



# City of Lancaster

## Storm Water Management

### Exhibit A

**Ordinance 2004-07-21 (R)**  
**Adopted July 26, 2004**  
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Prepared by



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**SECTION 14.1701 GENERAL PROVISIONS**

**A. Statutory Authorization**

The Legislature of the State of Texas has delegated the responsibility to local governments to adopt regulations designed to minimize flood losses and manage the floodplains in areas under their jurisdiction. Therefore, the City Council of the City of Lancaster, Texas, does ordain this Ordinance.

**B. Findings of Fact**

The drainage ways, creeks and flood hazard areas of the City of Lancaster, Texas, are subject to periodic inundation which may result in the loss of life and property, health and safety hazards, disruption of commerce and governmental services and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.

These flood losses could be created by the cumulative effect of obstructions in floodplains that increase flood heights and velocities and by placing structures and other improvements vulnerable to floods in flood hazard areas.

The development of land causes large quantities of soil to be displaced and transported to downstream locations. This soil displacement can create significant soil erosion and sedimentation problems. Although erosion is a natural process, excessive levels of erosion may result in potentially destructive consequences. A buildup of sediment degrades water quality, destroys valuable environmental resources and obstructs watercourses and storm drains which can cause flooding, thereby damaging public and private lands and property. These problems result in a serious threat to the health, safety and general welfare of the City of Lancaster. Streams and floodplain areas in the City of Lancaster are valuable resources to the citizens of Lancaster in that they provide recreational opportunities, improve the aesthetics of the community, convey storm water runoff and filter out water quality pollutants.

**C. Statement of Purpose**

Storm water management policies shall govern the planning, design, construction, operation and maintenance of storm drainage and erosion control facilities within the City of Lancaster. This Ordinance sets forth the minimum requirements necessary to provide and maintain a safe, efficient and effective drainage system within the City of Lancaster and to establish the various public and private responsibilities for the provision thereof. Further, the purpose of this Ordinance is the following:

1. Protect human life, health and property.
2. Minimize the expenditure of public money for building and maintaining flood control and storm drainage projects and cleaning sediment out of storm drains, streets, sidewalks and watercourses.
3. Minimize damage to public facilities and utilities, such as water and gas mains, electric service, telephone and sewer lines, streets, bridges and drainage ways due to storm water runoff and erosion.
4. Help maintain a stable tax base and preserve land values.
5. Provide assistance upon request to potential buyers if property is in an area of special flood hazard.
6. Manage storm water runoff and the sediment load in that runoff, from points and surfaces within new and existing developments.

7. Establish a reasonable standard of design for development which prevents potential flood and erosion damage.
8. Reduce the pollutant loading to streams, ponds and other watercourses.
9. Minimize prolonged interruption of business and the need for rescue and relief efforts associated with flooding.
10. Preserve the natural beauty and aesthetics of the community.
11. Obligate those who occupy the areas of special flood hazard to assume responsibility for their actions.

**D. Methods of Reducing Flood Loss**

In order to accomplish its purposes, this Section uses the following methods:

1. Restrict or prohibit uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities.
2. Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
3. Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters.
4. Control filling, grading, dredging and other development which may increase flood damage.
5. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

**E. Scope of Authority**

Except as exempted by Section 3.1710, any person, firm, utility, corporation or business proposing to develop land or improve property within the jurisdiction of the City of Lancaster is subject to the provisions of this Ordinance. This Ordinance also applies to individual building structures, subdivisions, excavation and fill operations and similar activities.

**F. Lands to Which This Ordinance Applies**

This Ordinance shall apply to all areas of land within the incorporated limits and extraterritorial jurisdiction of the City of Lancaster, Texas. Certain provisions of this ordinance apply only to special flood hazard areas within the jurisdiction of the City of Lancaster, while other provisions exempt certain other tracts. These limited areas of application are explained in Section 3.1708 and Section 3.1709. The erosion control provisions of this Ordinance do not apply to land under active agricultural use. As soon as construction or modification to the lands under active agricultural use is proposed so that the use of land will change from agriculture to any other use, then the provisions of this Ordinance shall be applicable to the once-exempted land. Section 3.1710 explains this exemption in greater detail.

**G. Lancaster Storm Water Management Ordinance and Storm Water Design Manual**

The Lancaster Storm Water Management Ordinance and the most current version of the Storm Water Design Manual shall become part of the official storm water management plan for streams, channels, detention/retention facilities and pipe drainage systems. Deviations shall not be permitted unless the following criteria are met: (1) it can be clearly shown by approved procedures that the deviation will not

adversely affect conditions either upstream or downstream of the point of deviation, and (2) the owners directly affected by the deviation are in written agreement, and (3) the deviation is not in conflict with any other regulations adopted by the City, the state or federal agencies. Requests for deviation are subject to approval by the City Public Works Director. The Public Works Director will have the authority to update the Storm Water Design Manual as needed in response to changing conditions, design methodologies, regulations, etc.

**H. Basis for Establishing the Areas of Special Flood Hazard**

The areas of special flood hazard, identified by the Federal Emergency Management Agency in the most current “Flood Insurance Study” with the accompanying “Flood Insurance Rate Maps” and any revisions thereto, are hereby adopted by reference and declared to be a part of this Ordinance. The flood insurance study is on file with the City.

**I. Abrogation and Greater Restrictions**

This Ordinance is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this Ordinance and another municipal ordinance, easement, covenant or deed restriction conflict or overlap, whichever ordinance imposes the more stringent restrictions shall prevail.

**J. Interpretation**

In the interpretation and application of this Ordinance, all provisions shall be:

1. considered as minimum requirements,
2. liberally construed in favor of the governing body, and
3. deemed neither to limit nor repeal any other powers granted under state or federal statutes.

**K. Warning and Disclaimer of Liability**

The degrees of flood, storm drainage, and erosion protection required by this Ordinance are considered reasonable for regulatory purposes and are based on scientific and engineering considerations. Larger floods can and will occur. Flood heights may be increased by manmade or natural causes. This Ordinance does not imply that land outside the areas of flood hazard or uses permitted within such areas shall be free from flooding or flood damages. In addition, this Ordinance does not imply that erosion controls will survive inundation by runoff from storms greater than the design flood for erosion controls. This Ordinance shall not create liability on the part of the City of Lancaster, any officer or employee thereof for any flood damages that result from reliance on this Ordinance or any administrative decision lawfully made thereunder.

**L. Severability**

If any section, paragraph, clause, phrase, or provision of this Ordinance shall be judged invalid or held unconstitutional, the same shall not affect the validity of this Ordinance as a whole or any part or provision thereof, other than the part so decided to be invalid or unconstitutional; nor shall such unconstitutionality or invalidity have an effect on any other ordinances or provisions of ordinances of the City of Lancaster.

**M. Regulatory Permits**

It shall be the Developer's responsibility to secure all regulatory permits associated with development of drainage improvements. These include but are not limited to U.S. Corps of Engineer 404 Permits, Texas Commission on Environmental Quality Section 401 permits, Federal Emergency Management Agency floodplain revision permits, Texas Commission on Environmental Quality Texas Pollutant Discharge Elimination System permits and any City of Lancaster permits.

**N. Appeal**

Any person aggrieved by a decision of the Public Works Director may appeal from any order, requirement, decision or determination of the Public Works Director to the City Manager. The aggrieved person shall file an appeal in writing with the City Manager within seven (7) days from the date of the decision. If no resolution of the appeal can be reached with the City Manager within twenty-eight (28) days, the aggrieved person may appeal in writing to the City Council.

**O. Variance**

Deviations from the provisions of this Ordinance shall not be permitted unless the following criteria are met:

1. It can be clearly shown by approved procedures that the deviation will not adversely affect conditions either upstream or downstream of the point of deviation.
2. The owners directly affected by the deviation are in written agreement.
3. The deviation is not in conflict with any other regulations adopted by the City, the state or federal agencies.
4. A showing of good and sufficient cause.
5. A determination that failure to grant the variance would result in exceptional hardship to the applicant.
6. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety or extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local, state, or federal laws or regulations.

Requests for deviation shall be approved by the Public Works Director. Variances for any type of permit or storm drainage facilities shall be issued only upon a determination that the variance is the minimum necessary to afford relief considering the flood hazard, drainage problems and soil loss. Variances concerning development permits may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the state inventory of historic places, without regard to the procedures set forth in the remainder of this section provided the proposed work shall not preclude the structure's continued designation as a historic structure.

Any applicant to whom a variance for building or renovating in a floodplain is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

**P. Penalty Clause**

Any person, firm or corporation violating any of the provisions of this Ordinance may be deemed guilty of a misdemeanor and, upon conviction, may be punished by a penalty or fine. Each and every day such

an offense is continued shall constitute a new and separate offense. In addition, the violator shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the City of Lancaster from taking such other lawful action as is necessary to prevent or remedy any violation.

Any developer, owner or builder who fails to obtain a Development Permit before beginning the subject project is in violation of this Ordinance. No building permit, plat, site plan, Certificate of Occupancy or other use permit may be issued for any construction, reconstruction or development upon any land where such construction, reconstruction or development is not in conformity with the requirements of this Ordinance. It shall be an offense for a Responsible Party or a third party performing work on a project to violate any of the requirements of this Ordinance.

**Q. Maintenance**

Public drainage improvements dedicated (in right-of-way or by fee simple dedication to the public) and accepted by the City shall be maintained and operated by the City or by the property owner if a separate private maintenance agreement is executed.

**R. Compliance**

No structure or land shall hereafter be located, altered, or have its use changed without full compliance with the terms of this ordinance and other applicable regulations.



**SECTION 14.1702 STORM WATER MANAGEMENT POLICY**

**A. General**

1. Storm water management policies shall govern the planning, design, construction, operation and maintenance of storm water management facilities within the City's jurisdiction.
2. It is the policy of the City of Lancaster to adopt and maintain design standards that protect and provide for the safety and general welfare of the community.
3. It is the policy of the City of Lancaster to implement drainage and erosion control standards to minimize flood damage and soil erosion to private and public facilities within the community.
4. It is the policy of the City of Lancaster to implement storm water control standards to be used during design, construction and post-construction that provide for water quality pollution prevention.
5. These storm water management policies are defined by Storm Water Management Ordinance 2004-07-21, adopted on July 26, 2004 and amendments thereto. All amendments, additions or modifications to this Ordinance are considered effective upon the date of acceptance, in whole or in part by the City of Lancaster. These storm water management policies shall apply to any storm water management system improvement not having plans released for construction on or before the date of City Council approval of revised ordinance provisions.

**B. Lancaster Storm Water Management Ordinance and Storm Water Design Manual**

The Lancaster Storm Water Management Ordinance and the most current version of the Storm Water Design Manual shall become part of the official storm water management plan for streams, channels, regional detention/retention facilities and pipe drainage systems. Deviations shall not be permitted unless the criteria in Subsection O (Variance) of Section 3.1701 are met. The Public Works Director will have the authority to update the Storm Water Design Manual as needed in response to changing conditions, design methodologies, regulations, and other relevant factors.

**C. Planning**

1. Storm Water Management Site Planning

The following principles of Storm Water Management Site Planning shall be encouraged within the City of Lancaster:

- a. Preserve the natural features of the site which can be used to help manage storm water runoff from new development.
- b. Fit the new development to the terrain and minimize land disturbance.
- c. Reduce the impervious surface areas as much as possible.
- d. Preserve and utilize the natural drainage systems wherever possible.

- e. Design structural controls, if required, as low maintenance, multi-purpose and aesthetically pleasing facilities.
- f. Conduct downstream assessments to demonstrate the impact of new development on downstream drainage systems.

