

Cont. 2-5-15

Meeting Date
October 21, 2014



AGENDA	
Section	Public Hearing
Item No.	III. J

AGENDA REPORT
BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS

SUBJECT:	PUBLIC HEARING RE: Ordinance revising Chapter 62 Land Development Code Sections 62-2801, 62-2806, 62-2891 and Chapter 22 Section 22-48 of the Brevard County Code of Ordinances.
DEPT/OFFICE	Planning & Development Department

Requested Action:

It is requested that the Board of County Commissioners approve modifications to Chapter 62 Land Development Regulations Sections 62-2801, 62-2806, and 62-2891 subdivision improvements and design standards, and Chapter 22 Section 22-48 of the Brevard County Code of ordinances, lot drainage and minimum floor elevations.

Summary Explanation & Background:

On March 18, 2014 the Board tabled the public hearing of the proposed ordinance to the May 13, 2014 Board meeting to allow for additional staff evaluation and discussion with the building industry.

On April 8, 2014 an updated version was presented to the BCAC for review. The BCAC meeting included considerable public comment, input, and discussion from residents and from design professionals. As a result of extensive dialog at the BCAC meeting there was consensus that lot grading alone would not provide an exclusive solution to effective lot drainage design. It was determined that fill material with poor drainage qualities have been found to affect the long term integrity of subdivision infrastructure and housing and may affect the structural life of the development of individual communities. The design of drainage and the grading of individual residential lots play a key role in the long term performance of the housing product and community. The quality of soils and fill material was determined to be a factor in successful development of design standards. Staff subsequently requested the item be withdrawn from the May 13th meeting agenda to further vet the issues and potential solutions and return to the advisory Boards for their review and recommendations.

The soils issue is now addressed in the proposed ordinance by implementing standards for fill material in new residential subdivisions and as well as the minimum floor elevation and lot grading standards originally proposed for new residential construction to ensure adequate lot drainage and prevent flooding of residential buildings. The updated draft ordinance was presented to the BCAC on October 8, 2014 and the BCAC members recommendations have also been incorporated into the proposed ordinance.

Fiscal Impact: none

Staff contact: Mike McCaughin, Chief Building Official
Tel: 633-2072 email: mike.mccaughin@brevardcounty.us

Clerk to the Board Instructions: Return an executed copy of the approved ordinance to Planning & Development Department

Exhibits Attached: Clean and strikethrough copies of the proposed ordinance

Contract /Agreement (If attached): Reviewed by County Attorney Yes No PR

County Manager	Assistant County Manager,	Department Director / Extension
Stockton Whitten	Mel Scott	Robin M. Sobrino, AICP/52070

Robin M Sobrino



Tammy Etheridge, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001
Fax: (321) 264-6972

October 22, 2014

MEMORANDUM

TO: Robin Sobrino, Planning and Development Director Attn: Mike McCaughin

RE: Item III.J., Ordinance Revising Chapter 62, Land Development Code Sections 62-2801, 62-2806, 62-2891, and Chapter 22, Section 22-48, of the Brevard County Code of Ordinances

The Board of County Commissioners, in regular session on October 21, 2014, continued the public hearing to consider ordinance for revising Chapter 62, Land Development Code Sections 62-2801, 62-2806, 62-2891, and Chapter 22, Section 22-48, of the Brevard County Code of Ordinances, to the February 5, 2015, Board meeting.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

Tammy Etheridge, Deputy Clerk

/ds

ORDINANCE NO. 2014 - _____

AN ORDINANCE OF BREVARD COUNTY, FLORIDA AMENDING THE CODE OF ORDINANCES OF BREVARD COUNTY, FLORIDA CHAPTER 62, LAND DEVELOPMENT REGULATIONS SECTION 62-2801, DEFINITIONS AND RULES OF CONSTRUCTION, TO DEFINE TYPE B SOILS; SECTION 62-2806 REQUIRED IMPROVEMENTS WITHIN A SUBDIVISION, TO ADDRESS FILL REQUIREMENTS; SECTION 62-2891, LOT DRAINAGE, TO PROVIDE LOT DRAINAGE PLAN AND GRADING REQUIREMENTS; CHAPTER 22, BUILDING AND BUILDING REGULATIONS, SECTION 22-48 REQUIRING FLOOR ELEVATION TO BE ABOVE GRADE OF ADJACENT THOROUGHFARE, SITE DRAINAGE PLANS, SURVEYS AND ELEVATIONS; THE INTENT OF THESE CODE SECTION AMENDMENTS IS TO PROVIDE FOR IMPROVED LOT FILL AND LOT DRAINAGE STANDARDS AND CONSISTENCY BETWEEN COUNTY AND FLORIDA BUILDING CODE REGULATIONS; PROVIDING FOR RESOLUTION OF CONFLICTING PROVISIONS, PROVIDING FOR SEVERABILITY; PROVIDING FOR AREA ENCOMPASSED; PROVIDING FOR CODIFICATION; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Board of County Commissioners of Brevard County desires to provide for the health safety and welfare of the public by regulating lot drainage; and

WHEREAS, the Board of County Commissioners desire to update lot fill and drainage requirements to provide consistency in all phases of development design, review and construction; and,

WHEREAS, the responsibility to properly design infrastructure resides with the Engineer of Record, nothing herein absolves the Engineer of this responsibility to exercise due care in the proposed ordinance and made recommendations; and

WHEREAS, the Board of County Commissioners desires to align County lot drainage and finished floor elevation regulations with related provisions of the Florida Building Code for consistency; and

WHEREAS, the Board of County Commissioners of Brevard County has determined that these changes are necessary to promote public health, safety, and welfare of the community by requiring adequate drainage away from all structures and ensuring lot drainage of single family homes functions in the long term; and,

WHEREAS, the Local Planning Agency reviewed the proposed ordinance on October 20, 2014 and made recommendations; and,

WHEREAS, The Building Construction and Advisory Committee reviewed the proposed ordinance on October 8, 2014 and made recommendations; and,

WHEREAS, the Board of County Commissioners of Brevard County has reviewed the recommendations of the Local Planning Agency and the Building Construction and Advisory Committee and has considered the comments of interested citizens in public hearing;

NOW, THEREFORE, BE IT ORDAINED BY THE BREVARD COUNTY BOARD OF COMMISSIONERS:

SECTION 1. Chapter 62, Article VII, Division I, Section 62-2801, Definitions and Rules of Construction, Code of Ordinances of Brevard County, Florida is hereby amended by adding a new definition to reads as follows:

Type B soils means fine sand with silt/clay which contain no more than 10% fines passing a Number 200 sieve.

SECTION 2. Chapter 62, Article VII, Division 2, Section 62-2806, Required Improvements Within a Subdivision, Sub-Section (7), Code of Ordinances of Brevard County, Florida is hereby amended to read as follows:

(7). Natural ground or any fill material being placed within two (2) feet of the bottom of the base material for all roadway's, must meet the classification for a Type B soil and must not contain more than 10% fines. Existing natural ground or fill material within three (3) feet of the final elevations of individual lots, as established by the approved plans, must meet the classification for a Type B soil and must not contain more than 10% fines. Fill material placed from natural ground to the beginning point described above must not exceed 12% fines in any area under roadways and/or lots abutting stormwater retention areas, to allow horizontal movement of groundwater to occur. All fill material placed within the proposed rights-of-way must be compacted to a minimum density of 98% of modified proctor (ASTM D 1157). All fill material placed outside of the proposed rights-of-way must be compacted to a minimum 95% of modified proctor (ASTM D 1157). Testing of the fill material to ensure compliance shall be accomplished during the excavation and fill placement operation. The engineer of record shall provide a testing schedule to the County at the time of the project pre-construction meeting. The County may require additional testing at any time during the fill placement operation to ensure compliance with the above.

SECTION 3. Chapter 62, Article II, Division 3, Section 62-2891, Lot Drainage, Code of Ordinances of Brevard County, Florida is hereby amended to read as follows:

Section 62-2891. Lot Drainage

(a) *General:* Drainage of surface water shall be designed to be diverted to a storm sewer conveyance or other drainage improvement designed to receive surface water so as not to create a hazard. Lot grading and elevation of building pads shall also be designed to drain surface water away from buildings.

(b) *Building floor elevations:* Establishment of building floor elevations shall be based on the minimum performance standards contained in this section, Chapter 22-48 of the County Code of Ordinances, and Chapter 62 Article XI Flood Protection. In the event of conflict, the most stringent standard that provides the highest floor elevation shall govern the design.

(c) *Lot grading design:* Lot grading must be designed and constructed to provide drainage of surface water from all lots and prevent ponding or accumulation of surface water. The minimum allowable slope for the centerline of swales conveying surface water along the side or rear lot lines is one percent (1%).

