

Abbreviated Drainage Plan

A brief written plan stating and schematically showing how a small proposed **land development project** will satisfy stormwater management requirements of these **Guidelines**. Generally this is applicable only to projects that will be devoid of detention facilities and public stormwater infrastructure of any kind. This may be accomplished with a site plan showing vertical dimensional controls or a site grading plan.

Above-Project Area

Land area(s) adjoining or near a proposed **land development project** that contributes stormwater runoff to, or through, the project at the time of hydrologic analysis or in the future. Above-project areas are included in the **drainage study area**.

Anticipated Development

Full potential urbanization of a **basin** or **watershed** area in compliance with the Comprehensive Plan. Such an area may include one or more subdivisions, one or multiple property holdings, wholly undeveloped land or both developed and undeveloped land areas.

Area Engineer

The Bryan District Office of the Texas Department of Transportation (TxDOT) operates several Area Offices, each of which has responsibility for several counties. The engineer in charge of each Area Office has the title of **Area Engineer**.

Areas (Hydrologic)

For uniformity of meaning within these **Guidelines** land areas are defined according to the general hierarchy listed below. Specific definitions of each are included in the Glossary.

Watershed (area)

Basin (area)

Drainage Study Area

Project Area

Above-Project Area

Pathway Area

Design Drainage Area

Base Flood

The flood having a one percent chance of being equaled or exceeded in any given year, also known as “100 year” flood.

Basin

A land area making up a portion of a **watershed**. A basin can be thought of as the entire area contributing storm flow to a **watercourse** serving as a tributary to a **principal named stream**. Several basins usually comprise a **watershed**.

B-CS Technical Specifications

All items pertinent to design or construction of stormwater facilities of any kind included in the latest adopted version of the Bryan-College Station Unified Technical Specifications and Standard Details. See “**Technical Specifications**”

Buildout Condition

Full completion of any land development project in all of its phases, if any, representing the entire contiguously owned tract(s), whether proposed for near-term or possible future development. This refers to: completion of any single-lot site project; the final completion of any multi-stage project entailing a site project staged over time; or final completion of multiple subdivision projects collectively making up a parent tract (or preliminary plat submittal) representing ownership of an un-platted parcel of land regardless of size.

BFE – Base Flood Elevation

The high water surface elevation(s) along a **watercourse** resulting from the **base flood** passing down that **watercourse**.

CFS A measure of water flow in cubic feet per second

City Either the City of Bryan or the City of College Station as applicable

City Engineer

The official city engineer of Bryan or College Station as applicable

Cities

The cities of Bryan and College Station collectively, or each individually.

CLOMR

Conditional Letter of Map Revision as related to **FEMA** requirements for managing **FEMA**-designated flood prone areas

Comprehensive Plan

The urban general plan officially adopted by the **City**

Conveyance Pathway

An identifiable route by which concentrated (non-sheet flow) stormwater will travel within and from a **project area** to a discharge point at a main channel of the Primary Drainage System

County Engineer

The principal person in Brazos County government who has responsibility for engineering decisions.

Conveyance Pathway Area

See “**Pathway Area**”

Datum Any level surface to which elevations are referred (for example, mean sea level); is also referred to as datum plane, although it is not actually a plane

Design Drainage Area

The surface area contributing stormwater runoff to any particular point of design in a stormwater management system of any kind. Examples can range in size from the area contributing to a single curb inlet, to that contributing to a flood control facility astride a major stream. Depending on the point of design, the design drainage area can equal an entire **watershed**, an entire **basin**, a **drainage study area**, an **off-project area**, a **project area** or portion(s) of any of these areas.

Detention

Temporary storage and metered release of stormwater

Detention Facility

A permanent facility designed for the temporary storage and metered release of stormwater without creating a permanent pool of water.

Discharge

Stormwater out flow from an area of any kind, or from a storm water feature such as a conduit or a detention facility.

Drainage Development Permit

A permit issued by the **City** that allows the start of clearing, grubbing, or earthwork as the early stage(s) of a land development project, based on an approved **drainage plan** or an approved **abbreviated drainage plan**.

Drainage Easement

An interest in land granted to the **City** for the maintenance of a **drainage facility**, on which certain uses are prohibited; and providing for the entry and operation of machinery and vehicles for maintenance purposes.

Drainage Facilities

All elements (public and private) necessary to manage and convey stormwater runoff from its initial contact with earth to its disposition in a **watercourse** making up the primary drainage system of the Bryan-College Station area. These may include but are not limited to storm sewers, improved channels, unimproved drainage ways, areas within **drainage easements** or **drainage right of way** providing concentrated or overland sheet flow, and all appurtenances to the foregoing, such as inlets, manholes, junction boxes, headwalls, culverts, etc.

Drainage Plan

A detailed representation of how stormwater will be managed as part of a proposed **land development project** (site or subdivision). Usually accompanied by (or incorporated into) an engineering report, it is to be based on an approved **preliminary drainage plan**

Drainage Report

A report, prepared by a Registered Professional Engineer, that presents the **drainage plan** for a **land development project** (site or subdivision) in compliance with the provisions of these **Guidelines**. It must document the hydrologic and hydraulic analyses accomplished to address the **project area**, **above-project area(s)** and **pathway area(s)**, and any watercourse conveying stormwater to or from the **project area**.