2. Utilization of Natural Floodplains

Utilization of natural floodplains shall be the preferred consideration in providing storm water management control within the City of Lancaster. Natural floodplains for major streams as defined in this Section 3.1703 of this article shall be maintained to provide regional flood control measures, enhance water quality and mitigate regional erosion. Where maintaining natural floodplains is deemed impractical by the City, structural improvements and drainage systems shall be designed and constructed to minimize adverse impacts on the floodplain.

3. Review and Permit Process

The review and permit process established in the Storm Water Management Ordinance shall be utilized by the City of Lancaster to provide control of development activities related to erosion control and storm water runoff through natural and constructed facilities.

4. Relocation and Reclamation

To implement storm water control measures in existing areas of private ownership, the City of Lancaster may consider the acquisition of private land, the relocation of property owners and the reclamation of existing developed areas to their natural condition.

5. Development around Regional Detention/Retention Facilities

The City of Lancaster shall control future development upstream, downstream and in the watershed of all regional detention/retention facilities. A detailed engineering study shall be performed on all future development that impacts or is impacted by regional detention/retention facilities. This study will provide a technical basis for future development and meet either of the following requirements, as appropriate:

- a. Dam and spillway will be designed to meet Texas Commission on Environmental Quality (TCEQ) dam safety requirements.
- b. Development and improvements will be restricted within the floodplain as established by a dam breach analysis from the dam to the downstream limit of the dam breach impact.

6. Drainage of Lots

Existing drainage between developed lots shall remain the responsibility of the affected property owners. Future developments less than one acre in area may drain surface runoff from an individual lot to no more than one additional lot before entering a public right-of-way or drainage system contained in a public drainage easement. Surface runoff from future developments of lots one acre or larger must immediately enter a public right-of-way or drainage system contained in a public drainage easement.

7. Dedication of Drainage Easements

Public drainage systems designed to convey the design storm runoff shall be contained within a drainage easement or a floodplain/floodway easement. Developed flows from the site must be contained in a drainage easement to a point of entry into the public drainage system.

8. Platting of Property Along Drainage Channels

Future platting along streams and drainage channels within the 100-year floodplain, based on fully developed watershed conditions, shall require compliance with one of the following:

- a. Dedication of a floodplain easement
- b. Dedication of a floodway easement if floodplain reclamation is approved
- c. Dedication of the floodplain for use as a park, common open space or environmental preservation area as mutually agreed upon by the developer and the City

9. Erosion Hazard Setbacks

Erosion hazard setback determinations shall be made for every stream in which natural channels are to be preserved. Erosion hazard setbacks shall be required to protect structures and lot improvements from erosion hazards.

10. Illicit Discharge Prohibition

No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water. Illicit connections to the storm sewer system are prohibited, including the following:

- a. The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.
- b. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
- c. A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

- a. The following discharges are exempt from discharge prohibitions established by this ordinance, unless it is determined that the discharges adversely impact storm water quality:
  - i. water line flushing
  - ii. runoff or return flow from landscape irrigation, lawn irrigation, and other irrigation using potable water groundwater, or surface water sources,
  - iii. diverted stream flows, rising groundwater and springs,
  - iv. uncontaminated groundwater infiltration,
  - v. uncontaminated pumped groundwater,
  - vi. foundation or footing drains,
  - vii. air conditioning condensation,
  - viii. water from crawl space pumps,
  - ix. non-commercial washing of vehicles,

- x. natural riparian habitat or wetland flows,
  - xi. dechlorinated swimming pool discharges,
  - xii. pavement and exterior building wash water conducted without the use of detergents or other chemicals, and
  - xiii. discharges or flows from fire fighting activities.
- b. Discharges specified the City as being necessary to protect public health and safety.
  - c. Dye testing is an allowable discharge with authorization from the City prior to the time of the test.
  - d. The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the U.S. Environmental Protection Agency or Texas Commission on Environmental Quality, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations.

#### **D. Engineering/Design**

##### 1. Design of Drainage Systems

Storm water runoff determinations for drainage systems shall be based on the designated design storm frequency. The design storm frequencies for drainage systems for the City of Lancaster are provided in the Storm Water Design Manual.

##### 2. Fully Developed Watershed Conditions

All drainage systems, whether upstream, downstream or on-site, shall be designed for fully developed watershed conditions based on the City's most recent Land Use Map.

##### 3. Limitation of Runoff / Downstream Assessment

Storm water runoff, based on fully developed watershed conditions, shall be allowed from all future developments provided that the receiving drainage systems and/or natural channels can adequately convey the design storm runoff so that there are no adverse impacts to structures, property or receiving water quality and there is no significant increase in shear stress or erosion potential. Calculations to verify downstream adequacy shall be performed:

- a. to the nearest major receiving stream; or
- b. downstream to the point where the developed property is no more than ten percent (10%) of the total drainage area for each proposed development (the Ten Percent Rule). The Storm Water Design Manual provides detailed instructions for conducting a downstream assessment using the Ten Percent Rule.

If the receiving drainage systems and/or natural channels cannot adequately convey storm water runoff based on fully developed conditions, runoff from the site shall be limited to the flow that can adequately be conveyed in downstream drainage systems and/or natural channels. All downstream improvements must be in accordance with the City's Storm Water Master Plan and/or with the approval of the Public Works Director in order to avoid increasing downstream flooding or erosion problems.

#### 4. Erosion and Sediment Control During Construction

Guidelines for controlling erosion resulting from development or construction activities shall be identified in the Storm Water Management Ordinance and Storm Water Design Manual. Developers and/or builders must provide a detailed erosion control plan for approval prior to the start of construction activities for entire developments and for individual lots.

#### 5. Stream Bank Erosion

Erosion control methods identified in the Storm Water Design Manual shall be utilized for erosion control along streams and drainage channels. On-site, upstream and downstream erosion control impacts shall be evaluated during design.

#### 6. Regional Detention/Retention Facilities

The regional detention/retention facilities shall maintain their original design to collect sediment from storm water runoff and to provide regional flood control. Detailed engineering and technical analysis shall be performed for each watershed containing an existing regional detention/retention facility prior to development activities. If the dam and spillway(s) do not meet Texas Commission on Environmental Quality (TCEQ) dam safety requirements, the following restrictions shall apply:

- a. No construction shall be allowed within the downstream flood area of a dam determined by a breach flow analysis.
- b. Development upstream shall not be allowed that adversely impacts the integrity of the dam and/or spillway structure.
- c. Development upstream shall not be allowed that would increase the downstream flood area of a dam determined by a breach flow analysis.

Design for upgrading dams shall comply with TCEQ dam safety requirements, this Ordinance, and the Storm Water Design Manual.

#### 7. Structural and Non-Structural Improvements

Storm water control may be achieved by structural (physical) improvements, non-structural (natural/regulatory) means or a combination of both. Design of improvements shall comply with the Storm Water Design Manual guidelines.

#### 8. Regional Detention/Retention of Storm Water Runoff

Existing regional detention/retention facilities provide storm water retention. This retention volume was considered in establishment of the design flood and shall be maintained.

#### 9. Reclamation of Floodplains

Portions of the 100-year floodplain, based on fully developed conditions, may be reclaimed provided there is no increase in the water surface elevation and acceptable velocities are maintained. In addition, for major streams an equivalent volume of valley storage must be provided within the floodplain.

### **E. Financing**

Financing of improvements is possible through various mechanisms depending on the circumstances of the improvements. The Developer shall be responsible for financing on-site and off-site improvements

when the existing system is inadequate as a result of the development activities. Cost-sharing opportunities between Developers and between the City and Developers, City contributions derived from storm water utility fees, drainage impact fees and erosion deposit accounts per this Ordinance are also potential funding sources.

**F. Construction**

1. Erosion Control

Development activities shall comply with state and federal erosion control permit requirements for construction activity and regulated industrial facilities, erosion control guidelines in the Ordinance and with methods and procedures in the North Central Texas Council of Governments (NCTCOG) Design Manual for Construction or revisions thereof. The City must be provided access to inspect the adequacy and maintenance of erosion control measures on the site.

2. Stream Bank Erosion

Stream bank erosion shall be minimized by utilizing procedures, guidelines and mitigation measures provided in the Storm Water Design Manual and NCTCOG Design Manual for Construction or revisions thereof.

3. Protection/Replacement of Trees

The protection of trees and vegetation shall be maximized to the extent practicable without adverse impacts to drainage improvements during all development activities. Replacement of trees along natural channels destroyed by storm water improvements is encouraged. All protection and mitigation of trees shall comply with other city tree requirements.

4. Water Quality Pollution Prevention

All construction activities shall comply with the Texas Pollutant Discharge Elimination System (TPDES) storm water permit program for construction activities as administered by the Texas Commission on Environmental Quality (TCEQ).

**G. Operation and Maintenance**

Public drainage improvements dedicated to and accepted by the City shall be maintained and operated by the City as required to maintain flow in the system.

1. Floodplain and drainage easements shall be maintained by the City or a private maintenance agreement shall be executed defining maintenance responsibility.
2. Operation and maintenance of regional detention/retention facilities shall have a maintenance agreement executed defining responsibility for each entity. The City shall coordinate and cooperate with these entities to provide maximum protection for the citizens of Lancaster.

**SECTION 14.1703 DEFINITIONS**

Unless specifically defined below, words or phrases used in this Ordinance shall be interpreted to give them the meaning they have in common usage and to give this Ordinance its most reasonable application:

Active agricultural use: The presently ongoing use of land for cropping or livestock.

Angle of flare: The angle between the direction of a wingwall and the centerline of a culvert or storm drainage outlet or inlet.

Appeal: A request for review or interpretation of any provision of this Ordinance or a request for a variance.

Applicant: Any firm, entity, partnership, company, public utility company or individuals, who plan to clear, grub, fill, excavate, grade or otherwise remove the vegetative cover of land, or who plan to either subdivide land and install the appropriate infrastructure or renovate existing structures, shall become applicants for a development permit upon submission of the appropriate application materials.

Apron: A floor or lining to protect a surface from erosion, for example, the pavement below chutes or spillways or at the toes of dams.

Area of shallow flooding: A designated AO or AH zone on the flood insurance rate map. The base flood depths range from one to three feet, a clearly defined channel does not exist, and the path of flooding is unpredictable and indeterminate.

Area of special flood hazard: The land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year.

Base flood: The flood having a one percent chance of being equaled or exceeded in any given year, determined based upon the FEMA guidelines and as shown in the current effective flood insurance study. This 100-year mean recurrence interval storm event is based on existing watershed conditions (also see "design flood").

Base flood elevation: The water surface elevation resulting from the base flood.

Builder: A person, partnership or corporation engaged in clearing, grubbing, filling, excavating, grading, constructing a pad, installing service utility lines and/or constructing or placing a building(s) or other structure(s) on a lot or other type of tract of land that is owned by the person, partnership or corporation, and that will not be further subdivided into other lots.

Channel: A natural or artificial stream that conveys water. Channels are often further classified by their size and purpose. For example, there are primary and secondary channels based on size, but diversions, waterways and chutes are also channels.

Channel improvement: The improvement of the flow characteristics of a channel by clearing, excavating, realigning, lining or other means in order to increase its capacity. The term is sometimes used to mean channel stabilization.

Channel stabilization: Erosion prevention and stabilization of velocity distribution in a channel using jetties, drops, revetments, vegetation and other measures.

Check dam: A small dam constructed in a gully or other small watercourse to decrease the streamflow velocity, minimize channel scour and promote deposition of sediment.

City-maintained land: Any land in actual ownership of the City of Lancaster; it does not include any type of easements that remain in private ownership.

Conduit: Any closed device for conveying flowing water.

