



**City of Palm Coast**  
**Agenda**  
**PLANNING AND LAND**  
**DEVELOPMENT**  
**REGULATIONS BOARD**  
**WORKSHOP**

City Hall  
160 Lake Avenue  
Palm Coast, FL 32164  
[www.palmcoastgov.com](http://www.palmcoastgov.com)

*Chair James A. Jones*  
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*Board Member Christopher Dolney*  
*Board Member Pete Lehnertz*  
*Board Member Jake Scully*  
*Board Member Clinton Smith*  
*School Board Rep David Freeman*

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**Wednesday, August 15, 2018**

**6:30 PM**

**CITY HALL**

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**RULES OF CONDUCT:**

>Public comment will be allowed consistent with Senate Bill 50, codified at the laws of Florida, 2013 – 227, creating Section 286.0114, Fla. Stat. (with an effective date of October 1, 2013). The public will be given a reasonable opportunity to be heard on a proposition before the City's Planning & Land Development Regulation Board, subject to the exceptions provided in §286.0114(3), Fla. Stat.

>Public comment on issues on the agenda or public participation shall be limited to 3 minutes.

> All public comments shall be directed through the podium. All parties shall be respectful of other persons' ideas and opinions. Clapping, cheering, jeering, booing, catcalls, and other forms of disruptive behavior from the audience are not permitted.

>If any person decides to appeal a decision made by the Planning and Land Development Regulation Board with respect to any matter considered at such meeting or hearing, he/she may want a record of the proceedings, including all testimony and evidence upon which the appeal is to be based. To that end, such person will want to ensure that a verbatim record of the proceedings is made.

>If you wish to obtain more information regarding Planning and Land Development Regulation's Agenda, please contact the Community Development Department at 386-986-3736.

>In accordance with the Americans with Disabilities Act, persons needing assistance to participate in any of these proceedings should contact the City Clerk's Office at 386-986-3713 at least 48 hours prior to the meeting.

>The City of Palm Coast is not responsible for any mechanical failure of recording equipment

>All pagers and cell phones are to remain OFF while the Planning and Land Development Regulation Board is in session.

**A Call to Order and Pledge of Allegiance**

**B Roll Call and Determination of a Quorum**

**C Public Hearings**

**1 REVIEW OF CHAPTER 9 - ENGINEERING DESIGN & UTILITIES**

**D Board Discussion and Staff Issues**

**E Adjournment**

**2 ATTACHMENTS**

# City of Palm Coast, Florida

## Agenda Item

Agenda Date: August 15, 2018

<b>Department</b>	PLANNING	<b>Amount</b>
<b>Item Key</b>	4002	<b>Account</b>
		<b>#</b>
<b>Subject</b>	REVIEW OF CHAPTER 9 – ENGINEERING DESIGN & UTILITIES	
<b>Background :</b> Chapter 9 was adopted as part of the City’s Unified Land Development Code in 2009. Chapter 9 underwent minor revisions in 2016. To address requirements set in the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit, staff analyzed, drafted and proposed changes to Chapter 9, of the Land Development Code (LDC), to better align the ULDC with the City’s MS4 permit requirements. The City was issued its first National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit in 2014. The MS4 program was created by the Federal Clean Water Act to protect and improve water quality through proper operation, maintenance and inspection of municipal stormwater facilities. The permit requires the City to establish an NPDES MS4 program to develop, implement and monitor various tasks associated with stormwater management. During the MS4 permit process, local governments are required to implement Best Management Practices (BMPs) that satisfy the minimum Control Measures set forth by the MS4 program. Upon completion of the draft changes, staff met and collaborated with Flagler County Association of Responsible Development (FCARD) members to obtain input from individuals who utilize the standards set in Chapter 9.		
<b>Recommended Action :</b> For Presentation Only		

**ORDINANCE 2018-\_\_\_\_**  
**AMENDING CHAPTER 9 OF THE**  
**UNIFIED LAND DEVELOPMENT CODE**

**AN ORDINANCE OF THE CITY OF PALM COAST, FLORIDA, AMENDING THE CITY'S UNIFIED LAND DEVELOPMENT CODE; REPEALING AND REPLACING CHAPTER 9 – ENGINEERING DESIGN AND UTILITIES TO CLARIFY INTENT AND TO REFLECT CURRENT DEVELOPMENT TRENDS; PROVIDING FOR SEVERABILITY; PROVIDING FOR CODIFICATION; PROVIDING FOR CONFLICTS; AND PROVIDING AN EFFECTIVE DATE.**

**WHEREAS**, the Legislature of the State of Florida has, in Chapter 166 – Municipalities, Florida Statutes, conferred upon local governments the authority to adopt regulations designed to promote public health, safety, and general welfare of its citizenry; and

**WHEREAS**, changes to Chapter 9 are needed to bring stormwater and engineering standards up to current requirements for the City's FDEP MS4 Permit; and

**WHEREAS**, the City's Planning and Land Development Regulation Board (PLDRB) held a public workshop and public meeting to hear public input and discuss these proposed revisions, and found the revisions to be consistent with the Comprehensive Plan; and

**WHEREAS**, at a scheduled meeting on September 18, 2018 the Planning Board voted \_\_\_\_\_ in favor of the proposed revisions; and

**WHEREAS**, the City Council finds that these revisions are in the public interest, and do not place a burden on development, but are instead designed to assist developers and citizens in their understanding of the engineering and utility regulations, and in facilitating their implementation; and

**WHEREAS**, the City Council of Palm Coast has determined to repeal the previous version of Chapter 9 and replace it with the following text as shown below.

**WHEREAS**, words with underlined type shall constitute additions to the original text and strike through shall constitute deletions to the original text, and asterisks (\* \* \*) indicate that text shall remain unchanged from the language existing prior to adoption of this Ordinance.

NOW, THEREFORE, IT IS HEREBY ORDAINED BY THE CITY OF PALM COAST, FLORIDA:

**SECTION 1. LEGISLATIVE FINDINGS.** The foregoing whereas clauses are incorporated here as legislative findings by this reference and made a part hereof for all intents and purposes.

**SECTION 2. REPEALING AND REPLACING CHAPTER 9 – ENGINEERING DESIGN AND UTILITIES OF THE UNIFIED LAND DEVELOPMENT CODE.** Chapter 9 – Engineering Design and Utilities; is hereby repealed and replaced by the following:

○ **Sec. 9.01. General Provisions.**

- 9.01.01. Purpose and intent. The purpose of this section is to set forth engineering design regulations for residential and nonresidential uses as required in this Land Development Code. This section sets forth uniform regulations, requirements, and procedures to protect the health, safety, and welfare of the citizens and to assure quality of life to the citizens of the City. The Land Use Administrator may adopt technical manuals that relate to technical requirements pertaining to the City's water, wastewater, reclaimed water, drainage, street, and other systems.

9.01.02. Applicability. The design and construction requirements shall apply to:

- A. Nonresidential and residential subdivision projects (applies to subdivisions with private or public roadway dedications);
- B. Nonresidential and residential construction projects; and
- C. City and other public agency owned projects.

9.01.03. General requirements.

A. Utility lines.

- 1. Utility lines for all new development projects shall be installed underground. Switchgear, pumps, transformers, and other appurtenances shall be allowed aboveground, but shall be shielded with landscaping as required in this Land Development Code. Connections from distribution lines, mains, and collectors in the public or utility rights-of-way or easements shall be placed underground.
- 2. All redevelopment projects shall relocate existing on-site overhead utility lines underground, within project limits. The Land Use Administrator may allow exceptions to this requirement if it is determined that such relocation is not feasible based upon the unique configuration of the real property.
- 3. For all new private and public development projects, underground communications conduit(s) shall be installed in accordance with City standards.

- B. Traffic control devices. All traffic control devices shall meet the more stringent requirements of the latest edition of the Manual of Uniform Traffic Control Devices, Florida Department of Transportation Design Standards Road and Bridge Technical Specifications, Florida Highway Administration Standard Highway Signs, and Florida Department of Transportation Traffic Engineering and Operations Manuals.

9.01.04. Other codes. Wherever the requirements of this Land Development Code conflict with the latest promulgated standards of the following agencies, the stricter standard shall apply:

- A. Florida Department of Transportation.
- B. St. Johns River Water Management District.
- C. Florida Department of Environmental Protection.
- D. United States Army Corps of Engineers.
- E. Florida Fish and Wildlife Conservation Commission.

