic engineering and planning data that are appropriate to the establishment of a parking requirement for the use proposed.

5. A reduction in the number of parking spaces may be granted by the appropriate City official if the applicant can demonstrate that a reasonable number of trips to the site will be generated by transportation not requiring parking; or joint use with another site that has different temporal parking demands will satisfy parking space requirements..

6. The total number of paved parking spaces for a use is not to exceed

125% of the minimum spaces required in the matrix. Justification for spaces exceeding the minimum required in the matrix shall be provided.

7. Any parking area to be used by the general public shall provide suitable, marked parking spaces for handicapped persons. The number, design and location of these spaces shall be consistent with the requirements of Sections 316.1955 and 316.1956, F.S., or succeeding provisions. Parking space required for the handicapped shall be counted as a parking space to comply with the minimum requirements of this Code. All spaces for the handicapped shall be paved.

8. Compact car parking spaces may satisfy no more than 25% of required parking spaces. These spaces shall use appropriate signage and shall be located no more or no less conveniently than standard size car spaces.

9. For the purposes of this section, a compact vehicle is defined as any vehicle less than fifteen feet (180 inches) in length. A standard vehicle is any vehicle that is fifteen feet or larger.

10. Off-street parking shall be available for use prior to the issuance of any Certificate of Occupancy.

11. A permit shall be required for any temporary use of right-of-way. Permanent use of right-of-way is prohibited.

B. Matrix for Land Use and Required Parking Spaces

USE	Minimum Off-Street Parking	Required Bicycle Spaces
RESIDENTIAL		
1. Conventional Detached	1-3 bedrooms: 2 spaces/unit	0
	4 bedrooms: 3 spaces/unit	0
2. Cluster/Multi Family Devel.		
*Resident Parking	Studio: 1 space/unit	.1 per required space
	1 bedroom; 1.5 spaces/unit	

	2,3 or more bedrooms; 2 spaces/unit	
*Visitor Parking	.75 spaces/unit	
3. Adult Congregate Living Facilities	.5 spaces/unit	
4. Mobile Home Park		
*Resident Parking	2 spaces/unit	.25 per required parking space
*Visitor Parking	1 space/unit	
COMMERCIAL		
5. Uses Located in Commercial Shopping Centers	1 space/300 square feet of gross floor area	.10 per required parking space
6. Auto Repair	1 space/200 square feet of gross floor area	2
7. Auto Sales	1 space for each employee plus one space for each 2,000 square feet of outside display area	2
8. Auto Service Station	2 spaces plus 4 for each bay	2
9. Auto Washing	2.5 spaces/washing staff	2
self-serve	5 stacking lanes per car wash bay	
10. Barbershops or Beauty Parlors	2 for each barber chair or each beautician station	.1 per required parking space
11. Bank, Savings & Loan	1 space/250 square feet of gross floor area	.1 per required parking spaces
12. Hotel, Motel & Bed and Breakfasts	1.25 spaces/room	.1 per required parking spaces
13. Lumberyards, Nurseries	1 space/250 square feet of gross floor area for retail	.25 per required parking space

	sales plus 1 space/1,000 square feet of outdoor area devoted to displays and storage	
14. Offices		
Administrative, business and professional	1 space/250 feet of gross floor area (For and office building of six or more stories in height and which contains less than 250,000 square feet of gross floor area of office uses, the parking requirement shall be one space per 300 square feet of gross floor area.)	.1 per required parking space
Government	1 space/200 feet of gross floor area (For on-site parking facilities containing 1,000 or more parking spaces, the parking requirement shall be one space per 500 square feet of gross floor area for parking spaces required in excess of 1,000.)	.1 per required parking space

Matrix for Land Use (continued)

Use	Minimum Off-Street Parking	Required-Bicycle Spaces
15. Restaurants		
All restaurants except fast food	1 space/75 gross square feet of floor area up to 6,000 gross sq/ft plus 1 space/55 gross sq/ft of floor area over 6,000 gross sq/ft	.1 per required parking space
Fast food restaurant	1 space/100 square feet of gross floor area	.25 per required parking
16. Bars, cocktail lounges	1 space/75 sq. ft. of gross floor area	.25 per required parking space

17. Retail, General	1 space/250 square feet of gross floor area	.1 per required parking space
18. Retail, furniture and Appliance	1 space/500 square feet of gross floor area	.1 per required parking space
HEALTH SERVICES		
19. Convalescent and nursing homes	1 space/4 beds	.5 per required parking space
20. Medical and Dental Offices and Clinics Veterinary Hospitals and Clinics	1 space/180 square feet of gross floor area	.5 per required parking space
INDUSTRIAL USES		
21. Manufacturing	1 space/750 square feet of gross floor area devoted to manufacturing plus the required parking for square footage devoted to other uses	.1 per required parking space
22. Research and Development	1 space/250 feet of gross floor area (additional area over 250,000 sq/ft requires 1 space per 500 sq/ft of gross floor area)	

Matrix for Land Use (continued)

Use	Minimum Off-Street Parking	Required-Bicycle Spaces
23. Warehouse	1 space/1,000 square feet of gross floor area for the first 20,000 sq/ft devoted to warehousing plus the required parking for square footage devoted to other uses. 1 space/2,000 sq/ft. 1 space/4,000 sq/ft for floor area in excess of 40,000 sq/ft	.05 per required parking spaces

Entertainment & Recreation

24. Arcades. Games	1 space/200 square feet of gross floor area	.2 per required parking space
25. Bowling Alleys, Billiard Halls	7 spaces/alley plus 2 for each billiard table plus required parking for other uses	.2 per required parking space
26. Commercial Stables	1 space/4 pens or stalls	.1 per required parking space
27. Driving Range (Golf)	1 space/tee plus required parking for any other uses on site	.1 per required parking space
28. Golf Course (Regulation)	6 spaces/hole plus required parking for any other uses on the site	.1 per required parking space
29. Miniature Golf	3 spaces/hole plus required parking for any other uses on the site	.1 per required parking space
30. Parks (Public or Private) active recreation	10 spaces/acre	
passive recreation	5 spaces/acre	
31. Skating Rinks	1 space/100 square feet of gross floor area	.25 per required parking spaces

