

Harrison County Unified Development Code

Section 10xx. Harrison County Drainage Management Site Plan Ordinance

10xx.01.01 : Purpose

The purpose of this ordinance is to reduce or eliminate the hazards to the public health and safety caused by excessive stormwater runoff, reduce economic losses to individuals and the community at large, and protect, conserve and promote the orderly development of land and water resources. The provisions of this ordinance further supplement ordinances and regulations as follows:

- a. Subdivision Regulations: For the unincorporated area of Harrison County
- b. Zoning Regulations: For the unincorporated area of Harrison County

10xx.01.02 : Conflicting

The provisions of the ordinance shall be deemed as additional requirement to standards required by other Ordinances of the County. In case of conflicting requirements, the most restrictive shall apply.

10xx.01.03 : Other Permits

Before starting any activities regulated by this ordinance, an applicant shall comply with the requirements set forth in other applicable ordinances with respect to the submission and approval of preliminary and final subdivision plats, construction plans, improvement plans, building and zoning permits, inspections, appeals and similar matters, along with those set forth in this ordinance and as may be required by State statutes and the regulations of any agency of the State of Mississippi.

10xx.01.04 : Definitions

For the purpose of this ordinance, the following definitions are adopted:

County Engineer: The professional engineer employed by the Harrison County Board of Supervisors who is responsible for the review and approval/disapproval of the drainage plans required by this ordinance

Detention Facility: Any structure which is designed to collect and store surface water for subsequent gradual discharge.

Drainage Facility/ Drainage Way: Any component of the drainage system.

Drainage Management Site Plan: A drainage management plan which provides all necessary plan sheets, profiles, hydraulic calculations, culvert pipe size and locations, detention basin, and all other necessary information which has been prepared, sealed and signed by a registered Engineer for a particular residential, commercial, or industrial development within Harrison County.

Encroachment Permit: A permit issued by the County to persons requesting to perform work, construct a private entrance, install utilities, or similar type work in the County roadway right of way.

Excess Stormwater Runoff: That portion of stormwater which exceeds the safe storm drainage capacity of the storm sewers or natural drainage channels serving a specific watershed.

HCRD: The Harrison County Road Department supervisor or authorized representative responsible for inspecting drainage structures.

Lesser Plan: A drainage management site plan scaled to the complexity of the conditions found on a qualifying individual single family residential property.

Ordinance: Refers to the Harrison County Drainage Management Site Plan Ordinance unless specific reference is made to another ordinance not part of this Section.

Protected Channel: A channel that receives stormwater discharge and which is paved, rip-rapped or otherwise improved by the addition of manmade materials so as to reduce the potential for erosion.

Safe Storm Drainage Capacity: The quantity of stormwater runoff that can be transported by a channel or conduit without having the water surface rise above the top of the channel or conduit.

Stormwater Channel: A natural or manmade open watercourse with definite bed and banks which periodically or continuously contains moving water, or which forms a connecting link between two bodies of water.

Stormwater Runoff: Water that results from precipitation which is not absorbed by soil or vegetation or evaporated and which flows over the ground surface or is collected in channels or conduits.

Stormwater Runoff Release Rate: The rate at which stormwater runoff is released from dominant to servient land.

25 Year, 24 Hour Frequency Rainfall: A precipitation event of 24 hours duration, having a 4 percent chance of occurring in any one year.

100 Year, 24 Hour Frequency Rainfall: A precipitation event of 24 hours duration, having a 1 percent chance of occurring in any one year.

10xx.02 : Design Criteria, Performance Standards, and Permits

10xx.02.01: Applicability

A Drainage Management Site Plan (DMSP) shall be required for any new single family residential developments and for any new commercial, multi-family residential, institutional, industrial, or utility developments, and shall be required for land disturbing activities greater than one acre. A complete DMSP as required for the projects listed in the previous sentence shall not be required for single family non-platted home sites or older platted subdivision lots where an analysis was not performed unless requested by the County Engineer. The thoroughness of this less complete plan for certain individual residential properties shall be known as a lesser plan, and the complexity of each individual plan shall be as determined by the County Engineer.

A DMSP shall also be required for any new development or re-development of previously developed areas similar to those above, not exempted from full compliance.

Owners of residential property within subdivisions for which final subdivision plats have been approved prior to the date of the approval of this Ordinance and where a comprehensive drainage analysis has been performed during the platting process shall not be required to comply with this ordinance unless required by the County Engineer.