9.01.05. Construction Plans Submittal Requirements.

- A. Construction Plans and Calculations shall be prepared, signed, and sealed by a Florida Licensed Professional Engineer or other Licensed Professional qualified in the appropriate field for which the Construction Plans and Calculations are prepared. Plans and calculations shall be submitted for review in accordance with the City's Development Review Process.
- B. The City shall establish submittal checklists relating to the required contents of all Development Review submittals. The checklists shall establish minimum requirements for the contents of Construction Plan and Design Document submittals. Additional information may be requested if the City believes the information is reasonably necessary in support of drainage analysis including maps, charts, tables, graphs, photographs, narrative descriptions, additional calculations, explanations, and citations to support references as deemed appropriate to communicate the required information for reasonable evaluation of the site.
- C. Grading and drainage plans shall include existing and proposed contours at one-foot (min.) intervals with spot elevations as needed for clarity and to adequately depict drainage patterns.
- D. Topographic survey for half of right-of-way adjacent to project for full length of frontage, including existing driveways and right-of-way intersections within 100-feet of site, showing drainage structures, signage, and utilities.
- E. Section views of all proposed retention/detention ponds, swales, berms, etc. showing 25-year stormwater elevation and top of bank elevation.
- F. Construction details for all proposed manholes, inlets, and other stormwater control structures.
- G. Location, size, length, and elevations of all proposed piping systems and related control structures.
- H. Erosion control plans shall be on a separate sheet with existing and proposed contours.
- I. Legends shown with all abbreviations and symbols identified.
- J. Copies of permits from all regulatory agencies having jurisdiction over the project (prior to commencement of construction).
- K. Phasing of Development. The phasing of development is allowed as part of approval of a site plan or a Subdivision Preliminary Plat in accordance with the following standards:
  - 1. Phasing of approved development shall be in keeping with an approved phasing plat that shows phase boundaries and describes included development and improvements.
  - 2. Each phase shall be designed and constructed to include all improvements and other aspects of development necessary to meet all requirements of the Code and all other applicable regulations.

**Sec. 9.02. Platting Requirements.**

9.02.01. Purpose. The purpose of this section is to establish requirements for the subdivision of land in the City and to ensure compliance with F.S. ch. 177.

9.02.02. Subdivision design standards. In addition to the requirements stated in other sections of this Code, subdivisions shall be designed according to the following:

A. Lots. All lots shall conform to the dimensional, yard, and building setback requirements of the applicable zoning district development standards. In addition, the following requirements shall apply:

1. Width. All lots shall have a minimum street frontage of 20 feet and those fronting on a curve shall meet the minimum lot width measured at the front setback line. Corner lots shall be 15 percent greater in width than the minimum required width of interior lots.
2. Depth.
  - a. Lots along arterial streets shall be deep enough to accommodate the two required front yard setbacks.
  - b. Flag lots are prohibited unless approved as part of a Master Planned Development.
3. Orientation. Residential lots shall not be designed so vehicular ingress and egress to/from those individual lots is provided from abutting limited access roadways or arterials.

B. Permanent Reference Markers. A registered land surveyor shall install permanent reference monuments, permanent control points, and state plane coordinates in accordance with State laws and professional standards. These must be inspected by the 2<sup>nd</sup> party surveyor to certify they have been set in the field prior to final plat approval or recording of the mylar.

#### 9.02.03. Easements.

A. Drainage easements.

1. Drainage easements of a width required for conveying and maintaining an adequate storm drainage system shall be provided. Minimum width for piped systems shall be fifteen (15) feet plus the pipe diameter and fifteen (15) feet for open channels, plus channel width measured from top of bank to top of bank. Where deemed necessary by the Land Use Administrator, additional easements and increased width may be required along waterways, natural watercourses, canals, and drainage ways.
2. Whenever a subdivision lies wholly or partly in any area for which the City has adopted a drainage plan, and is traversed by a natural or designed watercourse for which such plan requires a drainage easement or right-of-way, such easement or right-of-way shall be set forth on the preliminary and final plat and shall be dedicated to the City for public use.

B. Stormwater storage facilities shall be constructed to provide adequate access for maintenance. An access and maintenance easement of ten (10) feet around the perimeter of wet ponds and five (5) feet around the perimeter of dry ponds, measured from top of bank, shall be provided for detention facilities. Maximum grade for maintenance easement shall be ten (10) percent.

C. Stormwater management systems must be designed to accommodate maintenance equipment access and to facilitate regular operational maintenance (such as underdrain replacement, unclogging filters, sediment removal, mowing, and vegetation control).

D. Utility easements. Utility easements for both underground and aboveground facilities shall be provided where required by the Land Use Administrator. Such easements shall have a minimum width of ten feet and shall normally be laid out on property lines. In all cases, such easements shall be dedicated to the perpetual use of the public. Where lots abut along a common property line, the easement may be centered along said common property line.

E. Pedestrian paths and sidewalk easements. Pedestrian easements or walkways shall be provided through the interior of lots where such easements are required by the Land Use Administrator. Pedestrian easements shall be at least eight (8) feet wide, or walkway width plus two (2) feet, whichever is greater, and shall be laid out along the side or rear property lines. In all cases, such easements shall be dedicated to the perpetual use of the public.

- F. Private easements. Private easements (or spite strips) between the road and the subdivision boundary or between subdivision boundaries shall not be permitted unless conditions are established under which the adjacent parcel can be connected to the road or adjacent property..
- G. Easements and right-of-way maintenance. The City will maintain only those easements, rights-of-way, and public sites which it accepts for maintenance.
- H. Vacation of Easements. An easement may be vacated by a replat of the plat in which the easement was dedicated, or via a resolution of the City Council, based on the best interests of the public. The only easements eligible for vacation by resolution are easements which have been previously dedicated and accepted, such as with the approval of a plat. The applicant must submit recommendation letters from utility companies; and a survey and legal description of the area to be vacated; and must show that the easement should be vacated due to utility reroute, non-use of the easement, or that the easements is no longer needed for public purposes. The City can vacate only “public” easements located within the City which are dedicated to the City or to the public. Upon receipt of a vacation request, the City Clerk will publish a notice of public hearing, and shall notify property owners within the block where the easement is located of the public hearing by certified mail, return receipt requested. In addition, the applicant must post the notice at each end of the easement to be vacated, not less than 14 days prior to the public hearing. An affidavit of proof of posting must be submitted to the City Clerk not less than seven days prior to the hearing.

9.02.04. Plat approval. Prior to the City Council Hearing for approval of a plat, the developer must submit all required documents, recording costs and fees, and:

- A. If infrastructure improvements have not been commenced, a surety bond guaranteeing funds to construct all subdivision public improvements must be provided for City Council approval. After approval, the mylar can be processed for recording; or
- B. If infrastructure improvements have commenced and are continuing in good faith, the final plat can go to City Council without a bond but the mylar will not be processed for recording until all infrastructure is complete, based on approval of all final inspections in the site development permit and a maintenance bond has been submitted.

9.02.05. Performance surety for subdivisions and site plan construction projects. At such time when the City agrees to accept the dedication of any public improvements, a performance guarantee in accordance with the standards in this section shall be required. To ensure completion of public infrastructure improvements that are required as part of an approved site plan or Final plat (E.g., streets, sidewalks, stormwater management facilities, potable water facilities, wastewater facilities, and streetlights), the developer shall execute performance and maintenance sureties that guarantee the required improvements against all defects in workmanship and materials, including failure to construct or to continue to construct in accordance with approved plans and specifications.

A. Performance surety.

1. Plat and site plan performance surety amount. A plat or site plan surety must be in the form of a cash bond, performance bond, or letter of credit. The cost estimate amount of the surety shall be based on 120 percent of the sum of the following costs, as certified under seal by the project engineer of record:
  - a. Required subdivision public infrastructure improvements costs.
  - b. Costs of all required improvements relating to public road right-of-way.
  - c. Costs of all required off-site public infrastructure improvements.

The amount of surety is subject to approval by the Land Use Administrator.
2. Performance surety release. Upon completion of all performance surety guaranteed improvements, applicable inspections, and acceptance by the City, performance sureties shall be released by the Land Use Administrator. This action must be initiated, in writing,

by the developer. If the developer does not make this request within one (1) year of City acceptance, then the performance surety is deemed City property.

B. *Maintenance surety.*

1. *Plats and site plans with public improvements maintenance surety.* A maintenance surety for public improvements shall be submitted upon release of the performance surety. The maintenance surety provides a guarantee that the required improvements were completed without defects in workmanship and materials. The term of this guarantee shall be one (1) year from the date of acceptance, unless the Land Use Administrator specifies a longer time frame.
2. *Maintenance surety amount.* The amount of the maintenance surety shall be based on twenty (20) percent of the entire actual/present day costs of construction, including the costs of materials and labor for installing the required public infrastructure improvements. Actual costs for installing required public infrastructure improvements shall be itemized by improvement type as certified under seal by the project engineer of record, and subject to approval by the Land Use Administrator.
3. *Maintenance surety release.* The maintenance surety may be released no earlier than one (1) year from the date of acceptance of the required improvements by the Land Use Administrator. This action must be initiated, in writing, by the developer.