Matrix for Land Use (continued)

Use	Minimum Off-Street Parking	Required-Bicycle Spaces
32. Tennis, Handball and Racquetball Facilities	2 spaces/court plus required parking for additional uses on the site	.25 per required parking spaces
33. Health Club	1 space/150 square feet of gross floor area	.25 per required parking spaces
34. Theaters, Movie	1 space/2.5 seats plus 5 spaces/screen for employees	.1 required parking spaces

MISCELLANEOUS

Auditoriums	1 space/3 seats of 1 space/35 square feet of gross floor area where there are no fixed seats	.1 per required parking space
36. Churches and Other Spaces of Public Assembly	1 space/3 seats within the main auditorium or, 1 space/35 square feet of gross floor area where there are no fixed seats	.1 per required parking space
37. Day Care, Pre-schools, Nursery Schools	1 space/employee plus 1 space/5 children	.25 per employee
38. Model Home	3 spaces/model home	0

C. Location of Off-Street Parking Spaces

1. In Mixed Commercial districts required off-street parking spaces may not be located in the front, or if applicable, side (corner) yard.

2. In Large Commercial districts required off-street parking spaces may be located in the front yard, rear yard, and side yard in accordance with the following provisions:

   a. Thirty percent (30%) of the front yard must be provided for green area that shall be planted and maintained at all times.

   b. No parking spaces shall be arranged so as to permit a vehicle to back onto a publicly dedicated right-of-way.

3. In no case shall any parking space in any district be located within ten (10) feet of any property line.

4. Accessory parking may be located in a rear or side yard for single-family dwellings.

5. Parking spaces for all dwellings shall be located on the same property with the main building, except that one-half (1/2) the total number of required spaces for multiple-family dwellings, may be located in a common parking facility not more than two hundred (200) feet distant from the nearest boundary of the site. When off-site parking is allowed the owner shall submit to the City Clerk a restrictive covenant in recordable form reserving the off-street parking site for off-street parking for the building for as long as the

parking shall be required.

6. Off-street parking requirements for commercial and industrial land uses shall be located on site.

7. Required off-street parking areas for three (3) or more automobiles shall have individual spaces marked, and shall be so designed, maintained, and regulated in such a manner that no parking or maneuvering incidental to parking shall be on any area, public street, walk or alley, and so that any automobile may be parked and unparked without moving another.

D. Layout

1. Pedestrian circulation facilities, roadways, driveways, and off-street parking and loading areas shall be designed to be safe and convenient.

2. Parking and loading areas, aisles, pedestrian walks, landscaping, and open space shall be designed as integral parts of an overall development plan and shall be properly related to existing and proposed buildings.

3. Buildings, parking and loading areas, landscaping and open spaces shall be designed so that pedestrians moving from parking areas to buildings and between buildings are not unreasonably exposed to vehicular traffic.

4. Landscaped, paved, and gradually inclined or flat pedestrian walks shall be provided along the lines of the most intense use, particularly from building entrances to streets, parking areas, and adjacent buildings. Pedestrian walks should be designed to discourage incursions into landscaped areas except at designated crossings.

5. Each off-street parking space shall open directly onto an aisle or driveway that, except for single-family and two-family residences, is not a public street.

6. Aisles and driveways shall not be used for parking vehicles, except that the driveway of a single-family or two-family residence shall be counted as a parking space for the dwelling unit, or as a number of parking spaces as determined by the appropriate City official based on the size and accessibility of the driveway.

7. The design shall be based on a definite and logical system of drive lanes to serve the parking and loading spaces. A physical separation

or barrier, such as vertical curbs, may be required to separate parking spaces from travel lanes.

8. Parking spaces for all uses, except single-family and two-family residences, shall be designed to permit entry and exit without moving any other motor vehicle.

9. No parking space shall be located so as to block access by emergency vehicles.

E. Loading

1. Schools, hospitals, nursing homes and other similar institutional uses and multi-family residential uses shall provide one (1) loading space for the first fifty thousand (50,000) square feet of gross floor area or fraction thereof, and one (1) space for each additional fifty thousand (50,000) square feet or fraction thereof.

2. Auditoriums, gymnasiums, stadiums, theaters, and other buildings for public assembly shall provide one (1) space for the first twenty thousand (20,000) square feet of gross floor area or fraction thereof, and one (1) space for each additional fifty thousand (50,000) square feet.

3. Offices and financial institutions shall provide one (1) space for the first seventy-five thousand (75,000) square feet of gross floor area or fraction thereof, and one (1) space for each additional twenty-five thousand (25,000) square feet.

4. Retail commercial, road service and commercial entertainment uses shall provide one (1) square feet of gross floor area, and one (1) space for each additional twenty thousand (20,000) square feet.

5. Industrial uses shall provide one (1) space for every ten thousand (10,000) square feet of gross floor area.

F. Drive-up Facilities

1. All facilities providing drive-ups or drive through services shall provide on-site stacking lanes.

G. Handicapped Access

1. The handicapped access requirements of this section shall apply to all development except single-family dwellings.

2. Accessibility to each principal building shall be provided from rights-of-way and parking areas by means of a pathway leading to at least one entrance generally used by the public. Such pathway shall have been cleared of all obstructions related to construction activity, prior to the opening of the building to the public. Where curbs exist along such pathway, as between a parking lot surface and a sidewalk surface, inclined curb approaches or curbcuts having a gradient of not more than one foot in 12 feet and a width of not less than four feet shall be provided for access by wheelchairs.

3. All entrance pathway shall be unobstructed and devoid of curbs, stairs, or other abrupt changes in elevation. Such pathways shall be of a width between walls not less than 44 inches. Ramps shall be designed in accordance with the FDOT ramp requirements.

4. A parking lot servicing each entrance pathway required by this part shall have level parking spaces reserved for physically handicapped persons in the following amounts:

Total Spaces in Lot	**Required Reserved Spaces**
up to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 and over	2% of total

5. Reserved parking spaces shall not be less than 12 feet in width and shall be identified by above-grade signs as being reserved for physically handicapped persons. Such spaces shall be located as close as possible to elevators, ramps, walkways and entrances. Parking spaces should be located so that physically handicapped persons are not compelled to wheel or to walk behind parked cars to reach entrances, ramps, walkways and elevators.