Cover, vegetative: All plants of all sizes and species found on an area, irrespective of whether they have forage or other value, but especially used to refer to vegetation producing a mat on or immediately above the soil surface. Temporary vegetative cover refers to the use of annual plants for the cover, while permanent vegetative cover refers to the use of perennial plants.

Crest: The top of a dam, dike, spillway or weir, frequently restricted to the overflow portion.

Critical feature: An integral and readily identifiable part of a flood-protection system, without which the flood protection provided by the entire system would be compromised.

Design basin: A dry basin or depression constructed for the purpose of temporarily storing storm water runoff and discharging all of that water over time at a rate reduced from the rate that would have otherwise occurred.

Design flood: When in the context of floods, floodplains or flood hazards, the design flood is that flood having a one percent chance of being equaled or exceeded in any given year, based upon fully developed watershed conditions (also see "base flood").

Developer: A person, partnership or corporation who owns a tract of land and who is engaged in clearing, grubbing, filling, mining, excavating, grading, installing streets and utilities to be dedicated to or accepted by the City of Lancaster and/or otherwise preparing that tract of land for the eventual division of the tract into one or more lots on which building(s) or other structure(s) will be constructed or placed.

Development: Any manmade change to improved or unimproved real estate, including, but not limited to, adding buildings or other structures, mining, dredging, filling, grading, paving, excavation, drilling operations, grading, clearing or removing the vegetative cover.

Discharge (hydraulics):

1. Rate of flow; specifically, fluid flow
2. A volume of fluid passing a point per unit time, commonly expressed as cubic feet per second

Disturbance: Any operation or activity, such as clearing, grubbing, filling, excavating, mining, cutting and grading, or removing channel linings, which results in the removal or destruction of the protective cover of soil, including vegetative cover, channel linings, retaining walls, and slope protection.

Disturbed areas: Any area or tract of land in which a disturbance is occurring or has occurred but that has not been stabilized.

Drainage area: The land area from which water drains to a given point.

Elevated building: In the case of FEMA-designated zones A1-30, AE, A, A99, AO, AH, B, C, X and D, "elevated building" includes a building elevated by means of fill, so that the lowest finished floor of the building is at least two feet above the water surface elevation of the design flood.

Emergency spillway: A spillway built to carry runoff in excess of that carried by the principal spillway.

Entrance head: The head required to cause flow into a conduit or other structure; it includes both entrance loss and velocity head.

Entrance loss: The head lost in eddies or friction at the inlet to a conduit, headwall or structure.

Equal conveyance: The principle of reducing stream conveyance for a proposed alteration with a corresponding reduction in conveyance to the opposite bank of the stream. The right of equal conveyance applies to all owners and uses and may be relinquished only by written agreement.

Erosion: The wearing away of land by action of wind and water.



Existing construction: For the purposes of determining rates, structures for which the "start of construction" commenced before the effective date (January 31, 1978) of Ordinance No. 1046. "Existing construction" may also be referred to as "existing structures."

Federal Emergency Management Agency (FEMA): The federal agency which administers the National Flood Insurance Program.

Flood or flooding: A general and temporary condition of partial or complete inundation of normally dry land areas from:

1. the overflow of inland waters and/or
2. the unusual and rapid accumulation or runoff of surface waters from any source

Flood Insurance Rate Map (FIRM): The official map on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

Flood Insurance Study: The official report in which the Federal Emergency Management Agency has provided flood profiles, as well as the flood boundary/floodway map and the water surface elevation of the base flood.

Flood protection system: Those physical structural works for which funds have been authorized, appropriated and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to a "special flood hazard" and the extent of the depths of associated flooding. Such a system typically includes dams, reservoirs, levees or dikes. These specialized flood-modifying works are those constructed in conformance with sound engineering standards.

Floodplain or flood-prone area: Any land area susceptible to being inundated by water from any source (see definition of "flooding").

Floodway: The channel of the river or other water course and adjacent land areas that must be reserved in order to pass the base flood discharge without increasing flood depth.

Flume: Any open conduit on a prepared grade, trestle or bridge.

Freeboard: The distance between the design flood elevation and the top of an open channel, dam, levee or detention basin to allow for wave action, floating debris or any other condition or emergency without overflowing the structure.

Functionally dependent use: A use which cannot perform its intended purpose unless it is located or carried out in proximity to water. The term includes only docking facilities.

Gabion: A galvanized wire basket filled with stone for structural purposes. When fastened together, they may be used as retaining walls, revetments, slope protection and similar structures.

Grading: Any stripping, cutting, filling, stockpiling or combination thereof which modifies the existing land surface contour.

Grass: Any member of the botanical family Gramineae; herbaceous plants with bladelike leaves arranged in two ranks on a round to flattened stem. Common examples are fescue, Bermuda grass and Bahia grass. The term "grass" is sometimes used to indicate a combination of grass and legumes grown for forage or turf purposes.

Highest adjacent grade: The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Hydraulic gradient: A line representing the pressure head available at any given point within the drainage system.

Hydrograph: A graph showing, for a given point on a stream or drainage system, the discharge, stage, velocity or other property of water with respect to time.

Inlet (hydraulics):

1. A surface connection to a closed drain
2. A structure at the diversion end of a conduit
3. The upstream end of any structure through which water may flow

Levee: A manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water so as to provide protection from temporary flooding.

Levee system: A flood protection system which consists of a levee or levees and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

Letters of Map Change:

1. **CLOMA**: A Conditional Letter of Map Amendment (CLOMA) is FEMA's comment on whether a proposed project would be excluded from the Special Flood Hazard Area (SFHA) shown on the effective National Flood Insurance Program (NFIP) map. There is no appeal period. The letter becomes effective on the date sent. This letter does not revise an effective NFIP map, it indicates whether the project, if built as proposed, would or would not be removed from the SFHA by FEMA if later submitted as a request for a Letter of Map Amendment.
2. **CLOMR**: A Conditional Letter of Map Revision (CLOMR) is FEMA's comment on a proposed project that would affect the hydrologic and/or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway or effective Base Flood Elevations. There is no appeal period. The letter becomes effective on the date sent. This letter does not revise an effective National Flood Insurance Program map, it indicates whether the project, if built as proposed, would or would not be removed from the Special Flood Hazard Area by FEMA if later submitted as a request for a Letter of Map Revision.
3. **CLOMR-F**: A Conditional Letter of Map Revision based on Fill (CLOMR-F) is FEMA's comment on whether a proposed project involving the placement of fill would exclude an area from the Special Flood Hazard Area (SFHA) shown on the National Flood Insurance Program (NFIP) map. There is no appeal period. The letter becomes effective on the date sent. This letter does not revise an effective NFIP map, it indicates whether the project, if built as proposed, would or would not be removed from the SFHA by FEMA if later submitted as a request for a Letter of Map Revision based on Fill.
4. **LOMA**: A Letter of Map Amendment (LOMA) is an official amendment, by letter, to an effective National Flood Insurance Program map. A LOMA establishes a property's location in relation to the Special Flood Hazard Area. There is no appeal period. The letter becomes effective on the date sent.
5. **LOMR**: A Letter of Map Revision (LOMR) is an official revision, by letter, to an effective National Flood Insurance Program map. A LOMR may change flood insurance risk zones, floodplain and/or floodway boundary delineations, planimetric features, and/or Base Flood Elevations. See the LOMR Effective Chart to determine when a LOMR becomes effective.

6. **LOMR-F:** A Letter of Map Revision Based on Fill (LOMR-F) is an official revision, by letter, to an effective National Flood Insurance Program map. A LOMR-F provides FEMA's determination concerning whether a structure or parcel has been elevated on fill above the Base Flood Elevation and excluded from the Special Flood Hazard Area. The letter becomes effective on the date sent.

**Lowest floor:** The lowest floor of the lowest enclosed area (including basement). 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 nonelevation design requirements of FEMA 60.3.

**Major streams:** The major streams in the City of Lancaster, as defined in the Ordinance, are Bear Branch, Deep Branch, Halls Branch, Floyd Branch, Keller Branch, Keller Tributary, Mills Branch, Newton, Branch, Runyon Springs, Ten Mile Creek, and any other stream within the City limits with a FEMA-defined floodplain.

**Manning equation:** The uniform flow equation used to relate velocity, hydraulic radius and energy gradient slope and roughness characteristics of the flow path.

**Manufactured home:** A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term "manufactured home" also includes park trailers, travel trailers and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes, the term "manufactured home" does not include park trailers, travel trailers and other similar vehicles.

**Manufactured home park or subdivision:** A parcel or contiguous parcels of land divided into two or more manufactured home lots for rent or sale.

**Mean sea level:** For the purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum to which base flood elevations shown on a community's flood insurance rate map are referenced.

**Mulching:** The application of plant or other suitable materials on the soil surface to conserve moisture, reduce erosion and aid in establishing plant cover.

**Natural drainage:** The dispersal of surface waters through ground absorption and by drainage channels formed by the existing surface topography which exists at the time of adoption of this Ordinance or formed by any manmade change in the surface topography.

**Natural floodway:** The effective area of a channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the "design flood" without cumulatively increasing the water surface elevation. This floodway differs from the "regulatory floodway."

**New construction:** Structures for which the "start of construction" commenced on or after the adoptive date of this Ordinance.

**Open channel:** A channel in which water flows with a free surface.

**Other municipal ordinances:** Ordinances such as, but not limited to, zoning, subdivision and construction specifications.

**Outfall:** The point where water flows from a stream, river, lake or artificial drain.

**Peak discharge:** The maximum instantaneous flow from a given storm condition at a specific location.

**Permanent erosion controls:** Stabilization of erosive or sediment-producing areas by the use of means or techniques that will provide protection against erosion losses for an indefinite time period.

Permissible velocity (hydraulics): The highest velocity at which water may be carried safely in a channel or other conduit (see the Storm Water Design Manual).

Principal spillway: Generally, is constructed of permanent material and designed to regulate the normal water level, provide flood protection and reduce the frequency of operation of the emergency spillway.

Probable maximum flood: The upper limit of a flood likely to occur as determined by the Corps of Engineers' criteria.

Public erosion nuisance: A situation in which erosion of or sediment from one location is causing a bothersome or unsightly condition on another property owned by a different individual or entity. A bothersome or unsightly condition or burden includes sediment, mud or similar debris originating from one property but being deposited onto a second off-site property in which that off-site owner may have to remove or clean up the deposit due to liability, statutory, aesthetic, drainage or property damage concerns. The adversely affected off-site property owner could be a private citizen, corporation, government or other entity.

Rainfall intensity: The rate at which rain is falling at any given instant, usually expressed in inches per hour.

Rational formula: The means of relating runoff with the area being drained, the characteristics of the land use and the intensity of the storm rainfall.

Regulatory floodway: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the "base flood," as calculated by the Federal Emergency Management Agency, without cumulatively increasing the water surface elevation more than a designated height. This floodway is used by FEMA to determine compliance with its regulations.

Retention basins: A pond or other water body which has been designed to have both a conservation pool for holding some water indefinitely and a flood storage pool for storing storm water runoff on a temporary basis for the purpose of reducing the peak discharge from the basin.

Riprap: Broken rock, cobbles, boulders, or concrete placed on earth surfaces, such as the face of a dam or the bank of a stream, for protection against the action of water.

Runoff: That portion of the precipitation that makes its way toward stream channels or lakes as surface or subsurface flow. When the term "runoff" is used alone, surface runoff usually is implied.

Sediment: Solid soil material, both mineral and organic, that is being moved or has been moved from its original site by wind, gravity, flowing water or ice. Also sometimes referred to as "silt" or "sand."

Sheet flow: Water, usually storm runoff, flowing in a thin layer over the ground surface. Synonymous with "overland flow."

