

SECTION 3 - GENERAL REQUIREMENTS

3.01 DEFINITIONS

Definitions for the purpose of this section:

Alley: A minor public right-of-way of not more than twenty (20) feet in width providing secondary vehicular access to the side or rear of properties otherwise abutting a street.

Bicycle and pedestrian ways: Means any road, path or way which is open to bicycle travel and traffic afoot and from which motor vehicles are excluded.

Building: Any structure, either portable or fixed, having a roof, and used or built for the shelter or enclosure of persons, animals, chattels, or property of any kind.

City: The City of Lauderhill, Florida.

Code: Shall include both the Code of Ordinances of the City of Lauderhill and the Land Development Regulations thereof.

Collector: A street which carries traffic from minor streets to the major arterial streets.

Commercial uses: Activities within land areas which are predominantly connected with professional services, office use sales and distribution of products and personal services.

County: Broward County, Florida.

Density or gross density: The total number of dwelling units divided by the total site area less public right-of-way.

Drainage facilities: A system of man-made structures designed to collect, convey, hold divert or discharge stormwater.

Driveway: Space located on a lot, built for access to a garage, off-street parking or vehicle loading space.

Easement: Any strip of land created by a subdivider for public or private utilities, drainage, sanitation, or other specified uses having limitations, the

title to which shall remain in the name of the property owner, subject to the right of use designated in the reservation of the servitude.

Fire Lane: A fire rescue emergency access road, designated as such in accordance with the ~~South~~ Florida Building Code, having a minimum inside turning radius of forty (40) feet with a twelve (12) foot clear sweep. Overhead clearances of eleven (11) feet shall always be provided for fire lanes designed for Fire Department use.

Local street: An arterial.

Lot: A designated parcel, tract or area of land established by plat subdivision or as otherwise permitted by law. Two or more contiguous lots in common ownership may be treated as one lot, provided that the combined lots are used as a single lot. Once treated in this fashion, the combined lots may not be later subdivided or treated as separate lots.

Lot depth: The mean horizontal distance between the front and rear lines of a lot.

Lot frontage: The uninterrupted length of the front lot line.

Lot line, front: The property line dividing a lot from a single street right-of-way.

Lot line, rear: The lot line most nearly opposite from the front lot line.

Lot line, side: Any lot line which is not a front or rear lot line.

Lot width: The horizontal distance between the side lot lines at the front setback line, or at the front lot line where no front setback is required.

Parking: The temporary, transient storage of private passenger automobiles used for personal transportation, while their operators are engaged in other activities. It shall not include storage of new or used cars for sale, service, rental or any other purpose other than specified above.

Parking space: A space at least nine (9) feet in width and eighteen (18) feet in length with at least eighteen (18) feet of back-up and maneuvering area directly behind the space, used exclusively as a parking stall for one vehicle.

Parking space, off-street: A clear area, not located in a public street or alley, maintained exclusively for parking of one (1) standard passenger

vehicle, and usable without moving another vehicle. Must conform with requirements of parking space.

Right-of-way: Land dedicated, deeded, used, or to be used for a street, alley, walkway, boulevard, drainage facility, access or ingress and egress, or other purpose by the public, certain designated individuals, or governing bodies.

Sanitary sewer facilities: Structures or systems designed for the collection, transmission, treatment, or disposal of sewage and includes trunk mains, interceptors, treatment plants and disposal systems.

Setback: The minimum distance between the street right-of-way outer line closest to the building and the front line of the building or any projection thereof, excluding projections specifically permitted or, the minimum distance between the side and rear property lines and the applicable side and rear building lines or any projection thereof, excluding projections specifically permitted.

Sign: Any permanent or temporary structure, or device, letter, work, model, banner, pennant, insignia, or trade flag which is visible from any public street, alley, waterway or public place. Sign shall not be construed to include any flag, notice, badge, or insignia or any government or governmental agency, or any legal notice posted by and under governmental authority.

~~**Speed Bump:** A raised section of a paved surface or roadway designed to interfere with and deter speeding traffic.~~

Speed Hump: Similar to a speed bump except that it is ~~2-53~~ inches in height and is 12 feet long.

Street: A public thoroughfare greater than twenty-four (24) feet in width which affords principal means of access to abutting property, including the distance between applicable right-of-way lines. Street shall include land dedicated to or condemned for use as a public thoroughfare for public travel, whether or not utilized, but shall not include an alley as defined herein.

Street, arterial: A street used primarily for fast and heavy traffic traveling considerable distances. All arterials in Broward county are designated on the Broward County Trafficways Plan.

Street, expressway: A street or highway intended for fast and heavy traffic traveling considerable distances on which points of ingress and egress are limited and crossings are separated, and completed according to Broward County Engineering Standards.