(d) *Lot grading drainage plans:* subdivision construction plans must include lot grading and drainage information and details to include but not limited to:

- (1) Identify standard FHA/VA/HUD drainage type for each lot as TYPE A (rear to front), TYPE B (split drainage), TYPE C (front to rear), or modified/combinations of the drainage types.
- (2) Proposed lowest floor elevation for buildings enclosed by a solid roof and walls, including garages, on each lot.
- (3) Proposed elevation at lot corners and at other locations to adequately show the slope gradient and drainage of the lots.
- (4) Identify the surface water discharge location(s) receiving the drainage from each lot.
- (5) Location and cross section of any proposed swales on the lots.
- (6) Indicate building pads are provided with a protective slope of at least a 5 percent gradient.
- (7) Arrows indicating direction of surface water flow.
- (8) Identify any drainage structures, yard drains, or other similar drainage structures or features intended to receive or convey surface water on the lots.

SECTION 4. Chapter 2, Article II, Division 1, Section 22-48, Finish floor elevation to be above grade of adjacent thoroughfare lot grading, Code of Ordinances of Brevard County, Florida is hereby amended as follows:

Section 22-48. Lowest Floor Elevation and Lot Drainage

(a) *Purpose and intent:* The purpose of this section is to ensure all new residential construction and additions to existing residential structures increasing the floor area footprint provide for drainage of surface water away from structures to protect buildings from flooding and to maintain ground stabilization for supporting foundations. This section establishes minimum lowest floor elevations for all new residential construction and additions to existing structures.

(b) *Policies and Procedures:* The County Manager or designee is authorized to create policies and procedures for the administration and enforcement of this section in order to clarify the application of its provisions. Such administrative policies and procedures shall be in compliance with this section and shall not have the effect of waiving the requirements specifically provided for herein.

(c) *Site drainage plan required:* All building permit applications for new residential buildings, mobile and manufactured home installations, or substantial improvements to residential buildings affecting existing drainage patterns shall be accompanied by a site drainage plan meeting the minimum standards established by this section. The site drainage plan must demonstrate that surface water is diverted to the road right-of-way, or to a storm water conveyance or surface water discharge improvement designed and constructed to receive surface water discharge from the lot. The drainage plan must also demonstrate that drainage from the lot does not create a flood hazard to buildings on adjacent properties. The site drainage plan must, at a minimum, contain the following information:

- (1) The site drainage plan must be dimensioned and drawn to scale with sufficient clarity, and must include the location of all proposed and existing improvements on the property with dimensions from property boundary lines.
- (2) The drainage plan must show the existing and proposed elevations at all lot corners; proposed final lot grade elevations; the centerline elevations of the abutting roadway; and any other pertinent elevations needed to show the drainage pattern.
- (3) The drainage plan must clearly indicate the flow direction of proposed surface water drainage and show the discharge location(s) of surface water from the lot.
- (4) The drainage plan must show the location of existing and proposed drainage features including, but not limited to: swales, berms, ditches, ponds, lakes, drainage structures, easements, etc. The plan must identify the centerline location and slope of proposed swales. The minimum allowable slope for the centerline of swales conveying surface water along the side and rear lot lines is one percent (1%).
- (5) The drainage plan must show floor elevation of all existing buildings on the property and the proposed lowest floor elevations for buildings enclosed by a solid roof and walls, including garage.
- (6) The drainage plan must include the floor elevation(s) of existing dwellings on adjacent properties and show the drainage pattern of adjacent developed properties along abutting property lines. The drainage plan must demonstrate that lot grading or the altering of existing drainage patterns does not cause ponding or accumulation of surface water on adjacent properties.
- (7) Properties in a Federal Emergency Management Agency FEMA special flood hazard area or in an approved engineered subdivision shall have all elevations based on a North American Vertical Datum of 1988 (NAVD '88) or National Geodetic Vertical Datum of 1929 (NGVD '29) certified benchmark.
- (8) County staff is authorized to require the site drainage and grading plan be designed by a Professional Engineer licensed in the State of Florida when site conditions exist that require specialized drainage design to protect buildings and adjacent properties from flood. Such specialized design may include, but is not limited to the design of onsite retention of surface water in lieu of discharge of surface water off the lot, use of stem walls, pilings, retaining walls, installation of piping, inlets, terracing, or steeper slopes with low maintenance ground

cover vegetation, etc. The engineer shall also certify to the County that the as-built drawings are in substantial compliance with the approved site drainage plan and this code section.

(d) *Minimum standards for finish floor elevations:*

(1) All new one and two family residential construction or additions to these structures, including the installation of manufactured homes, must provide for the lowest floor, including the floor of an attached garage, to be elevated above the street on which the property abuts based upon the lot drainage pattern as follows:

- (a) *TYPE A drainage:* The lowest floor elevations for interior lots designed with TYPE A (rear to front) drainage must be sufficiently high to provide for building foundation drainage as prescribed by the Florida Residential Building Code. The lowest floor elevation must be at least 24 inches above the crown elevation of the street on which the property abuts. Additionally, the floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs and the adjacent finished grade.
- (b) *TYPE B drainage:* The lowest floor elevation for interior lots designed with TYPE B (split) drainage must be sufficiently high to provide for building foundation drainage as prescribed by the Florida Residential Building Code. The lowest floor elevation must be a least 18 inches above the crown elevation of the street on which the property abuts. Additionally, the floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs on grade and the adjacent finished grade.
- (c) *TYPE C drainage:* The lowest floor elevations for interior lots designed with TYPE C (front to rear) drainage must be sufficiently high to provide for the foundation drainage as prescribed by the Florida Residential Building Code. Additionally, the floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs and the adjacent finished grade.
- (d) The lowest floor elevations for corner lots must be sufficiently high to provide for the building foundation drainage as prescribed by the Florida Residential Building Code. The lowest floor elevation must be at least 24 inches above the crown elevation of the street on which the property abuts. Additionally, the finished floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs and the adjacent finished grade.
- (e) On properties where topographic conditions make compliance with the minimum lowest floor elevation standards contained herein impractical, such as irregularly shaped lots, tracts, or parcels, flag stem lots, unusually large properties, roads with inverted crown or similar conditions, the lowest floor elevation may be required to be designed by a Professional Engineer licensed in the State of Florida. The design must demonstrate the lowest floor elevation provides for the building foundation drainage as prescribed by the Florida Building Code, that surface water is diverted to an approved discharge point, and depict that drainage from the lot does not create a hazard to buildings on adjacent properties.

(2) All habitable structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area shall have the lowest floor, including the floor of an attached garage and all appurtenant building equipment, elevated a minimum of 12 inches above the 100 year base flood elevation. All structures shall comply with all the standards set in Chapter 62, Article XI Flood Damage Protection.

(3) All rental and condominium association manufactured home parks with a County approved site plan with lowest floor elevations established shall comply with the County approved site plan provided they meet the current standards set in Chapter 62, Article XI, Flood Damage Protection and Federal Emergency Management Agency designated Special Flood Hazard Areas.

(4) In approved engineered subdivisions, the lowest floor elevation shall not be less than the designed floor elevation as depicted on the approved subdivision construction plans. Lower floor elevations shall require site specific engineered design.

(f) *Alternative Designs and methods:* Alternate lot drainage and floor elevation designs utilizing alternate construction methods that are at least equivalent in effectiveness and performance to the minimum standards of this section may be permitted subject to the approval of the county manager or designee. The following performance standards must be considered in approval of alternate lot drainage or floor elevation design or method:

(1) Alternate site drainage plans shall be designed by a Professional Engineer licensed in the State of Florida when site conditions exist that require specialized drainage design to protect buildings from flood. Such specialized design may include, but is not limited to: design of onsite retention of surface water in lieu of discharge of surface water off the lot, the use of stem walls, pilings, retaining walls, and pumped on-site sewage systems with elevated drain fields, installation of piping, inlets, and terracing, steeper slopes with low maintenance ground cover vegetation.

(2) All structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area shall have the lowest floor elevated a minimum of 12 inches above the 100 year base flood elevation.

(3) If the alternate design relies on percolation of surface water, then the design must include evaluation of geotechnical soils investigation, water table, and soil percolation characteristics.

(g) *Foundation Survey Required:* A foundation survey showing the finish floor elevation and all setbacks must be submitted to the county for review for compliance with the approved site drainage plan and county lot drainage regulations prior to construction beyond the foundation or concrete floor slab.

(h) *Final Survey Required:* A final as-built survey must be submitted and approved by the county prior to the issuance of a Certificate of Occupancy and must include elevations sufficient to demonstrate compliance with the approved site drainage plan and the lot grading and finished floor elevation standards contained herein.