9.02.06. *Compliance with design requirements.* All land development improvements shall comply with all the requirements of this Land Development Code, which contain design and construction information for the following:

- A. Horizontal and vertical dimensional design requirements.
- B. Roadway, parking, and vehicle access ways.
- C. Pedestrian pathways, sidewalks, and recreational trails.
- D. Storm drainage, potable water, reclaimed water, and sanitary sewer infrastructure improvements.
- E. Clearing, earthwork, and grading.

### **Sec. 9.03. Construction and Inspection Requirements.**

○ 9.03.01. *Purpose.*

- A. The purpose of this section is to establish requirements for the inspection of the construction of all site development improvements on both residential and non-residential projects. The construction inspection procedures set forth in this chapter and in the City Technical Standards ensure conformity of construction with approved development orders, this Land Development Code, and any conditions of approval.
- B. Separate construction inspection requirements for water and sewer improvements are established in Part II of this chapter. Inspections shall be performed as required by the Land Use Administrator.

9.03.02. *Commencement of construction.* Commencement of construction or disturbance of land of any type is prohibited unless:

- A. A final development order is issued in conjunction with a site development permit or applicable building permits;
- B. All requisite federal, state, county, and City site work permits for the project are obtained. Certification by the engineer of record, along with copies of all required permits may be required by the Land Use Administrator.

C. A preconstruction meeting for the project is scheduled and held with the City, unless deemed unnecessary by the Land Use Administrator.

9.03.03. Types of inspections.

A. The following construction inspections shall be held during the course of the construction of the project infrastructure:

1. Scheduled mandatory key checkpoint inspections.
2. Scheduled or requested minor inspections and field conferences.
3. Unscheduled site visits and inspections.
4. Stormwater Pollution Prevention Plan (SWPPP) Inspections.
5. All other inspections required by the governing contract for a specific project.
6. Scheduled final inspection for punch list work.
7. Scheduled re-inspection of punch list work.
8. Scheduled final inspection walkthrough, as required prior to the developer submitting a request for the following:
  - a. Release of surety and acceptance by City of a maintenance bond.
  - b. Acknowledgement of completion of required subdivision improvements to allow final plat recordation.
  - c. Acceptance of roadways dedicated to the City.

9.03.04. Privately owned bridges. Privately owned bridges shall meet the design, construction, inspection, maintenance, and reporting criteria in accordance with the Florida Department of Transportation and federal standards.

**Sec. 9.04. Stormwater Management Requirements.**

○ 9.04.01. Purpose. The purposes of the stormwater management requirements are:

- A. To provide for design criteria and construction requirements to achieve effective stormwater management.
- B. To minimize adverse impacts of land development and related construction activities to property, environmentally sensitive areas, water bodies, and other natural resources.
- C. To improve the public health, safety, and welfare by providing for the safe and efficient capture and conveyance of stormwater runoff.
- D. To encourage and facilitate urban water resources management techniques including, but not limited to, the retention/detention of stormwater runoff and the enhancement of the environment.
- E. To promote low impact development alternative designs and prevent loss of life and/or property due to flooding.

9.04.02. Activities Requiring a Permit.

A. A St. Johns River Water Management District Environmental Resource Permit (ERP) is required for construction, operation, and maintenance of a stormwater management system that serves a project that meets any of the following thresholds:

1. Any project in, on, or over wetlands or other surface waters;
2. A total of more than 4,000 square feet of impervious or semi-impervious surface area subject to vehicular traffic;
3. A total of more than 9,000 square feet of impervious and semi-impervious surface area;

4. A total project area of more than five acres;
5. A capability of impounding more than 40-acre-feet of water;
6. Any dam having a height of more than 10-feet, as measured from the lowest elevation of the downstream toe to the dam crest;
7. Any project that is part of a larger common plan of development or sale;
8. Any dry storage facility storing ten (10) or more vessels that is functionally associated with a boat launching area; and
9. Any modification or alteration of a project previously permitted under Part IV of Chapter 373, F.S.

9.04.03. Minimum Design Standards and Performance Criteria.

A. Design and Performance Criteria for Stormwater Management Systems shall meet the requirements as outlined in St. Johns River Water Management District (SJRWMD) Regulations, contained in the Applicant's Handbook Volume II (AH Vol II).

B. The Stormwater Management Plan shall, at a minimum, address the following:

1. Impacts to adjacent and downstream stormwater collection, conveyance, and storage systems resulting from increased runoff rate and/or volume from the project site.
2. Impacts to adjacent and upstream runoff contributing areas that may be hydrologically or hydraulically connected to the project.
3. Impacts to adjacent and downstream areas resulting from sediments and other pollutants that may be carried by stormwater runoff during and after construction.
4. Impacts to "Special Flood Hazard Areas" or "Volume Sensitive" areas associated with the project.

C. Stormwater Treatment and Attenuation.

1. Projects that discharge runoff to downstream areas that are not volume sensitive and have adequate capacity to accept and convey stormwater runoff from the Project site without increasing flood levels shall limit developed peak runoff rates to pre-developed runoff rates for the 5- year 24-hour and 25-year 24-hour design storm events.
2. Projects that discharge runoff to downstream areas that are volume sensitive or do not have adequate capacity to accept and convey stormwater runoff from the project site without increasing flood elevations shall provide detention for the 25-year 96-hour discharge volume for developed conditions such that the volume released from the project during the critical time period is not greater than the volume released during pre-developed conditions.
3. Projects that contribute to the City of Palm Coast Master Stormwater Management System, as defined in the Palm Coast Comprehensive Land Use Plan (CLUP) Volume 3, shall also be designed and constructed to limit developed runoff rates to pre-developed rates for the 100-year 24-hour design storm event.
4. Projects that are constructed in phases shall meet the minimum design standards for each phase. No phase shall be dependent upon the construction of a future phase in order to meet these requirements.
5. Pond top of bank elevation shall be a minimum of 6-inches above the maximum design storm elevation.
6. The Land Use Administrator (LUA) shall have the right to exempt any project from Section 9.04.03 (C) (1) & (2) above that discharges directly into the Intracoastal Waterway or Atlantic Ocean.

7. Stormwater system analysis shall include Pre-Development and Post-Development runoff hydrographs; routing the Post-Development runoff hydrographs through the stormwater storage system; and sizing of the storage system and discharge control structure(s) to meet the minimum requirements of Section 9.04.03 (C) of the City of Palm Coast Land Development Code. Stormwater discharge computations shall include storm frequency, storm duration, rainfall amount, rainfall distribution, hydrologic soil conditions, runoff coefficients, pond stage, storage, and discharge, changes in land use cover and slope conditions, off-site runoff contributing areas, time of concentration, tailwater conditions, and any other changes in hydraulic, hydrologic, and topographic characteristics associated with the development.
8. Control devices that are designed to contain more than two (2) foot depth of water within the structure during the design storm and have openings greater than one foot minimum dimension shall be restricted from public access.
9. All stormwater basin side slopes shall be stabilized by either vegetation or other biodegradable materials to minimize erosion and sedimentation of the basins.
10. Wet detention stormwater management systems shall provide a littoral zone in accordance with AH Vol II.

**D. Soils Investigations:**

1. A geotechnical report, prepared by a licensed engineer or other professional authorized to perform such work under Florida Statutes, shall be submitted for stormwater storage facilities, systems, or open channels used as a dry retention/detention facility designed to contain standing water for less than seventy-two (72) hours after the occurrence of a rainfall event or using infiltration to meet the requirements of this code. The report shall contain a soil boring log, boring locations, and any parameters that may affect the design or recovery of the facility including, but not limited to; estimated seasonal high water table, hydraulic conductivity, and locations of confining layers.
  2. For dry retention systems, soil borings shall be of sufficient depth to determine the wet season high water table and the permeability of the soils.
- E. Water shall not be diverted into a natural buffer area for retention purposes where such water level change will adversely affect the health or survivability of retained trees.
- F. It is presumed that the lowering of the water table for the purpose of constructing detention/retention basins and for the purpose of permanently protecting road construction does not conflict with this Land Development Code if all of the following are met:
1. The development is permitted by the St. Johns River Water Management District and the City;
  2. The lowering of the water table has no adverse effect on wetlands and surface waters as defined in 62-340, F.A.C.; and
  3. The lowering of the water table does not increase flows to the detriment of neighboring lands.
- G. Where stormwater and other waters drain from lands outside the City, facilities within the City shall be designed in accordance with this Land Development Code, as if the entire area being drained was within the City.

**9.04.04. Limiting Conditions:**

- A. Before any offsite discharge from the stormwater management system occurs, the retention and detention storage must be excavated to rough grade prior to building construction or placement of impervious surface within the area served by those systems. Adequate measures must be taken to prevent siltation of these treatment systems, and control structures during construction or siltation must be removed prior to final grading and stabilization.