Street, marginal access: A minor street parallel to and adjacent to arterial streets, highways or expressways, and which provides access to abutting property and protection from through traffic, and completed according to Broward County engineering standards.

Street, minor: A street used primarily for access to abutting properties, and completed according to Broward County engineering standards.

Structure: Anything constructed, assembled or erected, installed or portable, the use of which requires a location on a parcel of land. It includes a movable structure while it is located on land and which can be used for housing, business, commercial, industrial, recreational or office purposes, either temporarily or permanently. "Structure" also includes fences, billboards, swimming pools, poles, pipelines, transmission lines, tracks, and advertising signs and tennis courts, and the like.

Swale: That area owned by another which separates private property and waterway, streets, and other common improved areas. It may also be used as a ground collector of water for a designed drainage system. The center of the swale is halfway between the edge of the sidewalk and the edge of the pavement, and the size of the swale depends on the width of the road right-of-way when the swale separates private property and streets.

Trafficway: Any one of the expressways, principal arterials, minor arterials or collector streets shown on the Broward County Trafficways Plan, promulgated by the Broward County Planning Council pursuant to Chapter 59-1154, Laws of Florida, as amended, and the Broward County Charter, on the Lauderhill Trafficway Plan.

Traffic Circle: A road junction at which traffic moves in one direction around a central island.

Utility: Includes any public or private utility, such as, but not limited to, storm drainage, sanitary sewers, electric power, water service, gas service, or telephone line, whether underground or overhead.

Walkway: A right-of-way intended primarily for pedestrians, excluding self-propelled vehicles.

Waterway: A stream, canal or body of water, dedicated to public use, publicly owned, or used and available for public travel by boats, not including privately-owned bodies of water or drainage ditches.

3.02 ROADS

A. Design Standards

1. Streets and alleys

- a. *Conformity to trafficway plan.* The location, direction and width of all streets, roads and highways shall conform to the official trafficways plan where such a plan is in existence and is applicable.
- b. *Relation to existing street system.* The arrangement of streets in new or replatted subdivisions shall make provisions for proper extension of existing dedicated streets in existing subdivisions, where such extension is appropriate.
- c. *Provisions for platting adjoining unplatted areas.* The arrangement of streets in new or replatted subdivisions shall be such so as to facilitate and coordinate with the desirable future platting of adjoining unplatted property of a similar character, and provide for local circulation and convenient access to neighborhood facilities.
- d. *Protection from through traffic.* Minor and collector residential street shall be laid out and arranged so as to discourage their use by through traffic. Residential streets shall not connect with industrial areas.
- e. *Arterial street frontage.* Where a residential subdivision or residential property abuts an existing or proposed arterial street, the Board may require marginal access streets, reverse frontage with screen planting contained in a nonaccess reservation along the rear property line, deep lots with or without rear service alleys, or such other treatment as may be necessary for adequate protection of residential properties and to assure separation of through and local traffic.

- f. *Plats adjacent to railroad or expressway right-of-way.* Where a subdivision borders on or contains a right-of-way for a railroad, expressway, drainage canal or waterway, the Board may require a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of the intervening land. Such distances shall also be determined with due regard for requirements of approach grades for future grade separations.
- g. *Reserve strips.* Reserve strips controlling access to streets shall be prohibited except where their control is definitely placed in the City under conditions approved by the Board.
- h. *Private streets.* There shall be no private streets platted in any subdivision. Every subdivided lot or property shall be served from a publicly dedicated street. This requirement may be waived by the Commission in special situations where the Commission finds public safety, convenience, and welfare can be adequately served. All private streets shall be required to meet all requirements for public streets.
- i. *Half streets.* New half or partial streets shall not be permitted except where essential to reasonable subdivision of a tract in conformance with these regulations or where satisfactory assurance for dedication of the remaining part of the street is provided. Wherever a tract to be subdivided borders on an existing half or partial street, the other part of the street shall be dedicated within such tract.
- j. *Dead end streets.* Dead end streets shall be prohibited, except where appropriate as stub to permit future street extension into adjoining unsubdivided tracts, or when designed as a cul-de-sac.
- k. *Cul-de-sac streets.*
 - 1) Cul-de-sacs, permanently designed as such, shall not exceed four hundred (400) feet in length, except on finger islands.

- 2) Cul-de-sacs shall be provided at the closed end with a circular dedicated area not less than one hundred (100) feet in diameter for turnaround purposes.

