DEVELOPMENT REVIEW COMMITTEE STAFF REPORT AND RECOMMENDATION

Subject/Agenda Item:

ZTA-22-29: Drainage Between Properties
Recommendation to City Council: A City-initiated request for a text amendment that imposes drainage requirements between properties.

[X] Recommendation to APPROVE
[ ] Recommendation to DENY

[ ] Quasi-Judicial
[X] Legislative
[X] Public Hearing

Originating Department: **Planning & Engineering** Project Manager _____ Caryn Gardner-Young, Zoning Administrator	**Reviewed By:** Acting Director of Development and Neighborhood Services _____ Andrea McCue, City Manager
Approved By: **City Manager** _____ **Andrea McCue**	Public Notice: [X] Required [ ] Not Required Dates: Paper: The Lake Worth Herald Mailing [ ] Required [X] Not Required Notice Distance: _____
Attachments: • Ordinance 2022-29__	**City Council Action:** **[X] Approval** **[ ] Approve with conditions** **[ ] Denial** **[ ] Continued to: _____**

I. Executive Summary

Not every plot of land has perfect drainage. There are several reasons a homeowner could have water drainage problems. Sometimes the land where a structure will sit has to be built up, or the land around an existing structure sloped away, in order for rainwater to drain away properly. Grading is a landscaping technique that gently slopes the yard away from the home. It is at such a slight angle that people may not even know their yard is sloping at all.

Why is drainage so important? It may take time for water to get absorbed by the soil, so when there are heavy rains, the water sits on top of the lawn. If the lawn is flat, the water will stay there, pooling. If there is any grading, the water will flow in the direction of the slope. If your yard slopes toward your home instead of away from it (negative grading), then you have an even bigger issue than pooling. Or the water may flow off site and impact upon a neighbor's property. In fact, neighbors have gone to court over just this issue. Before it gets to that point, City Staff is proposing stronger onsite water retainage.

II. Proposed Zoning Text Amendments:

The following Zoning Code regulations are impacted by the proposed Zoning Text Amendments. Items which are proposed for deletion are in **~~Strike-Through~~**, items proposed for addition are in **Single Underline**.

Proposed Change

Sec. 12-58. - Drainage.

(a) All subdivisions and other development shall have comprehensive stormwater drainage facilities which manage, treat, and discharge water through a legal positive outfall connection to a public street, canal, or natural water course subject to the permission of the entity controlling the receiving body. The stormwater drainage facilities shall be designed in accordance with the standards of Article III.

(b) Stormwater shall be contained on-site in accordance with the provisions and requirements of the South Florida Water Management District (SFWMD) and the Lake Worth Drainage District (LWDD). Rainfall runoff, surface water and ground water shall be managed to minimize degradation of water quality; reduce harmful nutrients, turbidity, debris, and other deleterious substances; and to maximize percolation and detention. Runoff from roads, parking lots, roofs and other impervious surfaces should be directed over areas where percolation into the soil can be accomplished prior to introduction into any storm sewer or other receiving facilities. Pervious areas shall be covered with vegetation requiring periodic cutting and removal.

(c) The following features shall be provided with protection against flooding from the below-listed design storm events:

(1) The lowest habitable space of residential and commercial buildings shall be protected from inundation resulting from a 100-year, 3-day rainfall assuming zero discharge; or the 100-year flood elevation per Federal Emergency Management Agency (FEMA) flood insurance rate maps plus one

(1) foot; or the 100-year flood elevation as established by SFWMD rule; whichever is most restrictive.

(2) Residential subdivision lots of one-quarter (¼) acre gross area or less shall be protected from a 3-year, 24-hour rainfall.

(3) Residential subdivision lots greater than one-quarter (¼) acre gross area shall be protected from a 3-year, 24-hour rainfall within twenty (20) feet of all habitable buildings and from a duration of inundation of a maximum of eight (8) hours subsequent to the 3-year, 24-hour rainfall for the remainder of the lot.

(4) Local streets, marginal access streets, private streets, and collector streets not included in the thoroughfare plan shall be protected from a 5-year, 24-hour rainfall.

(5) Thoroughfare plan streets shall be protected in accordance with the requirements of the FDOT Drainage Manual.

(6) Residential parking lots shall be protected from a 3-year, 24-hour rainfall; if an exfiltration system is used for storm drainage the parking lot shall be protected from a 5-year, 24-hour rainfall.

(7) Commercial parking lots shall be protected from a 3-year, 1-hour rainfall; if an exfiltration system is used for storm drainage the parking lot shall be protected from a 5-year, 1-hour rainfall.

(8) Recreation and open space areas not specifically designated for stormwater management purposes shall not be subject to inundation exceeding eight (8) hours following a 3-year, 24-hour rainfall.

(9) Preserve areas shall not be subject to inundation of greater or less intensity or duration than pre-development conditions. In order to support the health of existing plant communities, flows and hydrology shall be maintained to the greatest extent possible.