The County Engineer may require a DMSP for any drainage area if adverse impacts are anticipated. A DMSP may also be required prior to any grading or excavation which would fill, obstruct, or otherwise alter or affect any creek, stormwater channel, or drainage facility.

No final subdivision plat shall be approved and no building permits shall be issued until and unless a DMSP or lesser plan as required by the County Engineer has been reviewed and approved by the County Engineer.

10xx.02.02 : Drainage Management Site Plan

The required Drainage Management Site Plan (DMSP) shall identify means for controlling the stormwater runoff release rate from the development and providing storage potential for the excess stormwater runoff where required. All computations, plans and specifications related to the implementation of this ordinance must be prepared and sealed by a professional engineer registered in Mississippi.

For all stormwater management structures (culverts, detention basins, etc.) design hydro graphs of inflow and outflow for the 25 year, 24 hour storm event for the site under existing and developed conditions shall be used.

The DMSP shall contain, but not be limited to, the following information unless specifically excluded by the County Engineer:

- a. A topographic map of the project site and adjacent areas, of suitable scale and contour interval (five foot minimum), which shall define the location of streams, the extent of the flood plain, and calculated high water elevations, the shoreline of lakes, ponds, swamps, and detention basins including their inflow and outflow structures.
- b. The location and flowline elevation of all existing sanitary, storm, and combined sewers.
- c. Detailed determination of runoff anticipated for the entire project site following development indicating design volumes and rates of proposed runoff for each portion of the watershed tributaries to the storm drain system, the calculations used to determine said runoff volumes, and rates and restatement of the criteria which have been used by the project engineer throughout his or her calculations.
- d. A layout of the proposed drainage management system including the location and size of all drainage structures, storm sewers, channels, channel sections, detention basins, and analysis regarding the effective said improvements will have upon the receiving channel and its high water elevation.
- e. The slope, type, and size of all existing and proposed storm sewers and other waterways impacting or impacted by the proposed development on the site.
- f. For all detention basins, a plot or tabulation of storage volumes with corresponding water surface elevations and of the basin outflow rates for those water surface elevations.
- g. Depending on the complexity of the size and site, a profile and one or more cross sections of all existing and proposed channels or other open drainage facilities, showing existing conditions and the proposed changes thereto, together with the high water elevations expected from stormwater runoff under the controlled conditions called for by these regulations and the relationship of structures, streets, and other utilities to such channels may be required by the flood safety officer.

10xx.02.03 : Design Criteria

The following rules shall govern the design of improvements with respect to managing stormwater runoff:

a. Method of Determining Stormwater Runoff Rates and Volumes

The volume of required stormwater storage and runoff shall be calculated on the basis of the runoff from the 25 Year frequency storm. The calculations can be made in accordance with the instantaneous runoff factor method, the rational method, or other methods that may be deemed appropriate by the County Engineer.

b. Release Rate

All development undertaken as outlined in this ordinance shall be designed in such a way as to insure that stormwater falling on a given site shall be absorbed or

detained on the site to the extent that the controlled release rate of stormwater runoff from all developments described in Section 2.1 shall not exceed the pre-development stormwater runoff rate, unless it can be shown that no significant adverse downstream impacts will result from higher rates. The rate at which stormwater runoff is delivered to a designated stormwater storage area shall be unrestricted.

In the event that the County Engineer determines that the existing downstream channel or storm sewer system is inadequate to accommodate the release rate provided above, then the allowable release rate shall be reduced to that rate permitted by the capacity of the downstream channel or storm sewer system.

c. Development Design

Where it can be demonstrated by the developer that a higher stormwater release rate will not be contrary to the purpose and intent of this ordinance and where such proposed release rate will not adversely affect properties in the downstream portion of the watershed, the County Engineer may permit such release to be used as deemed appropriate.

Streets, blocks, lots, parks and other public grounds shall be located and laid out in such a manner as to minimize the velocity of overland flow and allow maximum opportunity for infiltration of stormwater into the ground, and to preserve and utilize existing and planned streams, channels, and detention basins, and include whenever possible, streams and floodplain within parks and other public grounds.

d. Excess Stormwater Passage

(1) An excess stormwater passage shall be provided for all stormwater areas. Such passage shall have the capacity to convey through the proposed development the excess stormwater. The capacity for a passage shall be such that it will be able to transport the peak rate of run-off from a 100 Year, 24 Hour return frequency storm.

(2) There shall be no building or structures constructed within excess stormwater passage, however, parking lots, playgrounds and park areas which shall not impair or endanger the water holding capacity of the development shall be considered compatible uses.