5.02.03 Standards

A. Design Standards for Off-Street Parking and Loading Areas

1. Standard and compact car parking spaces shall be sized according to the most recent design standards recommended by the Institute of

Transportation Engineers (IT).

2. Handicapped parking requirements contained in Section 316. 1955, F.S. shall be followed in identifying spacing needs.

3. Parking spaces shall be designed to accommodate emergency vehicles down main aisles.

4. The standard off-street loading space shall be 10 feet wide, 25 feet long, provide vertical clearance of 15 feet, and provide adequate ingress and egress. Where a loading space is required for a full length tractor-trailer, the space must be sufficient in length to accommodate the tractor-trailer on-site.

5. Design criteria for bicycle parking shall be as follows:

    a. The facility should be designed to allow each bicycle to be supported by its frame (unless a totally enclosed space, i.e. locker, is provided).

    b. The facility should be located in a convenient, highly visible, active, well lighted area.

    c. The facility should be located so as not to impede pedestrian movement.

    d. The facility should have an aisle or other space at least five (5) feet in width to the front and rear of a standard six (6) ft. bicycle parked in the facility.

    e. The facility should be located as near the principle entrance of the building as practicable.

    f. The facility should be solidly constructed to resist rust, corrosion, and vandalism.

6. Lighting for Parking Areas

    a. For businesses and facilities open during evening hours, all parking areas shall provide illumination which meets the safety standards as prescribed by Volusia County.

    b. Mounting height and spacing of luminaries should be sufficient to distribute adequate lighting for safety purposes to the entire facility.

c. Lighting shall be arranged so as to reflect away from residential areas, public streets, or other adjacent land uses.

d. Lighting shall be in place before a Certificate of Occupancy is issued.

B. Stacking Lane Standards

1. The facilities and stacking lanes shall be located and designed to minimize or avoid conflicts between vehicular traffic and pedestrian areas.

2. A lane by-passing the stacking lane shall be provided.

3. For financial institutions there shall be a minimum stacking lane distance of two hundred (200) feet. Two or more stacking lanes may be provided which together total two hundred (200) feet. A minimum distance of one hundred twenty (120) feet shall be provided for all other uses.

4. Where turns are required in the exit lane, the minimum distance from any drive-up station shall be thirty-four (34) feet. The minimum inside turning radius shall be twenty-five (25) feet.

5. Alleys or driveways in or abutting areas designed, approved, or developed for residential use shall not be used for circulation of traffic for drive-up/through facilities.

C. Construction Standards

1. Parking areas shall be surfaced with acceptable materials, shall be constructed in compliance with the City's stormwater management regulations, shall contain wheel stops for individual vehicle parking space delineation and shall be constructed in compliance with the City's landscaping regulations.

2. Acceptable materials means a durable all-weather surface composed of concrete, brick, asphalt, permanent porous grating, or other permanent dust-free surfaces. The aforesaid notwithstanding, the City may, during the development review process, and on an individual project specific basis, consider approval of the use of alternate parking area surface materials. Such consideration shall weigh such factors as surface materials proposed, site location, site topography, environmental benefits, size of parking area,

maintenance requirements, site aesthetics, potential impacts on surrounding properties, potential impacts on City rights-of-way and facilities, and hours and days of use of the parking area.

(Ord. No. 2007-08; § 1, 9-20-2007)

5.02.04 Restricted Parking

There shall be no parking at any time on arterial streets i.e., Lakeview Drive, New York Avenue, Summit Avenue, Church Street, Main Street, Ohio, Cassadaga Road and South High Street.

5.02.05 Large Vehicles

No tractor (bob-tail), tractor trailers, automobile delivery units, refrigerated units (compressors running overnight) or any truck larger than one (1) ton, buses or similar vehicles will be permitted to park on any street, municipal right-of-way or any area zoned residential within the city limits.

5.02.06 Mobile Recreational Shelters

Mobile recreational shelters and vehicles, watercraft, and trailers are permitted as provided in the following:

A. They shall have a current license plate or validation sticker, and shall be parked or stored in full compliance with all yard requirements for accessory structures. The ground area beneath such vehicles shall be kept free from debris, including excessive weed growth.

B. They shall not be parked either within a street or within that portion of the lot lying across the full width of the lot between the front lot line and front most part of the principal structure, except driveways.

C. Mobile recreational shelters and vehicles, shelters, watercraft and trailers shall not be connected to water, sewers or electric lines or to be used for residential purposes. The City may grant permission to allow temporary use of the mobile recreational shelters and vehicles, shelters, watercraft and trailers for living quarters for a period of two (2) weeks upon application to the City Clerk for the temporary use. Any extension of such period shall also be by the approval of the City Commission. Any allowance of the above shall only allow a safe electrical hookup and a safe and sanitary water hookup to an outside or exposed water faucet. There shall be no hookup to any septic tank, reservoir or holding area for any waste material, nor shall there be any waste material discharged on the surface of any grounds.

5.02.07 Residential Parking

In the residential zoned area, motor vehicles shall not be parked anywhere within that portion of the lot lying across the full width of the lot between the front lot line and the front most part of the principal structure, except driveways. All such vehicles shall bear a current license plate or validation sticker.

5.03.00 UTILITIES

5.03.01 Purpose

The purpose of this section is to provide improvement standards relative to utilities and applicable to all development activity within the City. All improvement required by this section shall be designed, installed and paid for by the developer.

5.03.02 General Provisions for All Utilities

A. Placement of Utilities Underground

All utility lines (telephone, cable television, power) shall be placed underground with the exception of major transmission corridors.

B. Utility Easements

1. In any case in which a developer installs or causes to be installed water, electrical power, telephone or cable television facilities and intends that such facilities shall be owned, operated or maintained by a public utility or any entity other than the developer, the developer shall transfer to such utility or entity the necessary ownership or easement rights to enable the utility or entity to operate and maintain such facilities.