- B. Prior to and during construction, the permittee shall implement and maintain all erosion and sediment control measures (best management practices) required to retain sediment on-site and to prevent violations of state water quality standards. All practices must be in accordance with Section 9.04.06. If site specific conditions require additional measures during any phase of construction or operation to prevent erosion or control sediment beyond those specified in the erosion and sediment control plan, the permittee shall implement additional best management practices as necessary, in accordance with Section 9.04.06. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
- C. The stormwater management system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of the site infrastructure. The system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the stormwater management system to another responsible entity.
- D. If the permitted stormwater management system was designed by a registered professional, within fifteen (15) days of providing the required as-built certification to the St. Johns River Water Management District, or 45 days after completion of the stormwater system (whichever occurs first), the permittee must submit to the City a copy of Water Management District Form No. 62-330.310 (1) (As Built Certification By a Registered Professional), signed and sealed by an appropriate professional registered in the State of Florida.
- E. Activities approved by this permit shall be conducted in a manner which do not cause violations of state water quality standards.

9.04.05. Collection and Conveyance.

- A. Stormwater collection and conveyance systems shall be designed, as a minimum, to convey runoff resulting from the 5-year, 24-hour storm event. Collector roadway cross drains shall be designed to convey the 10-year, 24-hour storm event.
- B. Temporary roadway flooding shall not exceed an elevation that would permit flood water encroachment of more than one-half of a travel lane at the lowest elevation on the centerline profile of a roadway for the 25-year, 24-hour storm. Full recovery and use of the roadway must be available at the end of the design storm event.
- C. Stormwater systems serving parking lots, or other non-residential property, shall be designed to collect and convey all stormwater flows into and through the system without creating adverse impacts to adjacent properties. The system shall recover from temporary ponding such that use of the parking area is available at the end of the storm event.
- D. Minimum allowable pipe size for stormwater systems located within the City of Palm Coast right of way shall be 15 inches.
- E. Design storm frequency for open channels shall be as follows:
  - 1. Local roadway swales and ditches; 5-year storm event.
  - 2. Collector roadway swales and ditches; 10-year storm event.
  - 3. Outfall ditches and canals; 25-year storm event.

9.04.06. Erosion and Sediment Control.

- A. Erosion and sediment control Best Management Practices (BMPs) shall be used as necessary during construction to retain sediment and turbidity on-site. These management practices shall be designed and certified by an appropriate licensed professional experienced in the fields of soil conservation or sediment/turbidity control according to specific site conditions and shall be shown on the plans for the stormwater management system. The Permittee shall have a licensed

professional provide the contractor, as part of the Erosion and Sediment Control Plan or Stormwater Pollution Prevention Plan (SWPPP), information pertaining to the construction, operation, and maintenance of the erosion and sediment/turbidity control BMPs.

- B. Best Management Practices shall be designed in accordance with the State of Florida Erosion and Sediment Control Designer and Reviewer Manual (June 2007), and the Florida Stormwater, Erosion, and Sedimentation Control Inspector's Manual (FDEP July 2008), and shall be shown on the "Grading and Drainage Plan" or on a separate "Erosion Control Plan".
- C. Any sedimentation leaving the site or impacting adjacent areas shall be halted immediately and the adjacent areas restored to pre-existing conditions. Restoration efforts shall be coordinated with FDEP or SJRWMD, as appropriate, to ensure that the restorative activities are consistent with the Statewide Environmental Resource Permitting (SWERP) rules.
- D. All areas disturbed by authorized construction activities shall be sodded, hydro-seeded and mulched, or protected by other appropriate erosion control measures. Banks or berms having a 3:1 slope or steeper shall be sodded.
- E. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceased.
- F. Damage to private land, public rights-of-way, or other property shall be repaired prior to issuance of a certificate of occupancy. In case of damage to private property or to public rights-of-way, it shall be the joint and severable responsibilities of the permittee and contractor to make repairs as directed by the Land Use Administrator.

9.04.07. National Pollutant Discharge Elimination System Stormwater Program.

- A. The National Pollutant Discharge Elimination System (NPDES) Stormwater Program regulates construction activities that disturb one (1) or more acres of land and discharge stormwater to surface waters of the state or into a Municipal Separate Storm Sewer System (MS4). An MS4 is a conveyance or system of conveyances such as roads with stormwater systems, municipal streets, catch basins, curbs, gutters, ditches, constructed channels, or storm drains. If a project is less than one acre, but part of a larger common plan of development or sale that will ultimately disturb one or more acres, permit coverage is also required.
- B. NPDES Construction Generic Permit (CGP)
  - 1. The operator is ultimately responsible for obtaining permit coverage and implementing appropriate pollution prevention techniques to minimize erosion and sedimentation from stormwater discharges during construction. The operator is the entity with sufficient authority to ensure compliance with the permit requirements. Typically, the operator is the owner, developer, or general contractor.
  - 2. For construction projects where the operator changes, the new operator should obtain permit coverage at least two (2) days before assuming control of the project, and the previous operator should file an NPDES Stormwater Notice of Termination (FDEP Form 62-621.300[6]) within fourteen (14) days of relinquishing control of the project to a new operator. The previous operator must meet the conditions to terminate coverage in accordance with Part VIII of the CGP.
- C. Obtaining Coverage under the CGP.
  - 1. Obtain and carefully read the CGP (available online at the Florida Department of Environmental Protection Website).
  - 2. Develop a site specific SWPPP.

3. Complete in its entirety the application or Notice of Intent (NOI) (FDEP Form 62-621.300[4][b]).
4. Submit the NOI with the appropriate processing fee to the NPDES Stormwater Notices Center (Do not submit plans or a copy of the SWPPP when applying for coverage).
5. Provide a copy of the SWPPP to the City of Palm Coast (MS4 Operator).
6. Operators seeking coverage under the CGP must apply for permit coverage at least two (2) days before construction begins.

#### D. SWPPP Contents.

1. The SWPPP must identify potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharge associated with construction activity. In addition, the plan shall describe and ensure the implementation of BMPs that will be used to reduce the pollutants in stormwater discharge associated with construction activity and ensure compliance with the terms and conditions of the permit.
2. The SWPPP must be developed before an NOI is filed in order to receive CGP coverage and must meet or exceed FDEP requirements. Also, beginning on the first day of construction activities, the SWPPP must be available at the location identified in the NOI.
3. A SWPPP should consist of a narrative and a site map. The CGP also requires a certification statement to be signed by the operator. The SWPPP must be developed and implemented for each construction site covered by the generic permit and must be prepared in accordance with good engineering practices.
4. The narrative report shall include a site description and, at a minimum, the following information about the site:
  - a. Description of the construction activity,
  - b. Intended sequence of major soil-disturbing activities,
  - c. Total area of the site and total disturbance area,
  - d. Description of the soils and estimate of the size of the drainage area for each discharge point,
  - e. Latitude and longitude of each discharge point and the name of the receiving water for each discharge point, and
  - f. Site map indicating drainage patterns and slopes, areas of soil disturbance, undisturbed areas, locations of BMPs, stabilization areas, surface waters/wetlands, and discharge points.
5. Each plan must include a description of the appropriate controls, BMPs, and measures that will be implemented at the construction site. The plan must clearly describe for each major soil-disturbing activity the appropriate control measures and the timing for implementing these measures.
6. The plan shall also identify and ensure the implementation of appropriate pollution prevention and treatment measures for non-stormwater components of the discharge.
7. The preparer of the SWPPP or responsible authority must sign and date the following certification statement as part of the SWPPP:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my

knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information. These include the possibility of fine and imprisonment for knowing violations.”

8. Contractor Certification Requirement: All contractors and subcontractors identified in the SWPPP, or those selected at a later date, must sign and date the following certification statement before conducting land disturbing activities on the site:

“I certify under penalty of law that I understand, and shall comply with, the terms and conditions of the State of Florida Generic Permit for Stormwater Discharge from Large and Small Construction Activities and this Stormwater Pollution Prevention Plan prepared there under.”

9. A copy of the NOI or acknowledgment letter from FDEP confirming coverage must be posted at the construction site in a prominent place for viewing (such as alongside the building permit).

E. Retention of Records:

The permittee shall retain copies of the SWPPP and all reports required by the CGP, and records of all data used to complete the NOI to be covered by the CGP, for at least three (3) years from the date that the site is finally stabilized. The permittee shall retain a copy of the SWPPP and all reports, records, and documentation required by the CGP at the construction site, or an appropriate alternative location as specified in the NOI, from the date of project initiation to the date of final stabilization.

F. Notice of Termination (N.O.T.):

Upon completion of the project and final stabilization, the permittee should submit a completed N.O.T. to the NPDES Stormwater Notices Center and the City of Palm Coast. The elimination of stormwater discharges associated with construction activity means that all disturbed soils at the site have been finally stabilized and temporary erosion and sediment control have been removed, or will be removed at an appropriate time.