(3) Appropriate land planning shall be undertaken to preserve the existing natural drainage of a proposed development as part of the excess stormwater passage.

(4) Open channels shall be protected from erosion by appropriate vegetative cover, lining or other treatment and earthen channel side slopes shall be no steeper than 3:1. Open channels with lining shall have a maximum gradient on side slopes of 2:1. Channel side slopes steeper than 1.5:1 shall be designed as structural retaining walls.

e. Stormwater Storage/Detention Areas

The increased stormwater runoff resulting from the proposed development may be accommodated by the provision of appropriate detention facilities including wet or dry bottom reservoirs, flat roofs, parking lots, or streets. Storage areas shall be designed to the satisfaction of the County Engineer and if possible to provide secondary purposes for recreation, open spaces, parking lot or other types of use that will not be adversely affected by the intermittent flooding. The following shall govern the design of detention facilities:

(1) Storage Volume

All stormwater storage areas must be designed to contain and safely pass stormwater runoff. The combined capacity of these storage areas shall be sufficient to contain the storm runoff from the development. The detention facility must be designed for periodic maintenance and energy dissipaters shall be provided at points necessary.

The ponding of stormwater runoff shall not exceed the depth of six (6) inches on a pedestrian mall area and six (6) inches in parking lots. Where these areas are used for ponding, the maximum depth should occur in the most remote and least used areas.

The drainage and grading design shall be prepared to insure that in a 100 Year storm the depth of water runoff in any street, alley or pedestrian mall will not exceed the level of the first floor of any building.

For wet pond storage areas when calculating the storage capacity, only the volume available to store excess stormwater shall be considered. Permanent water storage does not constitute control of the excess storm runoff.

(2) Release Rate

At no time during the design storm shall the stormwater runoff release rate exceed the allowable release rate as set forth in Section 2.3 b.

(3) Release Velocity

Detention facilities shall release stormwater at a non-erosive velocity. The protected channel receiving the detention discharge shall incorporate features to reduce velocity to non-erosive levels at the point where such discharge enters the unprotected channel. If release is into a subsurface conduit, the energy gradient in the receiving facility shall not be increased beyond the slope of the conduit.

(4) Spillway

Overflow for each stormwater storage area shall be provided in the event a storm in excess of the design capacity occurs. Such overflow shall be constructed to function without specific attention and shall become part of the excess stormwater passage.

Emergency spillways shall be provided to permit the safe passage of runoff generated from a 100 Year, 24 Hour storm, or greater if required by State law.

Where rooftop storage for excess stormwater is provided, the building shall be provided with adequate structural design to insure that roof failure does

not occur. Overflow areas shall be provided so that the weight of stored stormwater will not exceed the structural capacity of the roof.

(5) Freeboard

Detention facilities shall have adequate capacity to contain the storage volume of tributary stormwater runoff with at least one (1) foot of freeboard above the water surface of flow in the emergency 100 Year, 24 Hour storm or as required by State law.

10xx.02.04: Performance Standards

a. Stormwater Channel Locations

Generally acceptable locations of stormwater channels in the design of a subdivision may include but are not limited to the following:

(1) Adjacent to roadways as ditches with culvert entrance pipes (reference Section 2.5 below for utility permit requirements).

(2) In a depressed median of a divided roadway, provided the median is wide enough to permit slopes of one foot (1) drop in six (6) feet horizontal run or flatter.

(3) Centered on lot lines or entirely within the rear yards of single row of lots or parcels.

(4) In each of the forgoing cases, a drainage easement with sufficient width to facilitate maintenance and design flow shall be provided and shown on the plat.

b. Storm Sewer Outfall

The storm sewer outfall shall be designed to provide adequate protection against downstream erosion and scouring.

c. Lot Lines

Whenever the plans call for the passage and/or storage of stormwater runoff along lot lines, the grading of all such lots shall be prescribed and established for the passage and/or storage of waters, and no structure or vegetation which would obstruct the flow of stormwater shall be allowed, nor shall any change be made to the prescribed grades and contours of the specified stormwater channels.

d. Manholes

All Utility manholes constructed in an area designed for storage or passage of stormwater, shall be provided with either watertight manhole cover or be constructed with a rim elevation a minimum of one (1) foot above the high water elevation of design storms.

e. Easements

Permanent easements for the detention and conveyance of stormwater, including easement of access to structures and facilities, shall be dedicated to the County.

f. Obstruction of Drainage

The disposal or placement of grass clippings, trash, debris, and materials that are able to provide an obstruction to the flow of stormwater into the storm sewers or stormwater channels is prohibited. Likewise the storage of such materials along stormwater channels, or in adjacent flood plain areas which they may wash into sewers and channels is prohibited.

g. Maintenance

Required maintenance for detention basins and associated structures shall be permanently provided by the developer with responsibility becoming that of the succeeding private landowner or appropriately configured neighborhood association, if applicable. Every detention basin or structure shall be legally defined on both deed and plat and the maintenance entity shall be specified. Agreements shall be implemented as specified in Section 3.2. The County Engineer or his assign shall have the right to perform inspections as needed.