Significant rise: Any rise in the design flood water surface elevation at a particular stream location.

Soil: The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of plants.

Special flood hazard area: Areas inundated by the design flood and/or floodplain areas designated on the current flood insurance rate maps.

Stabilized: To be protected from possible erosion losses, usually by the use of vegetative cover.

Standard project flood: A flood that has a magnitude of approximately one-half of the probable maximum flood, as determined on a case-by-case basis using the Corps of Engineers' current criteria.

Start of construction: For a structure, "start of construction" includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the

first placement of permanent construction of a structure on a site, such as the pouring of a slab or footings, the installation of piles, the construction of columns or any work beyond the stage of excavation or the placement of a manufactured home on a foundation. Permanent construction of a structure does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

**Storm frequency:** An expression or measure of how often a hydrologic event of given size or magnitude should, on an average, be equaled or exceeded.

**Structure:** A walled and roofed building, a manufactured home, a substation or a gas or liquid storage tank that is principally above ground. When used in the context of storm water, the term means a drainage improvement, such as dams, levees, bridges, culverts, headwalls, flumes, etc.

**Substantial improvement:** Any combination of repairs, reconstruction or improvements of a structure, the cumulative cost of which equals or exceeds 50 percent of the initial market value of the structure either:

1. before the first improvement or repair is started, or
2. if the structure has been damaged and is being restored, before the damage occurred.

For the purposes of this definition, substantial improvement is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. Incremental improvements over a period of time, the cumulative cost of which equals or exceeds 50 percent of the market value at the time of the first improvement, shall be considered a substantial improvement. The term does not, however, include either of the following:

1. Any project for the improvement of a structure to comply with existing state or local health, sanitary or safety code specifications which are solely necessary to assure safe living conditions
2. Any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places

**Temporary erosion protection:** The stabilization of erosive or sediment-producing areas for a specific time period, usually during a construction job.

**Time of concentration:** The estimated time in minutes or hours required for a drop of water to flow from the most remote point in the drainage area to the point at which the discharge is to be determined.

**Use:** Any purpose for which a building or other structure or a tract of land may be designed, arranged, intended, maintained or occupied; or any activity, occupation, business or operation carried on, or intended to be carried on, in a building or other structure or on a tract of land.

**Use permit:** The permit required before any use may be commenced.

**Variance:** A grant of relief to a person from the requirements of this Ordinance. A variance, therefore, permits construction or development in a manner otherwise prohibited by this Ordinance.

**Violation:** The failure of a structure or other development to be fully compliant with this Ordinance. A structure or other development without the elevation certificate, other certifications or other evidence, as required by the Public Works Director, is presumed to be in violation until such time as that documentation is provided.

**Water surface elevation:** The height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of riverine areas.

Watershed: The area drained by a stream or drainage system.

**SECTION 14.1704 ADMINISTRATION****A. Duties of City Officials**

The Floodplain Administrator shall administer and implement the provisions of this section and other appropriate sections of 44 CFR (National Flood Insurance Program Regulations) pertaining to floodplain management. The duties of the Floodplain Administrator shall include, but not be limited to the following:

1. Review and approve or disapprove all Development Permits to determine that the requirements of this Ordinance have been met.
2. Maintain for public inspection all records pertaining to the provisions of this Ordinance, including floodproofing certifications.
3. Notify, in riverine situations, adjacent communities and the Texas Commission on Environmental Quality prior to any alteration or relocation of a watercourse and submitting evidence of such notification to the Federal Emergency Management Agency, as mandated by state and federal requirements.
4. Make interpretations, where needed, as to the exact location of the boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions).
5. Inspect sites to determine compliance with the erosion control guidelines.
6. Review permit applications to determine whether proposed building sites, including the placement of manufactured homes shall be reasonably safe from flooding.
7. Review permits for proposed development to see what permits have been obtained from those federal, state, or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C 1334) from which prior approval is required.
8. Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.
9. When base flood elevation data has not been provided in accordance with this Ordinance, the Floodplain Administrator shall obtain, review and reasonably utilize any base flood elevation data and floodway data available from a federal, state, or other source, in order to administer the provisions of this Ordinance.
10. When a regulatory floodway has not been designated, the Floodplain Administrator must require that no new construction, substantial improvements, or other developments (including fill) shall be permitted within Zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, shall not increase the water surface elevation on the base flood more than one foot at any point within the community.
11. Under provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program regulations, the Floodplain Administrator may approve certain development in Zones A1-30, AE, AH, on the community's FIRM which increases the water surface elevation of the base flood by more than one foot, provided that an application and approval for a conditional FIRM revision is made and received from FEMA.

12. For structures built on fill in or near the flood plain, require a minimum setback distance of 20 feet from the flood plain in accordance with guidelines in FIA-TB-10 issued by FEMA.

## **B. Responsibilities of Property Owners**

1. The owner or developer of a property to be developed shall be responsible for managing all storm drainage flowing through or abutting such property. This responsibility also includes drainage directed to that property by ultimate development as well as the drainage naturally flowing through the property by reason of topography. The owner, builder or developer of a property shall be responsible for any silt or soils from his property transported downstream from the property by drainage. It is the intent of this Ordinance that provisions be made for managing storm drainage and preventing erosion and sedimentation problems.
2. Where the improvement or construction of a storm drainage facility is required along a property line common to two or more owners, the owner hereafter proposing the development of the property shall be responsible for obtaining the necessary City permits, making the required improvements at the time of development and acquiring or dedicating the necessary rights-of-way or easements to accommodate the improvements. The initial developer may recover a portion of the cost from the adjacent developer in accordance with a Developers' Agreement. Also, the cost of oversized drainage structures may be participated in by the City in accordance with Provisions of this Ordinance, or any subsequent amendment thereto.
3. Where an applicant proposes development or use of only a portion of the property, provisions for storm drainage and erosion control shall only be required in that portion of the property proposed for immediate development, except as construction or improvements of a drainage facility or erosion controls outside that designated portion of the property are deemed essential to the development of that designated portion.
4. The owner or developer of a property must provide sufficient evidence that all necessary, local, state and federal permits have been obtained.

## **C. Plat Review and Approval Process**

The City of Lancaster has several approval processes and permits in place which relate to storm water drainage and floodplains. These processes and permits include but are not limited to:

### 1. Platting Process

In accordance with the City's subdivision regulations, a construction plan and profile sheets for all public improvements, including drainage facilities, shall be submitted with the final plat. All on-site and off-site drainage easements to be utilized by the development must be submitted with the construction plans. Requirements for preliminary and final plat submission are outlined in the Storm Water Design Manual of the City of Lancaster.

### 2. Dedication of Drainage Easement

Public drainage systems designed to convey the design storm runoff shall be contained within a drainage easement or a floodplain/floodway easement or property dedicated to the Public. In addition to completely containing the design storm runoff, these easements shall be widened ten (10) feet on either side for maintenance access.



3. Platting of Property Along Drainage Channels

Platting along streams and drainage channels within the 100-year storm event floodplain, based on fully developed watershed conditions, shall require compliance with one of the following conditions:

- a. Dedication of a floodplain easement
- b. Dedication of a floodway easement if floodplain reclamation is approved
- c. Dedication of floodplain land for use as a park, common open space or environmental preservation area.

4. Erosion Hazard Setbacks

Erosion hazard setbacks shall be utilized to provide stream bank protection for the major streams, as defined in this Ordinance, within the City which are to be maintained as natural floodplains. Erosion setbacks may also be required for other streams within the City where a future determination is made that the stream shall be maintained as a natural floodplain.

Natural channel banks shall be protected by use of the determined setbacks unless a plan to stabilize and protect streambanks is approved. Where setbacks are established, no building, fence, wall, deck, swimming pool or other structure shall be located, constructed or maintained within the area encompassing the setback.

The setback requirement for each stream shall be determined as described in Section 2.12 of the Storm Water Design Manual and shown on the final plat.

5. Development Permits (Flood-Prone Areas)

All developers, owners or builders shall obtain a building permit before beginning any projects in floodplain areas, including but not limited to: constructing new buildings and infrastructure, filling land, altering waterways, substantially improving existing structures located in flood hazard areas or channelizing, impounding, realigning, deepening or other altering of a natural drainage way. A construction or renovation project cannot begin until the City has issued a building permit for the project. Approval or denial of a building permit by the City shall be based on the applicant's adherence to provisions of this Ordinance, including each of the following relevant factors:

- a. The danger to life and property due to flooding or erosion damage
- b. The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner
- c. The danger that materials may be swept onto other lands to the injury of others
- d. The compatibility of the proposed use with existing and anticipated development
- e. The safety of access to the property in times of flood for ordinary and emergency vehicles
- f. The cost of providing governmental services during and after flood conditions including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical, and water systems
- g. The expected heights, velocity, duration, rate of rise and sediment transportation of the flood waters and the effects of wave action, if applicable, expected at the site

- h. The necessity for the facility to have a waterfront location, where applicable
- i. The availability of an alternative location, not subject to flooding or erosion damage, for the proposed use
- j. The relationship of the proposed use to the comprehensive plan for that area.

6. Proceeding Without Approval

Any developer, owner or builder who fails to obtain a building permit before beginning the subject project is in violation of this ordinance. In addition to the penalties outlined in Section 3.1701, subsection P, no building permit, plat, site plan, certificate of occupancy or other use permit shall be issued for any construction, reconstruction or development upon any land where such construction, reconstruction or development is not in conformity with the requirements and intent of this Ordinance. Anyone who violates any of the terms and provisions of this Ordinance shall be denied the use permit until the violation is corrected. The city shall also not forward application materials for altering the federal flood insurance maps to the Federal Emergency Management Agency until the application materials are in compliance with the terms of this Ordinance.

**D. Deviations from Permit Terms**

Permits may be revoked by the City if, upon periodic inspection, it is determined that the work is not progressing in accordance with specifications of the approved plan and permit, or if it is determined that erosion from a building or construction site is not being controlled in a satisfactory manner.

Field changes to drainage system plans can be made upon approval by the City. Record drawings of the drainage system shall be submitted to the City at the completion of the project.

**E. Plan Requirements**

Application materials and plan requirements for drainage systems or floodplain alterations are listed below. All engineering plans for storm drainage and floodplain alteration projects shall be sealed by a Professional Engineer (P.E.) who is licensed in the State of Texas and experienced in civil engineering work. The total cost for preparing the engineering plans and implementing the plans shall be borne by the applicant.

1. Storm Drainage Plans

As part of the development process, storm drainage reports and plans shall be prepared and submitted with construction plans. These reports and plans shall include drainage systems and easements for both off-site and on-site drainage, so that the proper transition between the two can be maintained. Criteria for on-site development shall also apply to off-site improvements. The construction of all improvements shall be in accordance with the current specifications and regulations adopted by the City of Lancaster. Storm drainage plans shall be prepared in accordance with the Storm Water Design Manual.

2. Application Materials

Owners or builders who are planning to renovate existing structures or construct new structures shall apply for a building permit. If it is determined during the permit review that the proposed project is located in a flood-prone area, then the building permit applicant shall also be required to submit to the Floodplain Administrator for review copies of the appropriate materials listed below.

Owners or developers who are proposing to build or expand subdivisions shall submit a building permit application form. If the city staff determines the proposed work to be in flood hazard areas, then the applicant shall submit duplicate copies of the additional appropriate materials outlined below.

It is recommended that applicants coordinate the application materials listed below with those needed with other City of Lancaster permits and with the data requirements of the Federal Emergency Management Agency. Such coordination will facilitate staff review, and drawings could be combined to save the applicant from making multiple drawings.

