

ORDINANCE 979

AN ORDINANCE AMENDING THE CODE OF ORDINANCES OF THE CITY OF PINEY POINT VILLAGE, TEXAS, BY PROVIDING STORM WATER DETENTION REQUIREMENTS OF ANY NON-RESIDENTIAL FACILITIES, BASED ON THE INCREASED IMPERVIOUS COVER FOR PROPOSED DEVELOPMENT; PROVIDING FOR APPLICATION PROCEDURES; PROVIDING FOR CALCULATION OF DETENTION VOLUME; PROVIDING FOR TYPES OF DETENTION FACILITIES; AND PROVIDING A PENALTY OF AN AMOUNT NOT TO EXCEED \$2,000.00 FOR EACH DAY OF VIOLATION OF ANY PROVISION HEREOF; AND PROVIDING FOR SEVERABILITY.

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BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF PINEY POINT VILLAGE, TEXAS:

Section 1. The Code of Ordinances of the City of Piney Point Village, Texas, is hereby amended by adding Division 4 to Chapter 34 of the Code of Ordinances, to provide stormwater detention requirements of any non-residential facilities, i.e. churches, private and public schools, based on the increased impervious cover for proposed development as follows:

DIVISION 4. STORMWATER DETENTION

Sec. 34-97. Stormwater Detention

The intention of stormwater detention is to mitigate the effect of the New Development, Redevelopment, or In-fill Development (as defined below) on an existing drainage system. Stormwater detention volume is based on increased impervious cover and is calculated at the minimum rates set forth in Sec. 34-100. The City of Piney Point Village will not assume any maintenance responsibility on or within private detention facilities.

Sec. 34-98. Definitions

Design Storm — Rainfall intensity upon which the drainage facility will be sized
Development — The term includes New Development, Redevelopment and In-fill Development.
In-fill Development — Development of open tracts of land in areas where the storm drainage infrastructure is already in place and takes advantage of the existing infrastructure as a drainage outlet.
New Development — Development of open tracts of land in areas where the storm drainage infrastructure has not been constructed and a drainage outlet must be extended to a channel under the jurisdiction of the Harris County Flood Control

District (HCFCD)

Redevelopment — A change in land use that alters the impervious cover from one type of Development to either the same type or another type and takes advantage of the existing infrastructure in place as a drainage outlet.

Sec. 34-99. Application of Detention Requirements

- (1) The use of on-site detention is required for all Developments within the City and for utility districts within the City. If the criteria conflicts with Harris County, HCFCD or other jurisdictions the most restrictive criteria shall govern.
- (2) If New Development, Redevelopment, or In-fill Development drains directly into a channel maintained by HCFCD, then HCFCD criteria prevails. If New Development, Redevelopment or In-fill Development drains directly to a roadside ditch, drainage ditch or storm sewer maintained by Harris County then the criteria in Regulations of Harris County, Texas for the Approval and Acceptance of Infrastructure governs; however, for all cases of multiple regulatory jurisdiction, Paragraph 9.02,G takes precedence.
- (3) If the drainage system outfalls directly into a channel maintained by HCFCD, and the requirements of HCFCD include payment of an impact fee, then no further impact fee will be required by the City.
- (4) If Redevelopment occurs without increasing the overall impervious character of the site, then no detention will be required by the City.
- (5) The detention basin must be a have a minimum setback of thirty (30) feet.
- (6) A waiver of detention requirements may be requested if the following conditions are satisfied:
 - a. Development is located in an area determined by the City to not need detention due to the geographical location in the watershed, the Development's proximity to regional facilities, or the capacity of the receiving outfall facilities. Such conclusion by the City shall be supported by submittal of a Hydraulic Report as described in Sec. 34-98 (6) b below.
 - b. Hydraulic Report: Submit a hydraulic analysis prepared, signed, and sealed by a professional engineer, registered in the state of Texas, to demonstrate compliance with the conditions stated in this Chapter. The hydraulic analysis shall consider (1) the current developed condition of the watershed of the stormwater conveyance system, and (2) the fully developed condition of the watershed. The probable land use for the fully developed condition will be determined by the design engineer for review

and approval by the City. The hydraulic analysis shall demonstrate no negative impact to upstream or downstream conditions and shall demonstrate that a positive impact will be achieved (reduced flood crest) due to the exemption.

Sec. 34-100. Calculation of Detention Volume

- (1) Detention volume for Development areas is calculated on the basis of the amount of area of increased impervious cover.
- (2) Areas less than 50 acres: Detention will be required at a rate of 050 acre-feet per acre of increased impervious cover.
- (3) Areas greater than 50 acres: Reference HCFCD Criteria Manual.
- (4) Private parking areas, private streets, and private storm sewers may be used for detention provided the maximum depth of ponding does not exceed nine (9) inches directly over the inlet, and paved parking areas are provided with signage stating that the area is subject to flooding during rainfall events.