(i) *FEMA Elevation Certificate*: A FEMA Elevation Certificate prepared by Florida Land Surveyor must be submitted prior to issuance of a certificate of occupancy for structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area.

(j) *Certificate of Occupancy*: The issuance of a certificate of occupancy shall not be construed as a warranty of the drainage system. Deviation or modification of the drainage system after issuance of the certificate of occupancy or failure to maintain the drainage system that results in the intrusion of water on adjacent properties shall be the responsibility of the property owner.

SECTION 5: CONFLICTING PROVISIONS. In the case of a direct conflict between any provision of this ordinance and a portion or provision of any other appropriate Federal, State or County law, rule, code or regulation, the more restrictive regulation shall apply.

SECTION 6: AREA ENCOMPASSED. This ordinance shall take effect only in the unincorporated area of Brevard County.

SECTION 7: CODIFICATION AND RENUMBERING. The provisions of this ordinance shall become and be made part of the Code of Ordinances of Brevard County, Florida and the sections of this ordinance may be renumbered or re-lettered to accomplish such intention. The word "Ordinance" may be changed to "Section", "Article", or other appropriate word or phrase to incorporate this ordinance into the code.

SECTION 8: SEVERABILITY. It is hereby declared to be the intent of the Board of County Commissioners of Brevard County, Florida that if any section, subsection, clause, phrase, or provision of this ordinance is held invalid or unconstitutional, such invalidity or unconstitutionality shall not be construed as to render invalid or unconstitutional the remaining provisions of this ordinance.

SECTION 9: EFFECTIVE DATE. This ordinance shall become effective upon filing of a certified copy of the ordinance with the State of Florida, Department of State by the Clerk to the Board within 10 days of enactment.

DONE, ORDERED AND ADOPTED this 21st day of October, 2014.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
BREVARD COUNTY, FLORIDA

Scott Ellis, Clerk

Mary Bolin Lewis, Chair

(As approved by the Board on October 21, 2014)

ORDINANCE NO. 2014 - _____

AN ORDINANCE OF BREVARD COUNTY, FLORIDA AMENDING THE CODE OF ORDINANCES OF BREVARD COUNTY, FLORIDA CHAPTER 62, LAND DEVELOPMENT REGULATIONS SECTION 62-2801, DEFINITIONS AND RULES OF CONSTRUCTION, TO DEFINE TYPE B SOILS; SECTION 62-2806 REQUIRED IMPROVEMENTS WITHIN A SUBDIVISION, TO ADDRESS FILL REQUIREMENTS; SECTION 62-2891, LOT DRAINAGE, TO PROVIDE LOT DRAINAGE PLAN AND GRADING REQUIREMENTS; CHAPTER 22, BUILDING AND BUILDING REGULATIONS, SECTION 22-48 REQUIRING FLOOR ELEVATION TO BE ABOVE GRADE OF ADJACENT THOROUGHFARE, SITE DRAINAGE PLANS, SURVEYS AND ELEVATIONS; THE INTENT OF THESE CODE SECTION AMENDMENTS IS TO PROVIDE FOR IMPROVED LOT FILL AND LOT DRAINAGE STANDARDS AND CONSISTENCY BETWEEN COUNTY AND FLORIDA BUILDING CODE REGULATIONS; PROVIDING FOR RESOLUTION OF CONFLICTING PROVISIONS, PROVIDING FOR SEVERABILITY; PROVIDING FOR AREA ENCOMPASSED; PROVIDING FOR CODIFICATION; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Board of County Commissioners of Brevard County desires to provide for the health safety and welfare of the public by regulating lot drainage; and

WHEREAS, the Board of County Commissioners desire to update lot fill and drainage requirements to provide consistency in all phases of development design, review and construction; and,

WHEREAS, the responsibility to properly design infrastructure resides with the Engineer of Record, nothing herein absolves the Engineer of this responsibility to exercise due care in the proposed ordinance and made recommendations; and

WHEREAS, the Board of County Commissioners desires to align County lot drainage and finished floor elevation regulations with related provisions of the Florida Building Code for consistency; and

WHEREAS, the Board of County Commissioners of Brevard County has determined that these changes are necessary to promote public health, safety, and welfare of the community by requiring adequate drainage away from all structures and ensuring lot drainage of single family homes functions in the long term; and,

WHEREAS, the Local Planning Agency reviewed the proposed ordinance on October 20, 2014 and made recommendations; and,

WHEREAS, The Building Construction and Advisory Committee reviewed the proposed ordinance on October 8, 2014 and made recommendations; and,

WHEREAS, the Board of County Commissioners of Brevard County has reviewed the recommendations of the Local Planning Agency and the Building Construction and Advisory Committee and has considered the comments of interested citizens in public hearing;

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(a) *General:* Drainage of surface water shall be designed to be diverted to a storm sewer conveyance or other drainage improvement designed to receive surface water so as not to create a hazard. Lot grading and elevation of building pads shall also be designed to drain surface water away from buildings.

(b) *Building floor elevations:* Establishment of building floor elevations shall be based on the minimum performance standards contained in this section, Chapter 22-48 of the County Code of Ordinances, and Chapter 62 Article XI Flood Protection. In the event of conflict, the most stringent standard that provides the highest floor elevation shall govern the design.

(c) *Lot grading design:* Lot grading must be designed and constructed to provide drainage of surface water from all lots and prevent ponding or accumulation of surface water. The minimum allowable slope for the centerline of swales conveying surface water along the side or rear lot lines is one percent (1%).

(d) *Lot grading drainage plans:* subdivision construction plans must include lot grading and drainage information and details to include but not limited to:

- (1) Identify standard FHA/VA/HUD drainage type for each lot as TYPE A (rear to front), TYPE B (split drainage), TYPE C (front to rear), or modified/combinations of the drainage types.
- (2) Proposed lowest floor elevation for buildings enclosed by a solid roof and walls, including garages, on each lot.
- (3) Proposed elevation at lot corners and at other locations to adequately show the slope gradient and drainage of the lots.
- (4) Identify the surface water discharge location(s) receiving the drainage from each lot.
- (5) Location and cross section of any proposed swales on the lots.
- (6) Indicate building pads are provided with a protective slope of at least a 5 percent gradient.
- (7) Arrows indicating direction of surface water flow.
- (8) Identify any drainage structures, yard drains, or other similar drainage structures or features intended to receive or convey surface water on the lots.

SECTION 4. Chapter 2, Article II, Division 1, Section 22-48, Finish floor elevation to be above grade of adjacent thoroughfare lot grading, Code of Ordinances of Brevard County, Florida is hereby amended as follows:

Section 22-48. Lowest Floor Elevation and Lot Drainage

(a) *Purpose and intent:* The purpose of this section is to ensure all new residential construction and additions to existing residential structures increasing the floor area footprint provide for drainage of surface water away from structures to protect buildings from flooding and to maintain ground stabilization for supporting foundations. This section establishes minimum lowest floor elevations for all new residential construction and additions to existing structures.

(b) *Policies and Procedures:* The County Manager or designee is authorized to create policies and procedures for the administration and enforcement of this section in order to clarify the application of its provisions. Such administrative policies and procedures shall be in compliance with this section and shall not have the effect of waiving the requirements specifically provided for herein.

(c) *Site drainage plan required:* All building permit applications for new residential buildings, mobile and manufactured home installations, or substantial improvements to residential buildings affecting existing drainage patterns shall be accompanied by a site drainage plan meeting the minimum standards established by this section. The site drainage plan must demonstrate that surface water is diverted to the road right-of-way, or to a storm water conveyance or surface water discharge improvement designed and constructed to receive surface water discharge from the lot. The drainage plan must also demonstrate that drainage from the lot does not create a flood hazard to buildings on adjacent properties. The site drainage plan must, at a minimum, contain the following information:

(1) The site drainage plan must be dimensioned and drawn to scale with sufficient clarity, and must include the location of all proposed and existing improvements on the property with dimensions from property boundary lines.

(2) The drainage plan must show the existing and proposed elevations at all lot corners; proposed final lot grade elevations; the centerline elevations of the abutting roadway; and any other pertinent elevations needed to show the drainage pattern.

(3) The drainage plan must clearly indicate the flow direction of proposed surface water drainage and show the discharge location(s) of surface water from the lot.

(4) The drainage plan must show the location of existing and proposed drainage features including, but not limited to: swales, berms, ditches, ponds, lakes, drainage structures, easements, etc. The plan must identify the centerline location and slope of proposed swales. The minimum allowable slope for the centerline of swales conveying surface water along the side and rear lot lines is one percent (1%).

(5) The drainage plan must show floor elevation of all existing buildings on the property and the proposed lowest floor elevations for buildings enclosed by a solid roof and walls, including garage.