- a. Projects involving an existing structure located in flood-prone areas:
  - xiv. Plan view to scale, showing existing and proposed locations, dimensions, lowest finished floor elevations (FFE) (including basements) and extent or elevation of the base flood and the design storm event
  - xv. A cost estimate of the proposed improvements or a copy of the contract amount for making the improvements
  - xvi. One of the following:
    - (a) Plans, sealed by a licensed professional engineer in the State of Texas, of any floodproofing techniques and elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed
    - (b) A certificate from a licensed professional engineer or architect, stating that the floodproofing techniques used on nonresidential structures meet the requirements of this Ordinance
    - (c) Elevation Certificate tied to City benchmark.
- b. All subdivisions and new construction in flood-prone areas:
  - i. An engineering report with the following recommended format, as applicable:
    - (a) Project description
    - (b) Description of the hydrologic and hydraulic analyses used, including the method used to determine historic rainfall and stream data, soils reports used to determine erosive velocity values and discharges and water surface elevations for both the base flood and the design flood
    - (c) Vicinity map
    - (d) Table of values for existing and proposed water surface elevations and velocities
    - (e) Documentation that the principle of equal conveyance has been achieved
    - (f) Engineering calculations for existing and proposed conditions for both the design flood and 100-year storm event discharges
    - (g) Evaluation of the natural floodway and floodplain limits for the design flood. The natural floodway differs from the FEMA regulatory floodway. The natural floodway is established to allow the City of Lancaster to effectively manage floodplain

areas. FEMA requirements for the regulatory floodway must also be met by applicants.

- ii. Engineering drawings consisting of the following recommended elements, as applicable:
  - (a) Water surface profile, including channel flow line, existing and proposed water surface elevations and location and number designation of cross sections
  - (b) Delineation of the Base Flood Elevations (BFE) as shown in the latest FEMA flood insurance study, if available
  - (c) Plan view on 24-inch by 36-inch paper, including:
    - (i) Scale and north arrow
    - (ii) Title block
    - (iii) Boundary lines and nearest street intersections
    - (iv) Existing and proposed contours
    - (v) Existing and proposed floodplain limits, and limits of the natural floodway and the regulatory floodway
    - (vi) Area to be removed from the floodplain or area to be altered
    - (vii) Top and toe of fill and/or side slopes and the numerical slope of the fill and/or side slopes labeled
    - (viii) Location, dimensions, etc., of all other associated improvements or alterations to the creek and/or floodplain, such as check dams, swales, channel modifications, existing structures, etc.
    - (ix) Location of cross sections
    - (x) Location of all existing and proposed easements and dedications
    - (xi) Site vicinity map
  - (d) Plots of cross sections, including:
    - (i) Scale
    - (ii) Title block
    - (iii) Existing and proposed ground elevations
    - (iv) Cut and/or fill areas labeled
    - (v) Limits of and numerical values for existing and proposed "n" values
    - (vi) Equal conveyance removed from both sides

**SECTION 14.1705 DRAINAGE STUDIES**

**A. General**

It is the policy of the City of Lancaster to require a drainage study on industrial, commercial, or multiple lot residential developments to be developed in the City. If a Final Drainage Study was not completed on an area that was previously platted, a Final Drainage Study may be required at the time of permitting for improvements.

**B. Preliminary Drainage Study**

When Required: It is the policy of the City of Lancaster to discuss and conceptually resolve drainage issues of a development at the Preliminary Plat stage. The applicant shall submit a Preliminary Drainage Study with the submittal of any preliminary plat of a proposed development. A Preliminary Drainage Study may also be required by the City when reviewing the merits of a change in zoning, especially when the proposed use is more intense than the current land use. Approval of the preliminary plat or zoning change may be contingent on the acceptability of the solutions proposed by the Preliminary Drainage Study.

Qualification to Prepare the Study: The Preliminary Drainage Study shall be prepared by a Professional Engineer licensed in the State of Texas, experienced in Civil Engineering, and having a thorough knowledge of the study of drainage issues. The Preliminary Drainage Study shall be signed, sealed, and dated by the person preparing the study.

Requirements: The requirements for a Preliminary Drainage Study shall be established and periodically updated. These requirements are found in the Storm Water Design Manual.

Exemptions: The City may waive the requirement of the Preliminary Drainage Study or may limit certain requirements where the Public Works Director determines that such requirements are not necessary for a proper review of the development.

**C. Final Drainage Study**

When Required: It is the policy of the City of Lancaster to resolve drainage issues of a development at the Final Plat stage. The applicant may be required to submit a Final Drainage Study with the submittal of the Final Plat, Replat or construction permitting phase, if a Final Drainage Study has not been previously completed for the proposed development or conditions have been modified. Approval of the above mentioned plats or construction may be contingent on the acceptability of the solutions proposed by the Final Drainage Study.

Qualification to Prepare the Study: The Final Drainage Study shall be prepared by a Professional Engineer licensed in the State of Texas, experienced in Civil Engineering, and having a thorough knowledge of the study of drainage issues. The Final Drainage Study shall be signed, sealed, and dated by the person preparing the study.

Requirements: The requirements for a Final Drainage Study shall be established and periodically updated by the City. These requirements are found in the Storm Water Design Manual.

Exemptions: The City may waive the requirement of the Final Drainage Study or may limit certain requirements where the Public Works Director determines that such requirements are not necessary for a proper review of the development.

**SECTION 14.1706    RUNOFF CALCULATIONS AND LIMITATIONS**

**A.     General**

The selection of an appropriate method for calculating runoff depends upon the size of the drainage area contributing runoff at a most downstream point of a project. The Rational Method is acceptable for situations in which the drainage area is generally less than 160 acres. A unit hydrograph method is required for situations with larger drainage areas. These methods are described in the Storm Water Design Manual.

Runoff computations shall be based upon fully developed watershed conditions in accordance with the City’s latest land use projections.

**B.     Drainage Improvements Required for Development**

All developments shall provide for any new drainage systems, the improvement of any existing drainage systems, channel improvements or grading, driveway adjustments, culvert improvements or any other improvement, drainage facility, or work which is necessary to provide for the storm water drainage needs of the development and the downstream areas impacted. Sheet flow into drainage channels or creeks shall be limited to non-erosive velocities as determined in the Storm Water Design Manual.

No proposed development shall be constructed which impedes or constricts runoff from an upstream watershed based on fully developed conditions.

It shall be the developer’s responsibility to determine the type, sizes, grades and capacities of all downstream drainage systems that convey runoff from the proposed development. The developer shall verify that the capacities of these systems are not exceeded as a result of the proposed development, and if off-site improvements are required as a result of the proposed development, the developer shall be responsible for constructing the needed improvements.

If no Storm Water Master Plan for a given watershed addressing downstream drainage systems has been prepared or the factors upon which a previous Storm Water Master Plan was based have been substantially changed, as determined by the Public Works Director, the developer shall, at the developer’s sole cost and expense, have a downstream analysis prepared in accordance with the Storm Water Design Manual Criteria by a Licensed Professional Engineer. The downstream analysis shall be performed to the point where the developed property is no more than 10% of the total drainage area. The downstream analysis shall determine:

1.     the necessary future capacities of the drainage systems to adequately convey the 100-year design flows from the watershed at full development,
2.     the existing 100-year flows and runoff coefficients within the watershed prior to the proposed development,
3.     the 100-year flows and runoff coefficients generated by each undeveloped tract within the watershed at full development based on current zoning or proposed zoning,
4.     the existing 100-year flows in excess of the existing system’s capacities within the watershed, if any,
5.     the various facilities and total cost of construction to provide downstream drainage systems with adequate capacities for the 100-year full development flows within the watershed, and

6. the proportionate share of increased runoff attributable to the development of each undeveloped tract within the watershed. This will be based upon the incremental increase in storm water runoff from each undeveloped tract at full development compared to the total increase from full development in the entire watershed above the existing 100-year flows. Portions of the watershed which lie outside the city limits of Lancaster shall be analyzed and accommodated as if fully developed.

Financing of on-site and off-site drainage facilities shall be in accordance with Section 3.1711 (Funding of Improvements) of this Ordinance.

### **C. Limitation of Runoff**

Calculations to verify downstream adequacy shall be performed to the nearest major receiving stream or downstream to the point where the developed property is no more than 10% of the total drainage area for each proposed development. The Storm Water Design Manual details the procedure to identify the downstream point for the 10% drainage area analysis (Ten Percent Rule). The City may also require additional downstream analysis if, in the opinion of the Public Works Director, other downstream areas are prone to flooding or erosion. Runoff from that development shall be limited as follows:

1. If the downstream analysis demonstrates that there is adequate capacity for the fully developed watershed conditions the developer may proceed with site discharge equivalent to the maximum developed for the site in the drainage analysis.
2. If the downstream analysis demonstrates there is not adequate capacity for fully developed watershed condition, the developer shall be required to either:
  - a. Limit discharge to predevelopment conditions or less, or
  - b. Improve downstream structures to handle the entire fully developed watershed conditions and proceed with site discharge equivalent to the maximum developed for the site in the drainage analysis.

### **D. Procedure for Drainage Areas Less Than 160 Acres**

Computation of storm water runoff for drainage areas less than 160 acres shall be by the Rational Method, which is based on the principle that the maximum rate of runoff from a given drainage area for an assumed rainfall intensity occurs when all parts of the area are contributing to the flow at the point of discharge. The Rational Method formula and design parameters for utilizing the formula for runoff calculation are contained in the Storm Water Design Manual.

### **E. Procedure for Drainage Areas Greater than 160 Acres**

For drainage areas in excess of 160 acres where the use of the Rational Method does not provide reliable results, a unit hydrograph method shall be used. The use of a unit hydrograph calculation shall be based upon standard and accepted engineering principles normally used in the profession, subject to the approval of the Public Works Director. Acceptable methods and parameters for the Unit Hydrograph Method are contained in the Storm Water Design Manual.

The unit hydrograph method shall be based upon fully developed watershed conditions. The detention effects of large regional detention facilities can be taken into account in unit hydrograph methods.

Circumstances that may require the use of a unit hydrograph method include sizing open channels, reclaiming floodplains, creating lakes or building other types of drainage-related facilities on major drainage courses. Design engineers of these types of facilities should be aware that the requirement of designing for fully developed watershed conditions will mean that they will have to calculate these fully

developed flows, instead of using the flows calculated in the Federal Emergency Management Agency's (FEMA) flood insurance studies. FEMA's flows shall not be used, because the flows are based upon existing watershed conditions. (For more information, see Section 3.1708 (Special Drainage Facilities) on the sizing of channels and other major drainage facilities, and Section 3.1709 (Floodplain Guidelines) for floodplain alteration procedures.)



**SECTION 14.1707 DESIGN OF LOCAL DRAINAGE SYSTEMS**

**A. Design Storm Frequencies**

The calculations of runoff quantities that must be accommodated in drainage systems require the selection of the design storm frequency. The design flood levels for various drainage facilities are found in the Storm Water Design Manual.

<u>Drainage Facility</u>	<u>Design Recurrence Interval</u>
Roadway ditches	25-year with 100-year spread of water not to extend beyond 1 open lane of traffic in residential estates type subdivisions.
Closed storm drain systems	25-year with 100-year positive overflow for inlets on grade in streets, such that the depth of flow in the street does not exceed the top of the curb. Inlet bypass flows shall be in accordance with the Storm Water Design Manual.
Closed storm drain systems and inlets at street low point, sag or sump	100-year
Culverts and bridges	100-year
Concrete-lined channels	100-year
Earthen channels	100-year
Levees	Standard project flood
Dams above natural ground/spillways	Spillway design flood varies with the class of structure (see Storm Water Design Manual)

The approved drainage system shall provide for positive overflow at all low points. The term "positive overflow" means that, when the inlets do not function properly or when the design capacity of the conduit or roadway ditch is exceeded, the excess flow can be conveyed overland along an open course. Normally, this would mean along a street or alley, but it can be constructed on private property within the dedication of a special drainage easement.