I. *Street rights-of-way.*

- 1) Unless otherwise indicated or required by the trafficways plan, for sufficient reasons shown that exceptions should be made in specific cases, street rights-of-way shall not be less than the following:

<i>Street Type</i>	<i>R/W (feet)</i>
Major arterial thoroughfare or non-through section line road.	106
Secondary arterial thoroughfare or non-through section line road	80
Collector	60
Minor, for apartments, business, industrial	50
Minor for one and two-family dwellings	50
Marginal access	50

- 2) Additional right-of-way width may be required to promote public safety and convenience, or to assure adequate access, circulation and parking in high density residential areas, commercial areas, and industrial areas.
- 3) Less right-of-way may be permitted in cases where there is a quantifiable public benefit and all the criteria for public safety and sanitation vehicles can be met with the approval of the City.

m. *Alleys.*

- 1) Alleys shall be provided to serve multiple dwelling, business, commercial, and industrial areas, except that the Board may waive this requirement where other definite provision is made for service access, off-street loading,

unloading and adequate parking, for the uses permissible on the property involved.

- 2) The width of any alley shall be not more than twenty (20) feet. Alleys shall be design to keep runoff within the alley right-of-way.
- 3) Changes in alignment or alleys must provide a centerline radius of at least forty (40) feet.
- 4) Dead-end alleys shall be avoided where possible, but if unavoidable, shall be provided with adequate turnaround facilities for service trucks at the dead-end, with a minimum external diameter of one hundred (100) feet, or as determined to be adequate by the Board.

n. *Street alignment.*

- 1) Curved linear streets are recommended for residential minor and collector streets in order to discourage excessive vehicular speeds and to provide attractive vistas.
- 2) Whenever a street changes direction, or connecting street lines deflect from each other by more than ten (10) degrees, there shall be a horizontal curve.
- 3) To ensure adequate sight distance, minimum centerline radii for horizontal curves shall be in accordance with the design speed of roadway and the minimum requirements in the Florida Greenbooks, as follows:

<u>Minor streets</u>	<u>150 feet</u>
<u>Collector streets</u>	<u>300 feet</u>
<u>Secondary arterial streets and</u>	
<u>section line roads</u>	<u>500 feet</u>
<u>Major arterial thoroughfares</u>	<u>750 feet</u>
- 4) A tangent at least one hundred (100) feet long shall be provided between reverse curves on collector streets, and at least two hundred fifty (250) feet long on major and secondary thoroughfares and section line roads.

o. *Street intersections.*

- 1) Streets shall be laid out to intersect as nearly as possible at right angles. No street shall intersect

another at an angle of less than sixty (60) degrees, except at a "Y" intersection of two (2) minor streets.

- 2) Multiple intersections involving the junction of more than two (2) streets shall be prohibited except where found to be unavoidable by the Commission.
- 3) "T" intersections of minor and collector streets are to be encouraged.
- 4) As far as possible, intersections with arterial streets shall be located not less than eight hundred (800) feet apart, measured from centerline to centerline.
- 5) Streets entering opposite sides of another street shall be laid out directly opposite each other or with a minimum offset of one hundred twenty-five (125) feet between their centerlines or as required by FDOT intersection design guide.-

<u>SPEED LIMIT (mph)</u>	<u>Maximum Deflection Angle</u>
	<u>Through Intersection</u>
20	16 degrees
25	11 degrees
30	8 degrees
35	6 degrees
40	5 degrees
45	3 degrees

- 6) Minimum property line radii at street intersections shall be twenty-five (25) feet for minor streets and where the angle of intersection is less than sixty (60) degrees, a greater radius may be required by the Commission.

- p. *Excessive street widths.* Streets shall not be platted to a width more than one hundred fifty percent (150%) of the minimum width specified in these regulations for the type of street involved. No street shall be platted for center island development except where such center islands may be desirable or necessary for traffic separation and safety as determined by the Board.

- q. Traffic Circles: Traffic circles shall be permitted when all approach right-of-way are a minimum of 60 feet and

shall be warranted by a traffic data proofing the traffic circle will have a net positive impact on traffic calming for the approach roadways.

2. Speed Humps

- a. Speed humps are similar to speed bumps except they are ~~2-53~~ inches in height and are 12 feet long (and 12 ft. wide for one standard lane width). Geometric requirements for a permissible speed hump are shown in Section 5. Additionally, the following warning devices, hump spacing, and off-set requirements must be met.

- Warning Signs 120 ft. from hump
- Pavement Markings on hump
- Humps must be at least 25 ft. from any road junction
- Humps must be at least 90 ft. from any crosswalk
- Humps shall not be located in the middle of a lot line and shall generally be located near the

<u>SPEED LIMIT (mph)</u>	<u>MINIMUM SPACING (ft)</u>
15	120
20	240
25	<u>360</u> 400

B. Circulation

1. Pavement widths and access points to peripheral streets shall be provided which adequately serve the proposed development and which are compatible and functional with circulation systems outside the development.
2. All ~~private roadways~~private driveways going into public roadways shall have stop signs placed at the point of intersection of the private road with the road or right-of-way dedicated or scheduled to be dedicated to the City or the County, said signs to be erected at the expense of property owner. A fifteen-foot visual radius shall be provided at all intersections of private and public roadways.