2. Storm drainage systems and water distribution systems shall be designed by an engineer, installed by the developer or subdivider and approved by the City prior to formal acceptance or ownership by the City.

5.03.03 Electricity

Every principal use and every lot within a subdivision must have available to it a source of electric power adequate to accommodate the reasonable needs of such use and lot within the subdivision.

5.03.04 Telephone

Every principal use and every lot within a subdivision must have available to it a

telephone service cable adequate to accommodate the reasonable needs of such use and lot within the subdivision.

5.03.05 Illumination

A. There is hereby established, published and adopted a policy for the uniform installation, location and relocation of lights for illuminating the streets within the corporate limits of the City on file in the clerk's office.

B. The official set of guidelines for street lighting within the corporate limits of the City shall be known as "City of Lake Helen Municipal Street Lighting Policy."

C. The City of Lake Helen Municipal Street Lighting Policy may be amended, as necessary, by official resolution of the City Commission of the City.

5.03.06 Water[8]

A. Development Requirements

Each lot in a subdivision shall be provided with a connection to an appropriate water supply provided that the existing water service is capable of servicing and supplying the necessary water. The owner, at his expense, shall furnish and install such water distribution system from plans and specifications approved by the Florida State Board of Health (or other state agencies with jurisdictions over such matters at that time) and the City Commission, and in addition shall install fire hydrants and mains not less than six (6) inches in diameter and placed so that no residence or structure is more than 600 feet from such hydrant. Said water distribution system shall be so constructed as to allow it to be joined with the City water distribution system at the property line nearest the City existing lines. Fire hydrants and shut-off valves shall be of the type, size and brand specified by and approved by the Fire Inspector, Volusia County.

B. Classification of Service

1. Single Family Dwellings: This category applies to Single Family dwellings.

2. All Others: This category applies to all services not classified as

[8] **Cross-reference** - Article 3 Resource Protection Standards, Section 3.05.00 et seq.

single family dwellings.

C. Application for Service

1. The customer will make application for service at the Lake Helen City Hall, and shall make the necessary deposit and connection fees required by City Commission resolution. It is mandatory that all residences, dwellings, or units be connected to the City Water Service provided that the existing water service is capable of servicing and supplying the necessary water to the customer. In the event the customer fails to connect with the water services provided by the City, and the existing City water service is capable of supplying that customer, the customer shall be charged a minimum water usage fee. However, private wells that are supplying these water services prior to the adoption of these regulations are exempted from this provision.

D. Deposits

1. Service Deposits shall be set and amended as necessary by the City Commission by resolution.

2. The State, its departments and agencies, the County and its departments and agencies, and all other governmental entities are hereby exempt and shall not be required to post water Service Deposits in order to obtain such services from the City.

E. Water Connection Fees

For each connection for water service made by the City, the user shall pay a fee set and amended as deemed necessary by the City Commission by resolution. The fee shall be paid upon application for service.

F. Installation and Maintenance Requirements

The property owner or customer is responsible for installing and maintaining the water service line extending to the meter. A back-flow valve is required to be installed at the meter and the customer is required to pay for the valve and its maintenance.

G. Quarterly Charge or Rate for Water Service (All Services)

1. Minimum charges and rates for all water services shall be determined and amended as deemed necessary by the City

Commission by resolution.

2. All customers or required customers, shall pay the minimum quarterly water service charge whether or not such service is utilized.

H. Billing Procedures

Meters will be read by the 15th day of March, June, September and December, and bills rendered thereon to be mailed out the first of April, July, October and January, or the first working day thereafter. Full payment is due upon receipt of the bill. Such billing shall become delinquent if not paid within twenty (20) days of the billing date and subject to penalty.

1. Non-payment after twenty (20) days of the billing date, will be subject to a penalty determined and amended as deemed necessary by the City Commission by resolution.

2. Non-payment after thirty (30) days of the billing date, will result in the water being shut off and shall not be reconnected until all delinquent penalties have been fully paid, together with a reconnect fee to be determined and amended by the City Commission by resolution .. The customer shall be responsible for payment of a reasonable attorney's fee plus cost for collection of delinquent water service accounts. All unpaid accounts after three (3) months will be reported to the Credit Bureau. The water utility will impose a twelve percent (12%) per annum interest charge on all uncollected accounts.

I. Returned Checks

A charge determined by the City Commission and amended as deemed necessary by resolution will be imposed for each check returned for insufficient funds.

J. Suspension of Service

Customers requesting the temporary discontinuance or suspension of City water service shall be charged the minimum quarterly water service charge for the period of time of discontinuance or suspension. A reconnect fee will not be imposed.

K. Unlawful Connection

No person shall be allowed to connect into the city water service unless approved by the City. Connection to the service shall only be made under the direction and supervision of the appropriate city official. Any person who violates this provision commits a misdemeanor of the second degree punishable by a fine of $500.00.

L. Tampering

No person shall tamper, destroy, alter or injure in any way the city water lines, meters, meter seals or any other apparatus or device. Any person who violates this provision commits a misdemeanor of the second degree punishable by a fine of $500.00.

M. No Exemptions

No person, firm, corporation, or government entity is exempt from this regulation.

N. Service Metered Separately

Each new residence, dwelling, or unit, whether residential or commercial, shall be metered separately, if water service available, after adoption of these regulations.

O. Cross Connection Control Program

1. The director of public works or his designee shall cause inspections to be made of all properties served by the public potable water supply where cross-connections with the public potable water supply are deemed possible. The frequency of inspections and reinspections based on potential health hazards involved shall be as established by the Manual of Cross-Connection Control of the department of public works of the City and in no case shall be less than once per year. Any fees or charges established by the City pursuant to the regulations or requirements established herein may be changed from time to time by resolution of the City Commission.

2. Duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter any building, structure or property served by a connection to the public potable water supply of the City for the purpose of inspecting the piping system or systems on such property. Consent to such access shall be obtained from a person of suitable age and discretion therein or in control

thereof. The refusal of such information or refusal of access, when requested, shall be deemed evidence of the presence of cross-connections.