(6) The drainage plan must include the floor elevation(s) of existing dwellings on adjacent properties and show the drainage pattern of adjacent developed properties along abutting property lines. The drainage plan must demonstrate that lot grading or the altering of existing drainage patterns does not cause ponding or accumulation of surface water on adjacent properties.

(7) Properties in a Federal Emergency Management Agency FEMA special flood hazard area or in an approved engineered subdivision shall have all elevations based on a North American Vertical Datum of 1988 (NAVD '88) or National Geodetic Vertical Datum of 1929 (NGVD '29) certified benchmark.

(8) County staff is authorized to require the site drainage and grading plan be designed by a Professional Engineer licensed in the State of Florida when site conditions exist that require specialized drainage design to protect buildings and adjacent properties from flood. Such specialized design may include, but is not limited to the design of onsite retention of surface water in lieu of discharge of surface water off the lot, use of stem walls, pilings, retaining walls, installation of piping, inlets, terracing, or steeper slopes with low maintenance ground

cover vegetation, etc. The engineer shall also certify to the County that the as-built drawings are in substantial compliance with the approved site drainage plan and this code section.

(d) *Minimum standards for finish floor elevations:*

(1) All new one and two family residential construction or additions to these structures, including the installation of manufactured homes, must provide for the lowest floor, including the floor of an attached garage, to be elevated above the street on which the property abuts based upon the lot drainage pattern as follows:

- (a) *TYPE A drainage:* The lowest floor elevations for interior lots designed with TYPE A (rear to front) drainage must be sufficiently high to provide for building foundation drainage as prescribed by the Florida Residential Building Code. The lowest floor elevation must be at least 24 inches above the crown elevation of the street on which the property abuts. Additionally, the floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs and the adjacent finished grade.
- (b) *TYPE B drainage:* The lowest floor elevation for interior lots designed with TYPE B (split) drainage must be sufficiently high to provide for building foundation drainage as prescribed by the Florida Residential Building Code. The lowest floor elevation must be at least 18 inches above the crown elevation of the street on which the property abuts. Additionally, the floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs on grade and the adjacent finished grade.
- (c) *TYPE C drainage:* The lowest floor elevations for interior lots designed with TYPE C (front to rear) drainage must be sufficiently high to provide for the foundation drainage as prescribed by the Florida Residential Building Code. Additionally, the floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs and the adjacent finished grade.
- (d) The lowest floor elevations for corner lots must be sufficiently high to provide for the building foundation drainage as prescribed by the Florida Residential Building Code. The lowest floor elevation must be at least 24 inches above the crown elevation of the street on which the property abuts. Additionally, the finished floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs and the adjacent finished grade.
- (e) On properties where topographic conditions make compliance with the minimum lowest floor elevation standards contained herein impractical, such as irregularly shaped lots, tracts, or parcels, flag stem lots, unusually large properties, roads with inverted crown or similar conditions, the lowest floor elevation may be required to be designed by a Professional Engineer licensed in the State of Florida. The design must demonstrate the lowest floor elevation provides for the building foundation drainage as prescribed by the Florida Building Code, that surface water is diverted to an approved discharge point, and depict that drainage from the lot does not create a hazard to buildings on adjacent properties.

(2) All habitable structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area shall have the lowest floor, including the floor of an attached garage and all appurtenant building equipment, elevated a minimum of 12 inches above the 100 year base flood elevation. All structures shall comply with all the standards set in Chapter 62, Article XI Flood Damage Protection.

(3) All rental and condominium association manufactured home parks with a County approved site plan with lowest floor elevations established shall comply with the County approved site plan provided they meet the current standards set in Chapter 62, Article XI, Flood Damage Protection and Federal Emergency Management Agency designated Special Flood Hazard Areas.

(4) In approved engineered subdivisions, the lowest floor elevation shall not be less than the designed floor elevation as depicted on the approved subdivision construction plans. Lower floor elevations shall require site specific engineered design.

(f) *Alternative Designs and methods:* Alternate lot drainage and floor elevation designs utilizing alternate construction methods that are at least equivalent in effectiveness and performance to the minimum standards of this section may be permitted subject to the approval of the county manager or designee. The following performance standards must be considered in approval of alternate lot drainage or floor elevation design or method:

(1) Alternate site drainage plans shall be designed by a Professional Engineer licensed in the State of Florida when site conditions exist that require specialized drainage design to protect buildings from flood. Such specialized design may include, but is not limited to: design of onsite retention of surface water in lieu of discharge of surface water off the lot, the use of stem walls, pilings, retaining walls, and pumped on-site sewage systems with elevated drain fields, installation of piping, inlets, and terracing, steeper slopes with low maintenance ground cover vegetation.

(2) All structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area shall have the lowest floor elevated a minimum of 12 inches above the 100 year base flood elevation.

(3) If the alternate design relies on percolation of surface water, then the design must include evaluation of geotechnical soils investigation, water table, and soil percolation characteristics.

(g) *Foundation Survey Required:* A foundation survey showing the finish floor elevation and all setbacks must be submitted to the county for review for compliance with the approved site drainage plan and county lot drainage regulations prior to construction beyond the foundation or concrete floor slab.

(h) *Final Survey Required:* A final as-built survey must be submitted and approved by the county prior to the issuance of a Certificate of Occupancy and must include elevations sufficient to demonstrate compliance with the approved site drainage plan and the lot grading and finished floor elevation standards contained herein.

ORDINANCE NO. 2014 - _____

AN ORDINANCE OF BREVARD COUNTY, FLORIDA AMENDING THE CODE OF ORDINANCES OF BREVARD COUNTY, FLORIDA CHAPTER 62, LAND DEVELOPMENT REGULATIONS SECTION 62-2801, DEFINITIONS AND RULES OF CONSTRUCTION, TO DEFINE TYPE B SOILS; SECTION 62-2806 REQUIRED IMPROVEMENTS WITHIN A SUBDIVISION, TO ADDRESS FILL REQUIREMENTS; SECTION 62-2891, LOT DRAINAGE, TO PROVIDE LOT DRAINAGE PLAN AND GRADING REQUIREMENTS; CHAPTER 22, BUILDING AND BUILDING REGULATIONS, SECTION 22-48 REQUIRING FLOOR ELEVATION TO BE ABOVE GRADE OF ADJACENT THOROUGHFARE, SITE DRAINAGE PLANS, SURVEYS AND ELEVATIONS; THE INTENT OF THESE CODE SECTION AMENDMENTS IS TO PROVIDE FOR IMPROVED LOT FILL AND LOT DRAINAGE STANDARDS AND CONSISTENCY BETWEEN COUNTY AND FLORIDA BUILDING CODE REGULATIONS; PROVIDING FOR RESOLUTION OF CONFLICTING PROVISIONS, PROVIDING FOR SEVERABILITY; PROVIDING FOR AREA ENCOMPASSED; PROVIDING FOR CODIFICATION; PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the Board of County Commissioners of Brevard County desires to provide for the health safety and welfare of the public by regulating lot drainage; and

WHEREAS, the Board of County Commissioners desire to update lot fill and drainage requirements to provide consistency in all phases of development design, review and construction; and,

WHEREAS, the responsibility to properly design infrastructure resides with the Engineer of Record, nothing herein absolves the Engineer of this responsibility to exercise due care in the proposed ordinance and made recommendations; and

WHEREAS, the Board of County Commissioners desires to align County lot drainage and finished floor elevation regulations with related provisions of the Florida Building Code for consistency; and

WHEREAS, the Board of County Commissioners of Brevard County has determined that these changes are necessary to promote public health, safety, and welfare of the community by requiring adequate drainage away from all structures and ensuring lot drainage of single family homes functions in the long term; and,

WHEREAS, the Local Planning Agency reviewed the proposed ordinance on October 20, 2014 and made recommendations; and,

WHEREAS, The Building Construction and Advisory Committee reviewed the proposed ordinance on October 8, 2014 and made recommendations; and,

WHEREAS, the Board of County Commissioners of Brevard County has reviewed the recommendations of the Local Planning Agency and the Building Construction and Advisory Committee and has considered the comments of interested citizens in public hearing;

NOW, THEREFORE, BE IT ORDAINED BY THE BREVARD COUNTY BOARD OF COMMISSIONERS:

SECTION 1. Chapter 62, Article VII, Division I, Section 62-2801, Definitions and Rules of Construction, Code of Ordinances of Brevard County, Florida is hereby amended by adding a new definition to reads as follows:

Type B soils means fine sand with silt/clay which contain no more than 10% fines passing a Number 200 sieve.