10xx.02.05 Utility Permit (County Right of Way)

All new construction projects (multi-family residential, commercial or industrial) which require a permanent or temporary entrance onto an existing County maintained right of way, or a newly developed roadway which is to dedicated to the County at a later time, or which require work within the County right of way, or which can impact proper roadway drainage shall apply for a Utility Permit at the office of the County Engineer.

The Utility Permit application form shall be supplied by the County. See Appendix "A" of this ordinance for the current application form and requirements. The requirements in this appendix shall be considered obligatory. The permit shall be completed in sufficient detail to show the location of said work with respect to property lines. The encroachment permit shall detail the culvert pipe size, material, and slope/grade, the driveway entrance material, assure compliance with the approved DMSP if appropriate, and provide details and other information appropriate to the site.

The Utility Permit shall be obtained prior to issuance of a building permit or Planning Commission approval being offered.

The fee required for the Utility Permit shall be as listed in Section 3.3 below. The fee is fully refundable provided the entrance is constructed as detailed and approved on said Utility Permit.

A Utility Permit shall not be required for single family residential properties connecting driveways to the County maintained right of way unless requested by the County Engineer.

10xx.03 Maintenance, Assurances, and Fees

10xx.03.01: Assurances for Maintaining, Completion, and/or Operations of Drainage Ways

No person shall restrict or cause to restrict existing drainage ways within the County. County road right of way ditches, curbs and gutter storm drains, cross drain culverts, roadway drainage easements, creeks, streams, etc. shall be maintained free of silt, soil, and other debris which restricts drainage flow which has resulted from residential, commercial or similar construction activities

Any persons requesting to change an existing County ditch line or other drainage way or work within the County right of way (ie. utility installation) shall request approval prior to beginning work. If proposed change is acceptable, then the County shall issue an Encroachment Permit in accordance with paragraph 2.5 above.

The Utility Permit holder shall make changes to the drainage way or County right of way in accordance with written County standards or other approved standards as deemed appropriate. The County Engineer or the HCRD shall review all work associated with the Encroachment Permit.

The DMSP applicant shall construct all drainage features and/or structures required of the DMSP. The County Engineer or the HCRD shall review and inspect all work associated with the DMSP.

10xx.03.02: Maintenance Agreement

A maintenance agreement, approved by the County Engineer, assuring perpetual maintenance of stormwater management improvement shall be executed by the applicant.

All roadway ditches and drainage easements for dedicated County roads shall be the responsibility of the County government for maintenance.

Ownership and maintenance of stormwater retention structures within residential developments shall be the responsibility of the developer during residential development and the appropriate neighborhood association once the development is complete or substantially complete.

Ownership and maintenance of stormwater retention structures within multi-family, industrial, commercial and/or institutional type developments shall be the responsibility of the owner of the respective property.

A maintenance agreement through recorded neighborhood protective covenants, or other approved recorded maintenance agreements assuring perpetual maintenance of the stormwater management improvements shall be executed by the applicant of the DMSP.

10xx.03.03: Fees

A fee, as may be determined by the Board of Supervisors, shall accompany the submittal of each Utility Permit. This fee is fully refundable provided the entrance or other work requested in the right of way is constructed as specified on the permit.

The encroachment permit holder requesting a new roadway entrance shall have twelve months (1 year) from the date of the permit being issued to construct the entrance in accordance with the permit. Failure to complete the work property within this one year time frame shall be reason for forfeiture of the above fee.

There is no fee required with the submittal of the DMSP (Drainage Management Site Plan).

10xx.04 Administration

10xx.04.01: Responsibility

The administration of this ordinance shall be the responsibility of the office designated by the County Engineer.