3. The director of public works or his designee is hereby authorized and directed to discontinue potable water service to any property, after notice, wherein any connection in violation of section 5.03.06 exists and to take other such precautionary measures deemed necessary to eliminate any danger of contamination of the public potable water supply system. Water service to such property shall not be restored until the cross-connection(s) has been eliminated in compliance with the provisions of this section.

4. The potable water supply made available on the properties served by the public potable water supply system shall be protected by present or possible future contamination as specified by this section and by state and City plumbing codes. Any water outlet which could be used for potable or domestic purposes and which is not supplied by the potable system must be labeled WATER UNSAFE FOR DRINKING or NONPOTABLE WATER in a conspicuous manner.

5. The consumer shall bear all expense of installing, testing and maintaining the protective devices required by section 5.03.06 to ensure proper operation on a continuing basis. Installation, testing and maintenance of protective devices shall be conducted by certified personnel approved by the City's department of public works. The consumer shall notify the City's department of public works at least forty-eight (48) hours in advance in writing when the tests are to be undertaken so that it may have a representative witness the tests if it is so desired. The consumer shall keep records on his testing, maintenance and repair activities related to cross-connection control and shall make these records available upon request. Copies of all testing, maintenance and repair records shall be sent to the City's department of public works immediately after the work is performed.

6. Section 5.03.06 does not supersede the Standard Plumbing Code of the Southern Building Code Congress International, the Florida State Department of Health Plumbing Rules or any City plumbing ordinance but is supplementary to them; where conflicts exist, the more restrictive provision shall apply.

7. Any person or customer found guilty of violating any of the provisions of section 5.03.06 or any written order of the City or pursuance thereof shall be subject to the provisions of Article XIV. In addition, such person or customer shall pay all costs and expenses involved in the case to include attorney's fees. Notice of such violation shall be given by delivering the same to the premises and a copy thereof mailed to the billing address as appears on the City's billing records. Each day upon which a violation of the provisions of section 5.03.06 shall occur shall be deemed a separate and additional violation. Any person or customer in violation of any of the provisions of section 5.03.06 shall become liable to the City for any expense, loss or damage incurred by the City by reason of such violation to include attorney's fees. In addition to any penalty provided by law for the violation of any of the provisions of section 5.03.06, the City may bring suit in the appropriate court to enjoin, restrain or otherwise prevent the violation of any of the provisions of this section.

8. No provisions of this section designating the duties of any City officer or employee shall be so construed as to make such officer or employee liable for any fine or penalty for failure to perform such duty.

9. All territory within the City and the County of Volusia served by the City's potable water system shall be governed by this section to the extent permitted by law.

P. Water Conservation and Restrictions

1. The City Commission shall be empowered and is hereby authorized to impose whatever controls and restrictions on water usage within the corporate limits of the City it deems necessary to comply with the St. Johns River Water Management District orders relating to water conservation.

2. The controls and restrictions may include, but shall not be limited to:

a. Reduction of pressure in the City water supply;

b. Prohibiting of nonessential residential use, such as car washing, landscape irrigation, washing down of buildings or driveways;

c. Discontinuance of routine flushing of mains and hydrants;

d. Restricting the outside use of water to certain hours and certain days;

e. Imposing rationing on all meter service;

f. The consideration of adopting an escalating block rate charge for water system customers;

g. The banning of water use from fire hydrants and standpipes for any purpose except legitimate fire fighting activities.

Q. Regulation of Wells

1. Any person desiring to strike, sink, dig or drill any shallow or deep well within the limits of the City shall apply to the City Clerk for a permit.

2. Any person applying for such permit to strike, sink, dig or drill a well in accordance with the terms of this article, shall, before receiving such permit, pay to the city a permit fee as established by the City Commission by resolution.

3. No permit shall be issued for any well serving a private, public or commercial water supply without prior approval of the county health department, and further providing that any well shall be located more than fifty (50) feet from any active septic tank, drain field, dry well or other waste disposal facility.

4. All wells dug or drilled shall be constructed and regulated with a cap or valve, and all wells shall be capped or the valves turned off when not being used, and water from the wells shall not be allowed to accumulate and stand as stagnant water. The City shall have the right and authority to immediately cap and keep closed any well found to be in violation of this section.

5. It shall be unlawful for any person to make any connection into any waterlines connected with the supply system of the City, either upon public or private property, or for the owner, agent, tenant, manager or any person having interests in any property within the City to permit to be constructed in or upon such property, any such connections between waterlines of the waterworks system of the

City and any waterwell.

6. No drainage well shall be permitted, except in closed circuit systems after written approval by both the City and the county health department.

7. The City, through its commissioners, officers, agents and employees, shall have at all times, the right of access to any property upon which a well is located, for the purposes of inspecting the same or otherwise regulating the operation of the well under the terms of this section.

5.03.07 Wastewater Systems

Septic tanks shall be installed consistent with the requirements of Chapter 100-6, F.A.C. and the requirements of the City of Lake Helen Comprehensive Plan. All septic tanks shall be properly maintained. Package treatment plants or other types of temporary central wastewater treatment facilities shall not be approved by the City.

5.03.08 Stormwater Management Utility

A. Authority

The City Commission is authorized by the home rule power of Article VIII, 2(b), Florida Constitution, Chapter 166, Florida Statutes and Section 403.0893, Florida Statutes, to establish a stormwater management utility and declare its intention to acquire, own, construct, operate and maintain open drainageways, underground storm drains, treatment facilities, equipment and appurtenances necessary, useful or convenient for a complete stormwater management system, and also including maintenance, extension and construction of the present stormwater management system of the city; to minimize by suitable means the system's contribution to flooding; to minimize by suitable means the system's adverse effect on the water quality of lakes, ponds, rivers and basins within the city and to seek the cooperation of the county and other municipalities in minimizing the effects of all such systems and other sources of accelerated runoff to the flooding and water quality, and to establish just and equitable fees and charges for the services and facilities provided for such systems.

B. Purpose and Intent

1. That the Legislature of the State of Florida has adopted Section 403.893, Florida Statutes, stormwater management legislation

which encourages proper management of stormwater runoff and water quality.

2. That there is a desire to develop a stormwater management program, to be responsible for the operation, construction, and maintenance of stormwater devices and for stormwater system planning.