3.03 PARKING AREAS

A. Design Standards for Parking Areas

1. Parking lots for industrial, commercial and recreational subdivisions and for residential subdivisions with multi-family units or single-family attached units shall be constructed in accordance with the following criteria:
 - a. *Parking area.* The term "Parking Area" shall include the driving lanes, parking spaces, curbing, landscaping, lighting signs, pavement markings, guardrails and drainage.
 - b. *Sketches.* The sketches entitled "Standard Parking Area Details" shall be a part of these minimum standards and shall be available in the Engineering Division for inspection.
 - c. *Pavement construction.* The parking area pavement shall be constructed of minimum twelve (12") inches compacted and stabilized subgrade (minimum 40 LBR), minimum ~~six-eight~~ (68") inches compacted limerock basecourse and minimum (1 ½ inches) compacted FDOT organic material shall be allowed under the pavement. The pavement shall have a cross slope of 2% and a longitudinal slope of 0.5 minimum for normal crown section. The pavement shall have a crown slope of 2.0% and a longitudinal slope of 1.0% minimum for inverted crown section on runs greater than 100 feet. The pavement shall have a crown slope of not less than 1.0% with an average slope of not less than 2.0% and a longitudinal slope of not less than 0.5% on runs less than 100 feet. The run is defined as the length of pavement between high and low elevations points. All centerline turning radii must be minimum 50 feet.
 - d. *Curbing.* All landscaped areas shall be provided with continuous concrete curbing around them. Either FDOT Type D or Type F curb. Extruded curbing, poured on top of the pavement shall be allowed provided that the pavement extends at least three inches behind the curb, the ends of the asphaltic surface course and limerock basecourse layers behind and underneath the curb are completely wrapped around by a heavy duty moisture barrier, material and installation to be approved by the

~~City Engineer, and the curbing is anchored to the pavement with number four steel bars at ten foot intervals. Otherwise, FDOT Type D 6"x 18" or 16"x 12" curbing shall be provided.~~

- e. *Driving lanes.* Driving lanes shall have a minimum clear width of 24 feet for two-way traffic, 15 feet for one-way traffic and 12 feet for drive-thru/drop-off traffic. When parking spaces are provided at 60 degrees angle, the one-way driving lane shall be minimum 18 feet clear. A 24 inch wide white stop bar, along with 25 feet of double yellow lines, shall be provided at the end of each driving lane.
- f. *Parking spaces.* Standard parking spaces shall be minimum nine (9) feet wide and eighteen (18) feet long. Angle parking shall be designed to provide a clear 10 feet by 20 feet rectangle for each parking space. Handicapped parking space shall be 12 feet by 20-18 feet minimum. Parking spaces for parallel parking shall not be less than nine (9) feet in width and twenty-three (23) feet in length. Continuous concrete curbing or individual six feet long concrete car stops shall be installed for each space. Provide four inches wide white lines on either side of each space identifying the limits of the space. The number of parking spaces shall conform to Sch. G Sec. 1.3 of the LDR.
- g. *Pavement markings and signs.* All pavement markings and signs shall conform to "Broward County Traffic Engineering" and "Manual of Uniform Traffic Control Devices" standards. All pavement markings shall be of thermoplastic material, except the four-inch white lines on either side of a parking space.
- h. *Handicapped sign requirements.* Each parking space for the handicapped shall comply with Florida Statute Sections 316.1955 and 316.1956, as currently existing or as may be amended, and shall be posted and maintained with a permanent, six foot, above grade, unobstructed sign bearing the international symbol of accessibility and the caption "PARKING BY DISABLED PERMIT ONLY". Those signs in existence prior to May 30, 1989, which measure between four and one-half (4

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½) and six (6) feet above grade shall be deemed to be in compliance with this section.

- i. *Landscaping.* All landscaping shall conform to the requirements of Sch. J of the LDR. All landscaped areas shall be provided with automatic lawn irrigation systems.
- j. *Lighting.* The light poles shall be made of concrete, metal or fiberglass and all wires and cables shall be underground. Wooden poles and overhead lines shall not be allowed. All lighting shall comply with City of Lauderhill Code or Ordinances.
- k. *Drainage.* All drainage lines and structures shall be installed in accordance with the "Grading and Drainage Regulations and Standards", Broward County Transportation Department, Water Management Divisions, latest edition. Surface water along inverted crown shall be allowed to travel only in straight lines. Catch basins shall be provided at each change of direction. Drainage shall be designed so the storage depth shall not exceed 6 inches. Drainage from a 25 year-3 day storm event (14 inches) shall be retained on-site. The first inch of runoff shall be treated in swales.
- l. *Guardrails.* FDOT type guardrails shall be provided where the edge of the parking area pavement is closer than ~~14-50~~ feet from the top of the bank of a lake, canal or other waterway. The guardrail shall be installed along the full length of such pavement, ~~at a minimum clear distance of four feet in accordance with FDOT standards.~~
- m. *Enforcement.* The City's Engineering Division shall be responsible to review plans, issue construction permits, conduct inspections and approve all parking areas in the City.
- n. Commercial Drive Thru: All drive thru shall provide a minimum queuing distance for four cars or as required by a queuing analysis.