Drainage Study

See “**Drainage Report**”.

Drainage Study Area

The full extent of land area that must be analyzed for the effects of stormwater runoff, whether part of a project, upland of the project, or contributing stormwater runoff to the **conveyance pathway** downstream of the project. The drainage study area is equal in size to the sum of the **project area**, the **above-project area**, if any, and the **pathway area**, if any.

Drainage Right Of Way

An area of land dedicated to the **City** for the purposes of conveying and containing stormwater flow, constructing drainage facilities, and/or allowing entry and/or operation of equipment for maintaining such drainage features and facilities.

Elevation

The vertical distance from a datum, usually the NGVD, to a point or object. For example, if the elevation of point “A” is 802.46 feet, point “A” is 802.46 feet above some datum.

Encroachment

Existing or proposed buildings, foundations, drainage structures, streets (including bridges and culverts), utilities, or earthwork of any kind which is situated in **floodplain**, or **flood fringe** areas, the geographic limits of which are defined on the official **Flood Insurance Rate Maps** of the **City**.

Equal Encroachment

Equitable **encroachment** into **floodplain** or **flood fringe** areas along a significant reach of both sides of a **watercourse**, as a function of “low side” and “high side” hydrologically proportionate areas.

Engineer

A Registered Professional Engineer duly authorized and licensed, under provisions of the Texas Engineering Practice Act, to practice the profession of engineering.

Erosion

The process whereby the surface of the earth is loosened and carried away by the action of wind, water, gravity, ice, or a combination thereof.

Existing Condition

The hydrologic condition of the **project area** or the **drainage study area** that exists (or existed) prior to any proposed land development work and at the time for which a hydrologic analysis is conducted. Where man-made topographic features predate adoption of these **Guidelines**, such features shall be considered “existing condition”.

Extraterritorial Jurisdiction (ETJ)

Within the terms of the Texas Municipal Annexation Act, means the unincorporated area, not a part of any other city, which is contiguous to the Corporate Limits of the **City**, the outer boundaries of which are measured from the extremities of the corporate limits of the **City** outward for such distances as may be stipulated in the Texas Municipal Annexation Act, in which area, within the terms of the act, the **City** may enjoin the violation of its subdivision control ordinance.

FEMA Federal Emergency Management Agency of the US Government

F.H.A. Federal Housing Administration, an agency of the US Government.

Flood Insurance Map

See “**Flood Insurance Rate Map**”

Flood Insurance Rate Map

Any of a series of maps published by **FEMA** that depicts the geographic limits of flood prone areas along the principle **watercourses** of the **Cities**, for the purpose of identifying those areas in which property owners are eligible to participate in the National Flood Insurance Program.

Floodplain

Overbank areas along a **watercourse** that are subject to inundation by stormflow due to unusually larger storms events.

Flood Study

The official study, or collection of studies, that defines the **flood plains**, **flood fringe**, and **floodways** of the primary drainage system and tributaries thereof as required in connection with the National Flood Insurance Program sponsored by **FEMA**.

Floodway

The channel and adjacent overbank areas of a river or other **watercourse** that may not be filled or hydraulically altered if such fill or alterations will cause a cumulatively increase in the **base flood elevation** of more than one foot.

Freeboard

That portion of a channel bank, detention embankment, or other stormwater management facility that is above the water surface elevation expected to be generated by the design storm for which the facility is designed.

Guidelines

The design guidelines referenced in this document: “Bryan and College Station Uniform Stormwater Design Guidelines”

Hydraulics

A branch of science that deals with practical applications (such as the transmission of energy or the efforts of flow) of liquid (such as water) in motion

Hydrology

A science dealing with the properties, distribution, and circulation of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere

Land Development Project

Any proposed site development or subdivision project requiring building permit(s) or platting under provisions of **City** ordinances.

Legal Lot

A parcel of land having been divided from a parent tract via a plat duly processed and approved by the City, and filed of record in county records under the platting provisions of Texas State Law.

LOMA Letter of Map Amendment as related to **FEMA** requirements for managing **FEMA**-designated flood prone areas

LOMAR

Letter of Map Revision as related to **FEMA** requirements for managing **FEMA**-designated flood prone areas

Lowest Floor

The lowest floor, or the lowest enclosed area (including basement), of a structure. An unfinished or flood resistant enclosure, usable solely for the parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building’s lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of **City** ordinances.

Master Drainage Plan

An official plan of the **City** for comprehensive management of stormwater runoff in an entire **basin** or **watershed**, or in specific **reaches** thereof.

Mean Sea Level (MSL)

The average height of the surface of the sea for all stages of the tide taken over a 19-year period.

Named Regulatory Watercourse

The major watercourses or streams in the Bryan-College Station region having been ascribed with names and listed in Table B-1, Appendix B.