SECTION 2. Chapter 62, Article VII, Division 2, Section 62-2806, Required Improvements Within a Subdivision, Sub-Section (7), Code of Ordinances of Brevard County, Florida is hereby amended to read as follows:

(7) Lot filling and grading in compliance with approved plans. Natural ground or any fill material being placed within two (2) feet of the bottom of the base material for all roadways, must meet the classification for a Type B soil and must not contain more than 10% fines. Existing natural ground or fill material within three (3) feet of the final elevations of individual lots, as established by the approved plans, must meet the classification for a Type B soil and must not contain more than 10% fines. Fill material placed from natural ground to the beginning point described above must not exceed 12% fines in any area under roadways and/or lots abutting stormwater retention areas, to allow horizontal movement of groundwater to occur. All fill material placed within the proposed rights-of-way must be compacted to a minimum density of 98% of modified proctor (ASTM D 1157). All fill material placed outside of the proposed rights-of-way must be compacted to a minimum 95% of modified proctor (ASTM D 1157). Testing of the fill material to ensure compliance shall be accomplished during the excavation and fill placement operation. The engineer of record shall provide a testing schedule to the County at the time of the project pre-construction meeting. The County may require additional testing at any time during the fill placement operation to ensure compliance with the above.

SECTION 3. Chapter 62, Article II, Division 3, Section 62-2891, Lot Drainage, Code of Ordinances of Brevard County, Florida is hereby amended to read as follows:

Section 62-2891. Lot Drainage

~~(a) House pads or lot elevations in the A or AE flood zones need to be consistent Federal Emergency Management Agency requirements prior to the final certification of competition of the subdivision.~~

~~(b) Where protected trees exist on the subdivision lots, only the minimum amount of fill necessary to construct the drainage improvements shall be placed on such individual lots or tracts.~~

(a) General: Drainage of surface water shall be designed to be diverted to a storm sewer conveyance or other drainage improvement designed to receive surface water so as not to create a hazard. Lot grading and elevation of building pads shall also be designed to drain surface water away from buildings.

(b) Building floor elevations: Establishment of building floor elevations shall be based on the minimum performance standards contained in this section, Chapter 22-48 of the County Code of Ordinances, and Chapter 62 Article XI Flood Protection. In the event of conflict, the most stringent standard that provides the highest floor elevation shall govern the design.

(c) Lot grading design: Lot grading must be designed and constructed to provide drainage of surface water from all lots and prevent ponding or accumulation of surface water. The minimum allowable slope for the centerline of swales conveying surface water along the side or rear lot lines is one percent (1%).

(d) Lot grading drainage plans: subdivision construction plans must include lot grading and drainage information and details to include but not limited to:

- (1) Identify standard FHA/VA/HUD drainage type for each lot as TYPE A (rear to front), TYPE B (split drainage), TYPE C (front to rear), or modified/combinations of the drainage types.
- (2) Proposed lowest floor elevation for buildings enclosed by a solid roof and walls, including garages, on each lot.
- (3) Proposed elevation at lot corners and at other locations to adequately show the slope gradient and drainage of the lots.
- (4) Identify the surface water discharge location(s) receiving the drainage from each lot.
- (5) Location and cross section of any proposed swales on the lots.
- (6) Indicate building pads are provided with a protective slope of at least a 5 percent gradient.
- (7) Arrows indicating direction of surface water flow.
- (8) Identify any drainage structures, yard drains, or other similar drainage structures or features intended to receive or convey surface water on the lots.

SECTION 4. Chapter 2, Article II, Division 1, Section 22-48, Finish floor elevation to be above grade of adjacent thoroughfare lot grading, Code of Ordinances of Brevard County, Florida is hereby amended as follows:

Section 22-48. Lowest Floor Elevation and Lot Drainage to be Above Grader of Adjacent Thoroughfare Lot Grading

- (a) ~~This section shall be in addition to and shall control over any conflicting provisions contained in this chapter or in the county building code.~~
- (b) ~~All new construction or substantial improvements of all structures, including manufactured homes placed on individual, privately owned properties (rental parks excluded) shall have the lowest floor, including the floor of an attached garage, elevated at least 12 inches above the crown grade of the public thoroughfare on which the property abuts. In special flood hazard areas, the lowest floor, including the floor of an attached garage, and all appurtenant building equipment, shall be elevated at least 12 inches above the 100-year base flood elevation. For construction outside special flood hazard areas, such requirements may be waived prior to construction by the county manager or his designee, if natural drainage permits. The waiver shall not permit the finished floor elevation of any portion of the structure (habitable or otherwise) to be less than 12 inches above the 100-year base flood elevation. In all cases, engineering certification by a state-registered architect, engineer and/or surveyor of the finished floor elevation and foundation survey, showing all setbacks, shall be required to be submitted to the building official for approval. After the slab or monolithic slab inspection has been approved by the building inspection staff, the certified finished floor elevation and foundation survey described above shall be submitted to the building official prior to the next required inspection. In the event that a contractor/owner builder has inadvertently built a portion of home structure where the lowest floor elevation is less than the required 12 inches as stated above, a waiver may be granted by the county manager or his designee under the following guidelines:~~
- ~~(1) — The applicant is required to submit a state-registered engineer's —
— report certifying that the structure would not be subject to adverse impacts
— of storm water under the condition of a 25-year, 24-hour rainfall event.~~
 - ~~(2) — The applicant will be assessed a fine of \$200.00 per inch of violation
— excluding the first inch.~~
 - ~~(3) — In no case shall the finished floor of any portion of the structure, excluding
— foundation, (habitable or otherwise) be less than 12 inches above the 100-
— year base flood elevation.~~
- (c) ~~No electrical service shall be permitted in any portion of a structure lying below the 100-year base flood elevation.~~
- (d) ~~For structures elevated other than by placement of fill, enclosures below the elevated finished floor, including breakaway walls, creating a lower floor below the 100-year base flood elevation are prohibited.~~
- (e) ~~Accessory structures associated with the housing of animals or livestock (such as barns) shall be elevated at least 12 inches above the 100-year base flood elevation. Other accessory structures shall be elevated to no less than the 100-year base flood elevation.~~

- (f) — For properties within Special Flood Hazard Areas adjacent to FEMA defined regulatory floodways, the lowest finished floor of all new construction and substantial improvements of non-residential and residential structures, including attached garages and basements if applicable, shall be elevated at least 12 inches above the floodway encroachment elevation for that regulatory floodway as established by FEMA and defined in the FEMA Flood Insurance Study for Brevard County, Florida.
- (g) — No after the fact floor slab stage variances shall be granted in violation of the Federal Emergency Management Agency requirements in areas designated by the Federal Emergency Management Agency as flood hazard zones.
- (h) — All building permit applications for new habitable structures on one or two family dwelling properties shall be accompanied by a site drainage plan using symbols showing direction of water runoff. This does not have to be prepared by a registered professional engineer. Surface water runoff from the placement of fill material for the construction of one or two family dwellings shall not adversely affect surrounding properties and/or structures. All building permit holders are required to provide for drainage in such a manner as not to drain surface water from normal rainfall events onto adjacent property. Where fill material is used to elevate the habitable structure, the following criteria must be met:
- (1) If a proposed habitable one or two family dwelling is not within an approved, engineered development, and the dwelling is to be constructed on a lot adjacent to an existing one or two family dwelling, the finished floor of the proposed dwelling may not be above the existing adjacent dwelling by more than six inches for each five feet of setback from the adjacent common property line.
 - (2) If a proposed habitable one or two family dwelling is within an approved, engineered development, finished floor elevations may not vary more than four inches, either above or below, from the designed finished floor elevation.
- Where the above requirements cannot be met alternate measures other than fill material shall be utilized, including but not limited to, stem walls, pilings, pumped on-site sewage systems with elevated drain fields, yard piping and inlets, or other approved methods. For proposed habitable one or two family dwellings not within an approved, engineered development, a boundary survey with sufficient vertical elevations to establish lot height and drainage pattern shall be submitted with the building permit application. Where a proposed habitable one or two family dwelling is to be constructed on a lot adjacent to an existing one or two family dwelling, the survey shall show the finished floor elevation of the existing adjacent dwellings in relation to a fixed point of reference. The finished floor elevation of the proposed habitable one or two family dwelling shall be denoted on the survey or site drainage plan in relation to the fixed point of reference. The permit holder shall provide an adequate drainage system whereby either surface water runoff from normal

rainfall events is retained on-site and does not drain onto adjacent properties, or is directed into a legal, positive outfall.

The chief building official shall withhold issuance of the certificate of occupancy until compliance with this subsection has been determined. An as-built boundary survey with sufficient vertical elevations to establish finished floor elevation and drainage pattern shall be submitted and approved prior to the issuance of the certificate of occupancy. The information on the survey, at a minimum, shall include the finished floor elevation and adequate side and rear lot line elevations to determine proper installation of the drainage system. The inspection and issuance of a certificate of occupancy shall not be construed as a warranty of the drainage system. After issuance of a certificate of occupancy, it shall be the responsibility of the property owner to maintain an adequate drainage system. Deviation or modification of the drainage system after issuance of the certificate of occupancy, resulting in the illegal intrusion of water on adjacent properties, shall be the responsibility of the property owner.