**Sec. 9.05. Stormwater Discharge Pollutant Control.**

9.05.01. Enforcement:

- A. All persons in violation of this regulation shall remedy such violations immediately. All persons in violation shall, in addition to all other required remedial actions, upon detection or written notification by the City, provide a written response outlining the temporary and permanent measures that will be taken to correct the violation and a proposed schedule for completion of the corrective measures. All such proposals for corrective action are subject to the approval of the Land Use Administrator.
- B. The Land Use Administrator is authorized to issue cease and desist orders in the form of written official notices hand delivered or sent by certified mail to the person(s) believed to be responsible for the violation and/or the owner of the property from, or on which, the violation is believed to be occurring. Specific activities and operations may be ordered to cease based upon the following conditions:
1. In a situation that may have a serious effect on the health, safety or welfare of the public or the environment, including the quality of stormwater in the City’s MS4; or
  2. When irreversible or irreparable harm may result, in the reasonable opinion of the Land Use Administrator, and immediate cessation of the activity is necessary to protect the quality of the stormwater in the City’s MS4, or to protect the public or the environment.
- C. Should any person responsible for a violation of this regulation fail to take the remedial action as required by the City, the City may take such remedial action, and all costs incurred by the City shall be the responsibility of the person or persons responsible for the violation, and the

City may record a lien against the personal and real property of the violator to recover said costs and to collect all fines and penalties imposed.

- D In addition to the remedies provided herein, the City may make application to a court of competent jurisdiction for injunctive relief to restrain any person from violating or continuing to violate the provisions of this regulation. In addition, the City may also seek entry of a court order requiring restoration and mitigation of any impacted facilities, land or waters, and may request any other appropriate legal remedy, including reimbursement of court costs. The City shall be entitled to an award of attorney's fees in prosecuting such actions, together with all attorney's fees and costs on appeal.
- E.. Any fines or other funds received as a result of enforcement action under this regulation and which are not used for the specific purposes enumerated herein shall be deposited into the stormwater utility fund.
- F. The City may also use the City's Code Enforcement process to enforce violations.

## **Sec. 9.06. Land Modification of Platted Residential Lots.**

### o 9.06.01. Clearing and earthwork.

- A. With proper permits, the City allows the modification of land for purposes such as grading, filling, excavation, unsuitable soils removal, and certain tree removal on vacant residential lots as set forth in Chapter 11, prior to the issuance of a building permit. The only exception is for vacant single-family residential property, where "vacant" is defined as land that is in a natural vegetated state, or land that has been cleared of such vegetation but contains no impervious area. Persons desiring to modify a residential lot prior to the issuance of a building permit must apply for and obtain a Right-of-Way Access and Lot Grading Permit, and shall be subject to the following general permit conditions:
  - 1. The lot, if vacant of any structures, must be directly adjacent to a lot with a permitted structure and both lots shall be under the same ownership.
  - 2. Prior to performing any work, a copy of the permit shall be posted on the site.
  - 3. If wetlands or endangered species are discovered, additional requirements may be imposed by the City to protect natural resources.
  - 4. A time limit of four (4) months shall be allowed from the date the permit was issued until the work is completed. When the work is completed, a final inspection shall be requested by the applicant. If the work is not completed within four (4) months, the City will monitor the site and may initiate code enforcement procedures. Passing the final inspection shall mean that the work is complete.
  - 5. The owner shall preserve trees and vegetation in accordance with the tree preservation requirements set forth in Chapter 11.
  - 6. After completion of the work, the owner of the property shall request a final inspection from the City, which will confirm if the clearing was completed in accordance with the permits.
  - 7. Prior to the final inspection the following shall be completed:
    - a. Swales shall be graded to the proper grade and cross section.
    - b. After the swale has been graded and prior to sodding, a swale elevation survey shall be prepared by a Florida licensed land surveyor to verify the swale elevations are correct.

- c. All disturbed areas of the site and public road right-of-way shall be stabilized with vegetation. All rights-of-way and any areas subject to erosion shall be sodded in accordance with the Florida Department of Transportation Design Standards.
  - d. All tree barricades, silt fences, and construction debris shall be removed from the site or adjacent sites, if present.
  - e. Repair of all road damage associated with permitted work shall be jointly and severally the responsibility of the property owner and permittee, and shall be completed prior to the completion or expiration of the permit.
  - f. Replacement trees, if required, shall be planted.
- B. Vacant lots are exempt from this permit if the lot is only to be cleared by hand cutting of non-protected trees and removal of existing vegetation. This includes mitigation type mowing for wildfire control/mitigation. This exemption only pertains to platted single-family residential lots and not adjacent reserve parcels, unplatted lands, or stand-alone lots of any type.

9.06.02. Construction on platted residential lots.

- A. Residential dwelling units, other structures, and surrounding site work on platted single-family residential lots, shall be designed and constructed in conformance with this Land Development Code. Property owners or their agents shall obtain a building permit from the City prior to the construction of any aboveground or underground structure.
- B. In addition to a building permit, a Right-of-Way Access Permit shall be obtained from the City.

**Sec. 9.07. Utilities.**

- o 9.07.01. Purpose. The requirements and regulations contained in this section are established to ensure the adequate provision of potable water (water), fire protection/suppression, sanitary sewer (wastewater), and reclaimed water facilities necessary to:

- A. Meet City level of service requirements;
- B. Provide adequate service capacities for individual projects; and
- C. Meet the requirements of other related codes and standards adopted by the federal, state, City, or regional agencies.

9.07.02. General requirements.

- A. Connection to the city utility system. Unless specifically allowed otherwise herein, all water, fire protection/suppression, sanitary sewer, and reclaimed water improvements shall be designed to connect to the City's central utility systems.
- B. Construction standards. The design and construction of facilities for providing water, fire protection/suppression, sanitary sewer, and reclaimed water shall comply with City standards and state regulations.
- C. Private potable wells. The City will allow the use of individual potable water wells if approved by the St. Johns River Water Management District. However, for all new development that requires site plan or subdivision approval that is within one (1) mile of central service, the development shall be required to connect to the central service. For development that does not require site plan or subdivision approval, the development shall be required to connect to the potable water system if central service is available within 150 feet of the lot line. In the event that central service is not available in either instance, the development shall be required to connect within one (1) year from the date that central service becomes available.
- D. Private non-potable wells. Irrigation systems and swimming pools may be served by a separate private water supply system provided that no interconnection of any kind occurs between the private system and the public utility system, its water mains, the utility's water service line, the

customer's water service line, a building's potable water plumbing pipes, or any pipe or line connection or extension, and then only if reclaimed water service is not available. If and when available on the property, reclaimed water shall be used for all appropriate uses. The design, permitting, construction, and use of this type of well shall comply with the most current regulations of the Flagler County Health Department, the Florida Department of Environmental Protection, and the St. Johns River Water Management District, as appropriate.

9.07.03. Potable water system.

A. Conditions precedent to water services.

1. Water service may be activated if all permit conditions of the Florida Department of Environmental Protection are completed and the water distribution system has been approved and accepted by the City.
2. Except where otherwise permitted, all new development shall connect to the City's potable water system. New development shall pay all impact, installation, and line extension fees prior to the issuance of building permits or the initiation of service.

B. Required meters.

1. All residential facilities shall have individual meters for each dwelling unit unless a master meter installation is approved by the City in a utility agreement.
2. The property owner shall keep meter sites readily accessible with a minimum four (4) feet of clearance around the meter/backflow assembly for meter reading and maintenance.

C. Water mains location/sizing.

1. Trunk lines shall have a pipe diameter meeting minimum requirements for fire flow and user consumption based on Florida Department of Environmental Protection regulations and standard engineering practices. Water mains shall be located within a public right-of-way or within a corridor (private rights-of-way) approved by the Land Use Administrator. All mains to which fire hydrants are connected shall be a minimum of six inches in diameter and in conformance with National Fire Protection Association (NFPA) standards. In no case shall a water main be smaller than four inches. To the maximum extent feasible, distribution lines shall be located parallel to and behind the back of the curb or edge of the pavement. Water mains shall be located to minimize conflicts with other utilities and existing or proposed structures.
2. All new development service lines and appurtenances thereto shall be installed and all costs shall be paid by the applicant. Upon construction completion and acceptance of the system, it shall be the design engineer's responsibility to ensure that the system is properly certified and accepted by the Florida Department of Environmental Protection, and that certified "as-built" drawings, consisting of one signed and sealed set of plans plus a CD (compact disc) containing electronic files are provided to the City in accordance with City standards. Under no circumstance shall the system be activated by anyone other than the Land Use Administrator.

D. Booster pumps/fire protection systems. It is prohibited and unlawful to modify or connect any booster pump or fire protection system to the City's potable water distribution system or to any water distribution system to which the City supplies water, except for consecutive public water systems, without the express written permission of the Land Use Administrator.