Natural Land

The cover and topography of land before any man-made changes that would substantively affect the path or intensity of stormwater runoff.

Natural Watercourse

A stream, waterway, or channel more or less in the alignment created by natural forces, with or without man-made alteration of its surfacing and configuration at limited locations.

Pathway Area

Land area(s) that drain to the **conveyance pathway** of a project, but that are not included in the **project area** or **above-project area(s)**. See **conveyance pathway area**.

Principal Named Streams (Watercourses)

See “**Named Regulatory Watercourses**”

Preliminary Drainage Plan

See “**Preliminary Drainage Report**”

Preliminary Drainage Report

A report showing a schematic representation of how stormwater will be managed as part of a proposed land development project. It will document pertinent topographic, hydrologic, and land ownership characteristics of all land areas contributing stormflow to a **project area**, as well as all hydrologic parameters proposed for analysis of design stormflow throughout the project.

Project Area

The entire land area of a proposed site development or subdivision project, at **buildout condition**, into which buildings, structures, and/or street and utility facilities are to be constructed. This area(s), together with any **above-project area(s)** and **pathway area(s)** make up the **drainage study area** that must be considered in developing plans for stormwater management facilities for the project.

Project Site

See “**Project Area**”

Reach A length or portion of a **watercourse**, whether wholly natural or influenced by man-made improvements or alterations.

Regional Detention

A flood control facility approved by the **City** as a mechanism for managing stormwater runoff from a large land area comprised of one or more subdivisions, one or multiple property holdings, developed and undeveloped land areas, or any combination of such areas.

Regulatory Watercourses

See “**Named Regulatory Watercourses**”

Regulatory Watershed

The total land area that contributes stormwater runoff to a **named regulatory watercourse** in the Bryan-College Station region. Each such watercourse has a watershed area that is made up of **basins**. The sum of the land area(s) in a watershed's **basins** equals the land area of the watershed.

Retention Facility

A facility that provides for the storage of stormwater flows by means of a permanent pool of water or a permanent pool in conjunction with a temporary storage component.

Right of Way

Land set aside for street and storm drain facilities or utilities, or exclusively for stormwater management purposes.

Rural Residential

A term referring to a category of land use zoning. See **Urban Estates**.

Rural Subdivision

An area of land divided by platting into lots none of which are smaller than one (1) acre, and which is served by roadways having a rural cross section (one characterized by presence of roadside ditches and no curb and gutter). See also **Urban Estates**.

Sedimentation

Deposits of detached soil particles or rock fragments after being transported from their site or origin by runoff water.

Site See "**Site Project**".

Site Project

A land area consisting of a single platted lot or two or more contiguous platted lots upon which a building project is planned, consisting of building structures, parking, and other facilities and exclusive of public streets. A site project may or may not include public utilities situated in easements, or stormwater management facilities situated in drainage right of way. See "**Site**".

Special Design

Any stormwater management facility or technique the design of which is not specifically addressed by these **Guidelines** or the B-CS Technical Specifications.

Standard Specifications for Construction

See **Technical Specifications**

Stormwater Planning Conference

A meeting between property owners/developers (including their representatives) and the **City Engineer** (or his/her designee) for the purpose of identifying how these Guidelines and the provisions of stormwater management ordinances relate to land area(s) proposed for near-term or future development.

Structure

A walled and roofed building that is principally above the ground, as well as a manufactured home.

Study Limits

Associated with a drainage study for a **drainage report**, this is the geographic limits of the hydrologic and hydraulic analyses that are required for the study.

Subdivision Project

A land development project involving the division of land into lots and ROW for public streets and utilities or the dividing of land into individual lots for near term construction or planned long term construction of **site projects**.

Surveyor

A Registered Public Surveyor or Registered Land Surveyor as licensed by the State of Texas.

Swale

A shallow drainage way characterized as having a “V” shape the sides of which have very flat slopes, generally on the order of sides 6 horizontal to 1 vertical (6:1) or flatter.

TAMU Texas A&M University

TAMUS The Texas A&M University System

Technical Design Summary

A drainage report format that may be used in lieu of a traditional prose report. Following a question/answer process, it is to use the forms provided in Appendix D, with attachments as needed.

Technical Specifications

See “**B-S Technical Specifications**”

Tributaries

Waterways, watercourses, streams, or creeks that directly flow into the Named Regulatory Watercourses of the Bryan and College Station region. Some may be referred to by a name on maps or other reference.

TxDOT Texas Department of Transportation.

Ultimate Development

This term generally relates to the extent to which impervious materials and plant growth will, at some future time, cover land contributing stormwater runoff to one or more design points in a stormwater management system. Of necessity this requires some plan or a series of assumptions about future characteristics of undeveloped areas. See **Anticipated Development**

Urban Estates

A class of zoning resulting in single family homes on relatively large lots, generally one acre or larger. See **Rural Subdivision**.

Watercourse

Any depression, channel, storm sewer, or culvert serving to give direction to a current of stormwater.

Watershed

See "**Regulatory Watershed**"