- o. Guard Houses: All gated guardhouse shall provide a minimum queuing distance for four cars or as required by a queuing analysis.

B. Property Maintenance

1. Minimum standards for private parking lots.

- a. All buildings and structures for private parking shall be maintained in a secure, safe, and attractive condition. Deteriorated or used metal covering on any such existing or subsequently constructed carport structure shall be repaired or replaced so as to render same in a safe and attractive condition that is neither physically nor visually a blighting influence.
- b. The off-street parking facilities shall be identified as to purpose and as to location when not clearly evident from a street or alley. Off-street parking facilities including access aisles and driveways shall be surfaced with Florida Department of Transportation Type ~~S-3SP-9.5~~ asphaltic concrete course or approved equal, and maintained in a smooth, well-graded condition without any potholes, pavement deterioration, surface irregularities, and any traffic/safety hazard, provided that driveways, access aisles, and parking spaces for churches and public and private schools and churches offering academic courses may be surfaced with grass or lawn.
- c. All off-street parking facilities for the use of public shall be drained so as not to cause any nuisance on adjacent or public property. All surface stormwater shall be drained off the pavement for proper disposal to the designated areas or structures within a reasonable time, not to exceed six hours. All drainage lines and structures shall be maintained properly at all times to insure full efficiency.
- d. The lighting thereon shall be so arranged and designed as to prevent any glare on adjacent property. Such facilities shall be arranged for convenient access and safety of pedestrians and vehicles. All residential parking lots in Group H Occupancy, as defined by the

~~South~~ Florida Building Code, shall be provided with a minimum of one-half foot candle of light on the parking and walking surface from dusk until dawn. A maximum to minimum foot candle level shall not exceed a ratio of twelve to one (12:1). The lighting system shall be designed and installed as not to create spill lighting or glare onto any adjacent property not a part of the site plan. Parking lot lighting must be reflected on site plan.

- e. All car stops, curbing and sidewalks shall be maintained properly to insure safe and convenient vehicle and pedestrian traffic at all times. Broken, damaged or loose car stops and curbing and sidewalks shall immediately be repaired/replaced.
- f. All pavement markings and signage shall be maintained properly at all times to conform to the standards of "Manual of Uniform Traffic Control Devices". All parking spaces, stop bars, directional arrows, centerlines, edge lines and other pavement markings shall be painted properly to be clearly visible and well defined at all times. Stop signs and all other signs shall be maintained properly at all times as to the size, height, material, design, location, visibility, clarity and other features to conform to the "Manual of Uniform Traffic Control Devices". All pavement marking abutting the public right-of-way (stop bars, direction arrows, lane markings, etc.) shall be thermoplastic.
- g. The off-street parking facilities shall conform at all times to the site plan as approved by the City, including, but not limited to the location and size of all regular and handicap parking spaces.
- h. All private commercial parking lots shall be inspected periodically ~~at least once a year~~ by the Engineering Department to insure proper maintenance and conformity to the approved site plan. The owner, tenant, manager, or their agent shall be notified in writing of any discrepancies and shall, within 30 calendar days from the time of notification, correct the discrepancy.

3.04 DRIVEWAYS, SIDEWALKS AND SWALES

A. *Driveways.*

Wherever vehicular entrances and exits are involved, the number, size and distance apart of entrances and exits and the specific design thereof shall comply with the established standards and requirements of the Florida Department of Transportation where a State or Federal highway is affected, and with the standards and requirements of the City of Lauderdale Engineer in the case of City roads or local streets. Where both State and City roads are involved, the higher standard shall apply.