1. Any person planning to connect or modify any booster pump or fire protection system shall submit a detailed plan prepared by a Florida professional engineer to the Land Use Administrator for review and approval.
2. After submission of a detailed plan for connection or modification, the Land Use Administrator may approve the plan, with or without specified conditions or modifications, or reject the plan.

- E. Potable water backflow prevention devices. All new construction shall have installed, on all potable water and fire prevention system lines, a backflow prevention device acceptable to Florida Department of Environmental Protection and of a size and design determined to be appropriate by the Land Use Administrator. All residential construction shall have a double-check device that shall be supplied and installed by the City at the owner's expense. All commercial lines two (2) inches or smaller shall have a reduced pressure zone backflow preventer installed by the City at the owner's expense. All commercial or industrial construction lines larger than two (2) inches shall have a reduced pressure zone backflow preventer or double-check detector/device (fire line only). The City approved device shall be installed at the owner's expense by a licensed contractor, inspected by the City, and certified by a licensed and certified backflow prevention technician or a certified City backflow prevention technician. All backflow prevention devices shall be installed and maintained in accordance with City standards.
- F. Fire line devices. All fire line devices shall be installed and certified by a licensed fire protection contractor. The device shall be installed at a location determined by the Land Use Administrator. Where the device must be installed on private property, the location is subject to approval by the property owner. Backflow prevention devices on fire lines must be UL (Underwriters Laboratories) listed for fire protection systems. Backflow preventers shall be installed and maintained in accordance with City standards.
- G. Cross connections and interconnections. It is unlawful for any person to cause a cross connection with the City's potable water system, reclaimed water system, wastewater system, or raw water system. All service connections shall comply with the City standards.
- H. Connection/temporary connection.
1. The owner of each lot or parcel of land within the City proposed for occupancy for any use shall cause such building, structure, or use to be connected to the public water distribution system of the City, and shall use such facilities at the same time as a certificate of occupancy is issued, or sooner, with prior approval by the City.
  2. For temporary connection to the City water system for construction not involving new lines, a metered connection to a fire hydrant may be permitted. The meter and backflow preventer shall be supplied by the City and the user must comply with City standards.
- I. Utility line extensions—Service line extensions. Service line extension requests shall be submitted to the Land Use Administrator for approval. If approved, the applicant may proceed with the installation of the service line extension after coordinating installation with the Land Use Administrator. All costs associated with the utility line or service line extension shall be the applicant's responsibility. All work and connections shall be performed by a Florida licensed contractor licensed to perform underground utility work.
- J. Utility main extension reimbursement policy.
1. Procedure for the utility main extension reimbursement policy. In the event that any person or developer is required by the City to extend water, sewer, or reclaimed water lines or increase line size to a size larger than the minimum line size required for that development's needs, that person or developer may request reimbursement for the additional cost of such extension or increased line size in accordance with the following procedures:
    - a. Engineering drawings and design calculations shall be submitted to the Land Use Administrator indicating the size and location of the proposed lines or the appurtenances thereto. The submittal shall also include preliminary cost estimates showing the cost difference for construction of the proposed oversize main versus the cost for the minimum size main that would be required to serve the parcel or development in accordance with the City's design standards.
    - b. The Land Use Administrator shall review the entire submittal and shall make a determination of the eligibility of the proposal for reimbursement, based on the

conformity of the proposed improvements with City standards and with the criteria established in Subsection 9.06.03.C.

- c. The City may enter into an agreement for reimbursement with the person making the submittal based on a finding that the trunk line(s) and appurtenances thereto comply with City standards. The agreement between the City and the person or developer will, at a minimum, include timeframes and conditions of reimbursement. The trunk line(s) and appurtenances are required to be appropriately sized and located. Adequate water and sewer treatment plant capacity must exist for the area anticipated to be served.

9.07.04. Sanitary sewer systems, industrial wastes, and low pressure effluent pumping system.

A. Conditions precedent to wastewater service. Wastewater service will be available only after all permit conditions of the Florida Department of Environmental Protection are complied with and the wastewater collection system has been approved and accepted by the City.

B. Wastewater connection required.

1. Except where otherwise permitted, all new development shall connect to the City's sewer system. New development shall pay all impact, installation, and line extension fees prior to the issuance of building permits or the initiation of service.
2. If the City sewer system is available as defined by law, all existing development, is required to connect within one year from the date of notice of system availability. The owner of the property shall pay for all connection impact, installation and line extension fees.
3. Upon agreement by the City, and approval of the Department of Health, connection to the City sewer system may be deferred until it is deemed in the public interest to make connection mandatory due to financial or public health considerations.
4. The City may refuse wastewater from any lot or parcel of land upon which there is located any institutional, commercial, or industrial plant, building, or premises that does not comply fully with City standards; or that does not utilize City water; or that does not supply proper metering of its wastewater.
5. The discharge of wastewater into the City sanitary sewer system from air conditioning/heating units is prohibited.

C. Wastewater design and inspection.

1. The developer shall install house or site service connections. Each property connected to the sanitary sewer system shall have a cleanout or manhole located at the property line for cleaning the service from the cleanout to the sanitary main.
2. It is prohibited and unlawful to enter the City sewer system or appurtenance thereto, or make any connections thereto without the approval of the Land Use Administrator. It is unlawful for any person to tap, cut, or in any way use any line, branch, or part of the City sewer collection or sewage treatment facilities without such approval.
3. The Land Use Administrator, as a condition of the City providing utility service, shall be permitted to enter upon all properties for the purpose of inspection, observations, measurement, sampling, and testing.

D. Lift (pumping) stations. All lift stations to be dedicated to the City for ownership and maintenance shall conform to the requirements of this section and City standards and shall be designed as submersible stations.

1. Prior to the construction of a lift station, the applicant's engineer shall submit construction drawings and design calculations for review and approval by the City.

2. All lift stations shall be dedicated by a fee simple interest conveyance to the City for ownership and maintenance responsibility, unless otherwise approved by the Land Use Administrator.
3. Lift station sites shall have unimpeded access for emergency maintenance vehicles and shall restrict access to the wet well, valve vault, and electric control panel to prevent entry by unauthorized individuals.

E. Industrial waste pretreatment and disposal.

1. Generators of industrial waste that are deposited into the City sanitary sewer shall comply with the pretreatment and disposal requirements of the City.
2. All users shall comply with Florida Department of Environmental Protection permit conditions and any other applicable federal and state regulations to which the Publicly Owned Treatment Works is subject.
3. All pretreatment and disposal systems and appurtenances shall be designed to meet all applicable requirements of the Florida Department of Environmental Protection, Flagler County Health Department, and the City to prevent the introduction of pollutants into the sanitary sewer system, which will interfere with the proper functioning of the system or cause or contribute to the contamination of receiving waters or the atmosphere.

9.07.05. On-site wastewater treatment/disposal systems. On-site wastewater treatment may be permitted by the City only in the EST-1, EST-2, and AGR Districts and in conformity to this section.

A. Permit required. A septic tank permit shall be obtained from the Flagler County Health Department prior to the issuance of a building permit. However, a building permit shall not be issued for the construction of such facility unless consistent with the Comprehensive Plan and this Land Development Code.

B. Design and performance standards.

1. A copy of the permit received from the Flagler County Health Department and all related information or documentation shall be submitted to the City.
2. Individual wastewater treatment/disposal systems, such as septic tanks, shall be located in an area that can be incorporated into a central sewer system when available. Systems shall be constructed and operated to ensure that they, either on an individual or cumulative basis, will not adversely impact public health or natural resources or cause undue expense to the City.
3. On-site wastewater treatment is prohibited in areas served by centralized wastewater treatment. Where septic tank use is permitted, septic tank systems shall be installed in conformance with the Flagler County Health Department requirements. Development shall be prohibited unless an alternative on-site disposal system (e.g., package-type wastewater treatment plant) is determined by the Land Use Administrator to be sufficiently effective to prevent degradation of adjacent surface waters or groundwater by the Florida Department of Environmental Protection, Flagler County Health Department, and the City, and provisions for the plant's eventual retirement and connection of the development to the central sanitary sewer system are adequate and binding.
4. The installation of on-site sewage disposal and treatment systems on sites one acre or less is prohibited. Sites greater than one acre of contiguous upland area in areas designated as Greenbelt on the City's Future Land Use Map that are served by municipal potable water service may be served by on-site sewage disposal systems if site environmental factors are appropriately addressed and the systems are installed in accordance with all applicable state and local regulations. If public potable water supply service is not available, the minimum site for the installation of on-site sewage disposal systems shall be two acres.

9.07.06. Interim "package-type" wastewater treatment facilities. The use of interim or package-type wastewater treatment facilities shall be subject to approval by the City Council based on an agreement that specifically provides for the eventual transition to City facilities.