(a) Purpose and intent: The purpose of this section is to ensure all new residential construction and additions to existing residential structures increasing the floor area footprint provide for drainage of surface water away from structures to protect buildings from flooding and to maintain ground stabilization for supporting foundations. This section establishes minimum lowest floor elevations for all new residential construction and additions to existing structures.

(b) Policies and Procedures: The County Manager or designee is authorized to create policies and procedures for the administration and enforcement of this section in order to clarify the application of its provisions. Such administrative policies and procedures shall be in compliance with this section and shall not have the effect of waiving the requirements specifically provided for herein.

(c) Site drainage plan required: All building permit applications for new residential buildings, mobile and manufactured home installations, or substantial improvements to residential buildings affecting existing drainage patterns shall be accompanied by a site drainage plan meeting the minimum standards established by this section. The site drainage plan must demonstrate that surface water is diverted to the road right-of-way, or to a storm water conveyance or surface water discharge improvement designed and constructed to receive surface water discharge from the lot. The drainage plan must also demonstrate that drainage from the lot does not create a flood hazard to buildings on adjacent properties. The site drainage plan must, at a minimum, contain the following information:

- (1) The site drainage plan must be dimensioned and drawn to scale with sufficient clarity, and must include the location of all proposed and existing improvements on the property with dimensions from property boundary lines.
- (2) The drainage plan must show the existing and proposed elevations at all lot corners; proposed final lot grade elevations; the centerline elevations of the abutting roadway; and any other pertinent elevations needed to show the drainage pattern.

(3) The drainage plan must clearly indicate the flow direction of proposed surface water drainage and show the discharge location(s) of surface water from the lot.

(4) The drainage plan must show the location of existing and proposed drainage features including, but not limited to: swales, berms, ditches, ponds, lakes, drainage structures, easements, etc. The plan must identify the centerline location and slope of proposed swales. The minimum allowable slope for the centerline of swales conveying surface water along the side and rear lot lines is one percent (1%).

(5) The drainage plan must show floor elevation of all existing buildings on the property and the proposed lowest floor elevations for buildings enclosed by a solid roof and walls, including garage.

(6) The drainage plan must include the floor elevation(s) of existing dwellings on adjacent properties and show the drainage pattern of adjacent developed properties along abutting property lines. The drainage plan must demonstrate that lot grading or the altering of existing drainage patterns does not cause ponding or accumulation of surface water on adjacent properties.

(7) Properties in a Federal Emergency Management Agency FEMA special flood hazard area or in an approved engineered subdivision shall have all elevations based on a North American Vertical Datum of 1988 (NAVD '88) or National Geodetic Vertical Datum of 1929 (NGVD '29) certified benchmark.

(8) County staff is authorized to require the site drainage and grading plan be designed by a Professional Engineer licensed in the State of Florida when site conditions exist that require specialized drainage design to protect buildings and adjacent properties from flood. Such specialized design may include, but is not limited to the design of onsite retention of surface water in lieu of discharge of surface water off the lot, use of stem walls, pilings, retaining walls, installation of piping, inlets, terracing, or steeper slopes with low maintenance ground cover vegetation, etc. The engineer shall also certify to the County that the as-built drawings are in substantial compliance with the approved site drainage plan and this code section.

(d) *Minimum standards for finish floor elevations:*

(1) All new one and two family residential construction or additions to these structures, including the installation of manufactured homes, must provide for the lowest floor, including the floor of an attached garage, to be elevated above the street on which the property abuts based upon the lot drainage pattern as follows:

- (a) *TYPE A drainage:* The lowest floor elevations for interior lots designed with TYPE A (rear to front) drainage must be sufficiently high to provide for building foundation drainage as prescribed by the Florida Residential Building Code. The lowest floor elevation must be at least 24 inches above the crown elevation of the street on which the property abuts. Additionally, the floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs and the adjacent finished grade.

- (b) TYPE B drainage: The lowest floor elevation for interior lots designed with TYPE B (split) drainage must be sufficiently high to provide for building foundation drainage as prescribed by the Florida Residential Building Code. The lowest floor elevation must be a least 18 inches above the crown elevation of the street on which the property abuts. Additionally, the floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs on grade and the adjacent finished grade.
- (c) TYPE C drainage: The lowest floor elevations for interior lots designed with TYPE C (front to rear) drainage must be sufficiently high to provide for the foundation drainage as prescribed by the Florida Residential Building Code. Additionally, the floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs and the adjacent finished grade.
- (d) The lowest floor elevations for corner lots must be sufficiently high to provide for the building foundation drainage as prescribed by the Florida Residential Building Code. The lowest floor elevation must be at least 24 inches above the crown elevation of the street on which the property abuts. Additionally, the finished floor elevation must provide a minimum six (6) inch clearance between the floor surface of concrete floor slabs and the adjacent finished grade.
- (e) On properties where topographic conditions make compliance with the minimum lowest floor elevation standards contained herein impractical, such as irregularly shaped lots, tracts, or parcels, flag stem lots, unusually large properties, roads with inverted crown or similar conditions, the lowest floor elevation may be required to be designed by a Professional Engineer licensed in the State of Florida. The design must demonstrate the lowest floor elevation provides for the building foundation drainage as prescribed by the Florida Building Code, that surface water is diverted to an approved discharge point, and depict that drainage from the lot does not create a hazard to buildings on adjacent properties.

(2) All habitable structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area shall have the lowest floor, including the floor of an attached garage and all appurtenant building equipment, elevated a minimum of 12 inches above the 100 year base flood elevation. All structures shall comply with all the standards set in Chapter 62, Article XI Flood Damage Protection.

(3) All rental and condominium association manufactured home parks with a County approved site plan with lowest floor elevations established shall comply with the County approved site plan provided they meet the current standards set in Chapter 62, Article XI, Flood Damage Protection and Federal Emergency Management Agency designated Special Flood Hazard Areas.

(4) In approved engineered subdivisions, the lowest floor elevation shall not be less than the designed floor elevation as depicted on the approved subdivision construction plans. Lower floor elevations shall require site specific engineered design.

(f) Alternative Designs and methods: Alternate lot drainage and floor elevation designs utilizing alternate construction methods that are at least equivalent in effectiveness and performance to the

minimum standards of this section may be permitted subject to the approval of the county manager or designee. The following performance standards must be considered in approval of alternate lot drainage or floor elevation design or method:

(1) Alternate site drainage plans shall be designed by a Professional Engineer licensed in the State of Florida when site conditions exist that require specialized drainage design to protect buildings from flood. Such specialized design may include, but is not limited to: design of onsite retention of surface water in lieu of discharge of surface water off the lot, the use of stem walls, pilings, retaining walls, and pumped on-site sewage systems with elevated drain fields, installation of piping, inlets, and terracing, steeper slopes with low maintenance ground cover vegetation.

(2) All structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area shall have the lowest floor elevated a minimum of 12 inches above the 100 year base flood elevation.

(3) If the alternate design relies on percolation of surface water, then the design must include evaluation of geotechnical soils investigation, water table, and soil percolation characteristics.

(g) Foundation Survey Required: A foundation survey showing the finish floor elevation and all setbacks must be submitted to the county for review for compliance with the approved site drainage plan and county lot drainage regulations prior to construction beyond the foundation or concrete floor slab.

(h) Final Survey Required: A final as-built survey must be submitted and approved by the county prior to the issuance of a Certificate of Occupancy and must include elevations sufficient to demonstrate compliance with the approved site drainage plan and the lot grading and finished floor elevation standards contained herein.

(i) FEMA Elevation Certificate: A FEMA Elevation Certificate prepared by Florida Land Surveyor must be submitted prior to issuance of a certificate of occupancy for structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area.

(j) Certificate of Occupancy: The issuance of a certificate of occupancy shall not be construed as a warranty of the drainage system. Deviation or modification of the drainage system after issuance of the certificate of occupancy or failure to maintain the drainage system that results in the intrusion of water on adjacent properties shall be the responsibility of the property owner.

SECTION 5: CONFLICTING PROVISIONS. In the case of a direct conflict between any provision of this ordinance and a portion or provision of any other appropriate Federal, State or County law, rule, code or regulation, the more restrictive regulation shall apply.

SECTION 6: AREA ENCOMPASSED. This ordinance shall take effect only in the unincorporated area of Brevard County.

SECTION 7: CODIFICATION AND RENUMBERING. The provisions of this ordinance shall become and be made part of the Code of Ordinances of Brevard County, Florida

and the sections of this ordinance may be renumbered or re-lettered to accomplish such intention. The word "Ordinance" may be changed to "Section", "Article", or other appropriate word or phrase to incorporate this ordinance into the code.