B. *Sidewalks.*

1. Five-foot-wide sidewalks shall be installed in public rights-of-way. In a private area where there are no public rights-of-way, five-foot-wide sidewalks shall be installed which shall run parallel to all streets in the area.
2. The following requirements shall apply to all sidewalks, whether public or private:
 - a. Construction of sidewalks shall be required as a condition of:
 - 1) New site plan approval;
 - 2) Any modification of an existing site plan;
 - 3) Any renovation of a structure when the renovation exceeds five (5) percent of the assessed value of the structure during any twelve-month period, whether or not a site plan is modified.
 - b. Design specifications shall be in accordance with the City's engineering standards, including required handicapped accessibility.
 - c. In single-family residential areas:
 - 1) Sidewalks shall be on both sides of all streets.
 - 2) All sidewalks shall intersect with perpendicular streets.
 - 3) Sidewalks shall be constructed along the external street frontage of any integrated residential development.
 - d. In multifamily areas:

- 1) There shall be a sidewalk around the perimeter of each integrated development.
 - 2) Internally, there shall be clearly delineated, safe paved pedestrian pathways at least four (4) feet in width connecting the entrance of each residential building to the building's mailbox, and to all recreational facilities.
- e. In nonresidential areas:
- 1) There shall be a sidewalk abutting all street frontages.
 - 2) There shall be clearly delineated, safe paved pedestrian pathways at least four (4) feet in width from major public entrances of buildings to parking lots, and from entrances of buildings to mailbox and dumpster locations.
 - 3) Sidewalks shall be constructed at least ten (10) feet from trees and three (3) feet from hedges. In situations where these requirements cannot be met, sidewalks shall be constructed in accordance with Sch. J Sec. 34 (C)(1) of the LDR.

C. *Swales*

1. *Landscaping and maintenance of swale areas.*

- a. All swale areas and water bank areas within the corporate limits of the City of Lauderhill shall be sodded in species normally grown as permanent lawns in Broward County.
- b. All swale areas within the corporate limits of the City of Lauderhill shall be free and clear of shrubs, hedges, asphalt, cement or rock substances, but concrete buttons shall be permitted if they are round, and not square or pointed at the top, or have no metal or wood protrusions, and are otherwise shaped in any manner so as not to be hazardous to persons or property.
- c. All swale and water bank areas within the corporate limits of the City of Lauderhill shall be maintained, kept

in good repair and free from obstructions which may be hazardous to the welfare of the general public and further must be maintained by contiguous property owner.

2. Purpose of Swales

The swale area is intended to be utilized for draining surface waters from adjacent roadways and private property by percolation of the water through the soil. The swales lying within the City's boundaries, when properly constructed and maintained, effectively control the drainage of surface waters where there is an absence of other methods of drainage. The interference with the prescribed contours, the planting of trees or plants, and other above grade obstructions shall not be placed within the swale area, the use of materials which hinder the percolation of water through the swales seriously affect the drainage function of the swale areas, are a traffic hazard and health hazard, and cause damage to the road adjacent to the swales.

3. Construction, Maintenance Requirements

The following shall be minimum standards for construction and maintenance of swale areas:

- a. Paved swales are prohibited except in commercially or industrially zoned areas wherein the property owner may pave the swale area, provided that prior to paving, he/she obtains a permit from the City of Lauderhill Engineering Division DEES and provided for subsurface drainage or other facilities to drain the adjacent land without runoff onto the lands of other property owners or onto the public right-of-way.
- b. The use and installation of any type of impervious paving, limerock, or stabilizing material to the swale area is prohibited.
- c. Swales shall be constructed and maintained as shown in the sketch on file in the Engineering Department.
- d. Paved areas on private property shall not be permitted to drain on the public right-of-way.

- e. Dome-shaped decorative blocks or markers shall not constitute items which interfere with the drainage of the swale areas and shall specifically be permitted along street rights-of-way, drives, and public walks in the City. These dome-shaped decorative blocks or markers shall have rounded surface areas and no corners which make a right angle projection corner interface. In the event that dome-shaped decorative blocks or markers are placed in the swale area, which shall be expressly permitted, then they shall be painted white or with a white reflective material.
 - f. Concrete catch basin aprons may be installed in the area surrounding the catch basin where, in the judgment of the City Engineer, such installation will not adversely affect the drainage or percolation of the swale in the vicinity. An authorization permit shall be issued by the City Engineer for each instance where a concrete catch basin apron has been requested by the property owner.
 - g. Concrete valley gutters or curb, and gutters shall be required in the roadway swale areas where the longitudinal slopes for the roadway pavement is less than the 0.5% or where the clear width of the roadway swale between the edge of roadway pavement and the sidewalk is less than eight feet.
4. Swale Drainage: The swale drainage system shall be in accordance with the City's roadway section. Exfiltration trenches at the bottom of the swale may be required as directed by the City Engineer.