(d) The above listed design storm events shall be based on rainstorms of maximum intensity predicted by the current Florida Department of Transportation Intensity Duration Frequency (IDF) curve charts for Palm Beach County.

(e) The drainage system shall provide for drainage of lots, streets, roads, and other public areas including surface waters which drain into or through the property and historic flow across property lines.

(f) The runoff coefficients used in the design of the system shall be those applicable after complete development has occurred and shall be calculated on sample areas of each type of ultimate use.

(g) The storm sewer system within the right-of-way shall be designed so that the elevation of the hydraulic gradient is never higher than three (3) inches below the grate elevation of any inlet in the system during a 3-year 1-hour storm event.

(h) Pipes and structures used in the drainage system shall meet the following requirements:

(1) Minimum pipe size is to be fifteen (15) inches diameter, except that yard drains serving solely pervious areas on private property and not located beneath paved areas or sidewalks may be no smaller than eight (8) inches in diameter.

(2) The distance between terminating or intermediate structures shall not exceed that required by Florida Department of Transportation Standards for the construction and maintenance of inlets and manholes. The pipe shall be sloped to develop sufficient scouring to minimize sediment.

(3) Structure design shall meet or exceed current Palm Beach County Standards or standards adopted by the City of Greenacres. In order to simplify maintenance and catch sediment and debris that may be carried in the drainage structures and move through the drainage system obstructing pipes and/or the control structures and also degrading downstream water quality, sumps shall be provided in each of the following: the last drainage structure prior to outfall of the system, the control structure, and all drainage structures preceding an exfiltration trench. The minimum depth of the sump shall be twenty-four (24) inches, measured between the inside bottom of the lowest entering pipe and the inside bottom of the structure.

(4) Drainage pipe shall be fitted with headwalls, endwalls, inlets, manholes, and other terminating and intermediate structures.

(5) Pipe used in the drainage system shall meet current American Society for Testing and Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO), and FDOT specifications. Approved pipe materials shall consist of the following:

a. Reinforced concrete pipe, with gasketed joints meeting the requirements of AASHTO.

b. Aluminum, with all joints made using twelve (12) inches wide bands having a watertight gasket of mastic or neoprene.

c. Coated steel, with all joints made using twelve (12) inches wide bands having a watertight gasket of mastic or neoprene. The pipe shall have an approved corrosion resistant coating.

d. High density polyethylene (HDPE) meeting ASTM F 8904 or ASTM D 714 standards. This pipe material is not allowed for use within the public road right-of-way except as a "slip-lining" insert for the repair of deteriorated existing pipe.

(i) Swales may be used in lieu of storm sewers to convey and collect surface waters. Maximum swale grade shall be limited to that grade which will produce water velocities below the threshold of erosion. The side slopes on swale sections shall not be steeper than 4:1 and the swale may occupy all of a water management tract. Swales within the road right-of-way shall be no deeper than six (6) inches.

(j) All major treatment facilities such as lakes and other detention areas used for stormwater management prior to discharge from development shall be placed in the platted water management tracts and dedicated to the entity responsible for their maintenance. All water management tracts shall include, for maintenance access, a twenty (20) foot maintenance easement around the perimeter and above the maintained water elevation, with a side slope not steeper than 8:1.

(k) Stormwater runoff shall be retained onsite with the exception of a permitted legal positive outfall piping or direct conveyance to a drainage easement that includes a drainage pipe or swale system, direct conveyance to a lake, and direct conveyance to a retention area. Properties shall be graded such that stormwater runoff does not sheet flow between properties unless the flow is through a drainage easement that is part of master drainage permit for the entire development; is a perimeter berm; or, a solid concrete drainage retaining wall with the top at the peak stage of the 25 year, 3 day storm event. In residential planned developments swales can be used along the side lot lines in lieu of berms and drainage walls to direct stormwater runoff from between properties to a drainage collection system in either the front or rear of the residential properties. A berm or wall around the outside of the master residential plan development will still be required.

III. Zoning Text Amendment Criteria:

A. *The need and justification for these changes:*

The principal intent of these proposed text amendments to the Zoning Code is to address stormwater impacts upon a neighbor's property when work is conducted on a property that may impact grading. It is not uncommon for government to regulate such activities especially if complaints are received from the residents impacted. The proposed zoning code modifications are to establish regulations to avoid stormwater runoff issues, which are harmful and otherwise detrimental to neighbors in the enjoyment of their life.

B. *The relationship of the proposed amendments to the purpose and objectives of the City's Comprehensive Plan, and whether the proposed change will further the purposes of the City's Zoning Code regulations and other City codes, regulations and actions designed to implement the Comprehensive Plan.*

The proposed amendments are consistent with the City's Comprehensive Plan and will further the purposes of the City's Zoning Code regulations and other City codes.

IV. Staff Recommendation:

Approval of ZTA- 22-13 through the adoption of Ordinance 2022-29.

CITY COUNCIL ACTION First Reading – October 17, 2022

CITY COUNCIL ACTION Adoption Hearing –