A. Design and performance standards.

1. Small package-type wastewater treatment plants, as defined below, shall not be permitted in areas where improper levels of treatment and/or inadequate effluent disposal may result in adverse impacts on water or other natural resources (e.g., groundwater aquifers and surface water systems), unless the plant's owner provides sufficient financial resources or surety for the City to assume responsibility for operating and maintaining the collection, treatment, and effluent disposal components in compliance with regulatory requirements and standards. The following minimum criteria and procedures shall be adhered to in the implementation of this Code:
  - a. Small package-type wastewater treatment plants are defined as prefabricated and component assembled plants of 100,000 gallons or less per day of treatment capacity, or any plant which is considered or identified to be of an interim nature.
  - b. The location and siting of such facilities shall be limited to areas where improperly treated effluent shall not adversely impact the quality of regional water resources by lateral surface/subsurface flow or by percolation.
  - c. Existing package-type or interim wastewater treatment plants currently meeting treatment and effluent quality standards may continue to be operated if the facility is being properly operated and maintained and wastewater treatment and effluent standards are continually being met.
  - d. Measures shall be undertaken to assure the provision of financial resources by wastewater treatment plant owners to adequately cover the costs of rehabilitating, operating, and maintaining each wastewater treatment and disposal facility, and of connection to regional facilities, if applicable, at the appropriate time.
2. Interim or package-type wastewater treatment facilities shall connect to the municipal sanitary sewer system when the access to the system becomes available. The following criteria and procedures shall be adhered to in the implementation of this standard:
  - a. Package-type or interim wastewater treatment plants currently meeting treatment and effluent quality standards may continue to operate if:
    - (1) The facility is properly operated and maintained and wastewater treatment and effluent standards are satisfactorily met; and
    - (2) The facility is phased out at the option of the City, without cost to the City, and connected to the City system when sufficient capacity is available.
  - b. When a private facility is phased out and connected to the City sewer system, all costs of connection to the central system and discontinuing the interim use is the obligation of the owner of the private facility.
3. Where soil conditions permit, an interim package treatment plant may be permitted if:
  - a. Sewer lines and lift stations are constructed to City standards;
  - b. Impact fees for future connections to the City system are paid or a surety is provided; and
  - c. The developer agrees to discontinue operation of the package plant and connect to the City system, when available.
4. Existing development with central wastewater treatment shall connect to the City system as soon as possible after the City system is available or if the existing system is found to

have deficiencies that are likely to create a serious health or pollution problem. Property owners shall pay the impact fee and connection fee then in effect.

9.07.07. *Reclaimed water systems.* Reclaimed water system construction and materials shall comply with City standards.

- A. *Conditions precedent to reclaimed water services.* Reclaimed water service shall be activated only after all permit conditions of the Florida Department of Environmental Protection are completed and the reclaimed water distribution system has been approved and accepted by the City.
- B. *Compliance with state regulations.* In the operation and use of the City's reclaimed water system, the City and all users shall at all times comply with all applicable regulations of the Florida Department of Environmental Protection relative to the reuse of reclaimed water.
- C. *Design and performance standards.* All reclaimed water systems shall meet applicable requirements of the Florida Department of Environmental Protection and the City.
- D. *Connection permit required.* It is prohibited and unlawful to connect to any public reclaimed water main or appurtenance without prior approval from the Land Use Administrator and the acquisition of all required state and local permits.
- E. *Reclaimed water lines.* All new developments shall provide a reclaimed water system for irrigation purposes, unless otherwise approved by the Land Use Administrator. If reclaimed water is not available at the time of construction, a connection shall be provided with backflow prevention to the potable water system until the reclaimed water is available.

## **Sec. 9.08. Outdoor Lighting Requirements.**

9.08.01. *Purpose.* This section provides specific development requirements to regulate outdoor lighting in order to provide for sufficient lighting levels to meet use needs, but to reduce or prevent light pollution and light disturbance. Reducing or preventing light pollution means, to the extent reasonably possible, ensuring the reduction or prevention of glare and light trespass, the conservation of energy and the promotion of safety and security, in general conformity with the "dark sky" goals and recommendations.

9.08.02. *Approved materials and methods of installation.* The provisions of this section are not intended to prevent the use of any material or method of installation not specifically proscribed by this section, if any such alternate has been specifically approved. The Land Use Administrator may approve any such alternate if the proposed design, material, or method:

- A. Provides approximate equivalence to the specific requirements of this section; or
- B. Is otherwise satisfactory and complies with the intent of this section.

9.08.03. *Shielding and filtering.* All outdoor light fixtures shall be fully shielded as required in this section. All outdoor light fixtures required to be filtered by this section shall have glass, acrylic, or translucent enclosures (quartz glass does not meet this requirement).

9.08.04. *Requirements for shielding and filtering.* The requirements for shielding and filtering light emissions from outdoor light fixtures are set forth in the following table:

*Table 9-1: Requirements for Shielding and Filtering*

Fixture Lamp Type	Shielded	Filtered
Low Pressure Sodium	None	None
High Pressure Sodium	Fully	None
Metal Halide	Fully	Yes
Fluorescent	Fully	Yes
Quartz	Fully	None
Incandescent Greater than 160 W	Fully	None
Incandescent 160 W or less	None	None
Mercury Vapor	Not permitted	Not permitted
Glass Tubes filled with Neon, Argon, Krypton	None	None

9.08.05. *Parking lot lighting.* General exterior lighting shall provide adequate illumination to safely guide vehicles and pedestrians into, out of, and within a site, and deter vandalism. Exterior lighting sources shall render colors faithfully so that pedestrians and vehicle operators are able to distinguish colors and differentiate objects within their field of vision and be arranged so as to eliminate on-site glare and spillover onto adjacent properties, public streets, and highways.

- A. *Plan required.* An illumination plan prepared by a Florida licensed professional engineer with expertise in the field of illumination shall be submitted for each parking facility. Each parking facility shall meet the pedestrian security requirements as set forth in Section 14 of IESNA - RP-20-98 Lighting for Parking Facilities, 1998 or current edition. Such plan shall comply with all requirements as outlined in this section.
- B. *Full cutoff light fixtures.* Luminaires shall be designed to ensure that no candela occurs at or above an angle of 90 degrees above the horizontal plane (nadir). This applies to all lateral angles around the luminaire. Such candela information shall be determined by a photometric test report (plan) from the lighting contractor. Any structural part of the luminary for all types of lighting providing cutoff angle shielding shall be permanently attached, except that accent uplighting for trees and building walls may be allowed to exceed the 90-degree angle plane, subject to review and approval by the Land Use Administrator if determined to provide an equivalent public benefit.
- C. *Shielding requirement.* Lighting shall be designed to prevent direct glare, light spillage, and hazardous interference with automotive, aircraft, and pedestrian traffic on adjacent streets and on all adjacent properties.
- D. *Design requirement.*
  1. The maximum height of light poles in areas other than pedestrian areas shall be 35 feet, including the base. Light poles exceeding 35 feet in height shall not be allowed unless approved through a special exception use order or development agreement. For pedestrian areas, the maximum height of a light pole shall be 16 feet, including the base.
  2. Fixtures shall be designed as integral design elements that complement the design of a development through style or by blending into the landscape material. Bright colors such as primary and secondary colors including, but not limited to, white, are prohibited for light pole uses.
  3. Light poles shall not be placed in required parking lot landscape islands of less than 500 square feet or anywhere else on the site where they will conflict with existing or proposed

shade trees. Light pole locations shall be depicted on all sets of site plans to ensure no conflicts between utilities and landscaping.

4. Full lighting details shall be supplied for light fixtures (to include lumens and wattage), poles, and photometric plans.

9.08.06. Roadways. All new development abutting or containing public or private roadways shall provide street lighting within those roadways meeting the following requirements:

- A. Installation. All infrastructure associated with lighting shall be installed; including, but not limited to, pole boxes, conduits, etc.; concurrent with the development.
- B. Plan required. An illumination plan prepared by an expert in the field of illumination shall be submitted for each roadway segment that is adjacent to the proposed development and required by the Land Use Administrator to be illuminated. The illumination requirements for roadway facilities shall meet the more stringent standards set forth in American National Standards Institute, Illuminating Engineering Society of North America (ANSI/IESNA) RP-8-00 (R2005) and Florida Department of Transportation Standards (latest editions). Such plan shall comply with all requirements as outlined in this section.
- C. Full cutoff light fixtures. Luminaires shall be designed to ensure that no candela occurs at or above an angle of 90 degrees above the horizontal plane (nadir). This applies to all lateral angles around the luminaire. Such candela information shall be determined by a photometric test report (plan) from the lighting contractor. Any structural part of the luminary for all types of lighting providing cutoff angle shielding shall be permanently attached, except that accent uplighting for trees and building walls may be allowed to exceed the 90-degree angle plane, subject to review and approval by the Land Use Administrator if the lighting is determined to provide an equivalent public benefit. All light fixtures shall be standard fixture types as determined by the City.
- D. Shielding requirements. Lighting shall be designed to prevent direct glare, light spillage, and hazardous interference with automotive, aircraft, and pedestrian traffic on adjacent streets and on all adjacent properties.
- E. Design requirements.
  1. Light pole locations shall be depicted on all sets of the plans to ensure that no conflicts exist between proposed utilities and proposed landscaping.
  2. Full lighting details shall be supplied for light fixtures (to include lumens and wattage), poles, and photometric plans.