SECTION 8: SEVERABILITY. It is hereby declared to be the intent of the Board of County Commissioners of Brevard County, Florida that if any section, subsection, clause, phrase, or provision of this ordinance is held invalid or unconstitutional, such invalidity or unconstitutionality shall not be construed as to render invalid or unconstitutional the remaining provisions of this ordinance.

SECTION 9 : EFFECTIVE DATE. This ordinance shall become effective upon filing of a certified copy of the ordinance with the State of Florida, Department of State by the Clerk to the Board within 10 days of enactment.

DONE, ORDERED AND ADOPTED this 21st day of October, 2014.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
BREVARD COUNTY, FLORIDA

Scott Ellis, Clerk

Mary Bolin Lewis, Chair

(As approved by the Board on October 21, 2014)

Grivas, Bessie

From: Jones, Jennifer
Sent: Monday, September 29, 2014 1:45 PM
To: Grivas, Bessie
Subject: FW: Two ads for 10-09-14

From: Cicala, Kathy [<mailto:kcicala@floridatoday.com>]
Sent: Monday, September 29, 2014 1:44 PM
To: Jones, Jennifer
Subject: RE: Two ads for 10-09-14

AD#340487
\$137.72
10/9

AD#340487,10/09/2014 û

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<bf>PUBLIC HEARING NOTICE<NM> û

The Brevard County Board of County Commissioners will meet on Tuesday, October 21, 2014, at 9:00 a.m., at the Brevard County Government Center, 2725 Judge Fran Jamieson Way, Viera, Florida, Building C, Commission Room, to consider the following item: An ordinance of Brevard County, Florida, amending the Code of Ordinances of Brevard County, Florida, Chapter 62, Land Development Regulations Section 62-2801, Definitions and Rules of Construction, to define Type B soils; Section 62-2806, Required Improvements within a Subdivision, to address fill requirements; Section 62-2891, Lot Drainage, to provide lot drainage plan and grading requirements; Chapter 22, Building and Building Regulations, Section 22-48 requiring floor elevation to be above grade of adjacent thoroughfare, site drainage plans, surveys and elevations; the intent of these Code Section Amendments is to provide for improved lot fill and lot drainage standards and consistency between County and Florida Building Code Regulations; providing for resolution of conflicting provisions; providing for severability; providing for area encompassed; providing for codification; providing for an effective date. All persons

for or against said items can be heard at said time and place. If a person decides to appeal any decision made by the Board with respect to any matter considered at this meeting or hearing, such a person will need a record of this proceeding and that, for such purposes, such person may need to ensure that a verbatim record of this proceeding is made, at his/her expense, which record includes testimony and evidence upon which any appeal is to be based. In accordance with the Americans with Disabilities Act and Section 286.26, Florida Statutes, persons with disabilities needing special accommodations to participate in this proceeding should contact the Planning & Development Department no later than five (5) days prior to the meeting at 633-2069 for assistance. Planning & Development Department - By Jennifer Jones, Special Projects Coordinator II.

Kathy Cicala
LEGAL ADVERTISING SPECIALIST
FLORIDATODAY
P.O. Box 419000, Melbourne, FL 32941-9000
321 242-3832
kcicala@floridatoday.com

Please visit us online at www.floridatoday.com

THIS EMAIL IS NOT A BILL.

From: Jones, Jennifer [<mailto:jennifer.jones@brevardcounty.us>]
Sent: Monday, September 29, 2014 1:06 PM
To: Cicala, Kathy
Subject: FW: Two ads for 10-09-14

Kathy,

I was just given a correction for one of the ads I sent you earlier. It's the Lot Drainage ad. Please use the attached ad instead of the first one I sent you. Sorry for the inconvenience.

Jennifer

From: Jones, Jennifer
Sent: Monday, September 29, 2014 9:51 AM
To: kcicala@floridatoday.com
Subject: Two ads for 10-09-14

Kathy,

Please place the attached ads in the legal ad (public meeting) section of the newspaper on Thursday, October 9, 2014.

Thank you,

Jennifer Jones
Brevard County
Planning and Development Department

Under Florida Law, email addresses are Public Records. If you do not want your e-mail address released in response to public record requests, do not send electronic mail to this entity. Instead, contact this office by phone or in writing.

Cont to
Feb 5, 2015

111 J.

(i) *FEMA Elevation Certificate*: A FEMA Elevation Certificate prepared by Florida Land Surveyor must be submitted prior to issuance of a certificate of occupancy for structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area.

(j) *Certificate of Occupancy*: The issuance of a certificate of occupancy shall not be construed as a warranty of the drainage system. Deviation or modification of the drainage system after issuance of the certificate of occupancy or failure to maintain the drainage system that results in the intrusion of water on adjacent properties shall be the responsibility of the property owner.

SECTION 5: CONFLICTING PROVISIONS. In the case of a direct conflict between any provision of this ordinance and a portion or provision of any other appropriate Federal, State or County law, rule, code or regulation, the more restrictive regulation shall apply.

SECTION 6: AREA ENCOMPASSED. This ordinance shall take effect only in the unincorporated area of Brevard County.

SECTION 7: CODIFICATION AND RENUMBERING. The provisions of this ordinance shall become and be made part of the Code of Ordinances of Brevard County, Florida and the sections of this ordinance may be renumbered or re-lettered to accomplish such intention. The word "Ordinance" may be changed to "Section", "Article", or other appropriate word or phrase to incorporate this ordinance into the code.

SECTION 8: SEVERABILITY. It is hereby declared to be the intent of the Board of County Commissioners of Brevard County, Florida that if any section, subsection, clause, phrase, or provision of this ordinance is held invalid or unconstitutional, such invalidity or unconstitutionality shall not be construed as to render invalid or unconstitutional the remaining provisions of this ordinance.

SECTION 9: EFFECTIVE DATE. This ordinance shall become effective upon filing of a certified copy of the ordinance with the State of Florida, Department of State by the Clerk to the Board within 10 days of enactment.

DONE, ORDERED AND ADOPTED this 21st day of October, 2014.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
BREVARD COUNTY, FLORIDA

Scott Ellis, Clerk

Mary Bolin Lewis, Chair

(As approved by the Board on October 21, 2014)

(i) *FEMA Elevation Certificate*: A FEMA Elevation Certificate prepared by Florida Land Surveyor must be submitted prior to issuance of a certificate of occupancy for structures located in a Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area.

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SECTION 7: CODIFICATION AND RENUMBERING. The provisions of this ordinance shall become and be made part of the Code of Ordinances of Brevard County, Florida and the sections of this ordinance may be renumbered or re-lettered to accomplish such intention. The word "Ordinance" may be changed to "Section", "Article", or other appropriate word or phrase to incorporate this ordinance into the code.

SECTION 8: SEVERABILITY. It is hereby declared to be the intent of the Board of County Commissioners of Brevard County, Florida that if any section, subsection, clause, phrase, or provision of this ordinance is held invalid or unconstitutional, such invalidity or unconstitutionality shall not be construed as to render invalid or unconstitutional the remaining provisions of this ordinance.

SECTION 9: EFFECTIVE DATE. This ordinance shall become effective upon filing of a certified copy of the ordinance with the State of Florida, Department of State by the Clerk to the Board within 10 days of enactment.

DONE, ORDERED AND ADOPTED this 21st day of October, 2014.

ATTEST:

BOARD OF COUNTY COMMISSIONERS
BREVARD COUNTY, FLORIDA

Scott Ellis, Clerk

Mary Bolin Lewis, Chair

(As approved by the Board on October 21, 2014)

CONCERN

III.J Public Comment

October 14, 2014

Robin M. Sobrino, Dir.
Planning & Development Dpt.
Brevard County

Re: Requested Change in Proposed Lot Grading/Drainage Legislation

Dear Ms. Sobrino:

I request that a safeguard requirement be added to the referenced legislation. This provision would require a certified Test of Water Infiltration or Permeability Rate, of soils used as "fill" in future Subdivisions. The recommended rate of water infiltration is one centimeter-per-hour; of in a soil sample compacted to 95%, as specified for house lots.

The vital intent of this change is to reduce the possibility of wet, soggy house lots. The requested absorption rate would serve to minimize standing water on relatively flat lots, resulting from typical rainy season precipitation. It is specifically required for engineered Compact Subdivisions, where crowded lot design limits efficient lot drainage resulting in wet, soggy lots even in normal rainy seasons.

The requested testing will be relatively inexpensive and should be performed as part of the initial Geotechnical Analysis of the Subdivision Site. Costs would be borne by the Developer.