~~Swale drainage shall be provided according to the following formula:~~

$$\text{STORAGE (ac-ft)} = KHA_t$$

~~where,~~

~~K = hydraulic conductivity~~

~~H = height to the center of gravity : $H = 0.833H_{\text{total}} - (v\text{-notched swale})/(\text{ft})$~~

~~A = wetted surface area (ft²)~~

~~t = 6 hrs for swale between road and sidewalk; otherwise t = 4 hrs~~

3.05 CANALS AND WATERWAYS

A. Drainage Canal Maintenance.

1. All property owners whose property abuts a public drainage canal within the City of Lauderdale, shall be required to remove all trees, shrubs, bushes, structures, docks, fences and/or any other such obstruction which interfere with right-of-way access to the water's edge or the maintenance of the canal property. Any obstruction (fence, sheds, trees, etc.) shall require a permit from the Engineering Division.
2. All property owners found to not be in compliance with subsection (1) hereof shall receive notice from the City Clerk, by regular mail, notifying them that they are not in compliance with this Ordinance and notifying them that they must comply with the terms hereof within ninety (90) days from the date of the notice. Property owners may apply to the Community Development Department within that ninety (90) day compliance period for an additional ninety (90) days to come into compliance.
3. Property owners who fail to comply with the terms hereof shall be subject to Article 1, Section 1.8 of the Land Development Regulations. (Ord. No. 93-163, § 1, 5-31-94; Ord. No. 95-115, § 7, 3-27-95)

B. Waterways

1. Design Standards.
 - a. Development proposals containing proposed canals shall supply written conceptual approval from the South Florida Water Management District, Florida Department of Environmental Regulation, Broward County Environmental Protection and Growth Management Department ~~Department of Natural Resources~~, and/or Army Corps of Engineers along with the application for development proposal. Should canals be approved, construction shall be in accordance with the provisions of the applicable regulatory agency.

- b. All development shall meet the requirements of Broward County Environmental Protection and Growth Management Department ~~Broward County Water Resources Management Division~~ and South Florida Water Management District to control stormwater runoff, for the purpose of preventing flooding in adjacent areas, or pollution of water bodies.
- c. Where a development proposal includes provisions for deposit of fill, shores resulting from such deposition shall not exceed a slope of four (4) horizontal to one (1) vertical above two (2) feet below the design water elevation.
- d. After construction, natural vegetation shall be retained or replaced on the site in order to minimize and stabilize erosion and decrease pollution of the water body.
- e. For lots or parcels which are cleared adjacent to water bodies, silt screens shall be placed between the construction site and the water body to prevent erosion and siltation.
- f. No waterway or portion thereof shall be created within a public road right-of-way or within reservations dedicated for roadway purposes.

2. Permit Required

- a. No waterway, except those which are controlled and maintained by the South Florida Water Management District, shall be created unless a permit for same has been first approved in writing by the City Engineer.
- b. Application for such approval shall be made to the City Engineer, by letter, or upon such form as shall be prescribed, stating the reason for alteration or construction of the waters. This letter shall be accompanied by four (4) sets of plans prepared by an engineer registered and licensed to practice as such by the State of Florida, showing the location proposed cross-sections, structures in or across the waterway, and other details as may be required by the City Engineer.

- c. The City Engineer shall inspect waterways and all structures in or across any waterway during their construction period. As-built drawings shall be submitted to the City Engineer upon completion of all work in or across the waterway with as-built cross-sections of the waterway every one hundred (100) feet, or as often as may be necessary to determine the change in cross-section area.

3. Waterway Use

- a. No person, firm or corporation shall obstruct any public waterway within the City of Lauderhill by any means whatever.
- b. No person shall allow or permit any material to wash, run or flow from property owned by or under the control of any such person into any public waterway within the City in such a way that the waterway shall thereby become obstructed or polluted.
- c. All water intakes from any waterway shall be of a type that is easily disconnected for the purpose of cleaning said waterways. All intakes shall protrude no more than 5 feet from normal edge or water.
- d. The limitations on the use of motorboats are set forth in Chapter 5 of the Code of Ordinances.

3.06 STREET LIGHTS & UNDERGROUND UTILITIES

A. Street Lights

- 1. The City shall provide street lights for all new subdivisions with public streets within the City. The developer shall pay to the City, at the time that his plat is approved by the City Commission, the sum of one thousand dollars (\$1,000) per pole for the street lights. In the case of nonplatted developments, the one thousand dollars (\$1,000) per pole shall be paid by the developer at the time the streets are dedicated to the City.

2. All subdivision plats submitted to the City Commission for approval shall provide the necessary easements for installation and maintenance of street lights within the subdivision.
3. The street light poles shall be aluminum poles, with underground wiring. The design and spacing of the street lights shall conform to the remainder of the City's overhead street lighting system.

B. *Illumination for Streets and Alleys*

1. Private roads: Private roads in residential zoning districts shall be allowed in accordance with the following criteria:
 - a. *Street lighting* shall be provided to deliver an illumination equal to that provided for public roads, but not less than an average illumination of one-half foot-candle within the roadway. The street light poles shall be made of concrete, fiberglass, or metal poles which meet the standards set forth below, and all cables and wires shall be underground. The poles and lines shall be located outside the roadway width.
 - b. *Standards for light poles.* Light poles shall withstand wind loads as required by ~~South~~ Florida Building Code, latest edition. The pole shall be non-conductive, non-corrosive and shall be able to carry a minimum weight of 100 pounds at its top. Installation shall be done by direct burial. The pole material shall meet the following ASTM standards: D635, A153, A356, A319, A307.
 - c. *Design style standards for light poles.* The design and style of decorative light poles shall be reviewed by the Development Review Committee (DRC).