**B. Storm Drain Design Standards**

Storm drain design standards are found in the Storm Water Design Manual, including street and alley capacity, inlets and manholes capacity and placement, pipe and culvert design, and other standard methods and formulas for calculation of flow and depth.

**C. Drainage Easements for Enclosed Storm Drains**

All storm drain conduits to be dedicated to the City of Lancaster shall be located in the Right-Of-Way (R.O.W.) or in a drainage easement dedicated to the City of Lancaster at the time of final recording of a plat. Easement widths shall be determined in accordance with the Storm Water Design Manual.

**SECTION 14.1708 SPECIAL DRAINAGE FACILITIES**

**A. Channels**

1. Channel Design

If the drainage area is less than 160 acres, runoff shall be contained within an underground closed system, unless otherwise approved by the Public Works Director. Open channels may be approved by the Public Works Director for water quality protection purposes or to protect the environmental and aesthetic benefits of trees, springs, exposed channels and other significant natural features. Criteria for the design of open channels are found in the Storm Water Design Manual.

2. Starting Water Surface Condition

When performing hydraulic analyses for channel or drainageway design, the starting water surface shall be based on the criteria found in the Storm Water Design Manual.

**B. Lakes and Dams**

1. General

In the event that a property owner or developer desires to create or modify an existing pond or lake or desires to impound storm water by filling or constructing an above ground dam, thereby creating a lake, pond, lagoon or basin as part of the development of that property, the criteria listed in the Storm Water Design Manual shall be met before City approval of the impoundment can be given. Ponds or lakes created by excavation of a channel area without erecting a dam above natural ground elevation or instream low water check dams are also subject to the criteria. The dam safety requirements of the State of Texas must also be met for the construction of dams, lakes and other impoundments.

2. Maintenance and Liability

- a. The owner or developer shall retain their private ownership of the constructed lake, pond or lagoon or basin and shall assume full responsibility for the protection of the general public from any health or safety hazards related to the lake, pond or lagoon constructed.
- b. The owner or developer shall assume full responsibility for the maintenance of the lake, pond or lagoon or basin constructed. The owner or developer shall keep the Public Works Director advised, in writing, of the currently responsible agent for this maintenance.

**C. Levees**

In the event that developers or owners wish to build levees to protect an area from flooding, applicable FEMA guidelines, State of Texas dam safety guidelines and the criteria listed in the Storm Water Design Manual shall apply.

**D. Detention and Retention Facilities**

Detention/retention facilities to reduce runoff rates may be required due to inadequate storm drainage systems or a change in land use resulting in a significant increase in runoff. Inadequate storm drainage systems to be considered include downstream structures, channels, etc. and identifiable flood prone areas.

Detention/retention facilities shall be in compliance with all applicable design requirements of all Local, State or Federal ordinances, laws or regulations, including the regulations for dam safety of the Texas Commission on Environmental Quality. Detention/retention pond design criteria is outlined in the Storm Water Design Manual.

**E. Flumes**

Flumes are not recommended for widespread use. Flumes shall not be permitted when the purpose of a permanent flume is to carry runoff down the sides of earthen channels. A flume may be used to direct overflow runoff along property lines until the runoff can be intercepted by streets or conduit flows. Flumes crossing sidewalks shall be covered or bridged, so as to minimize danger to pedestrians. Applicants shall dedicate drainage easements for flumes. Those easements shall have sufficient width to allow future maintenance accessibility, and in no case shall the easement be less than 15 feet wide.

**F. Connections from Buildings to Storm Drains**

Drainage from areas such as roof tops should be allowed to flow overland before joining the storm drain system. Seepage into basements that is pumped to ground level, seepage from springs and runoff from roof drains on nonresidential buildings that would flow onto or across driveways, sidewalks or other areas commonly crossed by pedestrians or vehicles that create a public hazard or nuisance shall be tied directly to the nearest storm drain. Pumped lines from basements shall have backflow prevention devices.

**SECTION 14.1709 FLOODPLAIN GUIDELINES****A. Lands to Which This Section Applies**

Applicants shall comply with the requirements of this Section and the Storm Water Design Manual for special flood hazard areas before making substantial improvements to or increasing the outside dimensions of an existing structure or developing land within the design flood line of a creek or stream, whether or not the land has been formally designated as a special flood hazard area. Special flood hazard areas shall also include all areas inundated by the design flood and the floodplain areas shown in the latest Flood Insurance Study and on the Flood Insurance Rate Maps and subsequent amendments thereto.

**B. General Floodplain Regulations****1. Regional Detention/Retention of Storm Water Runoff**

Existing regional detention/retention facilities provide storm water retention as a design feature. This retention volume was considered in establishment of the design flood and shall be maintained. Natural floodplains for major streams shall be maintained to provide regional flood control measures, enhance water quality and mitigate regional erosion. Major streams for the City of Lancaster are defined in Section 3.1703.

**2. Reclamation of Floodplains**

Portions of the 100-year floodplain, based on fully developed conditions, may be reclaimed provided there is no increase in the water surface elevation and acceptable velocities are maintained. In addition, for major streams, an equivalent volume of valley storage must be provided within the floodplain.

**3. Permitted uses of floodplain areas**

To minimize possible losses of life and property, the following uses are permitted in a floodplain area, provided they are also permitted in the underlying zoning district:

- a. Farm or ranch
- b. Local utilities, electrical substation, water reservoir or pumping station and water treatment plant
- c. Public park or playground, private recreation club or area, private community center and golf course
- d. Parking lots in accordance with this Ordinance
- e. Outside commercial amusement, approved by a specific use permit
- f. Helistop, approved by a specific use permit
- g. Radio, television or microwave tower and amateur communications tower with a special permit

Structures customarily associated with the above uses may be constructed within a floodplain area only if the proposed structure meets the same engineering requirements applicable to filling in a floodplain.

Open private recreation clubs or areas and private community centers without exterior walls are permitted in floodplain areas. Private facilities listed above, with enclosed walls that would incur damage, are not permitted in floodplain areas.

Uses and structures other than those mentioned above shall not be permitted in floodplain areas.

**C. General Standards**

In all areas of special flood hazards the following provisions are required for all new construction and substantial improvements:

1. All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
2. All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
3. All new construction or substantial improvements shall be constructed with materials resistant to flood damage.
4. All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding according to established design flood elevations.
5. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into the flood waters.
6. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

**D. Specific Standards**

In all areas of special flood hazards, the following provisions are required:

1. Residential Construction

New construction and substantial improvement of any residential structure shall have the lowest floor (including basement) elevated to a minimum of one foot (1') above the design flood (i.e., fully developed conditions 100-year) elevation. A registered professional engineer, architect, or registered professional land surveyor (RPLS) shall submit a certification to the floodplain administrator that the standard of this subsection is satisfied.

2. Nonresidential Construction

New construction and substantial improvements of any commercial, industrial, or other nonresidential structure shall either have the lowest floor (including basement) elevated to at a minimum of one foot (1') above the design flood level or, together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of

construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained by the floodplain administrator.

3. Enclosures

New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a licensed professional engineer or architect or meet or exceed the following minimum criteria:

- a. A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
- b. The bottom of all openings shall be not higher than one foot above grade.
- c. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

4. Manufactured Homes

- a. All manufactured homes to be placed within a special flood hazard area shall be installed using methods and practices which minimize flood damage. For the purpose of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.
- b. Manufactured homes that are placed or substantially improved within a special flood hazard area must be located in one of the following:
  - i. outside of a manufactured home park or subdivision,
  - ii. in a new manufactured home park or subdivision,
  - iii. in an expansion to an existing manufactured home park or subdivision, or
  - iv. in an existing manufactured home park or subdivision on which a manufactured home has incurred “substantial damage” as a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated to one foot (1’) above the design flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

5. Recreational Vehicles

Require that recreational vehicles placed on sites within special flood hazard areas either:

- a. be on the site for fewer than 180 consecutive days, or
- b. be full licensed and ready for highway use, or
- c. meet the permit requirements of this Ordinance and the elevation and anchoring requirements for manufactured homes.

A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

6. Streets, Parking Lots and Bridges

The top of the curb or street crown of all new streets to be built in reclaimed floodplain areas shall be at least one foot (1') above the design flood elevation. The low beam of all new bridges to be constructed across floodplains shall be a minimum of one foot (1') above the design flood elevation. All new private bridges to individual homes shall have their low beams at one foot above the design flood elevation. Parking lots associated with residential uses in reclaimed floodplain areas shall be at least at the design flood elevation. Parking lots for commercial and industrial uses may be built at one foot below the design flood elevation. Parking lots for public parks or playgrounds, private recreation clubs or areas, private community centers and golf courses may be located below the design flood elevation if approved by the Public Works Director.

7. Utilities

All new and replacement water supply systems, sanitary sewer facilities and other public utilities shall be designed to minimize or eliminate infiltration of floodwaters into the system. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

8. Fences

In any floodplain or positive overflow areas, fences (private and public screening) shall be constructed such that blockage of surface water flow does not occur.

9. Trees

The planting of trees in existing drainage channels, designated floodways, floodplain or floodway easements, hazard setback zones, or positive overflow areas shall not be allowed if it will impede the natural flow of the drainage channels designated floodway, floodplain or floodway easement, hazard setback zone or positive overflow area.

10. Fill Areas

Where fill is proposed for placement to raise the ground surface to at least one foot (1') above the design flood elevation, design engineers proposing the reclamation shall demonstrate that the fill will not settle below the design elevation of the fill; and that the fill will be adequately protected from erosion, scour or differential settlement. Fill slopes shall be permanently protected from erosion losses by grassing, establishing vegetative cover approved by the Public Works Director or installing channel linings when allowed by the other provisions of this ordinance. A qualified geotechnical analysis certifying compaction of the fill to no less than 95 percent of the standard proctor densities is required. For structures built on fill in or near the flood plain, a minimum setback distance of 20 feet from the flood plain will be required in accordance with guidelines in FIA-TB-10 issued by FEMA.

11. Additional Construction Standards for Structures

All substantial improvements and new construction permitted in a floodplain area must comply with the following requirements:

- a. Structures must be securely anchored to the foundation to prevent flotation and collapse during inundation and designed to prevent damage to nonstructural elements during inundation.
- b. Thermal insulation used below the first floor elevation must be of a type that does not absorb water.
- c. Adhesives must have a bonding strength that is unaffected by inundation.
- d. Doors and all wood trim must be sealed with a waterproof paint or similar product.
- e. Mechanical, electrical and utility equipment shall be located a minimum of one foot (1') above the design flood elevation.
- f. Water heaters, furnaces, electrical distribution panels and other critical mechanical or electrical installations must not be placed in basements. Electrical circuits for basements shall be separate from circuits serving floors above the basement, and circuits for basements shall be installed lowered from above.
- g. Basements are permitted for nonresidential structures only if they are designed to preclude inundation by the design flood elevation, either by:
  - i. the elimination of exterior openings below the design flood elevation, or
  - ii. the use of watertight closures, such as bulkheads and flood shields. However, no basements are permitted in soil whose permeability meets or exceeds the minimum local standards of permeability established for the installation of individual sewer disposal systems.
- h. Plywood used at or below the lowest floor elevation must be of an "exterior" or "marine" grade and of a water-resistant or waterproof variety.
- i. Wood flooring used at or below the lowest floor elevation must be installed to accommodate a lateral expansion of the flooring, perpendicular to the flooring grain, without incurring structural damage to the building.
- j. Basement ceilings for nonresidential structures must be of sufficient wet strength and be so installed as to survive inundation.
- k. Paints or other finishes used at or below the lowest floor elevation must be capable of surviving inundation.
- l. All air ducts, large pipes and storage tanks located at or below the lowest floor elevation must be firmly anchored to prevent flotation.
- m. Tanks must be vented at a location above the design flood elevation.