Sec. 34-101. Types of detention facilities

- (1) The type of detention basin facility acceptable in the City of Piney Point Village is a naturalized basin in which standing shallow pools of water is allowed to exist along the bottom of the basin and support natural or wetlands vegetation. This type of basin is only maintained around the sides and perimeter and involves special design considerations at the outfall structure. Designing this type of facility must be approved by the City and must consider the aesthetics of the surrounding area. The perimeter of the basin which can be seen from any roadway shall be screened with approved landscaping.
- (2) Calculation of Outlet Size
 - a. Detention pond discharge pipe into an existing City of Piney Point Village storm sewer facility (ditch or storm sewer):
 1. Maximum pool elevation at or below the design hydraulic grade at the drainage system outfall — The discharge line shall be sized for the Design Storm with the discharge pipe flowing full. The pond will float on the drainage system to provide maximum benefit.
 2. Maximum pool elevation at or above the hydraulic grade at the drainage system outfall — Provide a reducer or restrictor pipe to be constructed inside the discharge line. The discharge line shall be sized for the Design Storm with the discharge pipe flowing full.

b. Reducer or Restrictor Pipes shall be sized as follows:

1. Allowable Discharge Rate — Use the lowest of the discharge rates described below:

(a) Restrictor pipes will provide a combination of low level and high level controlled release from the detention basin. The low level restrictor pipe (primary orifice) shall be sized to provide a release rate of 0.5 CFS/acre when the detention basin water depth reaches 25% of full basin depth. The low level restrictor pipe (primary orifice) shall be located at the bottom of the basin to provide complete drainage of the pond. The high level restrictor pipe (secondary orifice) shall be sized to provide a combined release rate (from the primary orifice and secondary orifice) of 2.0 CFS/acre at full basin depth. The high level restrictor (secondary orifice) shall begin releasing flow when detention basin water depth reaches 75% of full basin depth. The combined rate of 2.0 CFS/acre is the approximate discharge from an undeveloped tract for the 100-year storm.

(b) Flow discharged to the storm drain shall not exceed the proportional amount of pipe capacity allocated to the Development. The proportional amount of pipe capacity allocated to the Development shall be determined by the ratio of the area (acres) of the Development (in storm drain watershed) divided by the total drainage area acres) of the storm drain multiplied by the capacity of the storm drain.

2. Use the following equations to calculate the required outflow orifice:

$$Q = CA^{1/2}g Vh$$
$$D = Q^{1/2}/(2.25h^{1/4})$$

Where

Q = outflow discharge (cfs)
C = coefficient of discharge
= 0.8 for short segment of pipe
= 0.6 for opening in plates, standpipes, or concrete walls
A = orifice area (square feet)
g = gravitational factor (32.2)
h = head, water surface differential (feet)
D = orifice diameter (feet)

3. Restrictor shall be either of the required diameter or of the equivalent cross-sectional area. The orifice diameter D shall be a minimum of 0.5 feet.
- c. In addition to a pipe outlet, the detention basin shall be provided with a gravity spillway that will protect structures from flooding should the detention basin be overtopped.

(3) Ownership and Easements

a. Private Facilities

1. Pump discharges into a roadside ditch requires the submittal of pump specifications on the design drawings.
2. The City reserves the right to prohibit the use of pump discharges where their use may aggravate flooding in the public right-of-way.
3. Responsibility for maintenance of the detention facility must be indicated by letter submitted to the City as part of the design review.
4. All private properties being served have drainage access to the pond. Dedicated easements may be required.
5. No public properties drain into the detention area.
6. A private maintenance agreement is provided when multiple tracts are being served.

b. Public Facilities


1. Facilities will only be accepted for maintenance by the City within the City limits in cases where public drainage is being provided.
2. The City requires a maintenance work area of 30-foot width surrounding the extent of the detention area. Public rights-of-way or permanent access easements may be included as a portion of this 30-foot width.
3. A dedication of easement shall be provided by plat or by separate instrument.

4. Proper dedication of public access to the detention pond must be shown on the plat or by separate instrument. This includes permanent access easements with overlapping public utility easements.
5. Backslope drainage systems are required where the natural ground slopes towards the drainage basin and should comply with criteria provided in HCFCD Criteria Manual. A basin that is within 30 feet of a parking lot or roadway with berms that drain away from the basin does not require a backslope swale.

Section 2. Any person who shall violate any provision of this Ordinance shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined in an amount not to exceed \$2,000.00. Each day of violation shall constitute a separate offense.

Section 3. In the event any clause phrase, provision, sentence, or part of this Ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair, or invalidate this Ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City council of the City of Piney Point Village, Texas, declares that it would have passed each and every part of the same notwithstanding the omission of any such part thus declared to be invalid or unconstitutional, whether there be one or more parts.

PASSED, APPROVED, AND ADOPTED this 22nd day of October 2007.



Carol Fox, Mayor

ATTEST:



Lorena Briel, City Administrator