C. *Illumination for Parking Areas*

Parking lots for industrial, commercial and recreational, subdivisions and for residential subdivisions with multi-family units or single-family attached units shall be constructed in accordance with Article III, Sec. ~~3.3 (1)(C)(6)~~ Schedule P Secs. 7,8 & 9 of the LDR.

D. *Property Maintenance Code*

The lighting thereon shall be so arranged and designed as to prevent any glare or excessive light on adjacent property. Such facilities shall be arranged for convenient access and safety of pedestrians and vehicles. The lighting shall be maintained properly to deliver ~~an average illumination of 2.0 foot candles at any point within the parking facility~~an average foot candle in accordance with LDR Section 8 and International Dark Sky Association standards.

- E. *Underground utilities.* Within the Planned Unit Development, all utilities including telephone, television, television cable, and electrical systems shall be installed underground. Primary facilities providing service to the site may be exempted from this requirement. Large transformers shall be placed on the ground and contained within pad mounts, enclosures or vaults. The developer shall provide adequate landscaping with shrubs and plants to screen all utility facilities permitted above ground.

3.07 EASEMENTS

- A. Easements across lots or centered on rear or side lot lines shall be provided for public utilities where necessary and shall be at least twelve (12) feet in total width, or as determined by the Commission to be adequate.
- B. Where a subdivision is traversed by a watercourse, drainage way, canal or stream, there shall be provided a stormwater easement or drainage right-of-way conforming substantially with the lines or such watercourses, and such further width construction, or both, as will be adequate for the purpose. Parallel streets or parkways may be required in connection therewith where necessary for service or maintenance.
- C. Easements may be required for drainage purposes of such size and location as may be determined by the City Engineer. (minimum 12')
- D. Easements shall be provided six (6) feet around all water mains, fire hydrants and meters and dedicated to the City of Lauderhill.
- E. No below or above grade structures (or gas tanks) shall be placed in easements.
- F. Easements shall be provided six (6) feet (plus one foot for each foot in depth below three (3) feet around all sewer force mains, 8" gravity lines, manholes and lift stations, and dedicated to the City of Lauderhill.

3.08 FIRE HYDRANT SPACING, Fire Service Lines & FLOW REQUIREMENTS

Fire hydrant spacing and water flow requirements for all fire hydrants throughout the City shall conform to the table set forth below and made a part hereof. Distances shown in said table shall be measured only in directions that a fire hose can be laid, and it shall be interpreted herein that a fire hose cannot be laid across any street having a width greater than twenty-four (24) feet of pavement. All fire hydrants shall have a minimum of twenty (20) pounds per square inch residual pressure while flowing the required flow as indicated in the table below. The City Engineer may require additional fire hydrants and/or water flow where he/she deems it necessary.

The table to be used for minimum fire hydrant spacing and flow requirements is as follows:

Zoning District	Maximum Fire Hydrant Spacing (feet)	Minimum Gallons per Minute	Minimum <u>Fire Hydrant Branch</u> Pipe Size
RS-4, RS-5	650 (All portions of each structure to be within a maximum of 325' from the nearest hydrant)	1,000	6"
RM-8, RM-5	500 (All portions of each structure to be within a maximum of 150' from the nearest hydrant)	1,500	8"
RM-18, RM-22, RM-45, RM-50, CO-1, C-2, C-3, CF, CR	300 (All portions of each structure to be within a maximum of 150' from the nearest hydrant)	2,000	8"
S-1	Same as RS-4 above, provided that no permanent structures greater than 500 square feet are constructed, where permanent structures are constructed the spacing and flow requirements shall be determined by the City Engineer.		
I-1, U-1, C-4	300 (All portions of each structure to be within a maximum of 150' from the nearest hydrant)	2,500 3,000	8"

Insurance Services Office Method (ISO): The ISO's technique for calculating required fire flow is documented in their publication "Fire Suppression Rating Schedule". The term used in that document to describe the fire flow requirement is needed fire flow (NFF). The calculation for NFF is as follows:

$$NFF_i = (C_i)(O_i)(X+P)_i$$

where

C_i = construction factor

O_i = occupancy factor

X_i = exposure factor

P_i = communication factor

NOTE: The City of Lauderhill Fire Department must be contacted for fire flow tests prior to the calculation of required fire flow.

The point of service of all fire service lines shall be considered to be at the gate valve located at the property line or the gate valve located 6 feet away from the water main.