**E. Standards for Subdivision Proposals**

- 1. All proposals for the development of subdivisions including manufactured home parks and subdivisions shall meet development permit requirements of this Ordinance.
- 2. Design flood elevation data shall be generated for subdivision proposals and other proposed development including manufactured home parks and subdivisions which are greater than either 50 lots or 5 acres, if not otherwise provided pursuant to this Ordinance.



3. All subdivision proposals including manufactured home parks and subdivisions shall have adequate drainage provided to reduce exposure to flood hazards.
4. All subdivision proposals including manufactured home parks and subdivisions shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

#### **F. Standards for Areas of Shallow Flooding (AO/AH Zones)**

Located within the areas of special flood hazard are areas designated as shallow flooding. These areas have special flood hazard associated with base flood depths of 1 to 3 feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and where flow may be evident. Such flooding is characterized by ponding or sheet flow. The following provisions apply:

1. All new construction and substantial improvements of residential structures shall have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified).
2. All new construction and substantial improvements of nonresidential structures shall:
  - a. have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two (2') feet if no depth number is specified), or
  - b. together with attendant utility and sanitary facilities be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.
3. A registered professional engineer or architect shall submit a certification to the Floodplain Administrator that the standards of this section are satisfied.
4. Within Zones AH or AO adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures, are required.

#### **G. Floodways**

Floodways - Located within areas of special flood hazard are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:

1. Encroachments are prohibited, including fill, new construction, substantial improvements and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice by a licensed professional engineer or architect that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the design and base flood discharges, and approval of the Public Works Director is obtained.
2. All new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of this Ordinance.

**H. Verification of Floodplain Alterations**

1. Certified Minimum Proposed Finished Floor Elevations (FFE)

Prior to final acceptance by the city of utilities, street or other public construction for projects involving floodplain alterations or adjacent to defined floodplains, creeks, channels and drainage ways, a certified statement shall be prepared by a registered professional land surveyor or licensed professional engineer, showing that all lot elevations, as developed within the subject project, meet or exceed the required minimum finished floor elevations (FFE) shown on the plans and plat. This certification shall be filed with the City.

2. Certified Elevations of Constructed Finished Floor

In addition, at any time in the future when a building permit is desired for existing platted property which is subject to flooding or carries a specified or recorded minimum finished flood elevation, a registered professional land surveyor or a licensed professional engineer shall prepare a certified statement that sites are built to the design elevations. The certified survey data showing the property to be at or above the specified elevation shall be furnished to the Floodplain Administrator for approval. A certificate of compliance with the provisions of this Ordinance, pertaining to specified finished floor elevations, shall be required.

3. Issuance of Development Permits

The applicants shall furnish, at their expense, to the Floodplain Administrator the above certifications and any other certified engineering and surveying information requested by the Floodplain Administrator to confirm that the required minimum floor and pad elevations have been achieved. Development permits shall not be issued until a conditional letter of map revision or amendment has been issued by FEMA.

**SECTION 14.1710 EROSION CONTROL GUIDELINES****A. Lands to Which This Section Applies**

Private property owners, developers or builders shall be accountable for any erosion of their property or construction site which results in accumulation of sediment in dedicated streets, alleys, any waterway or other private properties. Any accumulation or deposit of soil material beyond the limits of the property or in City streets, alleys or drainage facilities in an amount sufficient to constitute a threat to public safety and comfort as determined by the City shall constitute a violation of this Ordinance. The only exceptions to this provision are lands under active agricultural use. As soon as construction or modification to the exempted land is to begin so that the use of the land will change from agriculture to any other use, then the land shall lose its exemption and become subject to the provisions of this Ordinance.

**B. General Guidelines**

1. Maximum use shall be made of vegetation to minimize soil loss.
2. Natural vegetation should be retained wherever possible.
3. Where inadequate natural vegetation exists or where it becomes necessary to remove existing natural vegetation, temporary controls shall be installed promptly to minimize soil loss and reduce erosion and sedimentation to the greatest degree practicable.
4. Wherever possible during construction, erosion controls and Best Management Practices shall be used on hillsides to slow drainage flow rate.
5. Erosion control elements and Best Management Practices must be installed prior to the start of construction activity in accordance with applicable TCEQ storm water general permit requirements.
6. Waste or disposal areas and construction roads should be located and constructed in a manner that shall minimize the amount of sediment entering streams.
7. Frequent fording of live streams shall not be permitted; therefore, temporary bridges or other structures shall be used wherever an appreciable number of stream crossings are necessary.
8. When work areas or material sources are located in or adjacent to live streams, such areas shall be separated from the stream by a dike or other barrier to keep sediment from entering a flowing stream. Care shall be taken during the construction and removal of such barriers to minimize the sediment transport into a stream.
9. Should preventative measures fail to function effectively, the applicant shall act immediately to bring the erosion and/or siltation under control by whatever additional means are necessary.
10. Erosion control devices shall be placed to trap any losses from stockpiled topsoil.
11. The selection and timing of the installation of erosion controls shall be based upon weather and seasonal conditions that could make certain controls not practicable.
12. Vegetation used for vegetative cover shall be suitable for local soil and weather conditions. Ground cover plants shall comply with listings from the Texas Agricultural Extension Service for North Central Texas.
13. Runoff shall be diverted away from construction areas as much as possible.

14. Stripping of vegetation from project sites shall be phased to the degree practicable so as to expose the minimum amount of area to soil erosion for the shortest possible period of time. Phasing shall also consider the varying requirements of an erosion control plan at different stages of construction.
15. Final acceptance shall also be contingent upon having all necessary erosion control measures installed to minimize off-site sediment. A site may be accepted without erosion control measures if perennial vegetative cover is actively growing.

## C. Erosion Control Required

### 1. State Requirements

The Texas Commission on Environmental Quality (TCEQ) regulates storm water discharges from construction sites. Prior to initiating any construction project, the state requirements should be reviewed to determine the current requirements. TCEQ requirements for storm water protection from construction activity must be followed. For construction activity that disturbs one or more acres, a storm water pollution prevention plan must be developed and erosion control measures must be implemented throughout construction activity. To obtain coverage under the general permit for construction activities which disturb more than five acres, a Notice of Intent (NOI) must be prepared and submitted to the TCEQ. The NOI must include certification that a Storm Water Pollution Prevention Plan (SWP3) has prepared in accordance with the requirements of the general permit.

For storm water discharges from construction sites five acres or larger into the City's storm sewer system, a copy of the completed NOI must be submitted to the City Engineer. For storm water discharges from construction sites between one and five acres into the City's storm sewer system, a copy of the construction site notice must be submitted to City Engineer.

### 2. Application of Section

A Responsible Party engaging in any land disturbing activity or any construction activities shall prepare an Erosion Control Plan and submit that Plan to the City Engineer for approval. This Ordinance shall apply regardless of whether a Responsible Party is required to obtain a permit from the City in order to conduct such land disturbing or construction activity. The Responsible Party shall also be held liable for violations of this Ordinance committed by third parties engaging in activities related to the Responsible Party's project.

### 3. Erosion Control Plan Implementation and Compliance

Each Responsible Party shall implement and maintain the erosion control measures shown on its approved Erosion Control Plan in order to minimize the erosion and the transport of silt, earth, topsoil, etc., by water runoff or construction activities, beyond the limits of the Responsible Party's site onto City streets, drainage easements, drainage facilities, storm drains of other City property prior to beginning any land disturbing activity.

### 4. Off-Site Borrow, Spoil and Staging Areas

Where applicable, off-site borrow areas, spoil areas and construction staging areas shall be considered as part of the project site and shall be governed by this Ordinance.

5. Related Land Areas

The erosion control requirements of this Ordinance shall apply to all related land areas. Additionally, when land disturbing activity occurs on a project, all disturbed land areas related to the project shall have permanent erosion control established before final occupancy of structures located thereon or final acceptance of the subdivision may be obtained. This section applies whether or not a building permit is required.

6. Below Ground Installations

All discharges resulting from below ground installations shall be passed through City approved erosion control devices or removed from the site for proper disposal.

**D. Erosion Control Plans**

Each Erosion Control Plan required by this Ordinance shall clearly identify all erosion and sediment control measures to be installed and maintained throughout the duration of the project for which that Plan is submitted. The Responsible Party shall install and maintain erosion control devices in accordance with the City-approved Erosion Control Plan as required by this Ordinance.

**E. Development Compliance**

When construction or land disturbing activities are conducted as part of a construction project, permanent erosion control shall be established prior to the occupancy of any structure. Phased occupancy shall be allowed only when there are no outstanding erosion control violations for the project for which the request is made.

In addition to the other requirements of this Ordinance, when construction or land disturbing activities are conducted as part of a project, the following shall apply:

1. Erosion Control Deposit Account

Prior to the Pre-construction Meeting, the Developer shall submit an Erosion Control Plan for approval by the City and shall pay an erosion control deposit to the City in the amount of \$500.00 per acre with a maximum of \$20,000.00 and a minimum of \$1,000.00. If a Developer has more than one subdivision under construction, a deposit account shall be established for each development. The deposit(s) shall be posted to compel the Developer to implement and maintain the City approved Erosion Control Plan. At no time shall a deposit balance fall below \$5,000.00, or the initial deposit amount, whichever is less. If the fund has less than \$5,000.00, work on the project shall stop until additional funds are deposited to bring the balance above \$5,000.00. No inspection of any type may be performed on a project or portion thereof until a City approved Erosion Control Plan is implemented by the Responsible Party.

2. Final Acceptance

Permanent erosion control devices and when applicable, temporary erosion control devices, as specified in the approved Erosion Control Plan shall be installed and maintained prior to final acceptance of a subdivision. The Developer for such subdivision shall continue to maintain all temporary erosion control devices until permanent erosion control has been established on all those lots within the subdivision for which a building permit has not been issued.

3. Transfer of Property by Developer

If the Developer sells all of the lots in a subdivision to one purchaser, that purchaser:

- a. becomes the Responsible Party for the subdivision,
- b. is liable for violation of this Ordinance, and
- c. shall post an erosion control deposit as required by this Ordinance.

The balance remaining in the original Developer's account shall be released as provided herein upon the submission of written proof of transfer of lots and a new erosion control deposit by the purchaser. As required by this Ordinance, the purchaser shall post an erosion control deposit with the City.

4. Deductions from Erosion Control Deposit Account/Stop Work Orders/Citation

The City shall inspect the erosion control devices located at a site for compliance with the approved Erosion Control plan submitted by a Developer. If a Developer fails to implement or maintain erosion control devices as specified in his approved Erosion Control Plan, the City shall provide such party with written notice of noncompliance identifying the nature of the noncompliance. Such notice shall also inform the Developer of the circumstances under which a deduction from his deposit account will be made and the time frame for the filing of an appeal of such action by the City. The Developer shall have twenty-four (24) hours to bring his erosion control devices into compliance with the approved Erosion Control Plan for the site to which notice of noncompliance was issued. Correction shall include sediment clean-up, erosion control device repair, erosion control device maintenance and/or installation of additional erosion control devices to prevent re-occurrence of the violation. The twenty-four (24) hour cure period, may be extended for inclement weather or other factors at the discretion of the City.

At the end of twenty-four (24) hour cure period, the City shall re-inspect the site and shall deduct a re-inspection fee of \$75.00 from the Developer's erosion control deposit account. If at the time of such re-inspection, the erosion control devices at the site have not been brought into compliance with the approved Erosion Control Plan, the City may issue a stop work order and issue a citation for each violation of this Ordinance.