3. That the cost of operating and maintaining the city's stormwater management system and financing of existing and future necessary repairs, replacements, improvements, and extensions thereof, should, to the extent practicable, be allocated in relationship to the benefits enjoyed and services received therefrom.

4. That the ability of the City to effectively conserve, manage, protect, control, use, and enhance the water resources of the City is dependent on the provision of adequate, equitable and stable funding for the stormwater management program.

5. That the stormwater management system including the components which provide for the collection of and disposal of stormwater and regulation of groundwater, is of benefit and provides services for the welfare of Lake Helen and all of its citizens.

6. That the formation of a stormwater utility, the establishment of a separate fund for accounting of the revenues, expenditures, assets, and earnings of the utility, and adoption or various rates, fees, charges, rentals, fines, and penalties are necessary to meet the needs identified in engineering reports.

7. That proper stormwater management may protect, restore, and maintain the chemical, physical, and biological integrity of community waters; minimize the transport of pollutants to community waters; maintain or restore groundwater levels; protect, maintain, or restore natural salinity levels in estuarine areas.

8. That the adoption of this Ordinance is necessary to protect the public health, safety, and welfare of the citizens of Lake Helen.

C. Stormwater Management Utility - Fee Imposed

1. Charges and fees are to be levied against all real property within the city to accomplish the purpose and intent of the utility. A uniform

schedule of charges and fees for the services and uses of the facilities of the stormwater management system by the owner of real property using the services and facilities of the system.

2. A stormwater utility fee is hereby imposed for the general purposes described in section B. above. Said fee shall be in the form of a special assessment (non-ad valorem) on Volusia County's tax bill and the amount shall be based on the lot/parcel classification as listed in section D.

3. The amount of said stormwater utility fees shall be set and may be amended by resolution of the City Commission.

D. Lot/Parcel Classification

l. A stormwater fee is hereby imposed upon all real property within the City unless otherwise exempt for services and facilities provided by the stormwater management utility system. For purposes of imposing the stormwater fee, all real property within the City with an Equivalent Residential Unit (ERU) of 2067 square feet of man-made impervious area will be assessed.

2. The County tax rolls will be used to prepare a list of lots and parcels within the City and to assign the Equivalent Resident Unit (ERU).

(Resolution 96-6)

E. Stormwater Management Fund

1. Stormwater management utility fees collected shall be paid into a separate fund to be known as the *"stormwater management fund"*. Such fund shall be used for the purpose of paying the cost of stormwater drainage facilities to be constructed and paying the cost of operation, administration and maintenance of the stormwater system of the City. To the extent that the stormwater management fees collected are insufficient to construct the needed stormwater system, the cost of the same may be paid from such city fund as may be determined by the City Commission, but the City Commission may order the reimbursement of such fund if additional fees are thereafter collected. When the fund has surplus dollars on hand in excess of current needs, the surplus dollars will be invested to return the highest yield consistent with proper safeguards.

2. The fees and charges paid shall not be used for general or other governmental or proprietary purposes of the city, except to pay for

the equitable share of the cost of accounting, management and government thereof. Other than as described above, the fees and charges shall be used solely to pay for the cost of operation, repair, maintenance, improvements, renewal, replacement, design, right-of-way acquisition and construction of public stormwater management facilities and costs incidental thereto.

F. Enforcement

1. Authorized employees of the City, bearing proper credentials and identification shall be permitted to enter all properties tributary to the City's stormwater management system for the purposes of inspections, observations, measurement and testing in accordance with the provisions of this chapter and any rules or regulations adopted pursuant hereto.

2. Any person violating any of the provisions of this article shall be punished under Article XIV, *Administration and Enforcement* of the City Ordinances, and shall become liable to the City for any expense, loss or damage occasioned by the City by reason of such violation to include reasonable attorney's fees whether or not litigation is necessary.

G. Exemptions

The following property shall be exempt from Stormwater Management Utility fees:

1. public right-of-ways
2. lakes
3. ponds
4. retention/detention areas
5. jurisdiction wet lands
6. vacant unimproved land in its natural state

(Ord. 95-1, 2-16-95)

5.04.00 STORMWATER MANAGEMENT

5.04.01 General

A. The provisions of this section are intended to achieve the following purposes as stated in the Stormwater Management Sub-Element of the Comprehensive Plan:

1. To protect and maintain the chemical, physical and biological

integrity of the City's ground and surface waters.

2. To protect the City's natural drainage systems.

3. To protect, maintain, and restore fish and wildlife habitat.

4. To minimize the occurrence of erosion, siltation, and sedimentation in surface waters.

5. To minimize the conveyance of pollutants in stormwater runoff to receiving ground and surface waters.

6. To encourage the construction of stormwater management facilities and systems that aesthetically and functionally approximate natural systems.

B. A Stormwater Permit is required prior to the commencement of any development activity.

5.04.02 Levels of Service

A. Design Storm Event

The design storm shall be a 25-year frequency/24-hour duration storm.

B. On-site Stormwater Management

Retention and treatment of the first inch of runoff for areas of one acre or more, or of the first one-half inch of runoff for drainage areas of less than one acre.

C. Stormwater Quantity

Post-development stormwater runoff flow rates, quantities, peaks, and velocities shall be equal to or less than levels which existed prior to development.

D. Stormwater Quality

No degradation of existing water quality conditions in receiving waterbodies will be allowed.

5.04.03 Performance Standards

A. Management Issues

1. Development activities proposed for any parcel of land shall not be approved unless sufficient capacities are available in on-site or off-site facilities to sustain the identified Stormwater Management Levels of Service.

2. Available capacity shall be determined as follows:

   a. Computation Procedure

      The available capacity of a facility or system component shall be determined by the following method:

      (1) Identify the effective design capacity of the affected existing facilities/system components.

      (2) Determine the sum total of all existing flow contributions to the existing facilities/systems.

      (3) Identify any additional flow contributions for which commitments have been made to accept into the facilities/system.