10xx.04.02: Variances

a. Standards

Variations from these standards, provisions and specifications may be granted when it is demonstrated to the satisfaction of the Board of Supervisors that, owing to special conditions, a strict adherence to the provisions of this ordinance will result in unnecessary hardship and that the spirit and intent of the ordinance will be observed.

b. Procedure

A written request for variation shall be filed with the County Engineer by the owner or his designated agent. The request shall state specifically what variation is sought and the public's interest served in granting the variation. The applicant must specify hardships to result in following the prescribed regulations. The County Engineer must examine and decide the validity of the proposed hardship. The request and recommendations of the County Engineer are forwarded to the Harrison County Board of Supervisors to be placed on the agenda to be heard at the first available meeting dedicated to hearing appeals.

The variance will be granted only upon showing that there is good and sufficient cause and that the failure to grant a variance would result in exceptional hardship to the applicant. Financial hardship to the property owners shall not constitute proper or appropriate grounds for a variance under this chapter.

A record of all variance actions shall be maintained by the County Engineer, including the justification for issuance.

Appeals of the decision of the Board of Supervisors shall be to a court of competent jurisdiction.

10xx.04.03 Interpretation

In the interpretation and application of this ordinance, the provisions expressed herein shall be held to be the minimum requirements and shall be liberally construed in favor of the Harrison County Board of Supervisors and their representative, the County Engineer.

10xx.05 Enforcement

10xx.05.01 General

The County Engineer or the HCRD shall be responsible for determining whether the DMSP and the Utility Permit requirements are in conformance with requirements specified in Article II, and whether development is proceeding in accordance with the approved DMSP and/or Encroachment Permit requirements. Periodic inspection of the development site shall be made by the County Engineer or the HCRD to insure that the DMSP and/or Utility Permit requirements are properly implemented.

The County Engineer, HCRD, Zoning Officer and other duly authorized employees bearing property credentials and identification shall be permitted to enter upon all properties for the purpose of inspection, observation, and measurement, in accordance with the provisions of this ordinance.

10xx.05.02: Enforcement

Failure to comply with the requirements of the Utility Permit or failure to complete all required improvements required by the approved DMSP, or failure to comply with any other provision of this Drainage Management Site Plan Ordinance shall be justification for the issuance of Notice of Violation (NOV). The NOV shall list all deficiencies noted. The Violator to this ordinance shall have ten (10) days to correct all deficiencies listed on the Notice of Violation. A Notice of Violation shall be hand delivered where possible and sent by certified mail where an attempt at hand delivery has not been successful. The penalty period shall begin at the time of hand delivery or posting of the certified mailing of the NOV.

a. Failure to Comply

Failure to comply with the Notice of Violation shall be reasons for one or more of the following Actions:

(1) Issuance of a citation: This citation shall be subject to the monetary and perhaps punitive penalties established in Section 5.4 below. This Citation shall be issued by the County Engineer or agency designated by the Board of Supervisors. The citation may be in letter format using letterhead stationary.

(2) Revocation of the Utility Permit and forfeiture of the permit fee bond: The Ordinance violator shall have their Utility Permit revoked and permit bond fee forfeited. Prior to beginning any additional work at the site, the Violator shall correct all deficiencies and apply for a new Utility Permit and pay a new permit fee bond.

(3) Stop Work Order: A failure to comply with such notice of violation shall result in the issuance of a Stop Work Order applicable to all construction activities except that necessary for correction of the violation. Upon correction of the violation, the Stop Work Order shall be voided and the construction may resume.

b. Appeals

A person issued a NOV may appeal any decision made by the County Engineer to the Harrison County Board of Supervisors within 30 days of the date of notification.

The act of filing an appeal shall not stay the accrual of penalty days under Section 5.5 for violations that are deemed by the County Engineer as an immediate or serious threat to the health and safety of the residents of Harrison County. Further, an appeal of the actions of the County Engineer concerning administratively determined violations of the DMSP ordinance will not stay enforcement action resulting from a violation of other ordinances.

10xx.05.04: Penalties

Any person, firm or corporation who violates or fails to comply with any of the provisions of this ordinance shall be guilty of a misdemeanor, and upon conviction, shall be subject to a fine of not less than twenty-five (25) dollars and not more than two hundred fifty (250) dollars, and/or may be subject one day of imprisonment. A separate offense shall be deemed committed upon each day during or on which a violation occurs or continues.

A person or corporation who refuses to complete all work associated with the approved DMSP or work associated to comply with the Utility Permit shall be responsible to reimburse Harrison County all costs associated with proper completion of the work required by the approved DMSP or Utility Permit. Reimbursement may be in the form of a certified check, property mortgage, tax lien or other monetary assurance.