If a violation is not resolved within the twenty-four (24) hour cure period, the City may, at its sole discretion, cause erosion control devices to be installed or repaired, sediment to be removed, or take other actions necessary to correct the problem. Costs for such work, an administration fee, and re-inspection fees shall be charged against the Erosion Control Deposit Account. Stop work orders shall be issued until the total amount of charges is refunded by the Developer into the Erosion Control Deposit Account. A citation shall also be issued for each violation in which the City acts to cure the violation. The Responsible Party shall have the right of appeal as set forth in this Ordinance.

5. Erosion Control Deposit Account Balance-Deposit Refund

After building permits have been issued for ninety percent (90%) of the lots within the development, the Developer may request the return of the remainder of his deposit by submitting a written request to the City Engineer. However, the Developer shall continue to maintain temporary erosion control devices on those remaining lots for which building permits have not been issued and for any other areas upon which permanent erosion control has not been established. The balance of the deposit remaining in an account after deductions for all violations have been made shall be refunded within thirty (30) days of receipt of the written request for refund along with a list of all deductions made from the deposit account. The Responsible Party shall have the right of appeal as set forth in this Ordinance.

6. Erosion Control Deposits

Erosion control deposits posted pursuant to the requirements of this Ordinance shall not accrue interest.

**F. Residential Lots with a Building Permit**

When land disturbing activities are conducted on a residential lot for which a building permit must be issued, the Responsible Party shall comply with the following:

1. Erosion Control Plan

Prior to approval of a building permit for a residential lot by the City, the Builder/Contractor of other Responsible Party obtaining the building permit shall submit an Erosion Control Plan for approval by the City. No construction may be performed on a project until a City-approved Erosion Control Plan is implemented.

2. Stop Work Order/Citation

The City shall inspect the erosion control devices located at a site for compliance with the approved Erosion Control Plan submitted for such site. If a Responsible Party fails to implement or maintain erosion control devices as specified in the approved Erosion Control Plan, the City shall provide such party with written notice of noncompliance identifying the nature of such noncompliance. The Responsible Party shall have twenty-four (24) hours to bring the erosion control devices into compliance with the intent of the approved Erosion Control Plan for the site where the violation occurred. Modifications to the approved erosion control plan may be required to maintain all sediment on-site. Correction shall include sediment clean-up, erosion control device repair, erosion control device maintenance, and/or installation of additional erosion control devices to prevent re-occurrence of the violation. The twenty-four (24) hour cure period may be extended for inclement weather or other factors at the discretion of the Building Official. If the intent of the approved control plan (maintaining sediment on-site) is not met, then the Responsible Party shall take action within twenty-four (24) hours to control soil eroding from the site and clean up any sediment and shall have one week to submit a new erosion control plan. Work may continue during the review period. Implementation of this plan shall be required within twenty-four (24) hours of plan approval by the City. If no plan is submitted within one week, then construction activities shall be halted until a new plan is submitted and approved.

At the end of the twenty-four (24) hour cure period, the City shall re-inspect the site and may assess a re-inspection fee. If at the time of such re-inspection, the erosion control devices at the site have not been brought into compliance with the approved Erosion Control Plan, the City may issue a stop work order and issue a citation for each violation of the City's erosion control requirements. When a stop work order has been issued, a re-inspection fee shall be assessed. To obtain a re-inspection for removal of the stop work order, a request must be submitted therefore and a re-inspection fee of \$75.00 shall be paid.

3. Removal of Erosion Control Devices

Upon issuance of a Certificate of Occupancy or upon establishing permanent ground cover on a lot, all temporary erosion control devices shall be removed.

**G. Enforcement**1. Violations

It shall be an offense for a Responsible Party or a third party performing work on a project to violate any of the requirements of this Ordinance, including, but not limited to, the following:

- a. Conducting any land disturbing or construction activity without an approved Erosion Control Plan for the location where the violation occurred
- b. Failing to install erosion control devices or to maintain erosion control devices throughout the duration of land disturbing activities, in compliance with the approved Erosion Control Plan for the location where the violation occurred
- c. Failing to remove off-site sedimentation that is a direct result of land disturbing activities where such off-site sedimentation results from the failure to implement or maintain erosion control devices as specified in an approved Erosion Control Plan for the location where the violation occurred
- d. Allowing sediment laden water resulting from below ground installations to flow from a site without being treated through an erosion control device
- e. Failing to repair damage to existing erosion control devices, including replacement of existing grass or sod

2. Notice of Violation

Written notice of violation shall be given to the Responsible Party or his job site representative as identified in the Erosion Control Plan for a site. Such notice shall identify the nature of the alleged violation and the action required to obtain compliance with the intent of the approved Erosion Control Plan.

3. Class C Misdemeanor

Any person, firm, or corporation performing land disturbing activities and violating any of the provisions or terms of this Ordinance and not complying within the time periods stated in this document shall be deemed guilty of a Class C misdemeanor and, upon conviction thereof, be subject to a fine not exceeding \$2,000 for each offense, and each and every day such violation shall continue shall be deemed to constitute a separate offense.

**H. Appeals**1. Appeal to Public Works Director

Upon notice of noncompliance, a Responsible Party may appeal the City's decision to take deductions from his erosion control deposit pursuant to Section 3.1711, subsection A of this Ordinance, by filing a written appeal to the Public Works Director within seven (7) days of the City's written notice of its intent to make such deduction for costs as allowed herein. An Appeal filed pursuant to this section shall specifically state the basis for the aggrieved party's challenge to the City's authority to take deductions under this Ordinance.

2. Standard for Appeals

When reviewing an appeal filed pursuant to this Section, the Public Works Director shall evaluate all evidence submitted. The burden of proving that a violation of this Ordinance occurred shall be on the City. The City shall provide evidence sufficient to reasonably support a determination



that the Responsible Party failed to comply with the requirements of this Ordinance as alleged by the City.

3. Issuance of Opinion by Director

Decisions of the Public Works Director shall be issued within twenty (20) days of the City's receipt of the written appeal. Decisions of the Public Works Director shall be final.

**I. Stream Bank Erosion**

Erosion control shall be provided along streams and drainage channels. This Ordinance provides for erosion hazard setback zones along streams for which natural channels are to be preserved. Where bank stabilization or other erosion protection measures are required to protect streams and channels, the practices provided in the Storm Water Design Manual for the City of Lancaster shall be utilized as approved by the City.

**SECTION 14.1711 FUNDING OF IMPROVEMENTS**

**A. Developer Responsibilities**

1. On-Site Improvements

- a. The on-site drainage system improvements required by a proposed development shall be identified in the Preliminary Drainage Study and Final Drainage Study for that development and located completely within the limits of the proposed development, unless otherwise authorized by the City as part of an executed agreement.
- b. The cost of any on-site drainage system improvements required by this Ordinance or proposed by the Developer shall be financed entirely by the Developer.
- c. If the City determines that enlargement of the on-site drainage improvements beyond the requirements of this Ordinance is beneficial to the City, the City shall fund the difference between the enlarged drainage improvements and the on-site drainage improvements required by this Ordinance, if adequate funds are available.

2. Off-Site Improvements

- a. If the Preliminary Drainage Study or Final Drainage Study demonstrates that off-site drainage improvements are not required due to adequate downstream capacity for the fully developed watershed conditions, the Developer may proceed with site discharge equivalent to or less than the maximum developed for the site in the Preliminary or Final Drainage Study.
- b. If the Preliminary or Final Drainage Study identifies necessary off-site drainage system improvements due to only partially adequate downstream capacity for the fully developed conditions, the Developer must conduct the following with the approval of the City and the affected downstream property Owners:
  - i. Improve downstream structures to handle the development’s impact at the fully developed watershed condition and proceed with site discharge equivalent to or less than the maximum developed for the site in the Drainage Study, or
  - ii. Improve downstream structures to handle the flow of fully developed discharge of the site under development and the discharge for existing conditions on other areas in the watershed, or
  - iii. Limit the post-development discharge to pre-development discharge or less.
- c. The Developer shall be responsible for financing the Developer’s equitable share of improvements to off-site drainage systems that are not adequate to convey the design runoff from the proposed development.

3. Developer-Proposed Improvements that Exceed Ordinance Requirements

If the Developer proposes drainage system improvements that exceed the requirements of this Ordinance, the Developer shall be responsible for financing the entirety of the improvements.

4. Regional Detention/Retention Facilities

For regional detention/retention facilities proposed by a Developer, the engineering analysis to evaluate the upstream and downstream impacts shall be financed by the Developer and approved by the City.

**B. City Participation**

1. If enlargement of off-site drainage improvements beyond the requirements of this Ordinance is determined to be beneficial to the City, the City may fund the difference between the enlarged drainage improvements and the off-site drainage improvements required by this Ordinance, if adequate funds are available.

2. Where the City is requested to participate in the construction of drainage improvements, the City may participate in the cost of such drainage improvements in an amount not to exceed the difference in the total cost of the drainage improvements and the cost of the drainage improvements required for the Developer as specified in the Storm Water Ordinance.

3. Where the City agrees to participate in the construction of drainage improvements, and adequate City funds are not available, the Developer may elect to provide for financing of improvements.

a. Upon prior execution of an agreement with the City for reimbursement, the Developer is entitled to recover from the City the portion of the improvements attributable to the City once City funds become available.

b. Where City funds are not available, the Developer may elect to finance the entire improvements.

4. City Financing Mechanisms

a. The City may establish a storm water utility fee to provide funding for drainage-related activities, including but not limited to the construction, operations, and maintenance of drainage facilities.

b. The City may establish a drainage impact fee for an entire watershed or sub-watershed(s) to finance the cost of drainage improvements.

c. The City may require Developers and/or Builders to establish and maintain an Erosion Control Deposit Account to implement and provide for continued maintenance of the Site Erosion Control Plan submitted to and approved by the City.

**SECTION 14.1712      ADOPTION**

WHEREAS, the present Storm Water Management Ordinance of the City of Lancaster does not provide for adequate storm drainage facilities, flood control, erosion control and water quality pollution prevention in the developed and developing areas within the jurisdiction of the City, and that the inadequacy constitutes an urgency in the interest of public health, safety, and welfare, this ordinance shall become effective on July 26, 2004, except that documents meeting at least one of the following conditions shall be exempted from provisions of this ordinance exceeding requirements of the previously adopted Storm Water Management Ordinance:

1. Buildings or subdivision phases for which a complete preliminary plat has been accepted but not recorded prior to the effective date of the ordinance and for which construction of such subdivision phase or building is underway within one year of the effective date of the ordinance
2. Buildings for which a complete site plan has been accepted prior to the effective date of the ordinance and for which construction is underway within one year of the effective date of the ordinance
3. Buildings for which a plat has been recorded prior to the effective date of the ordinance but for which a complete site plan has not been accepted prior to the effective date of the ordinance, and for which construction is underway within one year of the date of recording of the final plat
4. Subdivisions recorded prior to the effective date of the ordinance for which a replat is filed
5. Subdivisions recorded prior to the effective date of the ordinance for which a replat is being filed, provided that the number of lots is not being increased through the replat and provided that no other substantive changes to the subdivision design are proposed; except that it is expressly provided that no developments shall be exempted from provisions of Sections 14.1709 and 14.1710 of this ordinance relating to Floodplain Guidelines and Erosion Control Guidelines, respectively.

DULY PASSED AND APPROVED by the City Council of the City of Lancaster, Texas, on this the 26<sup>th</sup> day of July, A.D. 2004.

CORRECTLY ENROLLED:

Dolle K. Shane, City Secretary