9.08.07. Prohibitions.

- A. Outdoor building, landscaping, and signs. The unshielded outdoor illumination of any building or landscaping is prohibited except for incandescent fixtures with lamps of 100 watts or less.
- B. Mercury vapor. The installation of mercury vapor fixtures is prohibited.

9.08.08. Exemptions.

- A. Nonconforming fixtures. Outdoor light fixtures installed prior to August 19, 2008 are exempt from the provisions of this section; provided, however, that no change in use, replacement, structural alteration, or restoration of outdoor light fixtures may be made unless it thereafter conforms to the provisions of this section.
- B. Ornamental lighting. Ornamental street lighting is exempt from the provisions of this section and is a permitted lighting installation.
- C. Construction and emergency lighting. Lighting necessary for construction or emergencies is exempt from the provisions of this section if temporary and discontinued immediately upon the completion of the construction work or abatement of the emergency necessitating said lighting.

- D. Searchlights. The use of searchlights is prohibited unless a permit specifying conditions is issued by the Land Use Administrator.
- E. Request for exemption. Any person may submit a written request for an exemption from the requirements of this section. The request for exemption shall be submitted in writing to the Land Use Administrator and shall contain the following information:
1. Specific exemption requested.
  2. Type and use of exterior light involved.
  3. Duration of time for requested exemption.
  4. Type of lamp and calculated lumens.
  5. Total wattage of lamp or lamps.
  6. Sketch to scale showing location of proposed exterior light.
  7. Previous exemptions granted, if any.
  8. Physical size of exterior light and type of shielding provided.
  9. Any additional information required to make a reasonable evaluation of the request for exemption.

## **Chapter 14 - GLOSSARY**

### **Sec. 14.02. Glossary.**

Best management practices (applies only to Chapter 9): Schedules of activities, prohibitions of practices, maintenance procedures, treatment methods and other management practices to prevent or reduce pollutants from entering or discharging from the City stormwater system.

Best management practice (or “BMP”)(does not apply to Chapter 9): A practice, activity, procedure, technique, program, methodology, or any combination thereof that, through experience and research, has proven to reliably lead to a desired result. A commitment to using the best management practices in any field is a commitment to using all the knowledge and technology at one's disposal to ensure success.

City Stormwater system (or “MS4”): A conveyance, storage area or system of conveyances and storage areas (including, but not limited to, roads with drainage systems, streets, catch basins, curbs, gutters, ditches, manmade channels, storm drains, treatment ponds and other structural BMPs) owned or operated by a city that discharges to waters of the United States or to other MS4s, that is designed solely for collecting, treating or conveying stormwater, and that is not part of a publicly owned treatment works (POTW), as defined by 40 Code of the Federal Register 403.3.

Construction (does not apply to Chapter 9): Any activity including erection, fabrication, installation, alteration, demolition, or removal of any structure, facility, or addition thereto, including all related activities, but not restricted to, clearing of land, earth moving, blasting, and landscaping.

Construction activities (applies only to Chapter 9): The creation, alteration or abandonment of any project, including placement of fill, land clearing, earthwork, or the placement or removal of structures. Cutting of trees or removal of vegetation is not considered land clearing, except where it involves stump removal, root raking, or grubbing.

Drainage Area: The watershed (acreage) contributing surface water runoff to the City's stormwater management facilities or systems.

*Pollutant:* Includes, but is not limited to, dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.), heat, wrecked or damaged equipment, rock, sand and industrial, (excepting the county's discharges), and agricultural waste discharged into the MS4, and not excluding other materials which the county manager or designee, or federal or state regulatory agencies may deem appropriate to be included.

*Reuse:* The deliberate application of reclaimed water, in compliance with the Florida Department of Environmental Protection and St. Johns River Water Management District rules, for a beneficial purpose.

*Right-of-way:* Land in which the City owns the fee or has received a dedication for or has an easement devoted to, or required for, the use of a public road, the use of stormwater management, or any other public use, including for medians, sidewalks, and driveways.

*Road:* Means and shall include streets, alleys, highways, sidewalks, bike paths, driveways, medians, and any other ways open or unopened to travel by the public, including the road bed, right-of-way and all culverts, drains, ditches, inlets, embankments, bridges, retaining walls, guardrails or other appurtenances necessary for the maintenance of travel.

*Runoff (applies only to Chapter 9):* The draining away of water (or substances carried in it) from the surface of an area of land, building, or structure.

*Runoff (does not apply to Chapter 9):* Relating to flood damage protection, that portion of precipitation that is not intercepted by vegetation, absorbed by the land surface, or evaporated, and thus flows overland into a depression, stream, lake, or ocean (runoff, called immediate subsurface runoff, also takes place in the upper layers of the soil).

*Stormwater:* Water collected or collecting as a result of natural precipitation.

*Surface water (applies only to Chapter 9):* Water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring on to the earth's surface [Section 373.019(21), F.S.]

*Surface water management system:* A dam, impoundment, reservoir, appurtenant work or works, or any combination thereof. The terms "surface water management system" or "system" include areas of dredging or filling as those terms are defined in F.S. §§ 373.403(13) and 373.403(14)..

*Water or Waters in the State:* Any and all water on or beneath the surface of the ground or in the atmosphere, including natural or artificial watercourses, lakes, ponds, or diffused surface water and water percolating, standing, or flowing beneath the surface of the ground, as well as all coastal waters within the jurisdiction of the state. [Section 373.019(22), F.S.]

## City of Palm Coast, Florida Agenda Item

Agenda Date: August 15, 2018

<b>Department</b>	PLANNING	<b>Amount</b>
<b>Item Key</b>	4112	<b>Account</b>
		<b>#</b>
<b>Subject</b>	ATTACHMENTS	
<b>Background :</b>		
<b>Recommended Action :</b>		

# **Proposed Ordinance for Updating Chapter 9 – Engineering Design & Utilities**

**PLDRB Workshop**

**August 15, 2018**

# MS4 Program Overview

- Phase II Municipal Separate Storm Sewer System (MS4) Operator.
- Regulated under the Federal clean Water Act's stormwater permitting requirements.
- Obtain coverage under a National Pollutant Discharge Elimination System (NPDES) permit and
- Develop a Stormwater Management Program (SWMP).
- The City was issued its first NPDES MS4 permit in 2014
- 5<sup>th</sup> year of a 5-yr. permitting program
- The MS4 Stormwater Management Program must include, among other things:

# MS4 Program Key Elements

- Public Education and Outreach
- Public Participation/Involvement
- Municipal Operation Pollution Prevention and Good House Keeping Measures

# MS4 Program Key Elements

- *Illicit Discharge Detection and Elimination Minimum Control Measures*
  - Storm system mapping
  - Develop ordinance to regulate non-stormwater discharges
  - Develop and implement a plan to detect and eliminate non-stormwater discharges
- *Construction Site Stormwater Runoff Control Measures*
  - Develop regulatory mechanism to require erosion control measures & BMPs
  - Implement requirements to control construction waste
  - Implement procedures for site plan review that consider potential water quality impacts
  - Implement site inspection and enforcement of control measures

# Chapter 9 Ordinance Processing

Date	Activity
3/2017 – 3/2018	Review existing ordinance. Review/research permitting requirements, model ordinances, & similar programs in other Florida communities. Develop ordinance revisions and address staff review comments.
03-14-2018	Teleconference with St. Johns River Water Management District
04-05-2018	Teleconference with Florida Department of Environmental Protection
5/2018 – 7/2018	City staff technical review
07-19-2018	Meeting with FCARD
07-26-2018	Meeting with FCARD

# Summary of Revisions

- Stormwater management plan requirements
- Erosion control and Stormwater Pollution Prevention Plans
- Illicit discharges to the stormwater system
- Access and maintenance easements
- NPDES permitting requirements
- Plan submittal requirements – to help reduce number resubmittals typically required
- Construction waste management and disposal
- Added language to help clarify construction site inspection requirements

# Next Steps

- September 18, 2018 - PLDRB Public Hearing
- October 2018 - City Council Workshop
- October/November 2018 – City Council Public Hearings

# Staff Response to Allowing Flag Lots



# Discussion and Questions