      (4) Add (2) and (3) together and subtract from (1) for a determination of additional available capacity.

   b. Newly Available Capacity

      The total capacity of new facilities or system components, if any, that will become available before or by the time they are needed may be considered as in the computation above only if the following conditions are met:

      (1) The new facilities are not intended, committed nor required as a volume-to-volume replacement for any existing facilities.

      (2) Construction of the new facilities are underway or will be completed by or prior to the time it is needed or it is guaranteed in a binding contract or an enforceable development agreement.

   c. Alternatives to Lack of Available Capacity

      Where available capacity or compliance with Levels of Service standards cannot be demonstrated, the following methods may be used to achieve compliance:

(1) The proposed development may be altered or redesigned such that the projected Level of Service conditions are in compliance with the applicable service standards.

(2) The project may provide the necessary improvements to achieve and maintain the adopted service standards. In such cases, the appropriate plans for the necessary improvements, documentation that such improvements are designed to provide the capacity or detention and/or retain the volume of water necessary to achieve and maintain the adopted service standard, and recordable instruments guaranteeing the construction of the facilities shall be provided. Such improvements may be on or off-site.

d. Demonstration of Compliance

The burden of demonstrating compliance with applicable standards and associated requirements shall be upon each applicant.

e. Assignment of Maintenance Responsibilities

Prior to the issuance of development orders, an entity responsible for maintenance responsibilities shall be identified, assigned and accepted. Maintenance functions for which responsibility must be assigned and accepted include but are not limited to stormwater and other surface water collection, conveyance, treatment, storage, and disposal facilities, system components, and individual systems. The scope of these responsibilities include the operational, technical and financial obligations necessary to ensure that proper level of long-term maintenance will be provided.

B. Resource Issues

All development must be planned, designed, constructed and maintained to meet the following resource protection standards for the management of stormwater runoff:

1. All development applications shall demonstrate that the proposed development will not degrade or contribute to the degradation of existing water quality conditions or adopted Levels of Service in the

City or the county.

2. Existing wetlands shall be protected, preserved and, to the extent feasible, enhanced by any permitted stormwater management system. Attention should be given to hydroperiods, vegetative communities and habitat values.

3. Wetlands may be incorporated into a development's stormwater management system, with the system being designed to protect and enhance its functional values.

4. The characteristics of stormwater runoff associated with any development activity shall approximate the rate, volume, quality, and timing of stormwater runoff that occurred under the site's natural unimproved conditions for a twenty-five (25) year/twenty-four (24) hour rainfall event, except that the first one inch of stormwater runoff shall be treated for the removal of pollutants, and managed for the storage of stormwater runoff in a manner consistent with topography, soil conditions, runoff storage needs, quality and usage of receiving waters, depth to groundwater table, proximity to wetlands, and other factors that are pertinent to each site.

5. The drainage area used in stormwater runoff calculations shall be the natural or artificially modified watershed area, including land areas beyond the boundaries of the proposed development.

6 The channeling or discharge of stormwater runoff directly into receiving waterbodies shall be prohibited unless the waterbodies are designed, permitted, constructed, and operated as wet detention facility components of a stormwater or surface water management system.

7. All systems shall be designed to enhance groundwater recharge where soil and groundwater conditions are conducive to percolation while reducing the pollutant concentrations.

5.04.04 Design Standards

A. General

l. Natural vegetative systems shall be used to the maximum extent practicable in management facilities.

2. Each system shall be designed to adequately accommodate the stormwater runoff that originates within the developed area being served by the system and any stormwater that flows onto or across

the developed area from adjacent lands within the drainage area. Each system shall also be designed to function properly for a minimum twenty (20) year life, have low maintenance costs, and provide access for maintenance equipment.

3. The design and construction of each proposed facility/system shall be certified as meeting the requirements of these regulations by a professional engineer registered in the state of Florida.

4. No surface drainage or stormwater runoff shall be channeled, directed or discharged into a sanitary sewer.

5. Stormwater detention and retention facilities and other man-made surface water storage areas shall be designed according to the following requirements, as applicable:

   a. Bank and sideslope gradients be no steeper than a 4 to 1 ratio (horizontal to vertical).

   b. Banks and sides lopes be planted with appropriate vegetation to prevent erosion and provide for slope stabilization.

   c. Wet detention ponds and other surface water storage areas shall be designed and constructed with maximum water depths not to exceed four to six feet over 80% of the surface water area, based on ordinary or control water level elevations, with maximum depths in the other 20% not to exceed 10 feet.

6. Natural surface waters shall not be used as sediment traps during or after development.

7. The shorelines of stormwater retention and detention facilities and other constructed surface water storage areas shall be sinuous rather than straight to increase shoreline littoral zone habitat and for aesthetic reasons.

8. Vegetated upland buffers of sufficient width to prevent erosion shall be retained or created along the shores, banks or edges of all natural or man-made surface waterbodies.

9. In phased developments, the stormwater management system for each integrated phase of completion shall be capable of functioning independently of subsequent components.

10. No on-site land disturbances such as vegetation removal, grading,

filling or similar activities shall be commenced until proper local, and state approvals are received and erosion and sedimentation control facilities have been installed and are operative for the purpose of intercepting, receiving and treating stormwater runoff. Such facilities will be installed between the areas to be disturbed and waterbodies, water flowageways and wetlands.

11. The land areas disturbed by development activity shall be as small as practicable. Natural vegetation shall be retained and protected as open space and used for landscaping.

12. Wetlands shall not be impacted or adversely affected by the construction of drainage facilities. Such facilities shall not be located in close proximity to wetlands in order to avoid induced lateral subsurface seepage from the wetland into the drainage facility.

    a. The following minimum distances between various types of drainage facilities shall be adhered to in facility design and construction:

        (1) Retention and detention facilities - no closer than 200 feet;

        (2) Canals, drainage ditches - no closer than 200 feet;

        (3) Man-made lakes - no closer than 200 feet;

        (4) Roadway underdrains - no closer than 200 feet;

        (5) Rear/side lot underdrains - no closer than 100 feet;

    b. The minimum distances shall apply in each case unless one of the following conditions is met:

        (1) The City and SJRWMD accept tests, calculations or other evidence which demonstrate that deviations from the above-identified distances are appropriate; or

        (2) The elevations of the bottom of the drainage facility will be higher than the ordinary low water elevation in each potentially affected wetland area; or

        (3) Measures to avoid potentially adverse impacts to

wetlands are included in the design and construction of the drainage facilities, with applicable examples including clay core berms and impermeable liners.