Tests should occur well- prior to permitting and construction. County oversight would ensure that adequately absorbing soils are available and will be used exclusively.

The presently proposed Legislation requires only that "Type B soils with no more than 10% fines" be used for lot-fill. This requirement is Not Sufficient. Only tests of the actual soils, compacted as prescribed by the Ordinance, will provide the reliable indication of water absorption rates. This was clear from testimony to the BCAC on August 8, 2014.

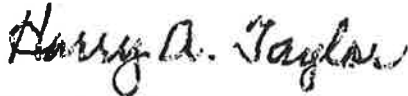
County Officials have agreed that the County must act to avoid a "repeat" of the flawed lot construction in Heritage Isle. Crowded lots were built over swampy land, and filled-in with similarly poor soils which trap water near the surface. These fill-soils were typical of poorly draining soils which prevail west of I-95. It fully documented that these fill-soils did NOT provide adequate moisture absorption. Consequently hundreds of swampy lots were constructed and are now being repaired, at a MAJOR WASTE of resources and cost.

As far back as 2009, Developers sitting on the BCAC have testified that "most of the good soil available for development in Brevard County is gone." It is inevitable that future construction west of I-95 will mostly involve 'poor soils' and will require substantial fill. There is abundant evidence from government surveys that land suitable for fill of self-draining house lots is not readily available. Thus scrupulous precautions are mandatory.

For these reasons, I submit that the requirement for specific testing and certification of infiltration/permeability of soils intended for lot-fill in Compact Subdivisions is paramount. Legislative insufficiency essential to prevent another wrongful Development such as Heritage Isle would be a major failure of County Responsibility. Please, do not allow this to happen!

I request your written response as to whether this test provision or equivalent will or will not be included in the final legislative proposal, as submitted to the BOCC on October 21. I am happy to speak in support of this request at any time. Please advise me appropriately.

Respectfully,

A handwritten signature in cursive script that reads "Harry A. Taylor".

Harry A. Taylor, Heritage Isle

Cc: T. Calkins, M. McCaughin, J. Denninghoff, R. Szpyrka, M. Bolin, C. Nelson, M. Scott

Oct 8, 2014

What infiltration rate is expected to result from the required fill-soil composition?

Is the infiltration rate sufficient to ensure dry lots shortly following nominal rains?

In a complex Subdivision how will individual lot soil-fill requirements be assured?

How specifically will the County act to enforce this ordinance?

Does the County believe this ordinance will ensure dry lots under normal climate conditions?

CONCERN

October 14, 2014

III J Attachment (7 pgs)

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Brevard County

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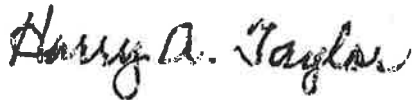
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Harry A. Taylor, Heritage Isle

Cc: T. Calkins, M. McCaughin, J. Denninghoff, R. Szyrka, M. Bolin, C. Nelson, M. Scott

Oct 8, 2014

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CONCERN

October 16, 2014

Henry Minneboo, Chair
Local Planning Board (LPA)
Brevard County, FL

Dear Mr. Minneboo:

The LPA meets October 16 to consider endorsement of the proposed Legislative Initiative for improving County Ordinances regulating house-lot elevation, soils, drainage and grading.

I hope to speak at your Meeting. My objective is to request your support for my request to the Planning and Development Dept. to add a requirement for specific testing of the water absorbing capability of soils to be used as lot-fill, in future high-density Subdivisions. A copy of that detailed request is attached.

The purpose of this testing is to ensure that house- lots will absorb typical irrigation and normal rainy season precipitation, sufficiently to prevent "standing water" and soggy conditions on closely-spaced, high-density house lots.

Future BREVARD housing construction is expected to involve high density Subdivisions, many of which will be developed west of I-95. This development corridor is well documented to have extensive low-lying, poorly drained soils. These soils typically have poor water absorption capability, and thus will present challenges to achieving even relatively dry, well drained house lots.

The legislative initiative you consider today results from the very costly mistakes made in the engineering and construction of lots in Brevard's largest Subdivision, Heritage Isle, Viera. The H.I. Site, west of I-95 has, in effect, been a "Prototype", or "test ground" for development of "crowded lots" on poor soils. The H.I. problems "testify" to the need for protective Ordinance.

Heritage Isle has suffered for years from wet, soggy lots, often resulting in standing water on hundreds of lots, and water intrusion into lanai's of numerous homes. The fill-soils are so poorly absorptive of irrigation and rainfall that soggy conditions are common.

Formal Demands to the Developer of H.I. have prompted a massive multi-year program of re-grading and drainage Installation on hundreds of homes. Only at very great and wasteful expense, is this major problem being partially resolved. Had adequate Ordinances been in place, and had construction precautions been assured, this terrible situation would have not occurred. This has had a very negative and unjustified effect upon the Community.

Your support, and the support of the BOCC, is essential to ensure that the Legislation will have adequate discipline to protect future Subdivisions from experiencing the failed experience of wet, soggy house lots.

As presently proposed, the Legislation wording does not specifically ensure that lot fill-soils will have a water absorption capability adequate to prevent standing water and soggy lots. The stated requirement for "Type B soils with no more than 10% fines" cannot simply by itself assure the absorption rate of the fill-soil. An infiltration rate test of dedicated fill-soils is needed for assurance of adequate performance.

A proper test of the actual soil to be used for fill, compacted as prescribed by the Ordinance, will give the best indication of how the lot will-or will not adequately absorb water from nominal irrigation and precipitation. Because of limited grading possible in narrow tightly spaced lots grading necessary to shed water from the lot is quite restricted. Thus, for such lots, good soil permeability is a fundamental requirement if soggy lots are to be avoided.

Testing of WIR is not complicated and should not be a significant cost item. These tests would be provided by the Developer and would involve only brief review by the County.

These tests should be performed on sample(s) of the body of soils to be used for fill, and positively confirmed prior to the Permitting of the Development of any Subdivision Site proposed for high-density, crowded lots. No repeat of the terrible experience with Heritage Isle should be tolerated by the County.

I Appeal to you, Mr. Chairman, and to the members of the LPA Board, to endorse this request for amending the proposed legislation. I further ask you to extend this support to the BOCC, for their meeting, on October 21, 2014.

Respectfully,



Harry A. Taylor

7145 Mendell Way, H.I.

Cc: LPA members, R.Sobrino, M. Bolin, C. Nelson, M. Scott, T. Calkins, M. McCaughin

CONCERN

October 16, 2014

**Mary Bolin-Lewis, Chair
Board of County Commissioners (BOCC)
Brevard County, FL**

Re: Appeal for Amendment of proposed Legislation for house-lot elevation, drainage and Grading, as part of the County Land Development Code, and Code of Ordinances

Dear Ms. Bolin-Lewis:

I Appeal to you and members of the BOCC to endorse my request for an amendment to the referenced Legislative Initiative. I plan to speak in favor of this at the LPA meeting of October 20, and the BOCC meeting on October 21.

This amendment would provide more substantive assurance that lots in engineered, high-density Subdivisions would not suffer from standing water and poor drainage as a consequence of installation of poor fill-soils with low water infiltration rates (WIR). This request is detailed in my attached letter of October 14, to the Director of Planning and Development. It is also detailed in my attached letter of October 16 to the Chairman of the LPA.

This amendment is simple but essential. It simply requires that soils selected for lot-fill be confirmed as having efficient water absorption quality. Specific tests of WIR of designated "fill-soils" are neither complex nor costly, and moreover, would be provided by the Developers. Impact upon County operations should be minimal.

The wrongful experience of wet, soggy lots in Heritage Isle must not be repeated. It has been a consequence of installation of inferior fill-soils on hundreds of lots. Partial repairs of soggy lots has proceeded painfully over several years, and due to lot crowding, repairs cannot be fully successful. This mistake must not be repeated.

I must emphasize that this Request does not help Heritage Isle in any way. Instead this Request is on behalf of countless unknown homeowners who will purchase homes in future high-density Subdivisions in our County.

I am confident that overall, the County Government does not want to preside over repeated Subdivision Development problems like those experienced in H.I. Given the widespread poor soil conditions west of I-95, It is only prudent that reasonable precautionary measures be ensured by County Ordinance.

The referenced legislation is will intended but lacks the needed precautionary specificity. I do not believe that it should be necessary to seriously delay or postpone the legislation, in order make this simple modification. Surely the requested test-provision can be included under the authority of the BOCC.

Please, act to assure protection of the rights of future taxpaying homeowners in our County.

Respectfully,



Harry A. Taylor

7145 Mendell Way, Heritage Isle

Cc: BOCC Members, M.Scott, R.Sobrino,

Attachments: H.Taylor Appeal to R. Sobrino; H.Taylor Appeal to LPA