13. Wetlands shall not be used as the initial or primary means for treatment of stormwater runoff. Runoff shall receive initial treatment for the removal of debris, sedimentation and reductions in nutrient concentrations, heavy materials and other pollutants prior to discharge into wetlands, subject to the conditions contained elsewhere in these regulations. However, the first one-half inch of runoff shall be diverted to receive one of the following types of treatment: retention, retention with underdrain filtration discharge to wetlands, detention with filtered drawdown discharge to wetlands, or long-term detention with discharge to wetlands.

14. The construction of open canals and ditches below seasonal high groundwater table elevations shall be prohibited.

15. All data, information calculation methodologies, formulas and specifications used in the planning and design of individual drainage facilities and systems shall be subject to City approval.

16. All retention-type treatment facilities shall be designed as dry bottom basins, with the bottom being no less than one foot above normal high groundwater elevation.

17. Erosion and sedimentation control facilities shall receive regular inspection and maintenance to ensure continued proper functioning.

18. In locations where soil and groundwater table conditions are conducive, overall development and stormwater system design shall maximize the opportunity for stormwater infiltration and percolation to groundwater on each project site. Design standards to be considered include:

    a. Grading to retard surface runoff, and structures such as bottomless inlets, perforated drain pipes, exfiltration systems, vegetated depressions, swales and berms, and other similar devices.

    b. Individual lots and parcels be planned and developed to maximize the amount of rainfall that is percolated into the soil and minimize the volume of stormwater runoff flowing into the drainage system or receiving surface waterbodies.

    c. Stormwater runoff from impervious surfaces be directed into grassed depressions, swales or terraces on each lot for

percolation and infiltration.

d. Roadway drainage shall normally be provided by grassed swales unless conditions are not conducive.

e. Porous pavement should be used where vehicular traffic conditions are conducive to the use of such pavement forms and will not adversely affect the integrity and percolative functioning of the pavement. If porous pavement is used, an entity having responsibility for the proper and ongoing maintenance of the pavement to assure its continued functioning shall be identified and assigned, and must have accepted such responsibility in a recordable instrument prior to a development permits being issued.

f. Land development forms and designs which provide maximum opportunities for the on-site percolation of stormwater runoff be encouraged, to include clustering and other development patterns, use of open space for stormwater percolation, terracing, conformance of site design with topographical conditions, and maximizing the retention of existing natural vegetation, or providing for the re-establishment of native vegetation.

g. Surface drainage systems which serve any land area which contains an activity which manufactures, refines, stores, or creates hazardous or toxic substances, shall be designed to have no stormwater discharge which contains such substances. Such systems shall provide for dry retention storage, entrapment and removal of such substances from the flow path and prevent intermixture with other stormwater runoff.

5.04.05 Exemptions

A. Single family residential units on existing (as of the time this Code was adopted) individual lots are exempt from the stormwater management requirements. However, the City will encourage homeowners to landscape their property in such a way as to retain as much runoff as possible on the property through the use of practices like berms and swales, depressions and other commonly accepted stormwater management practices.

5.05.00 TRUCK ROUTES

5.05.01 Definitions

The following words, terms and phrases, when used in this Section, shall have the meanings ascribed to them in this subsection, except where the context clearly indicates a different meaning:

A. "Hazardous material warning placard" means the standard, diamond-shaped sign as required by Title 49 *Code of Federal Regulations* Part 172, as part of the *Hazardous Materials Transportation Act.*

B. "Non-regulated motor vehicles" (light trucks) means personal pickups and passenger vans, including church, school and public buses.

C. "Regulated motor vehicles" (medium and heavy trucks) means any motor vehicle, other than a non-regulated motor vehicle designed, used or maintained for the transportation of goods, equipment or material of a bulk nature including, but not limited to, dump trucks, tractor trailers and semi-trailer combinations.

D. "Truck" means any motor vehicle designed, used or maintained for the transportation of property in the following classifications:

E. "Truck route" means certain streets as designated on the City's truck routing plan, attached to, incorporated in and made a part of this Article as Exhibit "A", over and along which regulated motor vehicles may routinely operate within the City during designated hours.

(Ord. No. 2005-10; § 1, 11-3-2005)

5.05.02 Establishment of Truck Route; Map; Hazardous Material Warning Placards; Exceptions

A. There is hereby established within the City a system of truck routes, pursuant to State statutory law, as shown on the map on file in the office of the City Administrator of the City of Lake Helen (See Exhibit "A").

B. Non-regulated motor vehicles may operate anywhere within the City Limits.

C. The streets indicated as truck routes on the map and no others may be used by regulated motor vehicles, except when making deliveries within the City Limits of the City. It is unlawful for a regulated motor vehicle to use any street within the City Limits of the City for any purpose except for the purpose of making a delivery to a location within the City Limits of the City unless the street is designated a truck route.

D. All amendments to Exhibit "A" may be made by means of adoption of a resolution by the City Commission of the City of Lake Helen.

E. All motor vehicles, regardless of size or type, that display or are required to

display hazardous material warning placards shall travel on a street designated as a truck route except when making a delivery to a location within the City Limits of the City. It is unlawful for a motor vehicle displaying a hazardous material warning placard on any street except a street designated as a truck route or when making a delivery within the City Limits of the City.

F. This Section shall not prohibit:

1. Operation of a motor vehicle on streets of destination, but only if authorized truck routes are used until reaching the intersection nearest to the destination point, which destination must be proven upon request by a law enforcement officer, through possession of a valid and current delivery ticket or other dispatch order to the destination address. This exception shall relate to all provisions of this Section pertaining to deliveries within the City Limits of the City.

2. Official government and emergency motor vehicles.

3. Detoured motor vehicles, on an officially established detour, if such motor vehicles could lawfully be operated upon the street for which the detour is established.

(Ord. No, 2005-10; § 2, 11-3-2005)